

MEETING MEMORANDUM

Date: September 6, 2001

Subject Site: 2855 Mandela Parkway in Oakland, California

Attendees: Ms. Faye Beverett, Page Properties, LLC
Mr. Barney Chan, Alameda County
Mr. Michael McGuire and Mr. David Kleesattel, Treadwell & Rollo, Inc.

Meeting Objectives:

1. Discuss investigation status, including most recent (August 2001) soil vapor survey results.
2. Discuss site conditions.
3. Discuss plans for future work and the development of long-term Corrective Action Plan.

Site History

The existing building on the property (2855 Mandela Parkway) is a 143,000 square foot, single-story industrial structure currently owned by 2855 Mandela Property (purchased in 1998). A principal of the owner also owns Page Street Properties, LLC. The building is currently occupied by a number of commercial tenants, mainly for warehousing and storage. The building was originally constructed in 1941 and operated until approximately 1983 by International Harvester as a truck service and sales facility. An underground gasoline storage tank was removed from property in 1991 by a previous owner, Cypress Property. A principal of Cypress also owns Wareham Development.

Site Investigation History

Numerous subsurface characterization investigations have been conducted at the site since 1990. Each investigation and a brief summary of the work scope is listed below:

9-25-90 *Phase I Preliminary Hazardous Materials Site Assessment*
by Harding Lawson Associates (for Wareham)

- a potential UST was noted, and its removal recommended.

8-13-91 *Underground Storage Tank Removal Report*
by Harding Lawson Associates (for Wareham)

- removed a 350-gallon gasoline tank and a 250-gallon waste oil tank;
- holes were observed in both tanks, odors and stained soil were noted;

- collected and analyzed one soil sample from beneath the waste oil tank, one soil sample from the gasoline tank excavation side wall, and one sample from the excavated backfill material (spoils);
- the soil sample from under the waste oil tank contained 14 ppm total petroleum hydrocarbons (TPH) -as-motor oil and 0.93 ppm benzene;
- the soil samples from the tank excavation side wall and excavated backfill material contained a maximum of 240 ppm TPH-as-gasoline, 1,800 ppm TPH-as-diesel fuel, and 1.1 ppm benzene.

7-16-92

Subsurface Soil Investigation

by ATEC Environmental (for Morgan Stanley & Company)

- conducted a 17-point soil-gas survey (SG-01 through SG-17);
- drilled 3 soil borings (B-1, B-2, and B-3) and collected and analyzed 7 soil samples for TPH-as-gasoline and diesel fuel, and for benzene, toluene, ethylbenzene, and xylenes (BTEX);
- in summary, the maximum concentrations detected in soil were: TPH-as-gasoline at 2,800 ppm; TPH-as-diesel fuel at 24 ppm; and benzene at 34 ppm.

5-17-98

Environmental Site Assessment Transaction Screen

by Ceres Associates (for Page Street Properties, LLC)

- conducted assessment to conform with ASTM Standard E 1528;
- based on data collected by others, authors recommended conducting a Phase II subsurface investigation.

9-1-98

Phase II Subsurface Investigation

by Ceres Associates (for Page Street Properties, LLC)

- conducted a 20-point soil-gas survey (SV-1 through SV-20);
- installed 7 soil borings (SB-1 through SB-7) and collected 13 soil and 6 grab groundwater samples from borings;
- analyzed soil and grab groundwater samples for TPH-as-gasoline, BTEX, and methyl tert-butyl ether (MTBE);
- soil boring SB-3 contained free-phase gasoline;
- MBTE was not detected in soil, groundwater, or soil-gas sample;
- maximum detected concentrations in soil were: 130 ppm for TPH-as-gasoline (SB-2) and 9.1 ppm for benzene (SB-2);
- maximum detected dissolved concentrations in groundwater were: 160 ppm for TPH-as-gasoline(SB-2) and 44 ppm for benzene (SB-2).

- 11-18-98 *Additional Subsurface Investigation Report*
by Ceres Associates (for Page Street Properties, LLC)
- installed 8 soil borings (SB-3A, SB-3B, SB-3C, SB-8 through SB-12);
 - collected and analyzed 12 soil samples and 2 grab groundwater samples for TPH-as-gasoline, BTEX, and MTBE;
 - MTBE was not detected in soil or grab groundwater samples;
 - maximum detected concentrations in soil were: 7,400 ppm for TPH-as-gasoline (SB-8) and 83 ppm for benzene (SB-8); this soil boring contained free-phase gasoline;
 - maximum detected dissolved concentrations in groundwater were: 98 ppm for TPH-as-gasoline(SB-10) and 8.4 ppm for benzene (SB-10).
- 12-28-98 *Soil and Groundwater Assessment Report*
by Ceres Associates (for Page Street Properties, LLC)
- installed 6 soil borings (SB-13 through SB-18);
 - collected and analyzed 13 soil samples and 6 grab groundwater samples for TPH-as-gasoline, BTEX, and MTBE;
 - MTBE was not detected in soil samples, but was detected (and subsequently identified by the laboratory as a possible false-positive) in one groundwater sample at a concentration of 14 parts per billion (ppb);
 - maximum detected concentrations in soil were: 1,600 ppm for TPH-as-gasoline (SB-15) and 22 ppm for benzene (SB-15);
 - maximum detected dissolved concentrations in groundwater were: 110 ppm for TPH-as-gasoline(SB-16) and 17 ppm for benzene (SB-16);
 - free-phase gasoline was detected in soil boring SB-12.
- 1-21-00 *1999 Site Investigation and Remediation Activities*
by Treadwell & Rollo, Inc. (for Page Street Properties, LLC)
- drilled 20 soil borings (SB-17 through SB-34), installed 3 temporary piezometers (TR-1, -2, and -3) and 3 monitoring wells (TR-4, TR-5, and TR-6);
 - collected 9 soil and 19 groundwater samples analyzed for TPH, BTEX, and MTBE;
 - the lateral extent of free-phase product was defined;
 - the free-phase product is leaded gasoline without MTBE;
 - no offsite sources of the free-phase gasoline were identified;
 - Results suggest that upward migration of volatiles into the overly shallow fill may be significantly limited by naturally occurring geologic factors, and that the indoor air transport pathway appears to be incomplete.
- 3-7-01 *Indoor Ambient Air Sampling*
by Treadwell & Rollo, Inc. (for Page Street Properties, LLC)
- collected 3 indoor and 2 outdoor ambient air samples;

- tested ambient air samples for organic compounds using EPA Method TO-14;
- BTEX and MTBE was detected at very low concentrations;
- Results suggest that BTEX vapors are from current activities in and around the building and are not the result of vapors emanating from the soil or groundwater.

In Prep. *Additional Subsurface and Remediation Investigation*
by Treadwell & Rollo, Inc. (for Page Street Properties, LLC)

- installed 10 shallow soil-vapor probes ("A" through "J") installed to collect vapor samples from immediately below the floor slab;
- drilled one soil boring (SB-35) to examine shallow lithology with respect to perched groundwater zone and location of free-phase product;
- drilled one soil boring (SB-36) to examine subsurface conditions at former UST location;
- installed 3 piezometers (TR-7, TR-8, and TR-9) installed at the lateral extent of the free-phase gasoline plume to monitor migration;
- Results indicate that free-phase gasoline plume has not migrated beyond the lateral limits identified in the 1999 investigation;
- Hydrocarbon vapors were not detected beneath the concrete floor slab further demonstrating that detectable upward migration of vapors emanating from the soil or groundwater is not occurring.

SITE FACTS

1. Geologic conditions at the site consist of approximately two to eight feet of relatively sandy fill material underlain by Bay Mud to a depth of at least 24 feet below grade. The clayey Bay Mud appears to include heterogeneous zones of sandier soil and organic-rich (i.e., peaty) matter.
2. The stabilized groundwater depth is approximately eight to ten feet below the ground surface. However, there is a perched water zone beneath at least a portion of the property and is located above the Bay Mud at approximately 4 feet below the ground surface.
3. Environmental investigations have confirmed the presence of free product within the Bay Mud. The free product is gasoline containing organic lead and without MTBE.
4. Concentrations of typical gasoline constituents (benzene, toluene, ethylbenzene, and total xylenes [BTEX]) are present in groundwater beneath a portion of the property, including under the existing building. However, a soil vapor survey in 1998 indicated only relatively low benzene concentrations beneath the building's floor slab. A sample of perched water was collected in 1999 above an area of groundwater known to contain detectable concentrations of BTEX and the perched water samples did not contain detectable BTEX concentrations.
5. The lateral extent of free product has been defined. The free product occupies approximately 15,000 square feet extending under the building and adjacent outdoor areas as far as about the middle of Willow Street.

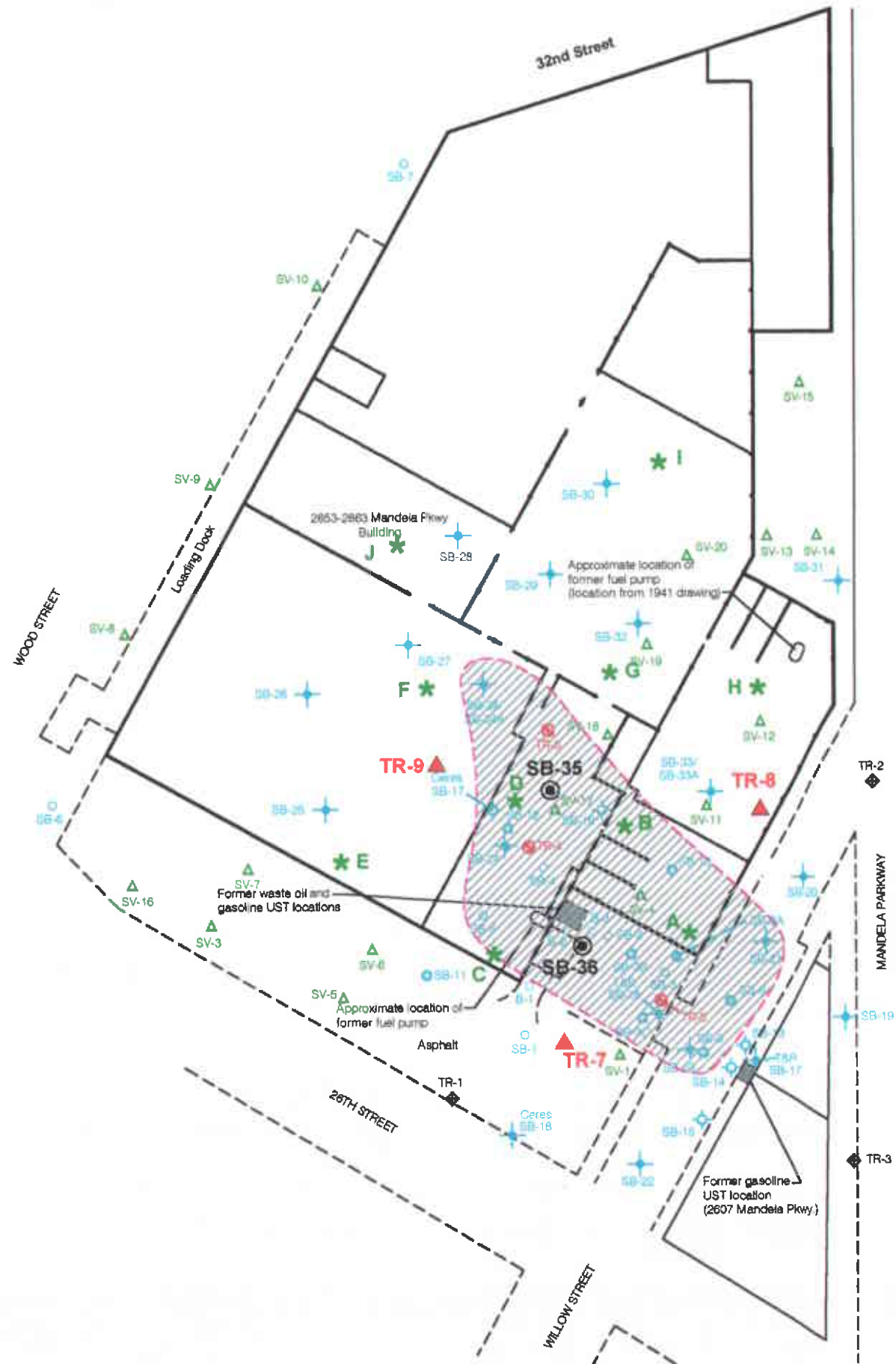
6. The free product is located within the highly variable Bay Mud matrix at the site. Its distribution within the matrix is likely complicated by numerous thin zones of more permeable sandy and peaty soil.
7. Soil sampling and perched water results, and soil gas surveys indicate that upward migration of volatiles into the overlying shallow fill may be severely limited by geologic factors. Soil gas samples collected from immediately below the floor slab did not contain detectable concentrations of petroleum hydrocarbons.
8. The source of the gasoline leak has been stopped. The leaking tank was removed in 1991. A majority of the site is either capped with asphalt or concrete paving or underlies the existing building. The building has a 6-inch thick concrete floor slab.
9. The site has been adequately characterized. A total of 36 soil borings (analyzed at least 57 soil samples), 48 soil gas probes, 14 grab groundwater samples, 3 temporary monitoring wells, 9 permanent monitoring wells, and 3 indoor air monitoring samples have been used to characterize the site.
10. There are no water supply wells or other sensitive receptors within the area containing petroleum hydrocarbons.

Planned Future Actions

Investigation results suggest that vapors from free phase gasoline and vapors from gasoline dissolved in the groundwater beneath a portion of the property are retarded from upward migration into the shallow fill zone because of geologic conditions. These conditions include the low-permeability clayey Bay Mud matrix and the presence of a perched water zone, as well as other factors. A study of the in-door ambient air quality completed in March 2001, and a soil-gas investigation conducted in June 2001 concluded that gasoline vapors, specifically BTEX, are not migrating in significant concentrations from the groundwater surface to immediately beneath the floor slab or into the building.

The following activities are planned:

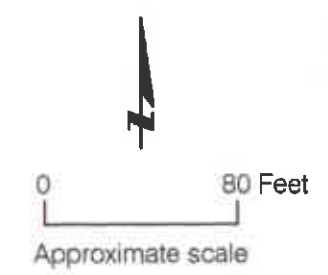
1. Remove accumulated free-phase gasoline from three existing 4-inch wells (TR-4, TR-5 and TR-6).
2. Continue monitoring free-phase gasoline thickness and lateral extent on a semi-annual basis in the recently installed free product monitoring wells TR-7, TR-8, and TR-9. The purpose for this monitoring is to demonstrate that the gasoline plume has stabilized.
3. Develop a long-term Corrective Action Plan for approval by the Regional Water Quality Control Board.



EXPLANATION

- Soil boring (06/92)
- Soil boring (08/98)
- ⊙ Soil boring (10/98)
- ⊕ Soil boring (11/98)
- ⊗ Soil boring (1999)
- ⊕ Piezometer (1999)
- ⊕ Monitoring well (1999)
- △ Soil vapor sampling (08/98)
- ▨ Free product extent based on:
1 - direct observation of product
2 - benzene >2000 µg/L
- G * Soil - vapor collection point
- SB-35 ⊙ Soil boring
- TR-7 ▲ Free product monitoring piezometer

Note:
Free product may not necessarily be present at all locations within the extent envelope indicated.



2855 MANDELA PARKWAY PROPERTY Oakland, California		
SAMPLING LOCATIONS		
Date 09/05/01	Project No. 2543.01	Figure 1
Treadwell&Rollo		

PLANNED SAMPLING LOCATIONS V1 254301.DWG

References: Ceres Associates, 1998. Interactive Resources, 1999.

PROJECT: **MANDELA PARKWAY**
Oakland, California

Log of Boring SB-35

Boring location: See Site Plan, Figure 2

Logged by: D. Sutherland

Date started: 6/4/01

Date finished: 6/4/01

Drilling method: Direct push-geoprobe

Hammer weight/drop:

Hammer type:

Sampler: Continuous core

DEPTH (feet)	SAMPLES					OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (inches)				
								Surface Conditions: concrete
1								6 inches concrete
2								SAND (SW), 90% recovery gray-brown, dense, moist, some fine to medium gravel, shell fragments
3							SW	∇ wet, gray-brown to brown
4								
5							CL	SANDY CLAY (CL) dark gray, soft, wet, soft to stiff, no odor
6								
7						86	OH	PEATY CLAY (OH) dark gray, very stiff, moist, gasoline odor
8								
9						227		CLAY (CL) dark gray, medium stiff, moist, gasoline odor, soft, shell fragments at 9.0 feet
10							CL	
11								
12								
13								
14						210	CL	SANDY CLAY (CL) light gray, stiff, moist, fine gravel, gasoline odor gray to gray-brown, hard, increase in medium gravel
15								
16							SW	SAND (SW) brown, dense, moist, fine to medium sand, no odor
17								
18								
19								
20								
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DRAFT

Boring terminated at a depth of 16.0 feet.
Boring backfilled with grout.
Groundwater encountered at a depth of 3.5 feet.

Treadwell&Rollo

Project No.: 2543.02

Figure: A-1

PROJECT: **MANDELA PARKWAY**
Oakland, California

Log of Boring SB-36

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: D. Sutherland

Date started: 6/4/01

Date finished: 6/4/01

Drilling method: Direct push-geoprobe

Hammer weight/drop:

Hammer type:

Sampler: Continuous core

DEPTH (feet)	SAMPLES					OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (Inches)				
								Surface Conditions: concrete
1								6 inches concrete
2								CLAYEY GRAVEL (GC) gray, loose, moist, 15% recovery
3						3.3	GC	SANDY CLAY (CL) dark gray, soft, moist, with some gravel and wood fragments
4								
5								
6						13.9		concrete, refusal - end of hole
7								
8								
9								
10								
11								
12								
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14								
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FILL

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Boring terminated at a depth of 6.0 feet.
Boring backfilled with grout.
Groundwater not encountered at time of drilling.

Treadwell & Rollo	
Project No.: 2543.02	Figure: A-2

TEST ENVIRONMENTAL 254302.GPJ T&R.GDT 8/30/01

PROJECT:

MANDELA PARKWAY
Oakland, California

Log of Boring TR-7

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: D. Sutherland

Date started: 6/4/01

Date finished: 6/4/01

Drilling method: Direct push-geoprobe

Hammer weight/drop:

Hammer type:

Sampler: Continuous core

DEPTH (feet)	SAMPLES					OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION	WELL COMPLETION INFORMATION	
	Sample Number	Sample	Blow Count	Recovery (feet)						
1							GW	6 inches asphalt		Grout From 0 To 1 Feet
2							CL	GRAVEL (GW) gray, loose, moist, with some clay, (fill)		Blank Casing From 1 To 5 Feet
3								CLAY (CL) dark gray, very stiff, moist, becomes interbedded with sand		Bentonite From 1 To 5 Feet
4							SW	SAND (SW) red-brown, very dense, moist, no odor		
5							∇	wet at 5.5 feet		
6								SILTY PEATY CLAY (OL) medium stiff, wet, no odor		Screened Casing From 5 To 20 Feet
7							OL			
9							CL	CLAY (CL) dark brown, moist, stiff, decrease in plant fragments, no odor		
10										
11							CL			
12								shell fragments at 12.0 feet		
13										
14							CL	GRAVELLY CLAY (CL) light gray, stiff, moist, no odor		Sand From 5 To 22 Feet
15										
16							CL	SANDY CLAY (CL) light gray, very stiff, moist, very fine sand decreasing sand gray to orange-brown mottling at 16.5		
17										
18							CL			
19										
20										
21							SC	CLAYEY SAND (SC) orange-brown, medium dense sand, moist, gray mottling, no odor		
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Boring terminated at a depth of 22.0 feet.

Treadwell&Rollo

Project No.: 2543.02

Figure: A-3

TEST ENVIRONMENTAL WELL 254302.GPJ T&R.GDT 8/30/01

PROJECT: **MANDELA PARKWAY**
Oakland, California

Log of Monitoring Well TR-8

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: D. Sutherland

Date started: 8/10/01

Date finished: 8/10/01

Drilling method: Direct push-geoprobe

Hammer weight/drop:

Hammer type:

Sampler: Continuous core

DEPTH (feet)	SAMPLES					LITHOLOGY	MATERIAL DESCRIPTION	WELL COMPLETION INFORMATION
	Sample Number	Sample	Blow Count	Recovery (feet)	OVM (ppm)			
1							cement	<p>Grout From 0 To 1 Feet Blank Casing From 1 To 5 Feet Bentonite From 1 To 5 Feet Screened Casing From 5 To 20 Feet</p>
2						0-2 inches gravel		
3						SANDY CLAY (SC) 30% recovery		
4						olive-gray, stiff, moist, with some fine to medium gravel		
5						CLAY (CL) 100% recovery		
6						dark, gray, soft, wet	<p>Sand From 5 To 20 Feet</p>	
7								
8								
9								
10						SANDY CLAY (SC)		
11						light gray, moist, with trace fine sand, hard		
12						gray to gray-brown, odor of gasoline		
13						CLAY (CL) 100% recovery		
14						black, soft, wet, some organic matter		
15						increased sand decrease in organic matter		
16						15.5-16.5 slight odor gasoline		
17						SANDY CLAY (SC) 100% recovery		
18						light brown, hard, moist, some orange mottling		
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Boring terminated at a depth of 20.0 feet.
Groundwater encountered at a depth of 4.5 feet and 13.0 feet.

Treadwell & Rollo

Project No.: 2543.02

Figure:

A-4

TEST ENVIRONMENTAL WELL 254302.GPJ T&R.GDT 8/30/01

PROJECT: **MANDELA PARKWAY**
Oakland, California

Log of Boring TR-9

Boring location: See Site Plan, Figure 2

Logged by: D. Sutherland

Date started: 6/5/01

Date finished: 6/5/01

Drilling method: Direct push-geoprobe

Hammer weight/drop:

Hammer type:

Sampler: Continuous core

DEPTH (feet)	SAMPLES					LITHOLOGY	MATERIAL DESCRIPTION	WELL COMPLETION INFORMATION
	Sample Number	Sample	Blow Count	Recovery (feet)	OVM (ppm)			
1						CL	6 inches concrete SANDY CLAY (CL) gray-brown, medium dense, moist, with brick fragments, no odor	<p>Grout From 0 To 1 Feet Blank Casing From 1 To 6 Feet Bentonite From 1 To 6 Feet Screened From 6 To 16 Feet Sand From 6 To 16 Feet</p>
2								
3						SW	SAND (SW), 85% recovery gray, dense, moist, fine to medium sand, with shell fragments, no odor	
4								
5						CL	CLAY (CL) dark gray, very soft, moist, no odor	
6							wet at 5.5 feet	
7						OH	ORGANIC CLAY (PEAT-OH) dark gray, soft, moist, decomposing odor	
8								
9								
10					0.0			
11						CL	CLAY (CL) dark gray, very soft, moist, with trace fine sand, no odor	
12								
13								
14								
15							wet at 14.0 to 14.5 feet	
16							SANDY CLAY (CL) light gray, hard, dry, with fine to medium gravel, brown mottling, shell fragments gray to brown at 15.5 feet	
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DRAFT

Boring terminated at a depth of 16.0 feet.
Groundwater encountered at a depth of 5.5 and 14.0 feet.

Treadwell & Rollo

Project No.: 2543.02 Figure: A-5

TEST ENVIRONMENTAL WELL 254302.GPJ T&R.GDT 8/30/01