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**LIMITED ENVIRONMENTAL SITE  
CHARACTERIZATION  
PAPERMILL PARCELS  
Emeryville, California**

**Archstone-Smith  
San Francisco, California**

**13 February 2007  
Project No. 4542.02**

13 February 2007  
Project 4542.02

Mr. Richard Juarez  
Archstone-Smith  
1390 Market Street  
San Francisco, California 94102

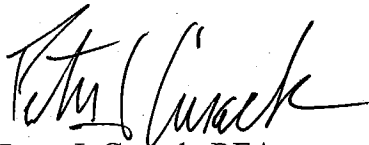
Subject: Limited Environmental Site Characterization  
Papermill Parcels  
Emeryville, California

Dear Mr. Juarez:

We are pleased to submit our report titled "Limited Environmental Site Characterization" for the Papermill Parcels properties in Emeryville, California.

We appreciate the opportunity to be of service to you on this project. If you have any questions or require additional information, please call.

Sincerely yours,  
TREADWELL & ROLLO, INC.



Peter J. Cusack, REA  
Senior Associate

45420101.PJC

Enclosure



Philip G. Smith, REA II  
Principal

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PAPERMILL PARCELS  
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**LIMITED ENVIRONMENTAL SITE CHARACTERIZATION  
PAPERMILL PARCELS  
Emeryville, California**

**1.0 INTRODUCTION**

This report, prepared for Archstone-Smith, presents the results of our Limited Environmental Site Characterization (ESC) for the Papermill Parcel development ("Site") in Emeryville, California (Figure 1).

The project area is approximately three acres and consists of the two city blocks bounded by Hollis, Powell, Beaudry, and Stanford Streets. The Site is currently occupied by three buildings (referred to as Powell Street, Hollis Street, and Doyle Street buildings) which are occupied by office and light manufacturing facilities, paved parking and landscaping areas. We understand that there is an existing half basement beneath the Hollis Street building.

**2.0 PROJECT DESCRIPTION**

Preliminary plans include demolishing the existing structures and constructing town homes and apartments. The town homes will be constructed in two phases: Phase 1 Development will consist of 22 at-grade town homes in the area bound by Powell, Beaudry, Doyle, and the City of Emeryville Park. Phase 2 Development will consist of a podium parking structure with apartment units above the parking structure in the area bound by Powell, Hollis, Doyle and the City of Emeryville Parking lot. The foundation systems for both Phase 1 and Phase 2 Developments will be continuous footings and slab on-grade construction.

### 3.0 BACKGROUND

We have reviewed the following environmental documents regarding the Papermill project that were provided to us:

- *Preliminary Site Assessment Phase I, Papermill, Emeryville, California* prepared by Harza Kaldveer dated 21 July 1993;
- *Phase I Environmental Site Assessment, Papermill Project, 5710 – 5770 Hollis Street, 1255-1349 Powell Street, 5741 – 5745 Doyle Street, and 1342 Stanford Avenue, Emeryville, California* prepared by CERES Environmental dated 8 February 1994;
- *Soil and Groundwater Sampling Report, Papermill Project, 1255 Powell Street, Emeryville, California* prepared by CERES Environmental dated 33 April 1998;
- *Limited Soil Sampling and Analysis, Papermill Properties – Foundation and Cripple Wall Addition, Southwesterly Corner of Powell and Doyle Street, Emeryville, California* prepared by Anton Geological dated 30 October 2002;
- *Phase I Environmental Site Assessment, The Papermill Properties, Emeryville, California* prepared by PES Environmental, Inc dated 17 April 2006; and
- *Summary Report, Phase II Site Investigation Findings, The Papermill, Emeryville, California* prepared by PES Environmental, Inc dated 17 May 2006.

A summary of the previous laboratory analytical results are presented in Appendix A. Based on the analytical results of limited soil samples collected in the near surface soils at the Site, elevated lead and chromium levels and low levels of petroleum hydrocarbons were detected in the shallow soil. Total lead was detected at concentrations of 6.3 milligrams per kilograms (mg/kg) to 2,700 mg/kg. The State of California hazardous waste criteria for total lead is greater than or equal to 1,000 mg/kg, and/or soluble lead at a soluble threshold limit concentration (STLC) greater than or equal to 5.0 milligrams per liter (mg/l).

Based on the reported analytical results, elevated lead was detected beneath the Powell Street building and an elevated chromium level (110 mg/kg) was detected beneath the parking lot near the Hollis Street building. Petroleum hydrocarbons were detected in the parking area (within and

near the former tank backfill) of the Doyle Street building but no analyses for heavy metals were performed on the soil samples.

#### **4.0 SCOPE AND PURPOSE OF SITE CHARACTERIZATION WORK**

Our work included collecting soil samples of the fill material and underlying alluvial soil from ten exploratory borings, chemical testing of selected soil samples, and evaluating the results. The objective of the ESC was to assess the presence of petroleum hydrocarbon and metal contamination in the soil beneath the Site that will be removed and disposed during the proposed construction activities. Concentrations of chemical compounds detected in the soil samples were compared to state and federal criteria for hazardous waste and disposal options.

#### **5.0 FIELD INVESTIGATION**

On 11 December 2006, a total of ten exploratory borings, B-1, B-2, and SB-10 through SB-17 were drilled to depths ranging from 2 to 78.5 below ground surface (bgs) at the locations shown on Figure 2. Borings B-1 and B-2 were drilled by Pitcher Drilling Company using a truck mounted, rotary-wash drill rig to depths of 78.5 feet bgs. Borings SB-10 through SB-17 were drilled by Gregg Drilling to depths of 8.0 feet bgs using a Geoprobe Model 5400 hydraulic direct push rig mounted on a pickup truck.

Soil samples were obtained from the geotechnical borings (B-1 and B-2) using a Sprague and Henwood (S&H) split-barrel sampler with a 3.0-inch-outside diameter, 2.5-inch-inside diameter, lined with stainless steel tubes with an inside diameter of 2.43 inches. After the S&H sampler was driven, a six-inch, lined sample core was retained for chemical analyses.

Soil sampling was obtained from the environmental borings (SB-10 through SB-17) with probes consisting of hollow steel rods with an attached Macrocore. The Macrocore used in this investigation was 4 feet in length and 1.75 inch in diameter. The Macrocore allows for continuous soil sampling lithology identification and the collection of soil in clear butyrate liners

for laboratory analysis. After the sampler was driven, selected sample cores were retained for chemical analyses by cutting the Macrocore sampler at the desired depths.

The soil sample ends were covered with Teflon, sealed with plastic end caps, labeled and stored in an ice-cooled chest for delivery to the analytical laboratory. All soil sampling equipment was thoroughly cleaned with a detergent solution and rinsed with distilled water before each sampling event.

All samples were delivered under chain-of-custody control to McCampbell Analytical, Inc., a California Department of Health Services certified analytical laboratory in Pittsburg, California. Boring logs from this investigation are presented in Appendix B as Figures B-1 through B-10. The soil encountered was classified in accordance with the classification chart shown on Figure B-11.

All exploratory borings were backfilled with cement/bentonite grout, under the approval of the Alameda County Public Works Department, Water Well Program inspector. The soil cuttings and water generated during the drilling operations were placed into 55-gallon drums, chemically tested, and will be disposed offsite.

## **6.0 SUBSURFACE CONDITIONS**

The results of previous and our subsurface investigation indicate the Site is underlain by approximately 3- to 4½-inches thick of asphalt concrete. The asphalt concrete is underlain by approximately three feet of medium stiff to stiff clay with sand fill. The fill is underlain by native alluvial soil, stiff to hard clay, sandy clay to the maximum depths explored 78.5 feet bgs. Groundwater was not measured in the borings as it was obscured by the rotary-wash drilling fluid but was previously reported at depths of approximately 11 to 27 feet below the ground surface.



## **7.0 SAMPLE SELECTION AND ANALYTICAL TESTING**

The objective of the soil sampling was to assess the presence of hazardous materials and petroleum hydrocarbons in the soil beneath the Site that will be disturbed during the proposed construction activities. The soil samples were submitted to McCampbell Analytical Laboratories for some or all of the analyses as listed below:

- Total recoverable petroleum hydrocarbons (TRPH) by EPA Method 418.1
- Total petroleum hydrocarbons as gasoline and diesel by Modified EPA Method 8015;
- Volatile organic compounds (VOCs) by EPA Method 8260B;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270;
- Polychlorinated biphenyls (PCBs) by EPA Method 8081;
- California assessment manual (CAM) 17 metals by EPA Method 6010/200.7 series;
- Leaking underground fuel tank (LUFT) 5 metals by EPA Method 6010/200.7 series; and
- Total lead by EPA Method 6010/200.7.

Most of the soil samples were analyzed for TRPH and total lead. Some samples with elevated concentrations of total lead (greater than 50 parts per million), as indicated on Table 2, were also analyzed for soluble lead using Soluble Threshold Limit Concentration (STLC) by California Waste Extraction Test (WET). These soluble lead analyses were performed to assess if the lead concentrations in select soil samples exceeded State hazardous waste levels.

## **8.0 LABORATORY TEST RESULTS AND EVALUATION**

A summary of the laboratory analytical results is presented on Tables 1 and 2. Copies of the laboratory analytical reports are presented in Appendix B. The results of the laboratory analysis are discussed below.

TRPH was detected in 13 of the 27 soil samples analyzed, at concentrations ranging from 27 milligrams per kilograms (mg/kg) to 180 mg/kg. Low level of diesel was detected in 4 of the 12 at concentrations from 1.3 mg/kg to 3.1 mg/kg. Gasoline was detected in one of the 12 samples analyzed at a concentration of 3.8 mg/kg. No SVOCs or PCBs were detected at or above method reporting limits in the samples analyzed.

Total lead was detected in all 27 soil samples analyzed at concentrations ranging from 5.3 mg/kg to 700 mg/kg. The remaining metal concentrations were within normal<sup>1</sup> background ranges found in the western United States. STLC lead was detected in 5 of the soil samples analyzed at concentrations ranging from 0.74 milligrams per liter (mg/l) to 140 mg/l.

## 8.0 CONCLUSIONS AND PRELIMINARY RECOMMENDATIONS

Currently, the Site is occupied by three buildings (referred to as Powell Street, Hollis Street, and Doyle Street buildings) which are occupied by office and light manufacturing facilities, paved parking and landscaping areas. We understand that there is an existing half basement beneath the Hollis Street building and based on previous analytical results of sampling performed, no contaminated fill exists beneath the half basement.

The Site is underlain by approximately three feet of medium stiff to stiff clay with sand fill. The fill is underlain by native alluvial soil, stiff to hard clay, sandy clay to the maximum depths explored 78.5 feet bgs.

The soil sample analytical results from this and previous subsurface investigations were compared to State of California total threshold limit concentration (TTLC) and STLC hazardous waste criteria. Based on these comparisons, the fill material beneath the Powell Street building and SB-15 and SB-17 near the Doyle Street building will likely require disposal at a State of

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<sup>1</sup> "U.S.G.S. Professional Paper 1270, Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States," 1984

California Hazardous Waste facility. The remaining fill material throughout the Site will likely be re-used on-site as fill material or be disposed of at a Class II/III non-hazardous waste facility.

For the proposed Phase I Development, we have estimated the amount of fill material that will need to be excavated of during construction activities. In estimating the quantity of the fill material at the site, we used the following information:

- Total depth of the fill material at the site is 3 feet bgs.
- The Phase 1 Development Site is approximately 28,290 square feet in total area.
- Used a factor of 1.6 to convert from cubic yards to tons.
- Used our drawing dated 12/12/06 for soil boring locations and area of the site.
- Based on analytical results (performed on soil samples collected during the period of April 1998 and December 2006), we interpolated analytical results for lead and petroleum hydrocarbons between soil boring locations, and interpolated depth of fill material between soil boring locations.
- The exploratory boring logs from this and previous investigations determined the depth of fill material at the site.

This method of estimating in-place quantities of the various classes of soil is standard industry practice; however, a final volume estimate is dependent upon review and approval of the receiving landfill waste acceptance coordinator. In summary, approximately 650 tons (407 cubic yards) of fill material classified as State of California Class I (Non-RCRA) hazardous waste, and approximately 4,390 tons (2,745 cubic yards) of fill material classified as non-hazardous Class II/III likely exist within the 3 feet of fill material at the proposed Phase 1 Development.

For the proposed Phase 2 Development, we have estimated the amount of fill material that will need to be excavated of during construction activities. In estimating the quantity of the fill material at the site, we used the following information:

- Total depth of the fill material at the site is 3 feet bgs.
- The Phase 2 Development Site is approximately 110,450 square feet in total area. With the Hollis Street Building having a half basement, we assume that no fill is beneath the Building so we are deducting the square footage of the Building (12,000 square feet) from the total Site area. Based on these calculations, we used 98,450 square feet in total area for the Phase 2 Development.
- Used a factor of 1.6 to convert from cubic yards to tons.
- Used our drawing dated 12/12/06 for soil boring locations and area of the site.
- Based on analytical results (performed on soil samples collected during the period of April 1998 and December 2006), we interpolated analytical results for lead and petroleum hydrocarbons between soil boring locations, and interpolated depth of fill material between soil boring locations.
- The exploratory boring logs from this and previous investigations determined the depth of fill material at the site.

This method of estimating in-place quantities of the various classes of soil is standard industry practice; however, a final volume estimate is dependent upon review and approval of the receiving landfill waste acceptance coordinator. In summary, approximately 800 tons (500 cubic yards) of fill material classified as State of California Class I (Non-RCRA) hazardous waste, and approximately 12,800 tons (8,000 cubic yards) of fill material classified as non-hazardous Class II/III likely exist within the 3 feet of fill material at the proposed Phase 2 Development site.

At this time, preliminary construction and excavation plans include the possible re-use some of the non-hazardous Class II/III soil on-site to fill in the half basement below the Hollis Street building which will be capped by pavement, concrete, or other structures. The soil may also be re-compacted and re-used on-site as general fill.

With the presence of elevated levels of total and soluble lead and petroleum hydrocarbons detected at the Site, a Soil Management Plan (SMP) and a Health and Safety (H&S) plan (prepared by others for site contractors) will be required prior to construction. The SMP will include a soil handling plan which segregates the fill material from the underlying native alluvial soil, post-excavation soil sampling to confirm the removal of the Class I contaminated fill material, and maintenance requirements to ensure that the long-term soil management measures, specifically capping the soils will remain effective during the Site's use and occupancy period. The H&S plan will outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction.

## **9.0 LIMITATIONS**

Descriptions of specific field activities and historical events are based on our observations and on information provided by others. The opinions and information presented in this report apply to site conditions and the information that was available at the time the work was performed and do not apply to changes of which we are not aware or have not had the opportunity to evaluate. Treadwell & Rollo, Inc. makes no guarantees or warranties with respect to the accuracy or completeness of this information.

## TABLES

**Table 1**  
**Soil Analytical Results for Petroleum Hydrocarbons**  
**Papermill Parcels**  
**Emeryville, California**

Sample ID	Depth feet	Date Sample	TPHg	TPHd	TRPH	Acetone	Other VOCs	SVOC	PCBs
B1	2.0-2.5	12/11/2006	3.8	1.7	56	--	ND	ND	< 0.025
B1	5.0-5.5	12/11/2005	< 1.0	< 1.0	< 10	--	--	--	--
B2	2.0-2.5	12/11/2006	--	--	< 10	--	--	--	--
B2	5.0-5.5	12/11/2006	< 1.0	< 1.0	< 10	--	--	--	--
SB10	0.5-1.0	12/11/2006	--	--	< 10	--	--	--	--
SB10	1.5-2.0	12/11/2006	--	--	140	--	--	--	--
SB10	4.0-4.5	12/11/2006	< 1.0	< 1.0	< 10	--	--	--	--
SB11	0.5-1.0	12/11/2006	--	--	27	--	--	--	--
SB11	1.5-2.0	12/11/2006	--	--	< 10	--	--	--	--
SB11	2.5-3.0	12/11/2006	< 1.0	< 1.0	< 10	--	--	--	--
SB-12	0.5-1.0	12/11/2006	< 1.0	1.3	30	--	ND	ND	< 0.025
SB-12	1.5-2.0	12/11/2006	--	--	< 10	--	--	--	--
SB-13	0.5-1.0	12/11/2006	--	--	44	--	--	--	--
SB-13	1.5-2.0	12/11/2006	--	--	82	--	--	--	--
SB-13	2.5-3.0	12/11/2006	< 1.0	--	< 10	--	--	--	--
SB-14	0.5-1.0	12/11/2006	--	--	< 10	--	--	--	--
SB-14	1.5-2.0	12/11/2006	--	--	< 10	--	--	--	--
SB-14	2.5-3.0	12/11/2006	< 1.0	< 1.0	< 10	--	--	--	--
SB-15	0.5-1.0	12/11/2006	--	--	80	--	--	--	--
SB-15	1.5-2.0	12/11/2006	--	--	140	--	--	--	--
SB-15	2.5-3.0	12/11/2006	< 1.0	< 1.0	28	--	--	--	--
SB-16	0.5-10	12/11/2006	< 1.0	2.8	31	0.12	ND	ND	< 0.025
SB-16	1.5-2.0	12/11/2006	--	--	< 10	--	--	--	--
SB-16	2.5-3.0	12/11/2006	< 1.0	< 1.0	< 10	--	--	--	--
SB-17	0.5-10	12/11/2006	--	--	180	--	--	--	--
SB-17	1.5-2.0	12/11/2006	--	--	120	--	--	--	--
SB-17	2.5-3.0	12/11/2006	< 1.0	3.1	31	--	--	--	--

**Notes:**

-- Not Analyzed

All results are reported in milligrams per kilogram (mg/kg)

TPHg - Total Petroleum Hydrocarbons as Gasoline, EPA Method 8015M

TPHd - Total Petroleum Hydrocarbons as Diesel Range (C10-C23), EPA Method 8015M

TRPH - Total Recoverable Petroleum Hydrocarbons

VOCs - Volatile Organic Compounds, EPA 8260B

PCBs - Poly Chlorinated Biphenyls, EPA Method 8082

< 0.025 - Analyte was not detected above the laboratory reporting limit (0.005 mg/kg)

ND - Not detected at or above the laboratory reporting limit

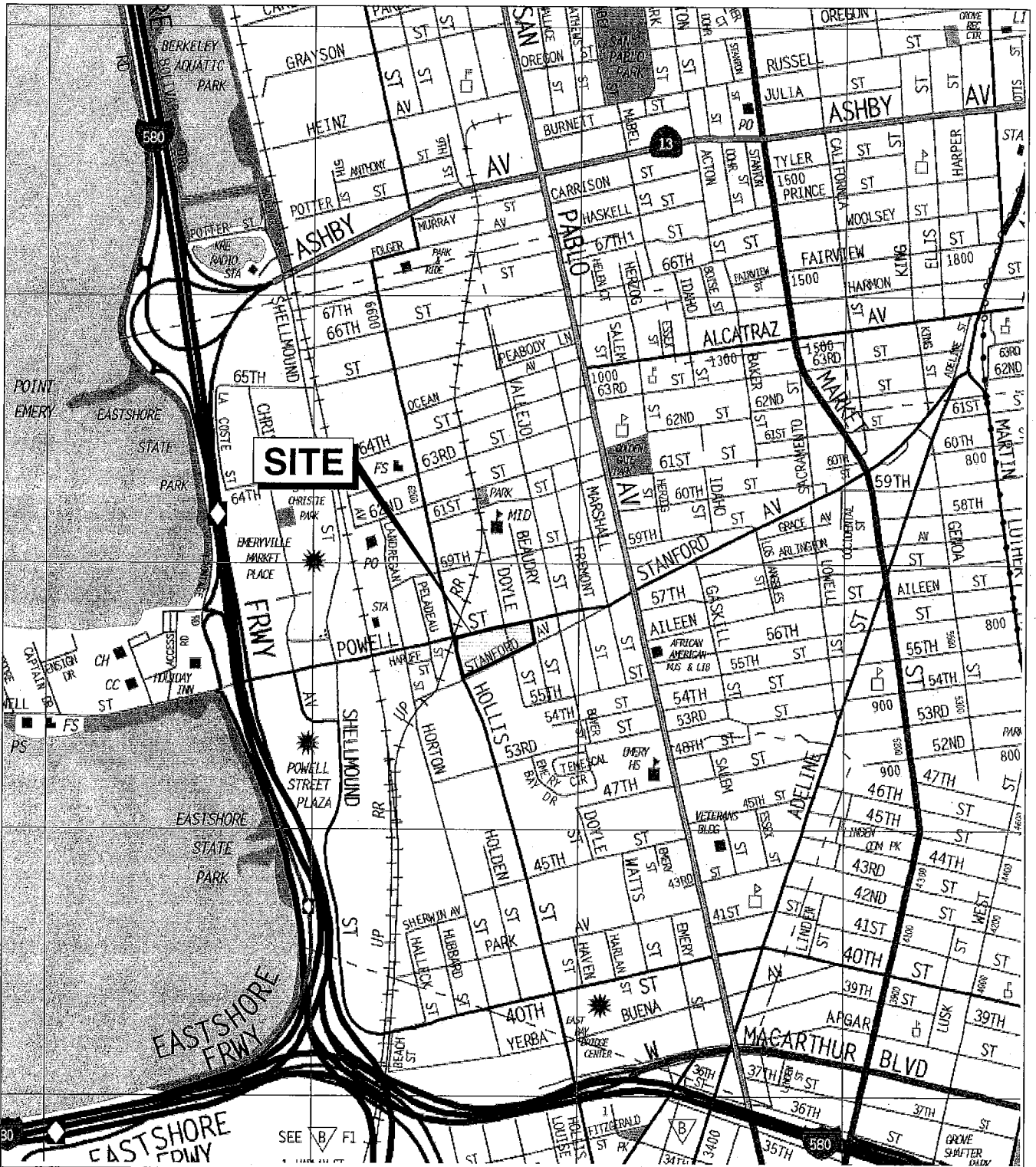
**Table 2**  
**Soil Analytical Results for Total Metals**  
**Papermill Parcels**  
**Emeryville, California**

Sample ID	Depth (feet)	Date Sampled	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	STLC Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Thallium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
B1	2.0-2.5	12/11/2006	0.67	3.8	180	0.64	< 0.25	36	9.7	15	5.3	--	< 0.05	0.58	29	< 0.5	< 0.5	< 0.5	38	31
B1	5.0-5.5	12/11/2006	--	--	--	--	--	--	--	--	9.6	--	--	--	--	--	--	--	--	--
B2	2.0-2.5	12/11/2006	--	--	--	--	--	--	--	--	7.1	--	--	--	--	--	--	--	--	--
B2	5.0-5.5	12/11/2006	--	--	--	--	--	--	--	--	7.9	--	--	--	--	--	--	--	--	--
SB10	0.5-1.0	12/11/2006	--	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	--
SB10	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	41	--	--	--	--	--	--	--	--	--
SB10	4.0-4.5	12/11/2006	--	--	--	--	< 1.5	83	--	--	17	--	--	--	44	--	--	--	--	65
SB11	0.5-1.0	12/11/2006	--	--	--	--	--	--	--	--	61	0.74	--	--	--	--	--	--	--	--
SB11	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	7.9	--	--	--	--	--	--	--	--	--
SB11	2.5-3.0	12/11/2006	--	--	--	--	< 1.5	54	--	--	14	--	--	--	61.0	--	--	--	--	59
SB-12	0.5-1.0	12/11/2006	0.69	4.0	140	< 0.5	< 0.25	58	15	65	8.9	--	0.054	< 0.5	72	< 0.5	< 0.5	< 0.5	150	71
SB-12	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	6.5	--	--	--	--	--	--	--	--	--
SB-13	0.5-1.0	12/11/2006	--	--	--	--	--	--	--	--	9.9	--	--	--	--	--	--	--	--	--
SB-13	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	14	--	--	--	--	--	--	--	--	--
SB-13	2.5-3.0	12/11/2006	--	--	--	--	--	--	--	--	7.6	--	--	--	--	--	--	--	--	--
SB-14	0.5-1.0	12/11/2006	--	--	--	--	--	--	--	--	11	--	--	--	--	--	--	--	--	--
SB-14	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	11	--	--	--	--	--	--	--	--	--
SB-14	2.5-3.0	12/11/2006	--	--	--	--	--	--	--	--	10	--	--	--	--	--	--	--	--	--
SB-15	0.5-1.0	12/11/2006	--	--	--	--	--	--	--	--	100	7	--	--	--	--	--	--	--	--
SB-15	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	29	--	--	--	--	--	--	--	--	--
SB-15	2.5-3.0	12/11/2006	--	--	--	--	--	--	--	--	8.1	--	--	--	--	--	--	--	--	--
SB-16	0.5-10	12/11/2006	2.1	5.9	180	< 0.5	0.33	40	8.6	29	53	4.8	0.084	0.64	37	< 0.5	< 0.5	< 0.5	43	95
SB-16	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	17	--	--	--	--	--	--	--	--	--
SB-16	2.5-3.0	12/11/2006	--	--	--	--	--	--	--	--	7.3	--	--	--	--	--	--	--	--	--
SB-17	0.5-10	12/11/2006	--	--	--	--	--	--	--	--	700	140	--	--	--	--	--	--	--	--
SB-17	1.5-2.0	12/11/2006	--	--	--	--	--	--	--	--	100	4.2	--	--	--	--	--	--	--	--
SB-17	2.5-3.0	12/11/2006	--	--	--	--	--	--	--	--	65	--	--	--	--	--	--	--	--	--

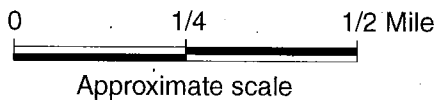
Notes:  
mg/kg - milligrams per kilograms  
STLC - California Soluble Threshold Limit Concentration  
mg/L - milligrams per liter  
< 5.0 - Analyte was not detected above the laboratory reporting limit (5.0 mg/kg).  
-- Not analyzed



## FIGURES



Base map: The Thomas Guide  
 San Francisco County  
 1999



**PAPERMILL PARCELS**  
 Emeryville, California

**SITE LOCATION MAP**

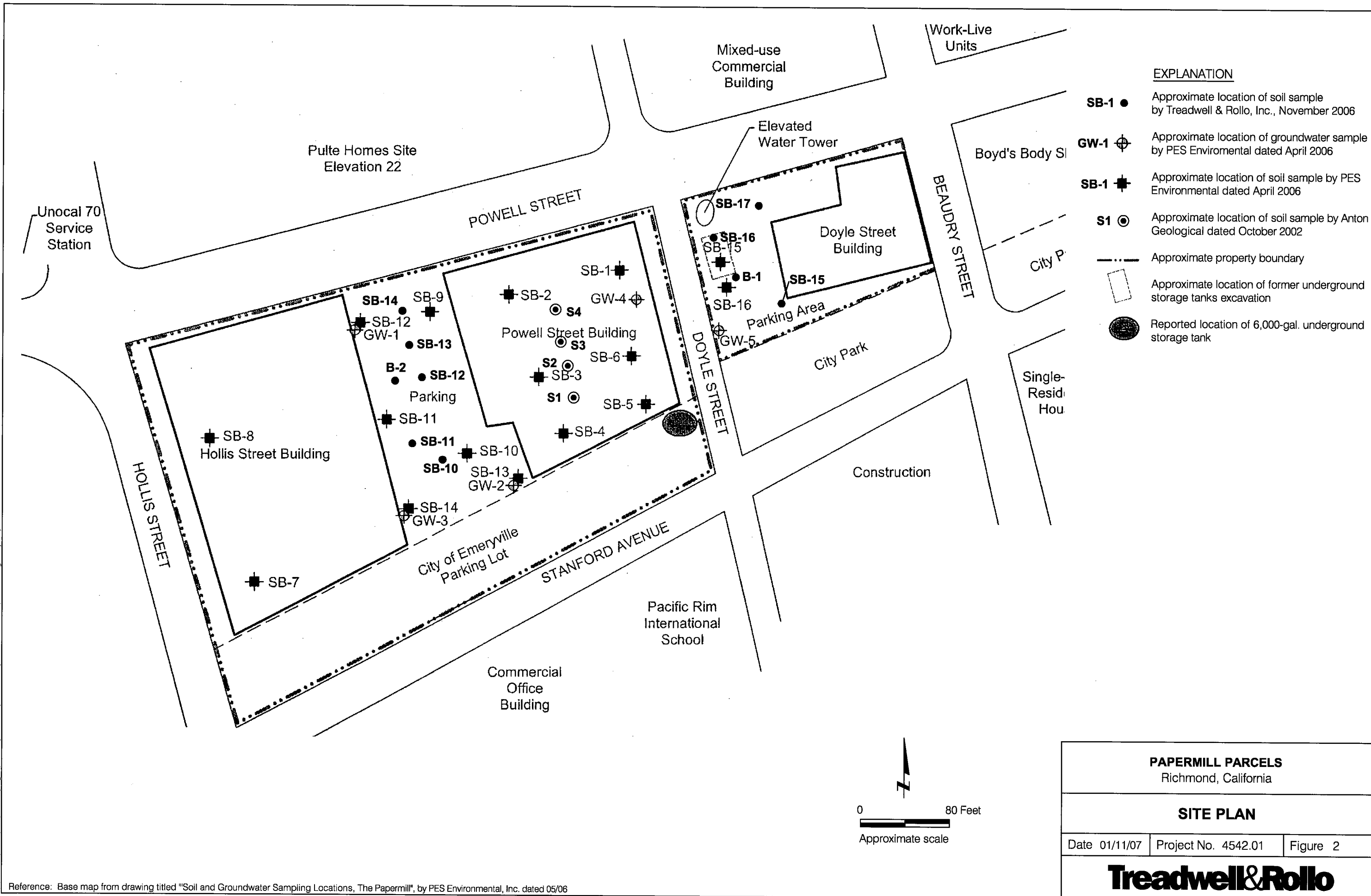
**Treadwell & Rollo**

Date 01/05/07

Project No. 4542.02

Figure 1

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Reference: Base map from drawing titled "Soil and Groundwater Sampling Locations, The Papermill", by PES Environmental, Inc. dated 05/06

**APPENDIX A**  
**Previous Analytical Results**

**Table 1**  
**Shallow Soil Sample Analytical Results**  
**Papermill Site**  
**Hollis/Powell Street**  
**Emeryville, California**

Sample Location	Sample ID	Sample Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Mercury (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	TPHg (mg/kg)*	PCBs (mg/kg)	PCE (µg/kg)
SB-1	SB-1-0.5	4/28/2006	4.8	270	<1.0	28	16	<2.0	<1.0	0.077	<2.5	<10	<0.100	<0.10	<5.0
	SB-1-1.0	4/28/2006	7.9	210	<1.0	25	90	<2.0	<1.0	0.21	<2.5	76	<0.110	<0.10	<5.4
SB-2	SB-2-0.5	4/28/2006	4.6	110	<1.0	29	33	<2.0	<1.0	0.061	<2.5	22	<0.110	<0.10	<5.3
	SB-2-1.0	4/28/2006	3.3	140	<1.0	25	14	<2.0	<1.0	0.087	<2.5	<10	<0.100	<0.10	<5.0
SB-3	SB-3-0.5	4/28/2006	3.7	110	<1.0	22	9.7	<2.0	<1.0	0.12	<2.5	<10	<0.100	<0.10	<5.2
	SB-3-1.0	4/28/2006	4.1	150	<1.0	23	12	<2.0	<1.0	0.10	<2.5	<10	<0.100	<0.10	<5.0
SB-4	SB-4-0.5	4/28/2006	3.2	140	<1.0	20	12	<2.0	<1.0	0.089	<2.5	<10	0.150	<0.10	<4.4
	SB-4-1.0	4/28/2006	6.3	140	<1.0	30	370	<2.0	<1.0	0.086	<2.5	21	<0.086	<0.10	<4.3
SB-5	SB-5-0.5	4/28/2006	4.3	220	<1.0	25	23	<2.0	<1.0	0.080	<2.5	<10	<0.100	<0.10	<5.2
	SB-5-1.0	4/28/2006	2.9	58	<1.0	32	7.4	<2.0	<1.0	0.22	<2.5	<10	<0.110	<0.10	<5.6
SB-6	SB-6-0.5	4/28/2006	3.8	140	<1.0	25	18	<2.0	<1.0	0.13	<2.5	<10	<0.088	<0.10	<4.4
	SB-6-1.0	4/28/2006	2.7	110	<1.0	21	6.1	<2.0	<1.0	<0.050	<2.5	<10	<0.087	<0.10	<4.4
SB-7	SB-7-1.5	4/28/2006	8.3	120	<1.0	44	4.6	<2.0	<1.0	0.056	<2.5	<10	<0.085	<0.10	<4.2
SB-8	SB-8-1.5	4/28/2006	5.5	120	<1.0	30	5.3	<2.0	<1.0	0.11	<2.5	<10	<0.089	<0.10	<4.5
SB-9	SB-9-1.5	4/28/2006	3.3	82	<1.0	46	4.6	<2.0	<1.0	0.073	<2.5	<10	<0.081	<0.10	<4.1
SB-10	SB-10-1.5	4/28/2006	4.9	180	<1.0	41	9.8	<2.0	<1.0	0.076	<2.5	19	<0.085	<0.10	<4.2
SB-11	SB-11-1.5	4/29/2006	6.3	330	<1.0	40	18	<2.0	<1.0	0.062	<2.5	<10	<0.095	<0.10	<4.8
SB-12	SB-12-1.5	4/29/2006	5.6	90	<1.0	110	12	<2.0	<1.0	0.30	<2.5	<10	<0.086	<0.10	NA
SB-13	SB-13-1.5	4/29/2006	5.6	130	<1.0	49	6.3	<2.0	<1.0	0.46	<2.5 <sup>(1)</sup>	<10	<0.087	<0.10	<4.3
SB-14	SB-14-1.5	4/29/2006	6.5	190	<1.0	38	17	<2.0	<1.0	0.10	<2.5	<10	<0.077	<0.10	<3.9
SB-15	SB-15-7	4/29/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2,300
	SB-15-11	4/29/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.1
	SB-16-7	4/29/2006	NA	NA	NA	NA	NA	NA	NA	NA	<2.5	<10	<0.081	NA	<4.1
SB-16	SB-16-7	4/29/2006	NA	NA	NA	NA	NA	NA	NA	NA	<2.5	<10	<0.079	NA	<3.9
	SB-16-11	4/29/2006	NA	NA	NA	NA	NA	NA	NA	NA	<2.5	<10	<0.083	NA	<4.2
Shallow Soil ESL's			5.5	750	1.7	58	150	10	20	3.7	100	500	100	0.22	87

**Notes:**

- TPHd - Total Petroleum Hydrocarbon as diesel
- TPHmo - Total Petroleum Hydrocarbon as motor oil
- TPHg - Total Petroleum Hydrocarbon as gasoline
- mg/kg - milligrams per kilogram
- µg/kg - micrograms per kilogram
- <1.0 - Analyte not detected at or above indicated laboratory reporting limit
- NA - Not Analyzed
- \* - Laboratory results reported in µg/kg and converted into mg/kg
- (1) - 3 mg/kg discrete peaks (C8-C18). No Diesel pattern present

**Table 2**  
**Groundwater Sample Analytical Results**  
**Papermill Site**  
**Hollis/Powell Street**  
**Emeryville, California**

Sample Location	Sample ID	Sample Date	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	Acetone (µg/L)	Chloroform (µg/L)	Toluene (µg/L)
GW-1	GW-1-42	4/29/2006	<52 <sup>(1)</sup>	<210	<25	<20	<0.50	0.68
GW-2	GW-2-42	4/29/2006	<52 <sup>(2)</sup>	<210	<25	<20	<0.50	<0.50
GW-3	GW-3-42	4/29/2006	<91 <sup>(3)</sup>	<360	<25	<20	<0.50	<0.50
GW-4	GW-4-42	4/29/2006	<62 <sup>(4)</sup>	<250	<25	<20	<0.50	0.68
GW-5	GW-5-42	4/29/2006	<62 <sup>(5)</sup>	<250	10	50	11	2.00
Shallow Groundwater ESL's			100	100	100	1500	70	40

**Notes:**

TPHd - Total Petroleum Hydrocarbon as diesel

TPHmo - Total Petroleum Hydrocarbon as motor oil

TPHg - Total Petroleum Hydrocarbon as gasoline

µg/L - micrograms per liter

<52 - Analyte not detected at or above indicated laboratory reporting limit

(1) - 90 ppb Hydrocarbon (C10-C30). No Diesel pattern present.

(2) - 70 ppb Hydrocarbon (C10-C30). No Diesel pattern present.

(3) - 170 ppb Hydrocarbon (C10-C30). No Diesel pattern present.

(4) - 110 ppb Hydrocarbon (C10-C30). No Diesel pattern present.

(5) - 230 ppb Hydrocarbon (C10-C30). No Diesel pattern present.

**APPENDIX B**  
**Exploratory Boring Logs**

PROJECT: **PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring B-1

Boring location: See Site Plan, Figure 2

Logged by: M. Colombo

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hollow Stem Auger

Hammer weight/drop: 140 lbs./30-inches

Hammer type: Automatic

Sampler: Sprague & Henwood (S&H), Standard Penetration Test (SPT)

## LABORATORY TEST DATA

DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	SPT N-Value <sup>1</sup>								
1					3-inches Asphalt Concrete						
2				CL	SANDY CLAY (CL) black, medium stiff, moist, fine sand LL = 26, PI = 8						
3	S&H		6								
4					CLAY (CH-CL) dark olive-brown, stiff, moist						
5											
6	S&H		13	CH		TxUU	720	2,543		29.0	94.1
7											
8											
9					CLAY with SAND (CL) light olive-brown, stiff, wet						
10											
11	S&H		8	CL	Consolidation Test, see Figure B-						
12											
13											
14					SANDY CLAY (CL) yellow-brown, mottled iron staining, stiff to very stiff, moist						
15											
16	S&H		15			TxUU	1,920	2,120		24.1	101.9
17											
18											
19											
20					light olive-brown, mottled iron staining, stiff, moist						
21	S&H		11								
22				CL							
23											
24											
25											
26	S&H		10								
27											
28											
29											
30											

FILL

TEST GEOTECH LOG 454201-B1-B2.GPJ TR.GDT 1/5/07

**Treadwell&Rollo**

Project No.: 4542.01

Figure: B-1a



PROJECT:

**PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring B-1

PAGE 2 OF 3

DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA					
	Sampler Type	Sample	SPT N-Value			Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
31	S&H		18	CL	very stiff				26.4	96.8	
32											
33				CL	CLAY with SAND (CL) yellow-brown, mottled iron staining, stiff, moist, fine sand						
34											
35											
36	S&H		11	CL	with fine to coarse sand, hard						
37											
38											
39											
40				CL	SANDY CLAY with GRAVEL (CL) yellow-brown, iron staining, very stiff, wet						
41	S&H		35/ 4"								
42				CL	SANDY CLAY (CL) yellow-brown, mottled iron staining, very stiff, moist						
43											
44											
45				CL	SANDY CLAY (CL) yellow-brown, mottled iron staining, very stiff, moist						
46	S&H		16								
47				CL	SANDY CLAY (CL) yellow-brown, mottled iron staining, very stiff, moist						
48											
49											
50											
51	S&H		20	CL	SANDY CLAY (CL) yellow-brown, mottled iron staining, very stiff, moist				22.0	104.4	
52											
53				CL	SANDY CLAY (CL) yellow-brown, mottled iron staining, very stiff, moist						
54											
55											
56	S&H		18	CL	SANDY CLAY (CL) yellow-brown, mottled iron staining, very stiff, moist						
57	SPT		24								
58				CL	SANDY CLAY (CL) yellow-brown, mottled iron staining, very stiff, moist						
59											
60											

TEST GEOTECH LOG 454201-B1-B2.GPJ TR.GDT 1/5/07

**Treadwell & Rollo**

Project No.: 4542.01

Figure: B-1b

PROJECT:

**PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring B-1

PAGE 3 OF 3

DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA								
	Sampler Type	Sample	SPT N-Value <sup>1</sup>			Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft			
61					SANDY CLAY with GRAVEL (CL) yellow-brown, iron staining, very stiff, wet  hard									
62														
63	S&H	[Sample]	23											
64														
65														
66														
67														
68	S&H	[Sample]	40	CL										
69														
70														
71														
72														
73	SPT	[Sample]	58											
74														
75														
76														
77														
78	SPT	[Sample]	102											
79														
80														
81														
82														
83														
84														
85														
86														
87														
88														
89														
90														

TEST GEOTECH LOG 454201-B1-B2.GPJ TR.GDT 1/5/07

Boring terminated at a depth of 78.5 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

<sup>1</sup> S&H and SPT blow counts converted to SPT N-Values using a correction factor of 0.7 and 1.2 respectively.

**Treadwell & Rollo**

Project No.: 4542.01

Figure:

B-1c

PROJECT: PAPERMILL PARCELS  
Emeryville, California

# Log of Boring B-2

Boring location: See Site Plan, Figure 2

Logged by: M. Colombo

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hollow Stem Auger

Hammer weight/drop: 140 lbs./30-inches

Hammer type: Automatic

## LABORATORY TEST DATA

Sampler: Sprague & Henwood (S&H), Standard Penetration Test (SPT)

DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	Sampler Type	Sample	SPT N-Value <sup>1</sup>								
1					4.5-inches Asphalt Concrete						
2				CL	CLAY with SAND (CL) olive-brown, stiff, moist						
3	S&H		11								
4					SANDY CLAY (CL) yellow-brown, iron staining, very stiff, moist, fine to coarse sand						
5											
6	S&H		16		Consolidation Test, see Figure B-						
7											
8				CL							
9											
10											
11	S&H		15								
12											
13											
14					CLAY (CH) yellow-brown, with iron staining, brown and black, stiff, moist						
15											
16	S&H		13	CH							
17											
18											
19											
20											
21	S&H		14		SANDY CLAY (CL) olive-gray to brown, stiff, moist						
22											
23											
24											
25											
26	S&H		13	CL	mottled light olive-brown	TxUU	2,314	1,555		24.2	101.6
27											
28											
29											
30											

FILL

TEST GEOTECH LOG 454201-B1-B2.GPJ TR.GDT 1/5/07

**Treadwell & Rollo**

Project No.: 4542.01 Figure: B-2a

PROJECT:

**PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring B-2

PAGE 2 OF 3

DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA						
	Sampler Type	Sample	SPT N-Value <sup>1</sup>			Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft	
31	S&H		14	CL	SANDY CLAY (CL) (continued)							
32												
33												
35				CL								
36	S&H		15							19.9	107.2	
37												
38				SC	CLAYEY SAND with GRAVEL (SC) yellow-brown, wet, fine to coarse sand, fine to medium subrounded gravel							
39												
40												
41	S&H		27	SC								
42	SPT		90							22.1	14.2	
43												
44				CL	CLAY (CL) olive-brown, very stiff, moist							
45												
46	SPT		26									
47				CL	SANDY CLAY with GRAVEL (CL) yellow-brown, iron staining, very stiff, wet							
48												
49												
50				CL								
51	S&H		23									
52												
53				CL								
54												
55												
56				CL								
57												
58												
59				CL								
60												

TEST GEOTECH LOG 454201-B1-B2.GPJ TR.GDT 1/5/07

**Treadwell&Rollo**

Project No.: 4542.01

Figure: B-2b

PROJECT:

**PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring B-2

PAGE 3 OF 3

DEPTH (feet)	SAMPLES			LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA						
	Sampler Type	Sample	SPT N-Value <sup>1</sup>			Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft	
61	S&H		25	CL	SANDY CLAY with GRAVEL (CL) (continued)							
62												
63												
64												
65												
66												
67												
68												
69												
70												
71	S&H		30		hard							
72												
73												
74												
75												
76												
77												
78												
79												
80												
81												
82												
83												
84												
85												
86												
87												
88												
89												
90												

TEST GEOTECH LOG 454201-B1-B2.GPJ TR.GDT 1/5/07

Boring terminated at a depth of 71.5 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

<sup>1</sup> S&H and SPT blow counts converted to SPT N-Values using a correction factor of 0.7 and 1.2 respectively.

**Treadwell & Rollo**

Project No.: 4542.01

Figure: B-2c

PROJECT: PAPERMILL PARCELS  
Emeryville, California

# Log of Boring SB-10

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Direct Push

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Continuous Core

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB10- (0.5- 1.0)	[Sample]				CL	CLAY with GRAVEL (CL) brown, stiff, moist, very plastic, roots, gravel up to 1-inch, no odor
2	(1.5- 2.0)	[Sample]					
3				24/ 48			
4	(4.0- 4.5)	[Sample]				CL	CLAY (CL) brown, stiff, moist, very plastic, no odor
5	(5.0- 5.5)	[Sample]					
6				48/ 48			
7							
8							
9							
10							

FILL

Boring terminated at 8 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

**Treadwell & Rollo**

Project No.: 4542.02

Figure:

B-3

TEST ENVIRONMENTAL\_454202.GPJ T&R.GDT 1/5/07

PROJECT: **PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring SB-11

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hand Auger

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Bag

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB11- (0.5-1.0)					CL	CLAY with GRAVEL (CL) brown, soft, moist, very plastic, gravel up to 1-inch, no odor
2	(1.5-2.0)						
3	(2.5-3.0)						
4	(3.5-4.0)						
4					CH	CLAY (CH) gray, soft, wet, very plastic, no odor	
5							
6							
7							
8							
9							
10							

FILL

TEST ENVIRONMENTAL 454202.GPJ T&R.GDT 1/5/07

Boring terminated at 4 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

**Treadwell&Rollo**

Project No.: 4542.02

Figure: B-4

PROJECT:

**PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring SB-12

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hand Auger

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Bag

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB12- (0.5-1.0)					SC	CLAYEY SAND with GRAVEL (SC) gray, medium dense, dry, plastic, bricks and fill, gravel up to 2-inches, no odor  ↑ FILL ↓
2	(1.5-2.0)						
3							
4							
5							
6							
7							
8							
9							
10							

Boring terminated at 2 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

**Treadwell & Rollo**

Project No.: 4542.02

Figure:

B-5



PROJECT: PAPERMILL PARCELS  
Emeryville, California

# Log of Boring SB-13

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hand Auger

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Bag

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB13- (0.5-1.0)					SC	CLAYEY SAND with GRAVEL (SC) brown, medium dense, dry, plastic, no odor
2	(1.5-2.0)					CL	
3	(2.5-3.0)					SC	CLAY with GRAVEL (CL) dark brown, dense, moist, plastic, no odor
4	(3.5-4.0)					SC	CLAYEY SAND with GRAVEL (SC) brown, medium dense, moist, plastic, no odor
5							CLAYEY SAND (SC) brown, medium dense, moist, semi-plastic, no odor
6							
7							
8							
9							
10							

FILL

TEST ENVIRONMENTAL 454202.GPJ T&R.GDT 1/5/07

Boring terminated at 4 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

<b>Treadwell&amp;Rollo</b>	
Project No.: 4542.02	Figure: B-6

PROJECT: PAPERMILL PARCELS  
Emeryville, California

# Log of Boring SB-14

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hand Auger

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Bag

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB14- (0.5-1.0)					SC	CLAYEY SAND with GRAVEL (SC) gray, loose, dry, semi-plastic, gravel to 1-inch, no odor
2	(1.5-2.0)					SC	CLAYEY GRAVELLY SAND (SC) brown, loose, moist, semi-plastic, bricks up to 2-inches, no odor
3	(2.5-3.0)					CL	SANDY CLAY with GRAVEL (CL) black, medium stiff, moist, plastic, gravel up to 1-inch, no odor
4	(3.5-4.0)					CL	CLAY (CL) brown, stiff, moist, very plastic, no odor
5						CL	SANDY CLAY (CL) brown, medium stiff, moist, very plastic, no odor
6						CL	CLAY (CL) gray, stiff, moist, very plastic, no odor
7							
8							
9							
10							

FILL

TEST ENVIRONMENTAL 454202.GPJ T&R.GDT 1/5/07

Boring terminated at 4 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

**Treadwell&Rollo**

Project No.: 4542.02

Figure:

B-7

PROJECT:

**PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring SB-15

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hand Auger

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Bag

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB15- (0.5- 1.0)					SC	CLAYEY SAND with GRAVEL (SC) red-brown, loose, moist, non plastic, no odor, fill with brick to 1-inch
						GC	CLAYEY GRAVEL with SAND (GC) black, loose, moist, semi-plastic, no odor, gravel to 2-inches
2	(1.5- 2.0)					SC	CLAYEY SAND (SC) brown, medium dense, moist, semi-plastic, no odor
						CL	SANDY CLAY (CL) brown, medium stiff, moist, plastic, no odor
3	(2.5- 3.0)					CL	SANDY CLAY (CL) dark brown, medium stiff, moist, plastic, no odor
							color change to light brown
4	(3.5- 4.0)						
5							
6							
7							
8							
9							
10							

FILL

Boring terminated at 4 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

TEST ENVIRONMENTAL 454202.GPJ T&R.GDT 1/5/07

<b>Treadwell&amp;Rollo</b>	
Project No.: 4542.02	Figure: B-8

PROJECT: **PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring SB-16

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hand Auger

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Bag

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB16- (0.5- 1.0)					CL	CLAY (CL) black with olive mottling, medium stiff, moist, plastic, no odor
2	(1.5- 2.0)						
3	(2.5- 3.0)					CL	CLAY (CL) gray, stiff, moist, very plastic, no odor
4	(3.5- 4.0)						
5							
6							
7							
8							
9							
10							

TEST ENVIRONMENTAL 454202.GPJ T&R.GDT 1/5/07

Boring terminated at 4 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

**Treadwell&Rollo**

Project No.: 4542.02

Figure:

B-9

PROJECT: **PAPERMILL PARCELS**  
Emeryville, California

# Log of Boring SB-17

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: M. Chedorain  
Drilled By: Gregg

Date started: 12/11/06

Date finished: 12/11/06

Drilling method: Hand Auger

Hammer weight/drop: up to 500 psi

Hammer type: Pneumatic

Sampler: Bag

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)			
1	SB17- (0.5- 1.0)					GC	CLAYEY GRAVEL with SAND (GC) red-brown, loose, moist, semi-plastic, no odor, gravel up to 1.5-inches
2	(1.5- 2.0)					CL	SANDY CLAY with GRAVEL (CL) gray, soft, moist, plastic, no odor
3	(2.5- 3.0)						
4	(3.5- 4.0)						
5							
6							
7							
8							
9							
10							

FILL

TEST ENVIRONMENTAL 454202.GPJ T&R.GDT 1/5/07

Boring terminated at 4 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater not encountered during drilling.

**Treadwell & Rollo**

Project No.: 4542.02

Figure: B-10

## UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		Symbols	Typical Names
Coarse-Grained Soils (more than half of soil > no. 200 sieve size)	<b>Gravels</b> (More than half of coarse fraction > no. 4 sieve size)	<b>GW</b>	Well-graded gravels or gravel-sand mixtures, little or no fines
		<b>GP</b>	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		<b>GM</b>	Silty gravels, gravel-sand-silt mixtures
		<b>GC</b>	Clayey gravels, gravel-sand-clay mixtures
	<b>Sands</b> (More than half of coarse fraction < no. 4 sieve size)	<b>SW</b>	Well-graded sands or gravelly sands, little or no fines
		<b>SP</b>	Poorly-graded sands or gravelly sands, little or no fines
		<b>SM</b>	Silty sands, sand-silt mixtures
		<b>SC</b>	Clayey sands, sand-clay mixtures
Fine-Grained Soils (more than half of soil < no. 200 sieve size)	<b>Silts and Clays</b> LL = < 50	<b>ML</b>	Inorganic silts and clayey silts of low plasticity, sandy silts, gravelly silts
		<b>CL</b>	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		<b>OL</b>	Organic silts and organic silt-clays of low plasticity
	<b>Silts and Clays</b> LL = > 50	<b>MH</b>	Inorganic silts of high plasticity
		<b>CH</b>	Inorganic clays of high plasticity, fat clays
		<b>OH</b>	Organic silts and clays of high plasticity
<b>Highly Organic Soils</b>		<b>PT</b>	Peat and other highly organic soils

### SAMPLE DESIGNATIONS/SYMBOLS

GRAIN SIZE CHART		
Classification	Range of Grain Sizes	
	U.S. Standard Sieve Size	Grain Size in Millimeters
Boulders	Above 12"	Above 305
Cobbles	12" to 3"	305 to 76.2
Gravel coarse fine	3" to No. 4	76.2 to 4.76
	3" to 3/4"	76.2 to 19.1
	3/4" to No. 4	19.1 to 4.76
Sand coarse medium fine	No. 4 to No. 200	4.76 to 0.074
	No. 4 to No. 10	4.76 to 2.00
	No. 10 to No. 40	2.00 to 0.420
	No. 40 to No. 200	0.420 to 0.074
Silt and Clay	Below No. 200	Below 0.074

- Sample taken with Sprague & Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter. Darkened area indicates soil recovered
- Classification sample taken with Standard Penetration Test sampler
- Undisturbed sample taken with thin-walled tube
- Disturbed sample
- Sampling attempted with no recovery
- Core sample
- Analytical laboratory sample
- Sample taken with Direct Push sampler

- Unstabilized groundwater level
- Stabilized groundwater level

### SAMPLER TYPE

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li><b>C</b> Core barrel</li> <li><b>CA</b> California split-barrel sampler with 2.5-inch outside diameter and a 1.93-inch inside diameter</li> <li><b>D&amp;M</b> Dames &amp; Moore piston sampler using 2.5-inch outside diameter, thin-walled tube</li> <li><b>O</b> Osterberg piston sampler using 3.0-inch outside diameter, thin-walled Shelby tube</li> </ul> | <ul style="list-style-type: none"> <li><b>PT</b> Pitcher tube sampler using 3.0-inch outside diameter, thin-walled Shelby tube</li> <li><b>S&amp;H</b> Sprague &amp; Henwood split-barrel sampler with a 3.0-inch outside diameter and a 2.43-inch inside diameter</li> <li><b>SPT</b> Standard Penetration Test (SPT) split-barrel sampler with a 2.0-inch outside diameter and a 1.5-inch inside diameter</li> <li><b>ST</b> Shelby Tube (3.0-inch outside diameter, thin-walled tube) advanced with hydraulic pressure</li> </ul> |
|---|--|

**PAPERMILL PARCELS**  
Emeryville, California

### CLASSIFICATION CHART

# Treadwell & Rollo

Date 01/05/07	Project No. 4542.02	Figure B-9
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**APPENDIX C**  
**Certified Analytical Results and**  
**Chain-of-Custody Records**

**APPENDIX C**  
**Certified Analytical Results and**  
**Chain-of-Custody Records**



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Reported: 12/21/06
	Client P.O.:	Date Completed: 12/21/06

**WorkOrder: 0612245**

December 21, 2006

Dear Peter:

Enclosed are:

- 1). the results of **18** analyzed samples from your **#4542.01; Papermill project**,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

0612245

**Treadwell & Rollo**  
Environmental and Geotechnical Consultant

**CHAIN OF CUSTODY RECORD**

- 555 Montgomery Street, Suite 1300, San Francisco, CA 94111 Ph: 415.955.9040/Fax: 415.955.9041
- 501 14th Street, Third Floor, Oakland CA 94612 Ph: 510.874.4500/Fax: 510.874.4507
- 777 Campus Commons Rd., Suite 200, Sacramento, CA 95825 Ph: 916.565.7412/Fax: 916.565.7412

Site Name: Papermill  
 Job Number: 4542-01  
 Project Manager/Contact: P. CUSAK  
 Samplers: M. D. CHENDORAIN  
 Recorder (Signature Required) [Signature]

Turnaround Time <u>STD</u>
----------------------------------

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix			No. Containers & Preservative					Analysis Requested							Silica gel clean-up	Hold	Remarks										
				Soil	Water	Other	HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	Ice	Other	TRPH	TPH <sub>9</sub> , TPH <sub>d</sub>	VOCs	SVOCs	PCBC	CAM17	HF15				Total Lead									
B1-(2.0-2.5)	11DEC06	830		X																											
B1-(5.0-5.5)		835		X																											
B1-(10.0-10.5)		840		X																											
B2-(2.0-2.5)	<del>11</del>	1430		X																											
B2-(5.0-5.5)		1435		X																											
B2-(10.0-10.5)		1440		X																											
SB10-(0.5-1.0)		915		X																											
SB10-(1.5-2.0)		920		X																											
SB10-(4.0-4.5)		925		X																											
SB10-(6.0-6.5)		930		X																											
SB11-(0.5-1.0)		945		X																											
SB11-(1.5-2.0)		950		X																											
SB11-(2.5-3.0)		955		X																											
SB11-(3.5-4.0)		1000		X																											

154  
Remarks

HOLD SAMPLES  
PENDING ANALYTICAL  
RESULTS

LAB TO FILTER FOR  
METALS

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>12 DEC 06</u>	Time <u>1200</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>12/12/06</u>	Time <u>200</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>12/12/06</u>	Time <u>500</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>12/12/06</u>	Time <u>1700</u>
Relinquished by: (Signature)	Date	Time	Received by Lab: (Signature)	Date	Time

Sent to Laboratory (Name):  
 Laboratory Comments/Notes: McCannell

Method of Shipment  
 Lab courier  Fed Ex  Airborne  UPS  
 Hand Carried  Private Courier (Co. Name)

**CHAIN OF CUSTODY RECORD**

555 Montgomery Street, Suite 1300, San Francisco, CA 94111 Ph: 415.955.9040/Fax: 415.955.9041  
 501 14th Street, Third Floor, Oakland CA 94612 Ph: 510.874.4500/Fax: 510.874.4507  
 777 Campus Commons Rd., Suite 200, Sacramento, CA 95825 Ph: 916.565.7412/Fax: 916.565.7412

Site Name: papermill  
 Job Number: 4542-01  
 Project Manager/Contact: P. CUSAK  
 Samplers: M.D. CHENDORAIN  
 Recorder (Signature Required): [Signature]

Turnaround Time  
STD

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix			No. Containers & Preservative						Analysis Requested										Silica gel clean-up	Hold	Remarks			
				Soil	Water	Other	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	Ice	Other	TRPH	TRPH-1	TRPH-2	YDGS	SPOCS	PCBS	CAMIT	LUFTS	Total Lead								
SB-12 (0.5-1.0)	11 DEC 06	1020		X											X	X	X	X	X	X	X	X	X	X	X			
SB-12 (1.5-2.0)		1025		X											X	X	X	X	X	X	X	X	X	X	X			
SB-13 (0.5-1.0)		1050		X											X	X	X	X	X	X	X	X	X	X	X			
SB-13 (1.5-2.0)		1055		X											X	X	X	X	X	X	X	X	X	X	X			
SB-13 (2.5-3.0)		1100		X											X	X	X	X	X	X	X	X	X	X	X			
SB-13 (3.5-4.0)		1105		X											X	X	X	X	X	X	X	X	X	X	X			
SB-14 (0.5-1.0)		1128		X											X	X	X	X	X	X	X	X	X	X	X			
SB-14 (1.5-2.0)		1130		X											X	X	X	X	X	X	X	X	X	X	X			
SB-14 (2.5-3.0)		1135		X											X	X	X	X	X	X	X	X	X	X	X			
SB-14 (3.5-4.0)		1140		X											X	X	X	X	X	X	X	X	X	X	X			
SB-15 (0.5-1.0)		1215		X											X	X	X	X	X	X	X	X	X	X	X			
SB-15 (1.5-2.0)		1235		X											X	X	X	X	X	X	X	X	X	X	X			
SB-15 (2.5-3.0)		1230		X											X	X	X	X	X	X	X	X	X	X	X			
SB-15 (3.5-4.0)		1235		X											X	X	X	X	X	X	X	X	X	X	X			

← Analyze  
 ← Analyze  
 HOLD SAMPLES  
 PENDING ANALYTICAL  
 RESULTS

LAB TO FILTER FOR  
 METALS

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>12 DEC 06</u>	Time <u>1200</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>12/12/06</u>	Time <u>200</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>12/12/06</u>	Time <u>500</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>12/12/06</u>	Time <u>1700</u>
Relinquished by: (Signature)	Date	Time	Received by Lab: (Signature)	Date	Time

Sent to Laboratory (Name):  
 Laboratory Comments/Notes: McC Campbell

Method of Shipment  Lab courier  Fed Ex  Airborne  UPS  
 Hand Carried  Private Courier (Co. Name)

## CHAIN OF CUSTODY RECORD

555 Montgomery Street, Suite 1300, San Francisco, CA 94111 Ph: 415.955.9040/Fax: 415.955.9041  
 501 14th Street, Third Floor, Oakland CA 94612 Ph: 510.874.4500/Fax: 510.874.4507  
 777 Campus Commons Rd., Suite 200, Sacramento, CA 95825 Ph: 916.565.7412/Fax: 916.565.7412

Site Name: Paper Mill  
 Job Number: 4542-01  
 Project Manager/Contact: P. CHURAK  
 Samplers: M. CHENDORAIN  
 Recorder (Signature Required): [Signature]

Turnaround Time  
STD

Field Sample Identification No.	Date	Time	Lab Sample No.	Matrix		No. Containers & Preservative										Silica gel clean-up	Hold	Remarks											
				Soil	Water	HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	Ice	Other	TRPH	TRPH, PH-D	VOCs	SVOCs	PCBs				CAMU7	LUFT5	TOTAL LEAD	BTEX							
SB16 (0.5-1.0)	11 DEC 06	1336		X											X	X	X												
SB16 (1.5-2.0)		1335		X											X	X	X												
SB16 (2.5-3.0)		340		X											X	X	X												
SB16 (3.5-4.0)		345		X											X	X	X												
SB17 (0.5-1.0)		1400		X											X	X	X												
SB17 (1.5-2.0)		1405		X											X	X	X												
SB17 (2.5-3.0)		1410		X											X	X	X												
SB17 (3.5-4.0)		1415		X											X	X	X												
<del>B1 CT</del>		<del>1200</del>		<del>X</del>											<del>X</del>	<del>X</del>	<del>X</del>												
<del>B2 CT</del>		<del>1415</del>		<del>X</del>											<del>X</del>	<del>X</del>	<del>X</del>												

HOLD SAMPLES  
 PENDING ANALYTICAL RESULTS

LAB TO FILTER FOR METALS

Relinquished by: (Signature) [Signature]	Date 12 DEC 06	Time 1200	Received by: (Signature) [Signature]	Date 12/12/06	Time 200
Relinquished by: (Signature) [Signature]	Date 12/12/06	Time 500	Received by: (Signature) [Signature]	Date 12/12/06	Time 1700
Relinquished by: (Signature)	Date	Time	Received by Lab: (Signature)	Date	Time

Sent to Laboratory (Name): McCampbell

Laboratory Comments/Notes: McCampbell

Method of Shipment:  Lab courier  Fed Ex  Airborne  UPS  
 Hand Carried  Private Courier (Co. Name)

**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0612245

ClientID: TWRF

EDF

Fax

Email

HardCop

ThirdPart

Report to:

Peter Cusack  
Treadwell & Rollo  
555 Montgomery St., Suite 1300  
San Francisco, CA 94111

Email: pjcusack@treadwellrollo.com  
TEL: (415) 955-904 FAX: (415) 955-904  
ProjectNo: #4542.01; Papermill  
PO:

Bill to:

Accounts Payable  
Treadwell & Rollo  
555 Montgomery St., Suite 1300  
San Francisco, CA 94111

Requested TAT: 5 days

Date Received 12/12/2006

Date Printed: 12/13/2006

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0612245-001	B1-(2.0-2.5)	Soil	12/11/2006	<input type="checkbox"/>	A	A	A	A	A	A							
0612245-004	B2 (2.0-2.5)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-007	SB10 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-008	SB10 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-011	SB11 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-012	SB11 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-015	SB-12 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>	A	A	A	A	A	A							
0612245-016	SB-12 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-017	SB-13 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-018	SB-13 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-021	SB-14 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-022	SB-14 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-025	SB-15 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-026	SB-15 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A							A					
0612245-029	SB16 (0.5-10)	Soil	12/11/2006	<input type="checkbox"/>	A	A	A	A	A	A							

Test Legend:

1	418 SG S	2	8082A PCB S	3	8260B S	4	8270D S	5	CAM17MS S
6	G-MBTEX S	7	PB S	8		9		10	
11		12							

The following SampIDs: 0612245-001A, 0612245-015A, 0612245-029A contain testgroup. Please make sure all relevant testcodes are reported. Many thanks.

Prepared by: Rosa Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0612245

ClientID: TWRF

EDF

Fax

Email

HardCop

ThirdPart

Report to:

Peter Cusack  
Treadwell & Rollo  
555 Montgomery St., Suite 1300  
San Francisco, CA 94111

Email: pjcusack@treadwellrollo.com  
TEL: (415) 955-904 FAX: (415) 955-904  
ProjectNo: #4542.01; Papermill  
PO:

Bill to

Accounts Payable  
Treadwell & Rollo  
555 Montgomery St., Suite 1300  
San Francisco, CA 94111

Requested TAT: 5 days

*Date Received 12/12/2006*

*Date Printed: 12/13/2006*

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0612245-030	SB16 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A								A				
0612245-033	SB17 (0.5-10)	Soil	12/11/2006	<input type="checkbox"/>	A								A				
0612245-034	SB17 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>	A								A				

Test Legend:

1	418_SG_S	2	8082A_PCB_S	3	8260B_S	4	8270D_S	5	CAM17MS_S
6	G-MBTEX_S	7	PB_S	8		9		10	
11		12							

The following SampIDs: 0612245-001A, 0612245-015A, 0612245-029A contain testgroup. Please make sure all relevant testcodes are reported. Many thanks.

Prepared by: Rosa Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/14/06

### Total Recoverable Petroleum Hydrocarbons with Silica Gel Clean-Up by IR Spectrometry\*

Analytical methods E418.1

Work Order: 061224

Lab ID	Client ID	Matrix	TRPH	DF	% SS
0612245-001A	B1-(2.0-2.5)	S	56	1	91
0612245-004A	B2 (2.0-2.5)	S	ND	1	90
0612245-007A	SB10 (0.5-1.0)	S	ND	1	93
0612245-008A	SB10 (1.5-2.0)	S	140	1	87
0612245-011A	SB11 (0.5-1.0)	S	27	1	81
0612245-012A	SB11 (1.5-2.0)	S	ND	1	92
0612245-015A	SB-12 (0.5-1.0)	S	30	1	89
0612245-016A	SB-12 (1.5-2.0)	S	ND	1	90
0612245-017A	SB-13 (0.5-1.0)	S	44	1	87
0612245-018A	SB-13 (1.5-2.0)	S	82	1	88
0612245-021A	SB-14 (0.5-1.0)	S	ND	1	92
0612245-022A	SB-14 (1.5-2.0)	S	ND	1	89
0612245-025A	SB-15 (0.5-1.0)	S	80	1	84
0612245-026A	SB-15 (1.5-2.0)	S	140	1	86
0612245-029A	SB16 (0.5-1.0)	S	31	1	91
0612245-030A	SB16 (1.5-2.0)	S	ND	1	85

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	10	mg/Kg

\* water samples and all TCLP & SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in mg/wipe, product/oil/non-aqueous liquid samples in mg/L.

DF = dilution factor (may be raised to dilute target analyte or matrix interference).

# surrogate diluted out of range or not applicable to this sample.

g) sample extract repeatedly cleaned up with silica gel until constant IR result achieved; h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) results are reported on a dry weight basis.



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"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/14/06

### Total Recoverable Petroleum Hydrocarbons with Silica Gel Clean-Up by IR Spectrometry\*

Analytical methods E418.1

Work Order: 061224

Lab ID	Client ID	Matrix	TRPH	DF	% SS
0612245-033A	SB17 (0.5-10)	S	180	1	82
0612245-034A	SB17 (1.5-2.0)	S	120	1	93

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	10	mg/Kg

\* water samples and all TCLP & SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in mg/wipe, product/oil/non-aqueous liquid samples in mg/L.

DF = dilution factor (may be raised to dilute target analyte or matrix interference).

# surrogate diluted out of range or not applicable to this sample.

g) sample extract repeatedly cleaned up with silica gel until constant IR result achieved; h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) results are reported on a dry weight basis.





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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed: 12/14/06

### Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD\*

Extraction Method: SW3550C

Analytical Method: SW8082A

Work Order: 0612245

Lab ID	0612245-001A	0612245-015A	0612245-029A		Reporting Limit for DF =1	
Client ID	B1-(2.0-2.5)	SB-12 (0.5-1.0)	SB16 (0.5-10)			
Matrix	S	S	S			
DF	1	1	1			

Compound	Concentration			mg/kg	ug/L
	Aroclor1016	ND	ND	ND	0.025
Aroclor1221	ND	ND	ND	0.025	NA
Aroclor1232	ND	ND	ND	0.025	NA
Aroclor1242	ND	ND	ND	0.025	NA
Aroclor1248	ND	ND	ND	0.025	NA
Aroclor1254	ND	ND	ND	0.025	NA
Aroclor1260	ND	0.033	ND	0.025	NA
PCBs, total	ND	0.033	ND	0.025	NA

### Surrogate Recoveries (%)

%SS:	114	114	114	
Comments			o	

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

(h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (p) see attached narrative; (q) reporting limit raised due to insufficient sample amount; (r) results are reported on a dry weight basis;



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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/14/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0612245

Lab ID	0612245-001A						
Client ID	B1-(2.0-2.5)						
Matrix	Soil						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

#### Surrogate Recoveries (%)

%SS1:	92	%SS2:	96
%SS3:	85		

#### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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Treadwell & Rollo  
555 Montgomery St., Suite 1300  
San Francisco, CA 94111

Client Project ID: #4542.01; Papermill  
Client Contact: Peter Cusack  
Client P.O.:

Date Sampled: 12/11/06  
Date Received: 12/12/06  
Date Extracted: 12/12/06  
Date Analyzed: 12/14/06

### Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0612245

Lab ID	0612245-015A
Client ID	SB-12 (0.5-1.0)
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Naphthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

#### Surrogate Recoveries (%)

%SS1:	77	%SS2:	102
%SS3:	91		

#### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/14/06

## Volatile Organics by P&T and GC/MS (Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0612245

Lab ID	0612245-029A						
Client ID	SB16 (0.5-10)						
Matrix	Soil						
Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	0.12	1.0	0.05	Acrolein (Propenal)	ND	1.0	0.05
Acrylonitrile	ND	1.0	0.02	tert-Amyl methyl ether (TAME)	ND	1.0	0.005
Benzene	ND	1.0	0.005	Bromobenzene	ND	1.0	0.005
Bromochloromethane	ND	1.0	0.005	Bromodichloromethane	ND	1.0	0.005
Bromoform	ND	1.0	0.005	Bromomethane	ND	1.0	0.005
2-Butanone (MEK)	ND	1.0	0.02	t-Butyl alcohol (TBA)	ND	1.0	0.05
n-Butyl benzene	ND	1.0	0.005	sec-Butyl benzene	ND	1.0	0.005
tert-Butyl benzene	ND	1.0	0.005	Carbon Disulfide	ND	1.0	0.005
Carbon Tetrachloride	ND	1.0	0.005	Chlorobenzene	ND	1.0	0.005
Chloroethane	ND	1.0	0.005	2-Chloroethyl Vinyl Ether	ND	1.0	0.01
Chloroform	ND	1.0	0.005	Chloromethane	ND	1.0	0.005
2-Chlorotoluene	ND	1.0	0.005	4-Chlorotoluene	ND	1.0	0.005
Dibromochloromethane	ND	1.0	0.005	1,2-Dibromo-3-chloropropane	ND	1.0	0.005
1,2-Dibromoethane (EDB)	ND	1.0	0.005	Dibromomethane	ND	1.0	0.005
1,2-Dichlorobenzene	ND	1.0	0.005	1,3-Dichlorobenzene	ND	1.0	0.005
1,4-Dichlorobenzene	ND	1.0	0.005	Dichlorodifluoromethane	ND	1.0	0.005
1,1-Dichloroethane	ND	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.005
1,1-Dichloroethene	ND	1.0	0.005	cis-1,2-Dichloroethene	ND	1.0	0.005
trans-1,2-Dichloroethene	ND	1.0	0.005	1,2-Dichloropropane	ND	1.0	0.005
1,3-Dichloropropane	ND	1.0	0.005	2,2-Dichloropropane	ND	1.0	0.005
1,1-Dichloropropene	ND	1.0	0.005	cis-1,3-Dichloropropene	ND	1.0	0.005
trans-1,3-Dichloropropene	ND	1.0	0.005	Diisopropyl ether (DIPE)	ND	1.0	0.005
Ethylbenzene	ND	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND	1.0	0.005
Freon 113	ND	1.0	0.1	Hexachlorobutadiene	ND	1.0	0.005
Hexachloroethane	ND	1.0	0.005	2-Hexanone	ND	1.0	0.005
Isopropylbenzene	ND	1.0	0.005	4-Isopropyl toluene	ND	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND	1.0	0.005	Methylene chloride	ND	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND	1.0	0.005	Napthalene	ND	1.0	0.005
Nitrobenzene	ND	1.0	0.1	n-Propyl benzene	ND	1.0	0.005
Styrene	ND	1.0	0.005	1,1,1,2-Tetrachloroethane	ND	1.0	0.005
1,1,2,2-Tetrachloroethane	ND	1.0	0.005	Tetrachloroethene	ND	1.0	0.005
Toluene	ND	1.0	0.005	1,2,3-Trichlorobenzene	ND	1.0	0.005
1,2,4-Trichlorobenzene	ND	1.0	0.005	1,1,1-Trichloroethane	ND	1.0	0.005
1,1,2-Trichloroethane	ND	1.0	0.005	Trichloroethene	ND	1.0	0.005
Trichlorofluoromethane	ND	1.0	0.005	1,2,3-Trichloropropane	ND	1.0	0.005
1,2,4-Trimethylbenzene	ND	1.0	0.005	1,3,5-Trimethylbenzene	ND	1.0	0.005
Vinyl Chloride	ND	1.0	0.005	Xylenes	ND	1.0	0.005

### Surrogate Recoveries (%)

%SS1:	91	%SS2:	101
%SS3:	92		

### Comments:

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/19/06

### Semi-Volatile Organics by GC/MS (Basic Target List)\*

Extraction Method: SW3550C

Analytical Method: SW8270C

Work Order: 0612245

Lab ID	0612245-001A
Client ID	B1-(2.0-2.5)
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acenaphthene	ND	1.0	0.33	Acenaphthylene	ND	1.0	0.33
Acetochlor	ND	1.0	0.33	Anthracene	ND	1.0	0.33
Benzidine	ND	1.0	1.6	Benzoic Acid	ND	1.0	1.6
Benzo(a)anthracene	ND	1.0	0.33	Benzo(b)fluoranthene	ND	1.0	0.33
Benzo(k)fluoranthene	ND	1.0	0.33	Benzo(g,h,i)perylene	ND	1.0	0.33
Benzo(a)pyrene	ND	1.0	0.33	Benzyl Alcohol	ND	1.0	0.66
1,1-Biphenyl	ND	1.0	0.33	Bis (2-chloroethoxy) Methane	ND	1.0	0.33
Bis (2-chloroethyl) Ether	ND	1.0	0.33	Bis (2-chloroisopropyl) Ether	ND	1.0	0.33
Bis (2-ethylhexyl) Phthalate	ND	1.0	0.33	4-Bromophenyl Phenyl Ether	ND	1.0	0.33
Butylbenzyl Phthalate	ND	1.0	0.33	4-Chloroaniline	ND	1.0	0.66
4-Chloro-3-methylphenol	ND	1.0	0.33	2-Chloronaphthalene	ND	1.0	0.33
2-Chlorophenol	ND	1.0	0.33	4-Chlorophenyl Phenyl Ether	ND	1.0	0.33
Chrysene	ND	1.0	0.33	Dibenzo(a,h)anthracene	ND	1.0	0.33
Dibenzofuran	ND	1.0	0.33	Di-n-butyl Phthalate	ND	1.0	0.33
1,2-Dichlorobenzene	ND	1.0	0.33	1,3-Dichlorobenzene	ND	1.0	0.33
1,4-Dichlorobenzene	ND	1.0	0.33	3,3-Dichlorobenzidine	ND	1.0	0.66
2,4-Dichlorophenol	ND	1.0	0.33	Diethyl Phthalate	ND	1.0	0.33
2,4-Dimethylphenol	ND	1.0	0.33	Dimethyl Phthalate	ND	1.0	0.33
4,6-Dinitro-2-methylphenol	ND	1.0	1.6	2,4-Dinitrophenol	ND	1.0	1.6
2,4-Dinitrotoluene	ND	1.0	0.33	2,6-Dinitrotoluene	ND	1.0	0.33
Di-n-octyl Phthalate	ND	1.0	0.33	1,2-Diphenylhydrazine	ND	1.0	0.33
Fluoranthene	ND	1.0	0.33	Fluorene	ND	1.0	0.33
Hexachlorobenzene	ND	1.0	0.33	Hexachlorobutadiene	ND	1.0	0.33
Hexachlorocyclopentadiene	ND	1.0	1.6	Hexachloroethane	ND	1.0	0.33
Indeno (1,2,3-cd) pyrene	ND	1.0	0.33	Isophorone	ND	1.0	0.33
2-Methylnaphthalene	ND	1.0	0.33	2-Methylphenol (o-Cresol)	ND	1.0	0.33
3 &/or 4-Methylphenol (m,p-Cres)	ND	1.0	0.33	Naphthalene	ND	1.0	0.33
2-Nitroaniline	ND	1.0	1.6	3-Nitroaniline	ND	1.0	1.6
4-Nitroaniline	ND	1.0	1.6	Nitrobenzene	ND	1.0	0.33
2-Nitrophenol	ND	1.0	1.6	4-Nitrophenol	ND	1.0	1.6
N-Nitrosodiphenylamine	ND	1.0	0.33	N-Nitrosodi-n-propylamine	ND	1.0	0.33
Pentachlorophenol	ND	1.0	1.6	Phenanthrene	ND	1.0	0.33
Phenol	ND	1.0	0.33	Pyrene	ND	1.0	0.33
1,2,4-Trichlorobenzene	ND	1.0	0.33	2,4,5-Trichlorophenol	ND	1.0	0.33
2,4,6-Trichlorophenol	ND	1.0	0.33				

### Surrogate Recoveries (%)

%SS1:	83	%SS2:	107
%SS3:	66	%SS4:	91
%SS5:	79	%SS6:	74

### Comments:

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

#) surrogate diluted out of range; &) low or no surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit raised due to insufficient sample amount; r) results are reported on a dry weight basis.



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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/21/06

### Semi-Volatile Organics by GC/MS (Basic Target List)\*

Extraction Method: SW3550C

Analytical Method: SW8270C

Work Order: 0612245

Lab ID	0612245-015A
Client ID	SB-12 (0.5-1.0)
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acenaphthene	ND<6.6	20	0.33	Acenaphthylene	ND<6.6	20	0.33
Acetochlor	ND<6.6	20	0.33	Anthracene	ND<6.6	20	0.33
Benzidine	ND<32	20	1.6	Benzoic Acid	ND<32	20	1.6
Benzo(a)anthracene	ND<6.6	20	0.33	Benzo(b)fluoranthene	ND<6.6	20	0.33
Benzo(k)fluoranthene	ND<6.6	20	0.33	Benzo(g,h,i)perylene	ND<6.6	20	0.33
Benzo(a)pyrene	ND<6.6	20	0.33	Benzyl Alcohol	ND<13	20	0.66
1,1-Biphenyl	ND<6.6	20	0.33	Bis (2-chloroethoxy) Methane	ND<6.6	20	0.33
Bis (2-chloroethyl) Ether	ND<6.6	20	0.33	Bis (2-chloroisopropyl) Ether	ND<6.6	20	0.33
Bis (2-ethylhexyl) Phthalate	ND<6.6	20	0.33	4-Bromophenyl Phenyl Ether	ND<6.6	20	0.33
Butylbenzyl Phthalate	ND<6.6	20	0.33	4-Chloroaniline	ND<13	20	0.66
4-Chloro-3-methylphenol	ND<6.6	20	0.33	2-Chloronaphthalene	ND<6.6	20	0.33
2-Chlorophenol	ND<6.6	20	0.33	4-Chlorophenyl Phenyl Ether	ND<6.6	20	0.33
Chrysene	ND<6.6	20	0.33	Dibenzo(a,h)anthracene	ND<6.6	20	0.33
Dibenzofuran	ND<6.6	20	0.33	Di-n-butyl Phthalate	ND<6.6	20	0.33
1,2-Dichlorobenzene	ND<6.6	20	0.33	1,3-Dichlorobenzene	ND<6.6	20	0.33
1,4-Dichlorobenzene	ND<6.6	20	0.33	3,3-Dichlorobenzidine	ND<13	20	0.66
2,4-Dichlorophenol	ND<6.6	20	0.33	Diethyl Phthalate	ND<6.6	20	0.33
2,4-Dimethylphenol	ND<6.6	20	0.33	Dimethyl Phthalate	ND<6.6	20	0.33
4,6-Dinitro-2-methylphenol	ND<32	20	1.6	2,4-Dinitrophenol	ND<32	20	1.6
2,4-Dinitrotoluene	ND<6.6	20	0.33	2,6-Dinitrotoluene	ND<6.6	20	0.33
Di-n-octyl Phthalate	ND<6.6	20	0.33	1,2-Diphenylhydrazine	ND<6.6	20	0.33
Fluoranthene	ND<6.6	20	0.33	Fluorene	ND<6.6	20	0.33
Hexachlorobenzene	ND<6.6	20	0.33	Hexachlorobutadiene	ND<6.6	20	0.33
Hexachlorocyclopentadiene	ND<32	20	1.6	Hexachloroethane	ND<6.6	20	0.33
Indeno (1,2,3-cd) pyrene	ND<6.6	20	0.33	Isophorone	ND<6.6	20	0.33
2-Methylnaphthalene	ND<6.6	20	0.33	2-Methylphenol (o-Cresol)	ND<6.6	20	0.33
3 &/or 4-Methylphenol (m,p-Cresol)	ND<6.6	20	0.33	Naphthalene	ND<6.6	20	0.33
2-Nitroaniline	ND<32	20	1.6	3-Nitroaniline	ND<32	20	1.6
4-Nitroaniline	ND<32	20	1.6	Nitrobenzene	ND<6.6	20	0.33
2-Nitrophenol	ND<32	20	1.6	4-Nitrophenol	ND<32	20	1.6
N-Nitrosodiphenylamine	ND<6.6	20	0.33	N-Nitrosodi-n-propylamine	ND<6.6	20	0.33
Pentachlorophenol	ND<32	20	1.6	Phenanthrene	ND<6.6	20	0.33
Phenol	ND<6.6	20	0.33	Pvrene	ND<6.6	20	0.33
1,2,4-Trichlorobenzene	ND<6.6	20	0.33	2,4,5-Trichlorophenol	ND<6.6	20	0.33
2,4,6-Trichlorophenol	ND<6.6	20	0.33				

#### Surrogate Recoveries (%)

%SS1:	61	%SS2:	84
%SS3:	100	%SS4:	115
%SS5:	---	%SS6:	104

Comments: i

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

#) surrogate diluted out of range; &) low or no surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit raised due to insufficient sample amount; r) results are reported on a dry weight basis.



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Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
	Client Contact: Peter Cusack	Date Received: 12/12/06
	Client P.O.:	Date Extracted: 12/12/06
		Date Analyzed: 12/19/06

### Semi-Volatile Organics by GC/MS (Basic Target List)\*

Extraction Method: SW3550C

Analytical Method: SW8270C

Work Order: 0612245

Lab ID	0612245-029A
Client ID	SB16 (0.5-10)
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acenaphthene	ND	1.0	0.33	Acenaphthylene	ND	1.0	0.33
Acetochlor	ND	1.0	0.33	Anthracene	ND	1.0	0.33
Benzidine	ND	1.0	1.6	Benzoic Acid	ND	1.0	1.6
Benzo(a)anthracene	ND	1.0	0.33	Benzo(b)fluoranthene	ND	1.0	0.33
Benzo(k)fluoranthene	ND	1.0	0.33	Benzo(g,h,i)perylene	ND	1.0	0.33
Benzo(a)pyrene	ND	1.0	0.33	Benzyl Alcohol	ND	1.0	0.66
1,1-Biphenyl	ND	1.0	0.33	Bis (2-chloroethoxy) Methane	ND	1.0	0.33
Bis (2-chloroethyl) Ether	ND	1.0	0.33	Bis (2-chloroisopropyl) Ether	ND	1.0	0.33
Bis (2-ethylhexyl) Phthalate	ND	1.0	0.33	4-Bromophenyl Phenyl Ether	ND	1.0	0.33
Butylbenzyl Phthalate	ND	1.0	0.33	4-Chloroaniline	ND	1.0	0.66
4-Chloro-3-methylphenol	ND	1.0	0.33	2-Chloronaphthalene	ND	1.0	0.33
2-Chlorophenol	ND	1.0	0.33	4-Chlorophenyl Phenyl Ether	ND	1.0	0.33
Chrysene	ND	1.0	0.33	Dibenzo(a,h)anthracene	ND	1.0	0.33
Dibenzofuran	ND	1.0	0.33	Di-n-butyl Phthalate	ND	1.0	0.33
1,2-Dichlorobenzene	ND	1.0	0.33	1,3-Dichlorobenzene	ND	1.0	0.33
1,4-Dichlorobenzene	ND	1.0	0.33	3,3-Dichlorobenzidine	ND	1.0	0.66
2,4-Dichlorophenol	ND	1.0	0.33	Diethyl Phthalate	ND	1.0	0.33
2,4-Dimethylphenol	ND	1.0	0.33	Dimethyl Phthalate	ND	1.0	0.33
4,6-Dinitro-2-methylphenol	ND	1.0	1.6	2,4-Dinitrophenol	ND	1.0	1.6
2,4-Dinitrotoluene	ND	1.0	0.33	2,6-Dinitrotoluene	ND	1.0	0.33
Di-n-octyl Phthalate	ND	1.0	0.33	1,2-Diphenylhydrazine	ND	1.0	0.33
Fluoranthene	ND	1.0	0.33	Fluorene	ND	1.0	0.33
Hexachlorobenzene	ND	1.0	0.33	Hexachlorobutadiene	ND	1.0	0.33
Hexachlorocyclopentadiene	ND	1.0	1.6	Hexachloroethane	ND	1.0	0.33
Indeno (1,2,3-cd) pyrene	ND	1.0	0.33	Isophorone	ND	1.0	0.33
2-Methylnaphthalene	ND	1.0	0.33	2-Methylphenol (o-Cresol)	ND	1.0	0.33
3 &/or 4-Methylphenol (m,p-Cres)	ND	1.0	0.33	Naphthalene	ND	1.0	0.33
2-Nitroaniline	ND	1.0	1.6	3-Nitroaniline	ND	1.0	1.6
4-Nitroaniline	ND	1.0	1.6	Nitrobenzene	ND	1.0	0.33
2-Nitrophenol	ND	1.0	1.6	4-Nitrophenol	ND	1.0	1.6
N-Nitrosodiphenylamine	ND	1.0	0.33	N-Nitrosodi-n-propylamine	ND	1.0	0.33
Pentachlorophenol	ND	1.0	1.6	Phenanthrene	ND	1.0	0.33
Phenol	ND	1.0	0.33	Pyrene	ND	1.0	0.33
1,2,4-Trichlorobenzene	ND	1.0	0.33	2,4,5-Trichlorophenol	ND	1.0	0.33
2,4,6-Trichlorophenol	ND	1.0	0.33				

### Surrogate Recoveries (%)

%SS1:	51	%SS2:	66
%SS3:	53	%SS4:	61
%SS5:	51	%SS6:	51

### Comments:

\* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

#) surrogate diluted out of range; &) low or no surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit raised due to insufficient sample amount; r) results are reported on a dry weight basis.



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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/14/06-12/16/06

### CAM / CCR 17 Metals\*

Lab ID	0612245-001A	0612245-015A	0612245-029A		Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	B1-(2.0-2.5)	SB-12 (0.5-1.0)	SB16 (0.5-10)			
Matrix	S	S	S		S	W
Extraction Type	TTLIC	TTLIC	TTLIC		mg/Kg	mg/L

### ICP-MS Metals, Concentration\*

Analytical Method: 6020A

Extraction Method: SW3050B

Work Order: 0612245

Dilution Factor	1	1	1		1	1
Antimony	0.67	0.69	2.1		0.5	NA
Arsenic	3.8	4.0	5.9		0.5	NA
Barium	180	140	180		5.0	NA
Beryllium	0.64	ND	ND		0.5	NA
Cadmium	ND	ND	0.33		0.25	NA
Chromium	36	58	40		0.5	NA
Cobalt	9.7	15	8.6		0.5	NA
Copper	15	65	29		0.5	NA
Lead	5.3	8.9	53		0.5	NA
Mercury	ND	0.054	0.084		0.05	NA
Molybdenum	0.58	ND	0.64		0.5	NA
Nickel	29	72	37		0.5	NA
Selenium	ND	ND	ND		0.5	NA
Silver	ND	ND	ND		0.5	NA
Thallium	ND	ND	ND		0.5	NA
Vanadium	38	150	43		0.5	NA
Zinc	31	71	95		5.0	NA
%SS:	107	102	99			

#### Comments

\*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLIC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; J) analyte detected below quantitation limits; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.





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	Client Contact: Peter Cusack	Date Received: 12/12/06
	Client P.O.:	Date Extracted: 12/12/06
		Date Analyzed: 12/13/06

#### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*

Extraction method SW5030B

Analytical methods SW8015Cm

Work Order: 0612245

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	B1-(2.0-2.5)	S	3.8,g	1	80
015A	SB-12 (0.5-1.0)	S	ND	1	87
029A	SB16 (0.5-10)	S	ND	1	87

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.



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		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/13/06-12/19/06

### Lead by ICP\*

Extraction method SW3050B

Analytical methods 6010C

Work Order: 0612245

Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0612245-004A	B2 (2.0-2.5)	S	TTLC	7.1	1	102
0612245-007A	SB10 (0.5-1.0)	S	TTLC	12	1	101
0612245-008A	SB10 (1.5-2.0)	S	TTLC	41	1	103
0612245-011A	SB11 (0.5-1.0)	S	TTLC	61	1	106
0612245-012A	SB11 (1.5-2.0)	S	TTLC	7.9	1	106
0612245-016A	SB-12 (1.5-2.0)	S	TTLC	6.5	1	107
0612245-017A	SB-13 (0.5-1.0)	S	TTLC	9.9	1	100
0612245-018A	SB-13 (1.5-2.0)	S	TTLC	14	1	101
0612245-021A	SB-14 (0.5-1.0)	S	TTLC	11	1	105
0612245-022A	SB-14 (1.5-2.0)	S	TTLC	11	1	100
0612245-025A	SB-15 (0.5-1.0)	S	TTLC	100	1	105
0612245-026A	SB-15 (1.5-2.0)	S	TTLC	29	1	97
0612245-030A	SB16 (1.5-2.0)	S	TTLC	17	1	99
0612245-033A	SB17 (0.5-10)	S	TTLC	700	1	92
0612245-034A	SB17 (1.5-2.0)	S	TTLC	100	1	98

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	µg/L
	S	TTLC	5.0	mg/Kg

\*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



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		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 12/12/06
	Client P.O.:	Date Analyzed 12/15/06-12/19/06

**Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel\***

Extraction method SW3550C Analytical methods SW8015C Work Order: 0612245

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0612245-001A	B1-(2.0-2.5)	S	1.7,d	1	96
0612245-015A	SB-12 (0.5-1.0)	S	1.3,g,b	1	117
0612245-029A	SB16 (0.5-10)	S	2.8,g,b	1	114

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit; o) results are reported on a dry weight basis.



**QC SUMMARY REPORT FOR E418.1**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0612245

EPA Method: E418.1		Extraction: SW3550_TRPH				BatchID: 25050			Spiked Sample ID: 0612106-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TRPH	ND	20.8	130	130	0	91.8	93.8	2.07	70 - 130	30	70 - 130	30
%SS:	110	100	110	120	8.70	109	104	4.58	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 25050 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-001A	12/11/06 8:30 AM	12/12/06	12/14/06 5:46 PM	0612245-004A	12/11/06 2:30 PM	12/12/06	12/14/06 5:51 PM
0612245-007A	12/11/06 9:15 AM	12/12/06	12/14/06 5:56 PM	0612245-008A	12/11/06 9:20 AM	12/12/06	12/14/06 6:01 PM
0612245-011A	12/11/06 9:45 AM	12/12/06	12/14/06 6:06 PM	0612245-012A	12/11/06 9:50 AM	12/12/06	12/14/06 6:11 PM
0612245-015A	12/11/06 10:20 AM	12/12/06	12/14/06 6:16 PM	0612245-016A	12/11/06 10:25 AM	12/12/06	12/14/06 6:21 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR E418.1**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0612245

EPA Method: E418.1		Extraction: SW3550_TRPH				BatchID: 25178			Spiked Sample ID: 0612245-021A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TRPH	ND	20.8	114	113	0.847	108	107	0.893	70 - 130	30	70 - 130	30
%SS:	92	100	89	86	3.43	100	102	2.07	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 25178 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-017A	12/11/06 10:50 AM	12/12/06	12/14/06 6:26 PM	0612245-018A	12/11/06 10:55 AM	12/12/06	12/14/06 6:31 PM
0612245-021A	12/11/06 11:28 AM	12/12/06	12/14/06 6:36 PM	0612245-022A	12/11/06 11:30 AM	12/12/06	12/14/06 6:41 PM
0612245-025A	12/11/06 12:15 PM	12/12/06	12/14/06 6:46 PM	0612245-026A	12/11/06 12:25 PM	12/12/06	12/14/06 6:51 PM
0612245-029A	12/11/06 1:30 PM	12/12/06	12/14/06 6:56 PM	0612245-030A	12/11/06 1:35 PM	12/12/06	12/14/06 7:01 PM
0612245-033A	12/11/06 2:00 PM	12/12/06	12/14/06 7:06 PM	0612245-034A	12/11/06 2:05 PM	12/12/06	12/14/06 7:11 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8260B		Extraction SW5030B				BatchID: 25150			Spiked Sample ID: 0612217-010A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	0.050	85	94.7	10.9	99.6	99.8	0.141	70 - 130	30	70 - 130	30
Benzene	ND	0.050	115	120	4.58	127	127	0	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	83.6	86.2	2.98	112	106	5.71	70 - 130	30	70 - 130	30
Chlorobenzene	ND	0.050	92.3	101	9.23	108	107	1.35	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	0.050	95.6	107	10.9	115	110	4.39	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	0.050	97.2	106	8.63	114	113	0.489	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	0.050	112	119	6.14	98.2	97.8	0.355	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	101	112	9.84	118	116	1.53	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	91.5	102	11.0	108	105	2.55	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	93.1	104	11.2	110	110	0	70 - 130	30	70 - 130	30
Toluene	ND	0.050	102	110	7.93	117	109	6.94	70 - 130	30	70 - 130	30
Trichloroethene	ND	0.050	73.7	78.8	6.70	86.2	84.4	2.11	70 - 130	30	70 - 130	30
%SS1:	94	0.050	105	105	0	103	103	0	70 - 130	30	70 - 130	30
%SS2:	102	0.050	104	103	0.397	102	98	4.08	70 - 130	30	70 - 130	30
%SS3:	94	0.050	103	104	0.967	104	101	2.40	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 25150 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-001	12/11/06 8:30 AM	12/12/06	12/14/06 7:42 AM	0612245-015	12/11/06 10:20 AM	12/12/06	12/14/06 9:56 AM
0612245-029	12/11/06 1:30 PM	12/12/06	12/14/06 10:41 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.



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### QC SUMMARY REPORT FOR SW8082A

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8082A		Extraction SW3550C				BatchID: 25151			Spiked Sample ID: 0612215-047A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	ND	0.075	91.9	91.1	0.836	107	109	1.88	70 - 130	20	70 - 130	20
%SS:	117	0.050	113	116	1.96	102	102	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 25151 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-001	12/11/06 8:30 AM	12/12/06	12/14/06 4:00 AM	0612245-015	12/11/06 10:20 AM	12/12/06	12/14/06 4:56 AM
0612245-029	12/11/06 1:30 PM	12/12/06	12/14/06 5:52 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.



**QC SUMMARY REPORT FOR SW8270C**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8270C		Extraction SW3550C				BatchID: 25154			Spiked Sample ID: 0612182-010A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Acenaphthene	ND	2	67.5	67.3	0.341	92.8	93.8	1.10	30 - 130	30	30 - 130	30
4-Chloro-3-methylphenol	ND	4	67.8	65.1	4.07	72.8	83.5	13.7	30 - 130	30	30 - 130	30
2-Chlorophenol	ND	4	74.8	73.2	2.15	97.9	94.7	3.34	30 - 130	30	30 - 130	30
1,4-Dichlorobenzene	ND	2	77.8	77.2	0.735	102	101	1.15	30 - 130	30	30 - 130	30
2,4-Dinitrotoluene	ND	2	84.3	84.2	0.0831	96.1	106	9.35	30 - 130	30	30 - 130	30
4-Nitrophenol	ND	4	64.7	65.5	1.22	67.2	59.7	11.8	30 - 130	30	30 - 130	30
N-Nitrosodi-n-propylamine	ND	2	85.3	87.2	2.17	98	104	5.46	30 - 130	30	30 - 130	30
Pentachlorophenol	ND	4	71.4	68	4.92	53.8	59.6	10.2	30 - 130	30	30 - 130	30
Phenol	ND	4	99.1	91.8	7.68	82.5	75.2	9.25	30 - 130	30	30 - 130	30
Pyrene	ND	2	62.8	62.3	0.799	90.6	95.4	5.14	30 - 130	30	30 - 130	30
1,2,4-Trichlorobenzene	ND	2	76.1	76.5	0.472	92.8	107	14.2	30 - 130	30	30 - 130	30
%SS1:	89	200	84	84	0	86	87	1.52	30 - 130	30	30 - 130	30
%SS2:	91	200	81	77	5.45	71	66	8.17	30 - 130	30	30 - 130	30
%SS3:	92	200	92	92	0	111	119	6.49	30 - 130	30	30 - 130	30
%SS4:	80	200	80	80	0	90	86	5.19	30 - 130	30	30 - 130	30
%SS5:	94	200	94	93	0.527	101	109	8.30	30 - 130	30	30 - 130	30
%SS6:	74	200	73	72	1.29	69	72	4.23	30 - 130	30	30 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 25154 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-001	12/11/06 8:30 AM	12/12/06	2/19/06 12:14 PM	0612245-015	12/11/06 10:20 AM	12/12/06	2/21/06 12:06 PM
0612245-029	12/11/06 1:30 PM	12/12/06	12/19/06 4:00 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.





**QC SUMMARY REPORT FOR 6020A**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method 6020A		Extraction SW3050B				BatchID: 25172			Spiked Sample ID 0612182-035A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Antimony	ND	50	101	100	1.32	10	102	105	2.41	75 - 125	20	80 - 120	20
Arsenic	5.4	50	101	99.3	1.42	10	104	106	1.81	75 - 125	20	80 - 120	20
Barium	55	500	105	103	1.70	100	101	102	0.981	75 - 125	20	80 - 120	20
Beryllium	2.8	50	96.4	94.7	1.62	10	98.6	99.5	0.919	75 - 125	20	80 - 120	20
Cadmium	ND	50	101	99.1	1.74	10	101	103	1.77	75 - 125	20	80 - 120	20
Chromium	4.9	50	97.4	97.1	0.243	10	104	105	0.767	75 - 125	20	80 - 120	20
Cobalt	1.9	50	91.6	91.2	0.357	10	101	102	1.38	75 - 125	20	80 - 120	20
Copper	2.8	50	97.9	97.1	0.776	10	105	106	0.947	75 - 125	20	80 - 120	20
Lead	30	50	103	101	1.29	10	103	103	0	75 - 125	20	80 - 120	20
Mercury	ND	2.5	102	101	0.968	0.50	106	107	0.180	75 - 125	20	80 - 120	20
Molybdenum	2.6	50	99.6	98.4	1.13	10	99.4	102	2.38	75 - 125	20	80 - 120	20
Nickel	2.9	50	98.9	98.2	0.709	10	105	108	2.54	75 - 125	20	80 - 120	20
Selenium	ND	50	101	102	0.766	10	102	103	1.07	75 - 125	20	80 - 120	20
Silver	ND	50	98	96.9	1.13	10	102	104	1.46	75 - 125	20	80 - 120	20
Thallium	ND	50	102	101	0.807	10	99.6	99.9	0.331	75 - 125	20	80 - 120	20
Vanadium	8.8	50	97.7	96.5	1.08	10	103	105	2.60	75 - 125	20	80 - 120	20
Zinc	45	500	101	99.8	0.897	100	98.9	101	1.89	75 - 125	20	80 - 120	20
%SS:	101	250	105	102	2.87	250	103	105	1.81	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 25172 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-001A	12/11/06 8:30 AM	12/12/06	12/14/06 11:27 PM	0612245-001A	12/11/06 8:30 AM	12/12/06	12/16/06 5:57 AM
0612245-015A	12/11/06 10:20 AM	12/12/06	12/14/06 11:35 PM	0612245-015A	2/11/06 10:20 AM	12/12/06	12/16/06 6:02 AM
0612245-015A	12/11/06 10:20 AM	12/12/06	12/16/06 6:08 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte



**QC SUMMARY REPORT FOR 6020A**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method 6020A		Extraction SW3050B				BatchID: 25177			Spiked Sample ID 0612245-029A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Antimony	2.1	50	99.4	98.3	1.07	10	95.9	95.1	0.869	75 - 125	20	80 - 120	20
Arsenic	5.9	50	98.3	98.6	0.272	10	94.6	93.1	1.58	75 - 125	20	80 - 120	20
Barium	180	500	107	106	0.239	100	95.1	94.6	0.527	75 - 125	20	80 - 120	20
Beryllium	ND	50	96.6	95.9	0.741	10	93.3	92.2	1.10	75 - 125	20	80 - 120	20
Cadmium	0.33	50	97	96.5	0.493	10	93.8	92.8	1.03	75 - 125	20	80 - 120	20
Chromium	40	50	95.3	98.6	1.86	10	94.6	93.4	1.21	75 - 125	20	80 - 120	20
Cobalt	8.6	50	87.1	85.7	1.33	10	91.2	91	0.198	75 - 125	20	80 - 120	20
Copper	29	50	98.6	99.4	0.486	10	94.9	94.7	0.232	75 - 125	20	80 - 120	20
Lead	53	50	102	105	1.24	10	90.8	92	1.41	75 - 125	20	80 - 120	20
Mercury	ND	2.5	93.9	95	1.12	0.50	96.5	100	3.72	75 - 125	20	80 - 120	20
Molybdenum	0.64	50	95.4	94.3	1.14	10	90.8	90.6	0.242	75 - 125	20	80 - 120	20
Nickel	37	50	99.8	101	0.777	10	95.1	96.6	1.63	75 - 125	20	80 - 120	20
Selenium	ND	50	99	97.7	1.33	10	95.9	95.4	0.596	75 - 125	20	80 - 120	20
Silver	ND	50	96.2	95.6	0.642	10	104	100	3.24	75 - 125	20	80 - 120	20
Thallium	ND	50	100	99.3	1.04	10	88.2	90	2.04	75 - 125	20	80 - 120	20
Vanadium	43	50	96.2	98.4	1.23	10	93.6	92.7	0.945	75 - 125	20	80 - 120	20
Zinc	95	500	99.8	100	0.403	100	91.5	91.2	0.324	75 - 125	20	80 - 120	20
%SS:	99	250	100	102	1.89	250	97	96	1.37	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 25177 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-029A	12/11/06 1:30 PM	12/12/06	12/14/06 11:03 PM	0612245-029A	12/11/06 1:30 PM	12/12/06	12/16/06 5:52 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8015Cm		Extraction SW5030B				BatchID: 25171			Spiked Sample ID: 0612241-006A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	0.60	102	111	8.70	106	111	4.45	70 - 130	30	70 - 130	30
MTBE	ND	0.10	113	101	11.7	105	95.4	9.16	70 - 130	30	70 - 130	30
Benzene	ND	0.10	105	95.6	9.24	98.9	99.7	0.710	70 - 130	30	70 - 130	30
Toluene	ND	0.10	93.7	85.9	8.69	87.9	90.9	3.35	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	98.9	90.1	9.32	88.4	93.8	5.91	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	95.7	91.7	4.27	92	100	8.33	70 - 130	30	70 - 130	30
%SS:	88	0.10	91	93	2.17	95	97	2.08	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 25171 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-001	12/11/06 8:30 AM	12/12/06	12/13/06 7:10 AM	0612245-015	12/11/06 10:20 AM	12/12/06	12/13/06 7:39 AM
0612245-029	12/11/06 1:30 PM	12/12/06	12/13/06 8:39 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.



**QC SUMMARY REPORT FOR 6010C**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method 6010C		Extraction SW3050B				BatchID: 25114			Spiked Sample ID 0612144-015A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Lead	11	50	89.4	88.6	0.718	10	105	91.8	13.4	75 - 125	20	80 - 120	20
%SS:	100	250	98	97	1.13	250	99	99	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 25114 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-004A	12/11/06 2:30 PM	12/12/06	12/19/06 3:55 PM	0612245-007A	12/11/06 9:15 AM	12/12/06	12/19/06 3:57 PM
0612245-008A	12/11/06 9:20 AM	12/12/06	12/19/06 4:00 PM	0612245-011A	12/11/06 9:45 AM	12/12/06	12/19/06 4:02 PM
0612245-012A	12/11/06 9:50 AM	12/12/06	12/19/06 4:04 PM	0612245-016A	2/11/06 10:25 AM	12/12/06	12/19/06 4:06 PM
0612245-017A	12/11/06 10:50 AM	12/12/06	12/19/06 4:09 PM	0612245-018A	2/11/06 10:55 AM	12/12/06	12/19/06 4:11 PM
0612245-021A	12/11/06 11:28 AM	12/12/06	12/19/06 4:13 PM	0612245-022A	2/11/06 11:30 AM	12/12/06	12/19/06 4:16 PM
0612245-025A	12/11/06 12:15 PM	12/12/06	12/19/06 4:22 PM	0612245-026A	12/11/06 12:25 PM	12/12/06	12/13/06 3:08 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte



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### QC SUMMARY REPORT FOR 6010C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method 6010C		Extraction SW3050B				BatchID: 25179			Spiked Sample ID 0612273-016A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Lead	7.6	50	94.7	94.9	0.182	10	104	97.8	6.31	75 - 125	20	80 - 120	20
%SS:	105	250	103	106	3.35	250	98	99	1.84	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 25179 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-030A	12/11/06 1:35 PM	12/12/06	12/13/06 3:10 PM	0612245-033A	12/11/06 2:00 PM	12/12/06	12/13/06 3:12 PM
0612245-034A	12/11/06 2:05 PM	12/12/06	12/13/06 3:14 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8015C		Extraction SW3550C				BatchID: 25174			Spiked Sample ID: 0612182-060A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	1.2	20	124	128	3.37	111	115	3.76	70 - 130	30	70 - 130	30
%SS:	115	50	117	116	1.15	102	109	6.58	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 25174 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-001	12/11/06 8:30 AM	12/12/06	12/15/06 2:56 PM	0612245-015	12/11/06 10:20 AM	12/12/06	12/15/06 8:01 AM
0612245-029	12/11/06 1:30 PM	12/12/06	12/19/06 3:37 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

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Telephone: 877-252-9262 Fax: 925-252-9269

Treadwell & Rollo 555 Montgomery St., Suite 1300 San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Reported: 12/21/06
	Client P.O.:	Date Completed: 01/05/07

**WorkOrder: 0612245**

January 05, 2007

Dear Peter:

Enclosed are:

- 1). the results of **14** analyzed samples from your **#4542.01; Papermill project**,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0612245

ClientID: TWRF

EDF

Fax

Email

HardCop

ThirdPart

Report to:

Peter Cusack  
Treadwell & Rollo  
555 Montgomery St., Suite 1300  
San Francisco, CA 94111

Email: pjcusack@treadwellrollo.com  
TEL: (415) 955-904 FAX: (415) 955-904  
ProjectNo: #4542.01; Papermill  
PO:

Bill to

Accounts Payable  
Treadwell & Rollo  
555 Montgomery St., Suite 1300  
San Francisco, CA 94111

Requested TAT: 5 days

Date Received 2/12/2006

Date Add-On: 2/22/2006

Date Printed: 1/02/2007

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0612245-002	B1 (5.0-5.5)	Soil	12/11/2006	<input type="checkbox"/>	A	A		A		A							
0612245-005	B2 (5.0-5.5)	Soil	12/11/2006	<input type="checkbox"/>	A	A		A		A							
0612245-009	SB10 (4.0-4.5)	Soil	12/11/2006	<input type="checkbox"/>	A	A	A			A							
0612245-011	SB11 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>					A								
0612245-013	SB11 (2.5-3.0)	Soil	12/11/2006	<input type="checkbox"/>	A	A	A			A							
0612245-019	SB-13 (2.5-3.0)	Soil	12/11/2006	<input type="checkbox"/>	A	A		A		A							
0612245-023	SB-14 (2.5-3.0)	Soil	12/11/2006	<input type="checkbox"/>	A	A		A		A							
0612245-025	SB-15 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>					A								
0612245-027	SB-15 (2.5-3.0)	Soil	12/11/2006	<input type="checkbox"/>	A	A		A		A							
0612245-029	SB16 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>					A								
0612245-031	SB16 (2.5-3.0)	Soil	12/11/2006	<input type="checkbox"/>	A	A		A		A							
0612245-033	SB17 (0.5-1.0)	Soil	12/11/2006	<input type="checkbox"/>					A								
0612245-034	SB17 (1.5-2.0)	Soil	12/11/2006	<input type="checkbox"/>					A								
0612245-035	SB17 (2.5-3.0)	Soil	12/11/2006	<input type="checkbox"/>	A	A		A		A							

Test Legend:

1	418 SG S
6	TPH(D) S
11	

2	G-MBTEX S
7	
12	

3	LUFT S
8	

4	PB S
9	

5	PB_STLC Soil
10	

Prepared by: Rosa Venegas

Comments: TRPH, TPHg&d, Luft, Pb, &PbSTLC added on 12/06/06.

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.





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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 01/02/07
	Client P.O.:	Date Analyzed 01/03/07

### Total Recoverable Petroleum Hydrocarbons with Silica Gel Clean-Up by IR Spectrometry\*

Analytical methods E418.1

Work Order: 061224

Lab ID	Client ID	Matrix	TRPH	DF	% SS
0612245-002A	B1 (5.0-5.5)	S	ND	1	116
0612245-005A	B2 (5.0-5.5)	S	ND	1	119
0612245-009A	SB10 (4.0-4.5)	S	ND	1	114
0612245-013A	SB11 (2.5-3.0)	S	ND	1	115
0612245-019A	SB-13 (2.5-3.0)	S	ND	1	114
0612245-023A	SB-14 (2.5-3.0)	S	ND	1	118
0612245-027A	SB-15 (2.5-3.0)	S	28	1	114
0612245-031A	SB16 (2.5-3.0)	S	ND	1	116
0612245-035A	SB17 (2.5-3.0)	S	31	1	110

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	10	mg/Kg

\* water samples and all TCLP & SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in mg/wipe, product/oil/non-aqueous liquid samples in mg/L.

DF = dilution factor (may be raised to dilute target analyte or matrix interference).

# surrogate diluted out of range or not applicable to this sample.

g) sample extract repeatedly cleaned up with silica gel until constant IR result achieved; h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) results are reported on a dry weight basis.



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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 01/02/07
	Client P.O.:	Date Analyzed 01/03/07

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*

Extraction method SW5030B

Analytical methods SW8015Cm

Work Order: 0612245

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
002A	B1 (5.0-5.5)	S	ND	1	105
005A	B2 (5.0-5.5)	S	ND	1	100
009A	SB10 (4.0-4.5)	S	ND	1	107
013A	SB11 (2.5-3.0)	S	ND	1	99
019A	SB-13 (2.5-3.0)	S	ND	1	103
023A	SB-14 (2.5-3.0)	S	ND	1	105
027A	SB-15 (2.5-3.0)	S	ND	1	99
031A	SB16 (2.5-3.0)	S	ND	1	111
035A	SB17 (2.5-3.0)	S	ND	1	100

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.



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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 01/02/07
	Client P.O.:	Date Analyzed 01/03/07

### LUFT 5 Metals\*

Extraction method SW3050B

Analytical methods 6010C

Work Order: 0612245

Lab ID	Client ID	Matrix	Extraction	Cadmium	Chromium	Lead	Nickel	Zinc	DF	% SS
009A	SB10 (4.0-4.5)	S	TTLC	ND	83	17	44	65	1	102
013A	SB11 (2.5-3.0)	S	TTLC	ND	54	14	61	59	1	101

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	NA	NA	NA	NA	NA	NA
	S	TTLC	1.5	1.5	5.0	1.5	5.0	mg/Kg	

\*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.

 Angela Rydelius, Lab Manager



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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 01/02/07
	Client P.O.:	Date Analyzed 01/03/07

### Lead by ICP\*

Extraction method SW3050B

Analytical methods 6010C

Work Order: 0612245

Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0612245-002A	B1 (5.0-5.5)	S	TTLC	9.6	1	105
0612245-005A	B2 (5.0-5.5)	S	TTLC	7.9	1	103
0612245-019A	SB-13 (2.5-3.0)	S	TTLC	7.6	1	103
0612245-023A	SB-14 (2.5-3.0)	S	TTLC	10	1	99
0612245-027A	SB-15 (2.5-3.0)	S	TTLC	8.1	1	100
0612245-031A	SB16 (2.5-3.0)	S	TTLC	7.3	1	101
0612245-035A	SB17 (2.5-3.0)	S	TTLC	65	1	102

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	µg/L
	S	TTLC	5.0	mg/Kg

\*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.

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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 01/02/07-01/04/07
	Client P.O.:	Date Analyzed 01/04/07

**Lead by ICP\***

Extraction method CA Title 22

Analytical methods SW6010C

Work Order: 0612245

Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0612245-011A	SB11 (0.5-1.0)	S	STLC	0.74	1	N/A
0612245-025A	SB-15 (0.5-1.0)	S	STLC	7.0	1	N/A
0612245-029A	SB16 (0.5-10)	S	STLC	4.8	1	N/A
0612245-033A	SB17 (0.5-10)	S	STLC	140	1	N/A
0612245-034A	SB17 (1.5-2.0)	S	STLC	4.2	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLIC	NA	µg/L
	S	STLC	0.2	mg/L

\*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLIC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.



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Treadwell & Rollo  555 Montgomery St., Suite 1300  San Francisco, CA 94111	Client Project ID: #4542.01; Papermill	Date Sampled: 12/11/06
		Date Received: 12/12/06
	Client Contact: Peter Cusack	Date Extracted: 01/02/07
	Client P.O.:	Date Analyzed 01/02/07-01/03/07

### Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel\*

Extraction method SW3550C

Analytical methods SW8015C

Work Order: 0612245

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0612245-002A	B1 (5.0-5.5)	S	ND	1	97
0612245-005A	B2 (5.0-5.5)	S	ND	1	102
0612245-009A	SB10 (4.0-4.5)	S	ND	1	101
0612245-013A	SB11 (2.5-3.0)	S	ND	1	105
0612245-019A	SB-13 (2.5-3.0)	S	ND	1	97
0612245-023A	SB-14 (2.5-3.0)	S	ND	1	98
0612245-027A	SB-15 (2.5-3.0)	S	ND	1	95
0612245-031A	SB16 (2.5-3.0)	S	ND	1	96
0612245-035A	SB17 (2.5-3.0)	S	3.1,b	1	103

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit; o) results are reported on a dry weight basis.



### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8015C		Extraction SW3550C				BatchID: 25493			Spiked Sample ID: 0701004-014A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	160	20	NR	NR	NR	90	102	12.7	70 - 130	30	70 - 130	30
%SS:	122	50	107	107	0	97	107	10.0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 25493 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-002	12/11/06 8:35 AM	1/02/07	1/03/07 5:12 PM	0612245-005	12/11/06 2:35 PM	1/02/07	1/02/07 7:54 PM
0612245-009	12/11/06 9:25 AM	1/02/07	1/02/07 9:01 PM	0612245-013	12/11/06 9:55 AM	1/02/07	1/02/07 10:08 PM
0612245-019	2/11/06 11:00 AM	1/02/07	1/03/07 6:23 PM	0612245-023	2/11/06 11:35 AM	1/02/07	1/02/07 9:01 PM
0612245-027	2/11/06 12:30 PM	1/02/07	1/03/07 4:06 AM	0612245-031	12/11/06 1:40 PM	1/02/07	1/02/07 10:08 PM
0612245-035	12/11/06 2:10 PM	1/02/07	1/03/07 6:23 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.



### QC SUMMARY REPORT FOR E418.1

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method E418.1		Extraction SW3550_TRPH				BatchID: 25496			Spiked Sample ID: 0612245-005A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TRPH	ND	20.8	104	115	9.65	107	109	1.34	70 - 130	30	70 - 130	30
%SS:	119	100	108	106	2.52	104	103	0.867	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 25496 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-002	12/11/06 8:35 AM	1/02/07	1/03/07 12:27 PM	0612245-005	12/11/06 2:35 PM	1/02/07	1/03/07 12:32 PM
0612245-009	12/11/06 9:25 AM	1/02/07	1/03/07 12:37 PM	0612245-013	12/11/06 9:55 AM	1/02/07	1/03/07 12:42 PM
0612245-019	2/11/06 11:00 AM	1/02/07	1/03/07 12:47 PM	0612245-023	2/11/06 11:35 AM	1/02/07	1/03/07 12:52 PM
0612245-027	2/11/06 12:30 PM	1/02/07	1/03/07 12:57 PM	0612245-031	12/11/06 1:40 PM	1/02/07	1/03/07 1:02 PM
0612245-035	12/11/06 2:10 PM	1/02/07	1/03/07 1:07 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.





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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8021B/8015Cm		Extraction SW5030B				BatchID: 25492			Spiked Sample ID: 0701004-014A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	170	0.60	NR	NR	NR	82.6	93.1	12.0	70 - 130	30	70 - 130	30
MTBE	ND<5.0	0.10	99.9	92	8.26	90.6	96.4	6.26	70 - 130	30	70 - 130	30
Benzene	2	0.10	NR	NR	NR	94.5	95.3	0.861	70 - 130	30	70 - 130	30
Toluene	11	0.10	NR	NR	NR	78.6	78.1	0.610	70 - 130	30	70 - 130	30
Ethylbenzene	11	0.10	NR	NR	NR	94.7	94.5	0.211	70 - 130	30	70 - 130	30
Xylenes	54	0.30	NR	NR	NR	86.3	86	0.387	70 - 130	30	70 - 130	30
%SS:	116	0.10	107	104	3.02	101	106	4.32	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 25492 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-002	12/11/06 8:35 AM	1/02/07	1/03/07 1:39 AM	0612245-005	12/11/06 2:35 PM	1/02/07	1/03/07 2:08 AM
0612245-009	12/11/06 9:25 AM	1/02/07	1/03/07 2:37 AM	0612245-013	12/11/06 9:55 AM	1/02/07	1/03/07 3:06 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

<sup>f</sup> TPH(btex) = sum of BTEX areas from the FID.



**QC SUMMARY REPORT FOR SW8021B/8015Cm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method SW8021B/8015Cm		Extraction SW5030B				BatchID: 25494			Spiked Sample ID: 0701007-005A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	0.60	103	101	1.65	116	104	10.7	70 - 130	30	70 - 130	30
MTBE	ND	0.10	103	89	14.7	88.7	95.3	7.09	70 - 130	30	70 - 130	30
Benzene	ND	0.10	106	96.1	9.36	91.7	99.2	7.83	70 - 130	30	70 - 130	30
Toluene	ND	0.10	85.3	78.6	8.11	75.2	80.8	7.25	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	100	93.6	6.60	89.4	96.5	7.63	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	90.7	86	5.28	84.3	89.7	6.13	70 - 130	30	70 - 130	30
%SS:	107	0.10	119	109	8.77	112	117	4.37	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 25494 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-019	2/11/06 11:00 AM	1/02/07	1/03/07 4:04 AM	0612245-023	2/11/06 11:35 AM	1/02/07	1/03/07 4:33 AM
0612245-027	2/11/06 12:30 PM	1/02/07	1/03/07 5:02 AM	0612245-031	12/11/06 1:40 PM	1/02/07	1/03/07 5:31 AM
0612245-035	12/11/06 2:10 PM	1/02/07	1/03/07 6:29 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 £ TPH(btex) = sum of BTEX areas from the FID.



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## QC SUMMARY REPORT FOR 6010C

W.O. Sample Matrix: Soil/Soil

QC Matrix: Soil

WorkOrder 0612245

EPA Method 6010C		Extraction SW3050B					BatchID: 25427			Spiked Sample ID 0612609-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	Spiked	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	mg/Kg	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Cadmium	ND	50	97.2	97.6	0.308	10	98.6	98.2	0.483	75 - 125	20	80 - 120	20
Chromium	18	50	95.5	93.7	1.34	10	110	108	1.83	75 - 125	20	80 - 120	20
Lead	7.2	50	94.8	92.1	2.50	10	104	97.8	6.45	75 - 125	20	80 - 120	20
Nickel	9.4	50	94	91.9	1.92	10	100	100	0	75 - 125	20	80 - 120	20
Zinc	52	500	98.3	97.4	0.878	100	101	105	3.55	75 - 125	20	80 - 120	20
%SS:	103	250	103	101	1.67	250	105	103	2.50	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 25427 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-002A	12/11/06 8:35 AM	1/02/07	1/03/07 9:18 AM	0612245-005A	12/11/06 2:35 PM	1/02/07	1/03/07 9:20 AM
0612245-009A	12/11/06 9:25 AM	1/02/07	1/03/07 9:11 AM	0612245-013A	12/11/06 9:55 AM	1/02/07	1/03/07 9:16 AM
0612245-019A	12/11/06 11:00 AM	1/02/07	1/03/07 9:22 AM	0612245-023A	2/11/06 11:35 AM	1/02/07	1/03/07 9:24 AM
0612245-027A	12/11/06 12:30 PM	1/02/07	1/03/07 9:27 AM	0612245-031A	12/11/06 1:40 PM	1/02/07	1/03/07 9:29 AM
0612245-035A	12/11/06 2:10 PM	1/02/07	1/03/07 9:31 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte



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### QC SUMMARY REPORT FOR SW6010C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0612245

EPA Method SW6010C		Extraction CA Title 22			BatchID: 25495			Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Lead	N/A	1	N/A	N/A	N/A	98.1	102	3.61	N/A	N/A	80 - 120	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 25495 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0612245-011	12/11/06 9:45 AM	1/02/07	1/04/07 9:31 PM	0612245-025	2/11/06 12:15 PM	1/02/07	1/04/07 9:43 PM
0612245-029	12/11/06 1:30 PM	1/02/07	1/04/07 9:49 PM	0612245-033	12/11/06 2:00 PM	1/02/07	1/04/07 9:52 PM
0612245-034	12/11/06 2:05 PM	1/02/07	1/04/07 9:54 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.