

## **SITE ASSESSMENT REPORT**

Plaid Pantry Store #112  
1002 W. Fourth Plain Boulevard  
Vancouver, Washington 98660

Ecology Site ID No. 9158935

Prepared for:

**PLAID PANTRIES, INC.**  
10025 SW Allen Boulevard  
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Prepared by:

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Project 1179-01  
October 19, 2011

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# **1 INTRODUCTION AND BACKGROUND**

This report documents the results of preliminary site characterization activities conducted at the Plaid Pantry #112 retail gasoline station located at 1002 W. Fourth Plain Boulevard, Vancouver, Washington (Figure 1). This report was prepared by PNG Environmental, Inc. (PNG) on behalf of Plaid Pantries, Inc. (Plaid). Field investigation activities were performed in September 2011.

## **1.1 PURPOSE**

The primary goals of this work are to determine whether fuel releases originating from the Plaid fueling system are likely to have occurred and if so, to evaluate the general nature and magnitude of such release(s). The basis for this work is described by Washington Department of Ecology (Ecology) in its published Guidance for Site Checks and Site Assessments (April 2003) and Guidance for Remediation of Petroleum Contaminated Sites (September 2011) documents, and in Washington's Underground Storage Tank (UST) Cleanup Regulations (Chapter 173-340-450 WAC). Additional site characterization work may be necessary to identify and evaluate the source(s) and extent of contamination for use in evaluating regulatory requirements and site cleanup options, if appropriate.

## **1.2 FACILITY USE AND BACKGROUND**

The subject property consists of an approximately 0.26-acre commercial land parcel that is owned by Belmar Properties (Seattle, Washington). In addition to a paved parking lot area, the site is currently occupied by a single commercial building which is divided into two tenant spaces, occupied by a convenience store (Plaid Pantry Store #112) and a Domino's Pizza shop.

Recent and historic site operations are summarized below, illustrated on Figure 2, and detailed in Appendix A.

### **1.2.1 Plaid Site Operations**

Plaid's site operations include a retail gasoline station and convenience store, which were constructed in 1982 and opened for business in January 1983. The site's operating underground gasoline storage tank system includes two 12,000-gallon tanks and a 10,000 gallon tank, and is registered with Ecology (UST Facility #9158935). During Plaid's operations, only gasoline is known to have been stored and dispensed at the site. During its period of site operations, Plaid is not aware of any releases from its fueling system.

Leaded gasoline may have been dispensed at the site during phase-out of that product in the 1980s. PNG understands that Plaid did not store or dispense other hydrocarbons such as diesel fuel, bulk motor oil, or other solvents at any time during its site operations.

### **1.2.2 Historic Site Fueling Operations**

PNG reviewed various sources of public information to determine general site operational history (Appendix A). Reviewed materials included aerial photographs, a city directory abstract, and City of Vancouver building records for the property.

The first known development of the property (visible in aerial photographs from 1951 through 1978) consisted of a commercial building which appears to have consisted of

three conjoined structures. The primary structure was a square-shaped building located in the center of the property parcel. This building appears to have an attached canopy that extends towards the southeast corner of the property. Smaller satellite structures were attached to the northeast and southwest corners of the primary building. City directories and building permit information confirm that site occupants during this period of operation included a gasoline service station, an auto repair shop, an auto detailing and upholstery shop, a dry cleaner, a barber shop, a dairy, a wood furniture refinishing shop, and a second-hand store.

The second stage of site development (visible in aerial photographs from 1984 through 2006) consists of the existing rectangular commercial building currently occupied by Plaid and a Domino's pizza shop. Aerial photographs dated 1984 through 2006 all show the current site features including the building, fuel dispenser island canopy, concrete UST pad, and asphalt paved parking areas to the south of the building.

The nature and volume of fuel and other products used and stored at the site by others have not been determined by PNG. According to the property owner's representative, a site building and two underground fuel storage tanks (3,000 and 5,000 gallon capacity) were removed before Plaid's redevelopment in the early 1980s.

### **1.3 SITE ASSESSMENT STATUS**

The site assessment described in this report included the following elements.

#### **Planning and Design**

- Coordinated with Plaid and the property owner to research site history and develop a site assessment scope of work.
- Researched, obtained, and reviewed site plans, maps, photographs, and other historical information from various sources.
- Requested utility identification through the public Utility Notification Service.
- Obtained additional water and sewer utility information from the City of Vancouver.
- Developed a Health and Safety Plan to guide field safety protocols for PNG staff, in accordance with rules established by the Occupational Safety and Health Administration and the Washington Industrial Safety and Health Act.
- Coordinated site access with the property owner.
- Coordinated and obtained an access permit from the City of Vancouver to drill two borings (B-1 and B-6) within the public right-of-way.
- Contracted with Pacific Geophysics (Portland, Oregon) to perform site geophysical surveying and Major Drilling (Tualatin, Oregon) to perform direct-push drilling and sampling tasks.

#### **Site Characterization**

- Directed field operations for soil boring and performed soil (and attempted groundwater) sampling using direct-push GeoProbe drilling techniques.
- Advanced six borings to completion depths of approximately 40 feet below ground surface (bgs) each.



- Collected and logged continuous soil samples during drilling at each location. Field screened the soil samples for volatile hydrocarbons using a photo-ionization detector (PID).
- Installed temporary groundwater monitoring points at three boring locations. Groundwater was not encountered in any of the six borings. All borings were abandoned by backfilling with bentonite and restoring ground surfaces.
- Submitted selected soil samples for laboratory analyses based on site historical usage and in accordance with Ecology guidance.
- Prepared a written report summarizing the results and findings of the work performed.

## **2 SITE ASSESSMENT ACTIVITIES**

### **2.1 SITE GEOPHYSICAL SURVEY**

Following Plaid's authorization, PNG initiated geophysical survey activities on July 26, 2011. The site geophysical survey was performed by Pacific Geophysics (Portland, Oregon) utilizing a magnetometer, ground penetrating radar (GPR), and manual equipment to locate and map underground utilities and other identifiable subsurface features and infrastructure related to fueling operations. Geophysical instrumentation and methodology are described in the attached Geophysical Survey Report (Appendix B).

As described in the Pacific Geophysics report, the geophysical survey located both known and previously unidentified features at the site which included the following (existing Plaid utilities are illustrated in Figure 3):

- A broad magnetic anomaly dominating the southeast corner of the site is caused by the reinforced concrete pad, pump islands, and UST ports and fittings. The anomaly appears to extend beyond the pad and to the west at Anomaly A. No three-dimensional objects (e.g. USTs or product lines) were detected to the west of the pad with metal detectors or GPR. Anomaly A appears to be an artifact of the broad anomaly associated with the site infrastructure (USTs, pad, and pump island) to the east and likely does not represent a subsurface object. A second anomaly centered approximately ten feet south of the main entrance to the Plaid building (Anomaly B) is interpreted to be caused by the traffic bollards at that location. No subsurface objects were detected in this area by the GPR survey.
- Several unknown subsurface features resembling pipe segments, wires, or utility lines were identified. Two of the suspected utility/pipe segments extend north from the north end of the existing UST nest. Two additional suspected utility/pipe segments are located to the northwest of the UST nest and are oriented roughly northeast to southwest. The nature of these subsurface objects and their relationship (if any) to either Plaid or pre-Plaid site operations has not been determined.
- Two electric lines, a sanitary sewer line (with a cleanout located beneath a metal cover labeled "fuel oil"), and a catch basin drain line were also identified and mapped.

Based on these findings, PNG recommended proposed sample locations as described below and illustrated in Figure 4.

### **2.2 SOIL AND GROUNDWATER SAMPLING**

Between September 7 and 9, 2011, PNG collected soil samples at six proposed boring locations in general accordance with the work plan (PNG 08/03/2011). Several of the boring locations were slightly modified based on site conditions and the findings of the geophysical survey, as described below.

- Boring B-1, initially proposed within the property boundary to the east of the Plaid UST nest was moved approximately ten feet further to the east, adjoining the City of Vancouver sidewalk. Dense landscaping and a fixed sign prevented drilling in the original location.

- Boring B-5 was moved approximately five feet south of the original boring location due to the presence of an unidentified buried utility line encountered during “air-knife” pre-drilling in the dispenser area at a depth of approximately three feet bgs.
- Boring B-6, initially proposed immediately south of the fuel tanks, was moved approximately ten feet to the south along the curb of Fourth Plain Boulevard. The boring was moved because the southern edge of the tank cavity could not be accurately determined using geophysical methods.

Each of the six borings was drilled to completion depths of approximately 40 feet bgs. PNG collected and logged continuous soil samples during drilling at each boring location. Boring logs are presented in Appendix C. Soil samples were field screened for volatile hydrocarbons using a PID calibrated with isobutylene standard. PID measurements are presented on the boring logs and were used to guide analytical testing.

Soil samples from each boring were collected according to methods for volatile organics required by Ecology, including gasoline and volatile organic compound (VOC) constituents (EPA Method 5035A). Soil samples were placed in laboratory prepared containers, sealed, labeled with sample identification information, and placed in a chilled cooler for transport to the analytical laboratory under chain of custody. Analytical results are summarized in Section 2.3.

At the completion of sampling activities, Major Drilling backfilled each boring with bentonite in accordance with Ecology regulations and restored surfaces to pre-drilling conditions including asphalt/concrete patching where appropriate.

### **2.2.1 Soil Conditions**

Soil type encountered during drilling was generally consistent between boring locations. Fine-grained soil consisting of brown silt, sandy silt, and silty sand extended from under the surface pavement to depths ranging from 13.5 to 20 feet bgs. The soil is composed of varying amounts of low plastic fines and fine sand.

The fine grained soil is underlain by sands and gravels extending to near maximum depths explored. The sand is brown to gray and is fine to coarse grained. The gravels are subround to subangular, fine to coarse grained, with local cobbles up to three inches in diameter. Finer grained sand and silty sand layers up to seven feet in thickness were encountered at the base of the sand and gravel layer in each boring location except B-1.

### **2.2.2 Soil Screening and Volatile Headspace Measurements**

Field screening using a PID indicated that no fuel odors and relatively low concentrations of organic vapors were detected at each soil boring location, with the exception of boring B-5. Other than at B-5, organic vapor concentrations were consistent across the site, ranging from approximately three to five parts per million by volume (ppmV). Hydrocarbon odors and elevated PID measurements were noted at boring B-5 in the zone between 4.5 and 12.5 feet bgs. Within this zone at B-5, PID measurements ranged between 46.3 and 2,349 ppmV, with the greatest vapor concentrations measured between six and nine feet bgs. Headspace vapor concentrations decreased at 12.5 feet bgs to 81 ppmV, and were within the typical range observed elsewhere at the site (three to five ppmV) throughout the 20 to 40-foot zone in boring B-5.

### 2.2.3 Groundwater Conditions

A relatively thin zone of wet soil was encountered at depths of approximately 12 to 13.5 feet at four borings (B-2, B-3, B-5, and B-6) but not enough water was available to collect a groundwater sample at any location. Temporary well points were installed in this shallow wet zone at B-2 and B-5 but no water could be purged or sampled at either location.

Deeper groundwater was not encountered in any of the six borings. PNG installed temporary well points and attempted to collect groundwater samples at the termination depth of 40 feet bgs at three soil borings (B-1, B-4, and B-5). Groundwater did not collect in any of the well points and was therefore not sampled.

## 2.3 LABORATORY ANALYTICAL RESULTS

PNG submitted selected soil samples to Apex Laboratory (Portland, Oregon) for laboratory analyses in accordance with the work plan and as supported by field observations. Analytical methods were compliant with Ecology guidance and included:

- Hydrocarbon Identification (HCID) by Method NWTPH-HCID.
- Gasoline range organics (GRO) by Method NWTPH-Gx.
- Diesel and oil range organics (DRO/ORO) by Method NWTPH-Dx with silica gel cleanup as indicated.
- VOCs by EPA Method 8260B.
- Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270SIM.
- Total lead by EPA Method 6010/7000.

Laboratory analytical reports and chain of custody documents are presented in Appendix D. Analytical results are summarized below and in Table 1.

### 2.3.1 Analytical Approach

PNG selected a minimum of two soil samples per boring for fuels analysis. At each boring location, soil samples were collected and containerized for possible analytical testing at five-foot intervals unless more frequent sampling was indicated by field observations. At a minimum, two soil samples per boring were submitted for HCID and VOC analysis. Where gasoline was identified, follow-up quantification was conducted using Gx, VOC, and lead analyses. Where non-gasoline hydrocarbons were detected in a single sample, follow-up quantification was conducted using Dx and PAH analyses.

Analytical testing was also guided by field observations and sample depth.

- Samples collected throughout and below the zone of contamination at B-5 were analyzed to provide vertical characterization at this boring.
- At least one sample per boring was collected from near the tank base elevation (+/- nine to ten feet bgs).
- Since groundwater was not encountered, a sample from each boring collected above the base of the tanks (within the upper six feet) was analyzed based on relative high PID measurements.

- At the dispenser area (B-3, B-5), shallow soil samples from three feet bgs were submitted for analysis in an effort to characterize possible gasoline releases associated with shallow fuel piping and possible surface spills.
- Additional soil samples from each boring were typically collected at five-foot intervals and archived for possible supplemental analysis based on field observations and initial soil testing results.

A total of eighteen soil samples were analyzed for hydrocarbon identification and VOCs. Supplemental analyses were conducted according to the work plan rationale as summarized above.

### **2.3.2 Analytical Summary**

Fuel hydrocarbons were not detected at four of the six soil sampling locations. Gasoline-range fuels and related VOC constituents were detected among shallow soils at boring B-5, located south of the fuel dispenser area. Heavy oil was detected in a single sample collected at nine feet bgs from boring B-2.

#### **Boring B-5**

- Gasoline contamination was confirmed at boring B-5 among samples collected between six and 12.5 feet depth. Within this zone, gasoline concentrations ranged between 444 and 4,070 milligrams per kilogram (mg/Kg), with the maximum concentration identified at nine feet bgs. These concentrations exceed the most conservative default Model Toxics Control Act (MTCA) Method-A soil cleanup level of 30 mg/Kg. Gasoline was not detected in sequentially shallower (three feet) or deeper (20 feet) soil samples at B-5, indicating the vertical extent of contamination is generally defined at this location.
- Diesel fuel was initially reported by the laboratory at boring B-5 among samples collected between six and 12.5 feet depth. However, the laboratory indicated that results in the diesel range are due to overlap from degraded gasoline, and no diesel fuel was present among B-5 samples.
- Among gasoline-contaminated soil at B-5, identified constituents included the following:
  - Benzene was detected in one sample from 12.5 feet depth (B5-12.5) at a concentration of 2.1 mg/Kg. This concentration exceeds the default MTCA Method-A cleanup level of 0.3 mg/Kg. Benzene was not detected among any other sample, including shallower B-5 samples collected at six and nine feet bgs where gasoline concentrations were up to ten times greater than in the 12.5 foot sample.
  - Ethylbenzene (up to 29 mg/Kg), total xylenes (up to 121 mg/Kg), and naphthalene (up to 14 mg/Kg) were detected in each of the three B-5 samples where gasoline was identified. The identified constituent concentrations exceed MTCA Method-A soil cleanup criteria for the six and nine foot samples, and for xylenes in the 12.5 foot sample.
  - Lead was detected among the three gasoline-contaminated samples collected from B-5, at concentrations ranging between 11 and 21 mg/Kg (averaging 15 mg/Kg). For comparison, samples from similar depths (nine feet bgs) collected at non-contaminated borings B-1 and B-4 were

also analyzed for lead, with concentrations in those borings ranging between 8.3 and 12 mg/Kg. These lead concentrations are generally lower than "Natural Background" soil concentrations reported for Clark County, Washington (Ecology publication #94-115).

#### **Boring B-2**

- Heavy oil was detected in one sample collected at boring B-2 (sample B2-9), at a concentration of 54 mg/Kg. The MTCA Method cleanup for heavy oil/lube oil is 2,000 mg/Kg.
- Sample B2-9 was submitted for follow-up analyses to determine whether other related constituents were present. No VOCs or PAHs were detected in this sample.

#### **2.3.3 Fuel Fingerprint Analysis (B-5)**

Analytical results and chromatograms for the three samples containing gasoline were reviewed by the laboratory in an effort to further characterize or "fingerprint" the degraded organic contaminant at this location. Based on the chromatogram and relative distribution of gasoline constituents among all three samples, the laboratory interprets the contaminant to be extensively degraded gasoline. A detailed case narrative discussion provided by Apex Laboratory is provided in Appendix E.

### 3 CONCLUSIONS AND RECOMMENDATIONS

Plaid operates a retail gasoline station and convenience store at the subject property. During Plaid's operations which began in 1983, only gasoline is known to have been stored and dispensed at the site. Prior fueling activities, vehicle repair, and other commercial activities conducted by others pre-date Plaid's operations and were located at the subject site dating at least to the 1950s.

Results of this site assessment indicate that gasoline was identified among soil between approximately 4.5 and 12.5 feet depth in a single boring (B-5) located along the site's southern margin. Boring B-5 is located south of the existing Plaid Pantries fuel dispensing area and at a portion of the site where historic fueling activities also were conducted. Fuel fingerprint analysis indicates extensive degradation of old gasoline hydrocarbons among the B-5 samples (see below). Evidence of oil contamination was identified at boring B-2 at nine feet bgs. The source(s) of the identified impacts at this site have not been determined.

- Geophysical surveying identified and located various underground features at the site that are consistent with current and possible historical operations, although no obvious non-active fuel tanks or related piping were identified. The results of the geophysical mapping effort were incorporated into the subsequent drilling investigation.
- Soil borings were advanced at six locations in the vicinity of known and suspected fueling infrastructure (including one dry-well). Groundwater was not encountered at maximum depths explored, up to 40 feet bgs. Soil samples were collected and submitted for laboratory hydrocarbons analyses.
- No fuel hydrocarbons or VOCs were detected among soil samples collected from four of six borings evaluated during this investigation.
- Extensively degraded gasoline was detected in soil samples collected from one boring (B-5). Where detected in the zone between six and 12.5 feet bgs, gasoline concentrations in three samples (440 to 4,070 mg/Kg) exceed the most conservative default MTCA Method-A soil cleanup standard of 30 mg/Kg. Concentrations of several common gasoline constituents were detected in these three samples and exceed their respective MTCA Method-A soil cleanup standards, although benzene and toluene were generally absent.
- The analytical laboratory confirms that gasoline identified at boring B-5 is extensively degraded.
- Plaid indicates that no confirmed or suspected gasoline releases have occurred during its fueling operations dating to 1983.
- Heavy-oil range hydrocarbons were identified in a soil sample collected at nine feet bgs from boring B-2. The oil concentration in this sample (54 mg/Kg) is below the MTCA Method-A soil cleanup level of 2,000 mg/Kg. Typical oil constituents (PAHs, VOCs) were not detected in this sample.
- Lead concentrations measured in soil are consistent with naturally-occurring concentrations and do not appear to be indicative of leaded gasoline.

The results of this site assessment confirm that gasoline has impacted soil at the B-5 location, where recent and historic site fueling operations occurred. Gasoline and

related constituent concentrations at this location exceed default MTCA Method-A soil cleanup standards.

Fuel fingerprinting conducted by a qualified laboratory characterized the identified gasoline as extensively degraded, but the precise age of the release(s) could not be determined based on an evaluation of the existing samples.

The greatest identified gasoline concentration (4,070 mg/Kg) was measured at a depth of nine feet bgs from B-5, which is located near the site's southern margin, adjacent to current and historic fueling areas. The vertical extent of contamination at B-5 appears to be adequately defined, since gasoline was not identified among shallower (three feet depth) and deeper (20 feet depth) samples. Groundwater was not encountered to maximum exploration depths of 40 feet bgs and based on vertical delineation at B-5, no groundwater impacts are suspected at this location.

Boring B-5 is located at the down-slope edge of the site, such that soil impacts may extend offsite to the south beneath the adjacent sidewalk and/or Fourth Plain Boulevard right-of-way. Further delineation may be necessary to identify the lateral extent of gasoline impacts.

Oil impacts identified at boring B-2 are vertically delineated in the zone near nine feet bgs and do not exceed regulatory cleanup criteria at this location.

The results of this site assessment should be provided to the property owner, Ecology, and other regulatory agencies, as appropriate.




#### 4 LIMITATIONS

PNG has prepared this report for use by Plaid Pantries and its agents. This report may be made available to the property owner, former site operators, and to regulatory agencies at the discretion of Plaid. This report is not intended for use by others and the information contained herein is not applicable to other sites.

Our interpretation of subsurface conditions is based on field observations and chemical analytical data within the areas explored. Areas with contamination may exist in portions of the site that were not explored or analyzed.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices and laws, rules, and regulations at the time that the report was prepared. No other conditions, expressed or implied, should be understood.

**PNG ENVIRONMENTAL, INC.**



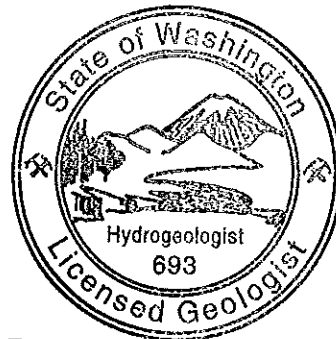
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## TABLES

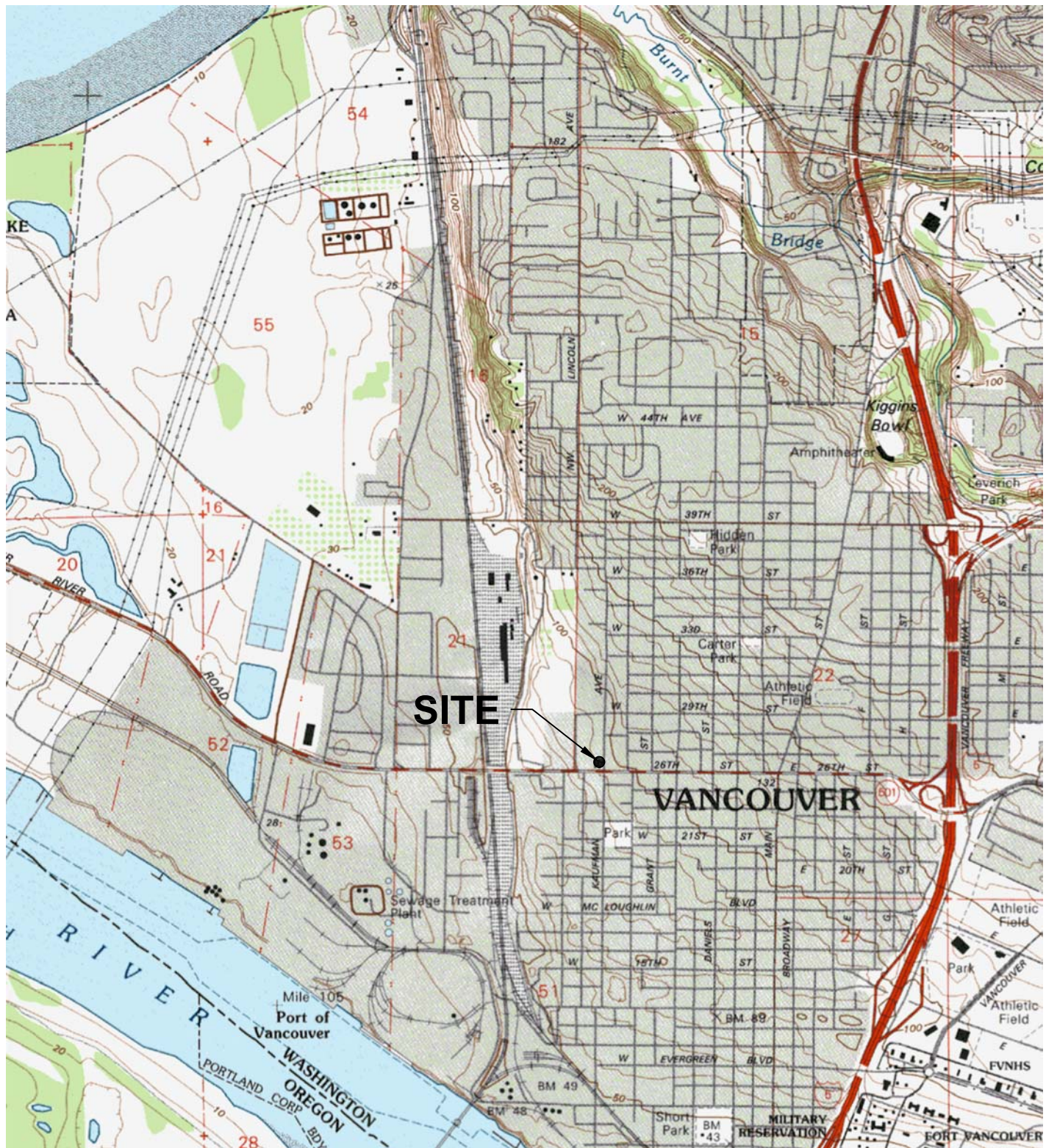
Table 1  
Soil Analytical Results - Gasoline, Diesel, and Related Constituents  
(mg/Kg)  
Plaid Pantry No. 112  
Vancouver, Washington

Location	Date	Sample Depth (feet)	Gasoline	Diesel	Heavy Oil/Lube	Benzene	Toluene	Ethylbenzene	Xylenes	EDB	EDC	MTBE	Naphthalene	Lead
B1-3	09/08/2011	3	24 U	59 U	118 U	0.01 U	0.04 U	0.02 U	0.07 U	0.02 U	0.02 U	0.04 U	0.09 U	-
B1-9	09/08/2011	9	22 U	54 U	108 U	0.01 U	0.05 U	0.03 U	0.08 U	0.03 U	0.03 U	0.05 U	0.10 U	8.3
B1-15	09/08/2011	15	21 U	52 U	103 U	0.01 U	0.05 U	0.03 U	0.08 U	0.03 U	0.03 U	0.05 U	0.10 U	-
B2-3	09/07/2011	3	21 U	53 U	107 U	0.01 U	0.04 U	0.02 U	0.06 U	0.02 U	0.02 U	0.04 U	0.09 U	-
B2-9	09/07/2011	9	25 U	25 U <sup>b1</sup>	54 <sup>b1</sup>	0.01 U	0.04 U	0.02 U	0.05 U	0.02 U	0.02 U	0.04 U	0.01 U <sup>f</sup>	-
B2-15	09/09/2011	15	21 U	53 U	105 U	0.01 U	0.03 U	0.01 U	0.04 U	0.01 U	0.01 U	0.03 U	0.05 U	-
B3-3	09/07/2011	3	23 U	57 U	113 U	0.01 U	0.05 U	0.02 U	0.07 U	0.02 U	0.02 U	0.05 U	0.09 U	-
B3-9	09/07/2011	9	26 U	64 U	128 U	0.01 U	0.06 U	0.03 U	0.08 U	0.03 U	0.03 U	0.06 U	0.11 U	12
B4-3	09/07/2011	3	23 U	57 U	114 U	0.01 U	0.05 U	0.03 U	0.08 U	0.03 U	0.03 U	0.05 U	0.10 U	-
B4-9	09/07/2011	9	21 U	53 U	106 U	0.01 U	0.05 U	0.02 U	0.07 U	0.02 U	0.02 U	0.05 U	0.10 U	-
B5-3	09/08/2011	3	22 U	56 U	112 U	-	-	-	-	-	-	-	-	-
B5-6	09/08/2011	6	<b>2,900</b> <sup>a</sup>	>57 <sup>e</sup>	114 U	0.28 U	1.12 U	<b>12</b>	<b>74</b>	0.56 U	0.56 U	1.1 U	<b>14</b>	21
B5-9	09/08/2011	9	<b>4,070</b> <sup>a</sup>	>54 <sup>e</sup>	108 U	0.24 U	0.95 U	<b>29</b>	<b>121</b>	0.48 U	0.48 U	0.95 U	<b>8.8</b>	11
B5-12.5	09/08/2011	12.5	<b>444</b> <sup>a</sup>	638 <sup>b,e</sup>	50 U <sup>b</sup>	<b>2.1</b>	0.13 U	5.3	<b>21</b>	0.06 U	0.06 U	0.13 U	1.1	13
B5-20	09/08/2011	20	2.9 U <sup>a</sup>	-	-	0.01 U	0.03 U	0.01 U	0.04 U	0.01 U	0.01 U	0.03 U	0.06 U	-
B6-3	09/08/2011	3	22 U	54 U	107 U	0.01 U	0.04 U	0.02 U	0.06 U	0.02 U	0.02 U	0.04 U	0.08 U	-
B6-9	09/08/2011	9	23 U	58 U	116 U	0.01 U	0.04 U	0.02 U	0.06 U	0.02 U	0.02 U	0.04 U	0.07 U	-
B6-12	09/09/2011	12	26 U	64 U	128 U	0.01 U	0.04 U	0.02 U	0.07 U	0.02 U	0.02 U	0.04 U	0.09 U	-
MTCA Method A <sup>c</sup> Soil Cleanup Levels														
Unrestricted Use			100,30 <sup>d</sup>	2000	2000	0.03	7	6	9	0.005	NA	0.1	5	250
Industrial Use			100,30 <sup>d</sup>	2000	2000	0.03	7	6	9	0.005	NA	0.1	5	1,000

**Notes:**  
Gasoline, Diesel, and Heavy Oil/Lube by Method by NWTPH-HCID unless otherwise noted.  
Volatiles by EPA Method 8260B  
<sup>a</sup> Gasoline by Method NWTPH-Gx/EPA 8260B  
<sup>b</sup> Diesel and Heavy Oil/Lube by Method NWTPH-Dx  
<sup>b1</sup> Diesel and Heavy Oil/Lube by Method NWTPH-Dx with silica-gel cleanup  
<sup>c</sup> Model Toxics Control Act (MTCA) Cleanup Amendments, Method A Soil Cleanup Levels (WDOE, October 12, 2007)  
<sup>d</sup> Per MTCA, the cleanup value for gasoline is 30 mg/kg if benzene is detected and/or if the sum of the toluene, ethylbenzene, and xylenes is greater than one percent of the gasoline concentration, and 100 mg/kg for all other gasoline mixtures.  
<sup>e</sup> Results in the diesel organics range are due to overlap from a gasoline range product.  
<sup>f</sup> Naphthalene analyzed by EPA Method 8270D SIM. No detections were reported for any of the PAH compounds.  
MTBE = Methyl tert-butyl ether  
EDB = 1,2-Dibromoethane  
EDC = 1,2-Dichloroethane  
mg/Kg = milligrams per kilogram  
U = Undetected at method limit shown  
- = Not analyzed for this parameter  
**Values in bold** indicate compound was detected at a concentration exceeding the most stringent MTCA Method A standard

## FIGURES





APPROXIMATE SCALE IN FEET



**NOTE:** USGS, Vancouver Quadrangle  
Washington-Oregon  
7.5 Minute Series (Topographic)

**PNG ENVIRONMENTAL, INC.**

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DATE: 10-18-11  
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1002 W. FOURTH PLAIN BLVD.  
VANCOUVER, WASHINGTON

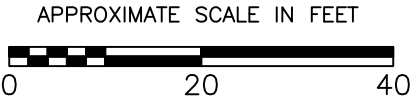
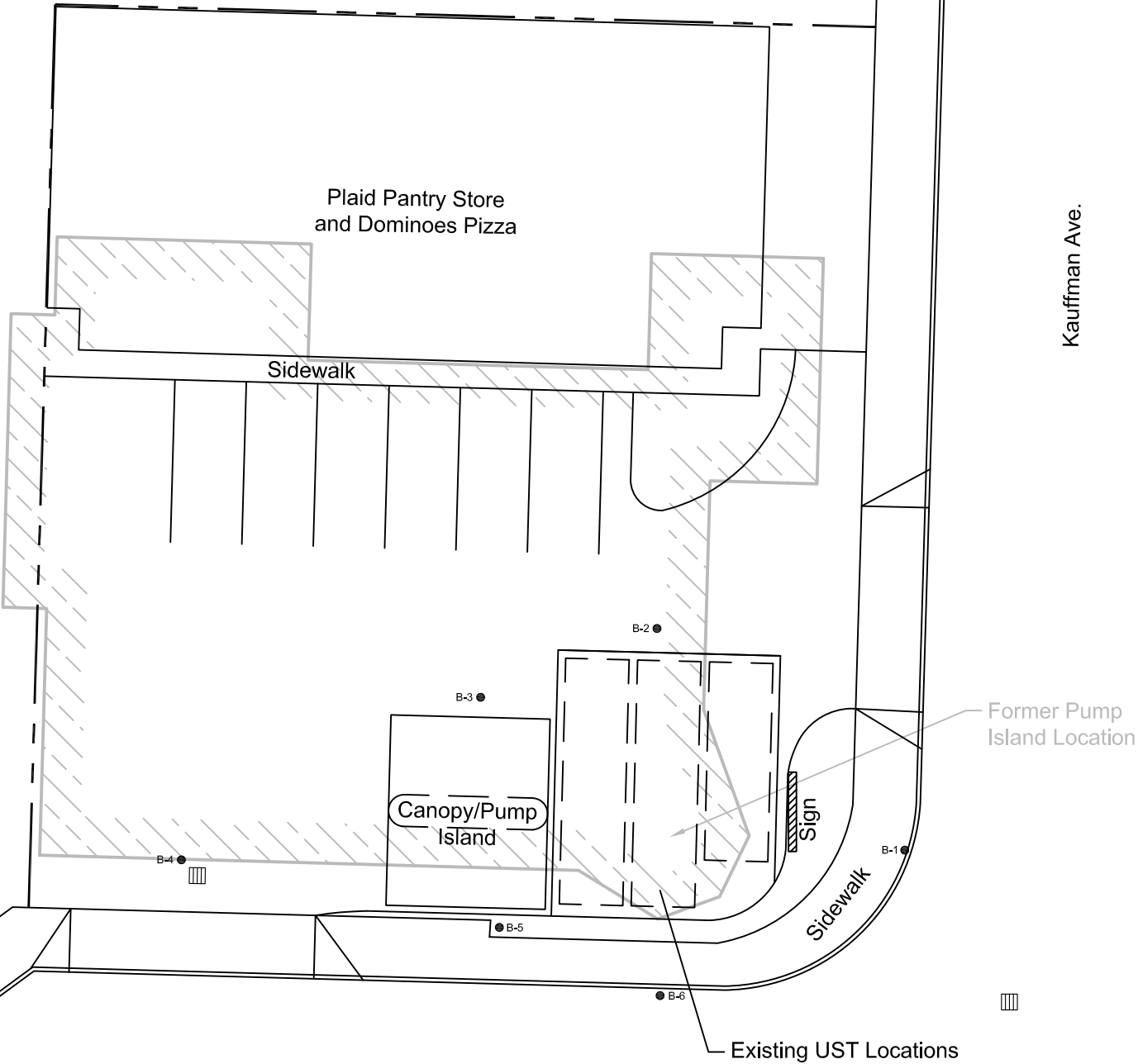
SITE LOCATION MAP

Project No. 1179-01  
Figure No.

1

LEGEND

- Property Boundary
- Catch Basin
- Former Building Locations



**PNG ENVIRONMENTAL, INC.**

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

DATE: 10-18-11  
FILE NAME: 1179-01  
DRAWN BY: JJT  
APPROVED BY: PE

PLAID PANTRY #112  
1002 W. FOURTH PLAIN BLVD.  
VANCOUVER, WASHINGTON

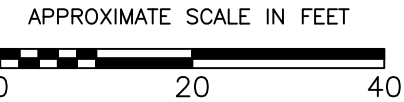
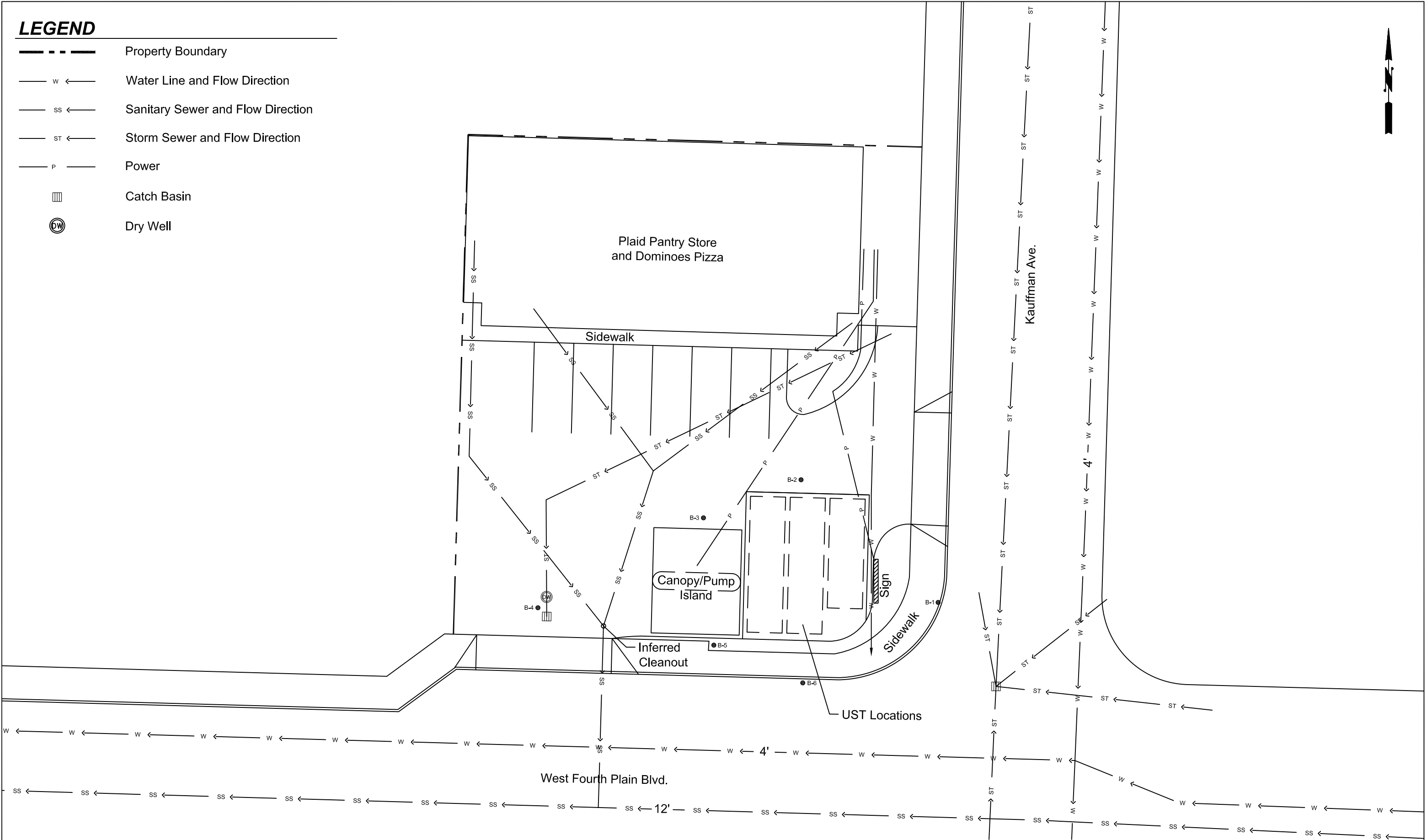
HISTORIC LAYOUT AND  
SITE FEATURES

Project No.  
1179-01  
Figure No.  
**2**



LEGEND

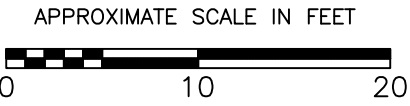
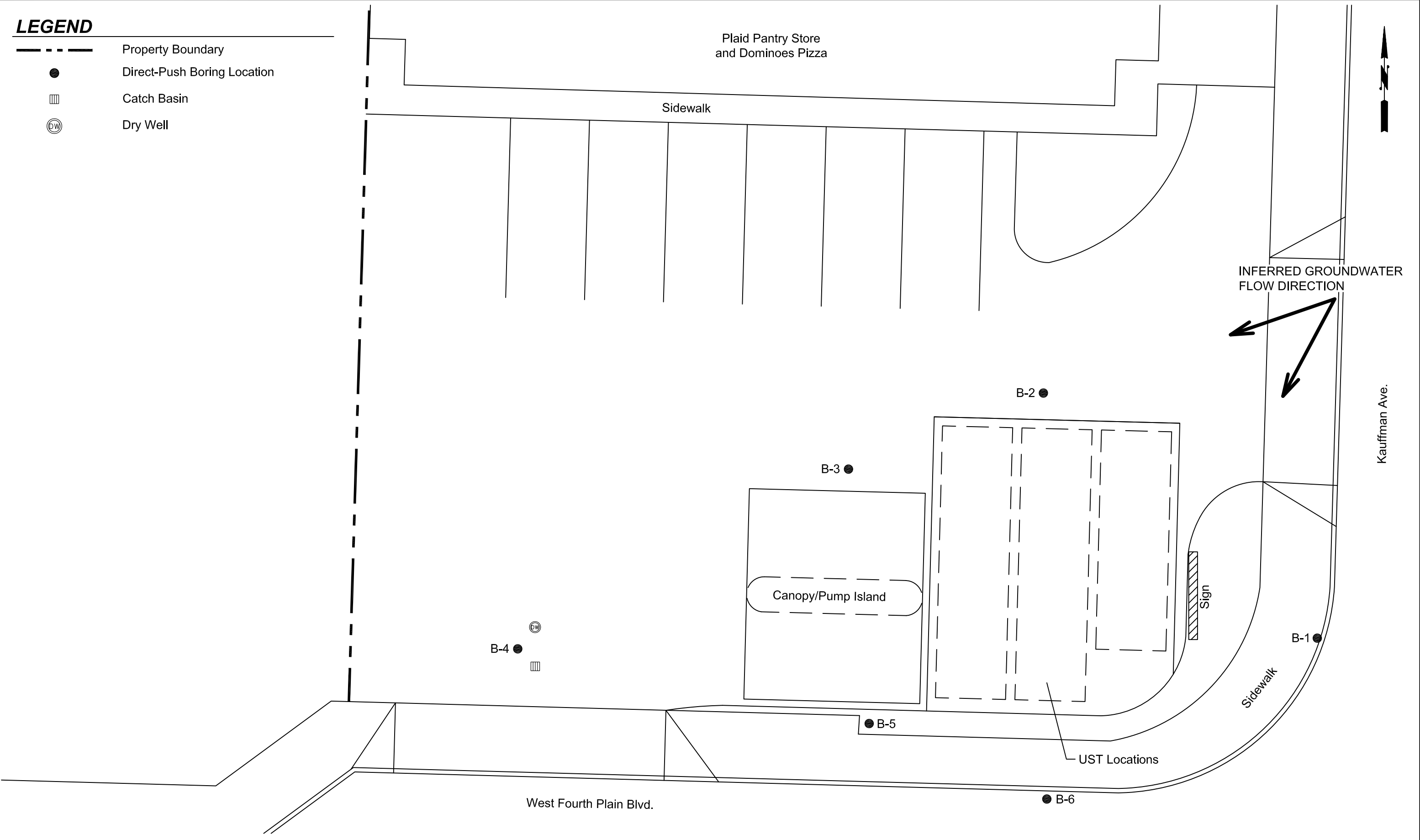
- Property Boundary
- Water Line and Flow Direction
- Sanitary Sewer and Flow Direction
- Storm Sewer and Flow Direction
- Power
- Catch Basin
- Dry Well



<b>PNG ENVIRONMENTAL, INC.</b>		DATE: 10-18-11	PLAID PANTRY #112 1002 W. FOURTH PLAIN BLVD. VANCOUVER, WASHINGTON	UTILITY LAYOUT	Project No. 1179-01 Figure No. <b>3</b>
6665 SW Hampton St., Ste. 101		FILE NAME: 1179-01			
Tigard, OR 97223		DRAWN BY: JJT			
TEL (503) 620-2387 FAX (503) 620-2977		APPROVED BY: PE			

LEGEND

- Property Boundary
- Direct-Push Boring Location
- Catch Basin
- Dry Well



<b>PNG ENVIRONMENTAL, INC.</b> 6665 SW Hampton St., Ste. 101 Tigard, OR 97223	TEL (503) 620-2387 FAX (503) 620-2977	DATE: 10-18-11 FILE NAME: 1179-01 DRAWN BY: JJT APPROVED BY: PE	PLAID PANTRY #112 1002 W. FOURTH PLAIN BLVD. VANCOUVER, WASHINGTON	DRILLING LOCATIONS	Project No. 1179-01
					Figure No. 4

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**APPENDIX A**  
**HISTORIC SITE OPERATIONS**

**MEMORANDUM**

To: Plaid #112 Project File  
From: Martin Acaster  
Date: July 29, 2011  
Subject: Historic Information Review Summary

---

PNG has reviewed information regarding the Plaid #112 site including aerial photographs, a city directory abstract, and City of Vancouver building records for the property. This memorandum summarizes the findings of this site historical information review.

**AERIAL PHOTOGRAPHS**

PNG acquired aerial photographs of the Plaid #112 site vicinity from Environmental Data Resources (EDR) and the Washington Department of Transportation (WDOT). EDR provided aerial photographs dated 1951, 1955, 1960, 1963, 1970, 1975, 1984, 1986, 1990, 1994, 2000, 2005 and 2006. WDOT provided photographs dated 1955, 1966, 1970, 1978, and 1984. In general, the aerial photographs show two stages of commercial development at the Plaid #112 site. Aerial photographs for 1955, 1966, 1978, and 1984 are attached as Figures 1 through 4.

The first known development of the property (visible in aerial photographs from 1951 through 1978) consisted of a commercial building originally consisting of three conjoined structures. The primary structure is a square-shaped building located in the center of the property parcel. This building appears to have an attached canopy that extends towards the southeast corner of the property. Smaller satellite structures are attached to the northeast and southwest corners of the primary building. In photos prior to 1963 the northwest corner of the property appears to be covered with vegetation and the southeast corner of the property appears to be paved parking and driveways. The 1963 aerial photograph shows the construction of an addition to the northwest corner of the building with additional parking and driveway areas to the north and west of the expanded structure. No additional changes to this commercial structure are evident in aerial photographs dated 1966, 1970, 1975 and 1978.

The second stage of development at the site (visible in aerial photographs from 1984 through 2006) consists of the existing rectangular commercial building currently occupied by Plaid and a Domino's pizza shop. Aerial photographs dated 1984 through 2006 all show the current site features including the building, pump island canopy, concrete underground storage tank (UST) pad, and asphalt paved parking areas to the south of the building.

**CITY DIRECTORY ABSTRACT**

PNG acquired a city directory abstract report from EDR (Attachment A). The city directory abstract includes occupant listings for the Plaid #112 site under three site addresses for the years 1958, 1965, 1971, 1977, 1983, and 2000. The current Plaid site address is 1002 W Fourth Plain Boulevard. The current Domino's site address is 1006

W Fourth Plain Boulevard. According to Clark County GIS database a third address (2600 Kauffman Avenue) was historically included within the property boundaries and generated occupant listings in the city directory abstract. Plaid Pantry is the only listed occupant of the 1002 W Fourth Plain Boulevard address and was only listed in the 2000 directory. Occupants of the 1006 W Fourth Plain Boulevard address include a Furlong Barber Shop in 1958, Standard Dairy in 1965, a thrift/re-sale store in 1971 and 1977 and Domino's in 2000. The address was listed as vacant in 1983. Occupants of the 2600 Kauffman Avenue address include Anderson Garage auto repair and Champion Midway Service gasoline station in 1958, Anderson Garage and Midway Eagle Service in 1965, and Vancouver Auto Upholstery in 1971 and 1977. The 2600 Kauffman Avenue address was not listed in 1983 and 2000 directories.

## **CITY OF VANCOUVER BUILDING RECORDS**

PNG reviewed City of Vancouver building records for the Plaid #112 property. Site addresses included in the search were 1002 W Fourth Plain, 1006 W Fourth Plain, and 2600 Kauffman Avenue. Building records for the three site addresses range from November 1954 through May 1985. The records also indicate that W Fourth Plain Boulevard was previously W 26<sup>th</sup> Street. Records from 1954, 1955, and 1960 identify the Perkins Oil Company as the site occupant. A 1962 building permit is for the construction of the Standard Dairy, presumably the new building addition visible in the 1963 aerial photograph. 1967 electrical permits indicate Daisy Dry Cleaners as an occupant of the 2600 Kauffman Avenue address and Standard Dairy as the occupant of the 1006 W Fourth Plain Boulevard address. A 1968 plumbing permit identifies Anderson Garage Auto Repair as the 2600 Kauffman Avenue occupant. A 1969 certificate of occupancy identifies a new site address 2602 Kauffman Avenue occupied by an auto detailing business. 1970 certificates of occupancy identify the Perkins Oil Company as the property owner and operator of a gasoline service station and a second hand store as an additional site occupant. A 1971 certificate of occupancy identifies a wood furniture refinishing shop as the occupant of the 1006 W Fourth Plain Boulevard (26<sup>th</sup> Street) address. Records from 1982 through 1985 show redevelopment of the property and Plaid and Domino's as site occupants.

## **SUMMARY**

Each of the site historic information sources provides information that is consistent with two stages of development at the site. The first known site development appears to be a commercial building with as many as four tenant spaces. Site occupants include a gasoline service station, an auto repair shop, an auto detailing and upholstery shop, a dry cleaner, a barber shop, a dairy, a wood furniture refinishing shop, and a second hand store. The service station/vehicle maintenance shops, wood furniture refinishing shop, and dry cleaners all represent potential sources of contaminants at the Plaid #112 site. These historic uses of the site should be considered during site investigation and the selection of analytical methods for samples collected at the site.

Attachments: Figure 1 – 1955 Aerial Photograph  
Figure 2 – 1966 Aerial Photograph  
Figure 3 – 1978 Aerial Photograph  
Figure 4 – 1984 Aerial Photograph  
Attachment A – City Directory Abstract

## FIGURES



1955 Aerial Photo



1966 Aerial Photo

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1978 Aerial Photo



1984 Aerial Photo

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**Attachment A**  
**City Directory Abstract**

**Plaid #112**

1002 W Fourth Plain Boulevard  
Vancouver, WA 98660

Inquiry Number: 3122904.2  
July 15, 2011

## The EDR-City Directory Abstract

## TABLE OF CONTENTS

### SECTION

Executive Summary

Findings

***Thank you for your business.***

Please contact EDR at 1-800-352-0050  
with any questions or comments.

### **Disclaimer - Copyright and Trademark Notice**

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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## EXECUTIVE SUMMARY

### DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

### RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
2000	Polk's City Directory	X	X	X	-
1983	Polk's City Directory	-	X	X	-
1977	Polk's City Directory	-	X	X	-
1971	Polk's City Directory	-	X	X	-
1965	Polk's City Directory	-	X	X	-
1958	Polk's City Directory	-	X	X	-

## FINDINGS

### TARGET PROPERTY INFORMATION

#### ADDRESS

1002 W Fourth Plain Boulevard  
Vancouver, WA 98660

#### FINDINGS DETAIL

Target Property research detail.

#### Year

#### Uses

#### Source

2000

Plaid Pantry (groc)

Polk's City Directory

## FINDINGS

### ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

#### Kauffman Ave

##### **2518 Kauffman Ave**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2000	Caponey Tires	Polk's City Directory
	Used Tire Place	Polk's City Directory
1983	Kraemers Arco	Polk's City Directory
1977	Lyles Hancock Service (gas sta)	Polk's City Directory
1971	Lyles Hancock Service (gas sta)	Polk's City Directory
1965	Hodge's Hancock Service (gas sta)	Polk's City Directory
1958	Eli's Stop & Save (gas sta)	Polk's City Directory

##### **2600 Kauffman Ave**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1977	Vancouver Auto Upholstery	Polk's City Directory
1971	Vancouver Auto Upholstery	Polk's City Directory
1965	Anderson Garage (auto rpr)	Polk's City Directory
	Midway Eagle Service (gas sta)	Polk's City Directory
1958	Anderson Garage (auto rpr)	Polk's City Directory
	Champion Midway Service (gas sta)	Polk's City Directory

##### **2601 Kauffman Ave**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1977	Kauffman Thriftway	Polk's City Directory
1971	Pay N Takit Stores (groc)	Polk's City Directory
1965	Pay N Takit Stores (groc)	Polk's City Directory
1958	Kramers Mkt (groc)	Polk's City Directory

##### **2610 Kauffman Ave**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2000	Hidden Brick Co	Polk's City Directory
1983	Hidden Brick Co (mfr)	Polk's City Directory
1977	Hidden Brick Co (mfr)	Polk's City Directory
1971	Hidden Brick Co (mfr)	Polk's City Directory
1965	Hidden Brick Co (mfr)	Polk's City Directory
1958	Hidden Brick Co (mfr)	Polk's City Directory

## FINDINGS

### **W Fourth Plain Boulevard**

#### **W Fourth Plain Boulevard**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
2000	No addresses listed between 815 and 1002	Polk's City Directory
1983	No addresses listed between 817 and 901	Polk's City Directory
1977	No addresses listed between 815 and 1006	Polk's City Directory
1971	No addresses listed between 815 and 1006	Polk's City Directory

#### **1006 W Fourth Plain Boulevard**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
2000	Dominos Pizza	Polk's City Directory
1983	Vacant	Polk's City Directory
1977	Re-Sale Store (used clo)	Polk's City Directory
1971	Thrift Store	Polk's City Directory

#### **1008 W Fourth Plain Boulevard**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
1983	Vacant	Polk's City Directory
1977	Central Personnel Employment Agcy	Polk's City Directory

#### **1009 W Fourth Plain Boulevard**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
2000	Residential	Polk's City Directory
1983	Residential	Polk's City Directory
1977	Vacant	Polk's City Directory
1971	Vacant	Polk's City Directory

#### **1011 W Fourth Plain Boulevard**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
2000	Residential	Polk's City Directory
1983	Residential	Polk's City Directory
1977	Residential	Polk's City Directory
1971	Residential	Polk's City Directory

#### **901 W Fourth Plain Boulevard**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
1983	Kauffman Thriftway (groc)	Polk's City Directory

## FINDINGS

### **W Fourth Plain Boulevard (W 26th)**

#### **W Fourth Plain Boulevard (W 26th)**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
1965	No addresses listed between 815 and 1006	Polk's City Directory
1958	No addresses listed between 817 and 1006	Polk's City Directory

#### **1006 W Fourth Plain Boulevard (W 26th)**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
1965	Standard Dairy	Polk's City Directory
1958	Furlong Barber Shop	Polk's City Directory

#### **1009 W Fourth Plain Boulevard (W 26th)**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
1965	Vacant	Polk's City Directory
1958	Residential	Polk's City Directory

#### **1011 W Fourth Plain Boulevard (W 26th)**

<b><u>Year</u></b>	<b><u>Uses</u></b>	<b><u>Source</u></b>
1965	Residential	Polk's City Directory
1958	Residential	Polk's City Directory



## FINDINGS

### TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

#### Address Researched

1002 W Fourth Plain Boulevard

#### Address Not Identified in Research Source

1983, 1977, 1971, 1965, 1958

### ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

#### Address Researched

W Fourth Plain Boulevard

#### Address Not Identified in Research Source

No Years Found

W Fourth Plain Boulevard (W 26th)

No Years Found

1006 W Fourth Plain Boulevard

No Years Found

1006 W Fourth Plain Boulevard (W 26th)

No Years Found

1008 W Fourth Plain Boulevard

1971

1008 W Fourth Plain Boulevard (W 26th)

1965, 1958

1009 W Fourth Plain Boulevard

No Years Found

1009 W Fourth Plain Boulevard (W 26th)

No Years Found

1011 W Fourth Plain Boulevard

No Years Found

1011 W Fourth Plain Boulevard (W 26th)

No Years Found

2518 Kauffman Ave

No Years Found

2600 Kauffman Ave

No Years Found

2601 Kauffman Ave

No Years Found

2610 Kauffman Ave

No Years Found

901 W Fourth Plain Boulevard

1977, 1971

901 W Fourth Plain Boulevard (W 26th)

1965, 1958

**APPENDIX B**  
**PACIFIC GEOPHYSICS REPORT**



## **GEOPHYSICAL SURVEY REPORT**

### **Geophysical Survey**

**Plaid Pantry Gas Station  
1002 W Fourth Plain Boulevard  
Vancouver, Washington**

**Project Number: 110704  
Survey Date: July 26, 2011**

**Prepared for:  
PNG Environmental, Inc.**

# Contents

Introduction	1
Site Description	1
Scope of Work	1
Geophysical Equipment and Survey Procedures	2
Results	3
Conclusion	4
Limitations	4

## List of Figures:

- Figure 1. Site Aerial Photo
- Figure 2. Magnetic Contour Map
- Figure 3. Interpretation Map

## List of Appendices:

- Appendix A. Geophysical Survey Methods

## Introduction

Pacific Geophysics conducted a geophysical survey at the Plaid Pantry gas station and convenience store located at 1002 W Fourth Plain Boulevard in Vancouver, Washington, for PNG Environmental [PNG]. The goals of the survey were to locate buried objects related to both the current configuration and a historic service station that existed at this site in the past. Such objects included underground storage tanks (USTs), UST excavations (pits) and pipes.

No large, buried, metallic objects that could be possible USTs dating to the former gas station were detected and no disturbed-soil zones that could be UST pits were detected at this site. Several unidentified pipes were detected.

This report includes descriptions of the site, the scope of work, the equipment and methodology and the results of the survey.

## Site Description

Figure 1 shows the location of the site.

The active UST nest and pump island are clustered near the southeast corner of the site. A reinforced concrete pad is located around these features. The remainder of the parking lot is asphalt-covered. A concrete walkway is located between the lot and the building. A dumpster corral is located to the east of the building.

The survey extended to the streets south and east of the parking lot and to the property line to the west. Several signs, an air-filling station, a telephone booth, bollards, a railing, a traffic light and a catch basin were seen on the surface. These metallic objects created magnetic interference.

A suspicious port labeled "Fuel" was located near the south entrance ramp. No other surface evidence of historic gas station structures was seen on the survey site.

## Scope of Work

The goals of the survey included detecting USTs and UST pits from a historic gas station. An additional goal was to outline the north ends of the active USTs and to detect other features, including pipes, that may be related to the current and older configurations.

Jeff Mann and Nikos Tzetos of Pacific Geophysics conducted the survey for PNG on July 26, 2011. Mr. Marty Acaster of PNG was on site during a portion of the fieldwork.

This report was written by Nikos Tzetos, reviewed by Jeff Mann and emailed to Mr. Acaster on July 29<sup>th</sup>, 2011.

## Geophysical Equipment and Survey Procedures

### **General Procedures:**

A magnetometer is the first instrument used to investigate a site for subsurface ferrous metallic objects because it enables the operator to rapidly scan the subsurface. Data are collected across an accurately measured survey grid established on the site. For larger areas, where it would be difficult to set up an accurate survey grid, the magnetometer can be coupled to a GPS antenna.

Upon completing the data acquisition phase of the survey, a contour map of the earth's local magnetic field is produced. Small, hand-held metal detectors are then used to more thoroughly investigate the magnetic anomalies detected with the magnetometer. These instruments are excellent at detecting and characterizing buried metal objects; however, they do not record data, and are not adequate to survey large areas.

Ground Penetrating Radar (GPR) is usually the last method used to investigate a site for buried metallic objects. The shape of radar reflections produced by buried objects may assist in the interpretation of magnetic anomalies.

### **Magnetic Survey:**

At this site, a Geometrics G-858 Portable Cesium Magnetometer was used to acquire the magnetic data. Magnetic data were collected along an orthogonal survey grid established over the survey area with measuring tapes. For most UST or pit surveys a line spacing of 5-feet is used. Data points along lines are spaced about 1-foot apart at normal walking speed.

A colored contour map showing the earth's local magnetic field was created in the field. Magnetic anomalies higher in amplitude than the normal local magnetic background are shown in red, and are usually found over areas where ferrous objects are located below the sensor. The objects may be surface objects such as manholes or other surface features, or buried objects of interest, such as USTs, drums, pipes and debris. Magnetic anomalies at or below the amplitude of the local magnetic field are shown in blue, and are caused by ferrous objects located above the sensor, such as buildings, poles, chain-link fences and other surface objects.

Surface objects can produce significant magnetic interference that can conceal buried objects of interest. The metallic objects that produced significant magnetic interference at this site are noted above in the Site Description.

### **Hand-held instruments:**

An Aqua-Tronics A6 Tracer and a Schonstedt GA92XTd magnetic gradiometer were used to locate and investigate the anomalies detected by the magnetometer. These instruments can pinpoint the peaks and troughs of the anomalies, and in many cases determine if an object is linear (pipe or utility) or three-dimensional (UST).

The transmitter unit of a Radio Detection RD8000 PDL pipe and cable detector may be used to electrically charge an accessible metal pipe or utility. The charged object can then be "traced" using the receiver unit. The receiver can also detect some metallic features indirectly, using the system's "radio" function.

### Ground Penetrating Radar:

Following the hand-held instrument survey, a GSSI SIR-2000 GPR system coupled to a 270 MHz antenna may be used to investigate suspicious magnetic anomalies. Radar data collected across the anomalies may give clues to the size and shape of the buried metallic objects producing them.

The collection of radar data is very time consuming; therefore, GPR is not a cost-effective method to “blindly” scan a site for buried metallic objects; however, radar is one of the only methods capable of detecting non-metallic features, including PVC and clay pipes, septic tanks, drywells, trenches and excavations.

GPR data may be collected on a grid when searching for non-conductive features like UST pits or pipes. A 900 MHz antenna may be used to investigate shallow features and small pipes.

Additional information regarding these instruments, methods, surveys and limitations with references can be found in the Appendix.

## Results

A magnetic survey was conducted to detect possible ferrous objects that could be USTs or debris (pipes, rebar, etc.) buried in UST pits. Figure 2 shows the magnetic data collected at the site, contoured at 500 nT. Most of the magnetic anomalies seen in figure 2 appear to be caused by surface features. All findings are shown in Figure 3, an interpretation map of our results.

The anomaly seen dominating the southeast corner of the site, is caused by the reinforced concrete pad, pump islands and UST ports and fittings. The anomaly appears to extend outside of the pad and to the west, at A; No three-dimensional objects were detected at that location with metal detectors or GPR.

The anomaly labeled B is interpreted to be caused by the bollards. No unusual objects were seen in several GPR profiles made along the anomaly.

After the magnetic survey was completed, the Tracer EM instrument was used to scan the site for conductive pipes. GPR profiles were also collected in orthogonal directions across the site in order to detect pipes and disturbed-soil zones that could be UST pits. One profile was taken in the dumpster corral. No obvious disturbed-soil zones were detected. Several possible pipes were marked on the ground with white paint. The function of most of these pipes could not be identified because in most cases, they could not be detected in their entirety; none of the pipes/utilities leads to surface features (water faucet, electric sign, etc.).

It was determined that the port marked “Fuel” is covering a plastic sewer cleanout for a pipe that runs to the northwest.

Radar reflections from the active USTs were indistinct under the heavy concrete reinforcement, making it difficult to detect their edges. Nevertheless, flat radar reflectors that could possibly be the tank tops were seen under the concrete pad and

just north of it for two of the three tanks. The locations of these edges were marked on the ground and are shown in figure 3.

## Conclusion

The magnetic and GPR surveys across this site did not identify USTs or UST pits from historic station configurations. Several pipes and utilities were detected.

The port marked "Fuel" is covering a plastic sewer cleanout connected to a pipe leading into the lot to the northwest.

## Limitations

The conclusions presented in this report were based upon widely accepted geophysical principles, methods and equipment. This survey was conducted with limited knowledge of the site, the site history and the subsurface conditions.

The goal of near-surface geophysics is to provide a rapid means of characterizing the subsurface using non-intrusive methods. Conclusions based upon these methods are generally reliable; however, due to the inherent ambiguity of the methods, no single interpretation of the data can be made. As an example, rocks and roots produce radar reflections that may appear the same as pipes and tanks.

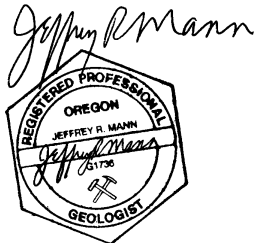
Under reasonable site conditions, geophysical surveys are good at detecting changes in the subsurface caused by manmade objects or changes in subsurface conditions, but they are poor at identifying those objects or subsurface conditions.

Objects of interest are not always detectable due to surface and subsurface conditions. The deeper an object is buried, the more difficult it is to detect, and the less accurately it can be located.

The only way to see an object is to physically expose it.

Jeff Mann  
Pacific Geophysics

July 29, 2011

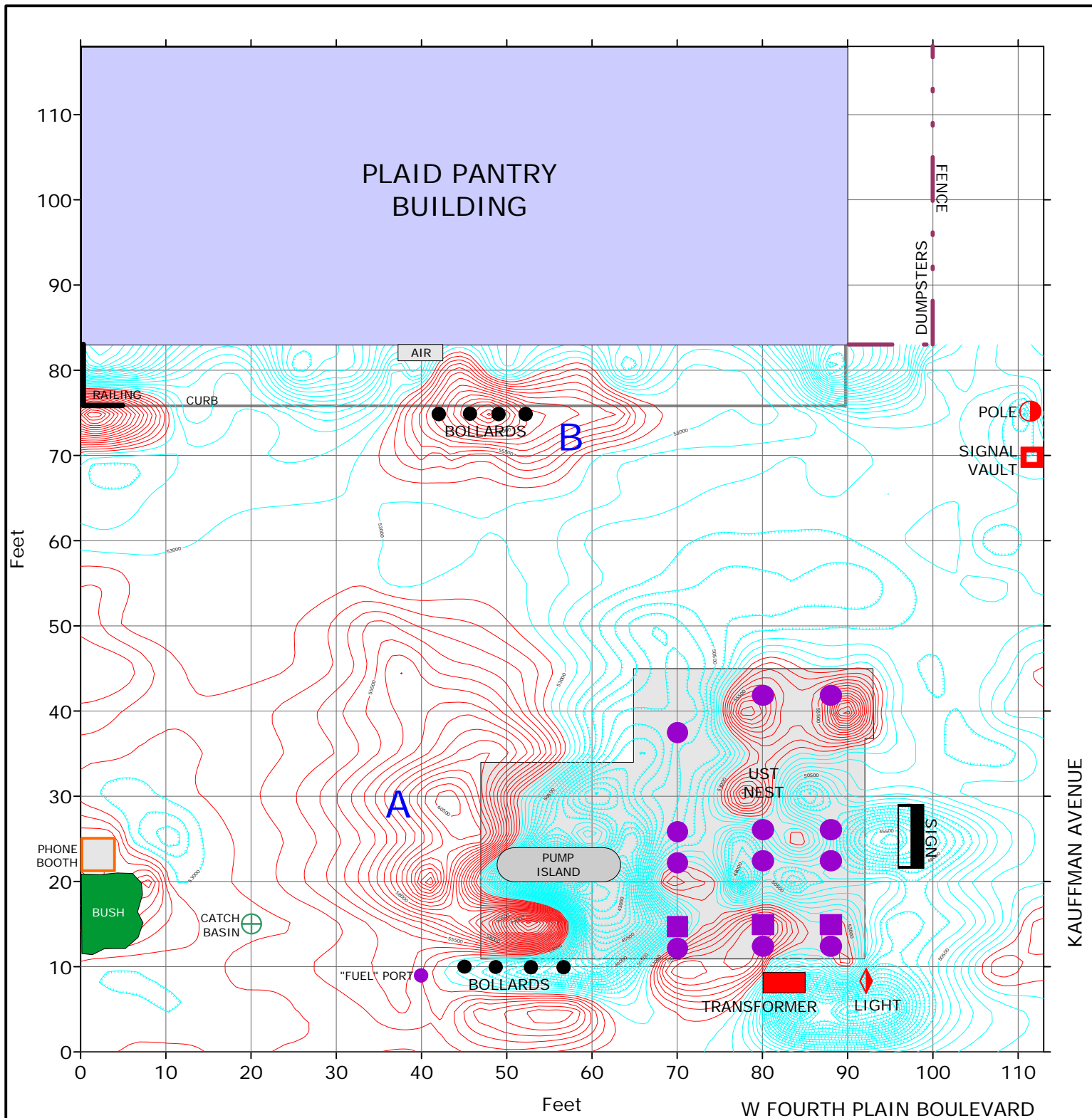


Nikos Tzetos  
Pacific Geophysics

July 29, 2011







FIGURE

2

Magnetic Contour Map-C.I. = 500 nT

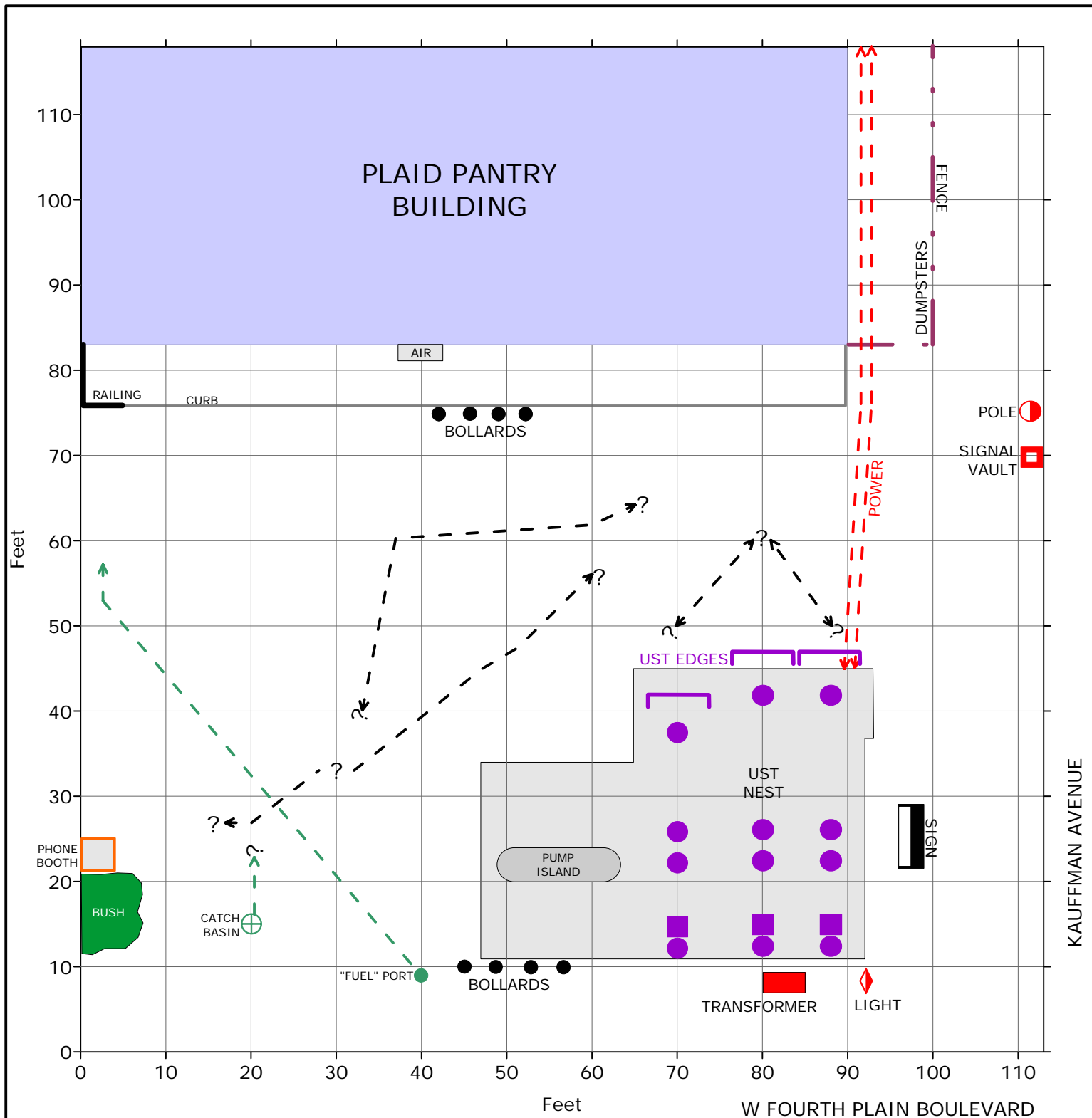
Project:  
110704

Plaid Pantry  
1002 W Fourth Plain Boulevard  
Vancouver, Washington

Drawn by : NT

Prepared for: PNG Environmental

Survey Date: 7/26/2011



FIGURE

3

Interpretation Map

Project:  
110704

Plaid Pantry  
1002 W Fourth Plain Boulevard  
Vancouver, Washington

Drawn by : NT

Prepared for: PNG Environmental

Survey Date: 7/26/2011

## Appendix A. Geophysical Survey Methods

### Magnetometer Surveys

Small disturbances in the Earth's local magnetic field are called "magnetic anomalies". These may be caused by naturally occurring features such as metallic mineral ore bodies, or from manmade features such as metal buildings, vehicles, fences, and underground storage tanks. The magnetometer only detects changes produced by **ferrous** objects. Aluminum and brass are non-ferrous metals and cannot be detected using a magnetometer.

A magnetometer is an electronic instrument designed to detect small changes in the Earth's local magnetic field. Over the years different technologies have been used in magnetometers. The Geometrics G-858 Portable Cesium Magnetometer used to collect magnetic data for Pacific Geophysics uses one of the most recent methods to detect magnetic anomalies. A detailed discussion describing the method this unit uses is available at [Geometrics.com](http://Geometrics.com).

This magnetometer enables the operator to collect data rapidly and continuously rather than the older instruments that collected data at discreet points only. The G-858 is carried by hand across the site. The sensor is carried at waist level. Typically individual data points collected at normal walking speed are about 6" apart along survey lines usually 5 feet apart, depending on the dimensions of the target objects.

It is critical to know the exact location of each data point so that if an anomaly is detected it can be accurately plotted on a magnetic contour map. At most small sites, data are collected along straight, parallel survey lines set up on the site before the data collection stage begins. For very large, complex sites, the G-858 can be connected to a Global Positioning System (GPS) antenna which allows the operator to collect accurately-located data without establishing a survey grid. With GPS, data are collected and positioned wherever the operator walks. A limitation using GPS is that the GPS antenna must have line of sight with the GPS satellites. Data can be mislocated if the GPS antenna is under trees or near tall buildings.

Data are stored in the unit's memory for later downloading and processing. A magnetic contour map of the data is plotted in the field. Geographical features are plotted on the map. Magnetic anomalies appearing to be caused by objects of interest are then investigated on the site using several small hand-held metal detectors. If an object appears to be a possible object of interest, it may be investigated with GPR.

Magnetic contour maps may be printed in color in order to highlight anomalies caused by ferrous objects located under the magnetic sensor. Usually, ferrous objects situated below the sensor produce magnetic "highs" and anomalies located above the sensor produce magnetic "lows". Magnetic highs are of interest to the operator since most objects of interest are located underground.

Depending on the orientation, shape and mass of a metallic object, a high/low pair of magnetic anomalies may be present. In the northern hemisphere the magnetic low is located north of the object and the magnetic high toward the south. The object producing the anomaly is located part way between the high and the low anomalies.

Magnetometer surveys have limitations. Magnetometers only detect objects made of ferrous (iron-containing) metal. Large ferrous objects (buildings, cars, fences, etc.) within several feet of the magnetometer create interference that may hide the anomaly produced by a nearby object of interest.

### **Ground Penetrating Radar**

A Geophysical Survey Systems, Inc (GSSI) SIR-2000 GPR system coupled to a 270-MHz GSSI antenna is used to obtain the radar data for our surveys.

The 270-MHz radar antenna used for the surveys is designed to transmit and receive electromagnetic energy. EM energy is transmitted into the material the antenna passes over. A portion of that energy is reflected back to the antenna and amplified. Reflections are displayed in real-time in a continuous cross section. Reflections are produced where there is a sufficient electrical contrast between two materials. Changes in the electrical properties (namely the dielectric constant) that produce radar reflections include the moisture content, porosity, mineralogy, and texture of the material. Metallic objects of interest exhibit a strong electrical contrast with the surrounding material and thus produce relatively strong reflections. Non-metallic objects of interest (septic tanks, cesspools, dry wells, PVC and clay tile pipes) are not always good reflectors.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. In concrete investigations reflections produced by metal rebar look exactly like those from electrical conduit or post-tension cables. Objects with too small an electrical contrast may produce no reflections at all and may be missed.

In addition to interpreting ambiguous data, radar has several limitations that cannot be controlled by the operator. The radar signal is severely attenuated by electrically conductive material, including wet, clay-rich soil and reinforced concrete. The quality of the data is affected by the surface conditions over which the antenna is pulled. Ideally the antenna should rest firmly on a smooth surface. Rough terrain and tall grass reduce the quality of radar data.

It is the job of an experienced interpreter to examine the GPR profiles and deduce if reflections are from objects of interest. A GPR interpreter cannot see underground, but can only interpret reflections based on experience.

The only way to truly identify an object is to excavate.

### **Hand-held Metal detectors**

Two small, non recording metal detectors are used to locate suspect magnetic anomalies detected using the G-858 Magnetometer in order to determine the likely cause of the anomaly. First, the magnetic contour map and a Schonstedt Magnetic Gradiometer are used to locate the center of the magnetic anomalies.

Once the anomaly is located an Aqua-Tronics Tracer is used to determine if the object producing the anomaly is a possible object of interest. Most anomalies are at least in part produced by features observed on the ground surface.

*Schonstedt Magnetic Gradiometer:* This magnetometer has two magnetic sensors separated vertically by 10". The magnetic field surrounding a ferrous object is strongest near the object and decreases rapidly as the distance increases. If the magnitude measured by the sensor located in the tip of the Schonstedt is very high, and the magnetic field measured by the sensor located farther up the shaft of the Schonstedt is low, there is a large vertical magnetic gradient and the instrument responds with a loud whistle indicating the object is near the surface. If there is a small difference in the magnitudes measured by the two sensors, the object is deeper. The instrument responds with a softer tone. A discussion of this instrument is available at [Schonstedt.com](http://Schonstedt.com).

*Aqua-Tronics A-6 Tracer:* The Aqua-Tronics A-6 Tracer uses a different method of detecting metallic objects. This instrument measures the electrical conductivity of a metal object. It is capable of detecting any electrically conductive metal, including non-ferrous aluminum and brass. The Tracer is capable of detecting three-dimensional objects as well as pipes.

The Tracer consists of a transmitter coil and a receiver coil. In the absence of any electrically conductive material in the vicinity of the Tracer, the electromagnetic field around each coil is balanced.

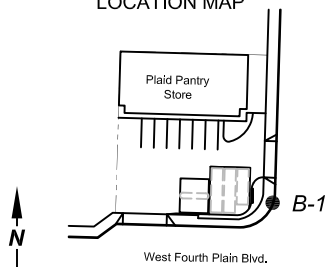
Basically the electromagnetic field produced by the transmitter induces an electric current into the area surrounding the instrument. Nearby conductive objects distort the EM field. The balance between the two coils is disturbed and the instrument produces an audible tone and meter indication.

**APPENDIX C**  
**BORING LOGS**

**PNG ENVIRONMENTAL, INC.**

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## LOCATION MAP

WELL/BORING NUMBER **B-1**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: C. Hultgren  
REVIEWED BY: ---  
DATE: 9-8-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
HA		3.4			B1-3	0			CONCRETE	0-0.4', gray, artificially cemented coarse sand with gravel.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 10' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
HA		3.2			B1-7	5			ML SILT (ML)	0.4-8', brown, fine-grained silt, low plastic fines, medium dense, dry, no odor.	
HA		3.1			B1-9	10			ML	Sandy SILT (ML), 8-13.5', brown, fine-grained silt with increasing fine sand content, low plasticity fines, medium dense, moist, no odor.	
MC		4.3			B1-15	15			GM	Silty GRAVEL (GM), 13.5-15', fine to subround to subangular coarse gravel up to 1" diameter, 20 percent fines, damp, no odor.	
MC		5.0			B1-20	20			GW	Sandy GRAVEL (GW), 15-28', fine coarse subrounded gravels up to 1.5" diameter, sand is fine to coarse, trace fines, well graded, moist, no odor.	
MC		2.5			B1-25	25					
MC		4.5			B1-30	30			SW	Gravelly SAND (SW), 25-40', fine to coarse sand, with <50 percent fine subrounded gravel, <5 percent fines, no odor.	
MC		4.5			B1-34					Note: @ 34' Moist, no odor.	

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-8-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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TIME DATE DTW

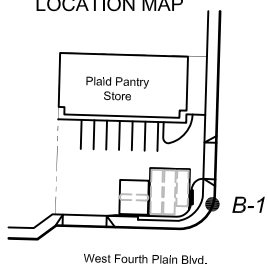
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FAX (503) 620-2977

## LOCATION MAP

WELL/BORING NUMBER **B-1**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: Craig Hultgren  
REVIEWED BY: ---  
DATE: 9-8-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
MC		3.8			B1-37				SW	Note: @ 37' Moist but not wet.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.
MC		2.4			B1-40	40				Total Boring Depth @ 40' bgs.	Air knife from 0' to 10' bgs.
						45				Install temporary well in boring. Screen from 25' to 40' bgs (dry). Groundwater not encountered.	Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
						50					
						55					
						60					
						65					

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-8-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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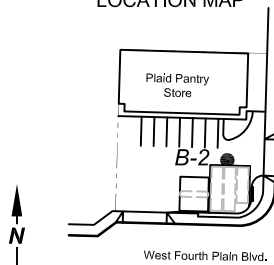
TIME DATE DTW

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FAX (503) 620-2977

## LOCATION MAP

WELL/BORING NUMBER **B-2**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: C. Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
HA		3.5			B2-3	5			GP	ASPHALT., 0-0.5'. GRAVEL, 0.5-1', road base.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 10' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
HA		2.7			B2-6				ML	SILT 1-15', brown, fine-grained silt, trace fine sand, low plastic fines, micaceous, medium dense, dry, no odor.	
HA		3.4			B2-9	10			ML	Note: @ 9' SILT as above, local trace, fine subrounded gravel up to 0.5" diameter.	
										Note: Moist to wet from 12' to 13'.	
MC		3.1			B2-15	15			GW	Sandy GRAVEL (GW), 15-20', brown to gray, fine to coarse subrounded gravel, fine to coarse sand, well graded, moist to damp, no odor.	
MC		3.2			B2-20	20			SW	Gravelly SAND (SW), 20-35', generally as above with increasing sand content to >50 percent, decrease fines content to <5 percent.	
MC					B2-25	25					
MC		3.5			B2-30	30				Note: @ 30' Gravel up to 1.25" diameter.	

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-7-11  
DRILLING END TIME: 9-7-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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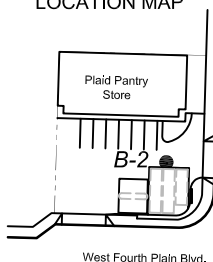
TIME DATE DTW

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TEL (503) 620-2387  
FAX (503) 620-2977

## LOCATION MAP

WELL/BORING NUMBER **B-2**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: Craig Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
MC		1.8			B2-35				SP/SM	SAND with SILT (SP/SM), 35-40', brown, predominately fine sand, varying amounts of fines from 15 to 20 percent, moist, no odor.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 10' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
MC		3.3			B2-40	40				Total Boring Depth @ 40' bgs.	
						45				Install temporary well in boring. Screen from 25' to 40' bgs (dry). Groundwater not encountered.	
						50					
						55					
						60					
						65					

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-7-11  
DRILLING END TIME: 9-7-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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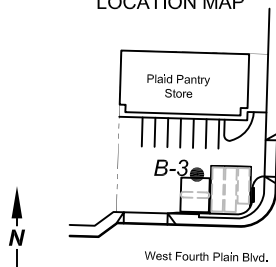
TIME DATE DTW

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TEL (503) 620-2387  
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## LOCATION MAP

WELL/BORING NUMBER **B-3**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: C. Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
HA		4.1			B3-3	5			ASPHALT, 0-0.8'		Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 9.5' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
HA		3.9			B3-6				ML SILT (ML), 0.8-12.5', brown, trace fine sand, low plastic fines, slightly micaceous, damp, no odor.		
HA		2.6			B3-9	10			Note: Slight increase in fine sand content from 9' bgs.		
		4.9							Note: Local wet zone from 12' to 12.5'.		
MC		3.6			B3-15	15			SW Gravelly SAND (SW), 12.5-33', gray to brown, mostly fine to coarse sand, some fine to coarse subrounded gravel up to 1.5" diameter, well sorted, moist, no odor.		
MC		4.2			B3-20	20			Note: @ 20' Local increased gravel content, gravel up to 1.25" diameter.		
MC		3.5			B3-25	25			Note: From 25' predominately coarse sand and fine subrounded gravels, moist, no odor.		
MC		4.0			B3-30	30					
		4.1							SP/SM		

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-7-11  
DRILLING END TIME: 9-7-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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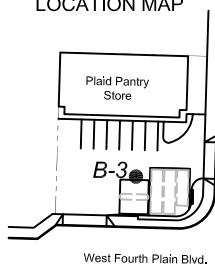
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## LOCATION MAP

WELL/BORING NUMBER **B-3**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: Craig Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
MC		3.0			B3-35				SP/SM	SAND with SILT (SP/SM), 35-40', brown, fine sand, trace medium graded sand, up to 25 percent plastic fines, moist, no odor.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 10' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
MC		2.2			B3-40	40				Total Boring Depth @ 40' bgs.	
						45				Install temporary well in boring. Screen from 25' to 40' bgs (dry). Groundwater not encountered.	
						50					
						55					
						60					
						65					

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-7-11  
DRILLING END TIME: 9-7-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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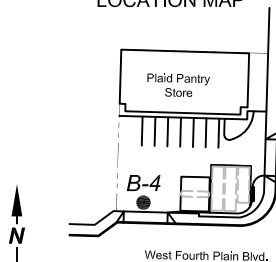
TIME DATE DTW

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TEL (503) 620-2387  
FAX (503) 620-2977

## LOCATION MAP

WELL/BORING NUMBER **B-4**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: C. Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
HA		4.3			B4-3	5			ASPHALT, 0-1'.		Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 10' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
HA		3.7			B4-6				ML SILT (ML), 1-8.5', brown, trace fine sand, low plastic fines, slightly micaceous, damp, no odor.		
HA		3.7			B4-9	10			SM Silty SAND (SM), 8.5-20', brown, predominately fine sand, local trace subrounded gravel up to 3" diameter, some low plastic fines, damp, no odor.		
MC		4.3			B4-15	15					
MC		3.2			B4-20	20					
MC		4.0			B4-25	25					
MC		3.3									
MC		3.6			B4-30	30			SW Gravelly SAND (SW), 20-36.5', gray to brown, fine to coarse sand, fine to coarse subrounded gravel up to 1.5" diameter, <10% fines, well graded, no odor.		

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-7-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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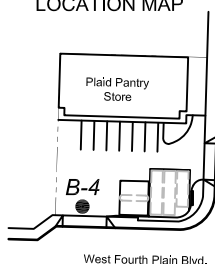
TIME DATE DTW

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FAX (503) 620-2977

## LOCATION MAP

WELL/BORING NUMBER **B-4**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: Craig Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
MC		2.5			B4-35				SW	Gravelly SAND (SW), 20-36.5', gray to brown, >50% fine to coarse sand, <50% fine to coarse gravel up to 1.25" diameter, trace fines, moist, no odor.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.
		1.0							SP	SAND (SP), 36.5-38', brown, predominately fine sand, trace fines, moist, no odor.	Air knife from 0' to 10' bgs.
MC		4.8			B4-40	40			SP/ML	SAND and SILT interbeds (SP/ML), 38-40', damp to moist, no odor.	Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
										Total Boring Depth @ 40' bgs.	
						45				Install temporary well in boring. Screen from 25' to 40' bgs (dry). Groundwater not encountered.	
						50					
						55					
						60					
						65					

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-7-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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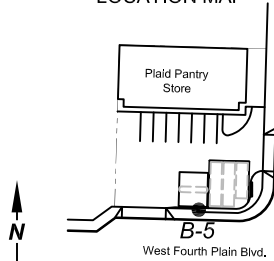
TIME DATE DTW

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FAX (503) 620-2977

## LOCATION MAP

WELL/BORING NUMBER **B-5**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: C. Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
HA		2.3			B5-3				CONCRETE, 0-0.5'.		Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 10' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
HA		46.3			B5-4.5			ML	SILT (ML), 0.5-5.0', brown, low plastic fines, moist, no odor.	Note: @ 4.5' Color change to olive gray.	
HA		1,692			B5-6	5		SM	Note: @ 6.0' Silty SAND, olive gray, slight petroleum hydrocarbon odor.		
HA		2,349			B5-9	10			Silty SAND, as above, hydrocarbon stain, odor, and sheen.		
MC		81 58			B5-12.5				Note: Local wet zone from 13' to 13.5'. Efforts to collect water sample unsuccessful in this zone.		
MC		3.8			B5-20	20		GW	Sandy GRAVEL (GW), 13.5-20', gray, fine to coarse subrounded gravel up to 2" diameter, fine to coarse sand, trace fines, well graded, dry, no odor.		
MC		2.5			B5-25	25		SW	Gravelly SAND (SW), 20-25', brown to gray, fine to coarse sand, fine to coarse subrounded gravel up to 1.5" diameter, damp no odor.		
MC		2.0			B5-30	30		GW	Sandy GRAVEL (GW), 25-30', Generally as above, increase in gravel content to >50 percent, moist, no odor.		
									Note: @ 30' Sandy GRAVEL, generally as above, increase in sand grain size with coarse sand being predominate, moist, no odor.		

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-8-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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TIME DATE DTW

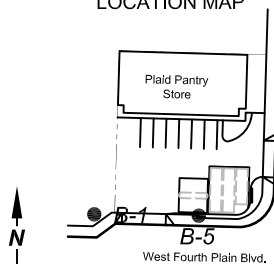
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**PNG ENVIRONMENTAL, INC.**

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

## LOCATION MAP

WELL/BORING NUMBER **B-5**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: Craig Hultgren  
REVIEWED BY: ---  
DATE: 9-8-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
MC		6.8			B5-35				SW	Gravelly SAND (SW), 35-39', gray to brown, >50 percent fine to coarse sand with predominately coarse, <50 percent fine to coarse subrounded gravel up to 1" diameter, moist, slight odor @ 35'.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.  Air knife from 0' to 10' bgs.
MC		4.1			B5-40	40			SM	Silty SAND (SM), 39-40', brown, fine to medium sand, low plastic fines, moist, no odor.	Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
										Total Boring Depth @ 40' bgs.	
						45				Install temporary well in boring. Screen from 25' to 40' bgs (dry). Groundwater not encountered.	
						50					
						55					
						60					
						65					

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-8-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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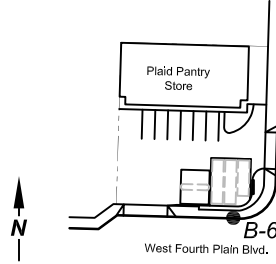
TIME DATE DTW

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Tigard, Oregon 97223  
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## LOCATION MAP



WELL/BORING NUMBER

B-6

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: C. Hultgren  
REVIEWED BY: ---  
DATE: 9-7-11

## SAMPLE INFORMATION

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL
HA		2.9			B6-3	5	
HA		3.8			B6-6		
HA		5.4			B6-9	10	
MC		2.4			B5-12	15	
MC		3.4			B6-20	20	
MC		2.6			B6-25	25	
MC		1.3			B6-30	30	
		2.8					

## DESCRIPTION

(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)

ASPHALT, 0-0.9'.

ML

SILT (ML), 0.9-14.5', brown, low plastic fines, medium dense, dry, no odor.

Note: @ 10' to 14.5' SILT, brown, <20 percent fine sand, low plastic fines.

Note: Local wet zone from 13' to 14.5'.

GW

Sandy GRAVEL (GW), 14.5-30', gray, >50 percent fine to coarse subrounded gravel, <50 percent fine to coarse sand, up to 5 percent fines, well graded, damp, no odor.

Note: @ 20' Sandy GRAVEL, generally as above, gravel up to 1.25" diameter, well graded, moist.

Note: @ 25' Sandy GRAVEL, gravel content to 1.5" diameter, moist, no odor.

SW

Gravelly SAND (SW), 30-34.5', >50 percent sand, <50 percent fine to coarse subrounded gravels up to 1" diameter, moist, no odor.

## BOREHOLE/WELL CONSTRUCTION DETAIL

Backfill borehole with hydrated bentonite and capped with black dyed concrete.

Air knife from 0' to 10' bgs.

Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-8-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
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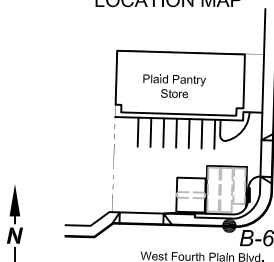
TIME DATE DTW

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Tigard, Oregon 97223  
TEL (503) 620-2387  
FAX (503) 620-2977

## LOCATION MAP

WELL/BORING NUMBER **B-6**

PROJECT NAME: Plaid Pantry #112  
PROJECT NUMBER: 1179-01  
LOCATION: Vancouver, Washington  
LOGGED BY: Craig Hultgren  
REVIEWED BY: ---  
DATE: 9-8-11

## SAMPLE INFORMATION

## DESCRIPTION

BOREHOLE/WELL  
CONSTRUCTION DETAIL

SAMPLE TYPE	Blow Counts	PID (ppm)	REC %	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	STRATA	SOIL TYPE	(USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	
MC		0.7			B6-35				SP	SAND (SP), 34.5-40', brown, predominately fine grain, 5 to 10 percent fines, moist, no odor.	Backfill borehole with hydrated bentonite and capped with black dyed concrete.
MC		2.8			B6-40	40				Total Boring Depth @ 40' bgs.	Air knife from 0' to 10' bgs.  Soil samples collected at 2' intervals using stainless steel hand auger (HA) in upper 10 feet bgs. Samples below 10 feet bgs collected by GeoProbe Macro Core (MC).
						45				Install temporary well in boring. Screen from 25' to 40' bgs (dry). Groundwater not encountered.	
						50					
						55					
						60					
						65					

DRILLING CONTRACTOR: Major Drilling  
DRILLING METHOD: Geoprobe  
SAMPLING METHOD: Macro Core  
DRILLING START TIME: 9-8-11  
DRILLING END TIME: 9-8-11

COORDINATES: ---  
SURFACE ELEVATION: ---  
CASING ELEVATION: ---  
SITE DATUM: ---  
---

TIME DATE DTW

		N/A

**APPENDIX D**

**LABORATORY ANALYTICAL REPORTS AND CHAIN OF  
CUSTODY DOCUMENTATION**

# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

Tuesday, October 4, 2011

Paul Ecker  
PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

RE: Plaid Pantry #112 / 1179-01

Enclosed are the results of analyses for work order A111153, which was received by the laboratory on 9/9/2011 at 3:40:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer , please feel free to contact me by email at: [pnerenberg@apex-labs.com](mailto:pnerenberg@apex-labs.com), or by phone at 503-718-2323.

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

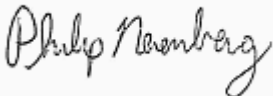
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10/04/11 13:39

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1-15	A111153-01	Soil	09/08/11 16:10	09/09/11 09:11
B6-12	A111153-06	Soil	09/09/11 09:30	09/09/11 09:11
B2-15	A111153-12	Soil	09/09/11 11:40	09/09/11 09:11

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Philip Nerenberg, Lab Director

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6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

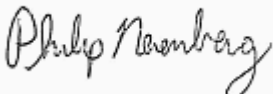
Reported:  
10/04/11 13:39

## ANALYTICAL SAMPLE RESULTS

### Hydrocarbon Identification (HCID) Screen by NWTPH

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-15 (A11I153-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
Gasoline Range Organics	ND	---	20.6	mg/kg dry	1	09/13/11 03:20	NWTPH-HCID	
Diesel Range Organics	ND	---	51.5	"	"	"	"	
Oil Range Organics	ND	---	103	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>B6-12 (A11I153-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109314</b>			
Gasoline Range Organics	ND	---	25.6	mg/kg dry	1	09/20/11 22:16	NWTPH-HCID	
Diesel Range Organics	ND	---	64.1	"	"	"	"	
Oil Range Organics	ND	---	128	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		"	"	"
<b>B2-15 (A11I153-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109314</b>			
Gasoline Range Organics	ND	---	21.1	mg/kg dry	1	09/20/11 22:49	NWTPH-HCID	
Diesel Range Organics	ND	---	52.6	"	"	"	"	
Oil Range Organics	ND	---	105	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>		"	"	"

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Philip Nerenberg, Lab Director

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PNG Environmental, INC

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Tigard, OR 97223

Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/04/11 13:39

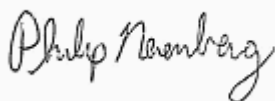
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-15 (A11I153-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109168</b>				
Acetone	ND	---	1040	ug/kg dry	50	09/12/11 20:41	5035/8260B	ESTa
Benzene	ND	---	13.0	"	"	"	"	
Bromobenzene	ND	---	26.1	"	"	"	"	
Bromochloromethane	ND	---	104	"	"	"	"	
Bromodichloromethane	ND	---	26.1	"	"	"	"	
Bromoform	ND	---	52.1	"	"	"	"	
Bromomethane	ND	---	521	"	"	"	"	
2-Butanone (MEK)	ND	---	521	"	"	"	"	Q-30
n-Butylbenzene	ND	---	52.1	"	"	"	"	
sec-Butylbenzene	ND	---	52.1	"	"	"	"	
tert-Butylbenzene	ND	---	52.1	"	"	"	"	
Carbon tetrachloride	ND	---	26.1	"	"	"	"	
Chlorobenzene	ND	---	26.1	"	"	"	"	
Chloroethane	ND	---	521	"	"	"	"	
Chloroform	ND	---	52.1	"	"	"	"	
Chloromethane	ND	---	261	"	"	"	"	
2-Chlorotoluene	ND	---	52.1	"	"	"	"	
4-Chlorotoluene	ND	---	52.1	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	261	"	"	"	"	
Dibromochloromethane	ND	---	104	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	26.1	"	"	"	"	
Dibromomethane	ND	---	52.1	"	"	"	"	
1,2-Dichlorobenzene	ND	---	52.1	"	"	"	"	
1,3-Dichlorobenzene	ND	---	26.1	"	"	"	"	
1,4-Dichlorobenzene	ND	---	52.1	"	"	"	"	
Dichlorodifluoromethane	ND	---	104	"	"	"	"	
1,1-Dichloroethane	ND	---	26.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	26.1	"	"	"	"	
1,1-Dichloroethene	ND	---	26.1	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	26.1	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	26.1	"	"	"	"	
1,2-Dichloropropane	ND	---	26.1	"	"	"	"	
1,3-Dichloropropane	ND	---	26.1	"	"	"	"	
2,2-Dichloropropane	ND	---	52.1	"	"	"	"	
1,1-Dichloropropene	ND	---	52.1	"	"	"	"	

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Philip Nerenberg, Lab Director



PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/04/11 13:39

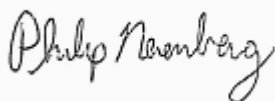
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-15 (A11I153-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109168</b>				
cis-1,3-Dichloropropene	ND	---	52.1	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	52.1	"	"	"	"	
Ethylbenzene	ND	---	26.1	"	"	"	"	
Hexachlorobutadiene	ND	---	104	"	"	"	"	
2-Hexanone	ND	---	521	"	"	"	"	
Isopropylbenzene	ND	---	52.1	"	"	"	"	
4-Isopropyltoluene	ND	---	52.1	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	521	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	52.1	"	"	"	"	
Methylene chloride	ND	---	261	"	"	"	"	
Naphthalene	ND	---	104	"	"	"	"	
n-Propylbenzene	ND	---	26.1	"	"	"	"	
Styrene	ND	---	52.1	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	26.1	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	26.1	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	26.1	"	"	"	"	
Toluene	ND	---	52.1	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	261	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	261	"	"	"	"	
1,1,1-Trichloroethane	ND	---	26.1	"	"	"	"	
1,1,2-Trichloroethane	ND	---	26.1	"	"	"	"	
Trichloroethene (TCE)	ND	---	26.1	"	"	"	"	
Trichlorofluoromethane	ND	---	104	"	"	"	"	
1,2,3-Trichloropropane	ND	---	52.1	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	52.1	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	52.1	"	"	"	"	
Vinyl chloride	ND	---	26.1	"	"	"	"	
m,p-Xylene	ND	---	52.1	"	"	"	"	
o-Xylene	ND	---	26.1	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>89 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>96 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>104 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

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Tigard, OR 97223

Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/04/11 13:39

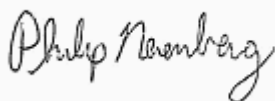
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B6-12 (A11I153-06)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
Acetone	ND	---	871	ug/kg dry	50	09/19/11 22:58	5035/8260B	Q-30
Benzene	ND	---	10.9	"	"	"	"	
Bromobenzene	ND	---	21.8	"	"	"	"	
Bromochloromethane	ND	---	87.1	"	"	"	"	
Bromodichloromethane	ND	---	21.8	"	"	"	"	
Bromoform	ND	---	43.5	"	"	"	"	
Bromomethane	ND	---	435	"	"	"	"	
2-Butanone (MEK)	ND	---	435	"	"	"	"	
n-Butylbenzene	ND	---	43.5	"	"	"	"	
sec-Butylbenzene	ND	---	43.5	"	"	"	"	
tert-Butylbenzene	ND	---	43.5	"	"	"	"	
Carbon tetrachloride	ND	---	21.8	"	"	"	"	
Chlorobenzene	ND	---	21.8	"	"	"	"	
Chloroethane	ND	---	435	"	"	"	"	
Chloroform	ND	---	43.5	"	"	"	"	
Chloromethane	ND	---	218	"	"	"	"	
2-Chlorotoluene	ND	---	43.5	"	"	"	"	
4-Chlorotoluene	ND	---	43.5	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	218	"	"	"	"	
Dibromochloromethane	ND	---	87.1	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	21.8	"	"	"	"	
Dibromomethane	ND	---	43.5	"	"	"	"	
1,2-Dichlorobenzene	ND	---	43.5	"	"	"	"	
1,3-Dichlorobenzene	ND	---	21.8	"	"	"	"	
1,4-Dichlorobenzene	ND	---	43.5	"	"	"	"	
Dichlorodifluoromethane	ND	---	87.1	"	"	"	"	
1,1-Dichloroethane	ND	---	21.8	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	21.8	"	"	"	"	
1,1-Dichloroethene	ND	---	21.8	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	21.8	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	21.8	"	"	"	"	
1,2-Dichloropropane	ND	---	21.8	"	"	"	"	
1,3-Dichloropropane	ND	---	21.8	"	"	"	"	
2,2-Dichloropropane	ND	---	43.5	"	"	"	"	
1,1-Dichloropropene	ND	---	43.5	"	"	"	"	

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Philip Nerenberg, Lab Director

PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/04/11 13:39

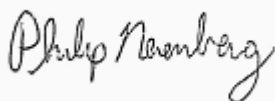
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B6-12 (A11I153-06)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
cis-1,3-Dichloropropene	ND	---	43.5	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	43.5	"	"	"	"	
Ethylbenzene	ND	---	21.8	"	"	"	"	
Hexachlorobutadiene	ND	---	87.1	"	"	"	"	
2-Hexanone	ND	---	435	"	"	"	"	
Isopropylbenzene	ND	---	43.5	"	"	"	"	
4-Isopropyltoluene	ND	---	43.5	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	435	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	43.5	"	"	"	"	
Methylene chloride	ND	---	218	"	"	"	"	
Naphthalene	ND	---	87.1	"	"	"	"	
n-Propylbenzene	ND	---	21.8	"	"	"	"	
Styrene	ND	---	43.5	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	21.8	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	21.8	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	21.8	"	"	"	"	
Toluene	ND	---	43.5	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	218	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	218	"	"	"	"	
1,1,1-Trichloroethane	ND	---	21.8	"	"	"	"	
1,1,2-Trichloroethane	ND	---	21.8	"	"	"	"	
Trichloroethene (TCE)	ND	---	21.8	"	"	"	"	
Trichlorofluoromethane	ND	---	87.1	"	"	"	"	
1,2,3-Trichloropropane	ND	---	43.5	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	43.5	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	43.5	"	"	"	"	
Vinyl chloride	ND	---	21.8	"	"	"	"	
m,p-Xylene	ND	---	43.5	"	"	"	"	
o-Xylene	ND	---	21.8	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>94 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>92 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/04/11 13:39

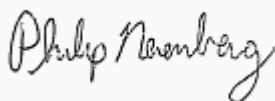
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-15 (A11I153-12)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
Acetone	ND	---	544	ug/kg dry	50	09/19/11 23:23	5035/8260B	Q-30
Benzene	ND	---	6.79	"	"	"	"	
Bromobenzene	ND	---	13.6	"	"	"	"	
Bromochloromethane	ND	---	54.4	"	"	"	"	
Bromodichloromethane	ND	---	13.6	"	"	"	"	
Bromoform	ND	---	27.2	"	"	"	"	
Bromomethane	ND	---	272	"	"	"	"	
2-Butanone (MEK)	ND	---	272	"	"	"	"	
n-Butylbenzene	ND	---	27.2	"	"	"	"	
sec-Butylbenzene	ND	---	27.2	"	"	"	"	
tert-Butylbenzene	ND	---	27.2	"	"	"	"	
Carbon tetrachloride	ND	---	13.6	"	"	"	"	
Chlorobenzene	ND	---	13.6	"	"	"	"	
Chloroethane	ND	---	272	"	"	"	"	
Chloroform	ND	---	27.2	"	"	"	"	
Chloromethane	ND	---	136	"	"	"	"	
2-Chlorotoluene	ND	---	27.2	"	"	"	"	
4-Chlorotoluene	ND	---	27.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	136	"	"	"	"	
Dibromochloromethane	ND	---	54.4	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	13.6	"	"	"	"	
Dibromomethane	ND	---	27.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	27.2	"	"	"	"	
1,3-Dichlorobenzene	ND	---	13.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	27.2	"	"	"	"	
Dichlorodifluoromethane	ND	---	54.4	"	"	"	"	
1,1-Dichloroethane	ND	---	13.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	13.6	"	"	"	"	
1,1-Dichloroethene	ND	---	13.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	13.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	13.6	"	"	"	"	
1,2-Dichloropropane	ND	---	13.6	"	"	"	"	
1,3-Dichloropropane	ND	---	13.6	"	"	"	"	
2,2-Dichloropropane	ND	---	27.2	"	"	"	"	
1,1-Dichloropropene	ND	---	27.2	"	"	"	"	

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Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/04/11 13:39

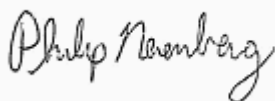
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-15 (A11I153-12)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
cis-1,3-Dichloropropene	ND	---	27.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	27.2	"	"	"	"	
Ethylbenzene	ND	---	13.6	"	"	"	"	
Hexachlorobutadiene	ND	---	54.4	"	"	"	"	
2-Hexanone	ND	---	272	"	"	"	"	
Isopropylbenzene	ND	---	27.2	"	"	"	"	
4-Isopropyltoluene	ND	---	27.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	272	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	27.2	"	"	"	"	
Methylene chloride	ND	---	136	"	"	"	"	
Naphthalene	ND	---	54.4	"	"	"	"	
n-Propylbenzene	ND	---	13.6	"	"	"	"	
Styrene	ND	---	27.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	13.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	13.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	13.6	"	"	"	"	
Toluene	ND	---	27.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	136	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	136	"	"	"	"	
1,1,1-Trichloroethane	ND	---	13.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	13.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	13.6	"	"	"	"	
Trichlorofluoromethane	ND	---	54.4	"	"	"	"	
1,2,3-Trichloropropane	ND	---	27.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	27.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	27.2	"	"	"	"	
Vinyl chloride	ND	---	13.6	"	"	"	"	
m,p-Xylene	ND	---	27.2	"	"	"	"	
o-Xylene	ND	---	13.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 102 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>105 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>95 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>90 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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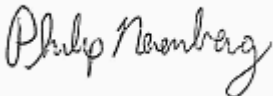
Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

**Reported:**  
10/04/11 13:39

## ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-15 (A11I153-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	87.5	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B6-12 (A11I153-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109321</b>			
% Solids	76.3	---	1.00	% by Weight	1	09/21/11 10:45	Apex SOP	
<b>B2-15 (A11I153-12)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109321</b>			
% Solids	94.6	---	1.00	% by Weight	1	09/21/11 10:45	Apex SOP	

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PNG Environmental, INC  
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Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
10/04/11 13:39

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Hydrocarbon Identification (HCID) Screen by NWTPH

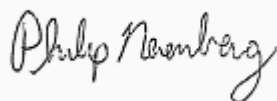
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109167 - EPA 3546 (Fuels)						Soil						
Blank (1109167-BLK1)				Prepared: 09/12/11 09:10		Analyzed: 09/12/11 22:28						
NWTPH-HCID												
Gasoline Range Organics	ND	---	15.4	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	38.5	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	---	76.9	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			Recovery: 99 %		Limits: 50-150 %		Dilution: 1x					

Batch 1109314 - EPA 3546 (Fuels)						Soil					
Blank (1109314-BLK1)						Prepared: 09/20/11 10:12    Analyzed: 09/20/11 19:35					
NWTPH-HCID											
Gasoline Range Organics	ND	---	16.7	mg/kg wet	1	---	---	---	---	---	---
Diesel Range Organics	ND	---	41.7	"	"	---	---	---	---	---	---
Oil Range Organics	ND	---	83.3	"	"	---	---	---	---	---	---
Surr: o-Terphenyl (Surr)		Recovery: 93 %		Limits: 50-150 %		Dilution: 1x					
Duplicate (1109314-DUP1)						Prepared: 09/20/11 10:12    Analyzed: 09/20/11 23:21					

QC Source Sample: B2-15 (A111153-12)												
NWTPH-HCID												
Gasoline Range Organics	ND	---	19.9	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	49.8	"	"	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	99.6	"	"	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>			<i>Recovery: 84 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					

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Project Number: 1179-01  
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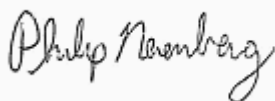
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109168 - EPA 5035A						Soil						
Blank (1109168-BLK1)						Prepared: 09/12/11 10:37    Analyzed: 09/12/11 14:18						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	ESTa
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	Q-30
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromoform	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	

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Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul EckerReported:  
10/04/11 13:39

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109168 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (1109168-BLK1)</b>						Prepared: 09/12/11 10:37 Analyzed: 09/12/11 14:18						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

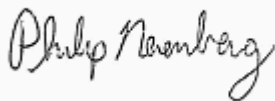
Surr: Dibromofluoromethane (Surr)	Recovery: 90 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	88 %	70-130 %	"
Toluene-d8 (Surr)	96 %	70-130 %	"
4-Bromofluorobenzene (Surr)	111 %	70-130 %	"

## LCS (1109168-BS1)

Prepared: 09/12/11 10:37 Analyzed: 09/12/11 13:26

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/04/11 13:39

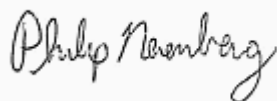
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109168 - EPA 5035A						Soil						
LCS (1109168-BS1)			Prepared: 09/12/11 10:37 Analyzed: 09/12/11 13:26									
5035/8260B												
Acetone	1130	---	1000	ug/kg wet	50	2000	---	56	65-135%	---	---	ESTa
Benzene	822	---	12.5	"	"	1000	---	82	"	---	---	
Bromobenzene	930	---	25.0	"	"	"	---	93	"	---	---	
Bromochloromethane	878	---	100	"	"	"	---	88	"	---	---	
Bromodichloromethane	901	---	25.0	"	"	"	---	90	"	---	---	
Bromoform	1280	---	50.0	"	"	"	---	128	"	---	---	Q-30
Bromomethane	1170	---	500	"	"	"	---	117	"	---	---	
2-Butanone (MEK)	1280	---	500	"	"	2000	---	64	"	---	---	
n-Butylbenzene	832	---	50.0	"	"	1000	---	83	"	---	---	
sec-Butylbenzene	824	---	50.0	"	"	"	---	82	"	---	---	
tert-Butylbenzene	836	---	50.0	"	"	"	---	84	"	---	---	ESTb
Carbon tetrachloride	930	---	25.0	"	"	"	---	93	"	---	---	
Chlorobenzene	994	---	25.0	"	"	"	---	99	"	---	---	
Chloroethane	1790	---	500	"	"	"	---	179	"	---	---	
Chloroform	856	---	50.0	"	"	"	---	86	"	---	---	
Chloromethane	853	---	250	"	"	"	---	85	"	---	---	
2-Chlorotoluene	840	---	50.0	"	"	"	---	84	"	---	---	
4-Chlorotoluene	812	---	50.0	"	"	"	---	81	"	---	---	
1,2-Dibromo-3-chloropropane	1000	---	250	"	"	"	---	100	"	---	---	
Dibromochloromethane	1070	---	100	"	"	"	---	107	"	---	---	
1,2-Dibromoethane (EDB)	956	---	25.0	"	"	"	---	96	"	---	---	
Dibromomethane	856	---	50.0	"	"	"	---	86	"	---	---	
1,2-Dichlorobenzene	965	---	50.0	"	"	"	---	96	"	---	---	
1,3-Dichlorobenzene	925	---	25.0	"	"	"	---	92	"	---	---	
1,4-Dichlorobenzene	953	---	50.0	"	"	"	---	95	"	---	---	
Dichlorodifluoromethane	650	---	100	"	"	"	---	65	"	---	---	
1,1-Dichloroethane	825	---	25.0	"	"	"	---	82	"	---	---	
1,2-Dichloroethane (EDC)	922	---	25.0	"	"	"	---	92	"	---	---	
1,1-Dichloroethene	856	---	25.0	"	"	"	---	86	"	---	---	
cis-1,2-Dichloroethene	774	---	25.0	"	"	"	---	77	"	---	---	
trans-1,2-Dichloroethene	868	---	25.0	"	"	"	---	87	"	---	---	
1,2-Dichloropropane	779	---	25.0	"	"	"	---	78	"	---	---	
1,3-Dichloropropane	979	---	25.0	"	"	"	---	98	"	---	---	
2,2-Dichloropropane	856	---	50.0	"	"	"	---	86	"	---	---	

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Philip Nerenberg, Lab Director

PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/04/11 13:39

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109168 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (1109168-BS1)</b>						Prepared: 09/12/11 10:37 Analyzed: 09/12/11 13:26						
1,1-Dichloropropene	847	---	50.0	ug/kg wet	"	"	---	85	"	---	---	
cis-1,3-Dichloropropene	958	---	50.0	"	"	"	---	96	"	---	---	
trans-1,3-Dichloropropene	998	---	50.0	"	"	"	---	100	"	---	---	
Ethylbenzene	936	---	25.0	"	"	"	---	94	"	---	---	
Hexachlorobutadiene	1190	---	100	"	"	"	---	119	"	---	---	
2-Hexanone	1630	---	500	"	"	2000	---	82	"	---	---	
Isopropylbenzene	982	---	50.0	"	"	1000	---	98	"	---	---	
4-Isopropyltoluene	852	---	50.0	"	"	"	---	85	"	---	---	
4-Methyl-2-pentanone (MiBK)	1930	---	500	"	"	2000	---	97	"	---	---	
Methyl tert-butyl ether (MTBE)	776	---	50.0	"	"	1000	---	78	"	---	---	
Methylene chloride	759	---	250	"	"	"	---	76	"	---	---	
Naphthalene	840	---	100	"	"	"	---	84	"	---	---	
n-Propylbenzene	813	---	25.0	"	"	"	---	81	"	---	---	
Styrene	984	---	50.0	"	"	"	---	98	"	---	---	
1,1,1,2-Tetrachloroethane	984	---	25.0	"	"	"	---	98	"	---	---	
1,1,2,2-Tetrachloroethane	884	---	25.0	"	"	"	---	88	"	---	---	
Tetrachloroethene (PCE)	1170	---	25.0	"	"	"	---	117	"	---	---	
Toluene	881	---	50.0	"	"	"	---	88	"	---	---	
1,2,3-Trichlorobenzene	983	---	250	"	"	"	---	98	"	---	---	
1,2,4-Trichlorobenzene	992	---	250	"	"	"	---	99	"	---	---	
1,1,1-Trichloroethane	888	---	25.0	"	"	"	---	89	"	---	---	
1,1,2-Trichloroethane	900	---	25.0	"	"	"	---	90	"	---	---	
Trichloroethene (TCE)	819	---	25.0	"	"	"	---	82	"	---	---	
Trichlorofluoromethane	2220	---	100	"	"	"	---	222	"	---	---	EST
1,2,3-Trichloropropane	909	---	50.0	"	"	"	---	91	"	---	---	
1,2,4-Trimethylbenzene	880	---	50.0	"	"	"	---	88	"	---	---	
1,3,5-Trimethylbenzene	828	---	50.0	"	"	"	---	83	"	---	---	
Vinyl chloride	1130	---	25.0	"	"	"	---	113	"	---	---	
m,p-Xylene	1920	---	50.0	"	"	2000	---	96	"	---	---	
o-Xylene	956	---	25.0	"	"	1000	---	96	"	---	---	

Surr: Dibromofluoromethane (Surr)

Recovery: 89 %

Limits: 70-130 %

Dilution: 1x

1,4-Difluorobenzene (Surr)

86 %

70-130 %

"

Toluene-d8 (Surr)

95 %

70-130 %

"

4-Bromofluorobenzene (Surr)

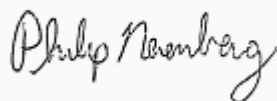
102 %

70-130 %

"

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/04/11 13:39

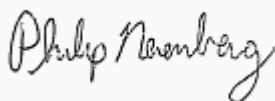
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109291 - EPA 5035A						Soil						
Blank (1109291-BLK1)						Prepared: 09/19/11 12:48    Analyzed: 09/19/11 16:09						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	Q-30
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromoform	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul EckerReported:  
10/04/11 13:39

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109291 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (1109291-BLK1)</b>						Prepared: 09/19/11 12:48 Analyzed: 09/19/11 16:09						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

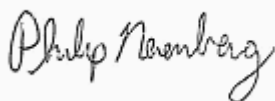
Surr: Dibromofluoromethane (Surr)	Recovery: 98 %	Limits: 70-130 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	97 %	70-130 %	"
Toluene-d8 (Surr)	91 %	70-130 %	"
4-Bromofluorobenzene (Surr)	92 %	70-130 %	"

## LCS (1109291-BS1)

Prepared: 09/19/11 12:48 Analyzed: 09/19/11 15:18

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Philip Nerenberg, Lab Director

## PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/04/11 13:39

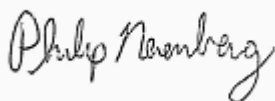
## QUALITY CONTROL (QC) SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109291 - EPA 5035A						Soil						
LCS (1109291-BS1)						Prepared: 09/19/11 12:48		Analyzed: 09/19/11 15:18				
5035/8260B												
Acetone	1240	---	1000	ug/kg wet	50	2000	---	62	65-135%	---	---	Q-30
Benzene	951	---	12.5	"	"	1000	---	95	"	---	---	
Bromobenzene	847	---	25.0	"	"	"	---	85	"	---	---	
Bromochloromethane	1070	---	100	"	"	"	---	107	"	---	---	
Bromodichloromethane	1110	---	25.0	"	"	"	---	111	"	---	---	
Bromoform	1010	---	50.0	"	"	"	---	101	"	---	---	
Bromomethane	1460	---	500	"	"	"	---	146	"	---	---	EST
2-Butanone (MEK)	1460	---	500	"	"	2000	---	73	"	---	---	
n-Butylbenzene	897	---	50.0	"	"	1000	---	90	"	---	---	
sec-Butylbenzene	836	---	50.0	"	"	"	---	84	"	---	---	
tert-Butylbenzene	913	---	50.0	"	"	"	---	91	"	---	---	
Carbon tetrachloride	1080	---	25.0	"	"	"	---	108	"	---	---	
Chlorobenzene	890	---	25.0	"	"	"	---	89	"	---	---	
Chloroethane	3360	---	500	"	"	"	---	336	"	---	---	EST
Chloroform	1070	---	50.0	"	"	"	---	107	"	---	---	
Chloromethane	1020	---	250	"	"	"	---	102	"	---	---	
2-Chlorotoluene	810	---	50.0	"	"	"	---	81	"	---	---	
4-Chlorotoluene	883	---	50.0	"	"	"	---	88	"	---	---	
1,2-Dibromo-3-chloropropane	766	---	250	"	"	"	---	77	"	---	---	
Dibromochloromethane	945	---	100	"	"	"	---	94	"	---	---	
1,2-Dibromoethane (EDB)	924	---	25.0	"	"	"	---	92	"	---	---	
Dibromomethane	1050	---	50.0	"	"	"	---	105	"	---	---	
1,2-Dichlorobenzene	856	---	50.0	"	"	"	---	86	"	---	---	
1,3-Dichlorobenzene	860	---	25.0	"	"	"	---	86	"	---	---	
1,4-Dichlorobenzene	873	---	50.0	"	"	"	---	87	"	---	---	
Dichlorodifluoromethane	1130	---	100	"	"	"	---	113	"	---	---	
1,1-Dichloroethane	980	---	25.0	"	"	"	---	98	"	---	---	
1,2-Dichloroethane (EDC)	1210	---	25.0	"	"	"	---	121	"	---	---	
1,1-Dichloroethene	956	---	25.0	"	"	"	---	96	"	---	---	
cis-1,2-Dichloroethene	939	---	25.0	"	"	"	---	94	"	---	---	
trans-1,2-Dichloroethene	1060	---	25.0	"	"	"	---	106	"	---	---	
1,2-Dichloropropane	924	---	25.0	"	"	"	---	92	"	---	---	
1,3-Dichloropropane	937	---	25.0	"	"	"	---	94	"	---	---	
2,2-Dichloropropane	996	---	50.0	"	"	"	---	100	"	---	---	

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/04/11 13:39

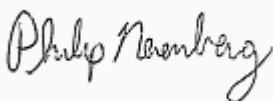
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109291 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (1109291-BS1)</b>						Prepared: 09/19/11 12:48 Analyzed: 09/19/11 15:18						
1,1-Dichloropropene	1020	---	50.0	ug/kg wet	"	"	---	102	"	---	---	
cis-1,3-Dichloropropene	926	---	50.0	"	"	"	---	93	"	---	---	
trans-1,3-Dichloropropene	998	---	50.0	"	"	"	---	100	"	---	---	
Ethylbenzene	930	---	25.0	"	"	"	---	93	"	---	---	
Hexachlorobutadiene	972	---	100	"	"	"	---	97	"	---	---	
2-Hexanone	1700	---	500	"	"	2000	---	85	"	---	---	
Isopropylbenzene	933	---	50.0	"	"	1000	---	93	"	---	---	
4-Isopropyltoluene	840	---	50.0	"	"	"	---	84	"	---	---	
4-Methyl-2-pentanone (MiBK)	2030	---	500	"	"	2000	---	102	"	---	---	
Methyl tert-butyl ether (MTBE)	947	---	50.0	"	"	1000	---	95	"	---	---	
Methylene chloride	888	---	250	"	"	"	---	89	"	---	---	
Naphthalene	788	---	100	"	"	"	---	79	"	---	---	
n-Propylbenzene	880	---	25.0	"	"	"	---	88	"	---	---	
Styrene	915	---	50.0	"	"	"	---	92	"	---	---	
1,1,1,2-Tetrachloroethane	897	---	25.0	"	"	"	---	90	"	---	---	
1,1,2,2-Tetrachloroethane	932	---	25.0	"	"	"	---	93	"	---	---	
Tetrachloroethene (PCE)	906	---	25.0	"	"	"	---	91	"	---	---	
Toluene	890	---	50.0	"	"	"	---	89	"	---	---	
1,2,3-Trichlorobenzene	858	---	250	"	"	"	---	86	"	---	---	
1,2,4-Trichlorobenzene	842	---	250	"	"	"	---	84	"	---	---	
1,1,1-Trichloroethane	1060	---	25.0	"	"	"	---	106	"	---	---	
1,1,2-Trichloroethane	879	---	25.0	"	"	"	---	88	"	---	---	
Trichloroethene (TCE)	872	---	25.0	"	"	"	---	87	"	---	---	
Trichlorofluoromethane	3600	---	100	"	"	"	---	360	"	---	---	EST
1,2,3-Trichloropropane	886	---	50.0	"	"	"	---	89	"	---	---	
1,2,4-Trimethylbenzene	891	---	50.0	"	"	"	---	89	"	---	---	
1,3,5-Trimethylbenzene	862	---	50.0	"	"	"	---	86	"	---	---	
Vinyl chloride	1360	---	25.0	"	"	"	---	136	"	---	---	Q-29
m,p-Xylene	1870	---	50.0	"	"	2000	---	94	"	---	---	
o-Xylene	932	---	25.0	"	"	1000	---	93	"	---	---	
Surr: Dibromofluoromethane (Surr) Recovery: 99 % Limits: 70-130 % Dilution: 1x												
1,4-Difluorobenzene (Surr) 101 % 70-130 % "												
Toluene-d8 (Surr) 89 % 70-130 % "												
4-Bromofluorobenzene (Surr) 87 % 70-130 % "												

Apex Laboratories

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/04/11 13:39

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Percent Dry Weight

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-----------------	-------	------	--------------	---------------	------	-------------	-----	-----------	-------

#### Batch 1109188 - Total Solids (Dry Weight)

Soil

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

#### Batch 1109321 - Total Solids (Dry Weight)

Soil

#### Duplicate (1109321-DUP2)

Prepared: 09/20/11 12:19 Analyzed: 09/21/11 10:45

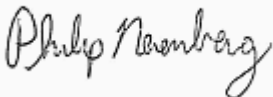
QC Source Sample: B2-15 (A111153-12)

Apex SOP

% Solids	94.5	---	1.00	% by Weight	1	---	94.6	---	---	0.1	20%
----------	------	-----	------	-------------	---	-----	------	-----	-----	-----	-----

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

Apex Laboratories



Philip Nerenberg, Lab Director

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PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
10/04/11 13:39

## SAMPLE PREPARATION INFORMATION

## Hydrocarbon Identification (HCID) Screen by NWTPH

**Prep: EPA 3546 (Fuels)**

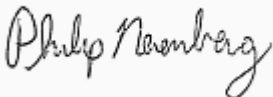
Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 1109167</b>							
A11I153-01	Soil	NWTPH-HCID	09/08/11 16:10	09/12/11 17:11	11.09g/10mL	10g/10mL	0.90
<b>Batch: 1109314</b>							
A11I153-06	Soil	NWTPH-HCID	09/09/11 09:30	09/20/11 10:12	10.23g/10mL	10g/10mL	0.98
A11I153-12	Soil	NWTPH-HCID	09/09/11 11:40	09/20/11 10:12	10.04g/10mL	10g/10mL	1.00

## Volatile Organic Compounds by EPA 8260B

**Prep: EPA 5035A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<b>Batch: 1109168</b>							
A11I153-01	Soil	5035/8260B	09/08/11 16:10	09/08/11 16:10	6.35g/5mL	10g/10mL	0.79
<b>Batch: 1109291</b>							
A11I153-06	Soil	5035/8260B	09/09/11 09:30	09/09/11 09:30	11.702g/5mL	10g/10mL	0.43
A11I153-12	Soil	5035/8260B	09/09/11 11:40	09/09/11 11:40	10.866g/5mL	10g/10mL	0.46

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Philip Nerenberg, Lab Director

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**PNG Environmental, INC**

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**

Project Number: 1179-01  
Project Manager: Paul Ecker

**Reported:**  
10/04/11 13:39

## Notes and Definitions

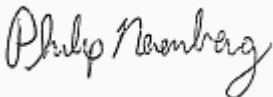
### Qualifiers:

- EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- ESTa Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.
- Q-29 Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- Q-30 Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.  
  
For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.  
  
Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- \*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories



Philip Nerenberg, Lab Director

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PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/04/11 13:39

1  
A11153 coc 4 of 3  
Lab #

## CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: <b>PNG</b>		Project Name: <b>Plaid Pantry #112</b>		Project # <b>1179-01</b>	
Address: <b>6665 SW Hampton, Tigard, OR 97223</b>		Phone: <b>503-718-2323</b>		Email: <b>503-718-0333</b>	
Sampled by: <b>Wayne T. Gray</b>					
Site Location: <b>OR</b>	Other: <b>(N/A)</b>				
SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST
B1-15-12	09-09-2011	16:05	4	4	1300-Z
B1-20	16:15	4	4	4	1300-COLS
B1-25	16:35	4	4	4	TCLP Metals (8)
B1-30	16:45	4	4	4	As, Ag, Na, Ti, V, Zn
B1-34	17:05	4	4	4	Al, Si, Ar, Ba, Br, Cd
B1-35	17:10	4	4	4	Cr, Cu, Fe, Pb, Mn, Ni, K
B1-36	17:15	4	4	4	Priority Metals (13)
B1-37	17:20	4	4	4	BCRA Metals (8)
B1-38	17:25	4	4	4	801 Chlor. Post
B1-39	17:30	4	4	4	802 PCBs
B1-40	17:35	4	4	4	820 SIM PAHs
B1-41	17:40	4	4	4	820 VOCs
B1-42	17:45	4	4	4	820 Hb VOCs
B1-43	17:50	4	4	4	820 RbM VOCs
B1-44	17:55	4	4	4	BTEX
B1-45	18:00	4	4	4	NWTH-GA
B1-46	18:05	4	4	4	NWTH-DX
B1-47	18:10	4	4	4	NWTH-ICID
B1-48	18:15	4	4	4	
B1-49	18:20	4	4	4	
B1-50	18:25	4	4	4	
B1-51	18:30	4	4	4	
B1-52	18:35	4	4	4	
B1-53	18:40	4	4	4	
B1-54	18:45	4	4	4	
B1-55	18:50	4	4	4	
B1-56	18:55	4	4	4	
B1-57	19:00	4	4	4	
B1-58	19:05	4	4	4	
B1-59	19:10	4	4	4	
B1-60	19:15	4	4	4	
B1-61	19:20	4	4	4	
B1-62	19:25	4	4	4	
B1-63	19:30	4	4	4	
B1-64	19:35	4	4	4	
B1-65	19:40	4	4	4	
B1-66	19:45	4	4	4	
B1-67	19:50	4	4	4	
B1-68	19:55	4	4	4	
B1-69	20:00	4	4	4	
B1-70	20:05	4	4	4	
B1-71	20:10	4	4	4	
B1-72	20:15	4	4	4	
B1-73	20:20	4	4	4	
B1-74	20:25	4	4	4	
B1-75	20:30	4	4	4	
B1-76	20:35	4	4	4	
B1-77	20:40	4	4	4	
B1-78	20:45	4	4	4	
B1-79	20:50	4	4	4	
B1-80	20:55	4	4	4	
B1-81	21:00	4	4	4	
B1-82	21:05	4	4	4	
B1-83	21:10	4	4	4	
B1-84	21:15	4	4	4	
B1-85	21:20	4	4	4	
B1-86	21:25	4	4	4	
B1-87	21:30	4	4	4	
B1-88	21:35	4	4	4	
B1-89	21:40	4	4	4	
B1-90	21:45	4	4	4	
B1-91	21:50	4	4	4	
B1-92	21:55	4	4	4	
B1-93	22:00	4	4	4	
B1-94	22:05	4	4	4	
B1-95	22:10	4	4	4	
B1-96	22:15	4	4	4	
B1-97	22:20	4	4	4	
B1-98	22:25	4	4	4	
B1-99	22:30	4	4	4	
B1-100	22:35	4	4	4	
B1-101	22:40	4	4	4	
B1-102	22:45	4	4	4	
B1-103	22:50	4	4	4	
B1-104	22:55	4	4	4	
B1-105	23:00	4	4	4	
B1-106	23:05	4	4	4	
B1-107	23:10	4	4	4	
B1-108	23:15	4	4	4	
B1-109	23:20	4	4	4	
B1-110	23:25	4	4	4	
B1-111	23:30	4	4	4	
B1-112	23:35	4	4	4	
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B1-115	23:50	4	4	4	
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B1-118	00:05	4	4	4	
B1-119	00:10	4	4	4	
B1-120	00:15	4	4	4	
B1-121	00:20	4	4	4	
B1-122	00:25	4	4	4	
B1-123	00:30	4	4	4	
B1-124	00:35	4	4	4	
B1-125	00:40	4	4	4	
B1-126	00:45	4	4	4	
B1-127	00:50	4	4	4	
B1-128	00:55	4	4	4	
B1-129	01:00	4	4	4	
B1-130	01:05	4	4	4	
B1-131	01:10	4	4	4	
B1-132	01:15	4	4	4	
B1-133	01:20	4	4	4	
B1-134	01:25	4	4	4	
B1-135	01:30	4	4	4	
B1-136	01:35	4	4	4	
B1-137	01:40	4	4	4	
B1-138	01:45	4	4	4	
B1-139	01:50	4	4	4	
B1-140	01:55	4	4	4	
B1-141	02:00	4	4	4	
B1-142	02:05	4	4	4	
B1-143	02:10	4	4	4	
B1-144	02:15	4	4	4	
B1-145	02:20	4	4	4	
B1-146	02:25	4	4	4	
B1-147	02:30	4	4	4	
B1-148	02:35	4	4	4	
B1-149	02:40	4	4	4	
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B1-152	02:55	4	4	4	
B1-153	03:00	4	4	4	
B1-154	03:05	4	4	4	
B1-155	03:10	4	4	4	
B1-156	03:15	4	4	4	
B1-157	03:20	4	4	4	
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B1-159	03:30	4	4	4	
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B1-161	03:40	4	4	4	
B1-162	03:45	4	4	4	
B1-163	03:50	4	4	4	
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B1-166	04:05	4	4	4	
B1-167	04:10	4	4	4	
B1-168	04:15	4	4	4	
B1-169	04:20	4	4	4	
B1-170	04:25	4	4	4	
B1-171	04:30	4	4	4	
B1-172	04:35	4	4	4	
B1-173	04:40	4	4	4	
B1-174	04:45	4	4	4	
B1-175	04:50	4	4	4	
B1-176	04:55	4	4	4	
B1-177	05:00	4	4	4	
B1-178	05:05	4	4	4	
B1-179	05:10	4	4	4	
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B1-181	05:20	4	4	4	
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B1-188	05:55	4	4	4	
B1-189	06:00	4	4	4	
B1-190	06:05	4	4	4	
B1-191	06:10	4	4	4	
B1-192	06:15	4	4	4	
B1-193	06:20	4	4	4	
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B1-196	06:35	4	4	4	
B1-197	06:40	4	4	4	
B1-198	06:45	4	4	4	
B1-199	06:50	4	4	4	
B1-200	06:55	4	4	4	
B1-201	07:00	4	4	4	
B1-202	07:05	4	4	4	
B1-203	07:10	4	4	4	
B1-204	07:15	4	4	4	
B1-205	07:20	4	4	4	
B1-206	07:25	4	4	4	
B1-207	07:30	4	4	4	
B1-208	07:35	4	4	4	
B1-209	07:40	4	4	4	
B1-210	07:45	4	4	4	
B1-211	07:50	4	4	4	
B1-212	07:55	4	4	4	
B1-213	08:00	4	4	4	
B1-214	08:05	4	4	4	
B1-215	08:10	4	4	4	
B1-216	08:15	4	4	4	
B1-217	08:20	4	4	4	
B1-218	08:25	4	4	4	
B1-219	08:30	4	4	4	
B1-220	08:35	4	4	4	
B1-221	08:40	4	4	4	
B1-222	08:45	4	4	4	
B1-223	08:50	4	4	4	
B1-224	08:55	4	4	4	
B1-225	09:00	4	4	4	
B1-226	09:05	4	4	4	
B1-227	09:10	4	4	4	
B1-228	09:15	4	4	4	
B1-229	09:20	4	4	4	
B1-230	09:25	4	4	4	
B1-231	09:30	4	4	4	
B1-232	09:35	4	4	4	
B1-233	09:40	4	4	4	
B1-234	09:45	4	4	4	
B1-235	09:50	4	4	4	
B1-236	09:55	4	4	4	
B1-237	10:00				

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/04/11 13:39

## CHAIN OF CUSTODY

12232 S.W. Garden Place, Tigard, OR 97223 Pk: 503-718-3323 Fax: 503-718-0333

Company: <b>PNG</b>		Project Mgr: <b>Paul Ecker</b>		Project Name: <b>Plaid Pantry #112</b>		Project # <b>1179-01</b>	
Address: <b>6665 SW Hampton St, Tigard, OR 97223</b>		Phone: <b>503-610-2357</b>		Fax: <b>503-718-0333</b>		Email:	
Sampled by: <b>Clayton &amp; Emily Hargrove</b>							
Site Location: <b>OR</b>	Other: <b>MS</b>						
SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST	
BG-35	10	09/09/11	10:55	5	4		
BG-40	11	09/09/11	10:20	1	1		
B3-15	12	09/09/11	11:40	1	1		
B3-20	13	09/09/11	11:50	1	1		
B3-30	14	09/09/11	12:00	1	1		
B3-35	15	09/09/11	12:10	1	1		
B3-40	16	09/09/11	12:15	1	1		
B3-15	17	09/09/11	12:20	1	1		
B3-20	18	09/09/11	12:25	1	1		
B3-25	19	09/09/11	12:30	1	1		
						SPECIAL INSTRUCTIONS:	
TAT Requested (circle)		24 HR	48 HR	72 HR			
		4 DAY	5 DAY	Other:			
SAMPLES ARE HELD FOR 30 DAYS							
RELINQUISHED BY:		Signature: <b>Paul Ecker</b>		Date: <b>9/14/11</b>		RECEIVED BY:	
Signature: <b>Clayton Hargrove</b>		Signature: <b>Emily Hargrove</b>		Date: <b>9/14/11</b>		Signature:	
Printed Name: <b>Clayton Hargrove</b>		Printed Name: <b>Emily Hargrove</b>		Time: <b>15:40</b>		Time:	
Company: <b>PNG</b>		Company: <b>Apex</b>		Company:		Company:	

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*Philip Nerenberg*

Philip Nerenberg, Lab Director

**Reported:**  
10/04/11 13:39

Page 25 of 25

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

Tuesday, October 11, 2011

Paul Ecker  
PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

RE: Plaid Pantry #112 / 1179-01

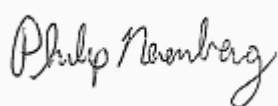
Enclosed are the results of analyses for work order A111118, which was received by the laboratory on 9/8/2011 at 4:10:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer , please feel free to contact me by email at: [pnereenberg@apex-labs.com](mailto:pnereenberg@apex-labs.com), or by phone at 503-718-2323.

---

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---

Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

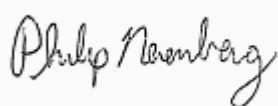
**Reported:**  
10/11/11 12:09

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B4-3	A11I118-01	Soil	09/07/11 09:50	09/08/11 16:10
B4-9	A11I118-03	Soil	09/07/11 11:01	09/08/11 16:10
B3-3	A11I118-04	Soil	09/07/11 12:25	09/08/11 16:10
B3-9	A11I118-06	Soil	09/07/11 13:00	09/08/11 16:10
B2-3	A11I118-07	Soil	09/07/11 14:35	09/08/11 16:10
B2-9	A11I118-09	Soil	09/07/11 15:45	09/08/11 16:10
B5-12.5	A11I118-15	Soil	09/08/11 13:10	09/08/11 16:10
B5-20	A11I118-16	Soil	09/08/11 13:20	09/08/11 16:10
B5-3	A11I118-20	Soil	09/08/11 10:30	09/08/11 16:10
B5-6	A11I118-22	Soil	09/08/11 11:06	09/08/11 16:10
B5-9	A11I118-23	Soil	09/08/11 11:40	09/08/11 16:10
B1-3	A11I118-24	Soil	09/08/11 12:24	09/08/11 16:10
B1-9	A11I118-26	Soil	09/08/11 12:55	09/08/11 16:10
B6-3	A11I118-27	Soil	09/08/11 13:56	09/08/11 16:10
B6-9	A11I118-29	Soil	09/08/11 15:44	09/08/11 16:10

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

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## ANALYTICAL CASE NARRATIVE

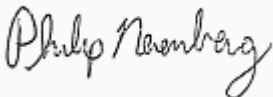
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### Work Order: A111118

See Narrative attached to end of report after chain of custody documents.

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---

Philip Nerenberg, Lab Director



PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

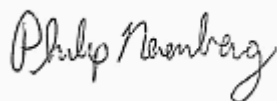
## ANALYTICAL SAMPLE RESULTS

### Hydrocarbon Identification (HCID) Screen by NWTPH

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B4-3 (A111118-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109167</b>				
Gasoline Range Organics	ND	---	22.7	mg/kg dry	1	09/12/11 22:53	NWTPH-HCID	
Diesel Range Organics	ND	---	56.8	"	"	"	"	
Oil Range Organics	ND	---	114	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 86 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B4-9 (A111118-03)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109167</b>				
Gasoline Range Organics	ND	---	21.2	mg/kg dry	1	09/12/11 23:17	NWTPH-HCID	
Diesel Range Organics	ND	---	53.0	"	"	"	"	
Oil Range Organics	ND	---	106	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B3-3 (A111118-04)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109167</b>				
Gasoline Range Organics	ND	---	22.7	mg/kg dry	1	09/12/11 23:41	NWTPH-HCID	
Diesel Range Organics	ND	---	56.7	"	"	"	"	
Oil Range Organics	ND	---	113	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 85 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B3-9 (A111118-06)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109314</b>				
Gasoline Range Organics	ND	---	25.6	mg/kg dry	1	09/20/11 20:07	NWTPH-HCID	
Diesel Range Organics	ND	---	64.0	"	"	"	"	
Oil Range Organics	ND	---	128	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 93 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B2-3 (A111118-07)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109167</b>				
Gasoline Range Organics	ND	---	21.3	mg/kg dry	1	09/13/11 00:05	NWTPH-HCID	
Diesel Range Organics	ND	---	53.4	"	"	"	"	
Oil Range Organics	ND	---	107	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B2-9 (A111118-09)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109314</b>				
Gasoline Range Organics	ND	---	24.9	mg/kg dry	1	09/20/11 20:40	NWTPH-HCID	
Diesel Range Organics	ND	---	62.3	"	"	"	"	
Oil Range Organics	DET	---	125	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 87 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B5-3 (A111118-20)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109167</b>				
Gasoline Range Organics	ND	---	22.4	mg/kg dry	1	09/13/11 00:30	NWTPH-HCID	
Diesel Range Organics	ND	---	56.1	"	"	"	"	

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
10/11/11 12:09

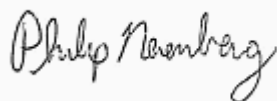
## ANALYTICAL SAMPLE RESULTS

## Hydrocarbon Identification (HCID) Screen by NWTPH

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-3 (A111118-20)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
Oil Range Organics	ND	---	112	mg/kg dry	1	"	NWTPH-HCID	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 80 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B5-6 (A111118-22)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
Gasoline Range Organics	DET	---	22.9	mg/kg dry	1	09/13/11 00:54	NWTPH-HCID	
Diesel Range Organics	DET	---	57.2	"	"	"	"	F-06
Oil Range Organics	ND	---	114	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 72 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B5-9 (A111118-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
Gasoline Range Organics	DET	---	21.7	mg/kg dry	1	09/13/11 01:19	NWTPH-HCID	
Diesel Range Organics	DET	---	54.1	"	"	"	"	F-06
Oil Range Organics	ND	---	108	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 76 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B1-3 (A111118-24)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
Gasoline Range Organics	ND	---	23.5	mg/kg dry	1	09/13/11 01:43	NWTPH-HCID	
Diesel Range Organics	ND	---	58.8	"	"	"	"	
Oil Range Organics	ND	---	118	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B1-9 (A111118-26)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109314</b>			
Gasoline Range Organics	ND	---	21.5	mg/kg dry	1	09/20/11 21:44	NWTPH-HCID	
Diesel Range Organics	ND	---	53.8	"	"	"	"	
Oil Range Organics	ND	---	108	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B6-3 (A111118-27)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
Gasoline Range Organics	ND	---	21.5	mg/kg dry	1	09/13/11 02:07	NWTPH-HCID	
Diesel Range Organics	ND	---	53.7	"	"	"	"	
Oil Range Organics	ND	---	107	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 59 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B6-9 (A111118-29)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
Gasoline Range Organics	ND	---	23.2	mg/kg dry	1	09/13/11 02:31	NWTPH-HCID	
Diesel Range Organics	ND	---	58.1	"	"	"	"	
Oil Range Organics	ND	---	116	"	"	"	"	

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Philip Nerenberg, Lab Director

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6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

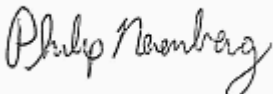
**Reported:**  
10/11/11 12:09

## ANALYTICAL SAMPLE RESULTS

### Hydrocarbon Identification (HCID) Screen by NWTPH

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B6-9 (A111118-29)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109167</b>			
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>	1	"	NWTPH-HCID	

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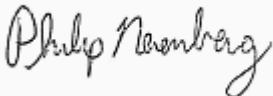
**Reported:**  
10/11/11 12:09

## ANALYTICAL SAMPLE RESULTS

### Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-12.5 (A11I118-15)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109443</b>			<b>H-02</b>
<b>Diesel Range Organics</b>	<b>638</b>	---	25.0	mg/kg dry	1	09/27/11 18:02	NWTPH-Dx	F-06
Oil Range Organics	ND	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>	"	"	"	

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Project: **Plaid Pantry #112**  
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Project Manager: Paul Ecker

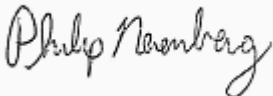
**Reported:**  
10/11/11 12:09

## ANALYTICAL SAMPLE RESULTS

### Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx - Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-9 (A111118-09)</b>			<b>Matrix: Soil</b>		<b>Batch: 1110056</b>			<b>H-02</b>
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	10/05/11 10:26	NWTPH-Dx(SG)	
<b>Oil Range Organics</b>	<b>54.1</b>	---	50.0	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>	"	"	"	

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Project: **Plaid Pantry #112**  
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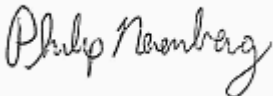
Reported:  
10/11/11 12:09

## ANALYTICAL SAMPLE RESULTS

### Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-12.5 (A111118-15)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109121</b>			
<b>Gasoline Range Organics</b>	<b>444</b>	---	126	mg/kg dry	1000	09/09/11 15:27	NWTPH-Gx	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 134 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B5-20 (A111118-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109121</b>			
<b>Gasoline Range Organics</b>	<b>ND</b>	---	2.91	mg/kg dry	50	09/09/11 18:26	NWTPH-Gx	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 124 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>101 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B5-6 (A111118-22)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109121</b>			
<b>Gasoline Range Organics</b>	<b>2900</b>	---	112	mg/kg dry	1000	09/09/11 15:53	NWTPH-Gx	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 150 %</i>	<i>Limits: 50-150 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>101 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<b>B5-9 (A111118-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109121</b>			
<b>Gasoline Range Organics</b>	<b>4070</b>	---	95.1	mg/kg dry	1000	09/09/11 16:18	NWTPH-Gx	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 171 %</i>	<i>Limits: 50-150 %</i>	1	"	"	S-02
<i>1,4-Difluorobenzene (Sur)</i>			<i>98 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

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10/11/11 12:09

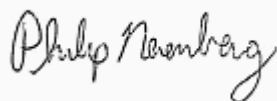
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B4-3 (A111118-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	1020	ug/kg dry	50	09/09/11 15:01	5035/8260B	
Benzene	ND	---	12.7	"	"	"	"	
Bromobenzene	ND	---	25.5	"	"	"	"	
Bromochloromethane	ND	---	102	"	"	"	"	
Bromodichloromethane	ND	---	25.5	"	"	"	"	
Bromoform	ND	---	50.9	"	"	"	"	
Bromomethane	ND	---	509	"	"	"	"	
2-Butanone (MEK)	ND	---	509	"	"	"	"	
n-Butylbenzene	ND	---	50.9	"	"	"	"	
sec-Butylbenzene	ND	---	50.9	"	"	"	"	
tert-Butylbenzene	ND	---	50.9	"	"	"	"	
Carbon tetrachloride	ND	---	25.5	"	"	"	"	
Chlorobenzene	ND	---	25.5	"	"	"	"	
Chloroethane	ND	---	509	"	"	"	"	
Chloroform	ND	---	50.9	"	"	"	"	
Chloromethane	ND	---	255	"	"	"	"	
2-Chlorotoluene	ND	---	50.9	"	"	"	"	
4-Chlorotoluene	ND	---	50.9	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	255	"	"	"	"	
Dibromochloromethane	ND	---	102	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	25.5	"	"	"	"	
Dibromomethane	ND	---	50.9	"	"	"	"	
1,2-Dichlorobenzene	ND	---	50.9	"	"	"	"	
1,3-Dichlorobenzene	ND	---	25.5	"	"	"	"	
1,4-Dichlorobenzene	ND	---	50.9	"	"	"	"	
Dichlorodifluoromethane	ND	---	102	"	"	"	"	
1,1-Dichloroethane	ND	---	25.5	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	25.5	"	"	"	"	
1,1-Dichloroethene	ND	---	25.5	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	25.5	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	25.5	"	"	"	"	
1,2-Dichloropropane	ND	---	25.5	"	"	"	"	
1,3-Dichloropropane	ND	---	25.5	"	"	"	"	
2,2-Dichloropropane	ND	---	50.9	"	"	"	"	
1,1-Dichloropropene	ND	---	50.9	"	"	"	"	

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PNG Environmental, INC

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Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

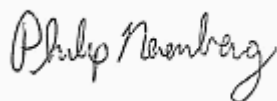
## ANALYTICAL SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B4-3 (A111118-01)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	50.9	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	50.9	"	"	"	"	
Ethylbenzene	ND	---	25.5	"	"	"	"	
Hexachlorobutadiene	ND	---	102	"	"	"	"	
2-Hexanone	ND	---	509	"	"	"	"	
Isopropylbenzene	ND	---	50.9	"	"	"	"	
4-Isopropyltoluene	ND	---	50.9	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	509	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	50.9	"	"	"	"	
Methylene chloride	ND	---	255	"	"	"	"	
Naphthalene	ND	---	102	"	"	"	"	
n-Propylbenzene	ND	---	25.5	"	"	"	"	
Styrene	ND	---	50.9	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	25.5	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	25.5	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	25.5	"	"	"	"	
Toluene	ND	---	50.9	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	255	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	255	"	"	"	"	
1,1,1-Trichloroethane	ND	---	25.5	"	"	"	"	
1,1,2-Trichloroethane	ND	---	25.5	"	"	"	"	
Trichloroethene (TCE)	ND	---	25.5	"	"	"	"	
Trichlorofluoromethane	ND	---	102	"	"	"	"	
1,2,3-Trichloropropane	ND	---	50.9	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	50.9	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	50.9	"	"	"	"	
Vinyl chloride	ND	---	25.5	"	"	"	"	
m,p-Xylene	ND	---	50.9	"	"	"	"	
o-Xylene	ND	---	25.5	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>99 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>104 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director



PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

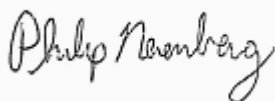
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B4-9 (A111118-03)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	970	ug/kg dry	50	09/09/11 17:10	5035/8260B	
Benzene	ND	---	12.1	"	"	"	"	
Bromobenzene	ND	---	24.3	"	"	"	"	
Bromochloromethane	ND	---	97.0	"	"	"	"	
Bromodichloromethane	ND	---	24.3	"	"	"	"	
Bromoform	ND	---	48.5	"	"	"	"	
Bromomethane	ND	---	485	"	"	"	"	
2-Butanone (MEK)	ND	---	485	"	"	"	"	
n-Butylbenzene	ND	---	48.5	"	"	"	"	
sec-Butylbenzene	ND	---	48.5	"	"	"	"	
tert-Butylbenzene	ND	---	48.5	"	"	"	"	
Carbon tetrachloride	ND	---	24.3	"	"	"	"	
Chlorobenzene	ND	---	24.3	"	"	"	"	
Chloroethane	ND	---	485	"	"	"	"	
Chloroform	ND	---	48.5	"	"	"	"	
Chloromethane	ND	---	243	"	"	"	"	
2-Chlorotoluene	ND	---	48.5	"	"	"	"	
4-Chlorotoluene	ND	---	48.5	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	243	"	"	"	"	
Dibromochloromethane	ND	---	97.0	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	24.3	"	"	"	"	
Dibromomethane	ND	---	48.5	"	"	"	"	
1,2-Dichlorobenzene	ND	---	48.5	"	"	"	"	
1,3-Dichlorobenzene	ND	---	24.3	"	"	"	"	
1,4-Dichlorobenzene	ND	---	48.5	"	"	"	"	
Dichlorodifluoromethane	ND	---	97.0	"	"	"	"	
1,1-Dichloroethane	ND	---	24.3	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	24.3	"	"	"	"	
1,1-Dichloroethene	ND	---	24.3	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	24.3	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	24.3	"	"	"	"	
1,2-Dichloropropane	ND	---	24.3	"	"	"	"	
1,3-Dichloropropane	ND	---	24.3	"	"	"	"	
2,2-Dichloropropane	ND	---	48.5	"	"	"	"	
1,1-Dichloropropene	ND	---	48.5	"	"	"	"	

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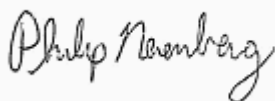
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B4-9 (A111118-03)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	48.5	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	48.5	"	"	"	"	
Ethylbenzene	ND	---	24.3	"	"	"	"	
Hexachlorobutadiene	ND	---	97.0	"	"	"	"	
2-Hexanone	ND	---	485	"	"	"	"	
Isopropylbenzene	ND	---	48.5	"	"	"	"	
4-Isopropyltoluene	ND	---	48.5	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	485	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	48.5	"	"	"	"	
Methylene chloride	ND	---	243	"	"	"	"	
Naphthalene	ND	---	97.0	"	"	"	"	
n-Propylbenzene	ND	---	24.3	"	"	"	"	
Styrene	ND	---	48.5	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	24.3	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	24.3	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	24.3	"	"	"	"	
Toluene	ND	---	48.5	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	243	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	243	"	"	"	"	
1,1,1-Trichloroethane	ND	---	24.3	"	"	"	"	
1,1,2-Trichloroethane	ND	---	24.3	"	"	"	"	
Trichloroethene (TCE)	ND	---	24.3	"	"	"	"	
Trichlorofluoromethane	ND	---	97.0	"	"	"	"	
1,2,3-Trichloropropane	ND	---	48.5	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	48.5	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	48.5	"	"	"	"	
Vinyl chloride	ND	---	24.3	"	"	"	"	
m,p-Xylene	ND	---	48.5	"	"	"	"	
o-Xylene	ND	---	24.3	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 112 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>102 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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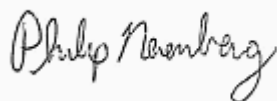
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B3-3 (A111118-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109121</b>			
Acetone	ND	---	941	ug/kg dry	50	09/09/11 17:35	5035/8260B	
Benzene	ND	---	11.8	"	"	"	"	
Bromobenzene	ND	---	23.5	"	"	"	"	
Bromochloromethane	ND	---	94.1	"	"	"	"	
Bromodichloromethane	ND	---	23.5	"	"	"	"	
Bromoform	ND	---	47.0	"	"	"	"	
Bromomethane	ND	---	470	"	"	"	"	
2-Butanone (MEK)	ND	---	470	"	"	"	"	
n-Butylbenzene	ND	---	47.0	"	"	"	"	
sec-Butylbenzene	ND	---	47.0	"	"	"	"	
tert-Butylbenzene	ND	---	47.0	"	"	"	"	
Carbon tetrachloride	ND	---	23.5	"	"	"	"	
Chlorobenzene	ND	---	23.5	"	"	"	"	
Chloroethane	ND	---	470	"	"	"	"	
Chloroform	ND	---	47.0	"	"	"	"	
Chloromethane	ND	---	235	"	"	"	"	
2-Chlorotoluene	ND	---	47.0	"	"	"	"	
4-Chlorotoluene	ND	---	47.0	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	235	"	"	"	"	
Dibromochloromethane	ND	---	94.1	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	23.5	"	"	"	"	
Dibromomethane	ND	---	47.0	"	"	"	"	
1,2-Dichlorobenzene	ND	---	47.0	"	"	"	"	
1,3-Dichlorobenzene	ND	---	23.5	"	"	"	"	
1,4-Dichlorobenzene	ND	---	47.0	"	"	"	"	
Dichlorodifluoromethane	ND	---	94.1	"	"	"	"	
1,1-Dichloroethane	ND	---	23.5	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	23.5	"	"	"	"	
1,1-Dichloroethene	ND	---	23.5	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	23.5	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	23.5	"	"	"	"	
1,2-Dichloropropane	ND	---	23.5	"	"	"	"	
1,3-Dichloropropane	ND	---	23.5	"	"	"	"	
2,2-Dichloropropane	ND	---	47.0	"	"	"	"	
1,1-Dichloropropene	ND	---	47.0	"	"	"	"	

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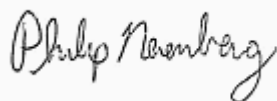
## ANALYTICAL SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B3-3 (A111118-04)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	47.0	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	47.0	"	"	"	"	
Ethylbenzene	ND	---	23.5	"	"	"	"	
Hexachlorobutadiene	ND	---	94.1	"	"	"	"	
2-Hexanone	ND	---	470	"	"	"	"	
Isopropylbenzene	ND	---	47.0	"	"	"	"	
4-Isopropyltoluene	ND	---	47.0	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	470	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	47.0	"	"	"	"	
Methylene chloride	ND	---	235	"	"	"	"	
Naphthalene	ND	---	94.1	"	"	"	"	
n-Propylbenzene	ND	---	23.5	"	"	"	"	
Styrene	ND	---	47.0	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	23.5	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	23.5	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	23.5	"	"	"	"	
Toluene	ND	---	47.0	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	235	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	235	"	"	"	"	
1,1,1-Trichloroethane	ND	---	23.5	"	"	"	"	
1,1,2-Trichloroethane	ND	---	23.5	"	"	"	"	
Trichloroethene (TCE)	ND	---	23.5	"	"	"	"	
Trichlorofluoromethane	ND	---	94.1	"	"	"	"	
1,2,3-Trichloropropane	ND	---	47.0	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	47.0	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	47.0	"	"	"	"	
Vinyl chloride	ND	---	23.5	"	"	"	"	
m,p-Xylene	ND	---	47.0	"	"	"	"	
o-Xylene	ND	---	23.5	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)		Recovery: 107 %		Limits: 70-130 %	1	"	"	
1,4-Difluorobenzene (Surr)		100 %		Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)		104 %		Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)		103 %		Limits: 70-130 %	"	"	"	

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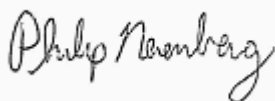
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B3-9 (A111118-06)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
Acetone	ND	---	1110	ug/kg dry	50	09/19/11 19:34	5035/8260B	Q-30
Benzene	ND	---	13.9	"	"	"	"	
Bromobenzene	ND	---	27.7	"	"	"	"	
Bromochloromethane	ND	---	111	"	"	"	"	
Bromodichloromethane	ND	---	27.7	"	"	"	"	
Bromoform	ND	---	55.4	"	"	"	"	
Bromomethane	ND	---	55.4	"	"	"	"	
2-Butanone (MEK)	ND	---	55.4	"	"	"	"	
n-Butylbenzene	ND	---	55.4	"	"	"	"	
sec-Butylbenzene	ND	---	55.4	"	"	"	"	
tert-Butylbenzene	ND	---	55.4	"	"	"	"	
Carbon tetrachloride	ND	---	27.7	"	"	"	"	
Chlorobenzene	ND	---	27.7	"	"	"	"	
Chloroethane	ND	---	55.4	"	"	"	"	
Chloroform	ND	---	55.4	"	"	"	"	
Chloromethane	ND	---	27.7	"	"	"	"	
2-Chlorotoluene	ND	---	55.4	"	"	"	"	
4-Chlorotoluene	ND	---	55.4	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	27.7	"	"	"	"	
Dibromochloromethane	ND	---	111	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	27.7	"	"	"	"	
Dibromomethane	ND	---	55.4	"	"	"	"	
1,2-Dichlorobenzene	ND	---	55.4	"	"	"	"	
1,3-Dichlorobenzene	ND	---	27.7	"	"	"	"	
1,4-Dichlorobenzene	ND	---	55.4	"	"	"	"	
Dichlorodifluoromethane	ND	---	111	"	"	"	"	
1,1-Dichloroethane	ND	---	27.7	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	27.7	"	"	"	"	
1,1-Dichloroethene	ND	---	27.7	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	27.7	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	27.7	"	"	"	"	
1,2-Dichloropropane	ND	---	27.7	"	"	"	"	
1,3-Dichloropropane	ND	---	27.7	"	"	"	"	
2,2-Dichloropropane	ND	---	55.4	"	"	"	"	
1,1-Dichloropropene	ND	---	55.4	"	"	"	"	

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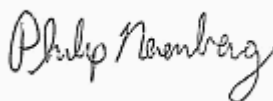
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B3-9 (A111118-06)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
cis-1,3-Dichloropropene	ND	---	55.4	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	55.4	"	"	"	"	
Ethylbenzene	ND	---	27.7	"	"	"	"	
Hexachlorobutadiene	ND	---	111	"	"	"	"	
2-Hexanone	ND	---	55.4	"	"	"	"	
Isopropylbenzene	ND	---	55.4	"	"	"	"	
4-Isopropyltoluene	ND	---	55.4	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	55.4	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	55.4	"	"	"	"	
Methylene chloride	ND	---	27.7	"	"	"	"	
Naphthalene	ND	---	111	"	"	"	"	
n-Propylbenzene	ND	---	27.7	"	"	"	"	
Styrene	ND	---	55.4	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	27.7	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	27.7	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	27.7	"	"	"	"	
Toluene	ND	---	55.4	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	27.7	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	27.7	"	"	"	"	
1,1,1-Trichloroethane	ND	---	27.7	"	"	"	"	
1,1,2-Trichloroethane	ND	---	27.7	"	"	"	"	
Trichloroethene (TCE)	ND	---	27.7	"	"	"	"	
Trichlorofluoromethane	ND	---	111	"	"	"	"	
1,2,3-Trichloropropane	ND	---	55.4	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	55.4	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	55.4	"	"	"	"	
Vinyl chloride	ND	---	27.7	"	"	"	"	
m,p-Xylene	ND	---	55.4	"	"	"	"	
o-Xylene	ND	---	27.7	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>94 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>93 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>94 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

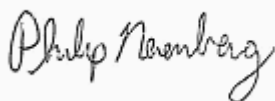
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-3 (A111118-07)</b>		<b>Matrix: Soil</b>		<b>Batch: 1109121</b>				
Acetone	ND	---	865	ug/kg dry	50	09/09/11 18:01	5035/8260B	
Benzene	ND	---	10.8	"	"	"	"	
Bromobenzene	ND	---	21.6	"	"	"	"	
Bromochloromethane	ND	---	86.5	"	"	"	"	
Bromodichloromethane	ND	---	21.6	"	"	"	"	
Bromoform	ND	---	43.2	"	"	"	"	
Bromomethane	ND	---	432	"	"	"	"	
2-Butanone (MEK)	ND	---	432	"	"	"	"	
n-Butylbenzene	ND	---	43.2	"	"	"	"	
sec-Butylbenzene	ND	---	43.2	"	"	"	"	
tert-Butylbenzene	ND	---	43.2	"	"	"	"	
Carbon tetrachloride	ND	---	21.6	"	"	"	"	
Chlorobenzene	ND	---	21.6	"	"	"	"	
Chloroethane	ND	---	432	"	"	"	"	
Chloroform	ND	---	43.2	"	"	"	"	
Chloromethane	ND	---	216	"	"	"	"	
2-Chlorotoluene	ND	---	43.2	"	"	"	"	
4-Chlorotoluene	ND	---	43.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	216	"	"	"	"	
Dibromochloromethane	ND	---	86.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	21.6	"	"	"	"	
Dibromomethane	ND	---	43.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	43.2	"	"	"	"	
1,3-Dichlorobenzene	ND	---	21.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	43.2	"	"	"	"	
Dichlorodifluoromethane	ND	---	86.5	"	"	"	"	
1,1-Dichloroethane	ND	---	21.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	21.6	"	"	"	"	
1,1-Dichloroethene	ND	---	21.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	21.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	21.6	"	"	"	"	
1,2-Dichloropropane	ND	---	21.6	"	"	"	"	
1,3-Dichloropropane	ND	---	21.6	"	"	"	"	
2,2-Dichloropropane	ND	---	43.2	"	"	"	"	
1,1-Dichloropropene	ND	---	43.2	"	"	"	"	

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Project Number: 1179-01

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Reported:

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## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-3 (A111118-07)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	43.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	43.2	"	"	"	"	
Ethylbenzene	ND	---	21.6	"	"	"	"	
Hexachlorobutadiene	ND	---	86.5	"	"	"	"	
2-Hexanone	ND	---	432	"	"	"	"	
Isopropylbenzene	ND	---	43.2	"	"	"	"	
4-Isopropyltoluene	ND	---	43.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	432	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	43.2	"	"	"	"	
Methylene chloride	ND	---	216	"	"	"	"	
Naphthalene	ND	---	86.5	"	"	"	"	
n-Propylbenzene	ND	---	21.6	"	"	"	"	
Styrene	ND	---	43.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	21.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	21.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	21.6	"	"	"	"	
Toluene	ND	---	43.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	216	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	216	"	"	"	"	
1,1,1-Trichloroethane	ND	---	21.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	21.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	21.6	"	"	"	"	
Trichlorofluoromethane	ND	---	86.5	"	"	"	"	
1,2,3-Trichloropropane	ND	---	43.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	43.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	43.2	"	"	"	"	
Vinyl chloride	ND	---	21.6	"	"	"	"	
m,p-Xylene	ND	---	43.2	"	"	"	"	
o-Xylene	ND	---	21.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 109 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>104 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

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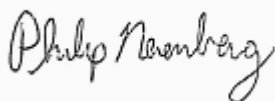
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-9 (A111118-09)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
Acetone	ND	---	704	ug/kg dry	50	09/19/11 19:59	5035/8260B	Q-30
Benzene	ND	---	8.80	"	"	"	"	
Bromobenzene	ND	---	17.6	"	"	"	"	
Bromochloromethane	ND	---	70.4	"	"	"	"	
Bromodichloromethane	ND	---	17.6	"	"	"	"	
Bromoform	ND	---	35.2	"	"	"	"	
Bromomethane	ND	---	352	"	"	"	"	
2-Butanone (MEK)	ND	---	352	"	"	"	"	
n-Butylbenzene	ND	---	35.2	"	"	"	"	
sec-Butylbenzene	ND	---	35.2	"	"	"	"	
tert-Butylbenzene	ND	---	35.2	"	"	"	"	
Carbon tetrachloride	ND	---	17.6	"	"	"	"	
Chlorobenzene	ND	---	17.6	"	"	"	"	
Chloroethane	ND	---	352	"	"	"	"	
Chloroform	ND	---	35.2	"	"	"	"	
Chloromethane	ND	---	176	"	"	"	"	
2-Chlorotoluene	ND	---	35.2	"	"	"	"	
4-Chlorotoluene	ND	---	35.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	176	"	"	"	"	
Dibromochloromethane	ND	---	70.4	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	17.6	"	"	"	"	
Dibromomethane	ND	---	35.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	35.2	"	"	"	"	
1,3-Dichlorobenzene	ND	---	17.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	35.2	"	"	"	"	
Dichlorodifluoromethane	ND	---	70.4	"	"	"	"	
1,1-Dichloroethane	ND	---	17.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	17.6	"	"	"	"	
1,1-Dichloroethene	ND	---	17.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	17.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	17.6	"	"	"	"	
1,2-Dichloropropane	ND	---	17.6	"	"	"	"	
1,3-Dichloropropane	ND	---	17.6	"	"	"	"	
2,2-Dichloropropane	ND	---	35.2	"	"	"	"	
1,1-Dichloropropene	ND	---	35.2	"	"	"	"	

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Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

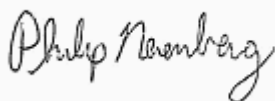
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-9 (A111118-09)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
cis-1,3-Dichloropropene	ND	---	35.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	35.2	"	"	"	"	
Ethylbenzene	ND	---	17.6	"	"	"	"	
Hexachlorobutadiene	ND	---	70.4	"	"	"	"	
2-Hexanone	ND	---	352	"	"	"	"	
Isopropylbenzene	ND	---	35.2	"	"	"	"	
4-Isopropyltoluene	ND	---	35.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	352	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	35.2	"	"	"	"	
Methylene chloride	ND	---	176	"	"	"	"	
Naphthalene	ND	---	70.4	"	"	"	"	
n-Propylbenzene	ND	---	17.6	"	"	"	"	
Styrene	ND	---	35.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	17.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	17.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	17.6	"	"	"	"	
Toluene	ND	---	35.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	176	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	176	"	"	"	"	
1,1,1-Trichloroethane	ND	---	17.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	17.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	17.6	"	"	"	"	
Trichlorofluoromethane	ND	---	70.4	"	"	"	"	
1,2,3-Trichloropropane	ND	---	35.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	35.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	35.2	"	"	"	"	
Vinyl chloride	ND	---	17.6	"	"	"	"	
m,p-Xylene	ND	---	35.2	"	"	"	"	
o-Xylene	ND	---	17.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 96 %</i>	<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>98 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>91 %</i>	<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>92 %</i>	<i>Limits: 70-130 %</i>	"	"	"	

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Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-12.5 (A11I118-15RE1)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	2510	ug/kg dry	100	09/09/11 20:09	5035/8260B	
<b>Benzene</b>	<b>2060</b>	---	31.4	"	"	"	"	
Bromobenzene	ND	---	62.8	"	"	"	"	
Bromochloromethane	ND	---	251	"	"	"	"	
Bromodichloromethane	ND	---	62.8	"	"	"	"	
Bromoform	ND	---	126	"	"	"	"	
Bromomethane	ND	---	1260	"	"	"	"	
2-Butanone (MEK)	ND	---	1260	"	"	"	"	
<b>n-Butylbenzene</b>	<b>535</b>	---	126	"	"	"	"	
<b>sec-Butylbenzene</b>	<b>334</b>	---	126	"	"	"	"	
tert-Butylbenzene	ND	---	126	"	"	"	"	
Carbon tetrachloride	ND	---	62.8	"	"	"	"	
Chlorobenzene	ND	---	62.8	"	"	"	"	
Chloroethane	ND	---	1260	"	"	"	"	
Chloroform	ND	---	126	"	"	"	"	
Chloromethane	ND	---	628	"	"	"	"	
2-Chlorotoluene	ND	---	188	"	"	"	"	R-01
4-Chlorotoluene	ND	---	126	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	628	"	"	"	"	
Dibromochloromethane	ND	---	251	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	62.8	"	"	"	"	
Dibromomethane	ND	---	126	"	"	"	"	
1,2-Dichlorobenzene	ND	---	126	"	"	"	"	
1,3-Dichlorobenzene	ND	---	62.8	"	"	"	"	
1,4-Dichlorobenzene	ND	---	126	"	"	"	"	
Dichlorodifluoromethane	ND	---	251	"	"	"	"	
1,1-Dichloroethane	ND	---	62.8	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	62.8	"	"	"	"	
1,1-Dichloroethene	ND	---	62.8	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	62.8	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	62.8	"	"	"	"	
1,2-Dichloropropane	ND	---	62.8	"	"	"	"	
1,3-Dichloropropane	ND	---	62.8	"	"	"	"	
2,2-Dichloropropane	ND	---	126	"	"	"	"	
1,1-Dichloropropene	ND	---	126	"	"	"	"	

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Project: **Plaid Pantry #112**  
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Reported:  
10/11/11 12:09

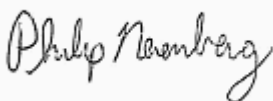
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-12.5 (A11I118-15RE1)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	126	ug/kg dry	100	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	126	"	"	"	"	
<b>Ethylbenzene</b>	<b>5320</b>	---	62.8	"	"	"	"	
Hexachlorobutadiene	ND	---	251	"	"	"	"	
2-Hexanone	ND	---	1260	"	"	"	"	
<b>Isopropylbenzene</b>	<b>718</b>	---	126	"	"	"	"	
<b>4-Isopropyltoluene</b>	<b>1010</b>	---	126	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	2890	"	"	"	"	R-01
Methyl tert-butyl ether (MTBE)	ND	---	126	"	"	"	"	
Methylene chloride	ND	---	628	"	"	"	"	
<b>Naphthalene</b>	<b>1070</b>	---	251	"	"	"	"	
<b>n-Propylbenzene</b>	<b>2430</b>	---	62.8	"	"	"	"	
Styrene	ND	---	126	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	62.8	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	62.8	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	62.8	"	"	"	"	
Toluene	ND	---	126	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	628	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	628	"	"	"	"	
1,1,1-Trichloroethane	ND	---	126	"	"	"	"	
1,1,2-Trichloroethane	ND	---	377	"	"	"	"	R-01
Trichloroethene (TCE)	ND	---	62.8	"	"	"	"	
Trichlorofluoromethane	ND	---	251	"	"	"	"	
1,2,3-Trichloropropane	ND	---	126	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>13000</b>	---	126	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>4070</b>	---	126	"	"	"	"	
Vinyl chloride	ND	---	62.8	"	"	"	"	
<b>m,p-Xylene</b>	<b>17400</b>	---	126	"	"	"	"	
<b>o-Xylene</b>	<b>3380</b>	---	62.8	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>97 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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Reported:  
10/11/11 12:09

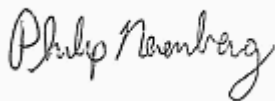
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-20 (A111118-16)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	582	ug/kg dry	50	09/09/11 18:26	5035/8260B	
Benzene	ND	---	7.28	"	"	"	"	
Bromobenzene	ND	---	14.6	"	"	"	"	
Bromochloromethane	ND	---	58.2	"	"	"	"	
Bromodichloromethane	ND	---	14.6	"	"	"	"	
Bromoform	ND	---	29.1	"	"	"	"	
Bromomethane	ND	---	291	"	"	"	"	
2-Butanone (MEK)	ND	---	291	"	"	"	"	
n-Butylbenzene	ND	---	29.1	"	"	"	"	
sec-Butylbenzene	ND	---	29.1	"	"	"	"	
tert-Butylbenzene	ND	---	29.1	"	"	"	"	
Carbon tetrachloride	ND	---	14.6	"	"	"	"	
Chlorobenzene	ND	---	14.6	"	"	"	"	
Chloroethane	ND	---	291	"	"	"	"	
Chloroform	ND	---	29.1	"	"	"	"	
Chloromethane	ND	---	146	"	"	"	"	
2-Chlorotoluene	ND	---	29.1	"	"	"	"	
4-Chlorotoluene	ND	---	29.1	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	146	"	"	"	"	
Dibromochloromethane	ND	---	58.2	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	14.6	"	"	"	"	
Dibromomethane	ND	---	29.1	"	"	"	"	
1,2-Dichlorobenzene	ND	---	29.1	"	"	"	"	
1,3-Dichlorobenzene	ND	---	14.6	"	"	"	"	
1,4-Dichlorobenzene	ND	---	29.1	"	"	"	"	
Dichlorodifluoromethane	ND	---	58.2	"	"	"	"	
1,1-Dichloroethane	ND	---	14.6	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	14.6	"	"	"	"	
1,1-Dichloroethene	ND	---	14.6	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	14.6	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	14.6	"	"	"	"	
1,2-Dichloropropane	ND	---	14.6	"	"	"	"	
1,3-Dichloropropane	ND	---	14.6	"	"	"	"	
2,2-Dichloropropane	ND	---	29.1	"	"	"	"	
1,1-Dichloropropene	ND	---	29.1	"	"	"	"	

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Philip Nerenberg, Lab Director

PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

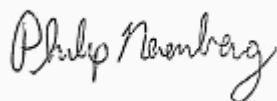
## ANALYTICAL SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-20 (A111118-16)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	29.1	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	29.1	"	"	"	"	
Ethylbenzene	ND	---	14.6	"	"	"	"	
Hexachlorobutadiene	ND	---	58.2	"	"	"	"	
2-Hexanone	ND	---	291	"	"	"	"	
Isopropylbenzene	ND	---	29.1	"	"	"	"	
4-Isopropyltoluene	ND	---	29.1	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	291	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	29.1	"	"	"	"	
Methylene chloride	ND	---	146	"	"	"	"	
Naphthalene	ND	---	58.2	"	"	"	"	
n-Propylbenzene	ND	---	14.6	"	"	"	"	
Styrene	ND	---	29.1	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	14.6	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	14.6	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	14.6	"	"	"	"	
Toluene	ND	---	29.1	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	146	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	146	"	"	"	"	
1,1,1-Trichloroethane	ND	---	14.6	"	"	"	"	
1,1,2-Trichloroethane	ND	---	14.6	"	"	"	"	
Trichloroethene (TCE)	ND	---	14.6	"	"	"	"	
Trichlorofluoromethane	ND	---	58.2	"	"	"	"	
1,2,3-Trichloropropane	ND	---	29.1	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	29.1	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	29.1	"	"	"	"	
Vinyl chloride	ND	---	14.6	"	"	"	"	
m,p-Xylene	ND	---	29.1	"	"	"	"	
o-Xylene	ND	---	14.6	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

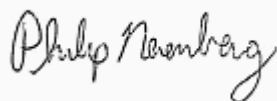
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-6 (A111118-22)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	22400	ug/kg dry	1000	09/09/11 15:53	5035/8260B	
Benzene	ND	---	280	"	"	"	"	
Bromobenzene	ND	---	559	"	"	"	"	
Bromochloromethane	ND	---	2240	"	"	"	"	
Bromodichloromethane	ND	---	559	"	"	"	"	
Bromoform	ND	---	1120	"	"	"	"	
Bromomethane	ND	---	11200	"	"	"	"	
2-Butanone (MEK)	ND	---	11200	"	"	"	"	
<b>n-Butylbenzene</b>	<b>3650</b>	---	1120	"	"	"	"	
<b>sec-Butylbenzene</b>	<b>1450</b>	---	1120	"	"	"	"	
tert-Butylbenzene	ND	---	1120	"	"	"	"	
Carbon tetrachloride	ND	---	559	"	"	"	"	
Chlorobenzene	ND	---	559	"	"	"	"	
Chloroethane	ND	---	11200	"	"	"	"	
Chloroform	ND	---	1120	"	"	"	"	
Chloromethane	ND	---	5590	"	"	"	"	
2-Chlorotoluene	ND	---	1120	"	"	"	"	
4-Chlorotoluene	ND	---	1120	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5590	"	"	"	"	
Dibromochloromethane	ND	---	2240	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	559	"	"	"	"	
Dibromomethane	ND	---	1120	"	"	"	"	
1,2-Dichlorobenzene	ND	---	1120	"	"	"	"	
1,3-Dichlorobenzene	ND	---	559	"	"	"	"	
1,4-Dichlorobenzene	ND	---	1120	"	"	"	"	
Dichlorodifluoromethane	ND	---	2240	"	"	"	"	
1,1-Dichloroethane	ND	---	559	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	559	"	"	"	"	
1,1-Dichloroethene	ND	---	559	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	559	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	559	"	"	"	"	
1,2-Dichloropropane	ND	---	559	"	"	"	"	
1,3-Dichloropropane	ND	---	559	"	"	"	"	
2,2-Dichloropropane	ND	---	1120	"	"	"	"	
1,1-Dichloropropene	ND	---	1120	"	"	"	"	

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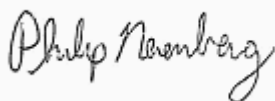
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-6 (A111118-22)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	1120	ug/kg dry	1000	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	1120	"	"	"	"	
<b>Ethylbenzene</b>	<b>11800</b>	---	559	"	"	"	"	
Hexachlorobutadiene	ND	---	2240	"	"	"	"	
2-Hexanone	ND	---	11200	"	"	"	"	
<b>Isopropylbenzene</b>	<b>1900</b>	---	1120	"	"	"	"	
<b>4-Isopropyltoluene</b>	<b>4300</b>	---	1120	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	11200	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1120	"	"	"	"	
Methylene chloride	ND	---	5590	"	"	"	"	
<b>Naphthalene</b>	<b>14200</b>	---	2240	"	"	"	"	
<b>n-Propylbenzene</b>	<b>10500</b>	---	559	"	"	"	"	
Styrene	ND	---	1120	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	559	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	1120	"	"	"	"	R-01
Tetrachloroethene (PCE)	ND	---	559	"	"	"	"	
Toluene	ND	---	1120	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	5590	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	5590	"	"	"	"	
1,1,1-Trichloroethane	ND	---	559	"	"	"	"	
1,1,2-Trichloroethane	ND	---	559	"	"	"	"	
Trichloroethene (TCE)	ND	---	559	"	"	"	"	
Trichlorofluoromethane	ND	---	2240	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1120	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>89800</b>	---	1120	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>24000</b>	---	1120	"	"	"	"	
Vinyl chloride	ND	---	559	"	"	"	"	
<b>m,p-Xylene</b>	<b>50200</b>	---	1120	"	"	"	"	
<b>o-Xylene</b>	<b>23900</b>	---	559	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 109 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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Philip Nerenberg, Lab Director



PNG Environmental, INC

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Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

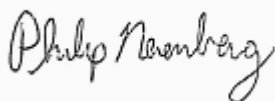
## ANALYTICAL SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-9 (A111118-23)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	19000	ug/kg dry	1000	09/09/11 16:18	5035/8260B	
Benzene	ND	---	238	"	"	"	"	
Bromobenzene	ND	---	475	"	"	"	"	
Bromochloromethane	ND	---	1900	"	"	"	"	
Bromodichloromethane	ND	---	475	"	"	"	"	
Bromoform	ND	---	951	"	"	"	"	
Bromomethane	ND	---	9510	"	"	"	"	
2-Butanone (MEK)	ND	---	9510	"	"	"	"	
<b>n-Butylbenzene</b>	<b>5230</b>	---	951	"	"	"	"	
<b>sec-Butylbenzene</b>	<b>2770</b>	---	951	"	"	"	"	
tert-Butylbenzene	ND	---	951	"	"	"	"	
Carbon tetrachloride	ND	---	475	"	"	"	"	
Chlorobenzene	ND	---	475	"	"	"	"	
Chloroethane	ND	---	9510	"	"	"	"	
Chloroform	ND	---	951	"	"	"	"	
Chloromethane	ND	---	4750	"	"	"	"	
2-Chlorotoluene	ND	---	951	"	"	"	"	
4-Chlorotoluene	ND	---	951	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	4750	"	"	"	"	
Dibromochloromethane	ND	---	1900	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	475	"	"	"	"	
Dibromomethane	ND	---	951	"	"	"	"	
1,2-Dichlorobenzene	ND	---	951	"	"	"	"	
1,3-Dichlorobenzene	ND	---	475	"	"	"	"	
1,4-Dichlorobenzene	ND	---	951	"	"	"	"	
Dichlorodifluoromethane	ND	---	1900	"	"	"	"	
1,1-Dichloroethane	ND	---	475	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	475	"	"	"	"	
1,1-Dichloroethene	ND	---	475	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	475	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	475	"	"	"	"	
1,2-Dichloropropane	ND	---	475	"	"	"	"	
1,3-Dichloropropane	ND	---	475	"	"	"	"	
2,2-Dichloropropane	ND	---	951	"	"	"	"	
1,1-Dichloropropene	ND	---	951	"	"	"	"	

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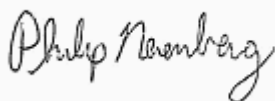
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B5-9 (A111118-23)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	951	ug/kg dry	1000	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	951	"	"	"	"	
<b>Ethylbenzene</b>	<b>29100</b>	---	475	"	"	"	"	
Hexachlorobutadiene	ND	---	1900	"	"	"	"	
2-Hexanone	ND	---	9510	"	"	"	"	
<b>Isopropylbenzene</b>	<b>5310</b>	---	951	"	"	"	"	
<b>4-Isopropyltoluene</b>	<b>6410</b>	---	951	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	16200	"	"	"	"	R-01
Methyl tert-butyl ether (MTBE)	ND	---	951	"	"	"	"	
Methylene chloride	ND	---	4750	"	"	"	"	
<b>Naphthalene</b>	<b>8760</b>	---	1900	"	"	"	"	
<b>n-Propylbenzene</b>	<b>22900</b>	---	475	"	"	"	"	
Styrene	ND	---	951	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	475	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	475	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	475	"	"	"	"	
Toluene	ND	---	951	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	4750	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	4750	"	"	"	"	
1,1,1-Trichloroethane	ND	---	475	"	"	"	"	
1,1,2-Trichloroethane	ND	---	475	"	"	"	"	
Trichloroethene (TCE)	ND	---	475	"	"	"	"	
Trichlorofluoromethane	ND	---	1900	"	"	"	"	
1,2,3-Trichloropropane	ND	---	951	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>128000</b>	---	951	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>34900</b>	---	951	"	"	"	"	
Vinyl chloride	ND	---	475	"	"	"	"	
<b>m,p-Xylene</b>	<b>97600</b>	---	951	"	"	"	"	
<b>o-Xylene</b>	<b>23500</b>	---	475	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>96 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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10/11/11 12:09

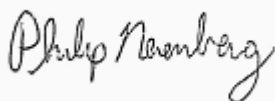
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-3 (A111118-24)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	872	ug/kg dry	50	09/09/11 18:52	5035/8260B	
Benzene	ND	---	10.9	"	"	"	"	
Bromobenzene	ND	---	21.8	"	"	"	"	
Bromochloromethane	ND	---	87.2	"	"	"	"	
Bromodichloromethane	ND	---	21.8	"	"	"	"	
Bromoform	ND	---	43.6	"	"	"	"	
Bromomethane	ND	---	436	"	"	"	"	
2-Butanone (MEK)	ND	---	436	"	"	"	"	
n-Butylbenzene	ND	---	43.6	"	"	"	"	
sec-Butylbenzene	ND	---	43.6	"	"	"	"	
tert-Butylbenzene	ND	---	43.6	"	"	"	"	
Carbon tetrachloride	ND	---	21.8	"	"	"	"	
Chlorobenzene	ND	---	21.8	"	"	"	"	
Chloroethane	ND	---	436	"	"	"	"	
Chloroform	ND	---	43.6	"	"	"	"	
Chloromethane	ND	---	218	"	"	"	"	
2-Chlorotoluene	ND	---	43.6	"	"	"	"	
4-Chlorotoluene	ND	---	43.6	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	218	"	"	"	"	
Dibromochloromethane	ND	---	87.2	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	21.8	"	"	"	"	
Dibromomethane	ND	---	43.6	"	"	"	"	
1,2-Dichlorobenzene	ND	---	43.6	"	"	"	"	
1,3-Dichlorobenzene	ND	---	21.8	"	"	"	"	
1,4-Dichlorobenzene	ND	---	43.6	"	"	"	"	
Dichlorodifluoromethane	ND	---	87.2	"	"	"	"	
1,1-Dichloroethane	ND	---	21.8	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	21.8	"	"	"	"	
1,1-Dichloroethene	ND	---	21.8	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	21.8	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	21.8	"	"	"	"	
1,2-Dichloropropane	ND	---	21.8	"	"	"	"	
1,3-Dichloropropane	ND	---	21.8	"	"	"	"	
2,2-Dichloropropane	ND	---	43.6	"	"	"	"	
1,1-Dichloropropene	ND	---	43.6	"	"	"	"	

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PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
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Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

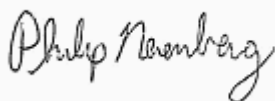
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-3 (A111118-24)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	43.6	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	43.6	"	"	"	"	
Ethylbenzene	ND	---	21.8	"	"	"	"	
Hexachlorobutadiene	ND	---	87.2	"	"	"	"	
2-Hexanone	ND	---	436	"	"	"	"	
Isopropylbenzene	ND	---	43.6	"	"	"	"	
4-Isopropyltoluene	ND	---	43.6	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	436	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	43.6	"	"	"	"	
Methylene chloride	ND	---	218	"	"	"	"	
Naphthalene	ND	---	87.2	"	"	"	"	
n-Propylbenzene	ND	---	21.8	"	"	"	"	
Styrene	ND	---	43.6	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	21.8	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	21.8	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	21.8	"	"	"	"	
Toluene	ND	---	43.6	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	218	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	218	"	"	"	"	
1,1,1-Trichloroethane	ND	---	21.8	"	"	"	"	
1,1,2-Trichloroethane	ND	---	21.8	"	"	"	"	
Trichloroethene (TCE)	ND	---	21.8	"	"	"	"	
Trichlorofluoromethane	ND	---	87.2	"	"	"	"	
1,2,3-Trichloropropane	ND	---	43.6	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	43.6	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	43.6	"	"	"	"	
Vinyl chloride	ND	---	21.8	"	"	"	"	
m,p-Xylene	ND	---	43.6	"	"	"	"	
o-Xylene	ND	---	21.8	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 107 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>102 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>103 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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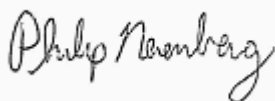
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-9 (A111118-26)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
Acetone	ND	---	1030	ug/kg dry	50	09/19/11 22:32	5035/8260B	Q-30
Benzene	ND	---	12.8	"	"	"	"	
Bromobenzene	ND	---	25.7	"	"	"	"	
Bromochloromethane	ND	---	103	"	"	"	"	
Bromodichloromethane	ND	---	25.7	"	"	"	"	
Bromoform	ND	---	51.3	"	"	"	"	
Bromomethane	ND	---	513	"	"	"	"	
2-Butanone (MEK)	ND	---	513	"	"	"	"	
n-Butylbenzene	ND	---	51.3	"	"	"	"	
sec-Butylbenzene	ND	---	51.3	"	"	"	"	
tert-Butylbenzene	ND	---	51.3	"	"	"	"	
Carbon tetrachloride	ND	---	25.7	"	"	"	"	
Chlorobenzene	ND	---	25.7	"	"	"	"	
Chloroethane	ND	---	513	"	"	"	"	
Chloroform	ND	---	51.3	"	"	"	"	
Chloromethane	ND	---	257	"	"	"	"	
2-Chlorotoluene	ND	---	51.3	"	"	"	"	
4-Chlorotoluene	ND	---	51.3	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	257	"	"	"	"	
Dibromochloromethane	ND	---	103	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	25.7	"	"	"	"	
Dibromomethane	ND	---	51.3	"	"	"	"	
1,2-Dichlorobenzene	ND	---	51.3	"	"	"	"	
1,3-Dichlorobenzene	ND	---	25.7	"	"	"	"	
1,4-Dichlorobenzene	ND	---	51.3	"	"	"	"	
Dichlorodifluoromethane	ND	---	103	"	"	"	"	
1,1-Dichloroethane	ND	---	25.7	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	25.7	"	"	"	"	
1,1-Dichloroethene	ND	---	25.7	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	25.7	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	25.7	"	"	"	"	
1,2-Dichloropropane	ND	---	25.7	"	"	"	"	
1,3-Dichloropropane	ND	---	25.7	"	"	"	"	
2,2-Dichloropropane	ND	---	51.3	"	"	"	"	
1,1-Dichloropropene	ND	---	51.3	"	"	"	"	

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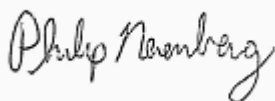
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B1-9 (A111118-26)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109291</b>				
cis-1,3-Dichloropropene	ND	---	51.3	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	51.3	"	"	"	"	
Ethylbenzene	ND	---	25.7	"	"	"	"	
Hexachlorobutadiene	ND	---	103	"	"	"	"	
2-Hexanone	ND	---	513	"	"	"	"	
Isopropylbenzene	ND	---	51.3	"	"	"	"	
4-Isopropyltoluene	ND	---	51.3	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	513	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	51.3	"	"	"	"	
Methylene chloride	ND	---	257	"	"	"	"	
Naphthalene	ND	---	103	"	"	"	"	
n-Propylbenzene	ND	---	25.7	"	"	"	"	
Styrene	ND	---	51.3	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	25.7	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	25.7	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	25.7	"	"	"	"	
Toluene	ND	---	51.3	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	257	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	257	"	"	"	"	
1,1,1-Trichloroethane	ND	---	25.7	"	"	"	"	
1,1,2-Trichloroethane	ND	---	25.7	"	"	"	"	
Trichloroethene (TCE)	ND	---	25.7	"	"	"	"	
Trichlorofluoromethane	ND	---	103	"	"	"	"	
1,2,3-Trichloropropane	ND	---	51.3	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	51.3	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	51.3	"	"	"	"	
Vinyl chloride	ND	---	25.7	"	"	"	"	
m,p-Xylene	ND	---	51.3	"	"	"	"	
o-Xylene	ND	---	25.7	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>97 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>95 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>94 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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Reported:  
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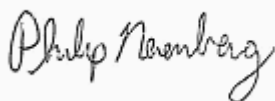
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B6-3 (A111118-27)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	765	ug/kg dry	50	09/09/11 19:18	5035/8260B	
Benzene	ND	---	9.56	"	"	"	"	
Bromobenzene	ND	---	19.1	"	"	"	"	
Bromochloromethane	ND	---	76.5	"	"	"	"	
Bromodichloromethane	ND	---	19.1	"	"	"	"	
Bromoform	ND	---	38.2	"	"	"	"	
Bromomethane	ND	---	382	"	"	"	"	
2-Butanone (MEK)	ND	---	382	"	"	"	"	
n-Butylbenzene	ND	---	38.2	"	"	"	"	
sec-Butylbenzene	ND	---	38.2	"	"	"	"	
tert-Butylbenzene	ND	---	38.2	"	"	"	"	
Carbon tetrachloride	ND	---	19.1	"	"	"	"	
Chlorobenzene	ND	---	19.1	"	"	"	"	
Chloroethane	ND	---	382	"	"	"	"	
Chloroform	ND	---	38.2	"	"	"	"	
Chloromethane	ND	---	191	"	"	"	"	
2-Chlorotoluene	ND	---	38.2	"	"	"	"	
4-Chlorotoluene	ND	---	38.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	191	"	"	"	"	
Dibromochloromethane	ND	---	76.5	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	19.1	"	"	"	"	
Dibromomethane	ND	---	38.2	"	"	"	"	
1,2-Dichlorobenzene	ND	---	38.2	"	"	"	"	
1,3-Dichlorobenzene	ND	---	19.1	"	"	"	"	
1,4-Dichlorobenzene	ND	---	38.2	"	"	"	"	
Dichlorodifluoromethane	ND	---	76.5	"	"	"	"	
1,1-Dichloroethane	ND	---	19.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	19.1	"	"	"	"	
1,1-Dichloroethene	ND	---	19.1	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	19.1	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	19.1	"	"	"	"	
1,2-Dichloropropane	ND	---	19.1	"	"	"	"	
1,3-Dichloropropane	ND	---	19.1	"	"	"	"	
2,2-Dichloropropane	ND	---	38.2	"	"	"	"	
1,1-Dichloropropene	ND	---	38.2	"	"	"	"	

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Project Number: 1179-01

Project Manager: Paul Ecker

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10/11/11 12:09

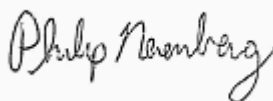
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B6-3 (A111118-27)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	38.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	38.2	"	"	"	"	
Ethylbenzene	ND	---	19.1	"	"	"	"	
Hexachlorobutadiene	ND	---	76.5	"	"	"	"	
2-Hexanone	ND	---	382	"	"	"	"	
Isopropylbenzene	ND	---	38.2	"	"	"	"	
4-Isopropyltoluene	ND	---	38.2	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	382	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	38.2	"	"	"	"	
Methylene chloride	ND	---	191	"	"	"	"	
Naphthalene	ND	---	76.5	"	"	"	"	
n-Propylbenzene	ND	---	19.1	"	"	"	"	
Styrene	ND	---	38.2	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	19.1	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	19.1	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	19.1	"	"	"	"	
Toluene	ND	---	38.2	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	191	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	191	"	"	"	"	
1,1,1-Trichloroethane	ND	---	19.1	"	"	"	"	
1,1,2-Trichloroethane	ND	---	19.1	"	"	"	"	
Trichloroethene (TCE)	ND	---	19.1	"	"	"	"	
Trichlorofluoromethane	ND	---	76.5	"	"	"	"	
1,2,3-Trichloropropane	ND	---	38.2	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	38.2	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	38.2	"	"	"	"	
Vinyl chloride	ND	---	19.1	"	"	"	"	
m,p-Xylene	ND	---	38.2	"	"	"	"	
o-Xylene	ND	---	19.1	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 109 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>100 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>103 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>101 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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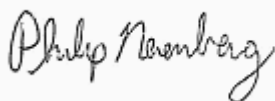
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B6-9 (A111118-29)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
Acetone	ND	---	740	ug/kg dry	50	09/09/11 19:43	5035/8260B	
Benzene	ND	---	9.25	"	"	"	"	
Bromobenzene	ND	---	18.5	"	"	"	"	
Bromochloromethane	ND	---	74.0	"	"	"	"	
Bromodichloromethane	ND	---	18.5	"	"	"	"	
Bromoform	ND	---	37.0	"	"	"	"	
Bromomethane	ND	---	370	"	"	"	"	
2-Butanone (MEK)	ND	---	370	"	"	"	"	
n-Butylbenzene	ND	---	37.0	"	"	"	"	
sec-Butylbenzene	ND	---	37.0	"	"	"	"	
tert-Butylbenzene	ND	---	37.0	"	"	"	"	
Carbon tetrachloride	ND	---	18.5	"	"	"	"	
Chlorobenzene	ND	---	18.5	"	"	"	"	
Chloroethane	ND	---	370	"	"	"	"	
Chloroform	ND	---	37.0	"	"	"	"	
Chloromethane	ND	---	185	"	"	"	"	
2-Chlorotoluene	ND	---	37.0	"	"	"	"	
4-Chlorotoluene	ND	---	37.0	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	185	"	"	"	"	
Dibromochloromethane	ND	---	74.0	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	18.5	"	"	"	"	
Dibromomethane	ND	---	37.0	"	"	"	"	
1,2-Dichlorobenzene	ND	---	37.0	"	"	"	"	
1,3-Dichlorobenzene	ND	---	18.5	"	"	"	"	
1,4-Dichlorobenzene	ND	---	37.0	"	"	"	"	
Dichlorodifluoromethane	ND	---	74.0	"	"	"	"	
1,1-Dichloroethane	ND	---	18.5	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	18.5	"	"	"	"	
1,1-Dichloroethene	ND	---	18.5	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	18.5	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	18.5	"	"	"	"	
1,2-Dichloropropane	ND	---	18.5	"	"	"	"	
1,3-Dichloropropane	ND	---	18.5	"	"	"	"	
2,2-Dichloropropane	ND	---	37.0	"	"	"	"	
1,1-Dichloropropene	ND	---	37.0	"	"	"	"	

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Reported:  
10/11/11 12:09

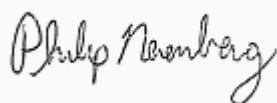
## ANALYTICAL SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B6-9 (A111118-29)</b>			<b>Matrix: Soil</b>	<b>Batch: 1109121</b>				
cis-1,3-Dichloropropene	ND	---	37.0	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND	---	37.0	"	"	"	"	
Ethylbenzene	ND	---	18.5	"	"	"	"	
Hexachlorobutadiene	ND	---	74.0	"	"	"	"	
2-Hexanone	ND	---	370	"	"	"	"	
Isopropylbenzene	ND	---	37.0	"	"	"	"	
4-Isopropyltoluene	ND	---	37.0	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	370	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	37.0	"	"	"	"	
Methylene chloride	ND	---	185	"	"	"	"	
Naphthalene	ND	---	74.0	"	"	"	"	
n-Propylbenzene	ND	---	18.5	"	"	"	"	
Styrene	ND	---	37.0	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	18.5	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	18.5	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	18.5	"	"	"	"	
Toluene	ND	---	37.0	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	185	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	185	"	"	"	"	
1,1,1-Trichloroethane	ND	---	18.5	"	"	"	"	
1,1,2-Trichloroethane	ND	---	18.5	"	"	"	"	
Trichloroethene (TCE)	ND	---	18.5	"	"	"	"	
Trichlorofluoromethane	ND	---	74.0	"	"	"	"	
1,2,3-Trichloropropane	ND	---	37.0	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	37.0	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	37.0	"	"	"	"	
Vinyl chloride	ND	---	18.5	"	"	"	"	
m,p-Xylene	ND	---	37.0	"	"	"	"	
o-Xylene	ND	---	18.5	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>		<i>Recovery: 108 %</i>		<i>Limits: 70-130 %</i>	1	"	"	
<i>1,4-Difluorobenzene (Surr)</i>		<i>100 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>		<i>103 %</i>		<i>Limits: 70-130 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>Limits: 70-130 %</i>	"	"	"	

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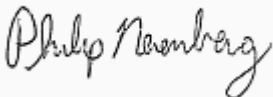
PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
10/11/11 12:09

## ANALYTICAL SAMPLE RESULTS

## Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B2-9 (A111118-09RE1)</b>			<b>Matrix: Soil</b>		<b>Batch: 1110055</b>			<b>H-02</b>
Acenaphthene	ND	---	9.62	ug/kg dry	1	10/05/11 12:19	EPA 8270D (SIM)	
Acenaphthylene	ND	---	9.62	"	"	"	"	
Anthracene	ND	---	9.62	"	"	"	"	
Benz(a)anthracene	ND	---	9.62	"	"	"	"	Q-32
Benzo(a)pyrene	ND	---	9.62	"	"	"	"	
Benzo(b)fluoranthene	ND	---	9.62	"	"	"	"	
Benzo(k)fluoranthene	ND	---	9.62	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	9.62	"	"	"	"	
Chrysene	ND	---	9.62	"	"	"	"	Q-32b
Dibenz(a,h)anthracene	ND	---	9.62	"	"	"	"	
Fluoranthene	ND	---	9.62	"	"	"	"	
Fluorene	ND	---	9.62	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	9.62	"	"	"	"	
Naphthalene	ND	---	9.62	"	"	"	"	
Phenanthrene	ND	---	9.62	"	"	"	"	
Pyrene	ND	---	9.62	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 56 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>62 %</i>	<i>Limits: 30-120 %</i>	"	"	"	

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Project: **Plaid Pantry #112**  
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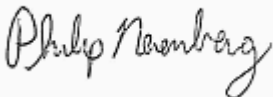
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## ANALYTICAL SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B3-9 (A111118-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 1110060</b>			
Lead	12.0	---	1.46	mg/kg dry	10	10/05/11 12:07	EPA 6020	
<b>B5-12.5 (A111118-15)</b>			<b>Matrix: Soil</b>		<b>Batch: 1110060</b>			
Lead	12.8	---	1.35	mg/kg dry	10	10/05/11 12:10	EPA 6020	
<b>B5-6 (A111118-22)</b>			<b>Matrix: Soil</b>		<b>Batch: 1110060</b>			
Lead	21.1	---	1.16	mg/kg dry	10	10/05/11 12:13	EPA 6020	
<b>B5-9 (A111118-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 1110060</b>			
Lead	10.7	---	1.20	mg/kg dry	10	10/05/11 12:16	EPA 6020	
<b>B1-9 (A111118-26)</b>			<b>Matrix: Soil</b>		<b>Batch: 1110060</b>			
Lead	8.29	---	1.25	mg/kg dry	10	10/05/11 12:19	EPA 6020	

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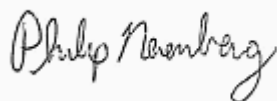
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Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
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## ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>B4-3 (A111118-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	83.8	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B4-9 (A111118-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	86.2	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B3-3 (A111118-04)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	83.7	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B3-9 (A111118-06)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109321</b>			
% Solids	70.7	---	1.00	% by Weight	1	09/21/11 10:45	Apex SOP	
<b>B2-3 (A111118-07)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	83.9	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B2-9 (A111118-09)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109321</b>			
% Solids	79.5	---	1.00	% by Weight	1	09/21/11 10:45	Apex SOP	
<b>B5-12.5 (A111118-15)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	75.4	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B5-20 (A111118-16)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	93.5	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B5-3 (A111118-20)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	85.2	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B5-6 (A111118-22)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	86.1	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B5-9 (A111118-23)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	84.9	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B1-3 (A111118-24)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	81.7	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B1-9 (A111118-26)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109321</b>			
% Solids	84.5	---	1.00	% by Weight	1	09/21/11 10:45	Apex SOP	
<b>B6-3 (A111118-27)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	84.6	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	
<b>B6-9 (A111118-29)</b>			<b>Matrix: Soil</b>		<b>Batch: 1109188</b>			
% Solids	81.0	---	1.00	% by Weight	1	09/13/11 10:03	Apex SOP	

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Project Number: 1179-01

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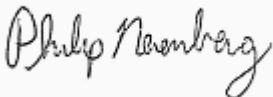
10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Hydrocarbon Identification (HCID) Screen by NWTPH

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109167 - EPA 3546 (Fuels)						Soil						
Blank (1109167-BLK1)						Prepared: 09/12/11 09:10   Analyzed: 09/12/11 22:28						
NWTPH-HCID												
Gasoline Range Organics	ND	---	15.4	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	38.5	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	---	76.9	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 99 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (1109167-DUP1)						Prepared: 09/12/11 09:10   Analyzed: 09/13/11 02:56						
QC Source Sample: B6-9 (A111118-29)												
NWTPH-HCID												
Gasoline Range Organics	ND	---	24.2	mg/kg dry	1	---	ND	---	---	---	30%	
Diesel Range Organics	ND	---	60.5	"	"	---	ND	---	---	---	30%	
Oil Range Organics	ND	---	121	"	"	---	ND	---	---	---	30%	
Surr: o-Terphenyl (Surr)		Recovery: 98 %		Limits: 50-150 %		Dilution: 1x						
Batch 1109314 - EPA 3546 (Fuels)						Soil						
Blank (1109314-BLK1)						Prepared: 09/20/11 10:12   Analyzed: 09/20/11 19:35						
NWTPH-HCID												
Gasoline Range Organics	ND	---	16.7	mg/kg wet	1	---	---	---	---	---	---	
Diesel Range Organics	ND	---	41.7	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	---	83.3	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 93 %		Limits: 50-150 %		Dilution: 1x						

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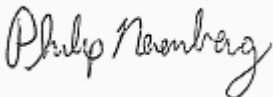
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Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
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## QUALITY CONTROL (QC) SAMPLE RESULTS

## Diesel Range (C10-C22) and Oil Range (&gt;C22-C40) Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 1109443 - EPA 3546 (Fuels)						Soil							
Blank (1109443-BLK1)						Prepared: 09/27/11 07:52		Analyzed: 09/27/11 18:02					
NWTPH-Dx													
Diesel Range Organics	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---		
Oil Range Organics	ND	---	50.0	"	"	---	---	---	---	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 108 %		Limits: 50-150 %		Dilution: 1x							
LCS (1109443-BS1)						Prepared: 09/27/11 07:52		Analyzed: 09/27/11 18:23					
NWTPH-Dx													
Diesel Range Organics	123	---	25.0	mg/kg wet	1	125	---	98	70-130%	---	---		
Oil Range Organics	125	---	50.0	"	"	"	---	100	"	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 103 %		Limits: 50-150 %		Dilution: 1x							
Duplicate (1109443-DUP1)						Prepared: 09/27/11 07:52		Analyzed: 09/27/11 18:23					H-02
QC Source Sample: B5-12.5 (A111118-15)													
NWTPH-Dx													
Diesel Range Organics	677	---	25.0	mg/kg dry	1	---	638	---	---	6	30%	F-06	
Oil Range Organics	ND	---	50.0	"	"	---	ND	---	---	---	30%		
Surr: o-Terphenyl (Surr)		Recovery: 106 %		Limits: 50-150 %		Dilution: 1x							

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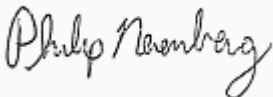
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Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
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## QUALITY CONTROL (QC) SAMPLE RESULTS

## Diesel Range (C10-C22) and Oil Range (&gt;C22-C40) Hydrocarbons by NWTPH-Dx - Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 1110056 - EPA 3546 (Fuels)						Soil							
Blank (1110056-BLK1)						Prepared: 10/04/11 14:58		Analyzed: 10/05/11 09:43					
NWTPH-Dx(SG)													
Diesel Range Organics	ND	---	25.0	mg/kg wet	1	---	---	---	---	---	---		
Oil Range Organics	ND	---	50.0	"	"	---	---	---	---	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 107 %		Limits: 50-150 %		Dilution: 1x							
LCS (1110056-BS1)						Prepared: 10/04/11 14:58		Analyzed: 10/05/11 10:04					
NWTPH-Dx(SG)													
Diesel Range Organics	125	---	25.0	mg/kg wet	1	125	---	100	70-130%	---	---		
Oil Range Organics	130	---	50.0	"	"	"	---	104	"	---	---		
Surr: o-Terphenyl (Surr)		Recovery: 112 %		Limits: 50-150 %		Dilution: 1x							
Duplicate (1110056-DUP1)						Prepared: 10/04/11 14:58		Analyzed: 10/05/11 10:47					H-02
QC Source Sample: B2-9 (A111118-09)													
NWTPH-Dx(SG)													
Diesel Range Organics	ND	---	25.0	mg/kg dry	1	---	ND	---	---	---	30%		
Oil Range Organics	149	---	50.0	"	"	---	54.1	---	---	93	30%	Q-04	
Surr: o-Terphenyl (Surr)		Recovery: 102 %		Limits: 50-150 %		Dilution: 1x							

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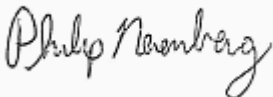
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Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
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## QUALITY CONTROL (QC) SAMPLE RESULTS

## Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109121 - EPA 5035A						Soil						
Blank (1109121-BLK1)						Prepared: 09/09/11 09:32    Analyzed: 09/09/11 12:14						
NWTPH-Gx												
Gasoline Range Organics	ND	---	3.33	mg/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 131 %	Limits: 50-150 %			Dilution: 1x					
1,4-Difluorobenzene (Sur)			101 %	50-150 %			"					
LCS (1109121-BS2)						Prepared: 09/09/11 09:32    Analyzed: 09/09/11 11:48						
NWTPH-Gx												
Gasoline Range Organics	25.3	---	5.00	mg/kg wet	50	25.0	---	101	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 116 %	Limits: 50-150 %			Dilution: 1x					
1,4-Difluorobenzene (Sur)			108 %	50-150 %			"					

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Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

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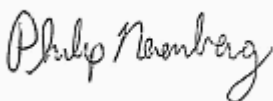
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109121 - EPA 5035A						Soil						
Blank (1109121-BLK1)						Prepared: 09/09/11 09:32    Analyzed: 09/09/11 12:14						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromoform	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul EckerReported:  
10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109121 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (1109121-BLK1)</b>						Prepared: 09/09/11 09:32 Analyzed: 09/09/11 12:14						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr) Recovery: 109 % Limits: 70-130 % Dilution: 1x  
 1,4-Difluorobenzene (Surr) 103 % 70-130 % "  
 Toluene-d8 (Surr) 103 % 70-130 % "  
 4-Bromofluorobenzene (Surr) 101 % 70-130 % "

## LCS (1109121-BS1)

Prepared: 09/09/11 09:32 Analyzed: 09/09/11 11:23

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Philip Nerenberg

Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

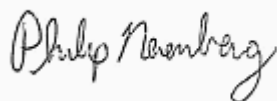
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109121 - EPA 5035A							Soil					
LCS (1109121-BS1)				Prepared: 09/09/11 09:32    Analyzed: 09/09/11 11:23								
5035/8260B												
Acetone	1600	---	1000	ug/kg wet	50	2000	---	80	65-135%	---	---	
Benzene	1040	---	12.5	"	"	1000	---	104	"	---	---	
Bromobenzene	947	---	25.0	"	"	"	---	95	"	---	---	
Bromochloromethane	1090	---	100	"	"	"	---	109	"	---	---	
Bromodichloromethane	1230	---	25.0	"	"	"	---	123	"	---	---	
Bromoform	1050	---	50.0	"	"	"	---	105	"	---	---	
Bromomethane	1140	---	500	"	"	"	---	114	"	---	---	
2-Butanone (MEK)	1690	---	500	"	"	2000	---	84	"	---	---	
n-Butylbenzene	1020	---	50.0	"	"	1000	---	102	"	---	---	
sec-Butylbenzene	980	---	50.0	"	"	"	---	98	"	---	---	
tert-Butylbenzene	1100	---	50.0	"	"	"	---	110	"	---	---	
Carbon tetrachloride	1220	---	25.0	"	"	"	---	122	"	---	---	
Chlorobenzene	1010	---	25.0	"	"	"	---	101	"	---	---	
Chloroethane	3130	---	500	"	"	"	---	313	"	---	---	EST
Chloroform	1120	---	50.0	"	"	"	---	112	"	---	---	
Chloromethane	970	---	250	"	"	"	---	97	"	---	---	
2-Chlorotoluene	954	---	50.0	"	"	"	---	95	"	---	---	
4-Chlorotoluene	1020	---	50.0	"	"	"	---	102	"	---	---	
1,2-Dibromo-3-chloropropane	894	---	250	"	"	"	---	89	"	---	---	
Dibromochloromethane	1110	---	100	"	"	"	---	111	"	---	---	
1,2-Dibromoethane (EDB)	1010	---	25.0	"	"	"	---	101	"	---	---	
Dibromomethane	1130	---	50.0	"	"	"	---	113	"	---	---	
1,2-Dichlorobenzene	974	---	50.0	"	"	"	---	97	"	---	---	
1,3-Dichlorobenzene	950	---	25.0	"	"	"	---	95	"	---	---	
1,4-Dichlorobenzene	957	---	50.0	"	"	"	---	96	"	---	---	
Dichlorodifluoromethane	903	---	100	"	"	"	---	90	"	---	---	
1,1-Dichloroethane	1000	---	25.0	"	"	"	---	100	"	---	---	
1,2-Dichloroethane (EDC)	1370	---	25.0	"	"	"	---	137	"	---	---	Q-29
1,1-Dichloroethene	1110	---	25.0	"	"	"	---	111	"	---	---	
cis-1,2-Dichloroethene	1010	---	25.0	"	"	"	---	101	"	---	---	
trans-1,2-Dichloroethene	1130	---	25.0	"	"	"	---	113	"	---	---	
1,2-Dichloropropane	992	---	25.0	"	"	"	---	99	"	---	---	
1,3-Dichloropropane	1060	---	25.0	"	"	"	---	106	"	---	---	
2,2-Dichloropropane	1310	---	50.0	"	"	"	---	131	"	---	---	

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Philip Nerenberg, Lab Director

## PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

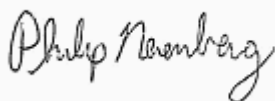
## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109121 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (1109121-BS1)</b>						Prepared: 09/09/11 09:32 Analyzed: 09/09/11 11:23						
1,1-Dichloropropene	1080	---	50.0	ug/kg wet	"	"	---	108	"	---	---	
cis-1,3-Dichloropropene	1130	---	50.0	"	"	"	---	113	"	---	---	
trans-1,3-Dichloropropene	1180	---	50.0	"	"	"	---	118	"	---	---	
Ethylbenzene	1020	---	25.0	"	"	"	---	102	"	---	---	
Hexachlorobutadiene	1100	---	100	"	"	"	---	110	"	---	---	
2-Hexanone	1860	---	500	"	"	2000	---	93	"	---	---	
Isopropylbenzene	1020	---	50.0	"	"	1000	---	102	"	---	---	
4-Isopropyltoluene	976	---	50.0	"	"	"	---	98	"	---	---	
4-Methyl-2-pentanone (MiBK)	2230	---	500	"	"	2000	---	111	"	---	---	
Methyl tert-butyl ether (MTBE)	1000	---	50.0	"	"	1000	---	100	"	---	---	
Methylene chloride	910	---	250	"	"	"	---	91	"	---	---	
Naphthalene	866	---	100	"	"	"	---	87	"	---	---	
n-Propylbenzene	1050	---	25.0	"	"	"	---	105	"	---	---	
Styrene	955	---	50.0	"	"	"	---	96	"	---	---	
1,1,1,2-Tetrachloroethane	988	---	25.0	"	"	"	---	99	"	---	---	
1,1,2,2-Tetrachloroethane	1060	---	25.0	"	"	"	---	106	"	---	---	
Tetrachloroethene (PCE)	1020	---	25.0	"	"	"	---	102	"	---	---	
Toluene	976	---	50.0	"	"	"	---	98	"	---	---	
1,2,3-Trichlorobenzene	982	---	250	"	"	"	---	98	"	---	---	
1,2,4-Trichlorobenzene	963	---	250	"	"	"	---	96	"	---	---	
1,1,1-Trichloroethane	1230	---	25.0	"	"	"	---	123	"	---	---	
1,1,2-Trichloroethane	976	---	25.0	"	"	"	---	98	"	---	---	
Trichloroethene (TCE)	937	---	25.0	"	"	"	---	94	"	---	---	
Trichlorofluoromethane	3150	---	100	"	"	"	---	315	"	---	---	EST
1,2,3-Trichloropropane	1030	---	50.0	"	"	"	---	103	"	---	---	
1,2,4-Trimethylbenzene	1070	---	50.0	"	"	"	---	107	"	---	---	
1,3,5-Trimethylbenzene	1020	---	50.0	"	"	"	---	102	"	---	---	
Vinyl chloride	1160	---	25.0	"	"	"	---	116	"	---	---	
m,p-Xylene	2090	---	50.0	"	"	2000	---	105	"	---	---	
o-Xylene	1060	---	25.0	"	"	1000	---	106	"	---	---	

Surr: Dibromofluoromethane (Surr) Recovery: 112 % Limits: 70-130 % Dilution: 1x  
 1,4-Difluorobenzene (Surr) 99 % 70-130 % "  
 Toluene-d8 (Surr) 103 % 70-130 % "  
 4-Bromofluorobenzene (Surr) 99 % 70-130 % "

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PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109291 - EPA 5035A						Soil						
Blank (1109291-BLK1)						Prepared: 09/19/11 12:48    Analyzed: 09/19/11 16:09						
5035/8260B												
Acetone	ND	---	667	ug/kg wet	50	---	---	---	---	---	---	Q-30
Benzene	ND	---	8.33	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Bromoform	ND	---	33.3	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	333	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	333	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	16.7	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	333	"	"	---	---	---	---	---	---	
Chloroform	ND	---	33.3	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	167	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	167	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	16.7	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	16.7	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	16.7	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	

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PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109291 - EPA 5035A</b>						<b>Soil</b>						
<b>Blank (1109291-BLK1)</b>						Prepared: 09/19/11 12:48 Analyzed: 09/19/11 16:09						
1,1-Dichloropropene	ND	---	33.3	ug/kg wet	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	33.3	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	66.7	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	333	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	33.3	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	333	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	33.3	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	167	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	66.7	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	16.7	"	"	---	---	---	---	---	---	
Styrene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Toluene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	167	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	16.7	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	66.7	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	33.3	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	33.3	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	16.7	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	33.3	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	16.7	"	"	---	---	---	---	---	---	

Surr: Dibromofluoromethane (Surr)

Recovery: 98 %

Limits: 70-130 %

Dilution: 1x

1,4-Difluorobenzene (Surr)

97 %

70-130 %

"

Toluene-d8 (Surr)

91 %

70-130 %

"

4-Bromofluorobenzene (Surr)

92 %

70-130 %

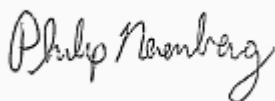
"

LCS (1109291-BS1)

Prepared: 09/19/11 12:48 Analyzed: 09/19/11 15:18

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Philip Nerenberg, Lab Director

## PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

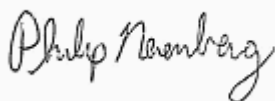
## QUALITY CONTROL (QC) SAMPLE RESULTS

## Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109291 - EPA 5035A						Soil						
LCS (1109291-BS1)			Prepared: 09/19/11 12:48    Analyzed: 09/19/11 15:18									
5035/8260B												
Acetone	1240	---	1000	ug/kg wet	50	2000	---	62	65-135%	---	---	Q-30
Benzene	951	---	12.5	"	"	1000	---	95	"	---	---	
Bromobenzene	847	---	25.0	"	"	"	---	85	"	---	---	
Bromochloromethane	1070	---	100	"	"	"	---	107	"	---	---	
Bromodichloromethane	1110	---	25.0	"	"	"	---	111	"	---	---	
Bromoform	1010	---	50.0	"	"	"	---	101	"	---	---	
Bromomethane	1460	---	500	"	"	"	---	146	"	---	---	EST
2-Butanone (MEK)	1460	---	500	"	"	2000	---	73	"	---	---	
n-Butylbenzene	897	---	50.0	"	"	1000	---	90	"	---	---	
sec-Butylbenzene	836	---	50.0	"	"	"	---	84	"	---	---	
tert-Butylbenzene	913	---	50.0	"	"	"	---	91	"	---	---	
Carbon tetrachloride	1080	---	25.0	"	"	"	---	108	"	---	---	
Chlorobenzene	890	---	25.0	"	"	"	---	89	"	---	---	
Chloroethane	3360	---	500	"	"	"	---	336	"	---	---	EST
Chloroform	1070	---	50.0	"	"	"	---	107	"	---	---	
Chloromethane	1020	---	250	"	"	"	---	102	"	---	---	
2-Chlorotoluene	810	---	50.0	"	"	"	---	81	"	---	---	
4-Chlorotoluene	883	---	50.0	"	"	"	---	88	"	---	---	
1,2-Dibromo-3-chloropropane	766	---	250	"	"	"	---	77	"	---	---	
Dibromochloromethane	945	---	100	"	"	"	---	94	"	---	---	
1,2-Dibromoethane (EDB)	924	---	25.0	"	"	"	---	92	"	---	---	
Dibromomethane	1050	---	50.0	"	"	"	---	105	"	---	---	
1,2-Dichlorobenzene	856	---	50.0	"	"	"	---	86	"	---	---	
1,3-Dichlorobenzene	860	---	25.0	"	"	"	---	86	"	---	---	
1,4-Dichlorobenzene	873	---	50.0	"	"	"	---	87	"	---	---	
Dichlorodifluoromethane	1130	---	100	"	"	"	---	113	"	---	---	
1,1-Dichloroethane	980	---	25.0	"	"	"	---	98	"	---	---	
1,2-Dichloroethane (EDC)	1210	---	25.0	"	"	"	---	121	"	---	---	
1,1-Dichloroethene	956	---	25.0	"	"	"	---	96	"	---	---	
cis-1,2-Dichloroethene	939	---	25.0	"	"	"	---	94	"	---	---	
trans-1,2-Dichloroethene	1060	---	25.0	"	"	"	---	106	"	---	---	
1,2-Dichloropropane	924	---	25.0	"	"	"	---	92	"	---	---	
1,3-Dichloropropane	937	---	25.0	"	"	"	---	94	"	---	---	
2,2-Dichloropropane	996	---	50.0	"	"	"	---	100	"	---	---	

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Philip Nerenberg, Lab Director



PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

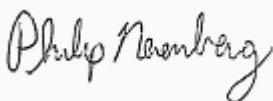
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1109291 - EPA 5035A</b>						<b>Soil</b>						
<b>LCS (1109291-BS1)</b>						Prepared: 09/19/11 12:48 Analyzed: 09/19/11 15:18						
1,1-Dichloropropene	1020	---	50.0	ug/kg wet	"	"	---	102	"	---	---	
cis-1,3-Dichloropropene	926	---	50.0	"	"	"	---	93	"	---	---	
trans-1,3-Dichloropropene	998	---	50.0	"	"	"	---	100	"	---	---	
Ethylbenzene	930	---	25.0	"	"	"	---	93	"	---	---	
Hexachlorobutadiene	972	---	100	"	"	"	---	97	"	---	---	
2-Hexanone	1700	---	500	"	"	2000	---	85	"	---	---	
Isopropylbenzene	933	---	50.0	"	"	1000	---	93	"	---	---	
4-Isopropyltoluene	840	---	50.0	"	"	"	---	84	"	---	---	
4-Methyl-2-pentanone (MiBK)	2030	---	500	"	"	2000	---	102	"	---	---	
Methyl tert-butyl ether (MTBE)	947	---	50.0	"	"	1000	---	95	"	---	---	
Methylene chloride	888	---	250	"	"	"	---	89	"	---	---	
Naphthalene	788	---	100	"	"	"	---	79	"	---	---	
n-Propylbenzene	880	---	25.0	"	"	"	---	88	"	---	---	
Styrene	915	---	50.0	"	"	"	---	92	"	---	---	
1,1,1,2-Tetrachloroethane	897	---	25.0	"	"	"	---	90	"	---	---	
1,1,2,2-Tetrachloroethane	932	---	25.0	"	"	"	---	93	"	---	---	
Tetrachloroethene (PCE)	906	---	25.0	"	"	"	---	91	"	---	---	
Toluene	890	---	50.0	"	"	"	---	89	"	---	---	
1,2,3-Trichlorobenzene	858	---	250	"	"	"	---	86	"	---	---	
1,2,4-Trichlorobenzene	842	---	250	"	"	"	---	84	"	---	---	
1,1,1-Trichloroethane	1060	---	25.0	"	"	"	---	106	"	---	---	
1,1,2-Trichloroethane	879	---	25.0	"	"	"	---	88	"	---	---	
Trichloroethene (TCE)	872	---	25.0	"	"	"	---	87	"	---	---	
Trichlorofluoromethane	3600	---	100	"	"	"	---	360	"	---	---	EST
1,2,3-Trichloropropane	886	---	50.0	"	"	"	---	89	"	---	---	
1,2,4-Trimethylbenzene	891	---	50.0	"	"	"	---	89	"	---	---	
1,3,5-Trimethylbenzene	862	---	50.0	"	"	"	---	86	"	---	---	
Vinyl chloride	1360	---	25.0	"	"	"	---	136	"	---	---	Q-29
m,p-Xylene	1870	---	50.0	"	"	2000	---	94	"	---	---	
o-Xylene	932	---	25.0	"	"	1000	---	93	"	---	---	
<i>Surr: Dibromofluoromethane (Surr) Recovery: 99 % Limits: 70-130 % Dilution: 1x</i>												
<i>1,4-Difluorobenzene (Surr) 101 % 70-130 % "</i>												
<i>Toluene-d8 (Surr) 89 % 70-130 % "</i>												
<i>4-Bromofluorobenzene (Surr) 87 % 70-130 % "</i>												

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PNG Environmental, INC

6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

Reported:

10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110055 - EPA 3546						Soil						
Blank (1110055-BLK1)						Prepared: 10/04/11 14:57    Analyzed: 10/05/11 10:27						
EPA 8270D (SIM)												
Acenaphthene	ND	---	6.67	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	6.67	"	"	---	---	---	---	---	---	
Anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Benzo(b+k)fluoranthene(s)	ND	---	13.3	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	6.67	"	"	---	---	---	---	---	---	
Chrysene	ND	---	6.67	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	6.67	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	6.67	"	"	---	---	---	---	---	---	
Fluorene	ND	---	6.67	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	6.67	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Pyrene	ND	---	6.67	"	"	---	---	---	---	---	---	
Surr: 2-Fluorobiphenyl (Surr)			Recovery: 76 %		Limits: 45-120 %		Dilution: 1x					
p-Terphenyl-d14 (Surr)			92 %		30-120 %		"					

**LCS (1110055-BS1)**

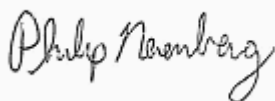
Prepared: 10/04/11 14:57 Analyzed: 10/05/11 10:55

**EPA 8270D (SIM)**

Acenaphthene	821	---	10.0	ug/kg wet	1	1000	---	82	45-125%	---	---	
Acenaphthylene	856	---	10.0	"	"	"	---	86	"	---	---	
Anthracene	841	---	10.0	"	"	"	---	84	55-125%	---	---	
Benz(a)anthracene	801	---	10.0	"	"	"	---	80	50-125%	---	---	
Benzo(a)pyrene	873	---	10.0	"	"	"	---	87	"	---	---	
Benzo(b)fluoranthene	898	---	10.0	"	"	"	---	90	45-125%	---	---	
Benzo(k)fluoranthene	871	---	10.0	"	"	"	---	87	"	---	---	
Benzo(b+k)fluoranthene(s)	1760	---	20.0	"	"	2000	---	88	"	---	---	
Benzo(g,h,i)perylene	863	---	10.0	"	"	1000	---	86	40-125%	---	---	
Chrysene	816	---	10.0	"	"	"	---	82	55-125%	---	---	
Dibenz(a,h)anthracene	847	---	10.0	"	"	"	---	85	40-125%	---	---	
Fluoranthene	866	---	10.0	"	"	"	---	87	55-125%	---	---	

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Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1110055 - EPA 3546</b>						<b>Soil</b>						
<b>LCS (1110055-BS1)</b>						Prepared: 10/04/11 14:57 Analyzed: 10/05/11 10:55						
Fluorene	867	---	10.0	ug/kg wet	"	"	---	87	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	843	---	10.0	"	"	"	---	84	40-125%	---	---	
Naphthalene	793	---	10.0	"	"	"	---	79	"	---	---	
Phenanthrene	810	---	10.0	"	"	"	---	81	50-125%	---	---	
Pyrene	862	---	10.0	"	"	"	---	86	45-125%	---	---	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 73 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 1x</i>					
<i>p-Terphenyl-d14 (Surr)</i>			<i>85 %</i>		<i>30-120 %</i>		<i>"</i>					

### Duplicate (1110055-DUP1)

Prepared: 10/04/11 14:57 Analyzed: 10/05/11 12:47

### QC Source Sample: B2-9 (A111118-09RE1)

#### EPA 8270D (SIM)

Acenaphthene	ND	---	9.34	ug/kg dry	1	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Anthracene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Benz(a)anthracene	11.5	---	9.34	"	"	---	7.42	---	---	43	30%	Q-05, Q-32
Benzo(a)pyrene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Benzo(k)fluoranthene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Benzo(b+k)fluoranthene(s)	ND	---	18.7	"	"	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Chrysene	ND	---	9.34	"	"	---	ND	---	---	---	30%	Q-32b
Dibenz(a,h)anthracene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Fluoranthene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Fluorene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Indeno(1,2,3-cd)pyrene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
Phenanthrene	ND	---	9.34	"	"	---	8.26	---	---	***	30%	
Pyrene	ND	---	9.34	"	"	---	ND	---	---	---	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 72 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 1x</i>					
<i>p-Terphenyl-d14 (Surr)</i>			<i>80 %</i>		<i>30-120 %</i>		<i>"</i>					

### Matrix Spike (1110055-MS1)

Prepared: 10/04/11 14:57 Analyzed: 10/05/11 13:15

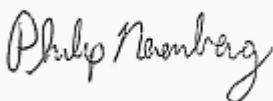
### QC Source Sample: B2-9 (A111118-09RE1)

#### EPA 8270D (SIM)

Acenaphthene	600	---	9.51	ug/kg dry	1	951	ND	63	45-125%	---	---	
--------------	-----	-----	------	-----------	---	-----	----	----	---------	-----	-----	--

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Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

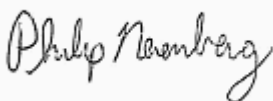
## QUALITY CONTROL (QC) SAMPLE RESULTS

### Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110055 - EPA 3546						Soil						
Matrix Spike (1110055-MS1)						Prepared: 10/04/11 14:57 Analyzed: 10/05/11 13:15						
QC Source Sample: B2-9 (A111118-09RE1)												
Acenaphthylene	578	---	9.51	ug/kg dry	"	"	ND	61	"	---	---	
Anthracene	638	---	9.51	"	"	"	ND	67	55-125%	---	---	
Benz(a)anthracene	656	---	9.51	"	"	"	7.42	68	50-125%	---	---	
Benzo(a)pyrene	686	---	9.51	"	"	"	ND	72	"	---	---	
Benzo(b)fluoranthene	702	---	9.51	"	"	"	ND	74	45-125%	---	---	
Benzo(k)fluoranthene	679	---	9.51	"	"	"	ND	71	"	---	---	
Benzo(b+k)fluoranthene(s)	1380	---	19.0	"	"	1900	ND	72	"	---	---	
Benzo(g,h,i)perylene	697	---	9.51	"	"	951	ND	73	40-125%	---	---	
Chrysene	654	---	9.51	"	"	"	ND	69	55-125%	---	---	
Dibenz(a,h)anthracene	684	---	9.51	"	"	"	ND	72	40-125%	---	---	
Fluoranthene	663	---	9.51	"	"	"	ND	70	55-125%	---	---	
Fluorene	640	---	9.51	"	"	"	ND	67	20-125%	---	---	
Indeno(1,2,3-cd)pyrene	680	---	9.51	"	"	"	ND	71	40-125%	---	---	
Naphthalene	567	---	9.51	"	"	"	ND	60	"	---	---	
Phenanthrene	624	---	9.51	"	"	"	8.26	65	50-125%	---	---	
Pyrene	658	---	9.51	"	"	"	ND	69	45-125%	---	---	
Surr: 2-Fluorobiphenyl (Surr)		Recovery: 53 %		Limits: 45-120 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		70 %		30-120 %		"						

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Philip Nerenberg, Lab Director

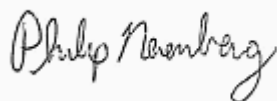
PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker**Reported:**  
10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110060 - EPA 3051A							Soil					
Blank (1110060-BLK1)					Prepared: 10/04/11 16:44		Analyzed: 10/05/11 12:01					
EPA 6020												
Lead	ND	---	1.00	mg/kg wet	10	---	---	---	---	---	---	
LCS (1110060-BS1)					Prepared: 10/04/11 16:44		Analyzed: 10/05/11 12:04					
EPA 6020												
Lead	51.2	---	1.00	mg/kg wet	10	50.0	---	102	80-120%	---	---	

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Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

**Reported:**  
10/11/11 12:09

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Percent Dry Weight

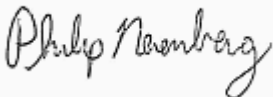
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1109188 - Total Solids (Dry Weight)							Soil					
Duplicate (1109188-DUP1)					Prepared: 09/12/11 16:27		Analyzed: 09/13/11 10:03					
QC Source Sample: B5-12.5 (A111118-15)												
Apex SOP												
% Solids	75.6	---	1.00	% by Weight	1	---	75.4	---	---	0.3	20%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

### Batch 1109321 - Total Solids (Dry Weight) **Soil**

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

## SAMPLE PREPARATION INFORMATION

### Hydrocarbon Identification (HCID) Screen by NWTPH

#### Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1109167							
A11I118-01	Soil	NWTPH-HCID	09/07/11 09:50	09/12/11 09:10	10.5g/10mL	10g/10mL	0.95
A11I118-03	Soil	NWTPH-HCID	09/07/11 11:01	09/12/11 09:10	10.94g/10mL	10g/10mL	0.91
A11I118-04	Soil	NWTPH-HCID	09/07/11 12:25	09/12/11 09:10	10.54g/10mL	10g/10mL	0.95
A11I118-07	Soil	NWTPH-HCID	09/07/11 14:35	09/12/11 09:10	11.17g/10mL	10g/10mL	0.90
A11I118-20	Soil	NWTPH-HCID	09/08/11 10:30	09/12/11 09:10	10.46g/10mL	10g/10mL	0.96
A11I118-22	Soil	NWTPH-HCID	09/08/11 11:06	09/12/11 09:10	10.15g/10mL	10g/10mL	0.99
A11I118-23	Soil	NWTPH-HCID	09/08/11 11:40	09/12/11 09:10	10.88g/10mL	10g/10mL	0.92
A11I118-24	Soil	NWTPH-HCID	09/08/11 12:24	09/12/11 09:10	10.41g/10mL	10g/10mL	0.96
A11I118-27	Soil	NWTPH-HCID	09/08/11 13:56	09/12/11 09:10	11g/10mL	10g/10mL	0.91
A11I118-29	Soil	NWTPH-HCID	09/08/11 15:44	09/12/11 09:10	10.62g/10mL	10g/10mL	0.94

#### Batch: 1109314

A11I118-06	Soil	NWTPH-HCID	09/07/11 13:00	09/20/11 10:12	11.05g/10mL	10g/10mL	0.91
A11I118-09	Soil	NWTPH-HCID	09/07/11 15:45	09/20/11 10:12	10.09g/10mL	10g/10mL	0.99
A11I118-26	Soil	NWTPH-HCID	09/08/11 12:55	09/20/11 10:12	10.99g/10mL	10g/10mL	0.91

### Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx

#### Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1109443							
A11I118-15	Soil	NWTPH-Dx	09/08/11 13:10	09/27/11 07:52	11.57g/5mL	10g/5mL	0.86

### Diesel Range (C10-C22) and Oil Range (>C22-C40) Hydrocarbons by NWTPH-Dx - Silica Gel Cleanup

#### Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1110056							
A11I118-09	Soil	NWTPH-Dx(SG)	09/07/11 15:45	10/04/11 14:58	13.73g/5mL	10g/5mL	0.73

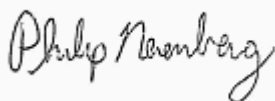
### Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

#### Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1109121							
A11I118-15	Soil	NWTPH-Gx	09/08/11 13:10	09/08/11 13:10	7.14g/5mL	10g/10mL	0.70

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Philip Nerenberg, Lab Director

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

## SAMPLE PREPARATION INFORMATION

### Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

#### Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A111118-16	Soil	NWTPH-Gx	09/08/11 13:20	09/08/11 13:20	10.43g/5mL	10g/10mL	0.48
A111118-22	Soil	NWTPH-Gx	09/08/11 11:06	09/08/11 11:06	6.07g/5mL	10g/10mL	0.82
A111118-23	Soil	NWTPH-Gx	09/08/11 11:40	09/08/11 11:40	7.62g/5mL	10g/10mL	0.66

### Volatile Organic Compounds by EPA 8260B

#### Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1109121							
A111118-01	Soil	5035/8260B	09/07/11 09:50	09/07/11 09:50	7.23g/5mL	10g/10mL	0.69
A111118-03	Soil	5035/8260B	09/07/11 11:01	09/07/11 11:01	7.16g/5mL	10g/10mL	0.70
A111118-04	Soil	5035/8260B	09/07/11 12:25	09/07/11 12:25	8.01g/5mL	10g/10mL	0.62
A111118-07	Soil	5035/8260B	09/07/11 14:35	09/07/11 14:35	8.86g/5mL	10g/10mL	0.56
A111118-15RE1	Soil	5035/8260B	09/08/11 13:10	09/08/11 13:10	7.14g/5mL	10g/10mL	0.70
A111118-16	Soil	5035/8260B	09/08/11 13:20	09/08/11 13:20	10.43g/5mL	10g/10mL	0.48
A111118-22	Soil	5035/8260B	09/08/11 11:06	09/08/11 11:06	6.07g/5mL	10g/10mL	0.82
A111118-23	Soil	5035/8260B	09/08/11 11:40	09/08/11 11:40	7.62g/5mL	10g/10mL	0.66
A111118-24	Soil	5035/8260B	09/08/11 12:24	09/08/11 12:24	9.44g/5mL	10g/10mL	0.53
A111118-27	Soil	5035/8260B	09/08/11 13:56	09/08/11 13:56	10.14g/5mL	10g/10mL	0.49
A111118-29	Soil	5035/8260B	09/08/11 15:44	09/08/11 15:44	12.22g/5mL	10g/10mL	0.41
Batch: 1109291							
A111118-06	Soil	5035/8260B	09/07/11 13:00	09/07/11 13:00	10.196g/5mL	10g/10mL	0.49
A111118-09	Soil	5035/8260B	09/07/11 15:45	09/07/11 15:45	14.103g/5mL	10g/10mL	0.36
A111118-26	Soil	5035/8260B	09/08/11 12:55	09/08/11 12:55	7.022g/5mL	10g/10mL	0.71

### Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

#### Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1110055							
A111118-09RE1	Soil	EPA 8270D (SIM)	09/07/11 15:45	10/04/11 14:57	13.08g/5mL	10g/5mL	0.77

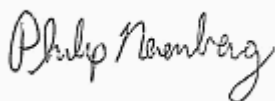
### Total Metals by EPA 6020 (ICPMS)

#### Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
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Philip Nerenberg, Lab Director



PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
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Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

**Reported:**  
10/11/11 12:09

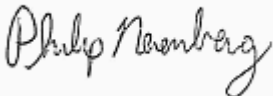
## SAMPLE PREPARATION INFORMATION

### Total Metals by EPA 6020 (ICPMS)

#### Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1110060							
A11I118-06	Soil	EPA 6020	09/07/11 13:00	10/04/11 16:44	0.486g/50mL	0.5g/50mL	1.03
A11I118-15	Soil	EPA 6020	09/08/11 13:10	10/04/11 16:44	0.49g/50mL	0.5g/50mL	1.02
A11I118-22	Soil	EPA 6020	09/08/11 11:06	10/04/11 16:44	0.502g/50mL	0.5g/50mL	1.00
A11I118-23	Soil	EPA 6020	09/08/11 11:40	10/04/11 16:44	0.492g/50mL	0.5g/50mL	1.02
A11I118-26	Soil	EPA 6020	09/08/11 12:55	10/04/11 16:44	0.473g/50mL	0.5g/50mL	1.06

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Project Number: 1179-01  
Project Manager: Paul Ecker

**Reported:**  
10/11/11 12:09

## Notes and Definitions

### Qualifiers:

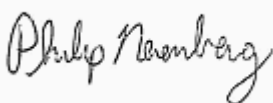
- EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- F-06 Results in the diesel organics range are primarily due to overlap from a gasoline range product.
- H-02 This sample was extracted outside of the EPA recommended holding time.
- Q-04 Percent recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-05 Analyses are not controlled on RPD values from sample or duplicate concentrations near or below the reporting level.
- Q-29 Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- Q-30 Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.
- Q-32 Benz(a)Anthracene and Chrysene can not be adequately resolved. The reported result includes the contribution from both analytes and is reported as estimated.
- Q-32b See Benz(a)anthracene.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- S-02 Surrogate recovery cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.  
  
For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.  
  
Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

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Project: **Plaid Pantry #112**

Project Number: 1179-01

Project Manager: Paul Ecker

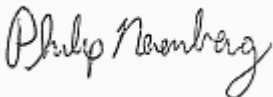
**Reported:**

10/11/11 12:09

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

\*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

**Reported:**  
10/11/11 12:09

[illegible]

Philip Nurnberg

PNG Environmental, INC  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

Reported:  
10/11/11 12:09

updated  
coc 2023  
LAB: A11118

## CHAIN OF CUSTODY

APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 PH: 503-718-2323 FAX: 503-718-0333

Client: <b>Plaid Pantry #112</b>		Project Name: <b>Plaid Pantry #112</b>		Project # <b>1179-01</b>	
Address: <b>6665 SW Hampton St., Tigard, OR 97223</b>		Project Manager: <b>Paul Ecker</b>		Email: <b>Paul.Ecker@pngenv.com</b>	
Sampled by: <b>Lab Director - Philip Nerenberg</b>		Date: <b>10/11/11</b>		Time: <b>12:09</b>	
Site Location: <b>Q11</b>		LAB ID #		DATE	
Other: <b>(N/A)</b>		TIME		MATRIX	
SAMPLE ID		DATE		MATRIX	
B4-20		10/11/11		5	
B4-25		10/11/11		5	
B4-30		10/11/11		5	
B4-35		10/11/11		5	
B4-40		10/11/11		5	
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B4-50		10/11/11		5	
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B4-60		10/11/11		5	
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B4-75		10/11/11		5	
B4-80		10/11/11		5	
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B4-90		10/11/11		5	
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B4-685		10/11/11		5	
B4-690		10/11/11		5	
B4-695		10/11/11		5	
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B4-750		10/11/11		5	
B4-755		10/11/11		5	
B4-760		10/11/11		5	
B4-765		10/11/11		5	
B4-770		10/11/11		5	
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B4-785		10/11/11		5	
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B4-815		10/11/11		5	
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B4-885		10/11/11		5	
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B4-895		10/11/11		5	
B4-900		10/11/11		5	
B4-905		10/11/11		5	
B4-910		10/11/11		5	
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B4-920		10/11/11		5	
B4-925		10/11/11		5	
B4-930		10/11/11		5	
B4-935		10/11/11		5	
B4-940		10/11/11		5	
B4-945		10/11/11		5	
B4-950		10/11/11		5	
B4-955		10/11/11		5	
B4-960		10/11/11		5	
B4-965		10/11/11		5	
B4-970		10/11/11		5	
B4-975		10/11/11		5	
B4-980		10/11/11		5	
B4-985		10/11/11		5	
B4-990		10/11/11		5	
B4-995		10/11/11		5	
B4-1000		10/11/11		5	
B4-1005		10/11/11		5	
B4-1010		10/11/11		5	
B4-1015		10/11/11		5	
B4-1020		10/11/11		5	
B4-1025		10/11/11		5	
B4-1030		10/11/11		5	
B4-1035		10/11/11		5	
B4-1040		10/11/11		5	
B4-1045		10/11/11		5	
B4-1050		10/11/11		5	
B4-1055		10/11/11		5	
B4-1060		10/11/11		5	
B4-1065		10/11/11		5	
B4-1070		10/11/11		5	
B4-1075		10/11/11		5	
B4-1080		10/11/11		5	
B4-1085		10/11/11		5	
B4-1090		10/11/11		5	
B4-1095		10/11/11		5	
B4-1100		10/11/11		5	
B4-1105		10/11/11		5	
B4-1110		10/11/11		5	
B4-1115		10/11/11		5	
B4-1120		10/11/11		5	
B4-1125		10/11/11		5	
B4-1130		10/11/11		5	
B4-1135		10/11/11		5	
B4-1140		10/11/11		5	
B4-1145		10/11/11		5	
B4-1150		10/11/11		5	
B4-1155		10/11/11		5	
B4-1160		10/11/11		5	
B4-1165		10/11/11		5	
B4-1170		10/11/11		5	
B4-1175		10/11/11		5	
B4-1180		10/11/			

**PNG Environmental, INC**  
6665 SW Hampton Steet Suite 101  
Tigard, OR 97223

Project: **Plaid Pantry #112**  
Project Number: 1179-01  
Project Manager: Paul Ecker

**Reported:**  
10/11/11 12:09

**APEX LABS**

12232 S.W. Garden Place, Tigard, OR 97233 Ph: 503-718-3323 Fax: 503-718-0333

## CHAIN OF CUSTODY

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Project Name: <u>Paul Bremer</u>		Project # <u>113</u>		Project # <u>1139-01</u>	
Address: <u>6615 S. 4th Street, St. Louis, MO</u>		Project # <u>113</u>		Project # <u>1139-01</u>	
Sampled By: <u>Steve Bremer</u>		Project # <u>113</u>		Project # <u>1139-01</u>	
Site Location: <u>OR</u>		Project # <u>113</u>		Project # <u>1139-01</u>	
Other: <u>(M)</u>		Project # <u>113</u>		Project # <u>1139-01</u>	
SAMPLE ID		DATE		TIME	
35-3	20	1050	5	4	
35-4.5	21	1051			
35-6	22	1106			
35-9	23	1140			
31-3	24	1324			
31-7	25	1340			
31-9	26	1455			
31-3	27	1350			
36-6	28	1521			
36-9	29	1549			
Normal Unit Area Time (NAT) = 2-10 Business Days		YES		NO	
TAT Requested (circle)		24 HR		48 HR	
		4 DAY		5 DAY	
				Other: _____	
SAMPLES ARE HELD FOR 10 DAYS		RECEIVED BY:		RECEIVED BY:	
Signature: <u>Steve Bremer</u>		Signature: <u>Steve Bremer</u>		Signature: <u>Steve Bremer</u>	
Print Name: <u>Steve Bremer</u>		Print Name: <u>Steve Bremer</u>		Print Name: <u>Steve Bremer</u>	
Date: <u>9/10/11</u>		Date: <u>9/10/11</u>		Date: <u>9/10/11</u>	
Time: <u>10:00 AM</u>		Time: <u>10:00 AM</u>		Time: <u>10:00 AM</u>	
Project # <u>113</u>		Project # <u>113</u>		Project # <u>113</u>	
Project # <u>1139-01</u>		Project # <u>1139-01</u>		Project # <u>1139-01</u>	

Apex Laboratories

Philip Neumberg

Philip Nerenberg, Lab Director

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

**APPENDIX E**  
**CASE NARRATIVE**

Paul Ecker  
PNG Environmental, Inc.  
6665 SW Hampton St. Ste. 101  
Tigard, OR 97223

Project Narrative  
TPH Characterization  
Plaid Pantry #112

Soil samples from Plaid Pantry Site #112/1179-01 were submitted by PNG Environmental, Inc. to Apex Laboratories on 9/8/2011 at 4:10 PM. The results for these samples can be found in the laboratory report for work order A111118. Soil samples from boring B5 had positive detections for highly weathered gasoline that extended into the diesel hydrocarbon range of the NWTPH-HCID analyses. Chromatographic traces were closely examined from follow up NWTPH-Gx and NWTPH-Dx analyses of samples from boring B5 in an effort to identify any contribution of diesel oil or light solvents in the sample. Chromatograms for all boring 5 HCID, NWTPH-Gx and NWTPH-Dx analyses have been included with this narrative.

The HCID traces and GC/FID trace from the NWTPH-Dx produced a pattern typical of a highly weathered gasoline. Weathering could be caused by volatilization, dissolution in water, or microbiological degradation. The gasoline product is extremely weathered with the hydrocarbon dominated by trimethyl, propyl, and butyl benzene compounds. The product trace does not resemble a middle distillate fuel oil. In a fresh product, the hydrocarbons trace of diesel would present visible aliphatic waxes and isoprenoid compounds. When weathered, diesel loses the light end hydrocarbons and alkane waxes leaving a trace that has shifted to the right on the chromatogram. The hydrocarbon hump associated with B-5 samples is shifted to the left of the fresh diesel standard and hydrocarbons cannot be attributed to diesel related fuel oils.

The compounds detected in follow up EPA 8260B analyses from the boring 5 samples at 6', 9' and 12.5' depths match the profile of gasoline. All samples are extremely weathered with the samples collected at 6 and 9 foot depths totally depleted of benzene. Toluene is absent from all samples indicating that biodegradation is a contributing factor to gasoline weathering at this site. If dissolution or volatilization were only responsible for hydrocarbon loss, toluene would be present at significantly higher levels than benzene. Toluene is typically over twice the concentration of benzene and ethyl benzene in fresh gasoline (Metcalf and Eddy, 1993). Although soil B5-12.5' contains detectable benzene it is significantly depleted in comparison to xylenes and trimethylbenzenes concentrations. Slower microbiological degradation rates at depth likely explain the difference in benzene concentrations in the boring samples. The lower rate of degradation affecting the 12.5 foot soils may be due to the increase of sands that do not support the microorganisms populating silts nearer the surface.

The rate of degradation of the gasoline is difficult to estimate due to lack of detailed information on spill release volumes, duration, localized infiltration of water, and soil conditions including moisture, oxygen, microbial life and soil and nutrient composition. If soil is protected from substantial water leaching and is above the zone of historical groundwater influence the release could be thirty plus years old.

If free product was available organic lead analyses would be helpful to place an upper limit on the age of release since alkyl lead compounds were removed from gasoline between in 1992 in California and

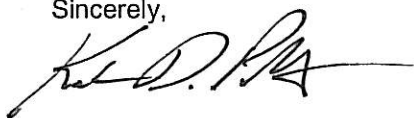


nationwide by 1996. The organic lead test has been found to be ineffective in soils since the compounds are strongly adsorbed in studies of soils and are not efficiently extracted (Mulroy and Ou, 1998)

In conclusion the soils from boring 5 contain detectable concentrations of extremely weathered gasoline. No evidence of other petroleum hydrocarbons or other volatile solvents was detected in GC/MS or GC/FID methods. The weathering of gasoline in confined and protected soils can be very slow. A free product sample or more localized site information would be necessary to estimate a potential range of release dates.

Please contact me if additional questions or concerns arise regarding the reporting of data found in Apex Laboratories, LLC. Work order A111118. Figures 1 and 2 are from NWTPH-Dx GC/FID. Figures 3-5 are total ion chromatograms from GC/MS.

Sincerely,



Kent D. Patton

Director of Technical Services  
Apex Laboratories, LLC.

Attached Chromatograms

Figure 1: NWHCID Diesel Standard – Windows Gas/Diesel/Oil

Figure 2: NWHCID Gasoline Standard – Windows Gas/Diesel/Oil

Figure 3: NWHCID Sample B5-6 (A111118-22)

Figure 4: NWHCID sample B5-9 (A111118-23)

Figure 5: NWTPH-Dx B5-12.5 (A111118-15)

Figure 6: NWTPH-Dx Diesel #2 Standard

Figure 7: NWTPH-Gx Gasoline Standard

Figure 8: NWTPH-Gx B5-12.5 x100 (A111118-15)

Figure 9: NWTPH-Gx B5-6 x1000 (A111118-22)

Figure 10: NWTPH-Gx B9-6 x1000 (A111118-23)

Figure 11: NWTPH-Gx Overlay of B5 (6',9',12.5') heavy end of gasoline 7.5 – 14 minutes

Figure 12: NWTPH-Gx Overlay of B5-12.5 and Gasoline Standard retention time 8.5 -14 minutes

References:

Mulroy, P.T. and Ou, L.T. (1998) Degradation of tetraethyl lead during the degradation of leaded gasoline hydrocarbons in soil. *Environmental Toxicology and Chemistry* 17, 777-782.

Metcalf and Eddy, Inc., 1993. *Chemical and Physical Characteristics of Crude Oil, Gasoline, and Diesel fuel, a Comparative Study*, Western States Petroleum Association, Glendale, CA. p. 33.

Fig. 1

NWHCID Diesel Standard – Windows Gasoline, Diesel and Heavy oil

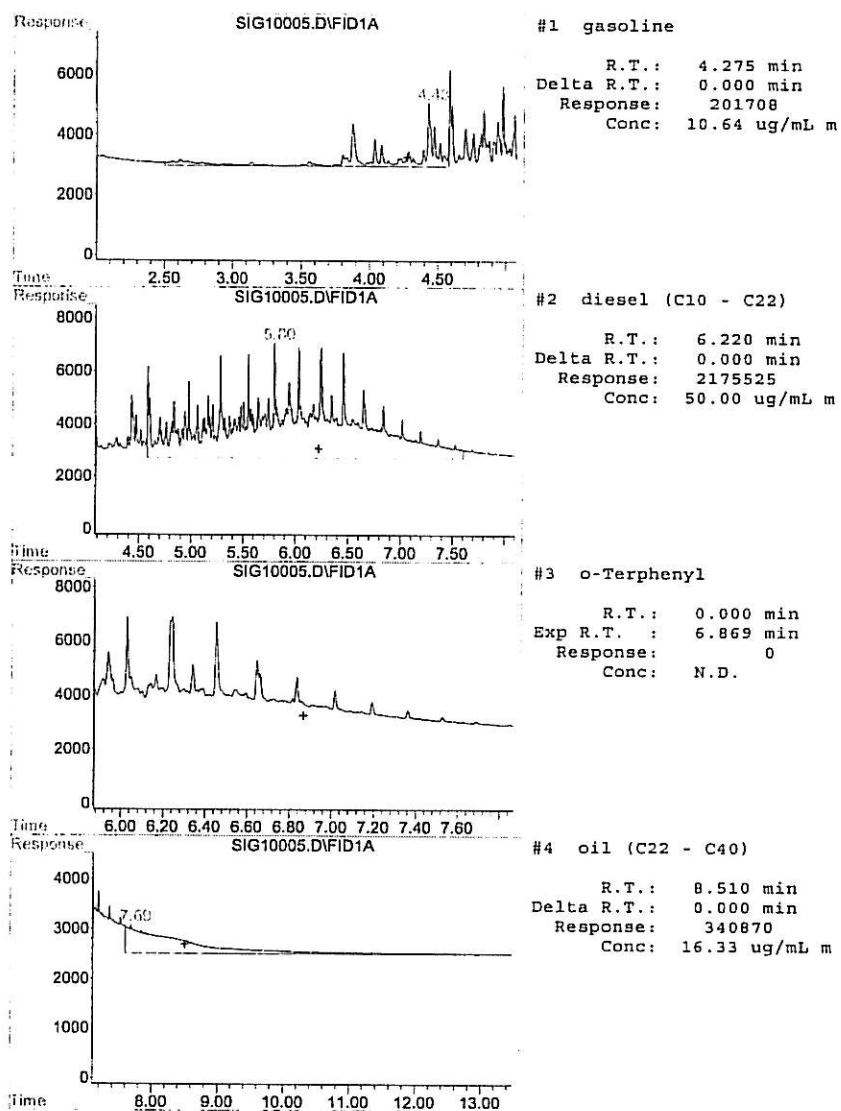


Fig. 2

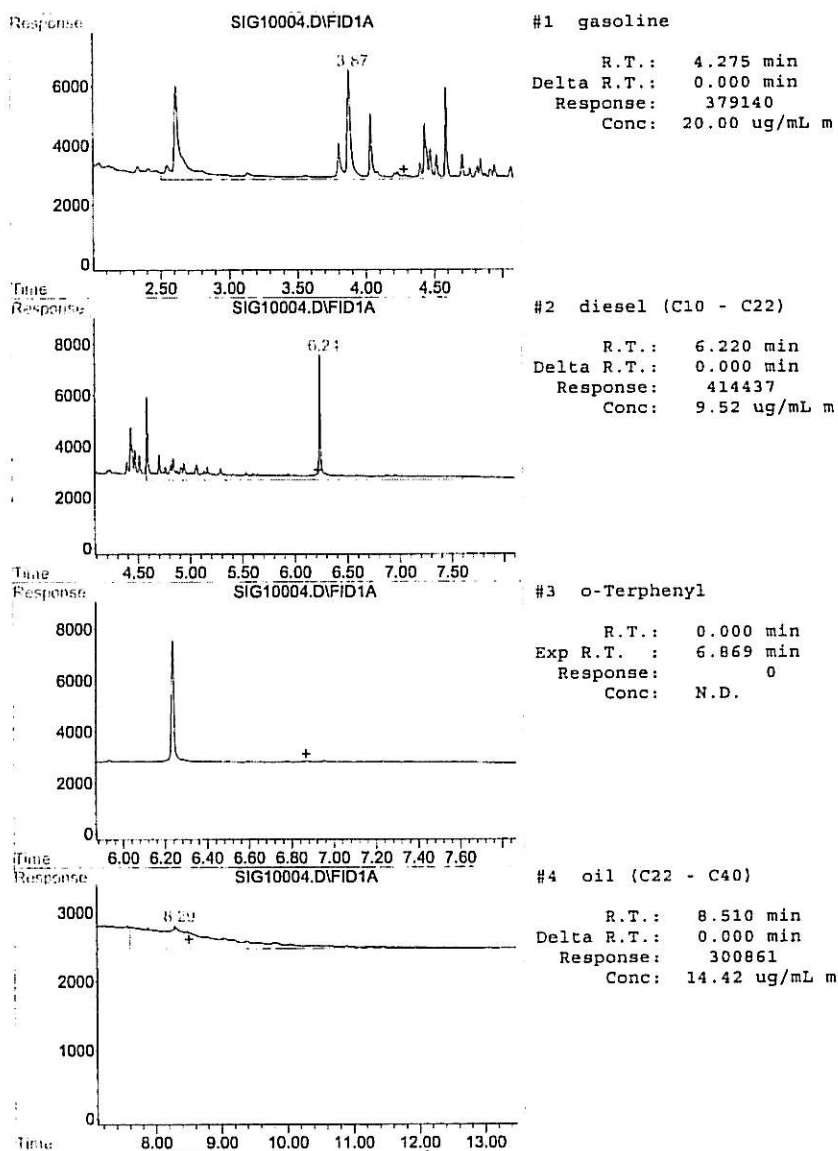


Fig. 3

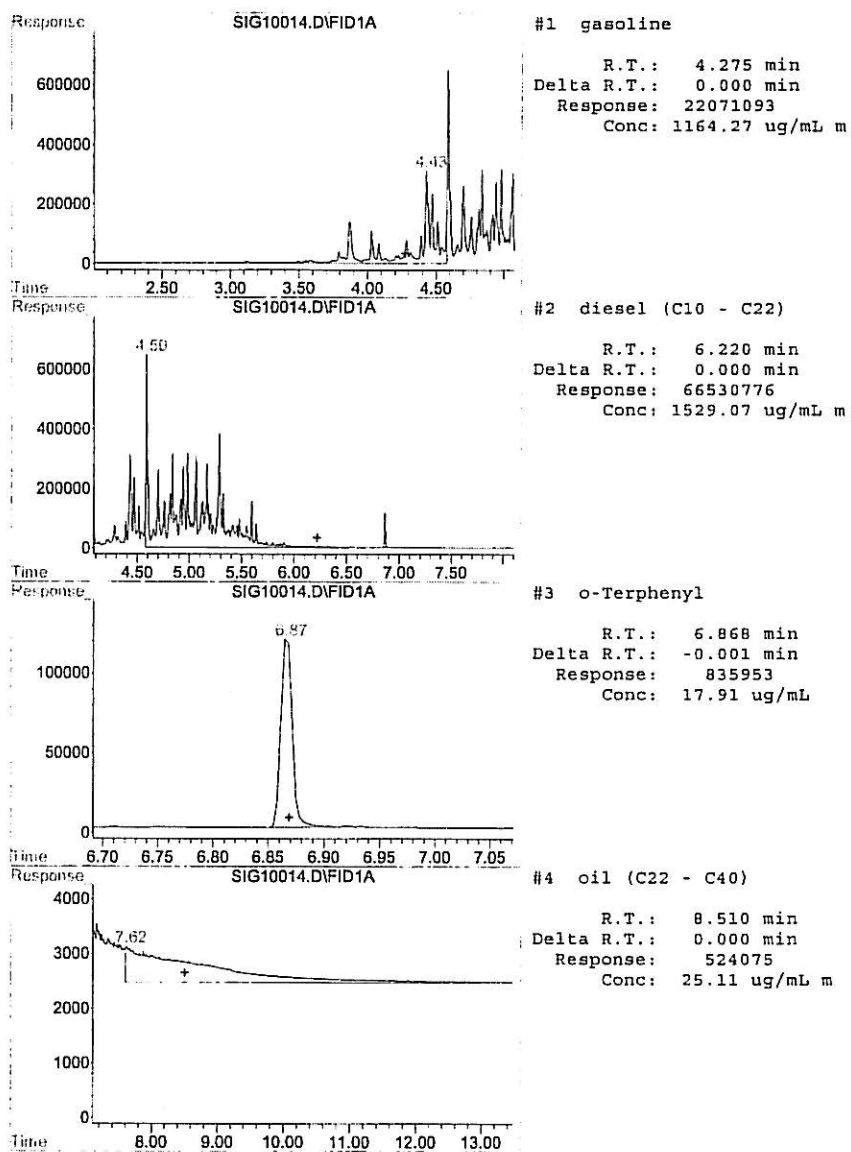


Fig 4

B5-9 NWHCID Windows Gas Range, Diesel Range and Heavy oil

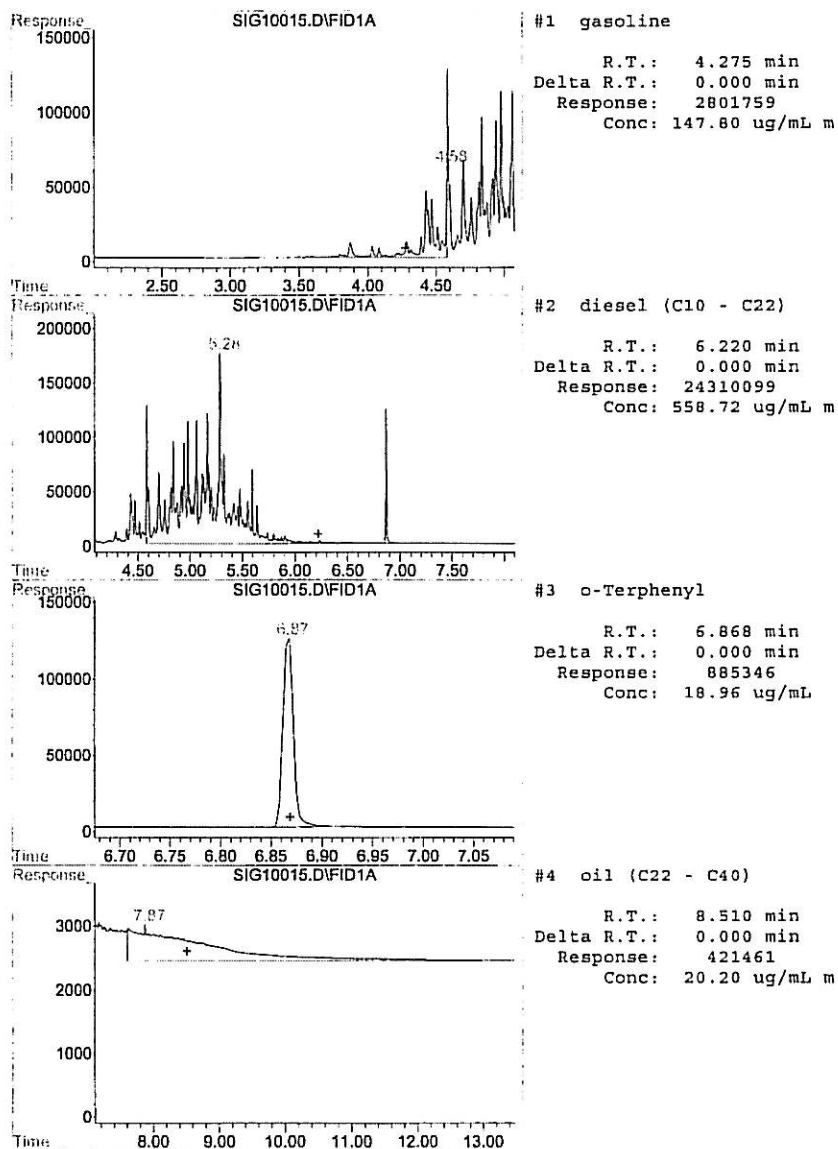


Fig. 5

Data File : E:\DATA\1127017\RFID2005.D

Acq On : 27-Sep-2011, 18:02:10

Sample : A111118-15

Misc :

IntFile : RTEINT.P

Quant Time: Sep 28 9:00 2011 Quant Results File: D2R11114.RES

Vial: 51

Operator: KEH

Inst : HP5890

Multiplr: 1.00

Quant Method : C:\HPCHEM\4\METHODS\D2R11114.M (RTE Integrator)

Title : NWTPH Dx, 5890 front.

Last Update : Thu Sep 15 15:22:37 2011

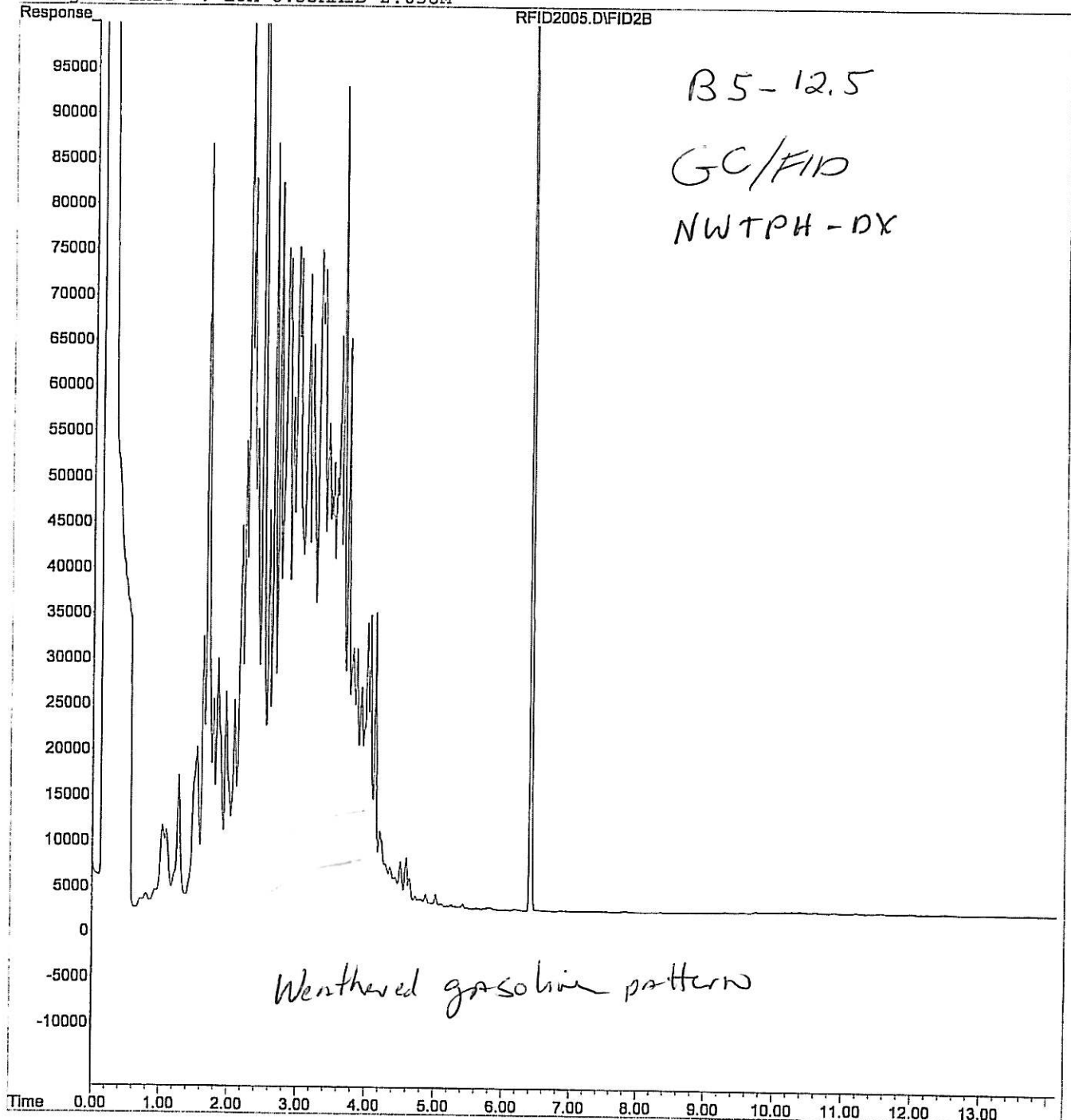
Response via : Multiple Level Calibration

DataAcq Meth : DIESEL.M

Volume Inj. : 1uL

Signal Phase : Restek RTX-2887

Signal Info : 10M 0.53MMID 2.65UM



Data File : E:\DATA\1I27017\RFID2003.D

Acq On : 27-Sep-2011, 17:19:11

Sample : 1I27018-CCV2

Misc :

IntFile : RTEINT.P

Quant Time: Sep 28 9:00 2011 Quant Results File: D2R11I14.RES

Vial: 1

Operator: KEH

Inst : HP5890

Multiplr: 1.00

Quant Method : C:\HPCHEM\4\METHODS\D2R11I14.M (RTE Integrator)

Title : NWTPH Dx, 5890 front.

Last Update : Thu Sep 15 15:22:37 2011

Response via : Multiple Level Calibration

DataAcq Meth : DIESEL.M

Volume Inj. : 1uL

Signal Phase : Restek RTX-2887

Signal Info : 10M 0.53MMID 2.65UM

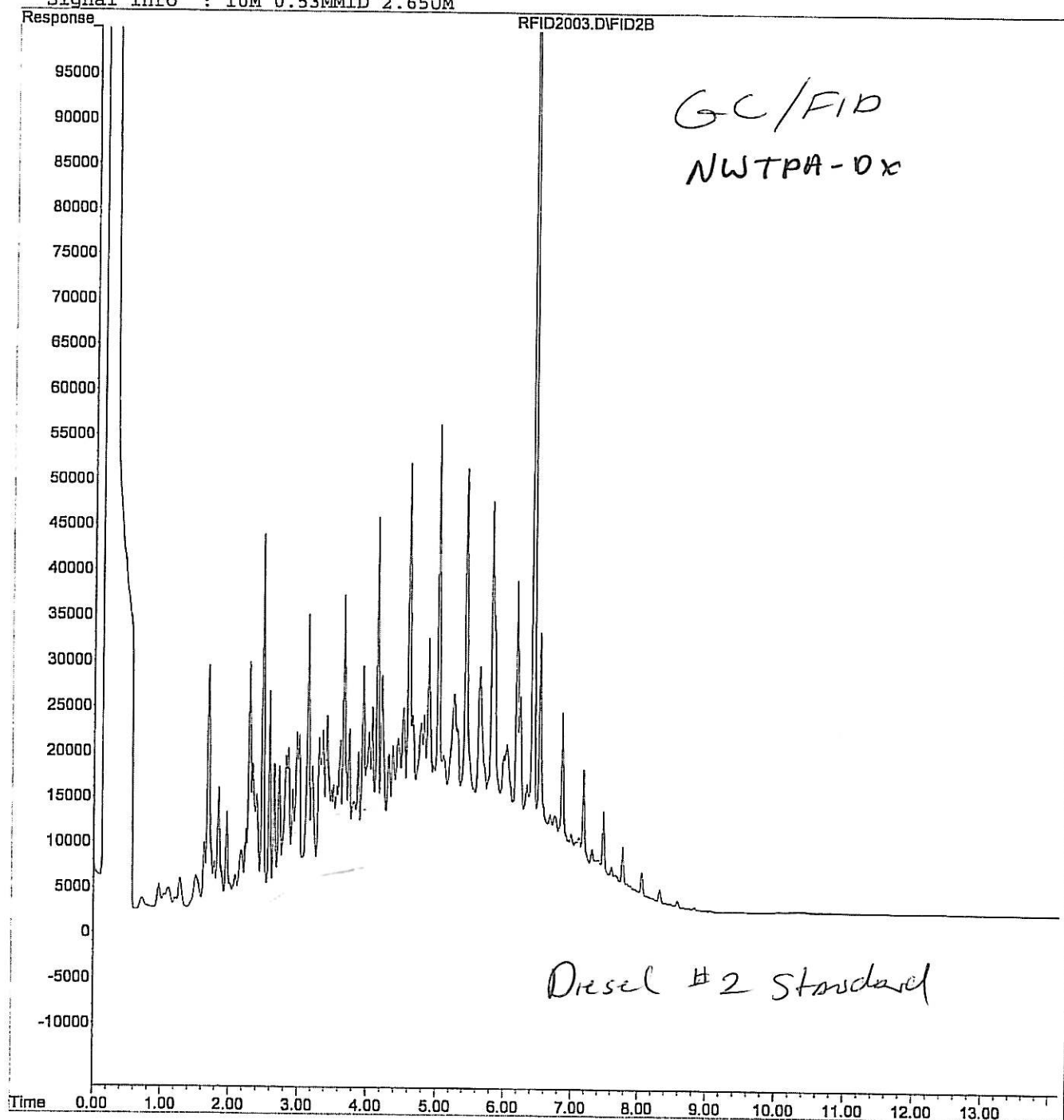
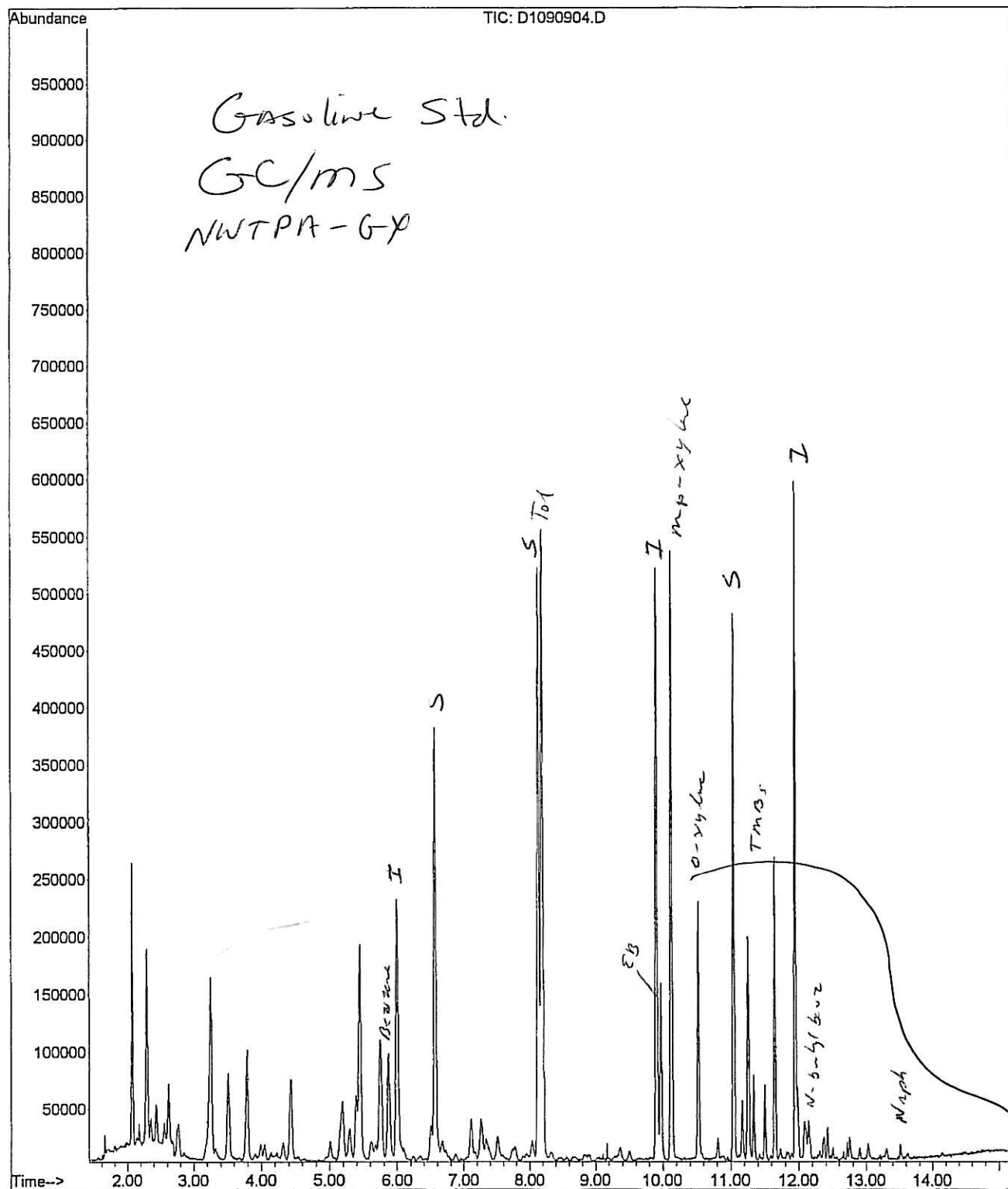


Fig 7

File : C:\HPCHEM\1\DATA\2011-09\1109009\D1090904.D  
 Operator : MM  
 Acquired : 9 Sep 2011 10:57 using AcqMethod VD10802G  
 Instrument : VOA-GCMS4  
 Sample Name: 1109009-CCV2  
 Misc Info : 1x GX 500PPB A11H140  
 Vial Number: 38





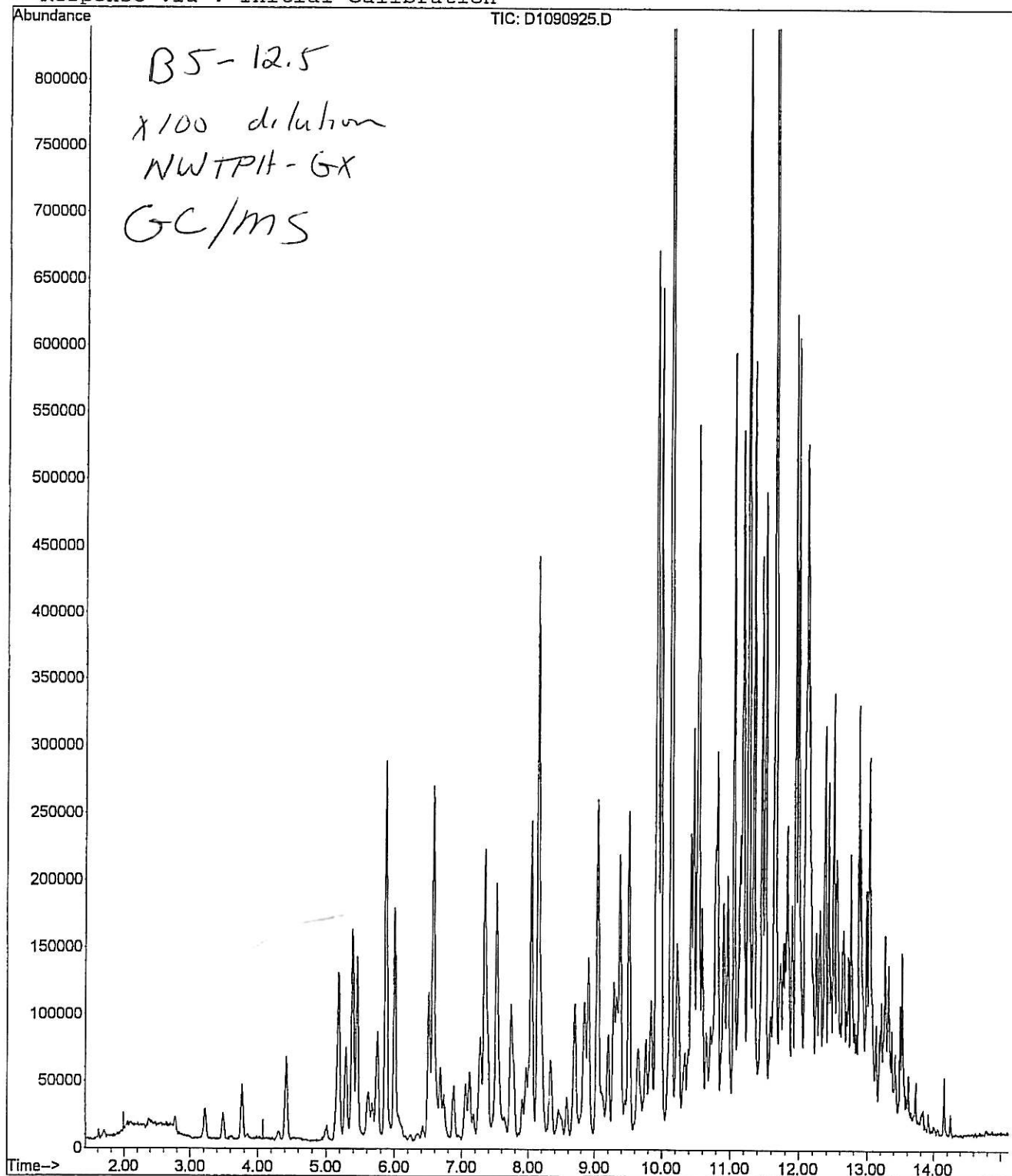
## Quantitation Report

Fig 8

Data File : C:\HPCHEM\1\DATA\2011-09\1109009\D1090925.D Vial: 59  
Acq On : 9 Sep 2011 20:09 Operator: MM  
Sample : AllI118-15RE1@100  $\star$  Inst : VOA-GCMS4  
Misc : 100x 7.14g/5mLx500uL/50mL 8260 Multiplr: 1.00  
MS Integration Params: RTEINT.P  
Quant Time: Sep 9 20:24 2011

Quant Results File: VD10802S.RES

Method : C:\HPCHEM\1\METHODS\VD10802S.M (RTE Integrator)  
Title : EPA 8260: Volatile Organic Compounds  
Last Update : Tue Aug 02 11:01:44 2011  
Response via : Initial Calibration



## Quantitation Report

Fig 9

Data File : C:\HPCHEM\1\DATA\2011-09\1109009\D1090915.D Vial: 49

Acq On : 9 Sep 2011 15:53

Operator: MM

Sample : A111118-22@1000

Inst : VOA-GCMS4

Misc : 1000x 6.07g/5mLx50uL/50mL 8260

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 9 16:08 2011

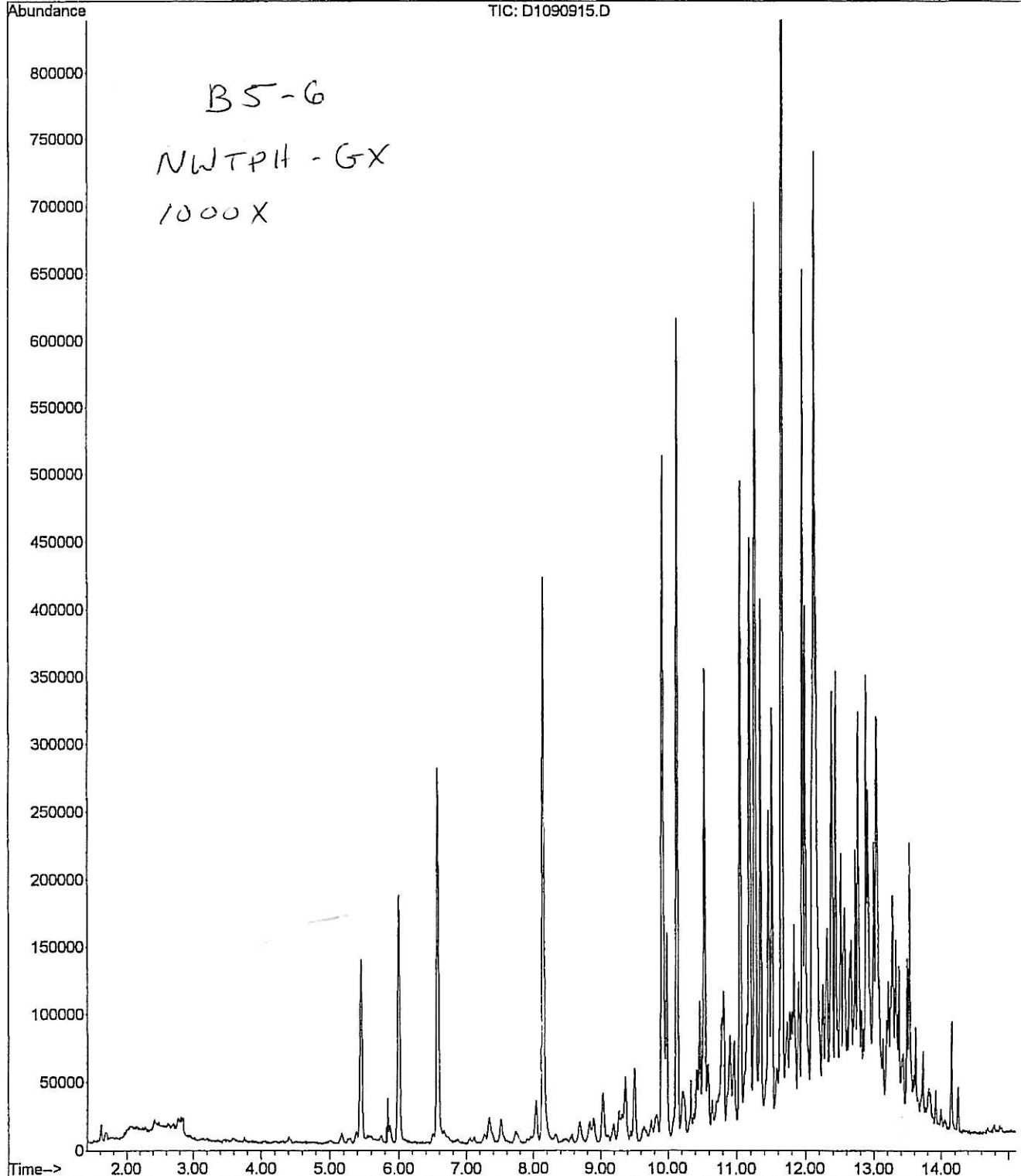
Quant Results File: VD10802S.RES

Method : C:\HPCHEM\1\METHODS\VD10802S.M (RTE Integrator)

Title : EPA 8260: Volatile Organic Compounds

Last Update : Tue Aug 02 11:01:44 2011

Response via : Initial Calibration



## Quantitation Report

Fig 10

Data File : C:\HPCHEM\1\DATA\2011-09\1I09009\DI090916.D Vial: 50  
Acq On : 9 Sep 2011 16:18 Operator: MM  
Sample : A11I118-23@1000 Inst : VOA-GCMS4  
Misc : 1000x 7.62g/5mLx50uL/50mL 8260 Multiplr: 1.00  
MS Integration Params: RTEINT.P  
Quant Time: Sep 9 16:33 2011 Quant Results File: VD10802S.RES

Method : C:\HPCHEM\1\METHODS\VD10802S.M (RTE Integrator)  
Title : EPA 8260: Volatile Organic Compounds  
Last Update : Tue Aug 02 11:01:44 2011  
Response via : Initial Calibration

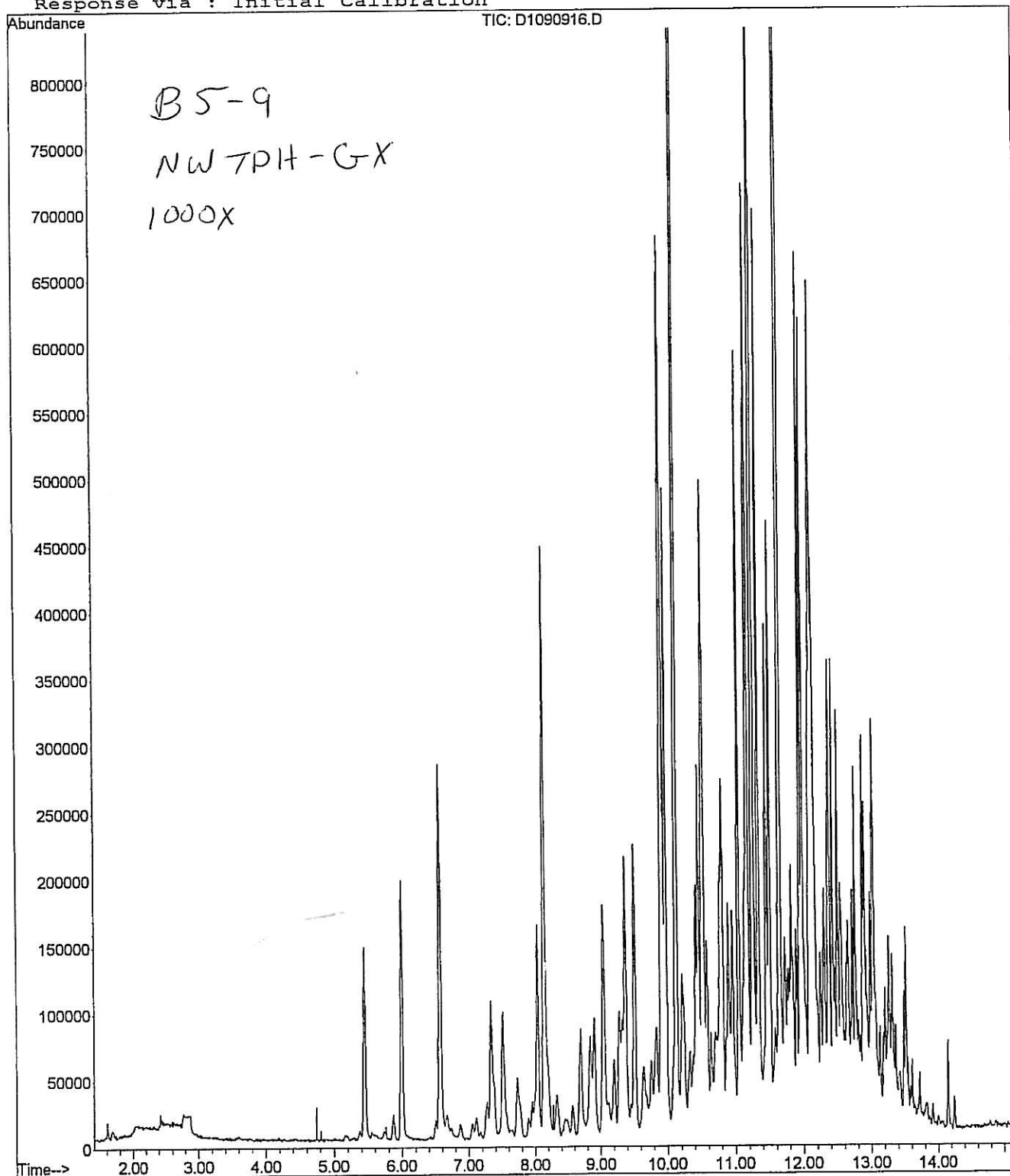


Fig. 11

File : C:\HPCHEM\1\DATA\2011-09\1109009\D1090925.D  
Operator : MM  
Acquired : 9 Sep 2011 20:09 using AcqMethod VD10802S  
Instrument : VOA-GCMS4  
Sample Name: A11I118-15RE1@100  
Misc Info : 100x 7.14g/5mLx500uL/50mL 8260  
Vial Number: 59

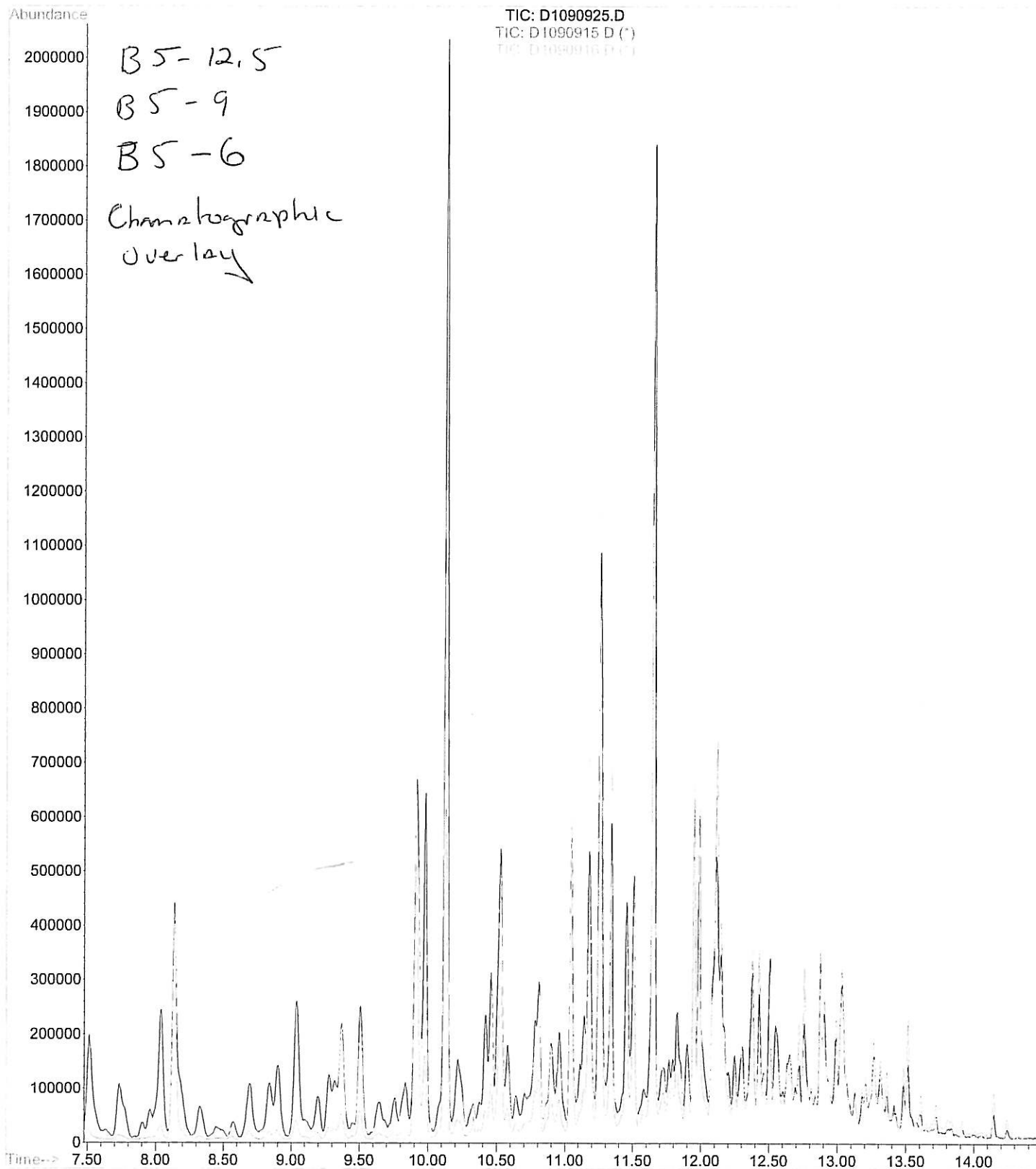


Fig. 12

File : C:\HPCHEM\1\DATA\2011-09\1I09009\D1090925.D  
Operator : MM  
Acquired : 9 Sep 2011 20:09 using AcqMethod VD10802S  
Instrument : VOA-GCMS4  
Sample Name: A111118-15RE1@100  
Misc Info : 100x 7.14g/5mLx500uL/50mL 8260  
Vial Number: 59

