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Alameda County  
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*Paulette Satterley  
14601 Guadalupe Dr.  
Rancho Murieta, Ca 95683  
Telephone 916-768-2003*

September 17, 2010

Ms. Barbara Jakub  
Alameda County Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Re: Fuel Leak Case No: RO0000133

Enclosed please find the Additional Site Investigation Work Plan Addendum for the former City of Paris Cleaners site located at 3516 Adeline Street, Oakland, CA 94608 and dated September 13, 2010. This report was prepared by Taber Consultants of West Sacramento, California.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document are true and correct to the best of my knowledge.

Sincerely,



Paulette Satterley

# **ADDITIONAL SITE INVESTIGATION WORK PLAN ADDENDUM**

Former City of Paris Cleaners  
3516 Adeline Street  
Oakland, California 94608

USTCF Claim #002192

## **Prepared For:**

Ms. Paulette Satterley  
14601 Guadalupe Drive  
Rancho Murieta, CA 95683

## **Prepared By:**

Taber Consultants  
3911 West Capitol Avenue  
West Sacramento, CA 95691

Project No. 051074

September 13, 2010

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## 1.0 INTRODUCTION

### 1.1 Project Description

On behalf of the responsible party, Taber Consultants (Taber) has prepared this *Additional Site Investigation Work Plan Addendum* for submittal to the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) and Alameda County Health Care Services Agency (ACHSA). The scope of work conducted during this project complies with existing SRWQCB and ACHSA directive letters. This work described in this addendum is intended to be completed concurrently with work described in the *Additional Site Investigation Work Plan* prepared by Taber Consultants dated January 22, 2010 and submitted by Ms. Paulette Satterley January 25, 2010.

### 1.2 Site Location and Description

The former City of Paris Cleaners, located at 3516 Adeline St., Oakland, CA, is a former dry cleaning, laundry and dyeing operation currently owned by Mrs. Debra Runyon. The facility operated as City of Paris Cleaners and Dyers for about 40 years until the 1960's, but cleaning materials and tanks were not completely removed from the site until 1992. The site buildings remained vacant for a number of years following the closure of the dry cleaning operation, and then the owner converted them to residential and light commercial use.

The site lies at the southern corner of the intersection of 35th Street and Adeline Street at approximately 30 feet above mean sea level (amsl) in the northwest portion of the City of Oakland, California. The site buildings currently house on-site living quarters and City of Paris Studios, a workshop for art, art restoration, collectibles and hobbies. Mrs. Runyon acquired the site in July 2000.

### 1.3 Chronological Site History and Previous Subsurface Investigations

In 1987, Frank Champion, the owner at that time, applied for permits for remove Stoddard Solvent storage tanks at the site. Mr. Champion applied for five permits, obtaining permission to remove two 1000-gallon tanks, a 500-gallon tank, a 250-gallon tank and a 150-gallon tank. Underground storage tanks at the site were used to store Stoddard Solvent, the dry cleaning solvent used during operation of the dry cleaning facility until the 1960s when the facility was closed.

On October 4, 1990, Semco Company of San Mateo excavated and reported removing one 750-gallon and two 1,000-gallon underground tanks used to store Stoddard Solvent. Six soil samples were collected in conjunction with the UST removal.

On July 31 and August 1 and 2, 1991, Uriah Inc. (UES) performed a soil vapor survey at the site in an attempt to define the approximate boundaries of soil impacted by Stoddard Solvent. Soil vapors were found to be widely distributed across the site, but due to physical impediments posed by site structures, sidewalks, etc., the full extent of the impacted soil was not defined.

UES contracted W.A. Craig to overexcavate the eastern portion of the tank pit on August 30, 1991. Approximately 44 cubic yards were excavated and placed in a cell for on-site

bioremediation of the impacted soil. During overexcavation, EUS reports that the contractor discovered an additional 250-gallon UST containing "a small volume of liquid" that was stored in a 55-gallon drum on site after removing an aliquot for analysis. This UST was removed and disposed by W.A. Craig on October 31, 1991. An additional 15 cubic yards was over excavated from the tank pit by W.A. Craig on January 27, 1992 and added to the on-site bioremediation cell.

No additional soils were excavated due to safety concerns regarding building foundation integrity, however soil samples were collected from the tank pit side walls. On March 31, 1992, composite samples of the on-site bioremediated soil were analyzed to verify that sufficient hydrocarbon degradation had occurred so that the soil could be reused as fill on the site. ACHCSA approved use of the bioremediated soil as backfill, and W. A. Craig backfilled the tank pit with bioremediated soil and clean fill on April 21, 1992.

On October 29 and 30, 1992, UES supervised on-site installation of ground water monitoring wells. Soils Exploration Services of Vacaville, California, installed three 30-foot monitoring wells. Initial depth to groundwater measurements in the wells ranged from 13 to 14 feet below grade. Beginning November 18, 1992, groundwater samples were analyzed for Total Petroleum Hydrocarbons (as Stoddard Solvent, TPH-SS), Total Petroleum Hydrocarbons (as diesel, TPH-D), Total Petroleum Hydrocarbons (as gasoline, TPH-G), methyl tertiary butyl ether (MtBE), benzene, toluene, ethylbenzene and total xylenes (BTEX). Samples from all three monitoring wells contained TPH-SS ranging from 630 parts per billion (ppb) in MW-2 to 11,000 ppb in MW-3. TPH-D, TPH-G, MtBE and BTEX concentrations were below laboratory detection limits.

On March 19, 1998, Dugan Associates of San Jose, California (Dugan) advanced six on and off-site soil borings to a total depth of 18 feet below grade. Five of the soil borings were advanced on the north side of 35th Street in the projected downgradient direction from the site (EB-2 through EB-6). One soil boring was advanced on-site to the northwest of the former UST location (EB-1). At each soil boring, Dugan collected a soil sample at 5, 10 and 15 feet below grade and one grab-groundwater sample at 18 feet below grade. The on-site soil boring (EB-1) groundwater sample concentration was 270,000 ppb TPH-SS, with one off-site groundwater sample (EB-5) reporting 780 ppb TPH-SS. Concentrations of analytes for all other groundwater samples from the soil borings were below laboratory detection limits. Soil samples at EB-1 contained 310 and 340 ppb of TPH-SS at 10 and 15 ft. below grade, respectively, and trace amounts of total xylenes and/or toluene.

In September, 1999, ACHSA issued a directive letter which required groundwater analysis for semivolatile organics (SVOCs) and volatile organics (VOCs) historically associated with dry cleaning operations. In December 1999, using EPA method 625 and 3510, or 8270 and 3550, 1,2-dichlorobenzene (DCB), 1,1-dichloroethane (1,1 DCA), 2-methylnaphthalene and naphthalene were detected in samples from one or more wells. Concentrations of other SVOC and VOC analytes were below laboratory detection limits, including denser than aqueous phase liquids (DNAPLs, i.e. pentachlorophenol (PCP)). At that time Dugan defined a north-trending groundwater gradient at 0.003 ft./ft.

In their September, 1999 letter, the ACHSA also noted that according to a database search they believed a 97-foot industrial well had been drilled at the site. The well was located southeast of Monitoring Well 3 (Figure 2).

In March 2002, in compliance with an ACHSA directive letter, WellTest, Inc. (formerly Dugan and Associates) redeveloped the three monitoring wells (by purging 10 well-volumes) and sampled the three wells pursuant to quarterly monitoring responsibilities. WellTest, Inc. also sampled the industrial well on-site. The analytical results of the sampling indicated up to 11,000 µg/L of TPH-SS in the sample from MW-1, no BTEX above laboratory detection limits, up to 31 µg/L MtBE in the sample from MW-3, 0.61 µg/L DCB in the sample from MW-1, and 130 µg/l Naphthalene in MW-1. The groundwater gradient was also defined to the southeast at 0.14 ft./ft., which appears to be an anomalously steep gradient for this site. This steep gradient may be a result of sediment blocking some or all of the screened section of one or more well. When Dugan redeveloped the wells in 2002, they appear to have adversely impacted the ability of the wells to adjust to changing water levels.

Taber Consultants (Taber), formerly Western Resource Management (WRM), assumed environmental consulting responsibilities for the site commencing in June 2007. Taber performed groundwater monitoring at the site for the first and second semiannual periods of 2009. In response to a query by ACHSA, Taber submitted a well completion report request to the California Department of Water Resources, in which undated well boring logs for a well at the City of Paris Cleaners, at 3516 Adeline Street, indicated a 97-foot industrial well on the site. Taber also found well drilling information for another industrial well drilled in 1927 for the City of Paris Cleaners, drilled to 295 feet. The location of this well is unknown, and the well could have been covered by buildings constructed after the well was taken out of service.

July 28, 2009, ACHCSA advised Responsible Parties that The California State Water Resources Control Board (State Water Board) had approved Resolution No. 2009-0042, which reduced quarterly groundwater monitoring requirements to semiannual or less frequent monitoring at all sites. In 2009, Taber reduced monitoring at the City of Paris Cleaners site to two semiannual monitoring events at the site in February and August. Corresponding reports were the First Semiannual and Second Semiannual Monitoring Reports

## **2.0 PURPOSE**

This *Additional Site Investigation Workplan Addendum* is intended to supplement the *Additional Site Investigation Workplan* submitted by Taber Consultants on January 22, 2010, recommending additional site investigation tasks at the City of Paris Cleaners site. That work is intended to provide technical information that will refine estimated plume boundaries, provide information about groundwater flow in the area, better define hydrocarbon characteristics at the site and improve understanding of the site hydrogeology for the Site Conceptual Model (SCM). The work proposed in this Addendum is intended to produce information regarding health risks that could arise from volatilization of organic carbon constituents derived from Stoddard Solvent to the residential buildings close to the former Stoddard Solvent storage tank area.

### 3.0 SOIL VAPOR TESTING

Taber Consultants will conduct a soil vapor investigation at the site to evaluate potential soil vapor intrusion into residences near the impacted soil, in accordance with the *California Regional Water Quality Control Board Los Angeles Region, Interim Guidance for Active Soil Gas Investigation* dated February 25, 1997; the *California Department of Toxic Substances Control Advisory – Active Soil Gas Investigations* dated January 28, 2003; the *California Department of Toxic Substances Control Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*, dated December 14, 2004 and revised February 7, 2005; and the *California Department of Toxic Substances Control Interim Guidance Evaluating Human Health Risks from Total Petroleum Hydrocarbons (TPH)*, June 16, 2009.

The proposed site investigation has two objectives. The investigation is designed to (1) supplement previous investigations and increase understanding of the site for the SCM and (2) obtain the analyses specifically required to predict vapor intrusion potential of constituents of concern (COCs) in site soil and groundwater. The results from these analyses will be used to prepare Taber Consultants' assessment of the vapor intrusion potential at the site using appropriate Human Health Risk Assessment (HHRA) tools such as the Johnson and Ettinger Screening-Level Model for Soil Gas Contamination, 2009 revision, obtained from the Department of Substances Control website September 25, 2009 (DTSC Soil Gas J&E model) or other appropriate model. Taber Consultants' Standard Operating Procedures, Soil Vapor Sampling is attached as Appendix A.

Four soil vapor samples will be collected at the locations shown on Figure 3 (subject to constraining conditions at the site, which is a small courtyard). Soil vapor samples will be collected by advancing shallow borings to approximately five feet below ground surface (fbgs) using portable direct-push sampling equipment. A retractable, disposable vapor sampling probe tip connected to 1/8-inch diameter Teflon<sup>®</sup>-lined tubing will be threaded through the center section of the direct-push rods. When the sampling probe reaches the specified sampling depth, the outer sleeve will be retracted to expose a 3-inch screen section for soil vapor extraction. The annular space will be sealed with bentonite which will be allowed to hydrate for approximately 20 minutes prior to system purging and sample collection. Modeling clay or equivalent will be used to form an air tight seal around the drill rod at the ground surface. Taber Consultants will wait at least 20 minutes after probe installation to allow for subsurface equilibrium. For each soil vapor sample, the system will be purged of approximately three system volumes prior to sampling to ensure that a representative soil vapor sample is collected. Immediately prior to sampling, a tracer gas (Taber Consultants typically uses 1,1-difluoroethane) will be applied to the drill rod at the ground seal to check seal integrity and to the sample manifold to evaluate ambient air intrusion. The tracer gas will be included in the analytical suite to verify soil vapor sample reliability. Soil vapor samples for BTEX, naphthalene and total methyl-naphthalene will be collected in laboratory-provided Summa Canisters at a flow rate of 100 to 200 milliliters per minute.

Upon completion of soil vapor sampling activities, drilling rods will be removed from the boring and the borehole will be abandoned by filling completely with a neat cement grout in accordance with applicable regulatory guidelines.

Following vapor sampling, the sample containers will be transported under chain-of-custody documentation to Torrent Lab (CA ELAP #1991) in Oakland, California, for analysis of



Additional Site Investigation Work Plan Addendum  
Former City of Paris Cleaners  
3516 Adeline Street, Oakland, CA

benzene, toluene, ethylbenzene and total xylenes (BTEX), naphthalene and total methyl-naphthalene by EPA Method TO-15. Each sample container submitted for analysis will be labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, sampling methodology, name(s) of on-site personnel, and any other pertinent field observations also recorded on the field excavation or boring log. Chain-of-custody forms are used to record possession of the sample from time of collection to arrival at the laboratory. During transport, the person with custody of the samples will relinquish them to the next person by signing the chain-of-custody form(s) and noting the date and time. The sample control officer at the laboratory will verify sample integrity, correct preservation, confirm collection in the proper container(s), and ensure adequate volume for analysis. If these conditions are met, the samples will be assigned unique laboratory log numbers for identification throughout analysis and reporting. The log numbers will be recorded on the chain-of-custody forms and in the legally-required log book maintained in the laboratory. The sample description, date received, client's name, and any other relevant information will also be recorded.

Upon approval of this work plan, Taber Consultants will schedule soil vapor sampling as described above. Taber Consultants will discuss the soil vapor investigation results in the Site Investigation Report and Site Conceptual Model to ACHSA within 60 days of performing the site investigation and soil vapor sampling.

### **3.1 Project Planning and Permitting**

Taber Consultants will obtain the required boring permits and work plan approval from Alameda County Public Works Agency. Underground Service Alert (USA) will be notified a minimum of 48 hours prior to the installation of the soil borings to locate any utilities in the vicinity of the planned boring locations.

Prior to initiating fieldwork, a site-specific health and safety plan (HASP) will be prepared according to 29 CFR 1910.120. The HASP will include safety procedures for work to be performed, chemical hazard information, site safety officers, and a medical emergency location. The HASP will be kept on site at all times during the site investigation work.

Additional Site Investigation Work Plan Addendum  
Former City of Paris Cleaners  
3516 Adeline Street, Oakland, CA

#### **4.0 REPORT DISTRIBUTION**

Ms. Paulette Satterley  
14601 Guadalupe Drive  
Rancho Murieta, CA 95683

Ms. Barbara Jakub  
Alameda County Health Care Services Agency  
1131 Harbor Parkway, Suite 250  
Alameda CA, 94502

Ms. Cherie McCaulou  
San Francisco Bay Regional Water Quality Control Board  
1515 Clay St., Suite 1400  
Oakland, CA 94612

## 5.0 REMARKS AND SIGNATURE

The interpretations and/or conclusions contained in this work plan addendum represent our professional opinions and are based in part on information supplied by the client. These opinions are based on currently available information and were developed in accordance with currently accepted geologic, hydrogeologic, and engineering practices at this time and for Alameda County in 2010. Other than this, no warranty is implied or intended.

This work plan has been prepared solely for the use of Ms. Paulette Satterley. Any reliance on this work plan by third parties shall be at such parties' sole risk. The work described herein was performed under the direct supervision of the professional geologist, registered with the State of California, whose signature appears below.


We appreciate the opportunity to provide you with geologic, engineering and environmental consulting services and trust this report meets your needs. If you have any questions or concerns, please call us at (916) 371-1690.

Sincerely,

### ***Taber Consultants***



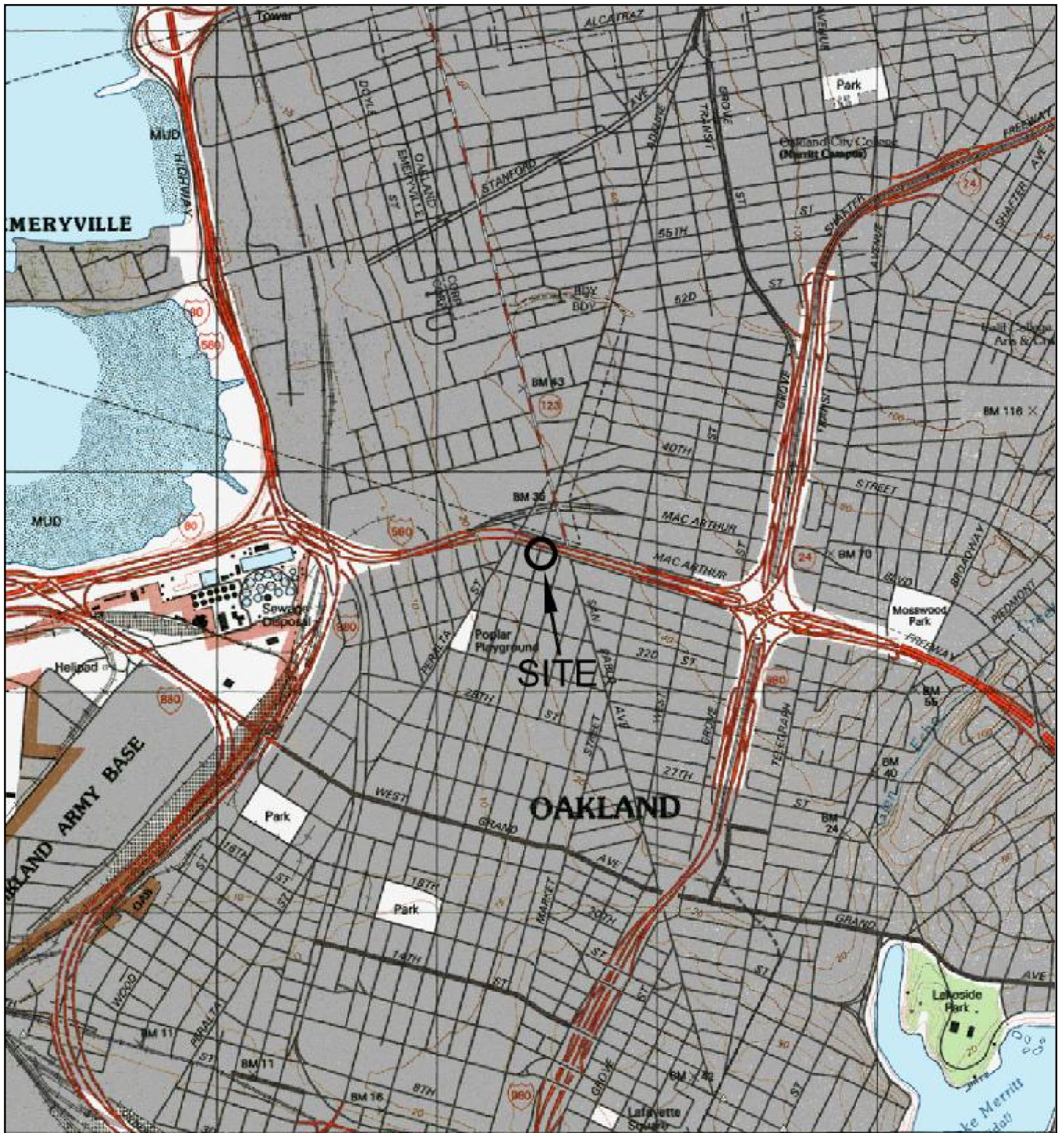
Ellen Pyatt, MSc.  
Project Geologist



Thomas E. Ballard, P.G. #7299  
Senior Geologist



## FIGURES



Scale: 1:24,000

Source:  
 USGS West Oakland  
 Quadrangle Topographic Map  
 Report, 7.5 Minute Series  
 (topographic), dated 1993

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*Former City of Paris*

*3516 Adeline Street  
 Oakland, California*

**Vicinity Map**

051074

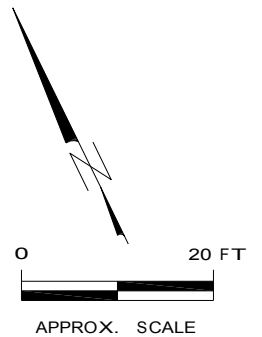
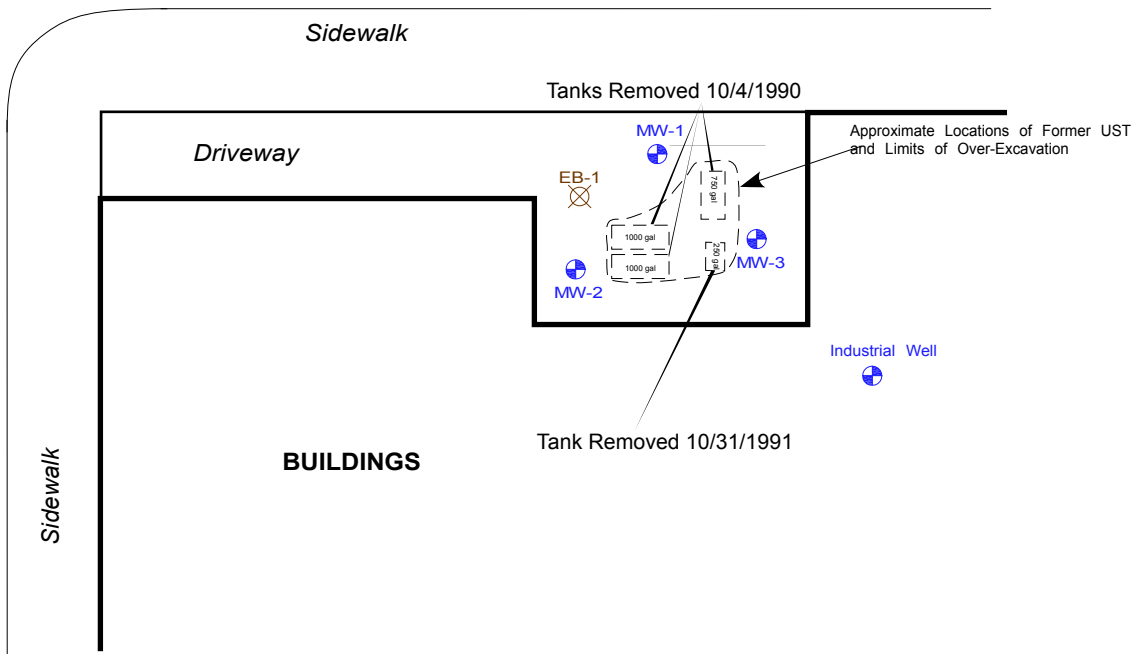
February 19, 2009

Figure 1

EB-2 EB-3 EB-4 EB-5 EB-6

35TH STREET

ADELINE STREET



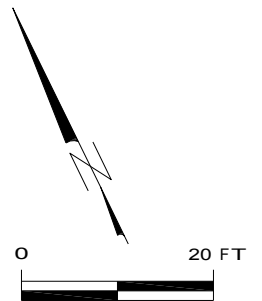
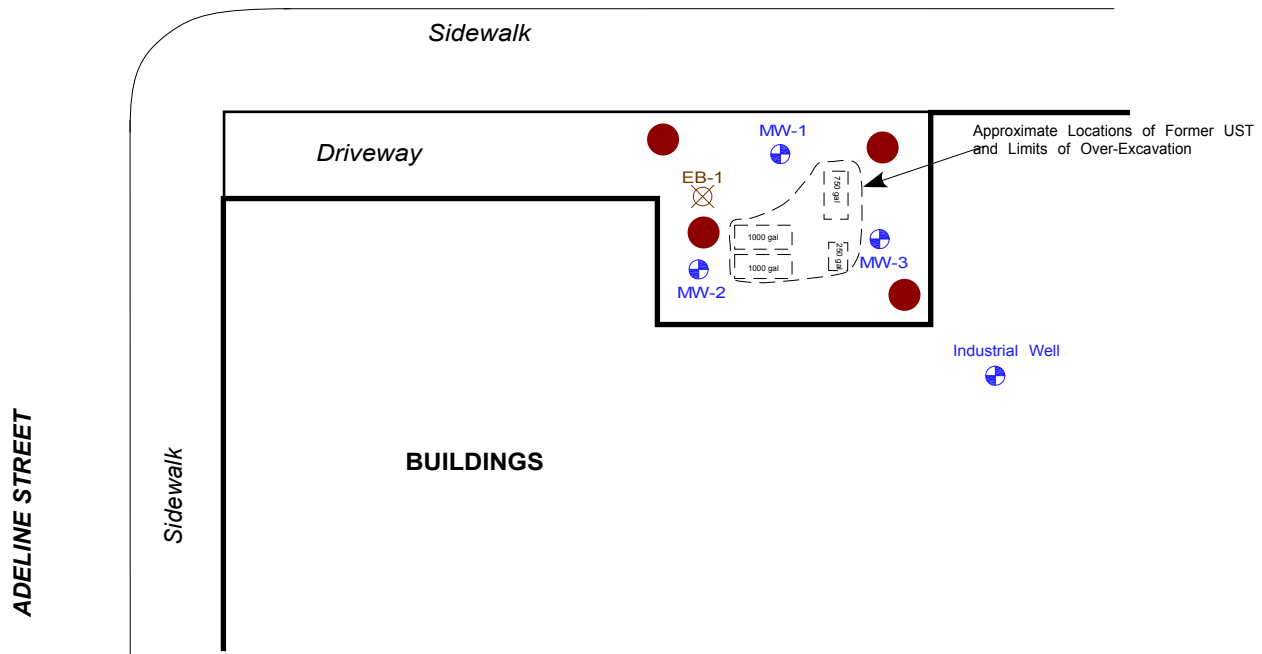
**LEGEND**

- MW-1 GROUNDWATER MONITORING WELL
- EB-1 SOIL BORING (1998)
- APPROXIMATE UNDERGROUND STORAGE TANK LOCATIONS

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<b>Taber Consultants Engineers and Geologists</b> 3911 West Capitol Avenue West Sacramento, CA 95691-2116 916.371.1690 Fax 916.371.7265 <a href="http://www.taberconsultants.com">www.taberconsultants.com</a>		
Former City of Paris		
3516 Adeline Street Oakland, California		
<b>Site Map</b>		
051074	June 9, 2010	Figure 2



35TH STREET



APPROX. SCALE

**LEGEND**

- MW-1 GROUNDWATER MONITORING WELL
- EB-1 SOIL BORING (1998)
- APPROXIMATE UNDERGROUND STORAGE TANK LOCATIONS
- PROPOSED SOIL VAPOR PROBE EXTRACTION LOCATIONS

<p style="font-size: 0.8em; margin: 0;"> <b>Taber Consultants</b>  <b>Engineers and Geologists</b>          3911 West Capitol Avenue          West Sacramento, CA 95691-2116          916.371.1690 Fax 916.371.7265  <a href="http://www.taberconsultants.com">www.taberconsultants.com</a> </p>		
<p style="font-size: 1.2em; margin: 0;">Former City of Paris</p>		
<p style="font-size: 1.2em; margin: 0;">3516 Adeline Street</p> <p style="font-size: 1.2em; margin: 0;">Oakland, California</p>		
<p style="font-weight: bold; margin: 0;">Proposed Soil Vapor Extraction Probe Locations</p>		
<p>051074</p>	<p>July 20, 2010</p>	<p>Figure No. 3</p>

## TABLES



**TABLE 1**  
**SUMMARY SOIL SAMPLE ANALYSES**  
City of Paris Cleaners  
3516 Adeline Street, Oakland, California 94608

Analytical Summary									
Location			TPH-SS	TPH-G	Benzene	Toluene	Ethyl		MTBE
ID	Date	Comments					benzene	Xylenes	
						ug/l			
TE-1	10/4/1990	750 g tank	--	<b>290</b>	<150	<150	<b>400</b>	<b>5100</b>	--
TE-2	10/4/1990	750 g tank	--	<b>560</b>	<150	<150	<150	<b>11000</b>	--
TE-3	10/4/1990	1000 g tank	--	<b>370</b>	<150	<150	<150	<b>4700</b>	--
TE-4	10/4/1990	1000 g tank	--	<b>1</b>	<3	<3	<3	<b>9</b>	--
TE-5	10/4/1990	1000 g tank	--	<b>170</b>	<30	<b>54</b>	<30	<b>2100</b>	--
TE-6	10/4/1990	1000 g tank	--	<b>1000</b>	<150	<150	<150	<b>19000</b>	--
N1-9	1/17/1992	Pit Excavation Boundaries	<b>14000</b>	<b>15000</b>	<5.0	<5.0	<5.0	<5.0	--
S1-9	1/17/1992	Pit Excavation Boundaries	<b>9800</b>	<10	<5.0	<5.0	<5.0	<5.0	--
E1-7	1/17/1992	Pit Excavation Boundaries	<b>140000</b>	<b>110000</b>	<5.0	<5.0	<5.0	<b>410</b>	--
W1-9	1/17/1992	Pit Excavation Boundaries	<b>47000</b>	<b>55000</b>	<5.0	<b>22</b>	<5.0	<b>16</b>	--
EB1-05	3/19/1998	e,j,h,i	ND	--	ND	ND	ND	ND	ND
EB1-10	3/19/1998	c	<b>310</b>	--	ND<0.02	<b>0.1</b>	ND<0.02	<b>1.8</b>	ND<0.40
EB1-15	3/19/1998	c	<b>340</b>	--	ND<0.01	ND<0.04	ND<0.01	<b>1.6</b>	ND<0.2
EB2-05	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB2-10	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB2-15	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB3-05	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB3-10	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB3-15	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB4-05	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB4-10	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB4-15	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB5-05	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB5-10	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB5-15	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB6-05	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB6-10	3/19/1998		ND	--	ND	ND	ND	ND	ND
EB6-15	3/19/1998		ND	--	ND	ND	ND	ND	ND

**Explanation:**

TPHg = Total petroleum hydrocarbons as gasoline, analyzed by EPA Method 8260B.  
TPH-SS = Total petroleum hydrocarbons as stoddard solvent, analyzed by the 8015B.  
Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B.  
MTBE = Methyl tertiary-butyl ether, analyzed by EPA Method 8260B.  
PID - Photo Ionization Detector in parts per million volume.

NA = Data not available  
<n = Below laboratory detection limit of n ppm.  
-- = not analyzed

**TABLE 2  
GROUNDWATER MONITORING AND ANALYTICAL RESULTS  
SUMMARY**

City of Paris Cleaners  
3516 Adeline Street, Oakland, California 94608

Monitoring Summary					Analytical Summary										
Well ID	Date	Top of Casing	Depth to Water	Groundwater Elevation	TPH-SS	TPH-G	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2-DCB	2-Methyl-Naphthalene		
		ft bgs		ug/l											
<b>Groundwater Sample Locations</b>															
EB1-18	03/19/98	18' bgs	Groundwater	Grab Sample	<b>270000</b>	--	ND	<b>93</b>	<b>66</b>	1700	ND	--	--	--	--
EB2-18	03/19/98	18' bgs	Groundwater	Grab Sample	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
EB3-18	03/19/98	18' bgs	Groundwater	Grab Sample	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
EB4-18	03/19/98	18' bgs	Groundwater	Grab Sample	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
EB5-18	03/19/98	18' bgs	Groundwater	Grab Sample	<b>780</b>	ND	ND	ND	ND	<b>2</b>	ND	--	--	--	--
EB6-18	03/19/98	18' bgs	Groundwater	Grab Sample	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
MW-1	11/18/92	17.44	13.99	3.45	<b>1800</b>	NA	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-1	11/4/1993	17.44	16.79	0.65	<b>2000</b>	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-1	3/8/1994	17.44	14.14	3.3	<b>150</b>	NA	<b>35</b>	<b>40</b>	<b>72</b>	<b>120</b>	NA	--	--	--	--
MW-1	8/2/1994	17.44	13.18	4.26	<b>2100</b>	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-1	2/8/1995	17.44	10.92	6.52	<b>620</b>	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-1**	7/8/1996	17.44	11.62	5.82	<b>37000</b>	<b>110000</b>	<b>1.6</b>	<0.5	<0.5	<b>74</b>	<b>7.9</b>	--	--	--	--
MW-1	10/9/1996	17.44	14.11	3.33	<b>42000</b>	NA	<0.5	<b>5</b>	<0.5	<0.5	NA	--	--	--	--
MW-1	3/18/1997	17.44	12.37	5.07	<b>2600</b>	NA	<0.5	<b>1.5</b>	<b>1.5</b>	<b>9.6</b>	<6.0	--	--	--	--
MW-1	6/19/1997	17.44	13.26	4.18	<b>660</b>	NA	<0.5	<0.5	<b>1.2</b>	<b>0.71</b>	<5.0	--	--	--	--
MW-1	11/14/1997	17.44	11.45	5.99	<b>10000</b>	NA	<0.5	<0.5	<b>110</b>	<b>1.2</b>	<5.0	--	--	--	--
MW-1	12/15/1999	17.44	11.31	6.13	<20	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<b>0.59</b>	<0.5	<0.5
MW-1	03/22/02	17.44	8.97	8.47	<b>11000</b>	--	--	--	--	--	<5.0	--	--	--	<b>130</b>
MW-1	04/15/03	17.44	9.23	8.21	<b>3900</b>	--	<2.5	<2.5	<2.5	<b>3</b>	<b>9</b>	--	--	--	--
MW-1	03/26/04	17.44	10.32	7.12	<b>30000</b>	<b>24000</b>	<50	<50	<50	<50	<500	--	--	--	--
MW-1	09/30/04	17.44	11.53	5.91	<b>3800</b>	<b>2600</b>	<0.5	<0.5	<0.5	<b>2.7</b>	<5	--	--	--	--
MW-1	09/09/05	17.44	13.63	3.81	<b>15000</b>	<b>11000</b>	c	<5	<5	<b>15</b>	<50	--	--	--	--
MW-1	11/30/07	17.44	13.95	3.49	--	--	--	--	--	--	--	--	--	--	--
MW-1	12/20/07	17.44	11.51	5.93	<b>45000</b>	<b>110000</b>	<b>20</b>	<b>50</b>	<b>20</b>	<b>100</b>	<5	--	--	--	--
MW-1	05/23/08	17.44	14.14	3.3	<b>4200</b>	<500	<1	<1	<1	<b>20</b>	<0.50	--	--	--	--
MW-1	08/12/08	17.44	13.78	3.66	<b>4000</b>	<b>12000</b>	<1	<1	<1	<1	<0.50	--	--	--	--
MW-1	12/18/08	17.44	10.71	6.73	<b>9900</b>	<b>2700</b>	<1	<1	<1	<1	<0.50	--	--	--	--
MW-1	02/19/09	17.44	8.91	8.53	<b>500</b>	<b>3100</b>	<10	<10	<10	<10	<5	--	--	--	--
MW-1	08/11/09	17.44	13.35	4.09	<b>13000</b>	<b>7800</b>	<10	<10	<10	<10	<b>5.9</b>	--	--	--	--

**TABLE 2  
GROUNDWATER MONITORING AND ANALYTICAL RESULTS  
SUMMARY**

City of Paris Cleaners  
3516 Adeline Street, Oakland, California 94608

Monitoring Summary					Analytical Summary										
Well ID	Date	Top of Casing	Depth to Water	Groundwater Elevation	TPH-SS	TPH-G	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2-DCB	2-Methyl-Naphthalene		
		ft bgs											ug/l		
MW-1 NP	08/11/09	17.44	13.35	4.09	6000	10000	<10	<10	<10	<10	<5	--	--	--	--
MW-1	03/17/10	17.44	9.31	8.13	4000	12000	<20	<20	<20	20	<10	--	--	--	--
MW-2	11/18/92	17.31	13.18	4.13	630	NA	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-2	11/04/93	17.31	14.84	2.47	3200	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-2	03/08/94	17.31	11.5	5.81	45	NA	1.4	2	11	19	NA	--	--	--	--
MW-2	08/02/94	17.31	13.14	4.17	170	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-2	02/08/95	17.31	8.18	9.13	570	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-2**	07/08/96	17.31	11.06	6.25	1800	2800	<0.5	2.6	15	24	6.3	--	--	--	--
MW-2	10/09/96	17.31	12.38	4.93	4100	NA	<0.5	0.57	<0.5	<0.5	NA	--	--	--	--
MW-2	03/18/97	17.31	10.61	6.7	240	<0.5	0.57	<0.5	<0.5	5.3	NA	--	--	--	--
MW-2	06/19/97	17.31	11.68	5.63	2500	NA	<0.5	<0.5	9.1	<0.5	<5.0	--	--	--	--
MW-2	11/14/97	17.31	10.61	6.7	130	NA	<0.5	<0.5	0.9	1.2	<5.0	--	--	--	--
MW-2	12/15/99	17.31	10.97	6.34	<20	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5	0.53	<0.5	49
MW-2	03/22/02	17.31	8.82	8.49	170	13000	410	1000	210	1100	<5.0	--	--	--	<10
MW-2	04/15/03	17.31	8.52	8.79	99	--	<0.5	<0.5	<0.5	0.76	10	--	--	--	--
MW-2	03/26/04	17.31	9.32	7.99	120	93	<0.5	<0.5	<0.5	0.76	5.4	--	--	--	--
MW-2	09/30/04	17.31	11.62	5.69	<50	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--
MW-2	09/09/05	17.31	12.75	4.56	120	98	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--
MW-2	11/30/07	17.31	11.06	6.25	--	--	--	--	--	--	--	--	--	--	--
MW-2	12/20/07	17.31	9.95	7.36	<50	3000	<1	1.6	<1	2.4	2.9	--	--	--	--
MW-2	05/23/08	17.31	12.46	4.85	300	1100	<1	<1	<1	<1	3.5	--	--	--	--
MW-2	08/12/08	17.31	12.08	5.23	2200	350	<1	<1	<1	<1	<0.50	--	--	--	--
MW-2	12/18/08	17.31	10.58	6.73	300	<50	<1	<1	<1	<1	7.3	--	--	--	--
MW-2	02/19/09	17.31	8.22	9.09	300	300	<1	<1	<1	<1	3.4	--	--	--	--
MW-2	08/11/09	17.31	13.00	4.31	600	610	<1	<1	<1	<1	3.8	--	--	--	--
MW-2	03/17/10	17.31	8.95	8.36	<50	<50	<1	<1	<1	<1	1.8	--	--	--	--
MW-3	11/18/92	17.44	13.93	3.51	11000	NA	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-3	11/04/93	17.44	15.16	2.28	320	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-3	03/08/94	17.44	13.43	4.01	45	NA	0.8	0.9	5	10	NA	--	--	--	--
MW-3	08/02/94	17.44	12.82	4.62	<20	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-3	02/08/95	17.44	7.62	9.82	<20	<50	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--
MW-3**	07/08/96	17.44	10.97	6.47	2500	2200	1	<0.5	8.8	8	10	--	--	--	--

**TABLE 2  
GROUNDWATER MONITORING AND ANALYTICAL RESULTS  
SUMMARY**

City of Paris Cleaners  
3516 Adeline Street, Oakland, California 94608

Monitoring Summary					Analytical Summary											
Well ID	Date	Top of Casing	Depth to Water	Groundwater Elevation	TPH-SS	TPH-G	Benzene	Toluene	Ethyl			MTBE	1,2-DCB	2-Methyl-		
		ft bgs							ug/l					Naphthalene	Naphthalene	
MW-3	10/09/96	17.44	11.84	5.6	2600	NA	<0.5	<0.5	<0.5	<0.5	NA	--	--	--	--	
MW-3	03/18/97	17.44	10.16	7.28	2500	NA	<0.5	0.61	0.63	5.2	NA	--	--	--	--	
MW-3	06/19/97	17.44	11.40	6.04	21000	NA	<0.5	<0.5	11	<0.5	<5.0	--	--	--	--	
MW-3	11/14/97	17.44	10.71	6.73	1,400	NA	<0.5	<0.5	28	28	<5.0	--	--	--	--	
MW-3	12/15/99	17.44	10.96	6.48	<20	<50	<0.5	<0.5	<0.5	<0.5	NA	0.87	0.57	25	88	
MW-3	03/22/02	17.44	10.97	6.47	420	<50	<0.5	<0.5	<0.5	<0.5	31	--	--	--	<50	
MW-3	04/15/03	17.44	8.31	9.13	2700	--	<0.5	<0.5	<0.5	<0.5	40	--	--	--	--	
MW-3	03/26/04	17.44	8.61	8.83	2700	1900	<1.7	<1.7	<1.7	4.3	<17	--	--	--	--	
MW-3	09/30/04	17.44	11.1	6.34	3900	2600	<0.5	<0.5	<0.5	3.2	<10	--	--	--	--	
MW-3	09/09/05	17.44	13.75	3.69	4000	2600	<0.5	<0.5	0.57	2.7	12	--	--	--	--	
MW-3	11/30/07	17.44	13.9	3.54	--	--	--	--	--	--	--	--	--	--	--	
MW-3	12/20/07	17.44	10.79	6.65	18000	12000	<1	1.6	1.1	2.4	9.2	--	--	--	--	
MW-3	05/23/08	17.44	15.2	2.24	900	3000	<1	<1	<1	<1	9.1	--	--	--	--	
MW-3	08/12/08	17.44	14.14	3.3	1900	4300	<1	<1	<1	<1	6.5	--	--	--	--	
MW-3	12/18/08	17.44	12.53	4.91	5000	610	<1	1	<1	<1	20	--	--	--	--	
MW-3	02/19/09	17.44	11.11	6.33	1500	1300	<1	1	<1	<1	9	--	--	--	--	
MW-3	08/11/09	17.44	15.22	2.22	1000	2200	<10	<10	<10	<10	7.3	--	--	--	--	
MW-3 NP	08/11/09	17.44	15.22	2.22	3000	6700	<10	<10	<10	<10	<5	--	--	--	--	
MW-3	03/17/10	17.44	11.94	5.5	3000	4600	<10	<10	<10	<10	9.4	--	--	--	--	
W-IND	03/22/02	NA	--	--	<50	190	<0.5	<0.5	<0.5	0.8	<5.0	--	--	--	--	
W-IND	04/15/03	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	
W-IND	03/26/04	NA	--	--	500	200	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--	
W-IND	09/30/04	NA	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--	
W-IND	09/09/05	NA	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--	
W-IND	11/30/07	NA	12.92	--	--	--	--	--	--	--	--	--	--	--	--	
W-IND	12/20/07	NA	11.68	--	<50	500	<1	1	<1	2.2	<5.0	--	--	--	--	
W-IND	05/23/08	NA	12.72	--	300	250	<1	3.7	<1	2.4	<0.50	--	--	--	--	
W-IND	08/12/08	NA	13.42	--	<50.0	<50.0	<1	<1	<1	<1	<0.50	--	--	--	--	
W-IND	12/18/08	NA	12.65	--	<50	<50	<1	<1	<1	<1	0.7	--	--	--	--	
W-IND	02/19/09	NA	9.74	--	<50	<50	<1	<1	<1	<1	<0.5	--	--	--	--	
W-IND	08/11/09	NA	14.13	--	<50	<50	<1	<1	<1	<1	<0.5	--	--	--	--	
W-IND	03/17/10	NA	9.78	--	<50	<50	<1	<1	<1	<1	<0.5	--	--	--	--	

**TABLE 2  
GROUNDWATER MONITORING AND ANALYTICAL RESULTS  
SUMMARY**

City of Paris Cleaners  
3516 Adeline Street, Oakland, California 94608

Monitoring Summary				Analytical Summary												
Well ID	Date	Top of Casing	Depth to Water	Groundwater Elevation	TPH-SS	TPH-G	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	1,2-DCB	1,1-DCA	2-Methyl-Naphthalene	Naphthalene	
		←————— ft bgs —————→				←————— ug/l —————→										

**Explanation:**

TPHg = Total petroleum hydrocarbons as gasoline, analyzed by EPA Method 8260B.  
 TPH-SS = Total petroleum hydrocarbons as stoddard solvent, analyzed by the 8015B.  
 Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B.  
 MTBE = Methyl tertiary-butyl ether, analyzed by EPA Method 8260B.  
 NP = HydraSleeve® no purge protocol

On March 17, 2010, Taber Consultants implemented the HydraSleeve® no purge protocol for all wells.

fbg = Feet below grade.

NA = Data not available

<n = Below laboratory detection limit of n ppm.

•• Components found in the gasoline range, bowever they are not characteristic of gasoline components.

-- = not analyzed

**TABLE 3**  
**PHOTOIONIZATION DETECTION SUMMARY**  
City of Paris Cleaners  
3516 Adeline Street, Oakland, California 94608

Location ID	Date	PID ppmv
A-1-3	7/31/1991 - 8/2/1991	ND
A-1-6	7/31/1991 - 8/2/1991	<b>16</b>
A-1-9	7/31/1991 - 8/2/1991	<b>20</b>
A-1-12	7/31/1991 - 8/2/1991	<b>12</b>
A-2-3	7/31/1991 - 8/2/1991	ND
A-2-6	7/31/1991 - 8/2/1991	<b>49</b>
A-2-9	7/31/1991 - 8/2/1991	ND
A-2-12	7/31/1991 - 8/2/1991	ND
A-3-3	7/31/1991 - 8/2/1991	
A-3-6	7/31/1991 - 8/2/1991	<b>24</b>
A-3-9	7/31/1991 - 8/2/1991	<b>7</b>
A-3-12	7/31/1991 - 8/2/1991	<b>6</b>
A-4-3	7/31/1991 - 8/2/1991	ND
A-4-6	7/31/1991 - 8/2/1991	<b>44</b>
A-4-9	7/31/1991 - 8/2/1991	<b>5</b>
A-4-12	7/31/1991 - 8/2/1991	<b>30</b>
A-5-3	7/31/1991 - 8/2/1991	ND
A-5-6	7/31/1991 - 8/2/1991	<b>21</b>
A-5-9	7/31/1991 - 8/2/1991	<b>28</b>
A-5-12	7/31/1991 - 8/2/1991	<b>26</b>
A-6-3	7/31/1991 - 8/2/1991	ND
A-6-6	7/31/1991 - 8/2/1991	<b>14</b>
A-6-9	7/31/1991 - 8/2/1991	<b>110</b>
A-6-12	7/31/1991 - 8/2/1991	<b>22</b>
A-7-3	7/31/1991 - 8/2/1991	ND
A-7-6	7/31/1991 - 8/2/1991	<b>17</b>
A-7-9	7/31/1991 - 8/2/1991	<b>13</b>
A-7-12	7/31/1991 - 8/2/1991	<b>15.5</b>
A-8-3	7/31/1991 - 8/2/1991	ND
A-8-6	7/31/1991 - 8/2/1991	<b>18</b>
A-8-9	7/31/1991 - 8/2/1991	<b>13</b>
A-8-12	7/31/1991 - 8/2/1991	<b>15.5</b>
A-9-3	7/31/1991 - 8/2/1991	ND
A-9-6	7/31/1991 - 8/2/1991	<b>10</b>
A-9-9	7/31/1991 - 8/2/1991	<b>13</b>
A-9-12	7/31/1991 - 8/2/1991	ND

PID - Photo Ionization Detector in parts per million volume.

NA = Data not available

<n = Below laboratory detection limit of n ppm.

-- = not analyzed

**APPENDIX A.**

**TABOR CONSULTANTS STANDARD  
OPERATING PROCEDURES SOIL VAPOR SAMPLING**

# **Tabor Consultants**

## **STANDARD OPERATING PROCEDURES**

### **Soil Vapor Sampling**

#### **TEMPORARY SOIL VAPOR PROBE INSTALLATION**

Soil vapor probes will be installed by drilling a shallow boring to a minimum of 5-feet below ground surface. The drilling rod will act as a temporary casing with disposable polyethylene tubing threaded through the drill rods to a retractable screen section in the drill tip. The annular space will be sealed with bentonite which will be allowed to hydrate for approximately 20 minutes prior to system purging and sample collection. Modeling clay or equivalent will be used to form an air tight seal around the drill rod at the ground surface. Sufficient tubing will be exposed to allow for extraction of soil vapor by an air sampling pump. Excess tubing will be Where soil vapor samples are required from multiple depths, the probe rod will be driven to each designated sampling depth and sealed with hydrated bentonite prior to purging and collection of each soil vapor sample.

#### **SOIL VAPOR PROBE PURGING AND SAMPLING**

The soil vapor sampling protocols will be implemented in accordance with the California Department of Toxic Substances Control (DTSC) *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*, dated December 15, 2004 (revised February 7, 2005). Prior to soil vapor sampling, each temporary soil vapor probe is purged by evacuating a minimum of three system volumes using an air pump adjusted to provide a constant flow rate of less than 200 milliliters per minute at a pressure of less than 25 inches of water column. Once the system has been purged, samples are extracted from the vapor probe using a syringe, glass bulb, Summa™ canister or are captured and stored in a Tedlar® bag at the same flow rate and pressure used for purging. Immediately prior to sampling, a tracer gas (typically 1,1-difluoroethane) is applied to the drill rod at the ground seal to check seal integrity and to the sample manifold to evaluate ambient air intrusion.

#### **SOIL PROBE BORING ABANDONMENT**

Upon completion of soil vapor sampling activities, drilling rods will be removed from the boring and the borehole will be abandoned by filling it for its entire depth with a neat cement grout in accordance with applicable regulatory guidelines.

#### **VAPOR SAMPLE DELIVERY**

Following vapor sampling, the sample containers are transported under chain-of-custody documentation to an ELAP accredited laboratory for analysis within the applicable holding time for the sample method and containers used.

#### **SAMPLE IDENTIFICATION AND CHAIN-OF-CUSTODY PROCEDURES**

Sample identification and chain-of-custody procedures ensure sample integrity as well as document sample possession from the time of collection to ultimate disposal. Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, sampling methodology, name(s) of on-site personnel, and any other pertinent field observations also recorded on the field excavation or boring log. Chain-of-custody forms are used to record possession of the sample from time of collection to arrival at the laboratory. During shipment, the person with custody of the samples will relinquish them to the next person by signing the chain-of-custody form(s) and noting the date and time. The sample control officer at the laboratory will verify sample integrity, correct preservation, confirm collection in the proper container(s), and ensure adequate volume for analysis. If these conditions are met, the samples will be assigned unique laboratory log numbers for identification throughout analysis and reporting. The log numbers will be recorded on the chain-of-custody forms and in the legally-required log book maintained in the laboratory. The sample description, date received, client's name, and any other relevant information will also be recorded.

#### **LABORATORY ANALYTICAL QUALITY ASSURANCE AND CONTROL**

In addition to routine instrument calibration, replicates, spikes, blanks, spiked blanks, and certified reference materials are routinely analyzed at method-specific frequencies to monitor precision and bias. Additional components of the laboratory Quality Assurance/Quality Control program include:

1. Participation in state and federal laboratory accreditation/certification programs;
2. Participation in both U.S. EPA Performance Evaluation studies (WS and WP studies) and inter-laboratory performance evaluation programs;
3. Standard operating procedures describing routine and periodic instrument maintenance;
4. "Out-of-Control"/Corrective Action documentation procedures; and,
5. Multi-level review of raw data and client reports.