



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

March 3, 2010

Mr. Daniel Altwarg (*Sent via E-mail to: dan@markussupply.com*)  
Cardanal Properties, LLC  
C/o Bartlett, Leader-Picone & Young, LLP  
2201 Broadway, Suite 803  
Oakland, CA 94612

Mr. Richard Arnold, et al  
Gamma Investments  
Address Unknown

Ms. Betty Brunswick  
PG&E  
77 Beal Street, Room 2439C  
San Francisco, CA 94105

Subject: Fuel Leak Case No. RO0002949 and Geotracker Global ID T0619758441, Markus Supply Hardware, 632-638 2<sup>nd</sup> Street, Oakland, CA 94607

Dear Mr. Altwarg, Ms. Brunswick, and Mr. Arnold:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (<http://geotracker.swrcb.ca.gov>) and the Alameda County Environmental Health website (<http://www.acgov.org/aceh/index.htm>).

#### SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Total Petroleum Hydrocarbons as diesel remain in groundwater at concentrations up to 21,000 ppb.
- Benzene remains in groundwater at concentrations up to 360 ppb
- As described in section IV of the attached Case Closure Summary, the case was closed with Site Management Requirements that limit future land use to commercial land use only.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna L. Drogos".

Donna L. Drogos, P.E.  
Chief

Enclosures:

1. Remedial Action Completion Certification
2. Case Closure Summary

cc:

Leroy Griffin (w/enc)  
Oakland Fire Department  
250 Frank H. Ogawa Plaza, Ste. 3341  
Oakland, CA 94612-2032  
(Sent via E-mail to: [lgriffin@oaklandnet.com](mailto:lgriffin@oaklandnet.com))

Closure Unit (w/enc)  
State Water Resources Control Board  
UST Cleanup Fund  
P.O. Box 944212  
Sacramento, CA 94244-2120

James Jacobs  
Clearwater Group  
229 Tewksbury Avenue  
Point Richmond, CA 94801  
(Sent via E-mail to: [augerpro@sbcglobal.net](mailto:augerpro@sbcglobal.net))

Malcolm Leader-Picone  
Bartlett, Leader-Picone & Young, LLP  
2201 Broadway, Suite 803  
Oakland, CA 94612  
(Sent via E-mail to: [mlp@leader-picone.com](mailto:mlp@leader-picone.com))

Donna Drogos, ACEH (Sent via E-mail to: [donna.drogos@acgov.org](mailto:donna.drogos@acgov.org))  
Jerry Wickham, ACEH (w/o enc)  
Geotracker (w/enc)  
File (w/orig enc)



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1131 Harbor Bay Parkway, Suite 250  
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**REMEDIAL ACTION COMPLETION CERTIFICATION**

March 3, 2010

Mr. Daniel Altwarg (*Sent via E-mail to: dan@markussupply.com*)  
Cardanal Properties, LLC  
C/o Bartlett, Leader-Picone & Young, LLP  
2201 Broadway, Suite 803  
Oakland, CA 94612

Mr. Richard Arnold, et al  
Gamma Investments  
Address Unknown

Ms. Betty Brunswick  
PG&E  
77 Beal Street, Room 2439C  
San Francisco, CA 94105

Subject: Fuel Leak Case No. RO0002949 and Geotracker Global ID T0619758441, Markus Supply Hardware, 632-638 2<sup>nd</sup> Street, Oakland, CA 94607

Dear Mr. Altwarg, Ms. Brunswick, and Mr. Arnold:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Ariu Levi".

Ariu Levi  
Director  
Alameda County Environmental Health

**CASE CLOSURE SUMMARY  
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM**

**I. AGENCY INFORMATION**

Date: December 24, 2009

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Senior Hazardous Materials Specialist

**II. CASE INFORMATION**

Site Facility Name: Markus Supply Hardware		
Site Facility Address: 632-638 2 <sup>nd</sup> Street, Oakland, CA 94607		
RB Case No.:	Local Case No.: ---	LOP Case No.: RO0002949
URF Filing Date: 03/06/2006	Geotracker ID: T0619758441	APN: 1-125-1

Responsible Parties	Addresses	Phone Numbers
Mr. Daniel Altwarg, Cardanal Properties, LLC	C/o Bartlett, Leader-Picone & Young, LLP, 2201 Broadway, Suite 803, Oakland, CA 94612	
Ms. Betty Brunswick, PG&E	77 Beal Street, Room 2439C, San Francisco, CA 94105	
Mr. Richard Arnold, et al Gamma Investments	Address Unknown	

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	1,500 gallons	Petroleum/Fuel	Closed in Place	05/02/2007
2	2,000 gallons	Petroleum/Fuel	Closed in Place	05/02/2007
3	2,000 gallons	Petroleum/Fuel	Closed in Place	05/02/2007
4	2,000 gallons	Creosote	Closed in Place	05/02/2007
5	2,000 gallons	Creosote	Closed in Place	05/25/2007
Piping			Removed	05/02/2007

### III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. Based on sampling results, the piping was suspected to be the source of the releases.		
Site characterization complete? Yes	Date Approved By Oversight Agency: ----	
Monitoring wells installed? No	Number: 0	Proper screened interval? ---
Highest GW Depth Below Ground Surface: approximately 6 feet bgs	Lowest Depth: 10 feet bgs	Flow Direction: Based on contaminant distribution, South
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: An unknown well is located approximately 950 feet southeast of the site. The unknown well is reported to be 140 feet deep and was installed by the Division of Highways in 1955. Based on the cross gradient location of the well and distance from the site, the well is not expected to be a receptor for the site. No other water supply wells have been identified within 2,000 feet of the site.	
Are drinking water wells affected? No	Aquifer Name: East Bay Plain
Is surface water affected? No	Nearest SW Name: Oakland Inner Harbor is approximately 700 feet south of the site
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and City of Oakland Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	1 -1,500-gallon tank 4 – 2,000-gallon tanks	Tanks were closed in place by filling with concrete	05/02/2007 and 05/25/2007
Piping	Not reported	Not reported	---
Free Product	2,500 gallons	Product and rinse water was removed from tanks and transported off-site to Alviso Independent Oil in Alviso, California	05/01/2007
Soil	---	---	---
Groundwater	---	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS No information available from tank removals IONS  
BEFORE AND AFTER CLEANUP

(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	90	90	35,000(1)	<50(1)
TPH (Diesel)	31	31	21,000	21,000
TPH (Motor Oil)	NA	NA	NA	NA
Benzene	0.022	0.022	360	360
Toluene	0.12	0.12	58	58
Ethylbenzene	1.2	1.2	9.5	9.5
Xylenes	6.7	6.7	44	44
Lead	44(2)	44(2)	NA	NA
MTBE	<0.005(3)	<0.005(3)	11(4)	11(4)
Other (8240/8270)	ND(5)	ND(5)	ND(5)	ND(5)

- (1) The maximum concentration before cleanup is from a grab groundwater sample collected from boring T1-B on 02/02/2007. TPH as gasoline was not detected in 15 grab groundwater samples collected in October 2008.
- (2) No metals analyzed other than lead.
- (3) MTBE, EDB, And EDC <0.005 ppm.
- (4) MTBE = 11 ppb; EDB and EDC <0.5 ppb.
- (5) SVOCs were not detected at various reporting limits. VOCs were not analyzed in soil and groundwater samples but were not detected in product samples.

#### Site History and Description of Corrective Actions:

This fuel leak case addresses five underground storage tanks (USTs) that were located beneath the sidewalk in front of a commercial building at 632-638 2<sup>nd</sup> Street, Oakland, CA. Surrounding land use is commercial and industrial.

The commercial building at 632-638 2<sup>nd</sup> Street was leased by PG&E in the 1950s. After PG&E vacated the property, the building appears to have been used by a door manufacturer in the 1960s. The building was later used as a hardware storage warehouse. Small businesses currently occupy the building spaces.

On September 13, 1996, three soil borings were advanced in the area of the suspected USTs to determine if subsurface soils were impacted by petroleum hydrocarbons. During the drilling of SB-1, stained and odorous soils were encountered to a depth of 4.5 feet bgs. At 5 feet bgs, the sampler pierced an unknown object which was suspected to be one of the USTs and dropped into a void under its own weight. Upon retrieval, the sampler was coated with a liquid that had a petroleum odor. Soil boring SB-3, which was advanced to a depth of two feet at a location several feet from SB-1, encountered gray-stained soil with a petroleum odor. A fingerprint analysis of the soil sample from SB-3 indicated that the petroleum hydrocarbons encountered in SB-3 were extremely weathered gasoline or possibly mineral spirits.

On February 2, 2007, twelve soil borings were advanced around the USTs to collect soil and groundwater samples. Several of the borings were advanced at an angle to obtain soil samples beneath the USTs. Analytical results from soil and groundwater samples collected in the borings indicated that leaks occurred in the tank systems for tanks I, II, and III. The leaks were suspected to be upgradient of the tanks, most likely in the piping and dispensers.

After triple rinsing, four of the USTs (I, II, III, and IV) were closed in place by filling with concrete on May 2, 2007. Following the cleaning and pumping of UST V on May 1, a creosote/water mixture was observed to have partially re-filled the UTS. Closure of UST V was delayed while the creosote level was monitored over a two week period. The volume of creosote did not increase over the two week period from May 2 to approximately May 16, 2007. The creosote that entered the UST following the initial cleaning and rinsing was suspected to be from an abandoned delivery line. UST V was closed in place by filling with concrete on May 25, 2007.

In October 2008, 15 soil borings were advanced in the sidewalk near the USTs and south of the USTs in 2<sup>nd</sup> Street. After field screening, a total of 29 soil samples were selected for laboratory analysis. TPH as diesel was detected in 23 of the 29 soil samples at concentrations up to 22 ppm. TPH as gasoline, BTEX, and MTBE were not detected in any of the soil samples. TPH as diesel was detected in all 15 grab groundwater samples collected at concentrations up to 21,000 ppb. The highest concentration of TPH as diesel was detected south of the USTs beneath 2<sup>nd</sup> Street. Benzene was detected in 2 of the 15 grab groundwater samples at concentrations up to 9.2 ppb.

In order to assess the potential vapor intrusion to indoor air, soil vapor samples were collected at four locations along the outside wall of the building and one location adjacent to UST II on November 6, 2009. Due to the detection of the leak compound, 2-propanol at concentrations ranging from 43 to 1,800,000 ppbv, the November 6, 2009 results were not considered reliable and a second sampling event took place on November 19, 2009. No chemicals of concern were detected in the five soil vapor samples collected on November 19, 2009. Based on the November 19, 2009 sampling results, vapor intrusion was not considered a potential threat for the site.

**IV. CLOSURE**

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
<p>Site Management Requirements: Case closure for the fuel leak site is granted for the current commercial land use only. If a change in land use to any residential or other conservative land use scenario occurs at this site, Alameda County Environmental Health (ACEH) must be notified as required by Government Code Section 65850.2.2. ACEH will re-evaluate the case upon receipt of approved development/construction plans.</p> <p>Excavation or construction activities in the areas of residual contamination require planning and implementation of appropriate health and safety procedures by the responsible party prior to and during excavation and construction activities. The site is to be entered into the City of Oakland Permit Tracking System due to the residual contamination on site.</p>		
Should corrective action be reviewed if land use changes? Yes.		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 0
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		



**V. ADDITIONAL COMMENTS, DATA, ETC.**

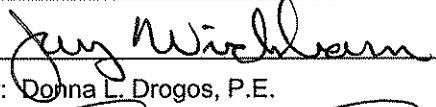
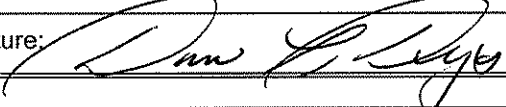
Considerations and/or Variances:

The former piping and dispensers are the suspected source of releases from the UST systems. The piping and dispensers were located beneath the current building. Therefore, residual soil and groundwater contamination remains in place beneath building; some piping may also remain in place. Based on the absence of volatile organic compounds in the soil vapor sampling conducted adjacent to the building and the highly weathered nature of the petroleum hydrocarbons, the potential for vapor intrusion to indoor air appears to be minimal.

Conclusion:

Based upon the information available in our files to date, Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment under the current commercial land use. No further investigation or cleanup is necessary unless a change in land use to any residential or other conservative land use scenario occurs at this site. ACEH staff recommend case closure for this site.

**VI. LOCAL AGENCY REPRESENTATIVE DATA**

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: 	Date: 01/07/10
Approved by: Donna L. Drogos, P.E.	Title: Chief
Signature: 	Date: 01/07/10

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

**VII. REGIONAL BOARD NOTIFICATION**

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB: 01/07/10
Signature: <i>Cherie McCaulou</i>	Date: 3/2/10

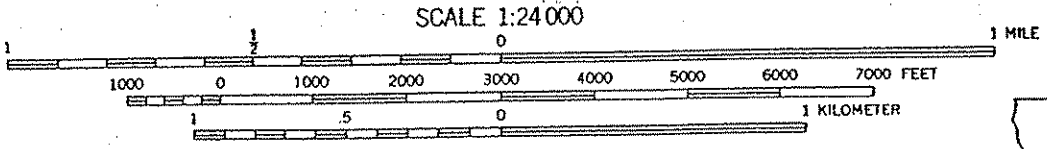
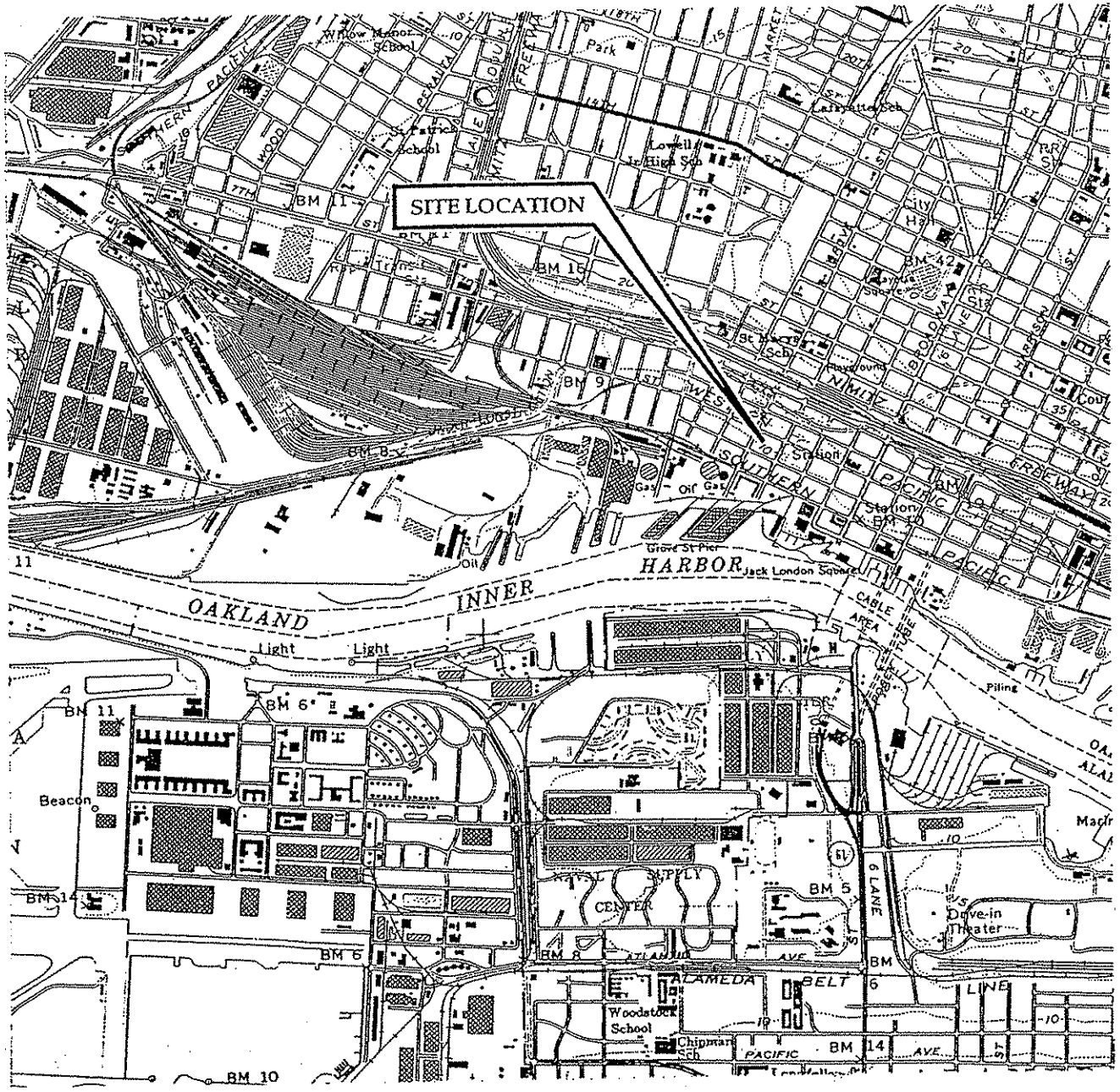
**VIII. MONITORING WELL DECOMMISSIONING**

Date Requested by ACEH: NA	Date of Well Decommissioning Report: NA	
All Monitoring Wells Decommissioned: <input checked="" type="radio"/> Yes <input type="radio"/> No	Number Decommissioned: 0	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: NA		
ACEH Concurrence - Signature: <i>James Wickham</i>	Date: 03/03/10	

**Attachments:**

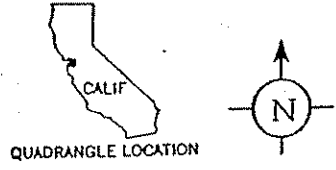
1. Site Location Map (1 page)
2. Site Map (8 pp)
3. Soil and Groundwater Analytical Results Maps (3 pp)
4. Soil and Soil Vapor Analytical Data (14 pp)
5. Groundwater Analytical Data (7 pp)
6. Boring Logs (18 pp)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.



CONTOUR INTERVAL 20 FEET

Source:  
USGS 7.5' topographic series  
entitled "Oakland West, CA"



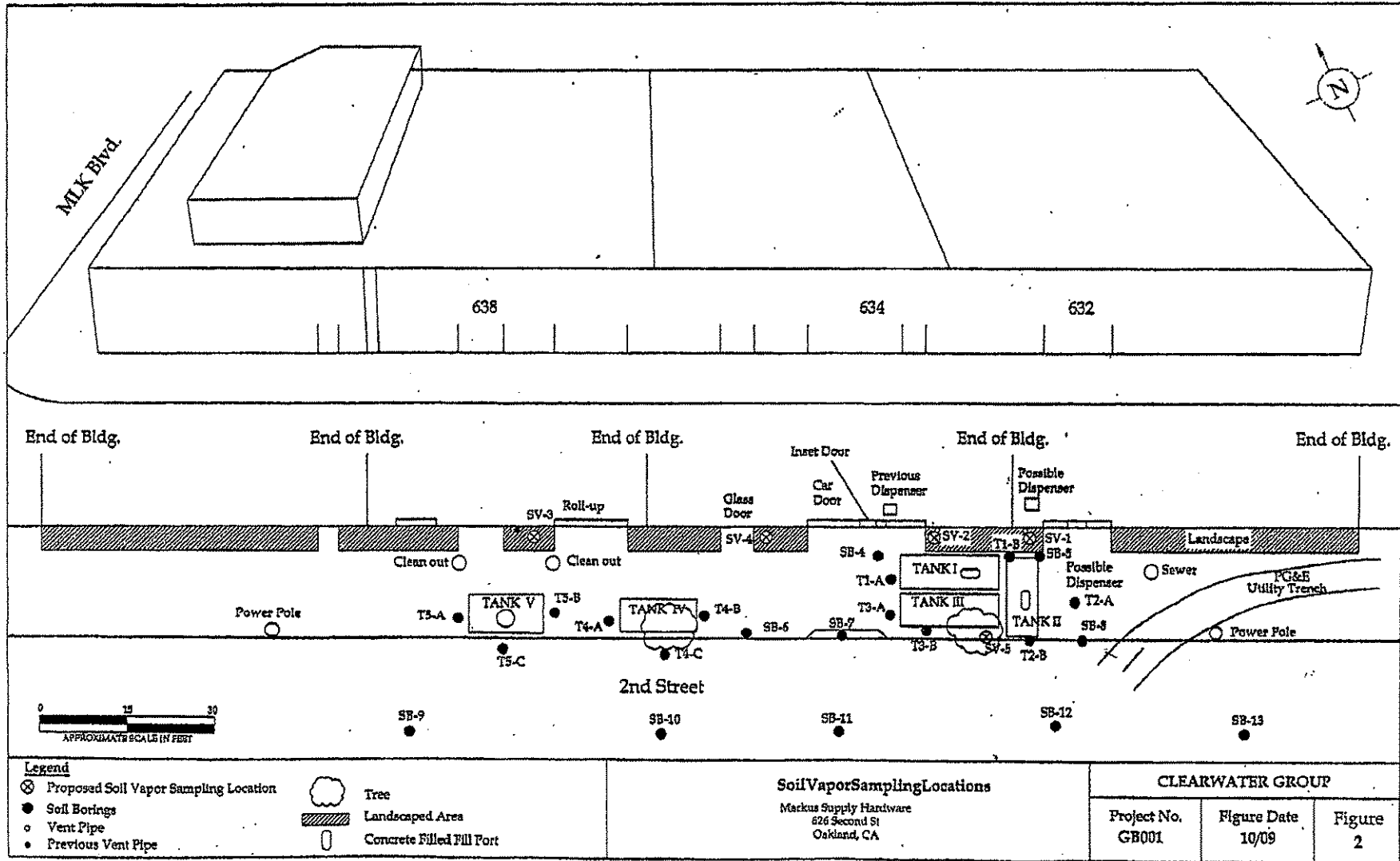
**SITE LOCATION MAP**

625 Third Street  
Oakland, California

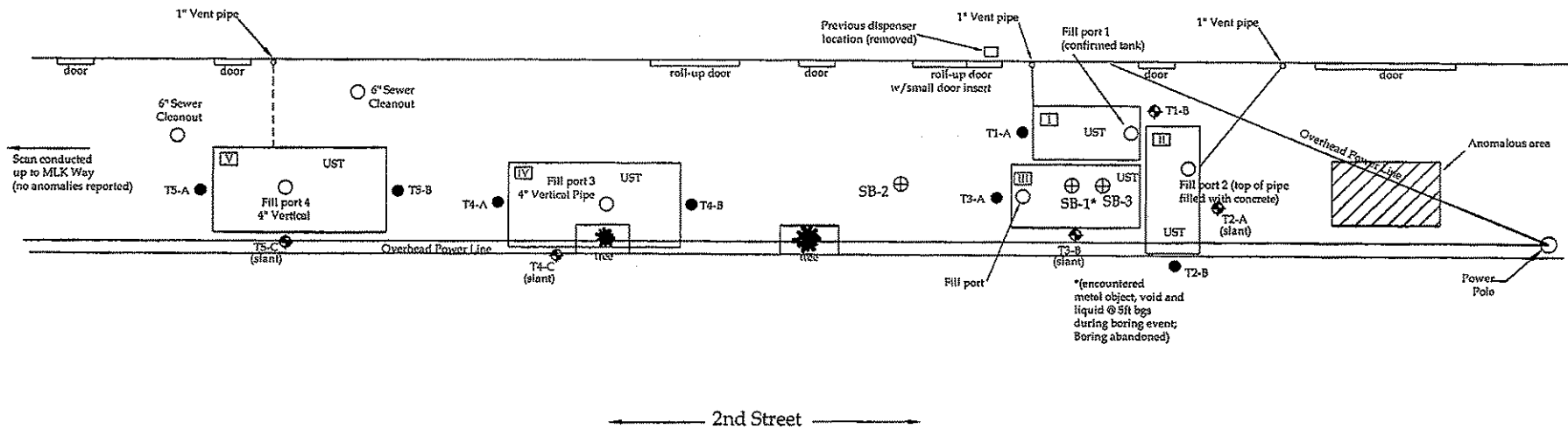
**CLEARWATER GROUP, INC.**

Project No. C-154	Date 9/96	Figure 1
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**ATTACHMENT 1**



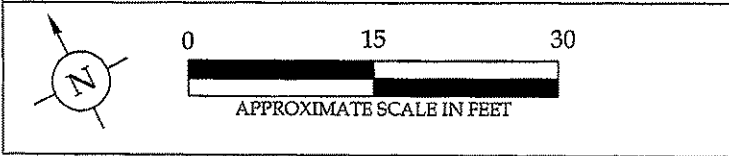
Markus Supply  
Ace Hardware  
Building



- KEY:**
- ⊕ Boring (locations approximate) for samples taken in 1996
  - Fill port
  - I Tank #
  - Tank Outline
  - ◆ Soil and Groundwater Sampling Locations
  - Soil Boring Sampling Locations

TANK DIMENSIONS	
I	10' x 5'
II	~12' x 6'
III	12' x 5'
IV	16' x 8'
V	16' x 8'

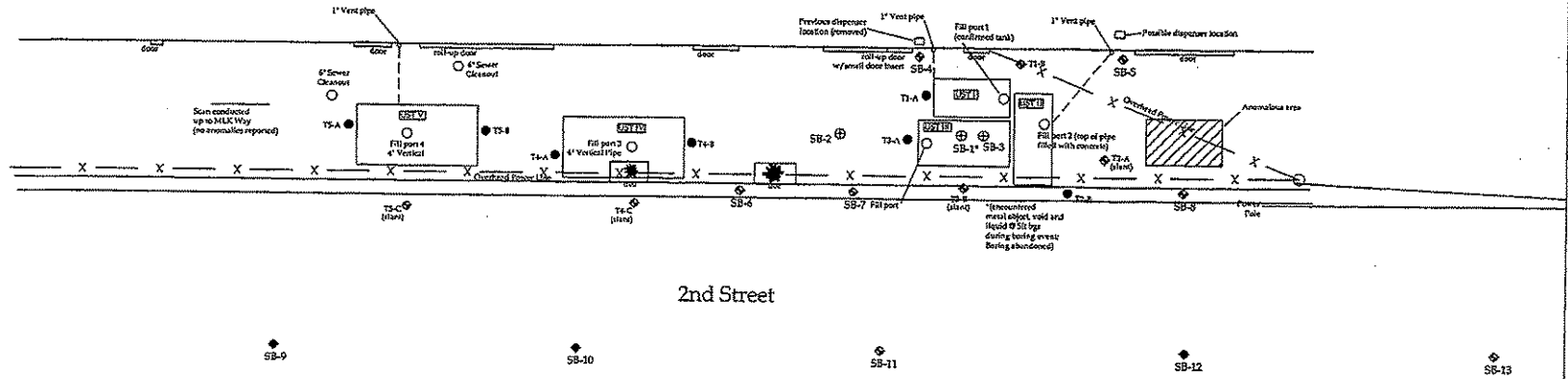
Scale 1" = 15'



Site Plan - Existing Features  
Markus Supply Hardware  
626 2nd Street, Oakland, California

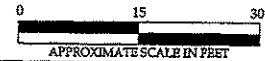
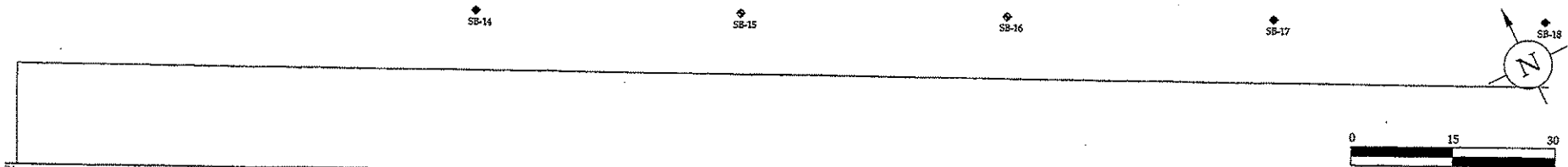
CLEARWATER GROUP		
Project No. GB001H	Figure Date 01/09	Figure 2

Markus Supply  
Ace Hardware  
Building



2nd Street

⊕ MW-OAK-6



- ⊕ Boring (locations approximate) for samples taken in 1996
- Fill port
- I Tank #
- ⌈ Tank Outline

- ◆ Soil and Groundwater Sampling Locations
- Grab Groundwater Location
- Soil Boring only
- hgt Below Ground Surface
- UST Underground Storage Tank
- MLK Martin Luther King Jr. Way

TANK DIMENSIONS	
I	10' x 5' (6" Dia)
II	12' x 6'
III	12' x 5'
IV	16' x 8'
V	16' x 8'

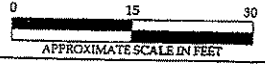
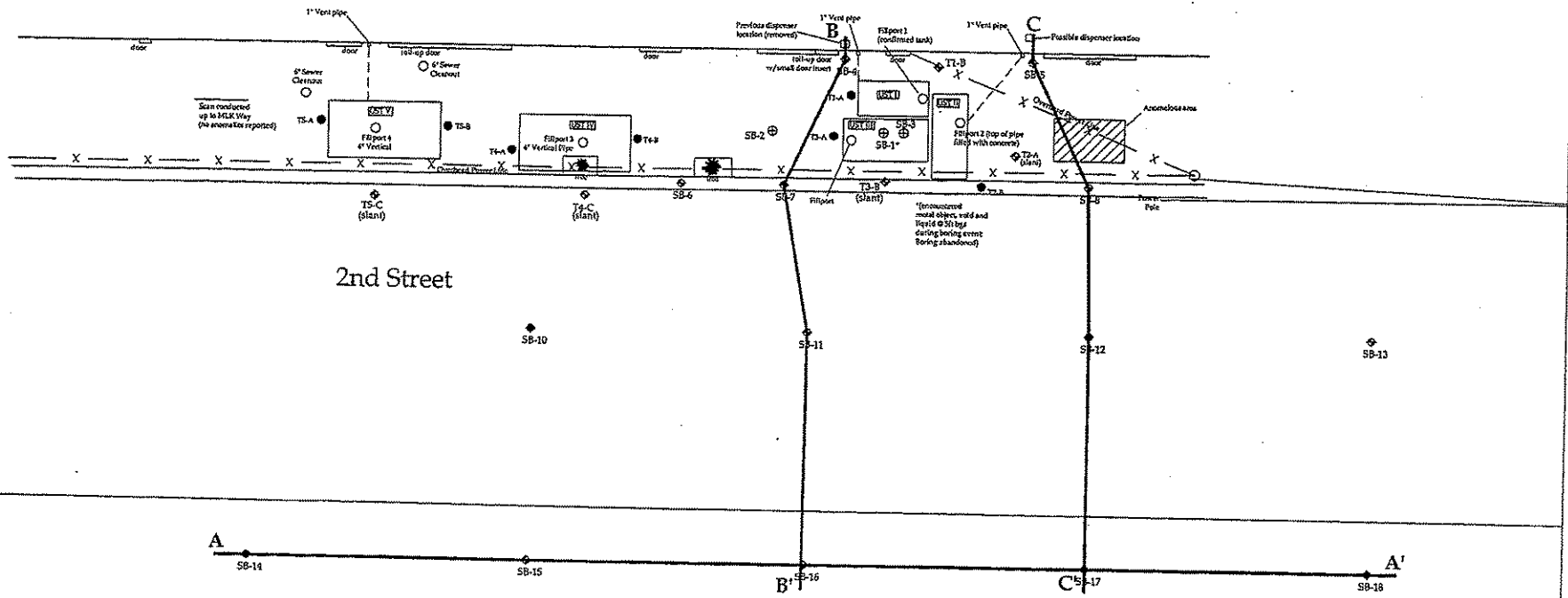
Boring Locations October 6, 7, and 9, 2008

Markus Supply Hardware  
626 Second St  
Oakland, CA

CLEARWATER GROUP

Project No.	Figure Date	Figure
GB001H	01/09	3

# Markus Supply Ace Hardware Building



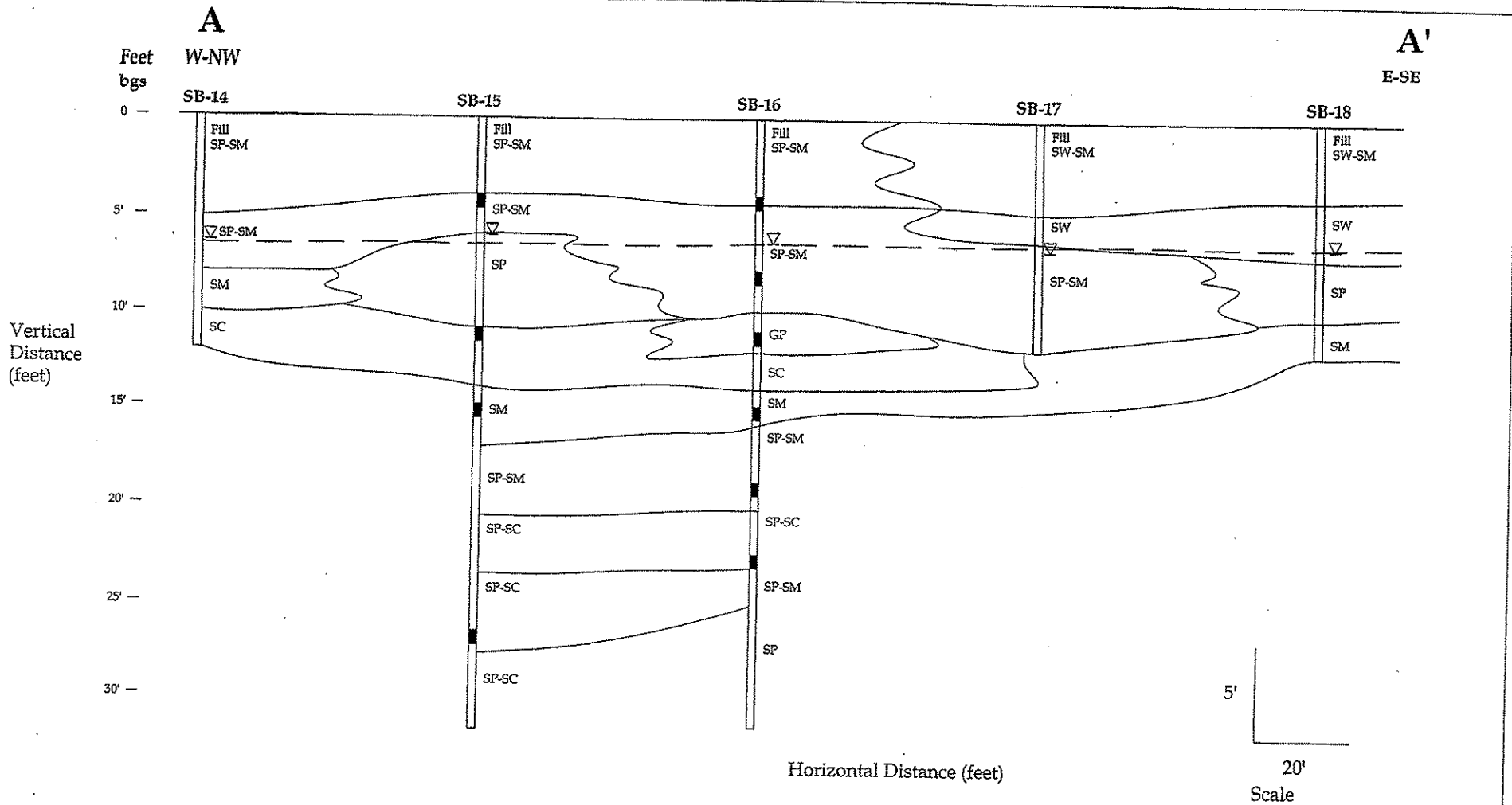
- KEY:**
- ⊕ Boring (locations approximate) for samples taken in 1996
  - Fill port
  - I Tank #
  - ▭ Tank Outline
  - ⊕ Soil and Groundwater Sampling Locations
  - Grab Groundwater Location
  - Soil Boring only

TANK DIMENSIONS	
I	10' x 5' (L x Dia)
II	12' x 6'
III	12' x 5'
IV	15' x 8'
V	18' x 8'

**Cross Section Location Map**  
 Markus Supply Hardware  
 626 2nd St  
 Oakland, CA

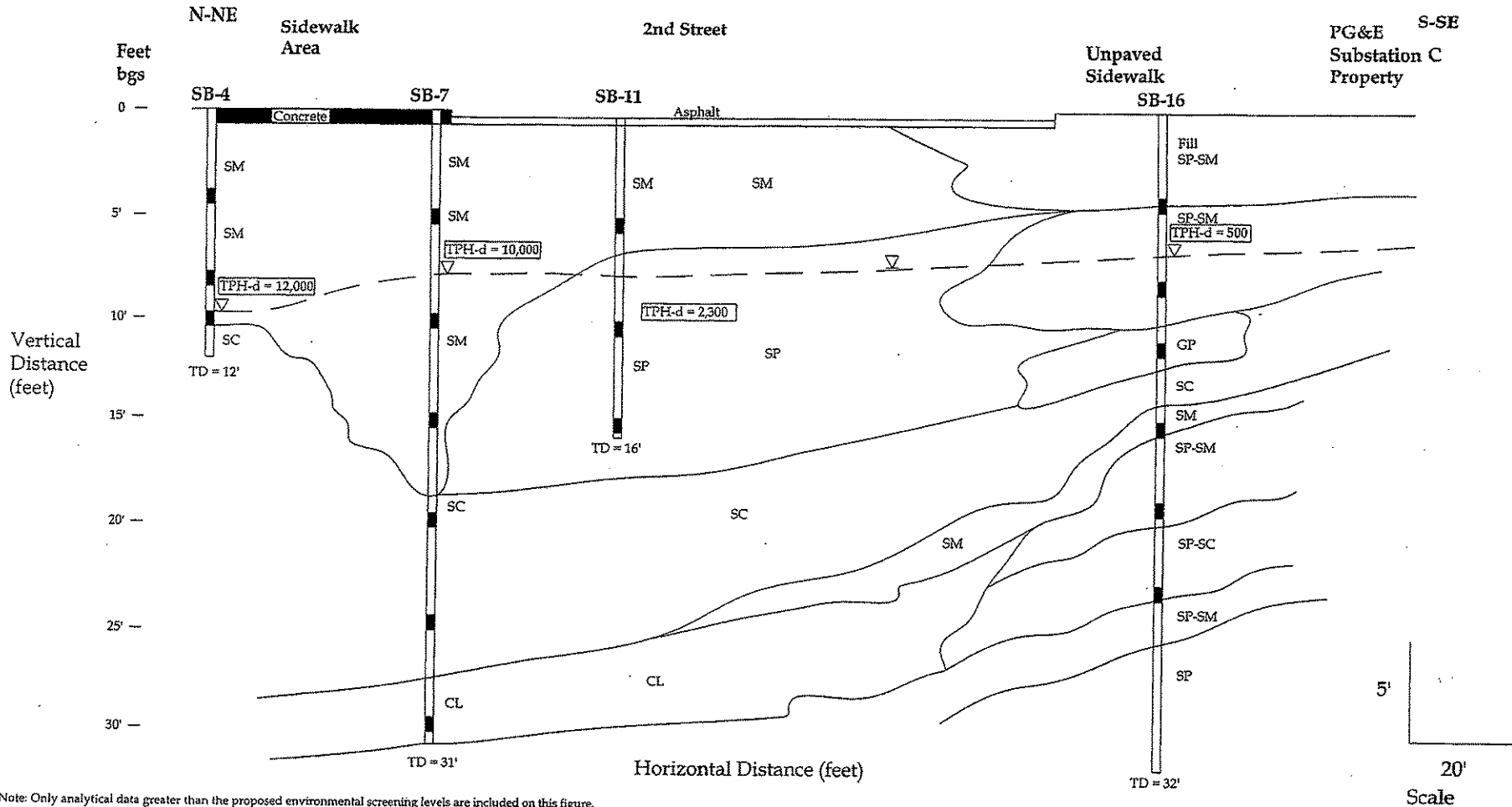
**CLEARWATER GROUP**

Project No. <b>GB001H</b>	Figure Date <b>01/09</b>	Figure <b>4</b>
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Legend			Cross Section A-A' Markus Supply Hardware 626 2nd St Oakland, CA	CLEARWATER GROUP		
<ul style="list-style-type: none"> <li>▬ Soil Sample Interval</li> <li>▽ Groundwater Depth</li> <li>TD Total Depth</li> <li>bgs Below Ground Surface</li> </ul>	<ul style="list-style-type: none"> <li><b>Sample Detected Above Assessment Level</b> (only values above assessment level reported)</li> <li>Groundwater</li> <li>SW-SM Well Graded Sand with Silt</li> <li>SP-SM Poorly Graded Sand with Silt</li> </ul>	<ul style="list-style-type: none"> <li>SW Well Graded Sand</li> <li>SP Poorly Graded Sand</li> <li>SC Clayey Sand</li> <li>SM Silty Sand</li> <li>GP Poorly Graded Gravel</li> <li>SP-SC Poorly Graded Sand with Clay</li> </ul>		Project No. <b>GB001H</b>	Figure Date <b>01/09</b>	Figure <b>5</b>



**B****B'**

Note: Only analytical data greater than the proposed environmental screening levels are included on this figure.

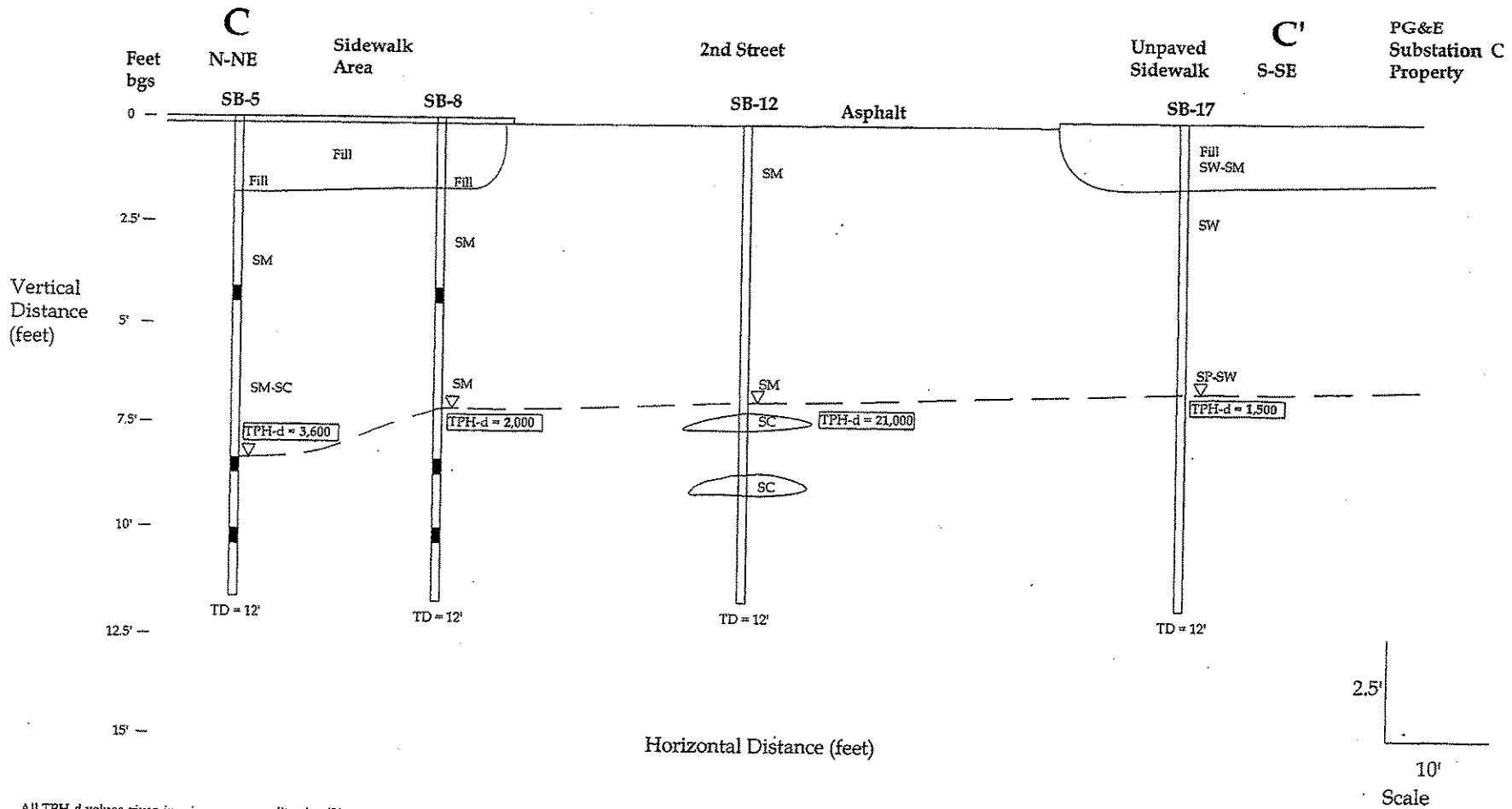
**Legend**

■ Concrete	<b>Bold</b> Sample Detected Above Assessment Level (only values above assessment level reported)	SP-SM Poorly Graded Sand with Silt
▣ Soil Sample Interval	TPH-d Total Petroleum Hydrocarbons as Diesel	SW Well Graded Sand
▽ Groundwater Depth	SW-SM Well Graded Sand with Silt	SP Poorly Graded Sand
TD Total Depth	----- Groundwater	SC Clayey Sand
bgs Below Ground Surface		SM Silty Sand
		GP Poorly Graded Gravel
		SP-SC Poorly Graded Sand with Clay

**Cross Section B-B'**  
 Markus Supply Hardware  
 626 2nd St  
 Oakland, CA

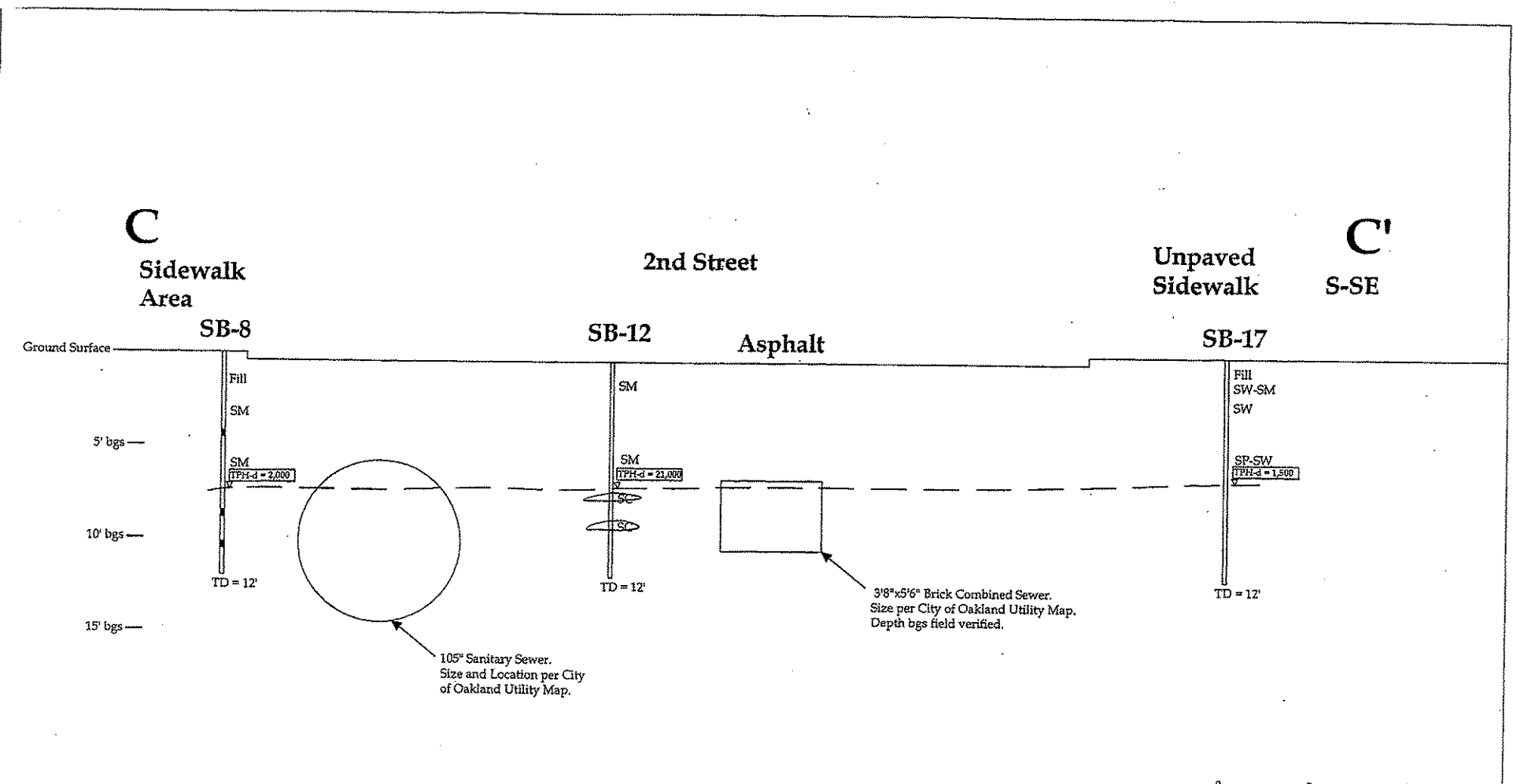
**CLEARWATER GROUP**

Project No. GB001H	Figure Date 01/09	Figure 6
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All TPH-d values given in micrograms per liter ( $\mu\text{g/L}$ )

Legend		Soil Types		Cross Section C-C' Markus Supply Hardware 626 2nd St Oakland, CA	CLEARWATER GROUP		
<ul style="list-style-type: none"> <li>▬ Soil Sample Interval</li> <li>▽ Groundwater Depth</li> <li>TD Total Depth</li> <li>bgs Below Ground Surface</li> </ul>	<ul style="list-style-type: none"> <li><b>Bold</b> Sample Detected Above Assessment Level (only values above assessment level reported)</li> <li>SW-SM Well Graded Sand with Silt</li> <li>TPH-d Total Petroleum Hydrocarbons as Diesel</li> </ul>	<ul style="list-style-type: none"> <li>SP-SM Poorly Graded Sand with Silt</li> <li>SW Well Graded Sand</li> <li>SP Poorly Graded Sand</li> <li>SC Clayey Sand</li> <li>SM Silty Sand</li> <li>GP Poorly Graded Gravel</li> <li>SP-SC Poorly Graded Sand with Clay</li> </ul>	<ul style="list-style-type: none"> <li>Poorly Graded Sand with Silt</li> <li>Well Graded Sand</li> <li>Poorly Graded Sand</li> <li>Clayey Sand</li> <li>Silty Sand</li> <li>Poorly Graded Gravel</li> <li>Poorly Graded Sand with Clay</li> </ul>		Project No. <b>GB001H</b>	Figure Date <b>01/09</b>	Figure <b>7</b>

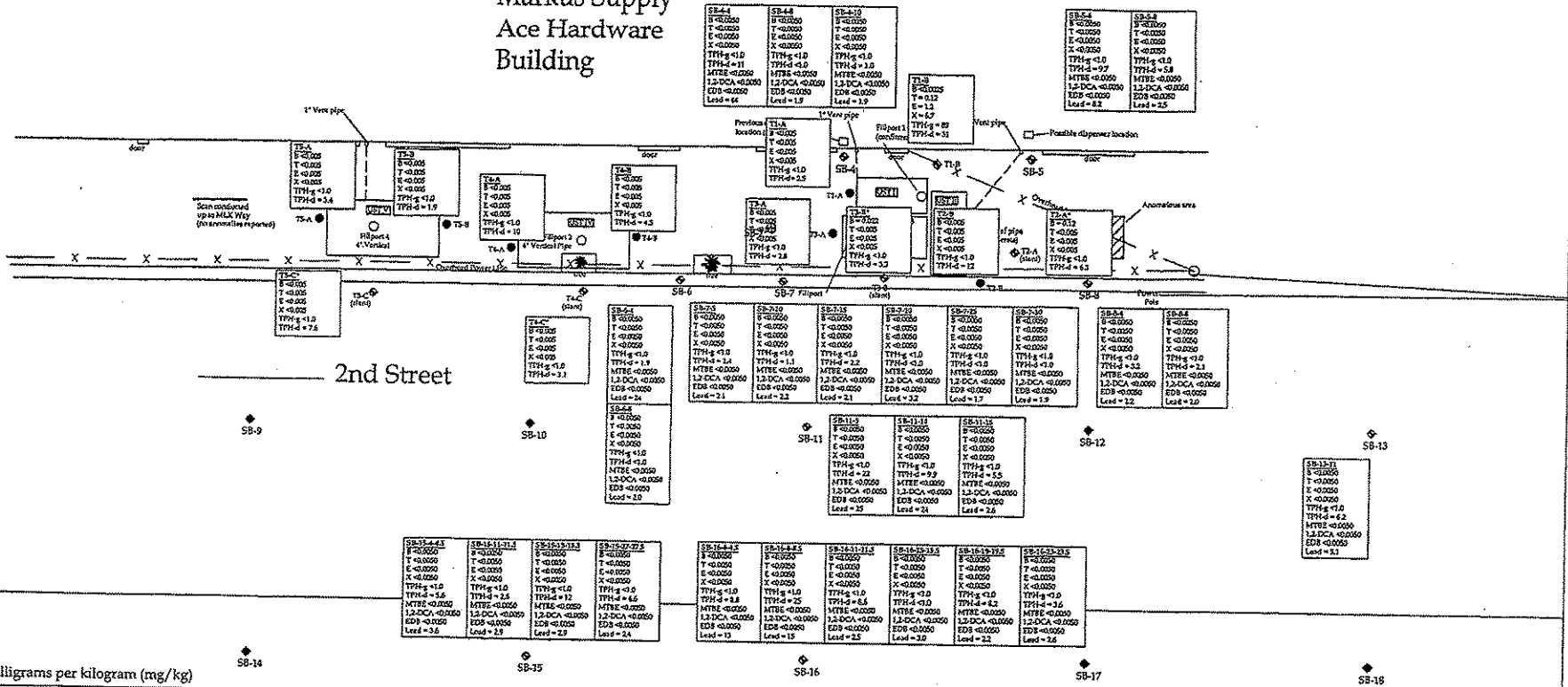


Note: Only analytical data greater than the proposed environmental screening levels are included on this figure.  
 Only utility lines in groundwater are shown.  
 All values given in micrograms per liter (µg/L)



Legend				2nd Street Cross-Section Markus Supply Hardware 626 2nd St Oakland, CA		CLEARWATER GROUP		
		Sample Detected Above Assessment Level (only values above assessment level reported)				Project No. GB001H	Figure Date 01/09	Figure 11
▣	Soil Sample Interval	<b>Bold</b>	Sample Detected Above Assessment Level (only values above assessment level reported)	SP-SM	Poorly Graded Sand with Silt			
▽	Groundwater Depth			SW	Well Graded Sand			
TD	Total Depth	SW-SM	Well Graded Sand with Silt	SP	Poorly Graded Sand			
bgs	Below Ground Surface	TPH-d	Total Petroleum Hydrocarbons as Diesel	SC	Clayey Sand			
				SM	Silty Sand			
				GP	Poorly Graded Gravel			
				SP-SC	Poorly Graded Sand with Clay			

# Markus Supply Ace Hardware Building



Values are given in milligrams per kilogram (mg/kg)

- Legend**
- TPH-g Total Petroleum Hydrocarbons as Gasoline
  - TPH-d Total Petroleum Hydrocarbons as Diesel
  - B Benzene
  - T Toluene
  - E Ethylbenzene
  - X Total Xylenes
  - MTBE Methyl Tertiary Butyl Ether
  - 1,2-DCA 1,2-Dichloroethane
  - EDB 1,2-Dibromoethane
  - Lead Lead
  - ESL Environmental Screening Level (for commercial land use where groundwater is not a source of drinking water)
  - MLK Martin Luther King Jr. Way

**KEY:**

- ⊙ Soiling (locations approximate) for samples taken in 1996
- Fill port
- Underground Storage Tank Number
- ▭ Tank Outline
- ◆ Soil and Groundwater Sampling Locations
- Soil Boring locations
- ◆ Grab Groundwater Location

**TANK DIMENSIONS**

- I - 10' x 6'
- II - 12' x 6'
- III - 12' x 5'
- IV - 10' x 8'
- V - 10' x 6'

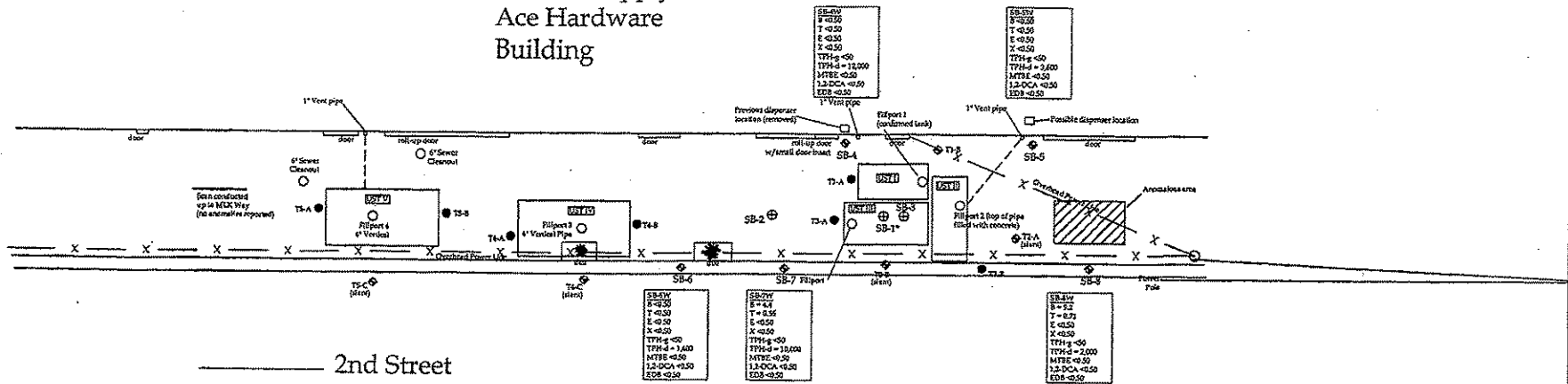
**Soil Sample Analytical Results from**  
**October 6, 7, and 9, 2008**  
 Markus Supply Hardware  
 526 2nd St  
 Oakland, CA

**CLEARWATER GROUP**

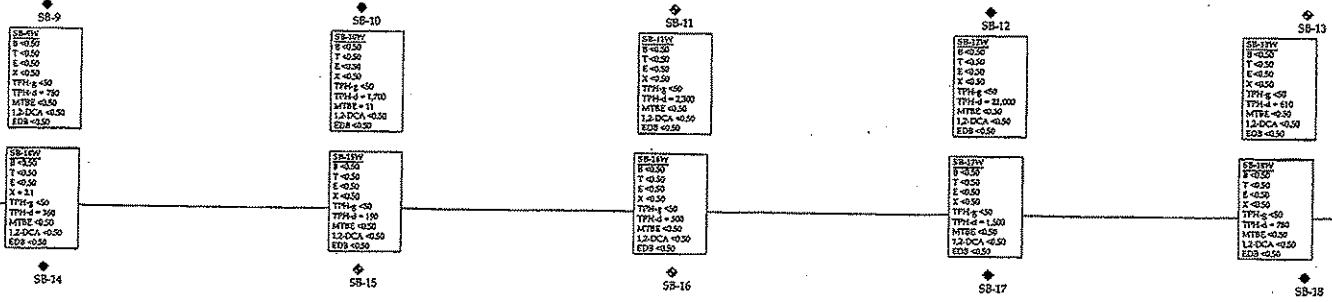
Project No. <b>GB001H</b>	Figure Date <b>01/09</b>	Figure <b>8</b>
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H:\Department\Jobs\GB001 Markus Hardware\CAD\Soil Investigation\Fig 8 Soil Sample Analytical Results

# Markus Supply Ace Hardware Building



2nd Street



Values are given in micrograms per liter ( $\mu\text{g/L}$ )

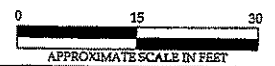
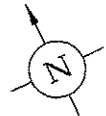
- Legend**
- TPH-g Total Petroleum Hydrocarbons as Gasoline
  - TPH-d Total Petroleum Hydrocarbons as Diesel
  - B Benzene
  - T Toluene
  - E Ethylbenzene
  - X Total Xylenes
  - MTBE Methyl Tertiary Butyl Ether
  - 1,2-DCA Dichloroethane
  - EDB Dibromoethane
  - ESL Environmental Screening Level (for commercial land use where groundwater is not a source of drinking water)
  - Bold Detected Concentration Exceeds ESL
  - MLK Martin Luther King Jr. Way

**KEY:**

- ⊕ Boring (locations approximate) for samples taken in 1996
- Fill port
- UST# Underground Storage Tank Number
- Tank Outline
- ◆ Soil and Groundwater Sampling Locations
- Soil Boring locations
- ◆ Grab Ground-water Location

**TANK DIMENSIONS**

- I - 10' x 5' (L x Dia)
- II - 12' x 5'
- III - 12' x 5'
- IV - 15' x 5'
- V - 15' x 5'

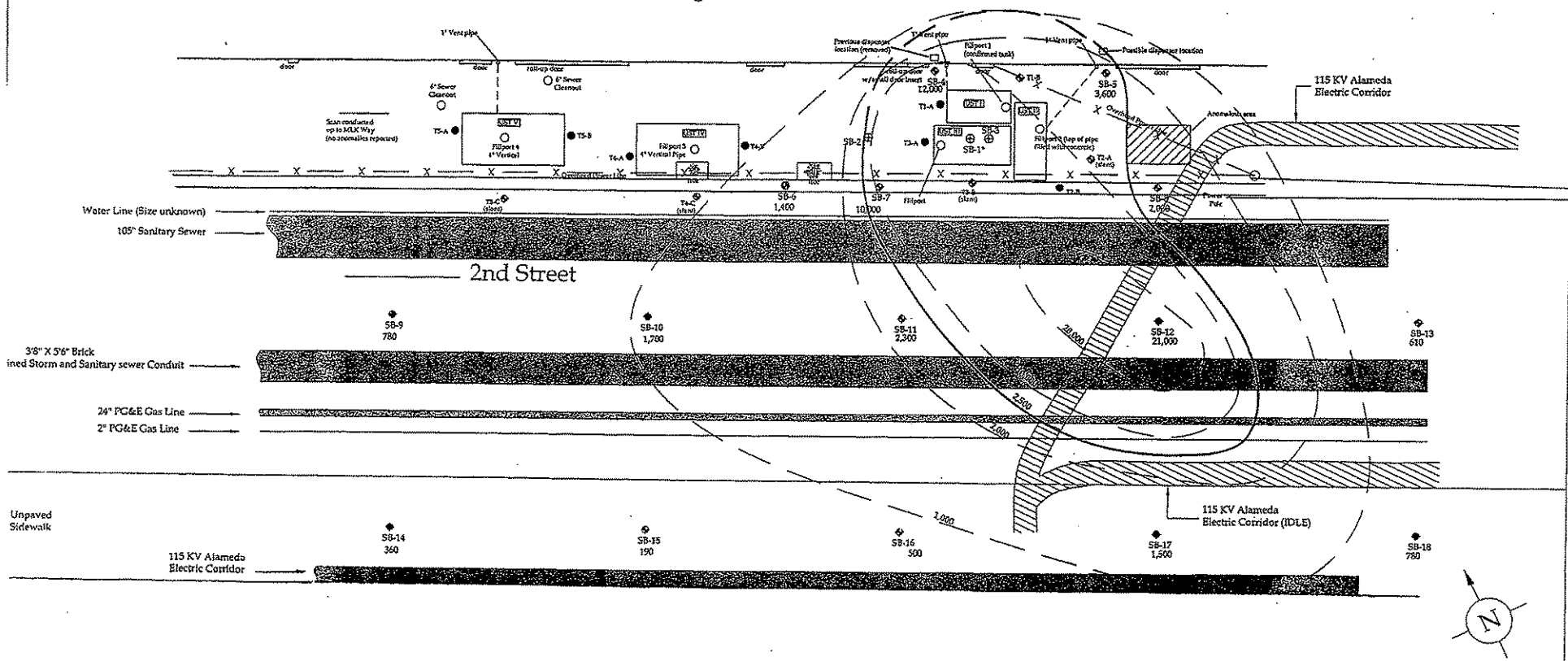


**Groundwater Sample Analytical Results from  
October 6, 7, and 9, 2008**  
Markus Supply Hardware  
626 2nd St  
Oakland, CA

**CLEARWATER GROUP**

Project No. GB001H	Figure Date 11/08	Figure 9
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# Markus Supply Ace Hardware Building



All TPH-d values given in micrograms per liter ( $\mu\text{g/L}$ )



- KEY:**
- ⊕ Boring (locations approximate) for samples taken in 1996
  - Fill port
  - I Tank #
  - Tank Outline
  - ⊕ Soil and Groundwater Sampling Locations
  - Soil Boring locations
  - ⊕ Grab Groundwater Location
  - UST Underground Storage Tank
  - ESL Line (2,500  $\mu\text{g/L}$ )
  - TPH-d Iso-Contour Line

**TANK DIMENSIONS**  
I - 19' x 9' (L x Dia)  
II - 12' x 6'  
III - 12' x 9'  
IV - 16' x 8'  
V - 16' x 8'

**Groundwater TPH-d Iso-concentration Map**  
for Grab Groundwater Samples Collected Oct. 6, 7 & 9, 2008

Markus Supply Hardware  
626 Second St  
Oakland, CA

**CLEARWATER GROUP**

Project No.	Figure Date	Figure
GB001H	01/09	10

**Table 1**  
**Soil Sample Analytical Results**

Markus Hardware Store  
626 2<sup>nd</sup> Street  
Oakland, CA

Sample	Date	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	TPH-g mg/kg	TPH-d mg/kg	MTBE mg/kg	1,2-DCA mg/kg	EDB mg/kg	Lead mg/kg
ESL shallow soils <3 meters bgs		0.26	29	33	100	450	150	8.4	0.48	0.042	750
ESL deep soils >3 meters bgs		11	29	33	420	4200	150	8.4	1.8	1.0	750
T1-A (9.5 to 10.0 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	2.5	NA	NA	NA	NA
T1-B (9.5 to 10.0 feet bgs)	2/2/07	<0.025	0.12	1.2	6.7	89	31	NA	NA	NA	NA
T2-A* (14.5 to 15.0 feet bgs)	2/2/07	0.012	<0.005	<0.005	<0.005	<1.0	6.3	NA	NA	NA	NA
T2-B (9.0 to 9.5 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	12	NA	NA	NA	NA
T3-A (7.0 to 7.5 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	2.8	NA	NA	NA	NA
T3-B* (11.5 to 12.0 feet bgs)	2/2/07	0.022	<0.005	<0.005	<0.005	<1.0	3.3	NA	NA	NA	NA
T4-A (8.0 to 8.5 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	10	NA	NA	NA	NA
T4-B (8.0 to 8.5 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	4.5	NA	NA	NA	NA
T4-C* (14.5 to 15.0 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	3.1	NA	NA	NA	NA
T5-A (9.5 to 10.0 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	3.4	NA	NA	NA	NA
T5-B (9.5 to 10.0 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	1.9	NA	NA	NA	NA
T5-C* (16.0 to 16.5 feet bgs)	2/2/07	<0.005	<0.005	<0.005	<0.005	<1.0	7.6	NA	NA	NA	NA
SB-4-4	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	11	< 0.0050	< 0.0050	< 0.0050	44
SB-4-8	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	< 1.0	< 0.0050	< 0.0050	< 0.0050	1.9
SB-4-10	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	1.0	< 0.0050	< 0.0050	< 0.0050	1.9
SB-5-4	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	9.7	< 0.0050	< 0.0050	< 0.0050	8.2
SB-5-8	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	5.8	< 0.0050	< 0.0050	< 0.0050	2.5
SB-6-4	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	1.9	< 0.0050	< 0.0050	< 0.0050	24
SB-6-8	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	< 1.0	< 0.0050	< 0.0050	< 0.0050	2.0
SB-7-5	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	2.4	< 0.0050	< 0.0050	< 0.0050	2.1
SB-7-10	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	1.1	< 0.0050	< 0.0050	< 0.0050	2.2
SB-7-15	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	2.2	< 0.0050	< 0.0050	< 0.0050	2.1
SB-7-20	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	< 1.0	< 0.0050	< 0.0050	< 0.0050	3.2
SB-7-25	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	< 1.0	< 0.0050	< 0.0050	< 0.0050	1.7
SB-7-30	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	< 1.0	< 0.0050	< 0.0050	< 0.0050	1.9
SB-8-4	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	3.2	< 0.0050	< 0.0050	< 0.0050	2.2
SB-8-8	10/7/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	2.1	< 0.0050	< 0.0050	< 0.0050	2.0
SB-11-5	10/6/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	22	< 0.0050	< 0.0050	< 0.0050	25
SB-11-10	10/6/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	9.9	< 0.0050	< 0.0050	< 0.0050	24
SB-11-15	10/6/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	5.5	< 0.0050	< 0.0050	< 0.0050	2.6
SB-13-11	10/6/08	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	6.2	< 0.0050	< 0.0050	< 0.0050	3.1
SB-15-4-4.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	5.6	<0.0050	<0.0050	<0.0050	3.6

**Table 1**  
**Soil Sample Analytical Results**

Markus Hardware Store  
626 2<sup>nd</sup> Street  
Oakland, CA

Sample	Date	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	TPH-g mg/kg	TPH-d mg/kg	MTBE mg/kg	1,2-DCA mg/kg	EDB mg/kg	Lead mg/kg
ESL shallow soils <3 meters bgs		<b>0.26</b>	<b>29</b>	<b>33</b>	<b>100</b>	<b>450</b>	<b>150</b>	<b>8.4</b>	<b>0.48</b>	<b>0.042</b>	<b>750</b>
ESL deep soils >3 meters bgs		<b>11</b>	<b>29</b>	<b>33</b>	<b>420</b>	<b>4200</b>	<b>150</b>	<b>8.4</b>	<b>1.8</b>	<b>1.0</b>	<b>750</b>
SB-15-11-11.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	2.6	<0.0050	<0.0050	<0.0050	2.9
SB-15-15-15.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	12	<0.0050	<0.0050	<0.0050	2.9
SB-15-27-27.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	4.6	<0.0050	<0.0050	<0.0050	2.4
SB-16-4-4.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	8.8	<0.0050	<0.0050	<0.0050	13
SB-16-8-8.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	25	<0.0050	<0.0050	<0.0050	15
SB-16-11-11.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	8.6	<0.0050	<0.0050	<0.0050	2.5
SB-16-15-15.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<1.0	<0.0050	<0.0050	<0.0050	3.0
SB-16-19-19.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	8.2	<0.0050	<0.0050	<0.0050	2.2
SB-16-23-23.5	10/9/08	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	3.6	<0.0050	<0.0050	<0.0050	2.6

ESLs = Environmental Screening Levels for commercial/industrial use when groundwater is not a current or potential source of drinking water

bgs = Below ground surface

\* = Boring completed at a 30 degree angle from vertical

EDB = 1,2-Dibromoethane

1,2-DCA = 1,2-Dichloroethane

TPH-d = Total petroleum hydrocarbons - diesel

TPH-g = Total petroleum hydrocarbons - gasoline

MTBE = Methyl tert-butyl ether

**Bold** = Detected concentration exceeds specified ESL

NA = Not available

<0.005 = Contaminant not detected above laboratory detection limit



**Table 1**  
**SUMMARY OF ANALYTICAL RESULTS**

626 Second Street  
Oakland, California

Sample No.	Date	TPHg (1) (mg/kg)	TPHg (2) (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)
SB-3-1.5'	9/13/96	90*	2.9	<0.005	<0.005	0.045	0.065
S-2-6'	9/13/96	—	<2	<0.005	<0.005	<0.005	0.005

**Notes:**

- Sample No.: Sample designation and collection depth in feet  
Date: Sample collection date  
TPHg (1): Total petroleum hydrocarbons as gasoline quantified from fuel fingerprint (<C7 to C12)  
TPHg (2): Total petroleum hydrocarbons as gasoline using EPA Method 8015 (modified)  
BTEX, MTBE: Benzene, Toluene, Ethylbenzene, total Xylenes,  
and Methyl Tert-Butyl Ether using EPA Method 8020 (modified)  
mg/kg: milligrams per kilogram (often referred to as "parts per million")  
\*: Chromatogram pattern interpreted as extremely weathered gasoline or possibly mineral spirits  
<###: Not detected in exceeding indicated concentrations  
—: Not analyzed

### 3.3 Soil Sample Analytical Results

The table below summarizes the results of the analytical soil testing.

Soil Sample			Analytical Results in mg/kg						
Date	Sample Name	Vertical Depth of Sample (ft)	TPH-d	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes	SVOCs
2/2/07	T1-A	9.5-10.0	2.5	<1.0	<0.005	<0.005	<0.005	<0.005	NA
2/2/07	T1-B	9.5-10.0	31	89	<0.025	0.12	1.2	6.7	NA
2/2/07	T2-A*	14.5-15.0	6.3	<1.0	0.012	<0.005	<0.005	<0.005	NA
2/2/07	T2-B	9.0-9.5	12	<1.0	<0.005	<0.005	<0.005	<0.005	NA
2/2/07	T3-A	7.0-7.5	2.8	<1.0	<0.005	<0.005	<0.005	<0.005	NA
2/2/07	T3-B*	11.5-12.0	3.3	<1.0	0.022	<0.005	<0.005	<0.005	NA
2/2/07	T4-A	8.0-8.5	10	<1.0	<0.005	<0.005	<0.005	<0.005	ND
2/2/07	T4-B	8.0-8.5	4.5	<1.0	<0.005	<0.005	<0.005	<0.005	ND
2/2/07	T4-C*	14.5-15.0	3.1	<1.0	<0.005	<0.005	<0.005	<0.005	ND
2/2/07	T5-A	9.5-10.0	3.4	<1.0	<0.005	<0.005	<0.005	<0.005	ND
2/2/07	T5-B	9.5-10.0	1.9	<1.0	<0.005	<0.005	<0.005	<0.005	ND
2/2/07	T5-C*	16.0-16.5	7.6	<1.0	<0.005	<0.005	<0.005	<0.005	ND
<b>Environmental Screening Limit (ESL)<sup>^</sup></b>			<b>500</b>	<b>400</b>	<b>0.38</b>	<b>9.3</b>	<b>320</b>	<b>110</b>	<b>-</b>

ND – concentrations were below detection limits; NA – not analyzed.

\* Borings were drilled at a 60° angle (measured from horizontal) in order to reach under the UST. The depth shown as part of the Sample Name was measured along the angled boring.

<sup>^</sup> ESL for commercial land use where groundwater is NOT a source of drinking water.

NOTE: The laboratory provided these comments in their report narrative.

*The Method Reporting Limit for TPH as Diesel is increased due to interference from Gasoline-Range Hydrocarbons for sample T1-B.*

*Hydrocarbons reported as TPH as Diesel do not exhibit a typical Diesel chromatographic pattern for samples T1-A 9.5-10.0, T2-A 14.5-15.0, T3-A 7.0-7.5, T3-B 11.5-12.0, T4-A 8.0-8.5, T4-B 8.0-8.5, T4-C 14.5-15.0, T5-A 9.5-10, T5-B 9.5-10, T5-C 16-16.5 and T5-C. These hydrocarbons are higher boiling than typical diesel fuel.*

*Hydrocarbons reported as TPH as Diesel do not exhibit a typical Diesel chromatographic pattern for samples T1-B 9.5-10.0 and T2-A 14.5-15.0. There is a mixture of hydrocarbons consistent with diesel fuel and hydrocarbons that are higher boiling than typical diesel fuel present.*

## Analytical Report



Kiff Analytical  
 2795 2nd Street, Suite 300  
 Davis, CA 95616-6593

Date Received: 02/07/07  
 Work Order No: 07-02-0338  
 Preparation: EPA 3545  
 Method: EPA 8270C  
 Units: mg/kg

Project: Markus Supply Hardware

Page 1 of 7

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
T4-A 8.0-B.5	07-02-0338-1	02/02/07	Solid	02/07/07	02/09/07	070207E08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	0.50	1		2,4-Dinitrophenol	ND	2.5	1	
Aniline	ND	0.50	1		4-Nitrophenol	ND	0.50	1	
Phenol	ND	0.50	1		Dibenzofuran	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1		2,4-Dinitrotoluene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1		2,6-Dinitrotoluene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1		Diethyl Phthalate	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1		4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Benzyl Alcohol	ND	0.50	1		Fluorene	ND	0.40	1	
1,2-Dichlorobenzene	ND	0.50	1		4-Nitroaniline	ND	0.50	1	
2-Methylphenol	ND	0.50	1		Azobenzene	ND	0.50	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1		4,6-Dinitro-2-Methylphenol	ND	2.5	1	
3/4-Methylphenol	ND	0.50	1		N-Nitrosodiphenylamine	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1		2,4,6-Trichlorophenol	ND	0.50	1	
Hexachloroethane	ND	0.50	1		4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Nitrobenzene	ND	2.5	1		Hexachlorobenzene	ND	0.50	1	
Isophorone	ND	0.50	1		Pentachlorophenol	ND	2.5	1	
2-Nitrophenol	ND	0.50	1		Phenanthrene	ND	0.40	1	
2,4-Dimethylphenol	ND	0.50	1		Anthracene	ND	0.40	1	
Benzic Acid	ND	2.5	1		Di-n-Butyl Phthalate	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1		Fluoranthene	ND	0.40	1	
2,4-Dichlorophenol	ND	0.50	1		Benzidine	ND	10	1	
1,2,4-Trichlorobenzene	ND	0.50	1		Pyrene	ND	0.40	1	
Naphthalene	ND	0.40	1		Pyridine	ND	0.50	1	
4-Chloroaniline	ND	0.50	1		Butyl Benzyl Phthalate	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1		3,3'-Dichlorobenzidine	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1		Benzo (a) Anthracene	ND	0.40	1	
2-Methylnaphthalene	ND	0.40	1		Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
1-Methylnaphthalene	ND	0.40	1		Chrysene	ND	0.40	1	
Hexachlorocyclopentadiene	ND	1.5	1		Di-n-Octyl Phthalate	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.40	1	
2-Chloronaphthalene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.40	1	
2-Nitroaniline	ND	0.50	1		Benzo (a) Pyrene	ND	0.35	1	
Dimethyl Phthalate	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.40	1	
Acenaphthylene	ND	0.40	1		Dibenz (a,h) Anthracene	ND	0.40	1	
3-Nitroaniline	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.40	1	
Acenaphthene	ND	0.40	1						
<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>	<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>		
2-Fluorophenol	95	42-120		Phenol-d6	97	46-118			
Nitrobenzene-d5	105	42-150		2-Fluorobiphenyl	104	38-134			
2,4,6-Tribromophenol	110	36-132		p-Terphenyl-d14	109	35-167			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

## Analytical Report



Kiff Analytical  
 2795 2nd Street, Suite 300  
 Davis, CA 95616-6593

Date Received: 02/07/07  
 Work Order No: 07-02-0338  
 Preparation: EPA 3545  
 Method: EPA 8270C  
 Units: mg/kg

Project: Markus Supply Hardware

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
14-B-0-05	07-02-0338-2	02/02/07	Solid	02/07/07	02/09/07	070207L06

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	0.50	1		2,4-Dinitrophenol	ND	2.5	1	
Aniline	ND	0.50	1		4-Nitrophenol	ND	0.50	1	
Phenol	ND	0.50	1		Dibenzofuran	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1		2,4-Dinitrotoluene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1		2,6-Dinitrotoluene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1		Diethyl Phthalate	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1		4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Benzyl Alcohol	ND	0.50	1		Fluorene	ND	0.40	1	
1,2-Dichlorobenzene	ND	0.50	1		4-Nitroaniline	ND	0.50	1	
2-Methylphenol	ND	0.50	1		Azobenzene	ND	0.50	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1		4,6-Dinitro-2-Methylphenol	ND	2.5	1	
3/4-Methylphenol	ND	0.50	1		N-Nitrosodiphenylamine	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1		2,4,6-Trichlorophenol	ND	0.50	1	
Hexachloroethane	ND	0.50	1		4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Nitrobenzene	ND	2.5	1		Hexachlorobenzene	ND	0.50	1	
Isophorone	ND	0.50	1		Pentachlorophenol	ND	2.5	1	
2-Nitrophenol	ND	0.50	1		Phenanthrene	ND	0.40	1	
2,4-Dimethylphenol	ND	0.50	1		Anthracene	ND	0.40	1	
Benzoic Acid	ND	2.5	1		Di-n-Butyl Phthalate	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1		Fluoranthene	ND	0.40	1	
2,4-Dichlorophenol	ND	0.50	1		Benzidine	ND	10	1	
1,2,4-Trichlorobenzene	ND	0.50	1		Pyrene	ND	0.40	1	
Naphthalene	ND	0.40	1		Pyridine	ND	0.50	1	
4-Chloroaniline	ND	0.50	1		Butyl Benzyl Phthalate	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1		3,3'-Dichlorobenzidine	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1		Benzo (a) Anthracene	ND	0.40	1	
2-Methylnaphthalene	ND	0.40	1		Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
1-Methylnaphthalene	ND	0.40	1		Chrysene	ND	0.40	1	
Hexachlorocyclopentadiene	ND	1.5	1		Di-n-Octyl Phthalate	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.40	1	
2-Chloronaphthalene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.40	1	
2-Nitroaniline	ND	0.50	1		Benzo (a) Pyrene	ND	0.35	1	
Dimethyl Phthalate	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.40	1	
Acenaphthylene	ND	0.40	1		Dibenz (a,h) Anthracene	ND	0.40	1	
3-Nitroaniline	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.40	1	
Acenaphthene	ND	0.40	1						
Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual		
2-Fluorophenol	92	42-120		Phenol-d6	95	46-118			
Nitrobenzene-d5	103	42-150		2-Fluorobiphenyl	100	38-134			
2,4,6-Tribromophenol	106	36-132		p-Terphenyl-d14	99	35-167			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

## Analytical Report



Kiff Analytical  
2795 2nd Street, Suite 300  
Davis, CA 95616-6593

Date Received: 02/07/07  
Work Order No: 07-02-0338  
Preparation: EPA 3545  
Method: EPA 8270C  
Units: mg/kg

Project: Markus Supply Hardware

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
T4-C 14.5-15.0	07-02-0338-3	02/02/07	Solid	02/07/07	02/09/07	070207L06

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	0.50	1		2,4-Dinitrophenol	ND	2.5	1	
Aniline	ND	0.50	1		4-Nitrophenol	ND	0.50	1	
Phenol	ND	0.50	1		Dibenzofuran	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1		2,4-Dinitrotoluene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1		2,6-Dinitrotoluene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1		Diethyl Phthalate	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1		4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Benzyl Alcohol	ND	0.50	1		Fluorene	ND	0.40	1	
1,2-Dichlorobenzene	ND	0.50	1		4-Nitroaniline	ND	0.50	1	
2-Methylphenol	ND	0.50	1		Azobenzene	ND	0.50	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1		4,6-Dinitro-2-Methylphenol	ND	2.5	1	
3/4-Methylphenol	ND	0.50	1		N-Nitrosodiphenylamine	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1		2,4,6-Trichlorophenol	ND	0.50	1	
Hexachloroethane	ND	0.50	1		4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Nitrobenzene	ND	2.5	1		Hexachlorobenzene	ND	0.50	1	
Isophorone	ND	0.50	1		Pentachlorophenol	ND	2.5	1	
2-Nitrophenol	ND	0.50	1		Phenanthrene	ND	0.40	1	
2,4-Dimethylphenol	ND	0.50	1		Anthracene	ND	0.40	1	
Benzoic Acid	ND	2.5	1		Di-n-Butyl Phthalate	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1		Fluoranthene	ND	0.40	1	
2,4-Dichlorophenol	ND	0.50	1		Benzidine	ND	10	1	
1,2,4-Trichlorobenzene	ND	0.50	1		Pyrene	ND	0.40	1	
Naphthalene	ND	0.40	1		Pyridine	ND	0.50	1	
4-Chloroaniline	ND	0.50	1		Butyl Benzyl Phthalate	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1		3,3'-Dichlorobenzidine	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1		Benzo (a) Anthracene	ND	0.40	1	
2-Methylnaphthalene	ND	0.40	1		Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
1-Methylnaphthalene	ND	0.40	1		Chrysene	ND	0.40	1	
Hexachlorocyclopentadiene	ND	1.5	1		Di-n-Octyl Phthalate	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.40	1	
2-Chloronaphthalene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.40	1	
2-Nitroaniline	ND	0.50	1		Benzo (a) Pyrene	ND	0.35	1	
Dimethyl Phthalate	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.40	1	
Acenaphthylene	ND	0.40	1		Dibenz (a,h) Anthracene	ND	0.40	1	
3-Nitroaniline	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.40	1	
Acenaphthene	ND	0.40	1						
<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>		<b>Qual</b>	<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>		<b>Qual</b>
2-Fluorophenol	101	42-120			Phenol-d6	102	46-118		
Nitrobenzene-d5	112	42-150			2-Fluorobiphenyl	111	38-134		
2,4,6-Tribromophenol	118	36-132			p-Terphenyl-d14	111	35-167		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

## Analytical Report



Kiff Analytical  
 2795 2nd Street, Suite 300  
 Davis, CA 95616-6593

Date Received: 02/07/07  
 Work Order No: 07-02-0338  
 Preparation: EPA 3545  
 Method: EPA 8270C  
 Units: mg/kg

Project: Markus Supply Hardware

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
T5-A 9.5-10	07-02-0338-4	02/02/07	Soild	02/07/07	02/09/07	070207L06

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	0.50	1		2,4-Dinitrophenol	ND	2.5	1	
Aniline	ND	0.50	1		4-Nitrophenol	ND	0.50	1	
Phenol	ND	0.50	1		Dibenzofuran	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1		2,4-Dinitrotoluene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1		2,6-Dinitrotoluene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1		Diethyl Phthalate	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1		4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Benzyl Alcohol	ND	0.50	1		Fluorene	ND	0.40	1	
1,2-Dichlorobenzene	ND	0.50	1		4-Nitroaniline	ND	0.50	1	
2-Methylphenol	ND	0.50	1		Azobenzene	ND	0.50	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1		4,6-Dinitro-2-Methylphenol	ND	2.5	1	
3/4-Methylphenol	ND	0.50	1		N-Nitrosodiphenylamine	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1		2,4,6-Trichlorophenol	ND	0.50	1	
Hexachloroethane	ND	0.50	1		4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Nitrobenzene	ND	2.5	1		Hexachlorobenzene	ND	0.50	1	
Isophorone	ND	0.50	1		Pentachlorophenol	ND	2.5	1	
2-Nitrophenol	ND	0.50	1		Phenanthrene	ND	0.40	1	
2,4-Dimethylphenol	ND	0.50	1		Anthracene	ND	0.40	1	
Benzoic Acid	ND	2.5	1		Di-n-Butyl Phthalate	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1		Fluoranthene	ND	0.40	1	
2,4-Dichlorophenol	ND	0.50	1		Benzidine	ND	10	1	
1,2,4-Trichlorobenzene	ND	0.50	1		Pyrene	ND	0.40	1	
Naphthalene	ND	0.40	1		Pyridine	ND	0.50	1	
4-Chloroaniline	ND	0.50	1		Butyl Benzyl Phthalate	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1		3,3'-Dichlorobenzidine	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1		Benzo (a) Anthracene	ND	0.40	1	
2-Methylnaphthalene	ND	0.40	1		Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
1-Methylnaphthalene	ND	0.40	1		Chrysene	ND	0.40	1	
Hexachlorocyclopentadiene	ND	1.5	1		Di-n-Octyl Phthalate	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.40	1	
2-Chloronaphthalene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.40	1	
2-Nitroaniline	ND	0.50	1		Benzo (a) Pyrene	ND	0.35	1	
Dimethyl Phthalate	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.40	1	
Acenaphthylene	ND	0.40	1		Dibenz (a,h) Anthracene	ND	0.40	1	
3-Nitroaniline	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.40	1	
Acenaphthene	ND	0.40	1						
<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>	<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>		
2-Fluorophenol	105	42-120		Phenol-d6	109	46-118			
Nitrobenzene-d5	119	42-150		2-Fluorobiphenyl	119	38-134			
2,4,6-Tribromophenol	130	36-132		p-Terphenyl-d14	121	35-167			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

## Analytical Report



Kiff Analytical  
 2795 2nd Street, Suite 300  
 Davis, CA 95616-6593

Date Received: 02/07/07  
 Work Order No: 07-02-0338  
 Preparation: EPA 3545  
 Method: EPA 8270C  
 Units: mg/kg

Project: Markus Supply Hardware

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
15-B 9-5-10	07-02-0338-5	02/02/07	Solid	02/07/07	02/09/07	070207L06

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	0.50	1		2,4-Dinitrophenol	ND	2.5	1	
Aniline	ND	0.50	1		4-Nitrophenol	ND	0.50	1	
Phenol	ND	0.50	1		Dibenzofuran	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1		2,4-Dinitrotoluene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1		2,6-Dinitrotoluene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1		Diethyl Phthalate	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1		4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Benzyl Alcohol	ND	0.50	1		Fluorene	ND	0.40	1	
1,2-Dichlorobenzene	ND	0.50	1		4-Nitroaniline	ND	0.50	1	
2-Methylphenol	ND	0.50	1		Azobenzene	ND	0.50	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1		4,6-Dinitro-2-Methylphenol	ND	2.5	1	
3/4-Methylphenol	ND	0.50	1		N-Nitrosodiphenylamine	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1		2,4,6-Trichlorophenol	ND	0.50	1	
Hexachloroethane	ND	0.50	1		4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Nitrobenzene	ND	2.5	1		Hexachlorobenzene	ND	0.50	1	
Isophorone	ND	0.50	1		Pentachlorophenol	ND	2.5	1	
2-Nitrophenol	ND	0.50	1		Phenanthrene	ND	0.40	1	
2,4-Dimethylphenol	ND	0.50	1		Anthracene	ND	0.40	1	
Benzoic Acid	ND	2.5	1		Di-n-Butyl Phthalate	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1		Fluoranthene	ND	0.40	1	
2,4-Dichlorophenol	ND	0.50	1		Benzdine	ND	10	1	
1,2,4-Trichlorobenzene	ND	0.50	1		Pyrene	ND	0.40	1	
Naphthalene	ND	0.40	1		Pyridine	ND	0.50	1	
4-Chloroaniline	ND	0.50	1		Butyl Benzyl Phthalate	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1		3,3'-Dichlorobenzidine	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1		Benzo (a) Anthracene	ND	0.40	1	
2-Methylnaphthalene	ND	0.40	1		Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
1-Methylnaphthalene	ND	0.40	1		Chrysene	ND	0.40	1	
Hexachlorocyclopentadiene	ND	1.5	1		Di-n-Octyl Phthalate	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.40	1	
2-Chloronaphthalene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.40	1	
2-Nitroaniline	ND	0.50	1		Benzo (a) Pyrene	ND	0.35	1	
Dimethyl Phthalate	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.40	1	
Acenaphthylene	ND	0.40	1		Dibenz (a,h) Anthracene	ND	0.40	1	
3-Nitroaniline	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.40	1	
Acenaphthene	ND	0.40	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
2-Fluorophenol	88	42-120			Phenol-d6	90	46-118		
Nitrobenzene-d5	102	42-150			2-Fluorobiphenyl	92	38-134		
2,4,6-Tribromophenol	105	36-132			p-Terphenyl-d14	99	35-167		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

## Analytical Report



Kiff Analytical  
 2795 2nd Street, Suite 300  
 Davis, CA 95616-6593

Date Received: 02/07/07  
 Work Order No: 07-02-0338  
 Preparation: EPA 3545  
 Method: EPA 8270C  
 Units: mg/kg

Project: Markus Supply Hardware

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
T5-C-16-16-5	07-02-0338-6	02/02/07	Solid	02/07/07	02/09/07	070207L06

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	0.50	1		2,4-Dinitrophenol	ND	2.5	1	
Aniline	ND	0.50	1		4-Nitrophenol	ND	0.50	1	
Phenol	ND	0.50	1		Dibenzofuran	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1		2,4-Dinitrotoluene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1		2,6-Dinitrotoluene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1		Diethyl Phthalate	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1		4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Benzyl Alcohol	ND	0.50	1		Fluorene	ND	0.40	1	
1,2-Dichlorobenzene	ND	0.50	1		4-Nitroaniline	ND	0.50	1	
2-Methylphenol	ND	0.50	1		Azobenzene	ND	0.50	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1		4,6-Dinitro-2-Methylphenol	ND	2.5	1	
3/4-Methylphenol	ND	0.50	1		N-Nitrosodiphenylamine	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1		2,4,6-Trichlorophenol	ND	0.50	1	
Hexachloroethane	ND	0.50	1		4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Nitrobenzene	ND	2.5	1		Hexachlorobenzene	ND	0.50	1	
Isophorone	ND	0.50	1		Pentachlorophenol	ND	2.5	1	
2-Nitrophenol	ND	0.50	1		Phenanthrene	ND	0.40	1	
2,4-Dimethylphenol	ND	0.50	1		Anthracene	ND	0.40	1	
Benzoic Acid	ND	2.5	1		Di-n-Butyl Phthalate	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1		Fluoranthene	ND	0.40	1	
2,4-Dichlorophenol	ND	0.50	1		Benzidine	ND	10	1	
1,2,4-Trichlorobenzene	ND	0.50	1		Pyrene	ND	0.40	1	
Naphthalene	ND	0.40	1		Pyridine	ND	0.50	1	
4-Chloroaniline	ND	0.50	1		Butyl Benzyl Phthalate	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1		3,3'-Dichlorobenzidine	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1		Benzo (a) Anthracene	ND	0.40	1	
2-Methylnaphthalene	ND	0.40	1		Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
1-Methylnaphthalene	ND	0.40	1		Chrysene	ND	0.40	1	
Hexachlorocyclopentadiene	ND	1.5	1		Di-n-Octyl Phthalate	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1		Benzo (k) Fluoranthene	ND	0.40	1	
2-Chloronaphthalene	ND	0.50	1		Benzo (b) Fluoranthene	ND	0.40	1	
2-Nitroaniline	ND	0.50	1		Benzo (a) Pyrene	ND	0.35	1	
Dimethyl Phthalate	ND	0.50	1		Indeno (1,2,3-c,d) Pyrene	ND	0.40	1	
Acenaphthylene	ND	0.40	1		Dibenz (a,h) Anthracene	ND	0.40	1	
3-Nitroaniline	ND	0.50	1		Benzo (g,h,i) Perylene	ND	0.40	1	
Acenaphthene	ND	0.40	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
2-Fluorophenol	102	42-120			Phenol-d6	106	46-118		
Nitrobenzene-d5	112	42-150			2-Fluorobiphenyl	114	38-134		
2,4,6-Tribromophenol	119	36-132			p-Terphenyl-d14	109	35-167		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



were the same. The mobile lab used 1,2 Difluorethane as a leak detector and no leaks were detected. The November 19, 2009 sampling event analytical results are presented in **Attachment 4** as the December 8, 2009 final TEG report No. 91119E. The oxygen and carbon dioxide results from the November 19, 2009 event were not reliable (due to a malfunctioning voltage regulator) and no values were reported.

The results of the November 19, 2009 (naphthalene, TPH-gasoline, TPH-diesel, and BTEX) analytical tests are as follows:

Sample ID	Analytical Method and Analyte	Results (µg/L)	Results (µg/m <sup>3</sup> ) (calculated)	ESLs (µg/m <sup>3</sup> )	CHHSLs (µg/m <sup>3</sup> )
SV-1 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-1 TEG	EPA method 8015M -methane	<500 ppmv		NA	NA
SV-1 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-1 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-1 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-1 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-1 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-1 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-1 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-1 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-1 TEG	1,1 Difluorethane	<10		NA	NA
SV-2 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-2 TEG	EPA method 8015M -methane	<500		NA	NA
SV-2 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-2 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-2 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-2 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-2 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-2 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-2 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-2 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-2 TEG	1,1 Difluorethane	<10		NA	NA
SV-3 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-3 TEG	EPA method 8015M -methane	<500		NA	NA
SV-3 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-3 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-3 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-3 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-3 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-3 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-3 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-3 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-3 TEG	1,1 Difluorethane	<10		NA	NA
SV-4 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-4 TEG	EPA method 8015M -methane	<500		NA	NA
SV-4 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA

SV-4 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-4 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-4 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-4 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-4 TEG	EPA method 8260B -Toluene	0.20	<200	180,000	378,000
SV-4 TEG	EPA method 8260B -Ethylbenzene	0.10	<100	3,300	postponed
SV-4 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-4 TEG	1,1 Difluorethane	<10		NA	NA
SV-5 TEG	Modified ASTM D-1946 -oxygen	NR		NA	NA
SV-5 TEG	EPA method 8015M -methane	<500		NA	NA
SV-5 TEG	Modified ASTM D-1946 -carbon dioxide	NR		NA	NA
SV-5 TEG	EPA method 8260B - naphthalene	<0.10	<100	240	106
SV-5 TEG	EPA method 8015M -TPH (diesel range)	<50	<50000	29,000	NA
SV-5 TEG	EPA method 8260B -TPH (gasoline range)	<10	<10000	29,000	NA
SV-5 TEG	EPA method 8260B -Benzene	<0.10	<100	280	122
SV-5 TEG	EPA method 8260B -Toluene	<0.20	<200	180,000	378,000
SV-5 TEG	EPA method 8260B -Ethylbenzene	<0.10	<100	3,300	postponed
SV-5 TEG	EPA method 8260B -Xylenes	<0.20	<200	58,000	887,000
SV-5 TEG	1,1 Difluorethane	<10		NA	NA

Notes:

NA Not Applicable

NR No Reporting

ESL Table E, Vapor Intrusion Concerns, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final November 2007, (Revised May 2008); Commercial/Industrial Land Use. Values in micrograms per meter cubed.

CHHSL Table 2. California Human Health Screening Levels for Indoor Air and Soil Gas. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005, California Environmental Protection Agency. Commercial/Industrial Land Use, Only. Values in micrograms per meter cubed.

The concentrations of target compounds in the November 19, 2009 subsurface vapor-sampling event were all below laboratory reporting levels, and thus, well below the ESLs or CHHSLs.

### CONCLUSIONS and RECOMMENDATIONS

Based on the November 6, 2009 and November 19, 2009 subsurface vapor sampling evaluation, two points can be made:

- Subsurface respiration (bioremediation) is occurring and any residual contamination will continue to degrade;
- Currently, soil vapor levels of the contaminants of concern are below laboratory detection limits and thus well below the ESLs and CHHSLs, confirming that vapor intrusion is not a concern at this site.

As requested in your September 18, 2009 letter, soil vapor sampling has confirmed that vapor intrusion is not a concern at this site and it meets the criteria for low-risk case closure. Therefore, Clearwater requests the ACEH offices re-evaluate the site for low-risk closure based on this new data.

Sample ID	Analytical Method and Analyte	Results (ppbv)	Results ( $\mu\text{g}/\text{m}^3$ )	ESLs ( $\mu\text{g}/\text{m}^3$ )	CHHSLs ( $\mu\text{g}/\text{m}^3$ )
SV-1	Modified ASTM D-1946-oxygen	14%		NA	NA
SV-1	Modified ASTM D-1946-methane	<0.00020%		NA	NA
SV-1	Modified ASTM D-1946-carbon dioxide	6.4%		NA	NA
SV-1	Modified TO-17-naphthalene		<16	240	106
SV-1	Modified TO-17-TPH (diesel range)		<3100	29,000	NA
SV-1	Modified TO-15-TPH (gasoline range)	<10,000		29,000	NA
SV-1	Modified TO-15-Benzene	<1600		280	122
SV-1	Modified TO-15-Toluene	<1900		180,000	378,000
SV-1	Modified TO-15-Ethylbenzene	<2200		3,300	postponed
SV-1	Modified TO-15-Xylenes	<2200		58,000	887,000
SV-1	2-Propanol	500,000		NA	NA
SV-2	Modified ASTM D-1946-oxygen	20%		NA	NA
SV-2	Modified ASTM D-1946-methane	<0.00020%		NA	NA
SV-2	Modified ASTM D-1946-carbon dioxide	1.8%		NA	NA
SV-2	Modified TO-17-naphthalene		<18	240	106
SV-2	Modified TO-17-TPH (diesel range)		<3700	29,000	NA
SV-2	Modified TO-15-TPH (gasoline range)	<20,000		29,000	NA
SV-2	Modified TO-15-Benzene	<3200		280	122
SV-2	Modified TO-15-Toluene	<3800		180,000	378,000
SV-2	Modified TO-15-Ethylbenzene	<4400		3,300	postponed
SV-2	Modified TO-15-Xylenes	<4400		58,000	887,000
SV-2	2-Propanol	1,800,000			NA
SV-3	Modified ASTM D-1946-oxygen	11%		NA	NA
SV-3	Modified ASTM D-1946-methane	<0.00021%		NA	NA
SV-3	Modified ASTM D-1946-carbon dioxide	8.0%		NA	NA
SV-3	Modified TO-17-naphthalene		<25	240	106
SV-3	Modified TO-17-TPH (diesel range)		<5000	29,000	NA
SV-3	Modified TO-15-TPH (gasoline range)	450	1,800	29,000	NA
SV-3	Modified TO-15-Benzene	<33		280	122
SV-3	Modified TO-15-Toluene	<39		180,000	378,000
SV-3	Modified TO-15-Ethylbenzene	<45		3,300	postponed
SV-3	Modified TO-15-Xylenes	<45		58,000	887,000
SV-3	2-Propanol	43		NA	NA
SV-4	Modified ASTM D-1946-oxygen	17%		NA	NA
SV-4	Modified ASTM D-1946-methane	<0.00020%		NA	NA
SV-4	Modified ASTM D-1946-carbon dioxide	3.3%		NA	NA
SV-4	Modified TO-17-naphthalene		<25	240	106
SV-4	Modified TO-17-TPH (diesel range)		<5000	29,000	NA
SV-4	Modified TO-15-TPH (gasoline range)	17,000	69,000	29,000	NA
SV-4	Modified TO-15-Benzene	<1600		280	122
SV-4	Modified TO-15-Toluene	<1900		180,000	378,000
SV-4	Modified TO-15-Ethylbenzene	<2200		3,300	postponed
SV-4	Modified TO-15-Xylenes	<2200		58,000	887,000
SV-4	2-Propanol	470,000		NA	NA
SV-5	Modified ASTM D-1946-oxygen	8.8%		NA	NA

SV-5	Modified ASTM D-1946-methane	<0.00021%		NA	NA
SV-5	Modified ASTM D-1946-carbon dioxide	11%		NA	NA
SV-5	Modified TO-17-naphthalene		<25	240	106
SV-5	Modified TO-17-TPH (diesel range)		<5000	29,000	NA
SV-5	Modified TO-15-TPH (gasoline range)	3700	13,041	29,000	NA
SV-5	Modified TO-15-Benzene	<33		280	122
SV-5	Modified TO-15-Toluene	<39		180,000	378,000
SV-5	Modified TO-15-Ethylbenzene	<45		3,300	postponed
SV-5	Modified TO-15-Xylenes	<45		58,000	887,000
SV-5	2-Propanol	790	1900	NA	NA
SV-2AC	Modified ASTM D-1946 oxygen	22%		NA	NA
SV-2AC	Modified ASTM D-1946 methane	<0.00020%		NA	NA
SV-2AC	Modified ASTM D-1946 carbon dioxide	.046%		NA	NA
SV-2AC	Modified TO-17 naphthalene		<18	240	106
SV-2AC	Modified TO-17 TPH (diesel range)		<3700	29,000	NA
SV-2AC	Modified TO-15 TPH (gasoline range)	<200		29,000	NA
SV-2AC	Modified TO-15 Benzene	<32		280	122
SV-2AC	Modified TO-15 Toluene	<38		180,000	378,000
SV-2AC	Modified TO-15 Ethylbenzene	<44		3,300	postponed
SV-2AC	Modified TO-15 Xylenes	<44		58,000	887,000
SV-2AC	2-Propanol	98		NA	NA

Notes:

NA Not Applicable

ESL Table E, Vapor Intrusion Concerns, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final November 2007, (Revised May 2008); Commercial/Industrial Land Use. Values in micrograms per meter cubed.

CHHSL Table 2. California Human Health Screening Levels for Indoor Air and Soil Gas. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005, California Environmental Protection Agency. Commercial/Industrial Land Use, Only. Values in micrograms per meter cubed.

The laboratory results for oxygen, methane and carbon dioxide (decreased oxygen content and increased carbon dioxide content compared to atmospheric air) indicate aerobic respiration is occurring in the soil. TPH-Diesel and Naphthalene concentrations were below laboratory detection limits, which are well below the ESL and CHHSL threshold values.

The laboratory results for TPH-gasoline presented unanticipated high levels of TPH-gasoline as well as high levels of the leak detectant, 2-propanol. All of the samples contained 2-propanol, from 43 to 1,800,000 ppbv. The reason for this contamination is not known. Field protocols were followed during the soil vapor sampling but, due to these anomalies, and especially due to the significant presence of leak detection compound noted on the laboratory reports from the November 6, 2009 sampling event, a second soil vapor sampling event was scheduled with a state-certified mobile lab, for verification and confirmation of the earlier laboratory results.

The second sampling event occurred on November 19, 2009. A mobile lab, TEG Northern California Incorporated (TEG), of Sacramento CA (Laboratory ELAP# 1212) was engaged to perform same-day testing on a second round of vapor samples from the five borings. The sample points in both events

**Table 2**  
**Grab Groundwater Analytical Results**

Markus Hardware

626 2<sup>nd</sup> Street

Oakland, CA

Sample Name	Date	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	TPH-g µg/L	TPH-d µg/L	MTBE µg/L	1,2-DCA µg/L	EDB µg/L
<b>ESLs</b>		<b>540</b>	<b>400</b>	<b>300</b>	<b>5,300</b>	<b>5,000</b>	<b>2,500</b>	<b>1,800</b>	<b>200</b>	<b>150</b>
T1-B	2/2/2007	110	58	<b>1,800</b>	4,500	<b>35,000</b>	<40,000*	NA	NA	NA
T2-A	2/2/2007	70	8	5.1	15	2,700	2,400	NA	NA	NA
T3-B	2/2/2007	360	13	9.5	44	<b>9,300</b>	<b>8,100</b>	NA	NA	NA
T4-C	2/2/2007	<0.50	<0.50	<0.50	<0.50	<50	140	NA	NA	NA
T5-C	2/2/2007	<0.50	<0.50	<0.50	0.65	<50	200	NA	NA	NA
SB-4-W	10/07/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	<b>12,000</b>	< 0.50	< 0.50	< 0.50
SB-5-W	10/07/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	<b>3,600</b>	< 0.50	< 0.50	< 0.50
SB-6-W	10/07/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	1,400	< 0.50	< 0.50	< 0.50
SB-7-W	10/07/08	4.4	0.56	< 0.50	< 0.50	< 50	<b>10,000</b>	< 0.50	< 0.50	< 0.50
SB-8-W	10/07/08	9.2	0.71	< 0.50	< 0.50	< 50	2,000	< 0.50	< 0.50	< 0.50
SB-9-W	10/06/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	780	< 0.50	< 0.50	< 0.50
SB-10-W	10/06/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	1,700	11	< 0.50	< 0.50
SB-11-W	10/06/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	2,300	< 0.50	< 0.50	< 0.50
SB-12-W	10/06/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	<b>21,000</b>	< 0.50	< 0.50	< 0.50
SB-13-W	10/06/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	610	< 0.50	< 0.50	< 0.50
SB-14-W	10/09/08	< 0.50	< 0.50	< 0.50	2.1	< 50	360	< 0.50	< 0.50	< 0.50
SB-15-W	10/09/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	190	< 0.50	< 0.50	< 0.50
SB-16-W	10/09/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	500	< 0.50	< 0.50	< 0.50
SB-17-W	10/09/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	1,500	< 0.50	< 0.50	< 0.50
SB-18-W	10/09/08	< 0.50	< 0.50	< 0.50	< 0.50	< 50	780	< 0.50	< 0.50	< 0.50

ESLs = Environmental Screening Levels for Groundwater, NOT current or potential drinking water source, Commercial/Industrial

EDB = 1,2-Dibromoethane

MTBE = Methyl tert-butyl ether

1,2-DCA = 1,2-Dichloroethane

TPH-d = Total petroleum hydrocarbons - diesel

TPH-g = Total petroleum hydrocarbons - gasoline

Bold = Detected concentration exceeds specified Environmental Screening Level (ESL)

SB-4-W = Grab groundwater sample collected from 1" temporary polyvinyl chloride (PVC) well casing

NA = Not available

\* = The method reporting limit for TPH-d is increased due to interference from gasoline-range hydrocarbons

**ATTACHMENT 5**



Soil analytical results are presented in **Figure 3** attached. See **Attachment C** for Kiff Analytical Report #54665.

### 3.4 Groundwater Sample Analytical Results

The table below summarizes the results of the analytical groundwater testing. Bolded values are above the ESLs (see below).

Groundwater Sample		Analytical Results in µg/L						
Date	Sample Name	TPH-d	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	SVOCs
2/2/07	T1-B	<b>&lt;40,000</b>	<b>35,000</b>	110	58	<b>1,800</b>	<b>4,500</b>	ND
2/2/07	T2-A	2,400	2,700	70	8.0	5.1	15	ND
2/2/07	T3-B	<b>8,100</b>	<b>9,300</b>	360	13	9.5	44	ND
2/2/07	T4-C	140	<50	<0.50	<0.50	<0.50	<0.50	ND
2/2/07	T5-C	200	<50	<0.50	<0.50	<0.50	0.65	ND
<b>Environmental Screening Limit (ESL)<sup>^</sup></b>		<b>640</b>	<b>500</b>	<b>46</b>	<b>130</b>	<b>290</b>	<b>100</b>	-

ND – concentrations were below detection limits;

<sup>^</sup> ESL for commercial land use where groundwater is NOT a source of drinking water.

The laboratory provided these comments in their report narrative:

*Surrogate Recovery for sample T1-B for test method Mod. EPA 8015 was outside of control limits. This may indicate a bias in the analysis due to the sample's matrix or an interference from compounds present in the sample. Results have been confirmed by repeat analysis.*

*Repeat analysis by Method 8260 yielded inconsistent results for sample T4-C. The concentrations appear to vary between the bottles. Two of the three bottles were similar to each other in concentration so results from one of those two similar bottles are reported above.*

Groundwater analytical results are illustrated in **Figure 4** attached. See **Attachment C** for Kiff Analytical Report #54665.

## 4 CONCLUSIONS

The soil sample analytical results indicate that there is no TPH-d, TPH-g, BTEX, or SVOC contamination in the soil samples above the ESL for commercial land where groundwater is not a source of drinking water.



Report Number : 47803

Date : 01/17/2006

Sample : GB001A - Product Sample

Project Name : Altwarz - Cardanal Partners

Project Number : GB001A

Lab Number : 47803-01

Date Analyzed : 01/11/06

Matrix : Liquid

Sample Date : 01/05/2006

Analysis Method: EPA 8260B

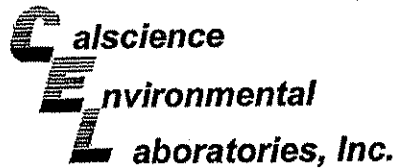
Parameter	Measured Value	MRL <sup>1</sup>	Units
Dichlorodifluoromethane	< 4000	4000	ug/L
Chloromethane	< 4000	4000	ug/L
Vinyl Chloride	< 4000	4000	ug/L
Bromomethane	< 4000	4000	ug/L
Chloroethane	< 4000	4000	ug/L
Trichlorofluoromethane	< 4000	4000	ug/L
1,1-Dichloroethene	< 4000	4000	ug/L
Methylene Chloride	< 4000	4000	ug/L
trans-1,2-Dichloroethene	< 4000	4000	ug/L
1,1-Dichloroethane	< 4000	4000	ug/L
2,2-Dichloropropane	< 4000	4000	ug/L
cis-1,2-Dichloroethene	< 4000	4000	ug/L
Chloroform	< 4000	4000	ug/L
Bromochloromethane	< 4000	4000	ug/L
1,1,1-Trichloroethane	< 4000	4000	ug/L
1,1-Dichloropropene	< 4000	4000	ug/L
1,2-Dichloroethane	< 4000	4000	ug/L
Carbon Tetrachloride	< 4000	4000	ug/L
Benzene	< 4000	4000	ug/L
Trichloroethene	< 4000	4000	ug/L
1,2-Dichloropropane	< 4000	4000	ug/L
Bromodichloromethane	< 4000	4000	ug/L
Dibromomethane	< 4000	4000	ug/L
cis-1,3-Dichloropropene	< 4000	4000	ug/L
Toluene	< 4000	4000	ug/L
trans-1,3-Dichloropropene	< 4000	4000	ug/L
1,1,2-Trichloroethane	< 4000	4000	ug/L
1,3-Dichloropropane	< 4000	4000	ug/L
Tetrachloroethene	< 4000	4000	ug/L
Dibromochloromethane	< 4000	4000	ug/L
1,2-Dibromoethane	< 4000	4000	ug/L
Chlorobenzene	< 4000	4000	ug/L
1,1,1,2-Tetrachloroethane	< 4000	4000	ug/L
Ethylbenzene	< 4000	4000	ug/L
P,M-Xylene	26000	8000	ug/L
O-Xylene	15000	4000	ug/L
Styrene	< 4000	4000	ug/L
Isopropyl benzene	8600	4000	ug/L

Parameter	Measured Value	MRL <sup>1</sup>	Units
Bromofom	< 4000	4000	ug/L
1,1,2,2-Tetrachloroethane	< 8000	8000 (2)	ug/L
1,2,3-Trichloropropane	< 25000	25000 (2)	ug/L
n-Propylbenzene	12000	4000	ug/L
Bromobenzene	< 4000	4000	ug/L
1,3,5-Trimethylbenzene	150000	4000	ug/L
2+4-Chlorotoluene	< 10000	10000 (2)	ug/L
tert-Butylbenzene	< 4000	4000	ug/L
1,2,4-Trimethylbenzene	560000	4000	ug/L
sec-Butylbenzene	31000	4000	ug/L
p-Isopropyltoluene	130000	4000	ug/L
1,3-Dichlorobenzene	< 4000	4000	ug/L
1,4-Dichlorobenzene	< 4000	4000	ug/L
n-Butylbenzene	100000	4000	ug/L
1,2-Dichlorobenzene	< 4000	4000	ug/L
1,2-Dibromo-3-chloropropane	< 4000	4000	ug/L
1,2,4-Trichlorobenzene	< 4000	4000	ug/L
Hexachlorobutadiene	< 4000	4000	ug/L
Naphthalene	770000	4000	ug/L
1,2,3-Trichlorobenzene	< 4000	4000	ug/L
Dibromofluoromethane (Surr)	109		% Recovery
1,2-Dichloroethane-d4 (Surr)	98.7		% Recovery
Toluene-d8 (Surr)	96.7		% Recovery
4-Bromofluorobenzene (Surr)	104		% Recovery

1) MRL = Method reporting limit  
2) MRL raised due to interference

Approved By:

Joel Kiff



Analytical Report



Kiff Analytical  
2795 2nd Street, Suite 300  
Davis, CA 95616-6593

Date Received: 01/11/06  
Work Order No: 06-01-0416  
Preparation: EPA 3580A  
Method: EPA 8270C  
Units: mg/kg

Project: Altwarg-Cardanal Partners LLC

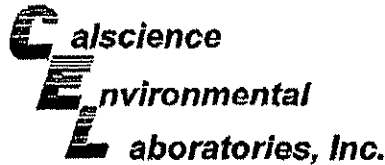
Page 1 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
GB001A-Product Sample	06-01-0416-1	01/05/06	Oil	01/12/06	01/13/06	060112L10

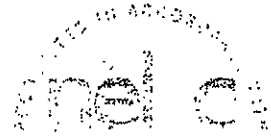
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	100	10		Acenaphthene	ND	100	10	
Aniline	ND	100	10		2,4-Dinitrophenol	ND	1000	10	
Phenol	ND	100	10		4-Nitrophenol	ND	1000	10	
Bis(2-Chloroethyl) Ether	ND	100	10		Dibenzofuran	ND	100	10	
2-Chlorophenol	ND	100	10		2,4-Dinitrotoluene	ND	100	10	
1,3-Dichlorobenzene	ND	100	10		2,6-Dinitrotoluene	ND	100	10	
1,4-Dichlorobenzene	ND	100	10		Diethyl Phthalate	ND	100	10	
Benzyl Alcohol	ND	1000	10		4-Chlorophenyl-Phenyl Ether	ND	100	10	
1,2-Dichlorobenzene	ND	100	10		Fluorene	280	100	10	
2-Methylphenol	ND	100	10		4-Nitroaniline	ND	1000	10	
Bis(2-Chloroisopropyl) Ether	ND	100	10		Azobenzene	ND	100	10	
3/4-Methylphenol	ND	100	10		4,6-Dinitro-2-Methylphenol	ND	1000	10	
N-Nitroso-di-n-propylamine	ND	1000	10		N-Nitrosodiphenylamine	ND	1000	10	
Hexachloroethane	ND	100	10		2,4,6-Trichlorophenol	ND	100	10	
Nitrobenzene	ND	100	10		4-Bromophenyl-Phenyl Ether	ND	100	10	
Isophorone	ND	100	10		Hexachlorobenzene	ND	100	10	
2-Nitrophenol	ND	100	10		Pentachlorophenol	ND	1000	10	
2,4-Dimethylphenol	ND	100	10		Phenanthrene	170	100	10	
Benzoic Acid	ND	1000	10		Anthracene	ND	100	10	
Bis(2-Chloroethoxy) Methane	ND	100	10		Di-n-Butyl Phthalate	ND	100	10	
2,4-Dichlorophenol	ND	100	10		Fluoranthene	ND	100	10	
1,2,4-Trichlorobenzene	ND	100	10		Benzidine	ND	100	10	
Pyridine	ND	100	10		Pyrene	ND	100	10	
Naphthalene	1200	100	10		Butyl Benzyl Phthalate	ND	100	10	
4-Chloroaniline	ND	100	10		3,3'-Dichlorobenzidine	ND	100	10	
Hexachloro-1,3-Butadiene	ND	100	10		Benzo (a) Anthracene	ND	100	10	
4-Chloro-3-Methylphenol	ND	100	10		Bis(2-Ethylhexyl) Phthalate	ND	100	10	
2-Methylnaphthalene	2500	100	10		Chrysene	ND	100	10	
1-Methylnaphthalene	1800	400	10		Di-n-Octyl Phthalate	ND	500	10	
Hexachlorocyclopentadiene	ND	100	10		Benzo (k) Fluoranthene	ND	400	10	
2,4,5-Trichlorophenol	ND	100	10		Benzo (b) Fluoranthene	ND	400	10	
2-Chloronaphthalene	ND	100	10		Benzo (a) Pyrene	ND	500	10	
2-Nitroaniline	ND	1000	10		Indeno (1,2,3-c,d) Pyrene	ND	500	10	
Dimethyl Phthalate	ND	100	10		Dibenz (a,h) Anthracene	ND	500	10	
Acenaphthylene	ND	100	10		Benzo (g,h,i) Perylene	ND	500	10	
3-Nitroaniline	ND	1000	10						
<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>	<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>		
2-Fluorophenol	0	25-121	2.1	Phenol-d6	68	24-113			
Nitrobenzene-d5	81	23-120		2-Fluorobiphenyl	120	30-115			2.1
2,4,6-Tribromophenol	75	19-122		p-Terphenyl-d14	125	18-137			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers





Analytical Report



Kiff Analytical  
2795 2nd Street, Suite 300  
Davis, CA 95616-6593

Date Received: 03/03/06  
Work Order No: 06-03-0174  
Preparation: EPA 3580A  
Method: EPA 8270C  
Units: mg/kg

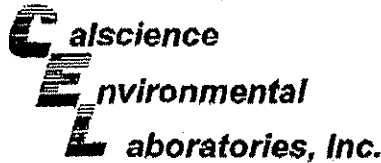
Project: Markus Supply

Page 1 of 2

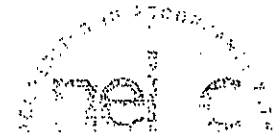
Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
GB001A-Product Sample 2	06-03-0174-1	02/21/06	Oil	03/02/06	03/06/06	060303L05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	100	10		Acenaphthene	ND	100	10	
Aniline	ND	100	10		2,4-Dinitrophenol	ND	1000	10	
Phenol	ND	100	10		4-Nitrophenol	ND	1000	10	
Bis(2-Chloroethyl) Ether	ND	100	10		Dibenzofuran	ND	100	10	
2-Chlorophenol	ND	100	10		2,4-Dinitrotoluene	ND	100	10	
1,3-Dichlorobenzene	ND	100	10		2,6-Dinitrotoluene	ND	100	10	
1,4-Dichlorobenzene	ND	100	10		Diethyl Phthalate	ND	100	10	
Benzyl Alcohol	ND	1000	10		4-Chlorophenyl-Phenyl Ether	ND	100	10	
1,2-Dichlorobenzene	ND	100	10		Fluorene	120	100	10	
2-Methylphenol	ND	100	10		4-Nitroaniline	ND	1000	10	
Bis(2-Chloroisopropyl) Ether	ND	100	10		Azobenzene	ND	100	10	
3/4-Methylphenol	ND	100	10		4,6-Dinitro-2-Methylphenol	ND	1000	10	
N-Nitroso-di-n-propylamine	ND	1000	10		N-Nitrosodiphenylamine	ND	1000	10	
Hexachloroethane	ND	100	10		2,4,6-Trichlorophenol	ND	100	10	
Nitrobenzene	ND	100	10		4-Bromophenyl-Phenyl Ether	ND	100	10	
Isophorone	ND	100	10		Hexachlorobenzene	ND	100	10	
2-Nitrophenol	ND	100	10		Pentachlorophenol	ND	1000	10	
2,4-Dimethylphenol	ND	100	10		Phenanthrene	130	100	10	
Benzoic Acid	ND	1000	10		Anthracene	ND	100	10	
Bis(2-Chloroethoxy) Methane	ND	100	10		Di-n-Butyl Phthalate	ND	100	10	
2,4-Dichlorophenol	ND	100	10		Fluoranthene	ND	100	10	
1,2,4-Trichlorobenzene	ND	100	10		Benzidine	ND	100	10	
Pyridine	ND	100	10		Pyrene	ND	100	10	
Naphthalene	370	100	10		Butyl Benzyl Phthalate	ND	100	10	
4-Chloroaniline	ND	100	10		3,3'-Dichlorobenzidine	ND	100	10	
Hexachloro-1,3-Butadiene	ND	100	10		Benzo (a) Anthracene	ND	100	10	
4-Chloro-3-Methylphenol	ND	100	10		Bis(2-Ethylhexyl) Phthalate	ND	100	10	
2-Methylnaphthalene	960	100	10		Chrysene	ND	100	10	
1-Methylnaphthalene	680	400	10		Di-n-Octyl Phthalate	ND	500	10	
Hexachlorocyclopentadiene	ND	100	10		Benzo (k) Fluoranthene	ND	400	10	
2,4,5-Trichlorophenol	ND	100	10		Benzo (b) Fluoranthene	ND	400	10	
2-Chloronaphthalene	ND	100	10		Benzo (a) Pyrene	ND	500	10	
2-Nitroaniline	ND	1000	10		Indeno (1,2,3-c,d) Pyrene	ND	500	10	
Dimethyl Phthalate	ND	100	10		Dibenz (a,h) Anthracene	ND	500	10	
Acenaphthylene	ND	100	10		Benzo (g,h,i) Perylene	ND	500	10	
3-Nitroaniline	ND	1000	10						
<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>		<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>	<b>Qual</b>	
2-Fluorophenol	103	25-121			Phenol-d6	108	24-113		
Nitrobenzene-d5	135	23-120	2		2-Fluorobiphenyl	128	30-115	2	
2,4,6-Tribromophenol	64	19-122			p-Terphenyl-d14	146	18-137	2	

RL - Reporting Limit, DF - Dilution Factor, Qual - Qualifiers



Analytical Report



Kiff Analytical  
2795 2nd Street, Suite 300  
Davis, CA 95616-6593

Date Received: 03/03/06  
Work Order No: 06-03-0174  
Preparation: EPA 5030B  
Method: EPA 8260B  
Units: ug/kg

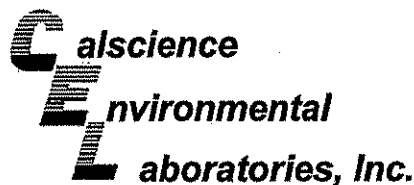
Project: Markus Supply

Page 1 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
GB001A-Product Sample 2	06-03-0174-1	02/21/06	Oil	03/06/06	03/07/06	060307502

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	20000	400		1,3-Dichloropropane	ND	2000	400	
Benzene	ND	2000	400		2,2-Dichloropropane	ND	2000	400	
Bromobenzene	ND	2000	400		1,1-Dichloropropene	ND	2000	400	
Bromochloromethane	ND	2000	400		c-1,3-Dichloropropene	ND	2000	400	
Bromodichloromethane	ND	2000	400		t-1,3-Dichloropropene	ND	2000	400	
Bromoforn	ND	2000	400		Ethylbenzene	ND	2000	400	
Bromomethane	ND	10000	400		2-Hexanone	ND	20000	400	
2-Butanone	ND	20000	400		Isopropylbenzene	ND	2000	400	
n-Butylbenzene	20000	2000	400		p-Isopropyltoluene	8200	2000	400	
sec-Butylbenzene	8800	2000	400		Methylene Chloride	ND	20000	400	
tert-Butylbenzene	ND	2000	400		4-Methyl-2-Pentanone	ND	20000	400	
Carbon Disulfide	ND	20000	400		Naphthalene	240000	20000	400	
Carbon Tetrachloride	ND	2000	400		n-Propylbenzene	ND	2000	400	
Chlorobenzene	ND	2000	400		Styrene	ND	2000	400	
Chloroethane	ND	2000	400		1,1,1,2-Tetrachloroethane	ND	2000	400	
Chloroform	ND	2000	400		1,1,2,2-Tetrachloroethane	ND	2000	400	
Chloromethane	ND	10000	400		Tetrachloroethene	ND	2000	400	
2-Chlorotoluene	ND	2000	400		Toluene	ND	2000	400	
4-Chlorotoluene	ND	2000	400		1,2,3-Trichlorobenzene	ND	4000	400	
Dibromochloromethane	ND	2000	400		1,2,4-Trichlorobenzene	ND	2000	400	
1,2-Dibromo-3-Chloropropane	ND	4000	400		1,1,1-Trichloroethane	ND	2000	400	
1,2-Dibromoethane	ND	2000	400		1,1,2-Trichloroethane	ND	2000	400	
Dibromomethane	ND	2000	400		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	20000	400	
1,2-Dichlorobenzene	ND	2000	400		Trichloroethene	ND	2000	400	
1,3-Dichlorobenzene	ND	2000	400		1,2,3-Trichloropropane	ND	2000	400	
1,4-Dichlorobenzene	ND	2000	400		1,2,4-Trimethylbenzene	3700	2000	400	
Dichlorodifluoromethane	ND	2000	400		Trichlorofluoromethane	ND	20000	400	
1,1-Dichloroethane	ND	2000	400		1,3,5-Trimethylbenzene	4200	2000	400	
1,2-Dichloroethane	ND	2000	400		Vinyl Acetate	ND	20000	400	
1,1-Dichloroethene	ND	2000	400		Vinyl Chloride	ND	2000	400	
c-1,2-Dichloroethene	ND	2000	400		p/m-Xylene	ND	2000	400	
t-1,2-Dichloroethene	ND	2000	400		o-Xylene	ND	2000	400	
1,2-Dichloropropane	ND	2000	400		Methyl-t-Butyl Ether (MTBE)	ND	2000	400	
<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>		<b>Qual</b>	<b>Surrogates:</b>	<b>REC (%)</b>	<b>Control Limits</b>		<b>Qual</b>
Dibromofluoromethane	101	73-139			1,2-Dichloroethane-d4	105	73-145		
Toluene-d8	100	90-108			1,4-Bromofluorobenzene	110	71-113		

RL - Reporting Limit DF - Dilution Factor Qual - Qualifiers



Analytical Report



Kiff Analytical  
2795 2nd Street, Suite 300  
Davis, CA 95616-6593

Date Received: 02/07/07  
Work Order No: 07-02-0338  
Preparation: EPA 3510B  
Method: EPA 8270C  
Units: ug/L

Project: Markus Supply Hardware

Page 1 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
T5-C	07-02-0338-7	02/02/07	Aqueous	02/07/07	02/08/07	0702071.04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						
Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual		
2-Fluorophenol	53	7-121		Phenol-d6	34	1-127			
Nitrobenzene-d5	107	50-146		2-Fluorobiphenyl	103	42-138			
2,4,6-Tribromophenol	124	41-137		p-Terphenyl-d14	113	47-173			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

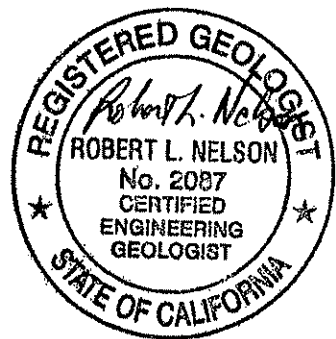
Sheet 1 of 1

	CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO#: GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.:
	DRILLING CONTRACTOR: Fast-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER: 2"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 12'	FILTER PACK: NA
				DRILLING DATE: 10/07/08

TPH-4 mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	
			48	40	G			NO	0	1		8" Concrete
								NO	0	2		Silty sand (SM), yellowish brown (10YR 5/6), loose, dry to moist, 85% very fine sand, 15% silt.
										3		
			48	40	G			NO	0	4		Silty sand to clayey sand (SM-SC), dark brown (10YR 3/3), loose, dry, 80% well sorted very fine to fine sand, 10% silt, 10% clay.
										5		
										6		
								NO	0	7		
										8		
			48	40	G			NO	0	9		
								NO	0	10		Wet at 10'
										11		Color change to dark yellowish brown (10YR 5/6).
								NO	0	12		Clayey sand (SC), loose to medium dense, wet, light iron oxide stain, 80% fine well sorted rounded sand, 20% clay.
										13	Total depth 12' bgs.	
										14		
										15		
										16		
										17		
										18		
										19		
										20		
										21		
										22		
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										29		
										30		

LOGGED BY: Robert L. Nelson

APPROVED BY: Eric Lervaag



**ATTACHMENT 6**

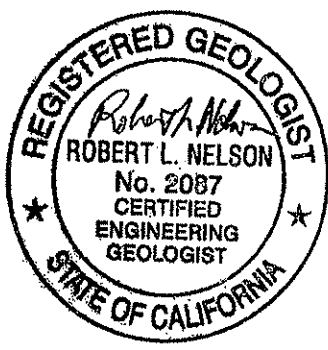
**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H  
Sheet 1 of 1

	<b>CLIENT/LOCATION:</b> Markus Supply Hardware 626 Second St. Oakland, CA	<b>JOB NO#:</b> GB001G	<b>PROJ. MANAGER:</b> E. Lervaag	<b>BORING/WELL NO.:</b> SB-5
	<b>DRILLING CONTRACTOR:</b> Fast-Tek	<b>DRILL RIG TYPE:</b> Geoprobe 5400	<b>WELL DEPTH:</b> NA	<b>BORING DIAMETER:</b> 2"
	<b>DRILL RIG OPERATOR:</b> Eric Austin	<b>WELL MATERIAL:</b> NA	<b>BORING DEPTH:</b> 12.0'	<b>FILTER PACK:</b> NA
	Silty sand (SM), yellowish brown (10YR 5/6), loose, dry, 85% fine sand, 15% silt.			<b>DRILLING DATE:</b> 10/07/08

TPH-d mg/kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PH	DEPTH (FEET)	GRAPHIC LOG	DESCRIPTION
			48	40	G			NO	0	1		8" Concrete
								NO	0	2		Silty sand (SM), yellowish brown (10YR 5/6), loose, dry, 85% fine sand, 15% silt.
			48	42	G			NO	0	4		Silty sand to clayey sand (SM-SC), dark brown (10YR 3/3), loose, dry to moist, 80% very fine to fine sand, 10% silt, 10% clay. Wet at 8'. Color changes to brown (10YR 4/3) at 8'. Iron oxide stain below 6'.
								NO	0	7		Color changes to dark greenish gray (5GY 4/1).
			48	42	G			NO	0	8		
								NO	0	9		
								NO	0	10		
								NO	0	11		Color changes to dark greenish gray (5GY 4/1).
								NO	0	12		Total depth 12' bgs.
										13		
										14		
										15		
										16		
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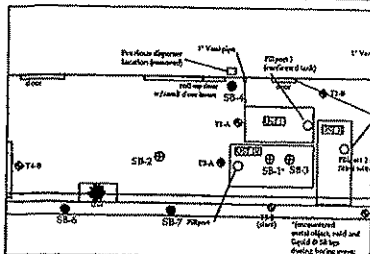
LOGGED BY: Robert L. Nelson  
APPROVED BY: Eric Lervaag



**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

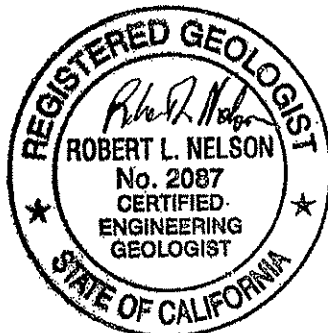
Sheet 1 of 1



CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO. #: GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO. #: SB-6
DRILLING CONTRACTOR: Fast-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER: 2"
DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 12.0'	FILTER PACK: NA
			DRILLING DATE: 10/07/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min./ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	SAMPLING METHOD: Continuous Core
				48	40	G		NO	0	1		MONITORING INSTRUMENT: Photoionization Detector
								NO	0	2		6" Concrete
								NO	0	3		Silty sand (SM), dark yellowish brown (10YR 4/4), loose, dry, 85% fine rounded sand, 15% silt, trace roots.
			48	40	G			NO	0	4		
								NO	0	5		
									0	6		
									0	7		Silty sand (SM), wet at 7', trace iron oxide staining, sharp color change at 7.5' to dark olive gray (5Y 3/2), wet, loose, 80% fine sand, 20% silt, medium dense.
			48	40	G			NO	0	8		
								NO	0	9		
								NO	0	10		
								NO	0	11		
									0	12		Total depth 12' bgs.
										13		
										14		
										15		
										16		
										17		
										18		
										19		
										20		
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APPROVED BY: Eric Lervaag  
LOGGED BY: Robert L. Nelson

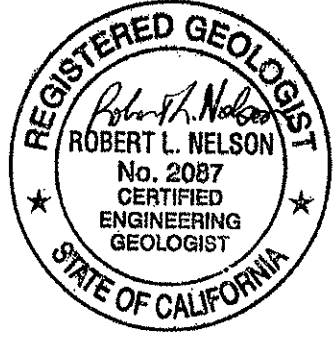


**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

Sheet 1 of 1

										CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO. GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.: SB-7
										DRILLING CONTRACTOR: Fast-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER: 2"
										DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 31.0'	FILTER PACK: NA
										DRILLING DATE: 10/07/08			
										SAMPLING METHOD: Continuous Core			
										MONITORING INSTRUMENT: Photoionization Detector			
TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PTD	DEPTH (FEET)	GRAPHIC LOG		
				48	30	F		NO	0	1		6" Concrete	
								NO	0	2		Silty sand (SM), dark yellowish brown (10YR 4/4), loose, moist, 75% fine sand, 20% silt, 5% clay.	
				48	45	G		NO	0	3			
								NO	0	4			
								NO	0	5			
								NO	0	6		Silty sand (SM), very dark grayish brown (10YR 3/2), loose, dry to moist, 80% fine well sorted sand, 20% silt.	
								NO	0	7			
				48	40	F		NO	0	8		Wet at 8'.	
								NO	0	9			
								NO	0	10		Sharp color change at 10.0' to olive gray (5Y 4/3).	
								NO	0	11			
				48	20	P		NO	0	12		Silty sand (SM), dark greenish gray (5GY 4/1), loose to medium dense, wet, 80% fine well sorted rounded sand, 15% silt, 5% silt.	
								NO	0	13			
								NO	0	14			
								NO	0	15			
				48	20	P		NO	0	16			
								NO	0	17		Clay content increasing with depth.	
								NO	0	18			
								NO	0	19		Clayey sand (SC), yellowish brown (10YR 5/6), wet, soft, 85% very fine to fine, well sorted rounded sand, 10% clay, 5% silt.	
				48	38	F		NO	0	20			
								NO	0	21			
								NO	0	22			
								NO	0	23		Becoming stiff.	
				48	30	F-P		NO	0	24			
								NO	0	25			
								NO	0	26			
								NO	0	27			
				36	12	P		NO	0	28		Very stiff, 20% lean clay.	
								NO	0	29			
								NO	0	30			
								NO	0	31		Total depth 31' bgs.	



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APPROVED BY: Eric Lervaag

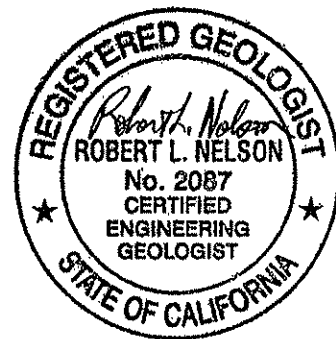
**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

Sheet 1 of 1

	<b>CLIENT/LOCATION:</b> Markus Supply Hardware 626 Second St. Oakland, CA	<b>JOB NO#:</b> GB001G	<b>PROJ. MANAGER:</b> E. Lervaag	<b>BORING/WELL NO.:</b> SB-8
	<b>DRILLING CONTRACTOR:</b> Fast-Tek	<b>DRILL RIG TYPE:</b> Geoprobe 5400	<b>WELL DEPTH:</b> NA	<b>BORING DIAMETER:</b> 2"
	<b>DRILL RIG OPERATOR:</b> Eric Austin	<b>WELL MATERIAL:</b> NA	<b>BORING DEPTH:</b> 12.0'	<b>FILTER PACK:</b> NA
				<b>DRILLING DATE:</b> 10/07/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	DESCRIPTION
			48	35		F				1		6" Concrete
								NO	0	2		Fill soil
								NO	0	3		Silty sand (SM), very dark grayish brown (10YR 3/2), moist, loose, 80% fine well sorted sand, 20% silt.
			48	40		G				4		
								NO	0	5		
								NO	0	6		
								NO	0	7		Silty sand (SM), dark yellowish brown (10YR 4/4), loose, moist (wet from 7'), 85% fine well sorted sand, 15% silt, sharp color change at 7.5' to very dark greenish gray (5GY 3/1).
			48	44		G		NO	0	8		
										9		
								NO	0	10		
								NO	0	11		Mottled dark greenish gray (5GY 4/1) and olive gray (5Y 4/2) clay content increase to 5%.
										12		Total depth 12' bgs.
										13		
										14		
										15		
										16		
										17		
										18		
										19		
										20		
										21		
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										28		
										29		
										30		



LOGGED BY: Robert L. Nelson

APPROVED BY: Eric Lervaag



**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

Sheet 1 of 1

	<b>CLIENT/LOCATION:</b> Markus Supply Hardware 626 Second St. Oakland, CA	<b>JOB NO#:</b> GB001G	<b>PROJ. MANAGER:</b> E. Lervaag	<b>BORING/WELL NO.:</b> SB-9
	<b>DRILLING CONTRACTOR:</b> Past-Tek	<b>DRILL RIG TYPE:</b> Geoprobe 5400	<b>WELL DEPTH:</b> NA	<b>BORING DIAMETER:</b> 2"
	<b>DRILL RIG OPERATOR:</b> Eric Austin	<b>WELL MATERIAL:</b> NA	<b>BORING DEPTH:</b> 12.0'	<b>FILTER PACK:</b> NA
				<b>DRILLING DATE:</b> 10/06/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)
			48	35		F				1
								NO	0	2
										3
			48	38		F		NO	0	4
								NO	0	5
										6
								NO	0	7
			48	38		F				8
								NO	0	9
										10
										11
								NO	0	12
										13
										14
										15
										16
										17
										18
										19
										20
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										30

**SAMPLING METHOD:** Continuous Core

**MONITORING INSTRUMENT:** Photoionization Detector

**GRAPHIC LOG**

2" Asphalt  
9" Concrete

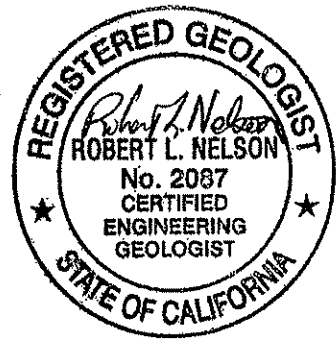
Silty sand (SM), mottled dark yellowish brown (10YR 4/4), iron oxide stained, moist, loose, 75% medium fine sand, 20% silt, 5% clay.

Silty sand to clayey sand (SM-SC), greenish black (5GY 2.5/1), loose, wet, 80% fine well rounded sand, well sorted sand, 10% silt, 10% clay.

Total depth 12' bgs.

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**SOIL BORING AND WELL CONSTRUCTION LOG:**  
**CLEARWATER GROUP**

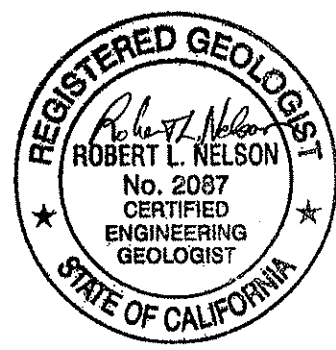
Project No. GB001H

Sheet 1 of 1

<p style="font-size: 24pt; font-weight: bold;">2nd Street</p>	CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO#: GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.:	SB-10
	DRILLING CONTRACTOR: Fast-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER:	2"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 12.0'	FILTER PACK:	NA
				DRILLING DATE:	10/06/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	SAMPLING METHOD: Continuous Core
			48	40		G		NO	0	1	2" Asphalt 6" Concrete	MONITORING INSTRUMENT: Photoionization Detector
										2	Silty sand to clayey sand (SM-SC), dark yellowish brown (10YR 4/4), grading to olive (5Y 4/3) at 5', loose, dry to moist.	
										3		
			48	38		G		NO	0	4		
										5		
										6	Silty sand (SM), dark yellowish brown (10YR 4/4), loose, wet at 7.5', color change to very dark greenish gray (5GY 3/1) at 7.5'. 85% medium fine sand, 10% silt, 5% clay.	
										7		
			48	42		G		NO	0	8		
										9		
										10		
										11		
										12		
										13		
										14		
										15		
										16		
										17		
										18		
										19		
										20		
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										30		

Total depth 12' bgs.

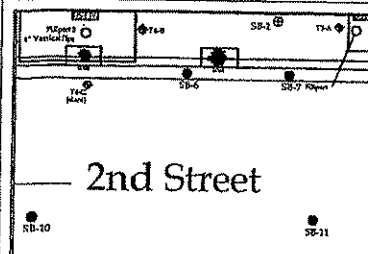


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 LOGGED BY: Robert L. Nelson

**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

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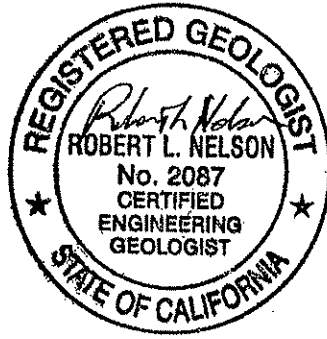


CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO#: GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.:
DRILLING CONTRACTOR: Fast-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER: 2"
DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 16.0'	FILTER PACK: NA
			DRILLING DATE: 10/06/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min./ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	DESCRIPTION
			48	40		G				1		2" Asphalt 6" Concrete
								NO	0	2		Silty sand (SM), very dark greenish gray (5GY 3/1), loose, moist, 85% medium to medium fine subrounded sand, 10% silt, 5% clay, trace of shells.
								NO	0	3		
			48	40		G				4		
								NO	0	5		
								NO	0	6		
								NO	0	7		
			48	36		F				8		Wet.
								NO	0	9		
								NO	0	10		
								NO	0	11		
			48	40		G				12		Poorly graded sand (SP), greenish black (10G 2.5/1), loose, wet, 95% fine to medium subrounded well sorted sand, 5% silt, trace mica, trace of shells.
								NO	0	13		
								NO	0	14		
								NO	0	15		Refusal at 16'. Total depth 16' bgs.
										16		
										17		
										18		
										19		
										20		
										21		
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										23		
										24		
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										29		
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APPROVED BY: Eric Lervaag



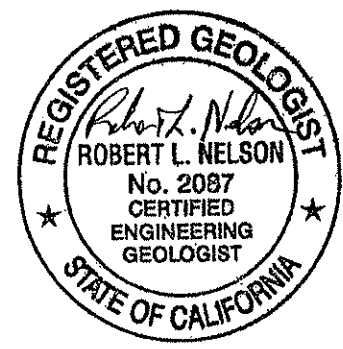
**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

Sheet 1 of 1

<p style="text-align: center;"><b>2nd Street</b></p>	<b>CLIENT/LOCATION:</b> Markus Supply Hardware 626 Second St. Oakland, CA	<b>JOB NO#:</b> GB001G	<b>PROJ. MANAGER:</b> E. Lervaag	<b>BORING/WELL NO.:</b> SB-12
	<b>DRILLING CONTRACTOR:</b> Fast-Tek	<b>DRILL RIG TYPE:</b> Geoprobe 5400	<b>WELL DEPTH:</b> NA	<b>BORING DIAMETER:</b> 2"
	<b>DRILL RIG OPERATOR:</b> Eric Austin	<b>WELL MATERIAL:</b> NA	<b>BORING DEPTH:</b> 12.0'	<b>FILTER PACK:</b> NA
				<b>DRILLING DATE:</b> 10/06/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	DESCRIPTION
			48	40	G			NO	0	1		2" Asphalt 6" Concrete
								NO	0	2		<p>Silty sand (SM), dark yellowish brown (10YR 4/4), loose, moist, 60% fine to medium well rounded sand, 35% silt, 5% clay.</p>
								NO	0	3		
			48	40	G			NO	0	4		
								NO	0	5		
								NO	0	6		
								NO	0	7		
			48	44	G			NO	0	8		
								NO	0	9		
								NO	0	10		
								NO	0	11		
								NO	0	12		
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**SOIL BORING AND WELL CONSTRUCTION LOG:**  
**CLEARWATER GROUP**

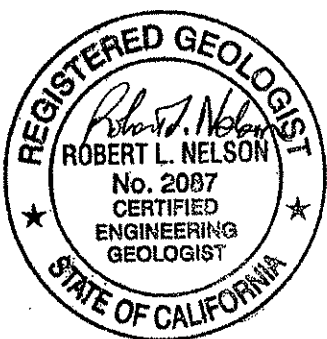
Project No. GB001H  
 Sheet 1 of 1

<p style="text-align: center; font-size: 24pt;"><b>2nd Street</b></p>	<b>CLIENT/LOCATION:</b> Markus Supply Hardware 626 Second St. Oakland, CA	<b>JOB NO#:</b> GB001G	<b>PROJ. MANAGER:</b> E. Lervaag	<b>BORING/WELL NO.:</b> SB-13
	<b>DRILLING CONTRACTOR:</b> Fast-Tek	<b>DRILL RIG TYPE:</b> Geoprobe 5400	<b>WELL DEPTH:</b> NA	<b>BORING DIAMETER:</b> 2"
	<b>DRILL RIG OPERATOR:</b> Eric Austin	<b>WELL MATERIAL:</b> NA	<b>BORING DEPTH:</b> 12.0'	<b>FILTER PACK:</b> NA
	<b>DRILLING DATE:</b> 10/06/08			

TPH-d mg/kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	DESCRIPTION
			48	30	F			NO	0	1		2" Asphalt 6" Concrete
										2		Silty sand (SM), very dark greenish gray (SGY 3/1), loose, wet, 80% fine to medium sand, 15% silt, 5% clay.
										3		
			48	40	G			NO	0	4		Trace of shells below 4'.
										5		
										6		
								FAINT	0	7		
			48	42	G					8		Wet at 8', trace sheen on water.
										9		Sand coarsens to medium at 9'.
										10		
										11		
										12		Total depth 12' bgs. Water level at 7.9' bgs at time of water sample SB-13W collection.
										13		
										14		
										15		
										16		
										17		
										18		
										19		
										20		
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										30		

LOGGED BY: Robert L. Nelson

APPROVED BY: Eric Lervaag



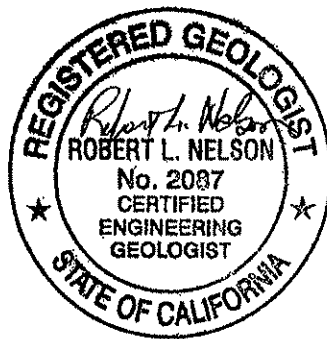
**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

Sheet 1 of 1

2nd Street	CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO#: GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO.:	SB-14
	DRILLING CONTRACTOR: Past-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER:	2"
● SB-14 ● SB-15	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 12.0'	FILTER PACK:	NA
					DRILLING DATE: 10/09/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOW/C INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	SAMPLING METHOD: Continuous Core		
												MONITORING INSTRUMENT: Photoionization Detector		
								NO	0	1	<p>Poorly graded fine to medium sand with silt (SP-SM), dark brown (10YR 4/1), very soft, moist, loose, 80% fine sand, 10% medium sand (fill).</p>			
										2				
				48	42	G		NO	0	4				
										5				
										6	<p>Poorly graded fine sand with silt (SP-SM), olive brown (2.5YR 4/3), very soft, wet, 90% fine sand, 10% silt.</p>			
										7				
				48	42	G		NO	0	8	<p>Silty fine to very fine sand (SM), brown (10YR 5/3), very soft, wet, 70% fine sand, 20% silt, 10% very fine sand.</p>			
										9				
										10				
										11	<p>Clayey fine to very fine sand (SC), brown (10YR 5/3), very soft, moist, iron staining yellow and gray, 70% fine sand, 15% clay, 10% very fine sand, 5% silt.</p>			
										12				
										13	Total depth 12' bgs. Water sample collected at 6.5'.			
										14				
										15				
										16				
										17				
										18				
										19				
										20				
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LOGGED BY: Airon Wilder  
APPROVED BY: Eric Lervaag

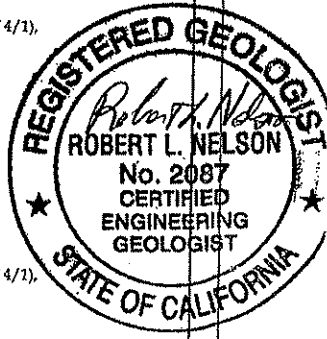
SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP

Project No. GB001H

Sheet 1 of 1

<h1 style="margin: 0;">2nd Street</h1>	CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO. #: GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO. #: SB-15
	DRILLING CONTRACTOR: Fast-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER: 2"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 32.0'	FILTER PACK: NA
				DRILLING DATE: 10/09/08

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (inm/#)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	SAMPLING METHOD: Continuous Core
								NO	0	1		MONITORING INSTRUMENT: Photoionization Detector
										2		Poorly graded fine to medium sand with silt (SP-SM), dark brown (10YR 4/1), firm, moist, loose, 80% fine sand, 10% medium sand (fill).
										3		
				48	48	G		NO	0	4		Poorly graded sand with silt (SP-SM), very dark brown (7.5YR 4/1), soft, moist, 90% fine sand, 10% silt.
										5		
										6		
										7		Poorly graded fine sand (SP), brown (10YR 4/3), loose, wet, soft, 95% fine sand, 5% very fine sand.
				48	48	G		NO	0	8		
										9		
										10		
										11		
				48	48	G		NO	0	12		
										13		Clayey fine and very fine sand (SC), brown (10YR 4/3), soft, moist, low plasticity, 70% fine sand, 15% very fine sand, 15% clay.
										14		
										15		Silty sand (SM), gray, soft, wet, loose, 80% fine sand, 15% silt, 5% very fine sand, moist, silt increases.
				48	48	G		NO	0	16		
										17		
										18		Poorly graded sand with silt (SP-SM), dark greenish gray (5GY 4/1), wet, very soft, 90% very fine sand, 10% silt.
				48	48	G		NO	0	20		
										21		
										22		
				48	48	G		NO	0	24		
										25		Poorly graded sand with clay (SP-SC), dark greenish gray (5GY 4/1), very soft, wet, 90% very fine sand, 10% silt.
										26		
										27		Poorly graded sand with silt (SP-SM), grayish brown, very soft, wet, 90% very fine sand, 10% silt.
										28		
										29		
										30		Poorly graded (SP), gray, soft, moist, 95% very fine sand, 5% silt.
										31		
										32		Clayey sand (SC), yellowish brown (2.5Y 5/4), moist, dense, 80% fine sand, 15% clay, 5% silt. Total depth 32' bgs.



LOGGED BY: Arron Wilder

APPROVED BY: Eric Lervaag

**SOIL BORING AND WELL CONSTRUCTION LOG:  
CLEARWATER GROUP**

Project No. GB001H

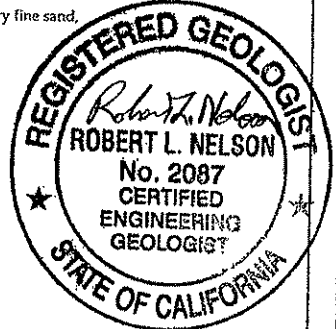
Sheet 1 of 1

<b>2nd Street</b>	CLIENT/LOCATION: Markus Supply Hardware 626 Second St. Oakland, CA	JOB NO#: GB001G	PROJ. MANAGER: E. Lervaag	BORING/WELL NO: SB-16
	DRILLING CONTRACTOR: Fast-Tek	DRILL RIG TYPE: Geoprobe 5400	WELL DEPTH: NA	BORING DIAMETER: 2"
	DRILL RIG OPERATOR: Eric Austin	WELL MATERIAL: NA	BORING DEPTH: 28.0'	FILTER PACK: NA
	DRILLING DATE: 10/09/08			

TPH-d mg/Kg	SAMPLE DEPTH	SAMPLE TYPE	BLOWS/6" INTERVAL	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	ODOR	PID	DEPTH (FEET)	GRAPHIC LOG	SAMPLING METHOD: Continuous Core
								NO	0	1		MONITORING INSTRUMENT: Photoionization Detector
										2		Poorly graded fine to medium sand with silt (SP-SM), dark brown (7.5YR 4/1), firm, moist, (fill), 80% fine sand, 10% medium sand.
										3		
			48	12				NO	0	4		Poorly graded fine sand with silt (SP-SM), brown (10YR 5/3), loose, moist, 85% fine sand, 10% silt, 5% medium sand.
										5		
										6		
			48	12				NO	0	8		Poorly graded fine sand with silt (SP-SM), dark greenish gray (5GY 4/1), wet, 85% fine sand, 10% silt, 5% medium sand.
										9		
										10		
										11		Poorly graded gravel (GP), very hard, wet, 80% coarse gravel, 20% fine gravel.
			48	48	G			NO	0	12		Clayey sand (SC), medium grayish brown, very soft, loose, low plasticity, wet, 80% fine sand, 5% silt, 5% very fine sand.
										13		
										14		
										15		Silty sand (SM), dark greenish gray (5GY 4/1), loose, wet, iron staining, 80% fine sand, 15% silt, 5% very fine sand.
			48	48				NO	0	16		Poorly graded sand with silt (SP-SM), dark gray (5GY 4/1), loose, wet, iron staining, 90% very fine sand, 10% silt.
										17		
										18		
			48	48				NO	0	20		Poorly graded sand (SP-SC), dark gray (5GY 4/1), loose, wet, very soft, 85% fine sand, 15% clay, 5% silt.
										21		
										22		
										23		
			48	48				NO	0	24		Poorly graded sand with silt (SP-SM), 85% fine sand, moist, iron staining, 15% silt.
										25		
										26		Poorly graded sand (SP), loose, wet, 90% very fine sand, 10% fine sand.
										27		
			48	0						28		Total depth 28' bgs.
										29		No recovery
										30		
										31		
										32		

LOGGED BY: Arton Wilder

APPROVED BY: Eric Lervaag



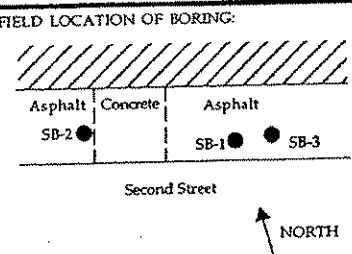






FIELD EXPLORATORY SOIL BORING LOG: SB-1

9/13/96  
 FINISH  
 9/13/96  
 LOGGED BY: Brian Gwinn, R.G.  
 APPROVED:

FIELD LOCATION OF BORING: 				CLIENT/LOCATION: MOCHA/626 2nd, Oakland		BORING NO.: SB-2	BORING DEPTH: 5 feet	BORING DIAMETER: 4 Inches		
Asphalt SB-2 ● Concrete Asphalt SB-1 ● SB-3				DRILLING CONTRACTOR: SES, Inc.		WELL NO.: NA	WELL DEPTH: NA	PLANNED USE: NA		
Second Street NORTH ↑				DRILL RIG TYPE: CME 55		WELL MATERIAL: NA	SCREEN SLOT SIZE: NA	FILTER PACK: NA		
				DRILL RIG OPERATOR: Kevin Cross		WELL SEAL: Hydrated bentonite				
				SAMPLING METHOD: 1.5" O.D. split-spoon sampler						
				MONITORING INSTRUMENT: Sensidyne FID (malfunctioned)						
				FIRST ENCOUNTERED WATER DEPTH: NA						
				STATIC WATER DEPTH - DATE: NA						
WELL CONSTRUCTION DETAIL	SAMPLING				DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT			GRAPHIC LOG
	BLOWS/6" INTERVAL	INTERVAL	RECOVERY	ANALYTICAL			WATER LEVEL	GRAVEL	SAND	
NO WELL INSTALLED (SEALED WITH BENTONITE)					1					
					2		0	85	15	
					3					
					4					
					5					
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
					15					
					16					
					17					
					18					
					19					
					20					

No OVM readings - FID malfunctioning in field

??Underground structure??

Asphalt and baserock.

Silty SAND (SM); stained dark gray; poorly graded; sub-angular to sub-rounded, very fine to medium sand; trace cobbles; loose; dry; petroleum hydrocarbon odor (turpentine-like).

After approximately two blows with 40 lbs. hammer, sampler sank into void under its own weight. Upon retrieval, sampler soaked in liquid which appeared to be mostly water; however, similar petroleum hydrocarbon odor as in soil noted in liquid. No sheen present.

Borehole filled with hydrated bentonite.

FIELD EXPLORATORY SOIL BORING LOG: SB-2

9/13/96

FINISH

9/13/96

LONG/WELL CONSTRUCTION: START

LOGGED BY: Brian Gwinn, R.G.

APPROVED

FIELD LOCATION OF BORING:				CLIENT/LOCATION:			BORING NO.:	BORING DEPTH:	BORING DIAMETER:		
				MOCHA/626 2nd, Oakland			SB-2	20 feet	4 Inches		
				DRILLING CONTRACTOR:			WELL NO.:	WELL DEPTH:	PLANNED USE:		
				SES, Inc.			NA	NA			
				DRILL RIG TYPE:			WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:		
				CME 55			NA	NA	NA		
				DRILL RIG OPERATOR:			WELL SEAL:				
				Kevin Cross			Cement				
WELL CONSTRUCTION DETAIL	SAMPLING			WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT			GRAPHIC LOG	
	BLOWS/6" INTERVAL	INTERVAL	RECOVERY ANALYTICAL				GRAVEL	SAND	FINES		
NO WELL INSTALLED					1	No OVM readings - FID malfunctioning in field					
					2		0	80	20		
					3						
					4						
	P				5			0	85		15
	P				6						
	P				7						
	P				8			0	90		10
					9						
					10						
					11						
					12						
					13						
	P				14			0	75		25
	P				15						
					16						
					17						
					18						
					19						
					20						

SAMPLING METHOD: 1.5" O.D. split-spoon sampler  
 MONITORING INSTRUMENT: Sensidyne FID (malfunctioned)  
 FIRST ENCOUNTERED WATER DEPTH: Wet sample at ~8.5 feet  
 STATIC WATER DEPTH - DATE: Heaving sands, no free water

Asphalt and baserock

Silty SAND (SM); yellow-brown; poorly graded; sub-angular to sub-rounded, very fine to medium sand; trace cobbles; loose; dry.

Silty SAND (SM); dark brown; poorly graded; sub-angular to sub-rounded, very fine to medium sand; trace cobbles; loose; damp.

SAND (SP); blue-gray; poorly graded; sub-rounded, fine to medium sand; loose; wet.

Silty SAND (SM); blue-gray with orange mottles; poorly graded; sub-rounded, fine to medium sand; loose; saturated.

**Note:**  
 No water entered borehole due to heaving sands

FIELD EXPLORATORY SOIL BORING LOG: SB-3

APPROVED: \_\_\_\_\_ LOGGED BY: Brian Gwin, R.G. \_\_\_\_\_ LING/WELL CONSTRUCTION: START 9/13/96 FINISH 9/13/96

FIELD LOCATION OF BORING:					CLIENT/LOCATION:			BORING NO.:	BORING DEPTH:	BORING DIAMETER:
					MOCHA/626 2nd, Oakland			SB-3	2 feet	4 Inches
					DRILLING CONTRACTOR:			WELL NO.:	WELL DEPTH:	PLANNED USE:
					SES, Inc.			NA	NA	NA
					DRILL RIG TYPE:			WELL MATERIAL:	SCREEN SLOT SIZE:	FILTER PACK:
					CME 55			NA	NA	NA
					DRILL RIG OPERATOR:			WELL SEAL:		
					Kevin Cross			Hydrated bentonite		
WELL CONSTRUCTION DETAIL	SAMPLING				DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT			GRAPHIC LOG
	BLOWS/6" INTERVAL	INTERVAL	RECOVERY	ANALYTICAL			GRAVEL	SAND	FINES	
NO WELL INSTALLED (SEALED WITH BENTONITE)					1		0	85	15	Asphalt and baserock
					2					Silty SAND (SM); stained dark gray; poorly graded; sub-angular to sub-rounded, very fine to medium sand; trace cobbles; loose; dry; petroleum hydrocarbon odor (turpentine-like).
					3					
					4					
					5					
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
					15					
					16					
					17					
					18					
					19					
					20					