Mary M. Kranz, Executor
Estate of David Ulibarri
10106 Coronado Ave. NE
Albuquerque, NM 87122

August 21, 2006

Mr. Stephen Plunkett
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Care Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

RE: Interim Underground Storage Tank Investigation Report
385-387 Orange Street
Oakland, California

Dear Mr. Plunkett:

As the legally authorized representative and executor of the Estate of David Ulibarri for the 385-387 Orange Street project location, I do declare, under penalty of perjury, that the information and / or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Sincerely,

Mary Kranz

Mary Kranz
Executor of the Estate of David Ulibarri

CLEARWATER
GROUP
Environmental Services

INTERIM UNDERGROUND STORAGE TANK INVESTIGATION REPORT

385-387 Orange Street
Oakland, California

Prepared by:

CLEARWATER GROUP

Prepared for:
Ms. Mary Krantz, Executor
of the Estate of David Ulibarri

March 28, 2006

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INTRODUCTION

Clearwater Group, Inc. (Clearwater) has been requested by Ms. Mary Krantz, executor of the estate of David Ulibarri to investigate an underground storage tank (UST) site, located at 385-387 Orange Street, in Oakland, California. This report summarizes the results of site investigations in February and March 2006. This work is being done to comply with City of Oakland Fire Department, Alameda County Department of Environmental Health and State of California Regional Water Quality Control Board regulations.

BACKGROUND INFORMATION

Site Description

The *subject property* is located at 385-387 Orange Street in Oakland, California, in a residential area (Figure 1). Local topography slopes toward the northwest.

The UST is located under the sidewalk in front of and between the residences at 385 and 387 Orange Street (Figure 2). The UST's location was discovered by a fill pipe in the sidewalk. The UST was used to supply fuel to a boiler located in the basement of the residence at 387 Orange Street.

Permits

Due to site safety constraints (the site is adjacent to the street and under electric lines), Tank Permit Number T06-0008 to "Abandon/Close in Place" a heating oil tank was granted by the City of Oakland, Fire Prevention Bureau on February 28, 2006. A copy of the permit is attached as Appendix A.

FIELD INVESTIGATION

UST Emptying Activities

The UST was evacuated of residual liquids on January 30, 2006. A vacuum truck provide by Clearwater Environmental Management (CEM) of Union City suctioned 340 gallons of an oil and water mixture through the fill pipe. CEM (not affiliated with Clearwater Group) transported the oil and water mixture as a non-RCRA Hazardous waste, under a Uniform Hazardous Waste Manifest, to Alviso Independent Oil, in Alviso, California for disposal. A copy of the manifest is provided as Appendix B.

Soil Borings Under UST

Before any soil boring activities commenced, Underground Alert Services (USA) was notified and all utility services were marked on the ground of the perimeter of the *subject property* search area. Soil borings were conducted by FAST-TEK Engineering Support Services (FAST-TEK) of Point Richmond (C-57 license #624461). FAST-TEK used a direct push, Geoprobe® Macro-Core Soil Sampling System to obtain continuous soil cores and to minimize soil cuttings from the borings. The borings and soil sampling was performed according to Clearwater's Field Procedure, attached in Appendix C.

On February 28, 2006 three soil borings were driven in close proximity to the UST. Boring T1 was located near the northeast end of the UST, boring T2 was located at the southwest end of the UST and boring T3 was a boring angled at 60° (measured from horizontal) in order to reach under the UST (Figure 2). The soil boring logs are presented in Appendix D. Three other vertical borings were attempted, which struck (but did not puncture the UST) at a depth of 8 feet bgs. The locations of these attempts and the borings which reached below

the bottom of the UST helped define the size, depth and orientation of the UST (Figure 3). It appears that the fill pipe is located at the northeast end of the UST.

A photo-ionization detector (PID) was used to screen the soil samples for petroleum hydrocarbons. The soil samples were collected and preserved within acetate sleeves using Clearwater's standard procedures for direct-push soil sampling (Appendix C). Five soil samples were sent under a Chain of Custody to Kiff Analytical, LLC, a California Department of Health certified laboratory, for analyses of TPH-d (total petroleum hydrocarbons as diesel) and BTEX (benzene, toluene, ethylbenzene and total xylenes). All of the soil borings were grouted with Portland cement from the base to the surface using a tremmie pipe.

Soil Samples Collected Along the Fuel Line

The fuel line was located by Drain Patrol (Concord, California) on March 2, 2006 using a MetroTech 810 utility locating instrument. The instrument was clipped to the fill pipe of the UST to send an electronic signal along the line, which the instrument detector could pick up. The instrument also provided depths from the fuel line to the ground surface. The location of the line was temporarily marked with flags. The instrument indicated a fuel line depth of approximately 8 feet bgs, which was in general agreement with the estimated depth. A cross sectional view of the fuel line prepared by measuring the elevation and horizontal differences between the top of the UST through the fill pipe and the floor level of the boiler room is shown in Figure 3.

Three soil samples were collected along the fuel line on March 6, 2006. Sample P1 was collected 10 feet from the northwest edge of the sidewalk; sample P2 was collected 26 feet from the sidewalk; and sample P3 was collected 42 feet from the sidewalk, adjacent to the boiler room (Figure 2). The boreholes for samples P2 and P3 were driven using a 4" hand

auger, due to access limitations (the truck mounted drill could not pass the fence). All of the samples were collected at a depth of 7.5-8.0 feet bgs. The samples were collected and screened by the same methods as the samples collected from under the UST. The soil boring logs are presented in Appendix D.

SOIL SAMPLE ANALYTICAL RESULTS

The table below summarizes the analytical results from the soil samples. The results indicate that a high concentration of TPH-d (15,000 mg/kg) was detected in sample T2 13.5-14.0' at a depth of 13.5 to 14.0 feet bgs. Lesser concentrations of TPH-d were detected in five of the other soil samples. Two samples were virtually non-detect. BTEX compounds were detected in samples T2 13.5-14.0' and T3 17-17.7'. All other samples were non-detect for BTEX compounds.

Soil samples P-1 and P-3, from under the fuel line were non-detect for TPH-d, while sample P-2 contained 96 mg/kg of TPH-d. All of the samples under the fuel line were non-detect for BTEX. The soil sample analytical results are presented in Appendix E.

Table 1. Summary of Analytical Results

Soil Samples Under UST			Analytical Results				
Date	**Sample Name**	**Vertical Depth of Sample (ft)***	**TPH-d mg/kg**	**Benzene mg/kg**	**Toluene mg/kg**	**Ethyl-benzene mg/kg**	**Total Xylenes mg/kg**
2/28/06	T1 13.5-14.0'	13.5-14.0	4.4	<0.0050	<0.0050	<0.0050	<0.0050
2/28/06	T2 13.5-14.0'	13.5-14.0	15,000	<0.0050	<0.0050	0.034	0.12
2/28/06	T3 15-15.5'	13.0-13.5*	2.7	<0.0050	<0.0050	<0.0050	<0.0050
2/28/06	T3 17-17.5	14.7-15.2*	70	<0.0050	<0.0050	<0.0050	0.013
2/28/06	T3 23.5-24.0'	20.4-20.9*	99	<0.0050	<0.0050	<0.0050	<0.0050
Soil Samples Along Fuel Line							
3/6/06	P-1	7.5-8.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
3/6/06	P-2	7.5-8.0	96	<0.0050	<0.0050	<0.0050	<0.0050
3/6/06	P-3	7.5-8.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050

* Boring T3 was drilled at a 60° angle (measured from horizontal) in order to reach under the UST (Figure 3). The depth shown as part of the Sample Name was measured along the 60° angle boring.

The laboratory provided these comments in their report narrative (for samples along the UST only). "Hydrocarbons reported as TPH as Diesel do not exhibit a typical Diesel chromatographic pattern for samples T1 13.5-14.0' and T3 15-15.5'. These hydrocarbons are higher boiling point than typical diesel fuels. Samples T2 13.5-14.0', T3 17-17.5' and T3 23.5-24.0' were analyzed past hold times for 8260 analytes".

CONCLUSIONS

The soil samples indicate that a high concentration of petroleum hydrocarbons occurred around the northeast end of the tank (15,000 mg/kg of TPH-d). However, soil under the southwest end of the UST had a very low concentration of petroleum hydrocarbons (4.4 mg/kg of TPH-d). The TPH-d concentrations diminish rapidly under and to the southwest end of the UST (Figure 3). The petroleum hydrocarbons could either be from a leak in the UST, a leak at the fill pipe/UST juncture, or from spillage at the fill pipe seeping downward along the pipe. The fill pipe appears to be located at the northwest end of the UST, as

indicated by the boring attempts, which encountered the UST at 8 feet bgs. The results indicate that leakage or spillage exists around the northeast end of the UST.

Soil sample P-2 from under the fuel line indicates that an isolated leak occurred along the fuel line (Figure 2). P-2 was located between P-1 and P-3, each of which was non-detect for all analytes.

The boring logs indicated that the soil underlying the site is predominantly silty clay. In addition, in none of the soil borings was groundwater encountered. The site is located near the summit of a ridge line trending toward the northwest (Figure 1), therefore it is not anticipated that shallow groundwater occurs beneath the site. The ridgeline plunges toward the northwest. Typically groundwater levels under a ridgeline should be deeper than under flat lying areas.

RECOMMENDATIONS

Due to the isolated and restricted area under the UST with a high concentration of TPH-d and a minor occurrence of TPH-d along the fuel line, Clearwater Group recommends that soil or groundwater remediation is not indicated and that the closure in place of the UST should proceed as planned. The groundwater is not being used locally. The existing soil contamination should diminish with time to non-detectable concentrations through natural attenuation.

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE REPORTING

An Underground Storage Tank Unauthorized Release (Leak)/ Contamination Site Report form was filed with the City of Oakland, Fire Prevention Bureau, which is the local oversight agency. A copy of the form is presented in Appendix F.

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CERTIFICATION

This report was prepared under the supervision of a State of California Professional Geologist at Clearwater Group. All statements, conclusions and recommendations are based solely upon field observations by Clearwater Group staff and laboratory analysis performed by a California DHS-certified laboratory related to the work performed by Clearwater Group.

Information and interpretation presented herein are for the sole use of the client and regulatory agency. A third party should not rely upon the information and interpretation contained in this document.

The service performed by Clearwater Group has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Sincerely,
Clearwater Group

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Cc: City of Oakland, Fire Prevention Bureau