

ALAMEDA COUNTY  
HEALTH CARE SERVICES



AGENCY  
DAVID J. KEARS, Agency Director

September 18, 2008

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

Manual and Beverly Jardin  
Jardin Pipeline  
2045 Cypress Point  
Byron, CA 94514

Subject: Subject: Fuel Leak Case, RO0000093, Jardin Pipeline, 2315 Dunn Road, Hayward, CA 94545

Dear Mr. & Mrs. Jardin:

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.

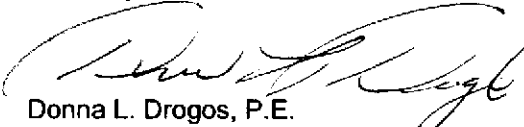
**SITE INVESTIGATION AND CLEANUP SUMMARY**

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

- Residual pollution remaining in soil beneath the site includes TPH as diesel and TPH as motor oil at concentrations of up to 15 mg/kg, and 27 mg/kg, respectively.
- Maximum concentrations of up to 150 µg/L TPH as diesel remain in groundwater beneath the site.

If you have any questions, please call Paresh Khatri at (510) 777-2478. Thank you.

Sincerely,



Donna L. Drogos, P.E.  
LOP and Toxics Program Manager

**Enclosures:**

1. Remedial Action Completion Certificate
2. Case Closure Summary

**cc:**

Ms. Cherie McCaulou (w/enc)  
SF- Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

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

Paresh Khatri (w/orig enc), D. Drogos (w/enc), R. Garcia (w/enc)

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September 18, 2008

Manual and Beverly Jardin  
Jardin Pipeline  
2045 Cypress Point  
Byron, CA 94514

**REMEDIAL ACTION COMPLETION CERTIFICATE**

Subject: Fuel Leak Case, RO0000093, Jardin Pipeline, 2315 Dunn Road, Hayward, CA 94545

Dear Mr. & Mrs. Jardin:

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 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Ariu Levi  
Director  
Alameda County Environmental Health

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

**I. AGENCY INFORMATION**

Date: August 19, 2008

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 777-2478
Responsible Staff Person: Paresh Khatri	Title: Hazardous Materials Specialist

**II. CASE INFORMATION**

Site Facility Name: Jardin Pipeline		
Site Facility Address: 2315 Dunn Road, Hayward, California 94545		
RB Case No.: 01-1764	Local Case No.: 3665	LOP Case No.: RO0000093
URF Filing Date: --	Global ID No.: T0600101632	APN: 439-16-22
<b>Responsible Parties</b>	<b>Addresses</b>	<b>Phone Numbers</b>
Manuel & Beverly Jardin	2045 Cypress Point Byron, CA 94514-9300	

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1	1x2,000-gallon	Diesel	Removed	8/14/1991
Piping			Removed	8/14/1991

**III. RELEASE AND SITE CHARACTERIZATION INFORMATION**

Cause and Type of Release: Leaking dispenser		
Site characterization complete? Yes	Date Approved By Oversight Agency: --	
Monitoring wells installed? No	Number: 0	Proper screened interval? NA
Highest GW Depth Below Ground Surface: 11 ft bgs	Lowest Depth: 11 ft bgs	Flow Direction: Assumed West to Northwestern
Most Sensitive Current Use: Potential drinking water source.		

Summary of Production Wells in Vicinity: A well survey was not conducted. Considering the non-migratory residual concentrations of dissolved phase petroleum hydrocarbons in the groundwater that is confined to the primary source areas at the Site, no water wells, deeper drinking water aquifers, surface water or other sensitive receptors are likely to be impacted. Therefore, since the contaminant plume likely does not extend beyond the subject property, a well survey does not appear warranted.

Are drinking water wells affected? No	Aquifer Name: Bay Plains Groundwater Basin
Is surface water affected? No	Nearest SW Name: San Francisco Bay, located approximately 2 miles west of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	One 2,000-gallon	Disposal to Erickson Richmond, CA	08/1991
Piping	Unknown	Disposal, unknown location	08/1991
Free Product	NA	---	---
Soil	NA	---	---
Groundwater	50-gallons	Disposed off-site	3/1993

**MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP**

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

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	NA	NA	NA	NA
TPH (Diesel)	16 (2102-S1-12, 12 ft, 8/14/1991)	15 (T1-1, 12 ft, 2/1993)	150 (TP-1, 3/11/1993)	150 (TP-1, 3/11/1993)
TPH (Motor Oil)/TOG	80 (2102-S1-12, 12 ft, 8/14/1991)	27 (T1-1, 12 ft, 2/1993)	<5,000 (2102-W1, 8/14/1991)	<50 (TP-1, 3/11/1993)
TRPH	NA	NA	NA	NA
Benzene	<0.005 (2102-S1-12, 8/14/1991)	ND (No Lab Data in File)	<0.3 (2102-W1, 8/14/1991)	<0.3 (TP-1, 3/11/1993)
Toluene	0.018 (2102-G2, 5/27/1999)	ND (No Lab Data in File)	<0.3 (2102-W1, 8/14/1991)	<0.3 (TP-1, 3/11/1993)
Ethylbenzene	0.009 (2102-S1-12, 12 ft, 8/14/1991)	ND (No Lab Data in File)	1.0 (TP-1, 3/11/1993)	1.0 (TP-1, 3/11/1993)
Xylenes	0.062 (2102-S1-12, 12 ft, 8/14/1991)	ND (No Lab Data in File)	5.9 (TP-1, 3/11/1993)	5.9 (TP-1, 3/11/1993)
MTBE	NA <sup>5</sup>	NA <sup>4</sup>	NA <sup>3</sup>	NA <sup>1,2</sup>
Lead	NA	NA	NA	NA

<sup>1</sup> MTBE peak is absent on chromatograms

<sup>2</sup> Other VOCs not analyzed (groundwater µg/L after cleanup): NA MtBE, NA TBA, NA DIPE, NA ETBE, NA TAME, NA EDB, NA 1,2-DCA, NA EtOH

<sup>3</sup> Other VOCs not analyzed (groundwater ppb before cleanup): NA MtBE, NA TBA, NA DIPE, NA ETBE, NA TAME, NA EDB, NA 1,2-DCA, NA EtOH

<sup>4</sup> Other VOCs (Soil mg/kg after cleanup): NA TBA, NA DIPE, NA ETBE, NA TAME, NA EtOH,

<sup>5</sup> Other VOCs (Soil mg/kg before cleanup): NA MtBE, NA TBA, NA TAME, < NA DIPE, NA EtOH

NA: Not Analyzed

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

Jardin Pipeline, Inc. is located on the north side of Dunn Road at 2315 Dunn Road in Hayward, California. On August 14, 1991, one 2,000-gallon diesel underground storage tank (UST) was removed from the site by LW Environmental Services and transported by Trident Truck Lines to Erickson, Inc. in Richmond, California. Two soil samples (N1-12 and S1-12) were collected from beneath the north and south ends of the diesel tank, respectively, and one groundwater sample (W1) was collected from the excavation.

The soil samples were analyzed for total petroleum hydrocarbons (TPH) as diesel (d), benzene, toluene, ethylbenzene, and xylenes (BTEX), and total oil and grease (TOG). Soil sample analytical results detected TPH-d at a concentration of 16 mg/kg, TOG at a concentration of 80 mg/kg, and benzene at a concentration below the laboratory detection limit of <0.005 mg/kg. Soil sample analytical results are summarized in the attached Tables.

The groundwater sample was also analyzed for TPH-g, TOG, and BTEX. Groundwater sample analytical results did not detect contaminants above the laboratory detection limits of <50 µg/L TPH-d, <5,000 µg/L TOG, and <0.3 µg/L benzene. Groundwater sample analytical results are also summarized in the attached Tables.

Two soil samples were collected from the stockpiled soil. It is unknown whether the soil samples collected were discrete or composited. Stockpiled soil sample analytical results detected 80mg/kg TOG and 0.018 mg/kg toluene. It is assumed that the stockpiled soil was replaced back into the excavation since no disposal manifests or bill of lading were included in the tank removal report. Soil sample analytical results are summarized in the attached Tables.

On February 12, 1993, GeoAudit collected two soil samples, T1-1 from the floor of the excavation, and SP-1 collected approximately 2 feet below the surface of the soil pile. After the soil samples were collected, groundwater was allowed to accumulate in the bottom of the excavation. A groundwater sample was collected from the bottom of the excavation using a disposal bailer. All three samples were analyzed for TPH-d, TPH-mo, and BTEX. Soil sample analytical results

detected 15 mg/kg TPH-d and 27 mg/kg TPH-mo in soil sample T1-1 collected from the excavation floor. The stockpiled soil sample SP-1 detected 16 mg/kg TPH-mo only. However, the groundwater sample detected 190 µg/L TPH-d, 110 µg/L TPH-mo, and 1.7 µg/L benzene.

Since TPH was detected in the groundwater sample collected on February 12, 1993, additional groundwater sampling was conducted on March 5, 1993 at the request of the Responsible Party. A backhoe was used to re-excavate a hole to approximately 11 feet bgs. A submersible pump was placed at the bottom of the excavation and approximately 50 gallons of groundwater was removed from the excavation. A groundwater sample was collected from the bottom of the excavation with a disposable bailer. Groundwater sample analytical results detected TPH-d at a concentration of 150 µg/L with TPH-mo and benzene detected below the analytical detection limits of <50 µg/L and <0.3 µg/L, respectively. Although MTBE was not requested as part of the analytical suite, a review of the analytical chromatograms compared to the MTBE standard indicate that MTBE was not present in the groundwater samples collected at the site. The UST was also used to store diesel fuel. Therefore, it appears that an MTBE release has not occurred.

The site concentrations were compared to applicable Regional Water Quality Control Board's (RWQCB) Environmental Screening Levels (ESLs). No concentrations of contaminants in soil were detected above the ESLs for residential land-use risk scenario where groundwater is a current or potential drinking water resource. Therefore, the residual concentrations of contaminants in soil do not appear to pose a potential risk to human health or the environment. TPH-d was detected at a concentration of 150 µg/L, slightly above its ESL of 100 µg/L. It is suspected that the elevated concentrations of diesel detected in the "grab" sample is attributed to the sampling methodology. "Grab" samples are collected by lowering a bailer in the excavation to groundwater shortly after reaching total depth by the backhoe (i.e., a few feet below first encountered groundwater). In areas of a petroleum release, there is generally a zone of petroleum impacted soil at the historic top of groundwater, sometimes referred to as the "smear zone." Because of soil disturbance caused by the excavator, the groundwater in the pit and, thus, a "grab" groundwater sample collected from the pit, would tend to contain a high amount of suspended sediment, and petroleum, if diesel is present in the soil and the "smear zone" at the excavation location. The analysis of a turbid groundwater sample at the analytical laboratory would include analysis of the soil particles contained in the sample as well as the groundwater. Thus, the analytical results of the sample may reflect the presence of diesel associated with the soil particles including dissolved phase in groundwater and tend not be representative of the actual concentration of dissolved diesel in the groundwater at the excavation location. Therefore, reported concentration would tend to be higher than actual groundwater quality conditions.

No additional subsurface investigation consisting of borings or permanent groundwater monitoring points were installed and based on the analytical data, do not appear warranted.

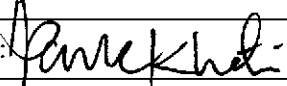
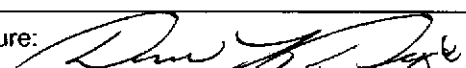
**IV. CLOSURE**

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 significant risk to human health based upon current land use and conditions.		
Site Management Requirements: City of Hayward Building Department has been notified that should excavation or development of the property be proposed that may encounter impacted soil or groundwater, Alameda County Environmental Health must be notified as required by Government Code Section 65850.2.2. The current property owner/developer must submit a soil and groundwater management plan for review prior to any construction activities. Please note that case closure for the fuel leak site is granted for commercial land use since the sampling is old and not collected in accordance with today's typical industry standards. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated.		
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.**

<p>Considerations and/or Variances: Residual concentrations of TPH-d was detected in groundwater at concentrations of up to 150 µg/L, which exceeds the ESLs where groundwater is a potential drinking water source. The concentrations of TPH-d are expected to decrease over time as a result of biodegradation and natural attenuation processes. The excavation pit was left open for nearly two years prior to re-sampling. Although MTBE was not part of the analytical suite, a review of the analytical chromatograms compared to the MTBE standard indicate that MTBE was not present in the groundwater samples collected at the site. Please note that EDB and EDC were not analyzed in soil. Also note that case closure for the fuel leak site is granted for commercial land use. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated.</p> <p>Conclusion: Alameda County Environmental Health staff consider that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site based on the current commercial use of the site. If a change in land use to residential or other conservative scenario occurs at this property, Alameda County Environmental Health must be notified and the case needs to be re-evaluated.</p>
--

**VI. LOCAL AGENCY REPRESENTATIVE DATA**

Prepared by: Paresh Khatri	Title: Hazardous Materials Specialist
Signature: 	Date: August 19, 2008
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: 	Date: 08/19/08

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: 8/22/08
Signature: <i>Cherie McCaulou</i>	Date: 9/5/08

#### VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: N/A	Date of Well Decommissioning Report: N/A	
All Monitoring Wells Decommissioned: N/A	Number Decommissioned: 0	Number Retained: 0
Reason Wells Retained: No monitoring wells installed or retained.		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature:		Date:

#### Attachments:

1. Tables 1 & 2 (Comparison of residual contamination to applicable ESLs).
2. Site Vicinity Map.
3. Site Plan.
4. Sample Location Plan.
5. Soil & Groundwater Analyses Data from August 1991
6. Soil & Groundwater Analyses Data from February & March 1993

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.



**Environmental Impacts in Soil**  
**Jardin Pipeline**  
**2315 Dunn Road, Hayward, California**

**Table 1. Comparison of Maximum Residual Soil Concentrations at the Site to Relevant Cleanup Standards (mg/kg)**

	TPH-d (mg/kg)	TPH-mo (mg/kg)	TOG (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Xylenes (mg/kg)	MtBE (mg/kg)
<b>Maximum Residual Soil Concentrations at Site in milligrams per kilogram</b>	16 <sup>4</sup>	27	80 <sup>5</sup>	<0.005 <sup>4</sup>	0.018 <sup>5</sup>	0.009 <sup>4</sup>	0.009 <sup>4</sup> 0.062	--
RWQCB, Region 2 ESLs <sup>1</sup>	83 <sup>3</sup>	370 <sup>2</sup>	370 <sup>2</sup>	0.044 <sup>3</sup>	2.9 <sup>3</sup>	2.3 <sup>2</sup>	2.3 <sup>3</sup>	0.023 <sup>3</sup>

<sup>1</sup> Environmental Screening Levels (ESLs); Shallow Soil Screening Level for residential land use where potentially impacted groundwater is current or potential drinking water resource. Shallow soils defined as soils situated <3 meters below the ground surface. Depth to water is approximately 11 ft bgs.

<sup>2</sup> Lowest ESL value based on direct exposure scenario. Depth to water is approximately 11 ft bgs.

<sup>3</sup> Lowest ESL value based on groundwater protection (soil leaching). Depth to water is approximately 11 ft bgs.

<sup>4</sup> Soil sample collected at 12 feet bgs.

<sup>5</sup> Stockpile soil sample (stockpile assumed to be replaced back into the excavation)

**Environmental Impacts in Groundwater**  
**Jardin Pipeline**  
**2315 Dunn Road, Hayward, California**

**Table 2. Comparison of Maximum Residual Groundwater Concentrations at the Site to Relevant Cleanup Standards (µg/L)**

	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)
<b>Maximum Residual Groundwater Concentrations at Site</b>	150	<50	<0.3	<0.5	1	5.9	ND <sup>7</sup>
<b>RWQCB Region 2 ESLs<sup>2</sup></b>	100 <sup>1</sup> 100 <sup>3</sup> 210 <sup>6</sup> 210 <sup>6</sup>	100 <sup>1</sup> 100 <sup>4</sup> 5 210 <sup>6</sup>	1.0 <sup>1</sup> 170 <sup>2</sup> 1.0 <sup>3</sup> 540 <sup>4</sup> 46 <sup>6</sup>	40 <sup>1</sup> 40 <sup>2</sup> 150 <sup>3</sup> 380,000 <sup>4</sup> 130 <sup>6</sup>	30 <sup>1</sup> 30 <sup>2</sup> 300 <sup>3</sup> 170,000 <sup>4</sup> 43 <sup>6</sup>	20 <sup>1</sup> 20 <sup>2</sup> 1,800 <sup>3</sup> 160,000 <sup>4</sup> 100 <sup>6</sup>	5 <sup>1</sup> 5 <sup>2</sup> 13 <sup>3</sup> 24,000 <sup>4</sup> 8,000 <sup>6</sup>
<b>ASTM Tier 1 Standard Human Health RBSL (Benzene)</b>	NA	NA	11,000 <sup>6</sup> 23.8	32,800	77,500	NA	NA

<sup>1</sup> Environmental Screening Levels (ESLs) for impacted subsurface groundwater less than 10 feet, where groundwater IS a current or potential drinking water resource

<sup>2</sup> Final Groundwater Screening Level, based on ceiling value (taste and odor threshold)

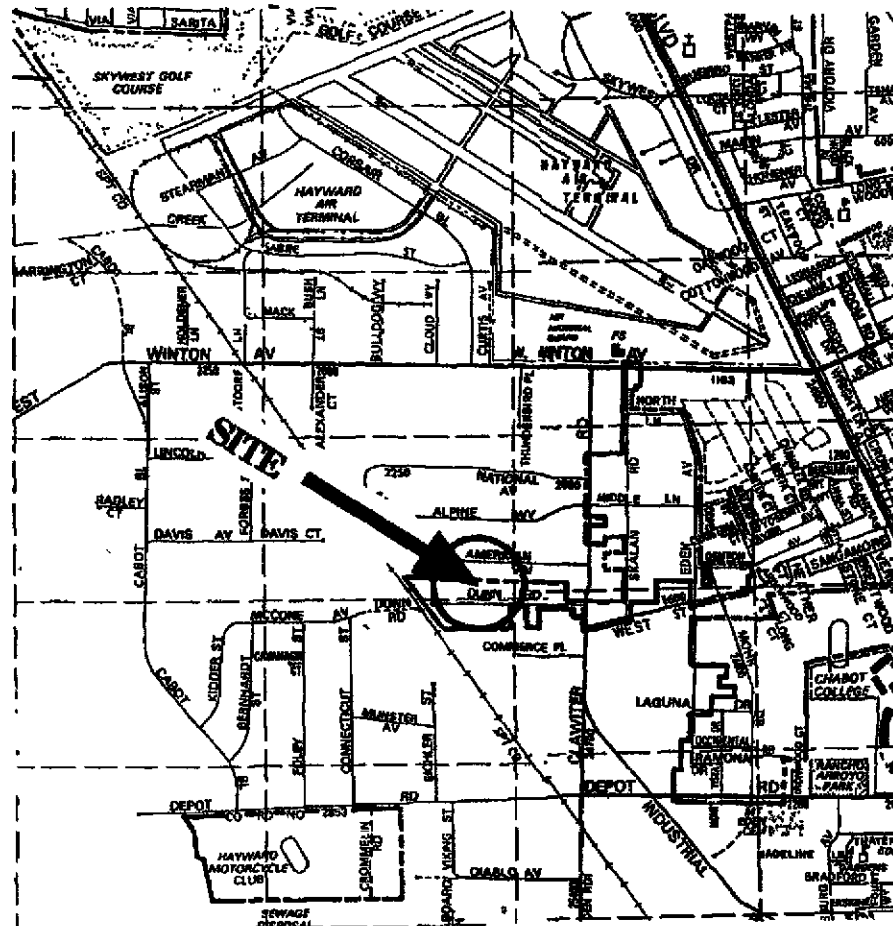
<sup>3</sup> Groundwater Screening Level, based on drinking water toxicity

<sup>4</sup> Groundwater Volatilization to indoor air (residential) Level

<sup>5</sup> Use Soil Vapor to evaluate volatilization to indoor air pathway

<sup>6</sup> Final Groundwater Screening Level, based on Aquatic Habitat

<sup>7</sup> MTBE peak not present in water sample analytical chromatogram



0 1/4 mile



Scale

Source: Thomas Bros. 1990

**L & W Environmental Services, Inc.**

2111 Jennings Street  
San Francisco, California

**Vicinity Map**

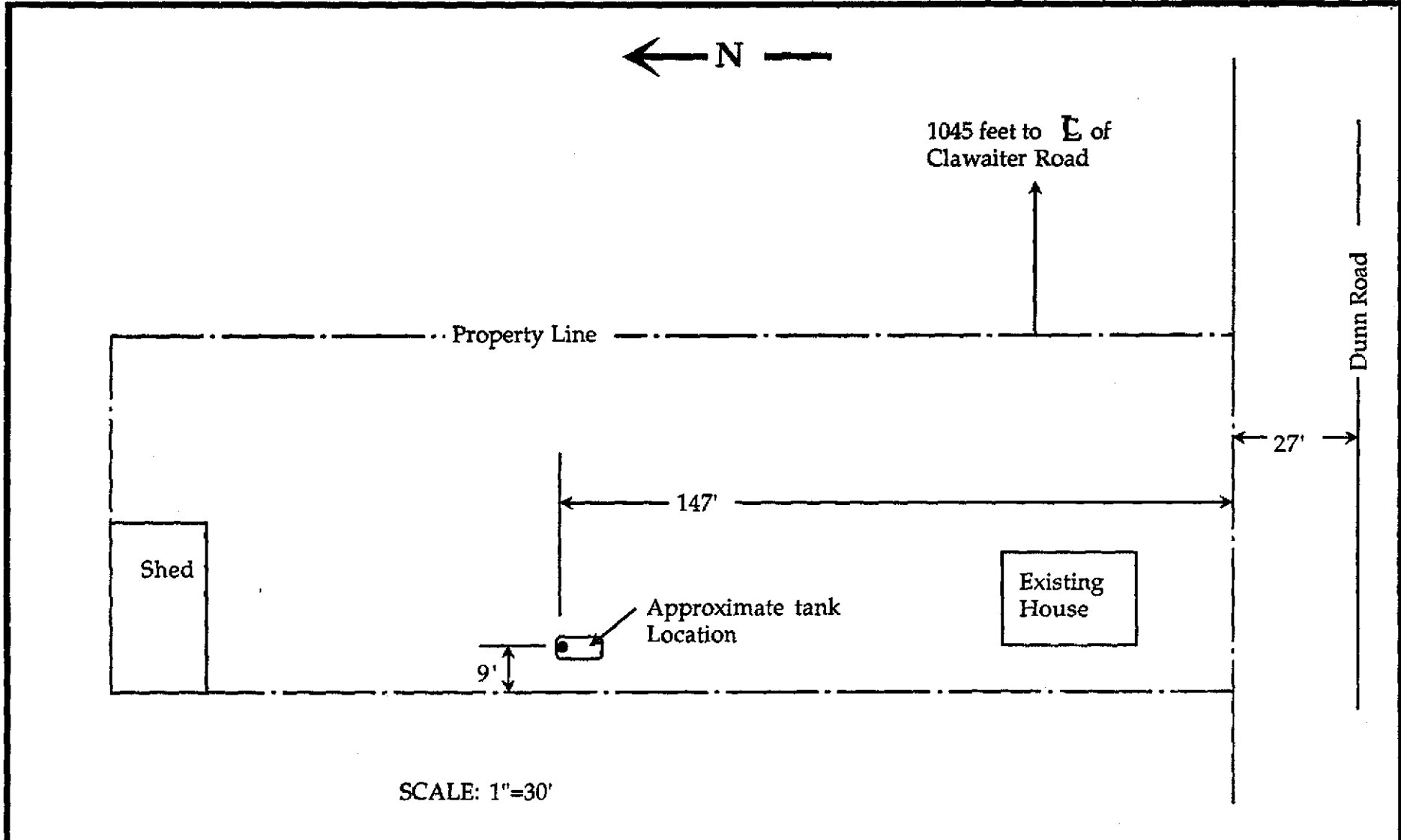
2315 Dunn Road  
Hayward, California

Project Number: 2102

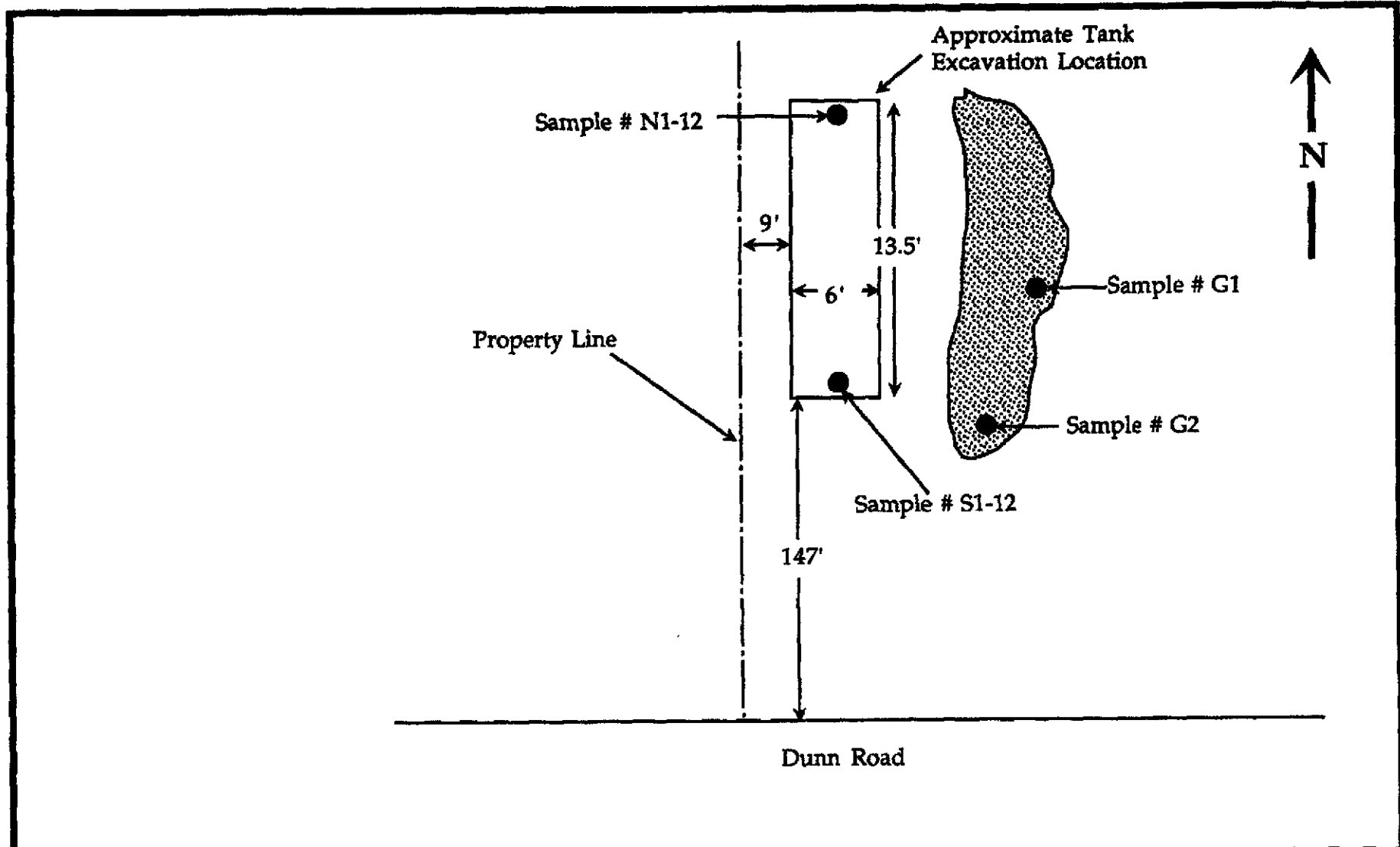
Drawn by: MJK

Date: August, 1991

Figure Number: 1



<b>L &amp; W Environmental Services, Inc.</b>		<b>Site Plan</b>	
2111 Jennings Street San Francisco, California		Jardin Pipeline 2315 Dunn Road Hayward, California	
Project Number: 2102	Drawn by: JNC	Date: August, 1991	Figure Number: 2



<b>L &amp; W Environmental Services, Inc.</b> 2111 Jennings Street San Francisco, California		<b>Sample Location Plan</b> Jardin Pipeline 2315 Dunn Road Hayward, California		
Project Number: 2102	Drawn by: MJK	Not to Scale	August, 1991	Figure Number: 3

2315 Dunn Road  
L&W Project 2102A

August 22, 1991  
Page 2

*why was soil (backfill) before sampling?*

The tank bottom was measured to be about 8.5 feet deep. Soil was excavated from the tank pit to a depth of 12 feet below ground surface. Some water accumulation was noted in the 12 foot deep excavation during removal. No sheen was observed on the water. Water from the 12 foot deep excavation was sampled and submitted for analysis.

The empty, rinsed, and purged tanks were then immediately placed on a truck from Erickson Trucking and was delivered to Erickson Trucking in Richmond under Uniform Hazardous Waste Manifest procedures. A copy of the Uniform Hazardous Waste Manifest number 90392204 is attached.

**SOIL SAMPLING**

Ms. Pam Evans designated four soil sample locations. Samples 2102-S1-12 and 2102-N1-12 were from the "in situ" soil below the tank backfill at a depth of about 12 feet below ground surface at the south and north ends of the tank excavation respectively. A backhoe was used to obtain the soil from the excavation for sampling. Samples 2102-G1 and 2102-G2 were from the soil removed during excavation and was taken from about 1 foot below the top of the 3 foot high pile. Figure 3, the Sample Location Plan, shows the location of samples at the site.

The soil samples were collected by driving 2 inch diameter, 6 inch long brass tubes into the designated soil. The tubes were capped, sealed, labeled and stored in a cooled ice chest. The samples were then transported to Precision Analytical Laboratory under chain of custody protocol for analysis.

**LABORATORY ANALYSIS AND PROCEDURES**

**SOIL**

The four samples were analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D) by the DHS extraction method; Total Oil and Grease by Standard Method, 16th Edition, 503D; and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA Method 8020. The laboratory results are tabulated below.

Sample	TPH-D (ppm)	TOG (ppm)	B (ppm)	T (ppm)	E (ppm)	X (ppm)
<i>pit</i> 2102-S1-12	16	80	ND	0.008	0.009	0.062
2102-N1-12	ND	ND	ND	ND	ND	ND
<i>stock pile</i> 2102-G1	ND	ND	ND	ND	ND	0.027
2102-G2	ND	80	ND	0.018	ND	ND

**WATER**

The water sample was analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D) by the DHS extraction method; Total Oil and Grease (TOG) by Standard Method, 16th Edition, 503A; and BTEX by EPA Method 602. The laboratory results are tabulated below.

Sample	TPH-D (ppm)	TOG (ppm)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
2102-W1	ND	ND	ND	ND	ND	ND

Notes: ppm parts per million  
ppb parts per billion  
ND Non-Detected at or above the Method Detection Limit

Original signed laboratory certificates from Precision Analytical Laboratory for each analysis are attached.

**SOIL HANDLING**

As the soil was removed from the tank excavation it was stored on plastic sheeting approximately 10 feet from the tank area. The excavation was left open pending analytical results of soil samples from the excavated soil. A decision regarding the disposition of the excavated soil.

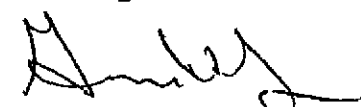
If there are any questions please call.

Sincerely,

George Wilson  
Vice President

  
John Carver  
Civil Engineer 23772



  
cc Alameda County Health Care Services Agency  
Department of Environmental Health  
ATTN: Ms Pam Evans

**SAMPLE COLLECTION - 5 March 1993**

TPH as diesel and motor oil were detected in the water sample collected on 12 February 1993, Mr. Michael Jardin requested that the groundwater from the tank pit be resampled. On 5 March 1993, a representative of Geological Audit returned to the site to collect a groundwater sample. Juliet Shin of the Alameda County Health Agency was on site to observe operations.

The original excavation had been backfilled with the stockpiled soil shortly after the 12 February 1993 visit. A backhoe was used to reexcavate a hole at the former tank excavation to a depth of approximately 11 feet, and groundwater was allowed to fill the bottom. A submersible pump, supplied by Jardin Pipeline, was used to try to purge the groundwater from the excavation. Approximately 50 gallons of water were removed from the excavation and stored on site in a 55 gallon DOT approved drum.

Samples were collected from the bottom of the excavation using a disposable bailer and placed in two 1-liter amber bottles and three VOA's. The samples were labelled, logged on a chain of custody form and stored on ice pending transport to a state-certified laboratory. The samples were analyzed for TPH as diesel, TPH as motor oil and BTE&X in accordance to EPA methods 8015m and 602.

TPH as diesel was detected at a level of 150 ppb, while ethylbenzene and xylene were detected at 1.0 ppb and 5.9 ppb respectively. No TPH as motor oil, benzene or toluene were detected in the water sample. The results of this sample are summarized on Table 3.

**Table 2**  
**Analytical Results for Soil Samples**

Sample ID	TPH as diesel	TPH as motor oil	Benzene	Toluene	Ethylbenzene	Xylene
T1-1	15	27	N/D	N/D	N/D	N/D
SP-1	N/D	16	N/D	N/D	N/D	N/D

Measurements in parts per million (ppm)  
N/D Not Detected

*Soil from  
Floor of  
excavation  
stockpile*





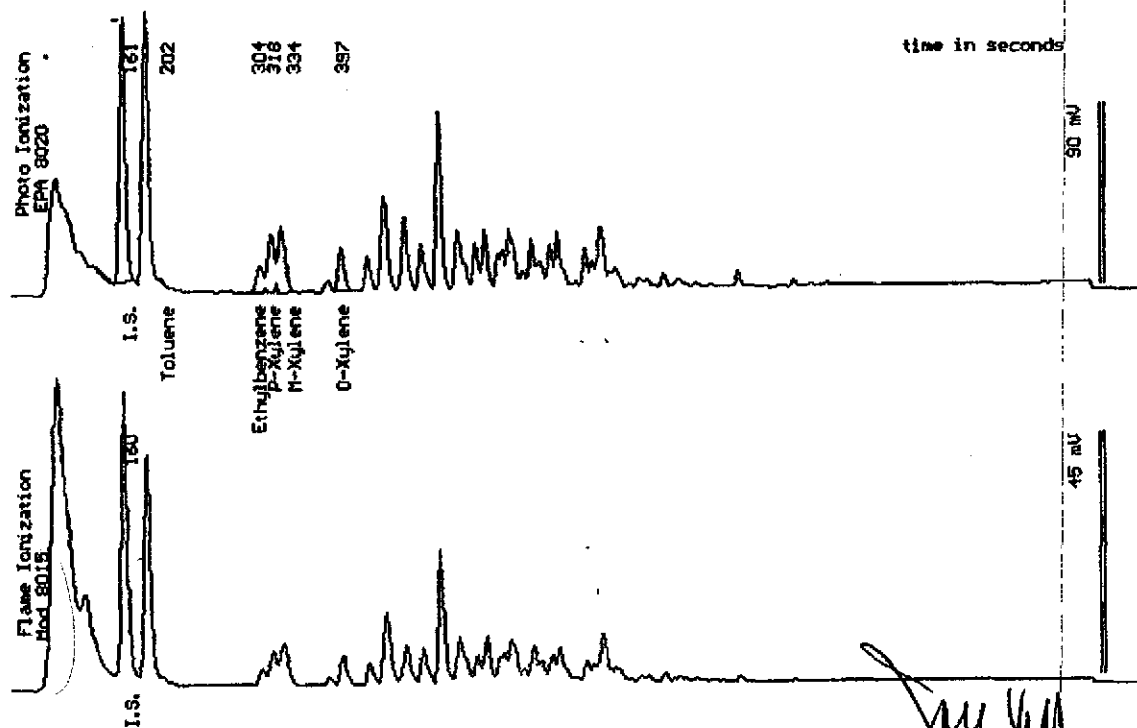
Sample Log 6012  
6012-1

Sample: TP-1/3-11-93

From : Jardin Pipeline  
Sampled : 03/11/93  
Dilution : 1:1  
Matrix : Water

QC Batch : 4091f

Parameter	(MDL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	1.0
Total Xylenes	(.50)	5.9



Date Analyzed: 03-25-93  
Column : 0.83mm ID X 30m DBWAX (J&H Scientific)

Joe Kiff  
Senior Chemist



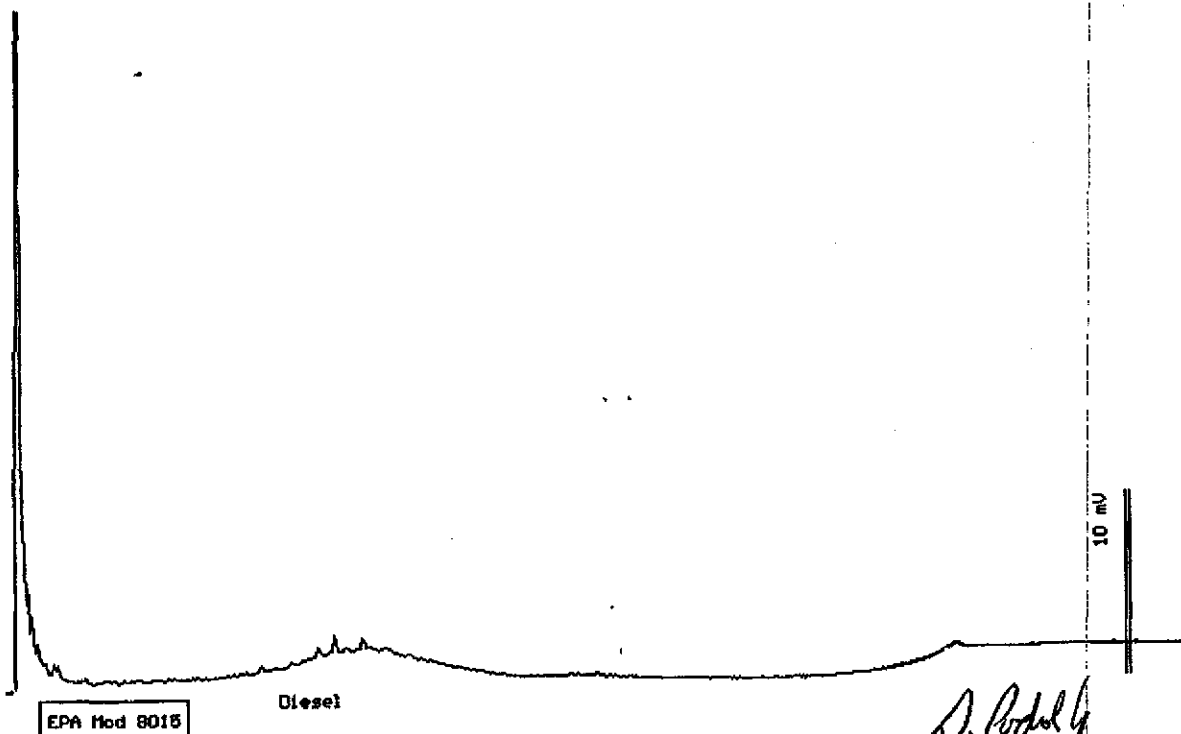
Sample Log 6012  
6012-1

Sample: TP-1/3-11-93

From : Jardin Pipeline  
Sampled : 03/11/93  
Extracted: 03/16/93  
Dilution : 1:1  
Matrix : Water

QC Batch : 8081D

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	150
TPH as Motor Oil	(50)	<50



EPA Mod 8018

Diesel

Date: 03-16-93 Time: 23:38:44  
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

*S. Podolsky*  
Stuart Podolsky  
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