

April 26, 2010

Ms. Barbara Jakub –
Alameda County Health Care Services Agency
Environmental Health Services
Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RECEIVED

9:38 am, Apr 27, 2010

Alameda County
Environmental Health

Subject: Response to Regulatory Agency Request for Data Clarification Related to Closure of a Former Heating Oil UFST at 387 Orange Street, Oakland, California
(Alameda County Fuel Leak Case No. RO0002921)

Dear Ms Jakub:

INTRODUCTION AND BACKGROUND

On behalf of the responsible party (Ms. Mary Kranz), Stellar Environmental Solutions, Inc. (SES) is providing Alameda County Environmental Health Department (ACEH) this information in response to their email request, dated April 23, 2010 (attached).

The regulatory history of this underground fuel storage tank (UFST) project began in approximately October 2005, during the due diligence phase of the sale of the property located at 385 and 387 Orange Street (properties owned by the Ulibarri Estate). A UFST (located between the 385 and 387 Orange Street residences), which was associated with historical fueling of a boiler located within the 387 Orange Street residence, was discovered beneath the sidewalk. As part of the real estate agreement, it was stipulated that the Ulibarri Estate would be responsible for the regulatory closure of the UFST.

In February 2006, Ms. Mary Kranz, executor of the estate of David Ulibarri, retained Clearwater Group to initiate the environmental closure of the historical UFST. An initial site investigation by Clearwater Group in March 2006 documented soil contamination, including a maximum of 15,000 milligrams per kilogram (mg/kg) of total extractable hydrocarbons as diesel (TEHd) and trace amounts of ethylbenzene and total xylenes at a depth of 13.5-14 feet below ground surface

(bgs) in boring T-2. ACEH requested in a letter dated December 20, 2006 that the extent of soil contamination and potential groundwater contamination be investigated.

SES was retained by Ms. Mary Kranz and conducted a boring investigation in April 2007. Analytical results from investigation boring B-1, located immediately adjacent to the Clearwater Group boring T-2, at the fill port and service line end of the UFST, detected from 2.5 mg/kg TEHd at 14 feet bgs to a maximum contaminant concentration of 100 mg/kg of TEHd in soil at a depth of approximately 18 feet bgs and 2,400,000 micrograms per liter ($\mu\text{g/L}$) TEHd in groundwater collected from 21-23 feet bgs.

In September 2007, the primary contaminant source (the UFST) and secondary source (the contaminated soil) were removed to the extent practical. A pod of hydrocarbon-impacted soil, estimated to be 10 to 20 cubic yards, located beneath the footprint of the UFST (between 15 and 21 feet bgs) was left in place. This soil could not be directly accessed without disconnecting and temporarily rerouting existing overhead communication and electrical services to many of the neighborhood residences, and utilizing larger excavation equipment.

Based on the previously documented groundwater impact from the UFST, and discussions with ACEH, an effort was made in November 2008 to recover the high concentrations of dissolved and possibly free-floating product and remediate the groundwater contamination. This entailed the installation of a monitoring well (MW-1) in the approximate location of the contaminant "hotspot" and the advancement of three boreholes that were drilled and utilized for the injection of ORC[®] product in a triangular pattern surrounding the contaminant "hotspot" at a depth interval of 20-25 feet bgs. The one site monitoring well was located in the sidewalk planter strip, approximately 3 feet from boring B1 where grab-groundwater showed a historical high detection of 2,400,000 $\mu\text{g/L}$ TEHd. The ORC[®] was injected into the subsurface after purging of the monitoring well was conducted. Approximately 75 pounds of product (25 pounds per bore) was introduced to the subsurface for a product treatment design area 20 feet long by 20 feet wide, and 5 feet thick. The November 2008 investigation indicated the free-product in groundwater discovered in bore B1 in April 2007 was likely not as extensive as evidenced by the lower detection of 11,000 $\mu\text{g/L}$ TEHd detected during the baseline sampling of the newly installed monitoring MW-1, located just three feet away. Subsequent purging produced limited volume, however post-purge sampling of monitoring well MW-1 showed an additional decrease in TEHd to 7,500 $\mu\text{g/L}$. ACEH indicated they would require a minimum of 4 consecutive quarterly groundwater monitoring events to determine the stability and attenuation of the contaminated groundwater.

A total of four consecutive groundwater monitoring events have been conducted at the site since November 2008. This fourth event showed a slight increase in TEHd concentration, a departure from the decreasing trend in TEHd concentration seen during the previous 3 events, possibly suggesting some stabilization of the contamination in the < 2.0 mg/L concentration range. There has been an overall magnitude decrease in TEHd contamination over the last year of monitoring, the only contaminant historically identified at the site. Natural attenuation indicators continue to show oxidizing aerobic conditions favorable to bioremediation.

With the residual concentrations being below 2.0 mg/L, there being no measurable MTBE or BTEX of vapor intrusion concern, and no downgradient sensitive receptors of any proximity, the site is considered a good candidate for low risk regulatory closure.

CLARIFICATION OF SITE PLAN MAP FEATURES

The former UFST and associated borings and samples have been historically located in relation to the locations of the former fill port, the south to southwest corner of the 387 Orange Street building, and the street curb. SES field checked the site plan map prepared by the Clearwater Group and verified and measured the locations of the Clearwater Group borings and UFST fill port in the sidewalk, prior to initiating the April 2007 SES investigation.

The map features that were transferred during drafting of the site plan figure associated with the August 2007 UFST removal report erroneously displayed the inferred UFST location shown on previous and subsequent investigations but not the actual UFST excavation boundary. The original August 27, 2007 field notes show the actual dimensions of the UFST excavation and sampling locations relative to the fill port and service line and correlates well to the actual site plan scale and features. The site plan map from the UFST removal report was corrected and updated to show the true location of the UFST excavation, borings, and samples and the map is now consistent with other investigation reports.

The Clearwater Group site plan showing their initial bore locations, subsequent SES investigation site plan maps, and a corrected and updated USFT removal site plan map, dated April 2010 are attached. The field notes from which the August 2007 UFST site plan map was corrected is also attached.

GROUNDWATER ELEVATION AND ANALYTICAL DATA SUMMARY

At the request of ACEH, SES has prepared the following analytical summary table to include historical groundwater depth data.

Summary of Historical Groundwater Analytical Results and Depth to Groundwater 387 Orange Street, Oakland, California

Sample ID	Depth to Groundwater feet BTOC (a)	TEHd	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
<i>April 19, 2007 Hydropunch Grab-Groundwater Samples</i>							
B1	21	2,400,000	ND	ND	ND	ND	NA
B2	22	460	ND	ND	ND	ND	NA
<i>November 17, 2008 Baseline Groundwater Sample</i>							
MW-1	18.50	11,000	<0.5	<0.5	<0.5	<0.5	<2.0
<i>November 19, 2008 Post-Purge Sample</i>							
MW-1	26.98	7,500	<0.5	<0.5	<0.5	<0.5	<2.0
<i>February 27, 2009 Groundwater Sample</i>							
MW-1	18.02	2,700	<0.5	<0.5	<0.5	<0.5	<2.0
<i>May 27, 2009 Groundwater Sample</i>							
MW-1	16.06	1,100	<0.5	<0.5	<0.5	<0.5	<2.0
ESLs	-	100	1.0	40	30	20	5.0

Notes:

BTOC = below top of casing; top of casing is 3.6 inches below ground surface

(a) Initial pre-sampling depths to water in feet or first encountered groundwater for hydropunch samples

ESLs = Water Board Environmental Screening Levels for residential sites where groundwater is a potential drinking water resource (Water Board, 2008); Samples in **bold-face** type equal or exceed the ESL criteria.

Post-purge = after purging well dry, removal of approximately 1.17 gallons from monitoring well;

MTBE = methyl tertiary-butyl ether; TEHd = total extractable hydrocarbons as diesel;

ND = none detected above laboratory reporting limit; NA = not analyzed;

Monitoring Well MW-1: 30 feet deep, screened (0.01 inch slot) from 20 -30 feet bgs

Groundwater concentrations are reported in micrograms per liter (µg/L)

Ms. Barbara Jakub
April 26, 2010
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This report has been prepared for the exclusive use by Ms. Mary Kranz (responsible party), the regulatory agencies, and their authorized assigns and/or representatives. No reliance on this report shall be made by anyone other than those for whom it was prepared. A copy of this report has been electronic uploaded to Alameda County Environmental Health's "ftp" system and the State Water Board's GeoTracker system.

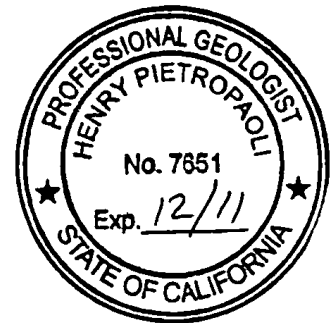
I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report are true and correct to the best of my knowledge. If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,



Henry Pietropaoli, P.G., R.E.A.
Project Manager

cc: Ms Mary Kranz
ACEH "ftp" server
CA Geotracker



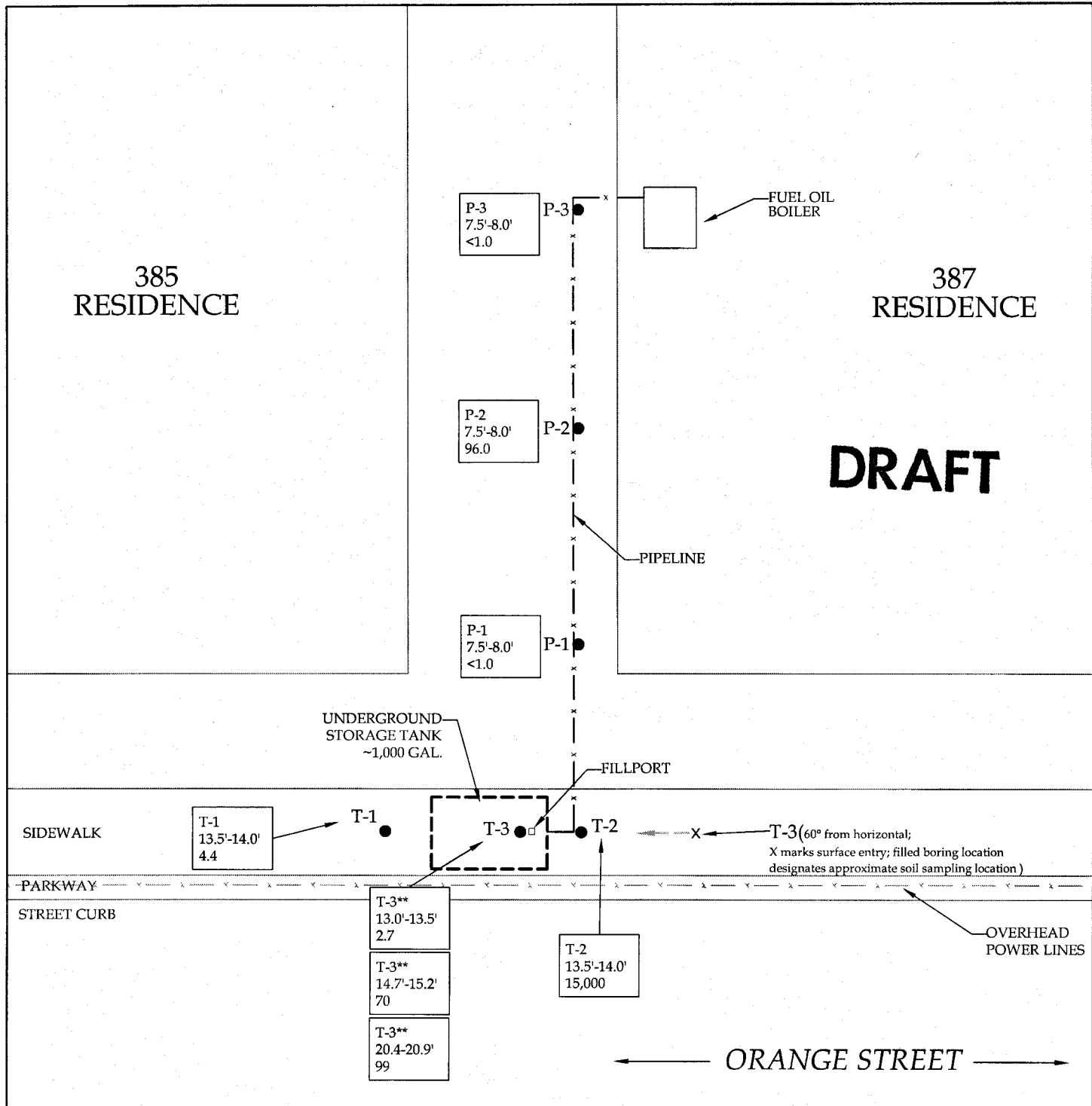
FIGURES (SITE PLANS)

Clearwater Group March: 2007

SES April: 2007

SES September: 2009

SES Corrected UFST Removal Site Plan: April 2010



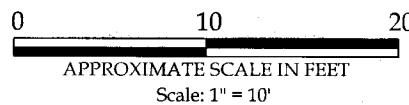
LEGEND

- T-1 to T-3 (3) TANK SAMPLES
- P-1 to P-3 (3) PIPELINE SAMPLES

T-3 20.4-20.9' 99	=	SOIL SAMPLE # DEPTH BGS ANALYTICAL RESULTS IN MG/KG
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ANALYTICAL RESULTS= TPHd(TOTAL PARTS HYDROCARBONS AS DIESEL)
CONCENTRATIONS IN MG/KG

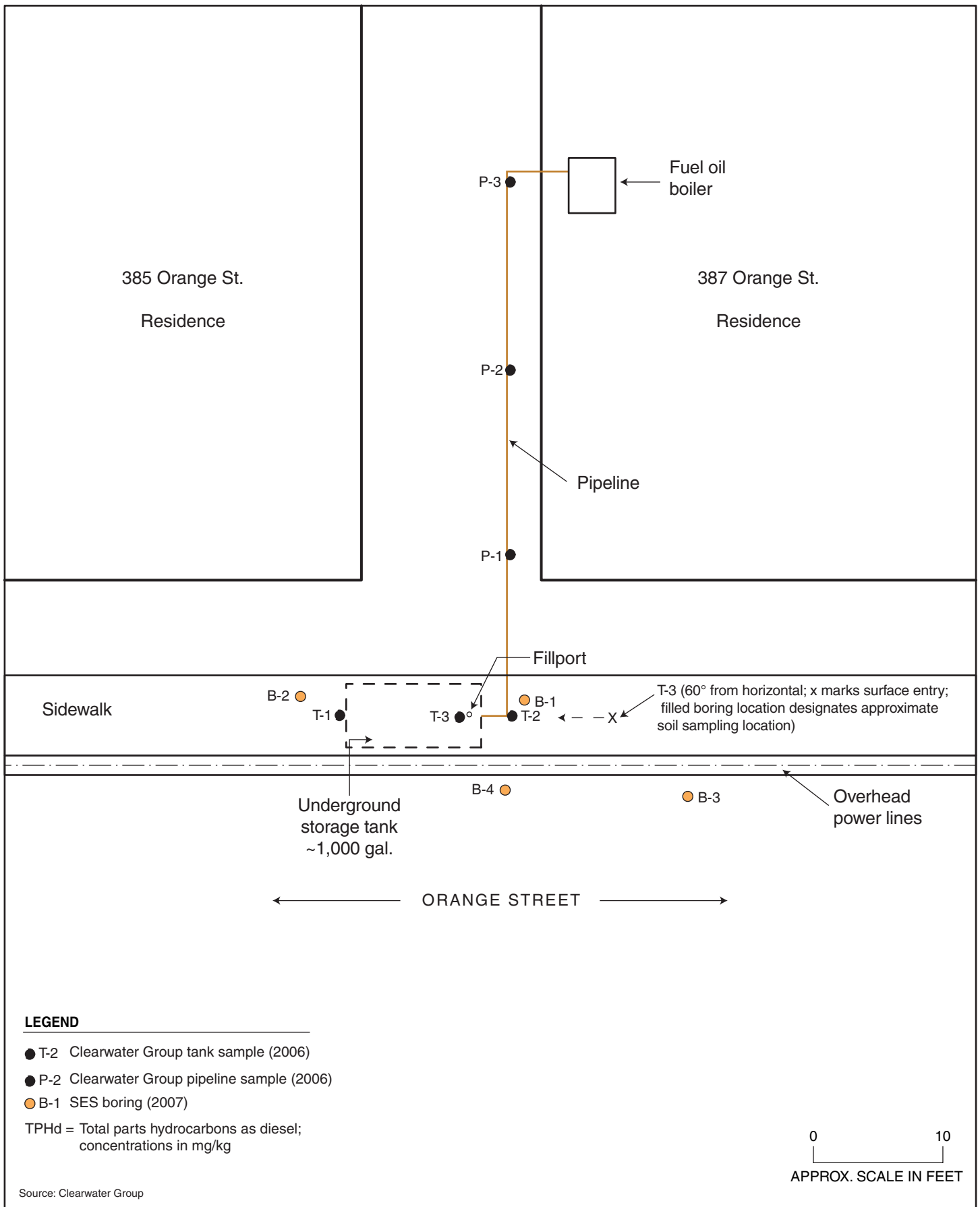
T-3** SEE FIGURE 3 (CROSS SECTION) FOR SAMPLE LOCATIONS



SITE MAP SHOWING UST, BORING LOCATIONS AND ANALYTICAL RESULTS FOR DIESEL
Estate of D. Ulibarri
385-387 Orange Street
Oakland, California

CLEARWATER GROUP

Project No. GB002B	Figure Date 3/06	Figure 2
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SITE PLAN AND LOCATION OF BORINGS

385-387 Orange St.
Oakland, CA

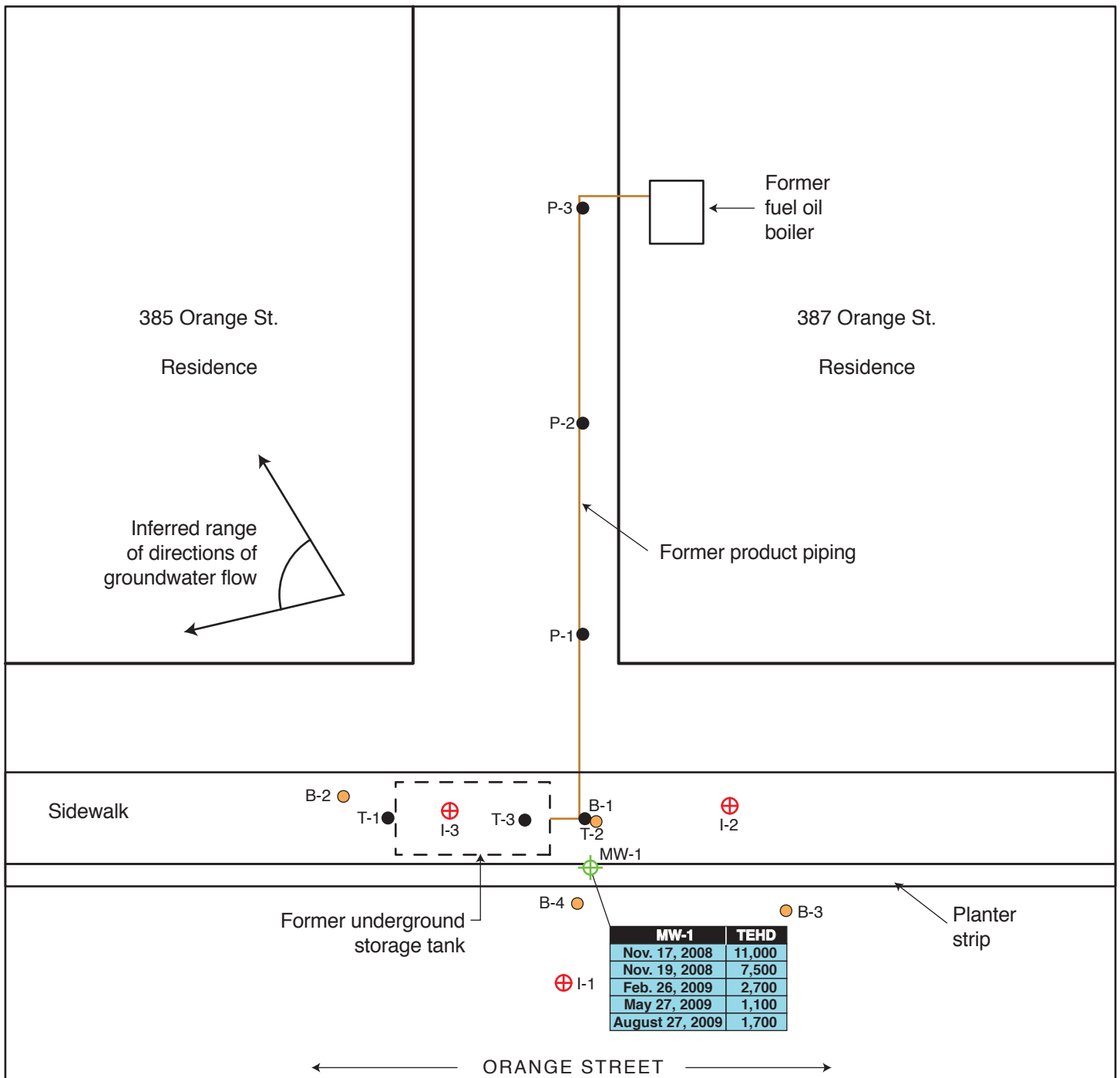
By: MJC

APRIL 2007

Figure 2



2007-09-06



LEGEND

- ⊕ I-1 Location of ORC injection point (SES 2008)
 - ⊕ I-2 Location of ORC injection point (SES 2008)
 - ⊕ I-3 Location of ORC injection point (SES 2008)
 - ⊕ I-1 Location of former UST (CWG, 2006; SES, 2007)
 - ⊕ MW-1 Location of monitoring well (SES 2008)
 - T-2 Clearwater Group tank sample (2006)
 - P-2 Clearwater Group pipeline sample (2006)
 - B-1 SES boring (2007)
 - B-2 SES boring (2007)
 - B-3 SES boring (2007)
 - B-4 SES boring (2007)
 - ⌞ ⌞ Location of former UST (CWG, 2006; SES, 2007)
- TPHd=Total petroleum hydrocarbons as diesel concentrations in $\mu\text{g/L}$



Modified from original source: Clearwater Group

CONCENTRATION OF TEH-DIESEL IN MONITORING WELL MW-1

387 Orange St.
Oakland, CA

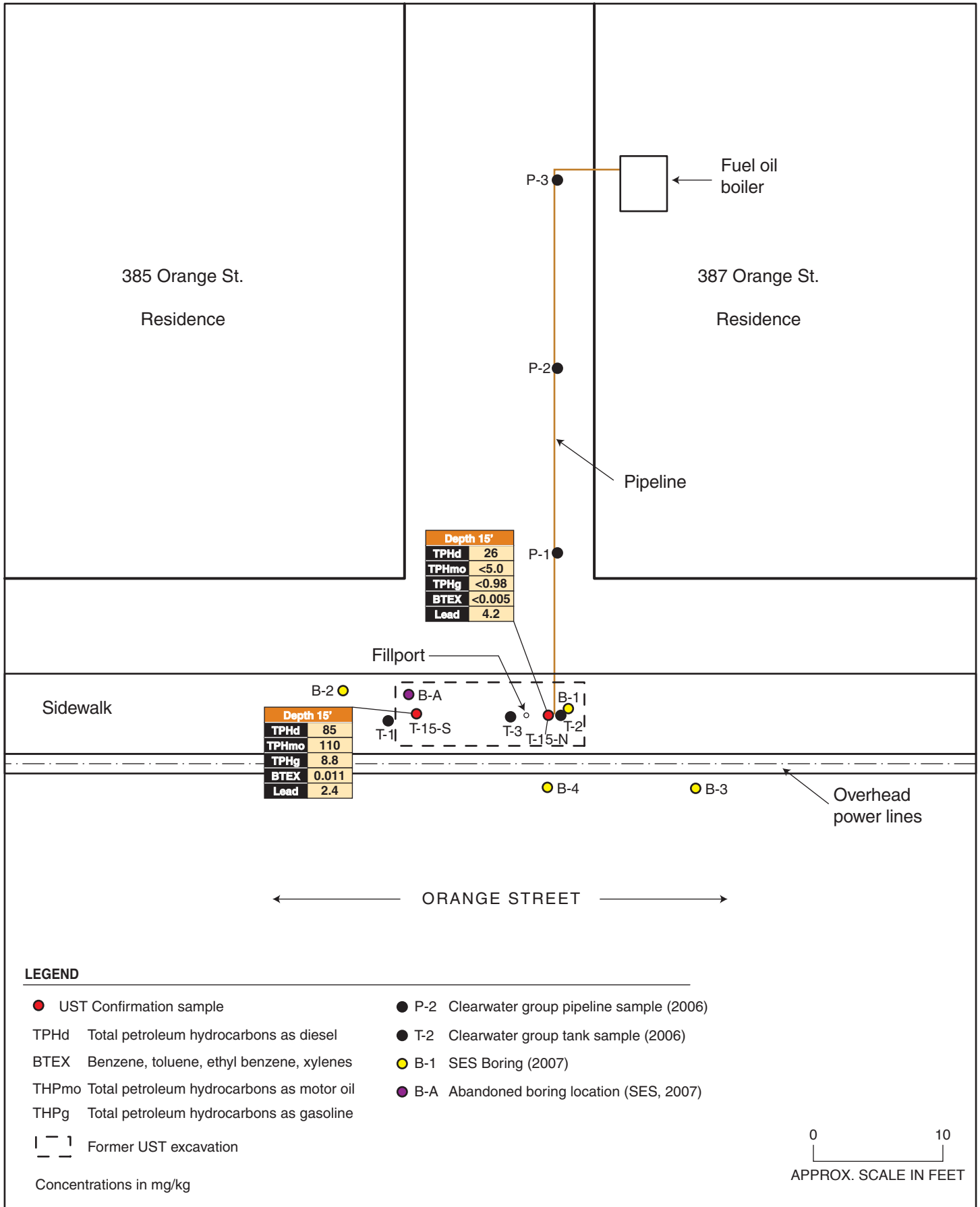
By: MJC

SEPTEMBER 2009

Figure 3



2007-09-21



2007-09-22



UST CONFIRMATION SOIL ANALYTICAL RESULTS

385-387 Orange St.
 Oakland, CA

By: MJC

APRIL 2010

Figure 2



ATTACHMENT B

August 2007 UFST Removal Field Notes

ACEH Email: April 23, 2010

8/27/07

0730 arrive on site - have to call OPD for tow -
HS arrives - setup Traffic Div.

0900 Tow arrives - Car out

0930 Surface 2 uper 2-3 feet out - waiting for Clearwater

11:15 Tank is 5' diam - unknown length

10:30 Clearwater arrives - we pump ~ 250 gal

10:45 - 11:45 - Steven Munkelt ACH visits to inspect -

Trucker BK Bobcat San Mateo
Oil liquid - Clearwater Environmental

12:45 Call OPD & leave message that tank will
be ready to pull out at ~ 13:00 - 13:30

1440 - OPD arrives - we have tank out and loaded -
1,000 gal capacity unwrapped steel. Numerous small
corrosion holes thru-out. Discolored soil evident at
excavation & tank bottom @ ~ 13 1/2 - 14'. OPD directs
one sample collected at 15' at either end

T-15-N
T-15-S

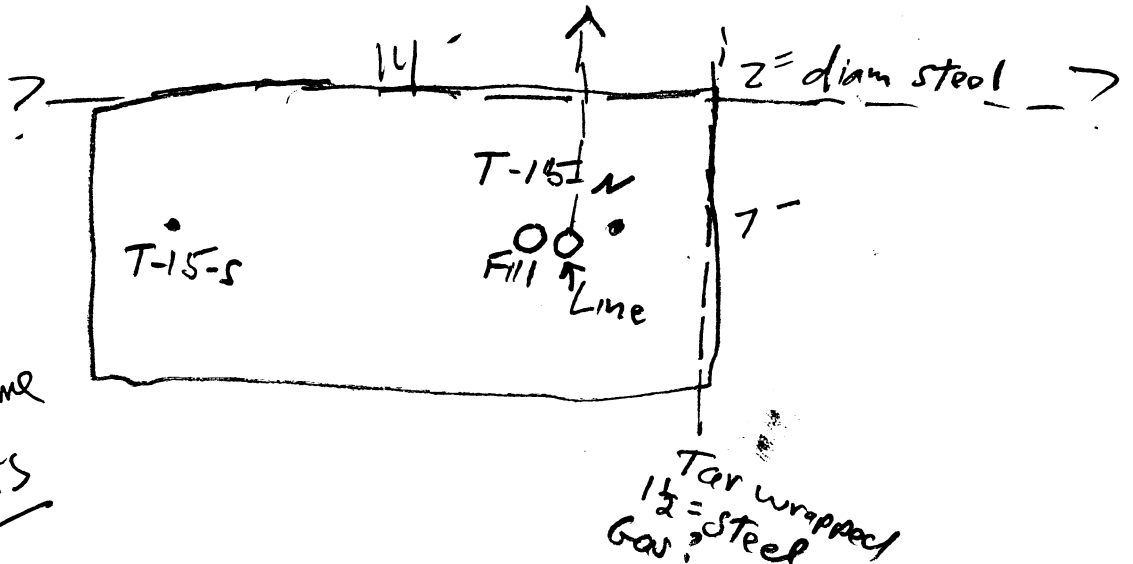
Kiern Mathews w OPD requests
TPHd
Oil & grease
total lead

Kornacker Engineering is here to run compaction tests
on site since about 13:30

1545 - HS has 2 loads of rock in hole & is compacting now
Hole measures 7x14x15 at deepest. Bottom not
perfectly squared.

1600-1900
Finish
Backfill &
clean up

1930
Arrive home
12 hrs



Henry Pietropaoli

From: Jakub, Barbara, Env. Health [barbara.jakub@acgov.org]
Sent: Friday, April 23, 2010 11:48 AM
To: 'hpietropaoli@stellar-environmental.com'; 'setstar111@gmail.com'; 'mike-rabanal@yahoo.com'; 'pensergaol@hotmail.com'; 'mkranz@asrt.org'
Subject: RO2921, 387 Orange Ave., Oakland

Ladies and Gentlemen,

I am reviewing this site and need some clarifications. Maps from different reports show boring locations in different locations, particularly boring location B-1. Please provide a correct map with an explanation of which borings locations were accurate and how the accurate locations for the sample locations were determined. Also, please include the depth to groundwater on the groundwater data tables. Please certify and stamp that this information is correct and upload the report to our ftp site.

Thank you,

Barbara Jakub, P.G.
Alameda County Environmental Health
(510) 639-1287 (direct)
(510) 337-9335 (fax)
barbara.jakub@acgov.org

Online case files are available at the website below

<http://www.acgov.org/aceh/lop/resources.htm>