GRIBI ASSOCIATES

September 18, 2006

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Don Hwang

Subject: Report of Groundwater Sampling and Request for Regulatory Closure
Former Vend Mart UST Site
1035 7th Street, Oakland, California
GA Project No. 321-01-01
Alameda County Site ID: RO0000036

Ladies and Gentlemen:

Gribi Associates is pleased to submit this report on behalf of Mr. Robert Moody, the property owner, for the former Vend Mart underground storage tank (UST) site located at 1035 7th Street in Oakland, California (see Figure 1 and Figure 2). This letter report provides a brief site history and documents groundwater sampling activities conducted at the site on August 16, 2006. Based on these results, this report requests that regulatory closure be granted for this site.

GENERAL SITE LOCATION AND DESCRIPTION

The project site consists of a rectangular-shaped parcel located on the southeast corner of 7th Street and Linden Street in west Oakland. The site is located in a mixed commercial/industrial and residential area, approximately one-half mile north from Oakland Inner Harbor and two miles west from San Francisco Bay.

A Caltrans right-of-way borders the site on the south, and a raised freeway, US Interstate 880, runs east-west along the south side of the site. This raised freeway, which replaced the previous Cypress Freeway structure destroyed during the October 1989 Loma Prieta earthquake, extends at least300 feet south and 700 feet west from the project site.

The project site elevation is about 15 feet above mean sea level, and the project site vicinity is underlain by several tens to hundreds of feet of Bay Mud sediments. The Bay Mud sediments found along the East Bay Plain generally consist of low-permeability silts and clays, with occasional thin sand lenses. The Bay Mud sediments generally do not make good groundwater aquifers, and there is no significant beneficial groundwater usage in Bay Mud sediments in the site vicinity.

Based on our review of various DTSC file review and Envirostor documents, State Water Board Geotracker documents, and City of Oakland OBR documents, it appears that groundwater is present at a depth of about 10 feet below ground surface, and that groundwater flow is to the west-southwest (see hydrocarbon plume maps for the nearby Rinehart Truck Stop site in Attachment A). In addition, there is no likely expectation that groundwater in the West Oakland/Emeryville area will ever be used for drinking water purposes. According to *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report*, (SFBRWQCB, Final Report, June 1999), there are 0 drinking water wells in West Oakland and Emeryville. This site is located in the north part of the Oakland Groundwater Management Zone, which is designated as a part of the East Bay Plain Groundwater Basin where groundwater is unlikely to be used as a drinking water source and where the remediation strategy should include "passive remediation to restore drinking water as a long-term strategy" (Table 12).

SITE ENVIRONMENTAL HISTORY

The current site owner, Mr. Robert Moody, stated that, as a condition of his purchase of the property in 1988, one fuel underground storage tank (UST) was removed by the previous site owner. Mr. Moody stated that it was the previous site owners responsibility to obtain regulatory closure for the UST. Mr. Moody recalled that, following UST removal, some soil was excavated and a groundwater monitoring well was installed and sampled. Since he was not responsible for the former UST, Mr. Moody has no records relative to the UST removal and investigation in 1988. Further, since he has never received any letter from a regulatory agency relative to the former UST, Mr. Moody was under the distinct impression that regulatory closure had been granted for this site. Pursuant to a pending sale of this property, Mr. Moody contracted Gribi Associates to attempt to obtain a copy of the regulatory closure letter for the site.

This site is listed on the State Water Board's Geotracker database as a leaking UST (LUST) site. In attempting to determine the status of this site, we contacted the City of Oakland Fire Department (OFD), the Alameda County Department of Environmental Health (ACDEH), and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). Mr. Vibhor Jain of the OFD stated that the OFD does not have a file for the project site address, and that, since this is a LUST site, the ACDEH provides oversight and should have a file. The file review staff person at ACDEH stated that the site file had been sent to OFD. In checking ACDEH computer database files, Mr. Barney Chan of the ACDEH stated that the LUST file for the project site is missing from ACDEH files as of 2003. Ms. Melinda Wong of the SFBRWQCB stated that the SFBRWQCB does not have a file for the project site, since this is an ACDEH site.

While checking for groundwater flow data on the California Environmental Protection Agency - Department of Toxic Substances (DTSC) online Envirostor database, we noted that the project site address, designated as Marble Technics West, is included on the Envirostor database. The project site was one of 29 sites included in the Cypress Reconstruction Project Remedial Action Plan. As part of the reconstruction project, Caltrans obtained easement rights to construct two footings on or adjacent to the project site. Prior to construction, two investigations were

conducted and soil was excavated for the footings. Following completion and verification sampling, the DTSC issued a Remedial Action Certification Form that stated "The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary." The following relevant information was obtained from the DTSC documents. Copies of portions of the DTSC documents are included in Attachment A.

Site Investigation Workplan, Second Site Group: Chang's Automotive and Marble Technics West, Cypress Reconstruction, Oakland, California, Environmental Solutions, Inc., October 3, 1994. This document provides a history for the site and includes the following information:

- One 10,000-gallon gasoline UST was removed at the site in 1988. A soil sample collected beneath the removed UST showed 680 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons as Gasoline (TPH-G). The excavated soils stockpile showed less than 100 mg/kg of TPH-G, and was placed back in the excavation cavity.

- In August 1988, three soil borings were drilled and sampled, and one of the borings was converted to a groundwater monitoring well, MW-1. A soil sample collected at 10.5 feet in depth from the well boring showed 49 mg/kg of TPH-G, and a groundwater sample from the well showed 150 micrograms per liter (ug/l) of TPH-G.

- The Responsible Party for the site identified by Mr. Tom Peacock of ACDEH is Wayne Delzell Corporation at 2434 Chestnut Street in Oakland.

- This workplan provides results of an investigation conducted by Geo/Resource Consultants. One boring, MT/B-1, was drilled on the project site on June 22, 1992 (see Figure 3). Soil samples collected at 0.5 feet, 7.5 feet, and 12.0 feet in depth showed no detectable concentrations of TPH-G or BTEX constituents. The pre-existing site well, MW-1, was also sampled and showed no detectable concentrations of TPH-G or BTEX constituents.

Report of Findings, Second Site Group: Chang's Automotive and Marble Technics West, Cypress Reconstruction, Oakland, California, Environmental Solutions, Inc., February 21, 1995. This report documents the drilling and sampling of six soil borings at planned raised freeway footing locations. Four of the soil borings, B-1, B-2, B-4, and B-5, were drilled and sampled at freeway footing locations immediately south and southwest from the former project site UST. Soil samples collected at approximate depths of 7.0 feet and 10.0 feet in depth showed no detectable TPH-G, BTEX, or TPH-D concentrations.

Final Feasibility Study/Remedial Action Plan, Interstate 880 Cypress Replacement Project, Oakland, California, Caltrans, August 1995. This document provides a site history, as summarized in previous documents, and assesses remedial alternatives to be implemented during

the Cypress Replacement Project. The primary mitigative measure recommended in this report is the excavation and offsite removal of contaminated soils along the Cypress Corridor as needed. This document states "The groundwater in this area is considered to be unsuitable for drinking purposes due to the presence of regional contamination and high salinity....The future use of groundwater may include industrial consumption. Residential and agricultural consumption would require treatment for the contaminants and the salinity prior to use. Currently, there are no beneficial uses of the groundwater except as dust control during construction of the Cypress Corridor" (Appendix E, page E-5).

Site Remediation Completion Report, Chang's Automotive, 1009 Seventh Street and Marble Technics West, 1035 Seventh Street, Oakland, California, 94607, Caltrans, December 29, 1998. This report documents the excavation and removal of soils on Caltrans right-of-way properties adjacent to Chang's Automotive and the project site in July and August 1995. Shallow soils apparently contained elevated concentrations of aerial deposited lead resulting from leaded fuel emissions on the former I-880. These excavation activities apparently did not involve significant excavation on the project site, and remediation activities were apparently effective.

Site Certification Synopsis, DTSC, February 11, 1999. This document, which is included in Attachment B, certifies the successful completion of remedial measures relative to the Cypress Freeway Reconstruction Project. Approximately 45 cubic yards of lead-impacted soil was removed as part of remedial measures for the project site. The certification states that "The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary."

RECENT GROUNDWATER SAMPLING

On August 16, 2006, Mr. Jim Gribi, RG, purged and sampled site well MW-1. Respective measured depths to groundwater and to bottom of well were 11.59 feet and 27.41 feet below top of casing. After purging approximately four gallons of groundwater using a disposable bailer, 6 VOAs were completely filled, tightly capped, labeled, and placed on ice for transport to the analytical laboratory under formal chain of custody. The groundwater sample from MW-1 was analyzed for TPH-G, BTEX, MTBE, and TPH-D. Groundwater analytical results for MW-1 are summarized in Table 1. The laboratory data report for this analysis is included in Attachment C.

Table 1
SUMMARY OF GROUNDWATER LABORATORY ANALYTICAL RESULTS
Former Vend Mart UST Site

Sample ID	*Sample Date*	*GW Depth*	*Concentration, micrograms per liter (ug/l, or ppb)*						
			TPH-D	*TPH-G*	*B*	*T*	*E*	*X*	*MTBE*
MW-1	06/92	14.20 ft	--	ND	ND	ND	ND	ND	--
	08/16/06	11.59 ft	<50.0	**57**	**1.9**	<1.0	<1.0	<2.0	<4.0
Groundwater ESL-Commercial			**2,500**	**5,000**	**540**	**380,000**	**170,000**	**160,000**	**24,000**

TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl-t-Butyl Ether
ND = Not detected
<50.0 = Not detected above the expressed value.
1 = No detectable concentrations of 54 individual VOC constituents.
– = Not analyzed for this analyte.
ESL = Groundwater Environmental Screening Levels (commercial land use, groundwater is not a current or potential drinking water resource), as contained in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Bay Regional Water Quality Control Board, Interim Final, February 2005. Groundwater ESLs for TPH-G/TPH-D are for gross contamination ceiling values (Appendix 1, Table I-2); for all other constituents, groundwater ESLs are for potential vapor intrusion concerns (Appendix 1, Tables E-1a).

EVALUATION OF RESULTS AND REQUEST FOR REGULATORY SITE CLOSURE

Although investigative data for this site has apparently been lost from regulatory files over time and is somewhat lacking, we believe that there is sufficient site data to warrant regulatory closure of this site. This belief is based on the following conclusions relative to site environmental conditions:

- **Soil hydrocarbon impacts from the former site UST are relatively minor, are limited to the area immediately surrounding the former UST, and do not extend offsite.** One soil sample collected following removal of the UST showed 680 mg/kg of TPH-G, and a stockpile soil sample showed less than 100 mg/kg of TPH-G. A soil sample collected at 10.5 feet in depth in well boring MW-1, located about 4 feet west-southwest from the former UST excavation showed only 49 mg/kg of TPH-G. A soil sample collected at about 12 feet in depth in boring MT/B-1, located about 40 feet west-southwest from the former UST excavation cavity, showed no detectable concentrations of hydrocarbon constituents. A soil sample collected at about 10 feet in depth in Caltrans boring B-4, located about 50 feet south from the former UST cavity, showed no detectable concentrations of hydrocarbon constituents.

- **Groundwater hydrocarbon impacts from the former site UST are relatively minor, are limited to the area immediately surrounding the former UST, and do not extend offsite.** Following installation in August 1988, groundwater in well MW-1, located about 4 feet west-southwest from the former UST excavation, showed only 150 ug/l of TPH-G. In June 1992, groundwater in well MW-1 showed no detectable concentrations of

gasoline constituents. The sample from MW-1 collected by Gribi Associates on August 16, 2006 showed very low concentrations of TPH-G (57 ug/l; detection level = 50 ug/l) and benzene (1.9 ug/l; detection level 1.0 ug/l), and nondetectable concentrations of other fuel hydrocarbons, including MTBE. The detected concentrations of TPH-G and benzene are significantly lower than the SFBRWQCB's Environmental Screening Levels (ESLs) for commercial receptors and nondrinking water groundwater use.

- **Residual hydrocarbon concentrations in soils and groundwater beneath the former site UST do not pose a significant risk for environmental or human health receptors.** Detected residual hydrocarbon concentrations in soil and groundwater are below applicable ESLs for commercial/industrial site use. In addition, there is no reasonable expectation that land use zoning for the project site will change in the foreseeable future, given the proximity of the project site to the adjacent raised freeway. Also, land use under the adjacent raised freeway, which extends several hundred feet in an expected downgradient (west-southwest) groundwater flow direction from the site, is limited primarily to storage and will not change in the foreseeable future. Finally, there are no known groundwater beneficial uses or receptors within a reasonable distance in an expected downgradient (west-southwest) groundwater flow direction from the project site.

- **DTSC granted regulatory closure for this site in 1999 relative to soil impacts.** While the DTSC "No Further Action" certification applies specifically to the soil removal actions conducted as part of the Cypress Reconstruction Project, the DTSC did evaluate soil hydrocarbon impacts (boring MT/B-1 on the site and borings B-1, B-2, B-4, and B-5 on the adjacent south property) and groundwater hydrocarbon impacts (site well MW-1 was sampled in 1992). Based on the lack of significant detections, the DTSC concluded that no additional soil or groundwater investigation was warranted relative to the project site. A copy of the DTSC site closure document is included in Attachment B.

In summary, we believe that regulatory closure should be granted for this site. While investigative data appears to have been lost from various regulatory agency files with the passing of time (18 years since UST removal), it is clear from the available data that hydrocarbon impacts from the former project site UST are minimal, certainly lower than other similar sites where regulatory closure has been granted. Also, the site is situated adjacent to a major freeway, such that residential land use cannot reasonably be contemplated for this site. Further, land use for several hundred feet downgradient from the project site is occupied by Caltrans freeway right-of-ways, with no expectation of land use change in the foreseeable future. Finally, after investigating the site and site area, the DTSC deemed that no additional investigation or remediation was warranted for the project site.

We appreciate the opportunity to provide this proposal for you. Please call if you have questions or require additional information. We look forward to working with you on this important job.

Very truly yours,

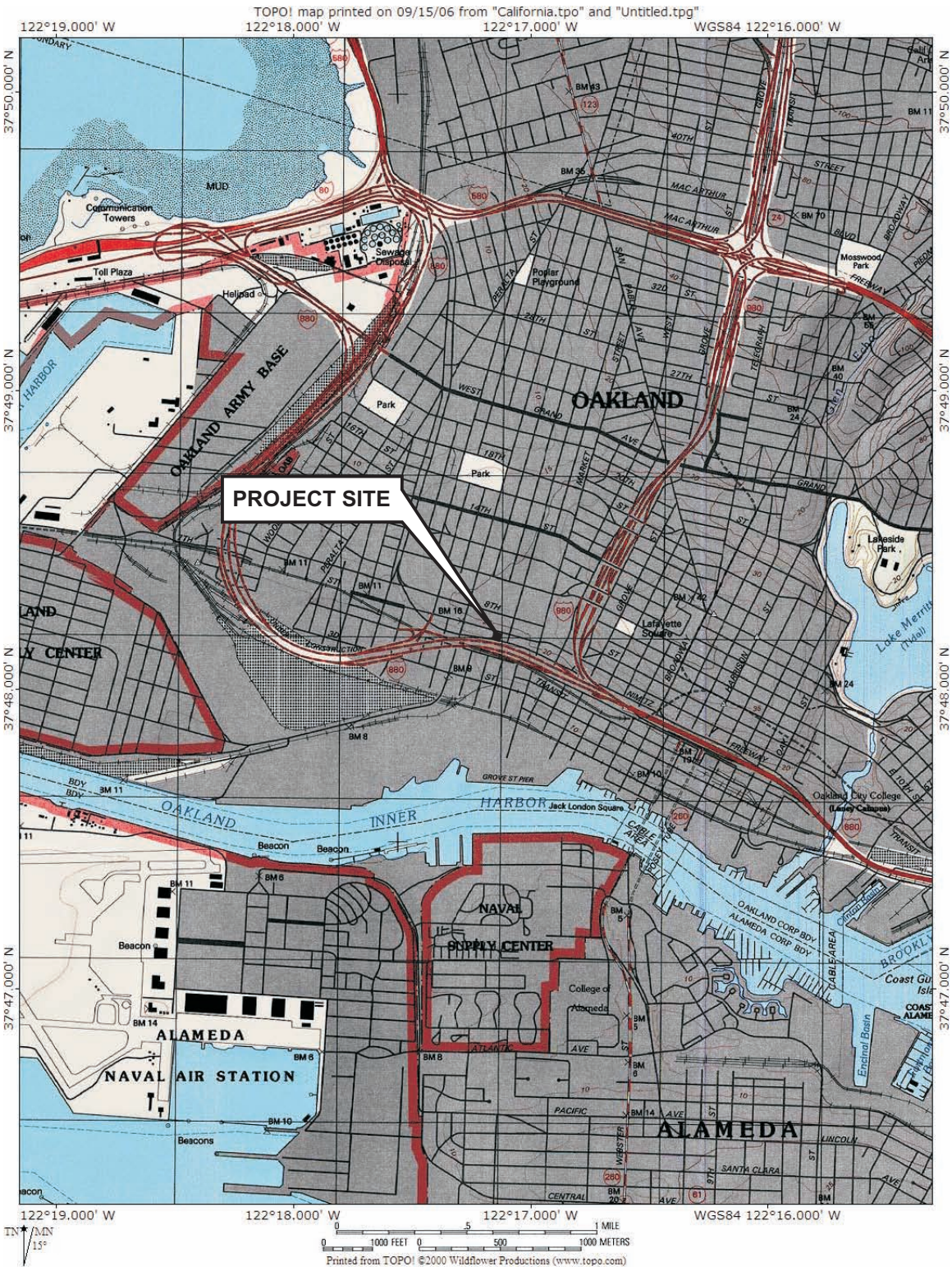
James E. Gribi
Registered Geologist
California No. 5843

JEG:ct
Enclosure

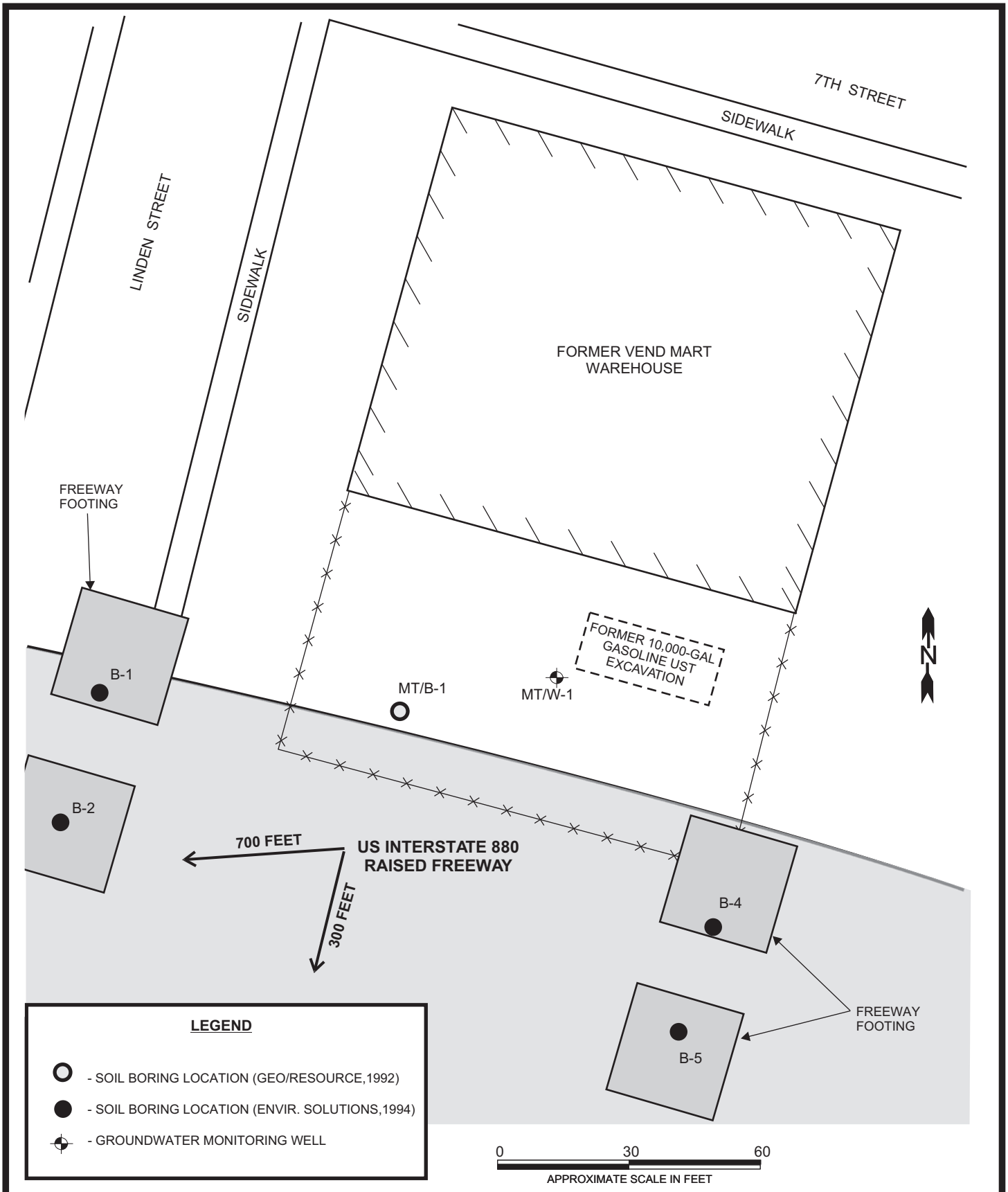
c Mr. Robert Moody

M:\Projects\Active Projects\Moody-7th Street\Moody-Vend Mart RPT.wpd

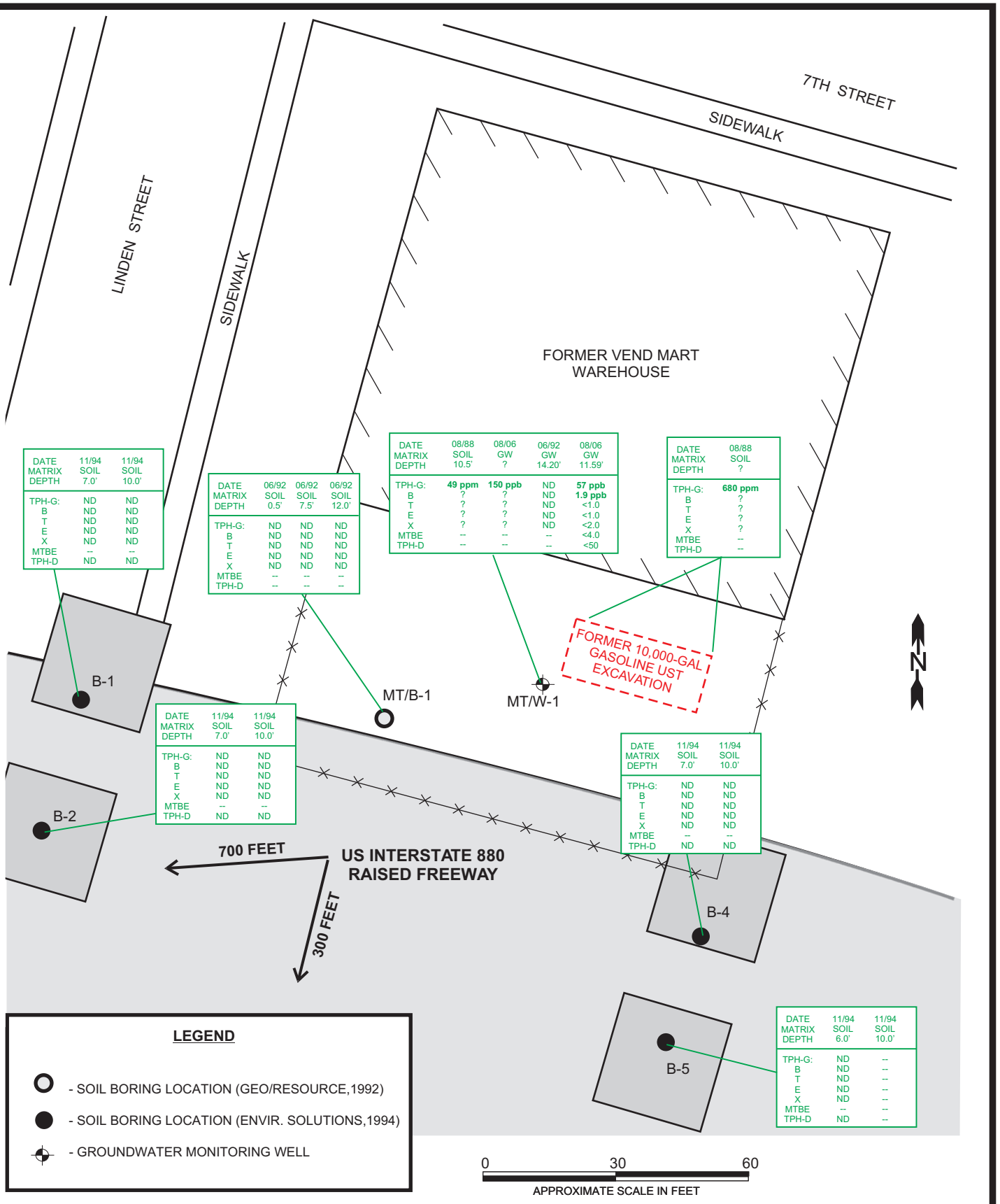
FIGURES



DESIGNED BY:	CHECKED BY:	**SITE VICINITY MAP**	DATE: 09/14/06	FIGURE: **1**
DRAWN BY: JG	SCALE:			
PROJECT NO: 302-02-01		1035 7TH STREET OAKLAND, CALIFORNIA		



DESIGNED BY:	CHECKED BY:	**SITE PLAN**	DATE: 09/14/06	FIGURE: **2**
DRAWN BY: JG	SCALE:	1035 7TH STREET OAKLAND, CALIFORNIA	GRIBI	
PROJECT NO: 302-02-01				



DESIGNED BY:	CHECKED BY:	**SOIL & GROUNDWATER HYDROCARBON RESULTS**	DATE: 09/14/06	FIGURE: 3
DRAWN BY: JG	SCALE:	1035 7TH STREET OAKLAND, CALIFORNIA	GRIBI	
PROJECT NO: 302-02-01				

ATTACHMENT A

RELEVANT PORTIONS OF
REGULATORY FILE INFORMATION

Quarterly Report - Third Quarter 2005

RINEHART OIL. INC. - OAKLAND TRUCK STOP
1107 5TH Street, Oakland, California

11 November 2005
AGE-NC Project No. 03-1101

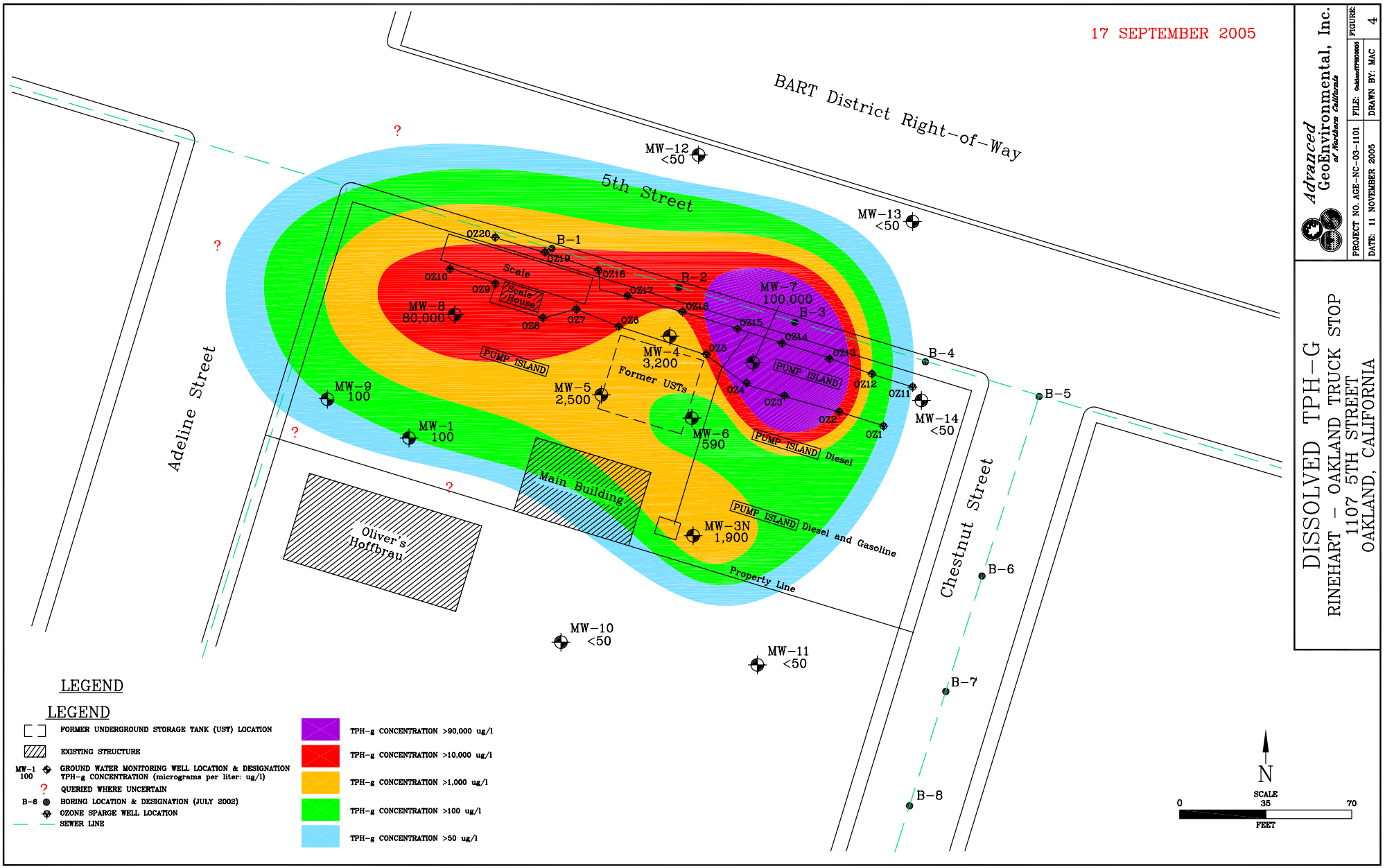
PREPARED FOR:

Mr. Reed Rinehart
RINEHART OIL, INC.

PREPARED BY:

Advanced GeoEnvironmental, Inc.

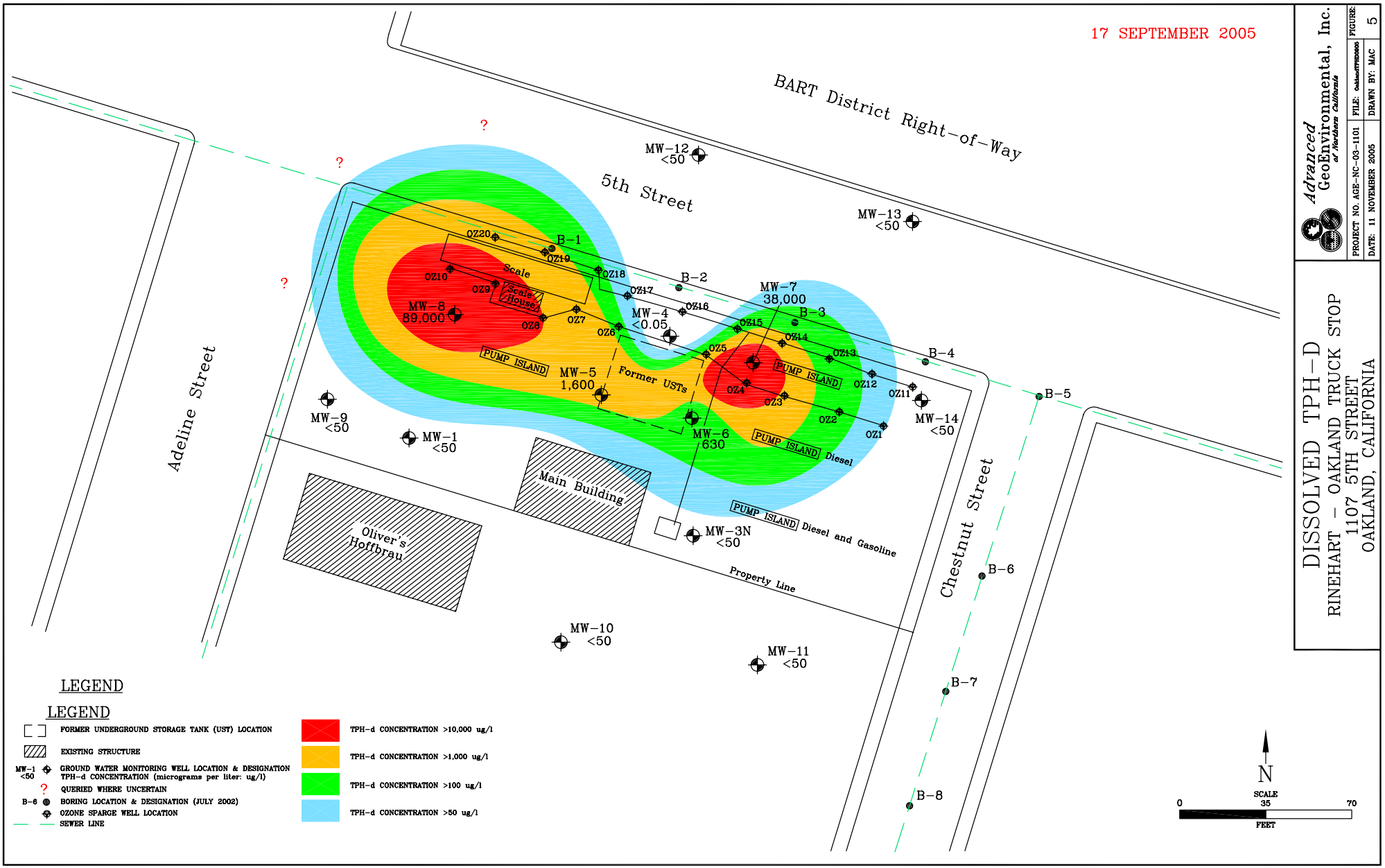
381 Thor Place, Brea, California 92821 ● Phone (714) 529-0200 ● Fax (714) 529-0203
837 Shaw Road, Stockton, California 95215 ● Phone (209) 467-1006 ● Fax (209) 467-1118
2318 Fourth Street, Santa Rosa, California 95404 ● Phone (707) 570-1418 ● Fax (707) 570-1461
395 Del Monte Center, #111, Monterey, California 93940 ● Phone (800) 511-9300 ● Fax (831) 394-5979



Advanced GeoEnvironmental, Inc.
at Northern California

PROJECT NO. AGE-NC-03-1101 | FILE: Oakland7thstreet | FIGURE: 4
DATE: 11 NOVEMBER 2005 | DRAWN BY: MAC

DISSOLVED TPH-G
RINEHART - OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA


17 SEPTEMBER 2005
BART District Right-of-Way
5th Street
Adeline Street
Chestnut Street
Property Line
Main Building
Oliver's Hoffbrau
Scale
Scale House
PUMP ISLAND
PUMP ISLAND Diesel
PUMP ISLAND Diesel and Gasoline
Former USTs
MW-1 <50
MW-3N <50
MW-4 <0.05
MW-5 1,600
MW-6 630
MW-7 38,000
MW-8 89,000
MW-9 <50
MW-10 <50
MW-11 <50
MW-12 <50
MW-13 <50
MW-14 <50
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
OZ1
OZ2
OZ3
OZ4
OZ5
OZ6
OZ7
OZ8
OZ9
OZ10
OZ11
OZ12
OZ13
OZ14
OZ15
OZ16
OZ17
OZ18
OZ19
OZ20
LEGEND
FORMER UNDERGROUND STORAGE TANK (UST) LOCATION
EXISTING STRUCTURE
GROUND WATER MONITORING WELL LOCATION & DESIGNATION
TPH-d CONCENTRATION (micrograms per liter: ug/l)
QUERIED WHERE UNCERTAIN
BORING LOCATION & DESIGNATION (JULY 2002)
OZONE SPARGE WELL LOCATION
SEWER LINE
TPH-d CONCENTRATION >10,000 ug/l
TPH-d CONCENTRATION >1,000 ug/l
TPH-d CONCENTRATION >100 ug/l
TPH-d CONCENTRATION >50 ug/l
N
SCALE
0
35
70
FEET
Advanced GeoEnvironmental, Inc.
PROJECT NO. AGE-NC-03-1101
DATE: 11 NOVEMBER 2005
FILE:
DRAWN BY: MAC
FIGURE: 5
DISSOLVED TPH-D
RINEHART - OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

Quarterly Report - First Quarter 2006

RINEHART OIL, INC. - OAKLAND TRUCK STOP
1107 5th Street, Oakland, California

08 June 2006
AGE-NC Project No. 03-1101

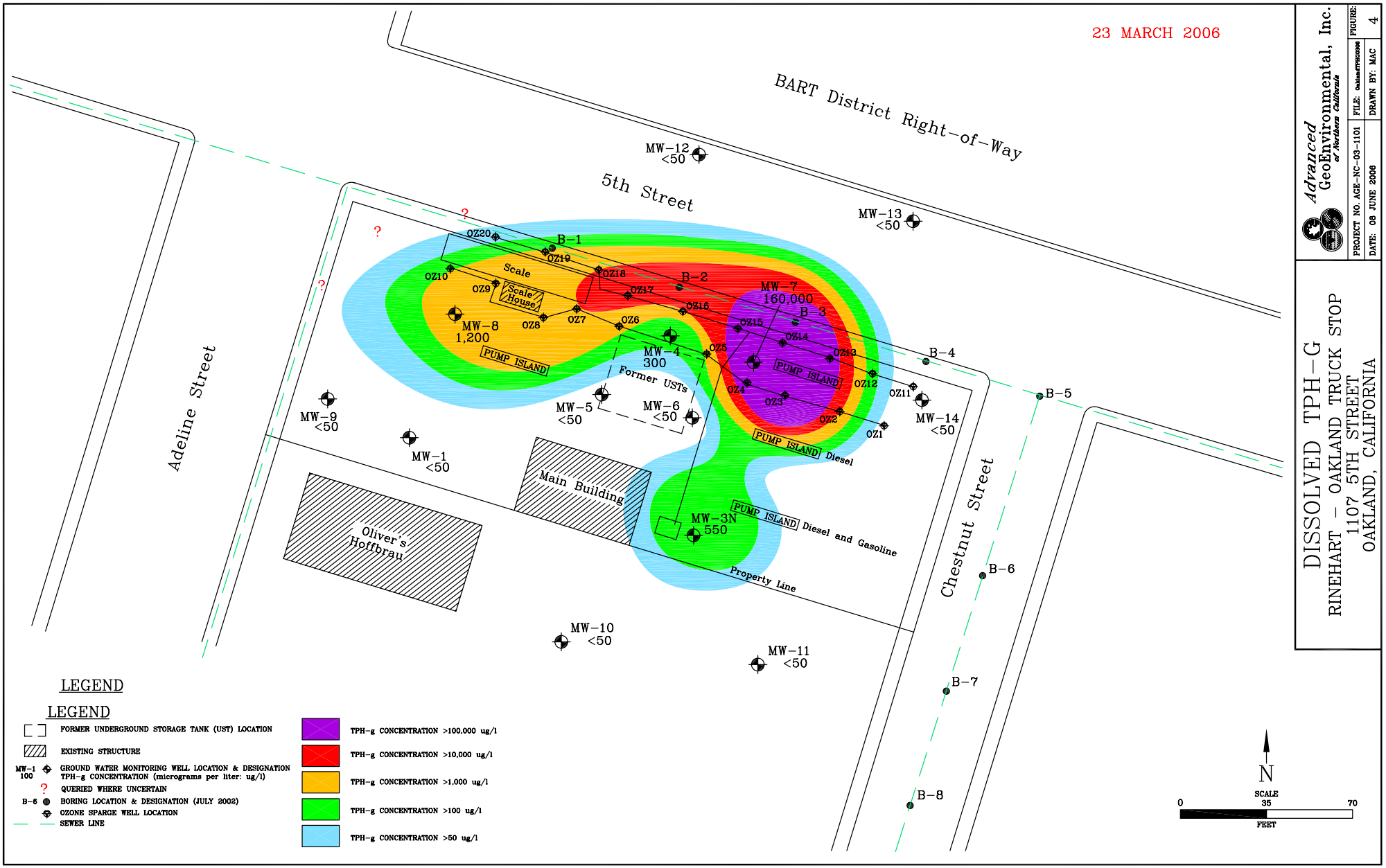
PREPARED FOR:

Mr. Reed Rinehart
RINEHART OIL, INC.

PREPARED BY:

Advanced GeoEnvironmental, Inc.

381 Thor Place, Brea, California 92821 ● Phone (714) 529-0200 ● Fax (714) 529-0203
837 Shaw Road, Stockton, California 95215 ● Phone (209) 467-1006 ● Fax (209) 467-1118
2318 Fourth Street, Santa Rosa, California 95404 ● Phone (707) 570-1418 ● Fax (707) 570-1461
395 Del Monte Center, #111, Monterey, California 93940 ● Phone (800) 511-9300 ● Fax (831) 394-5979



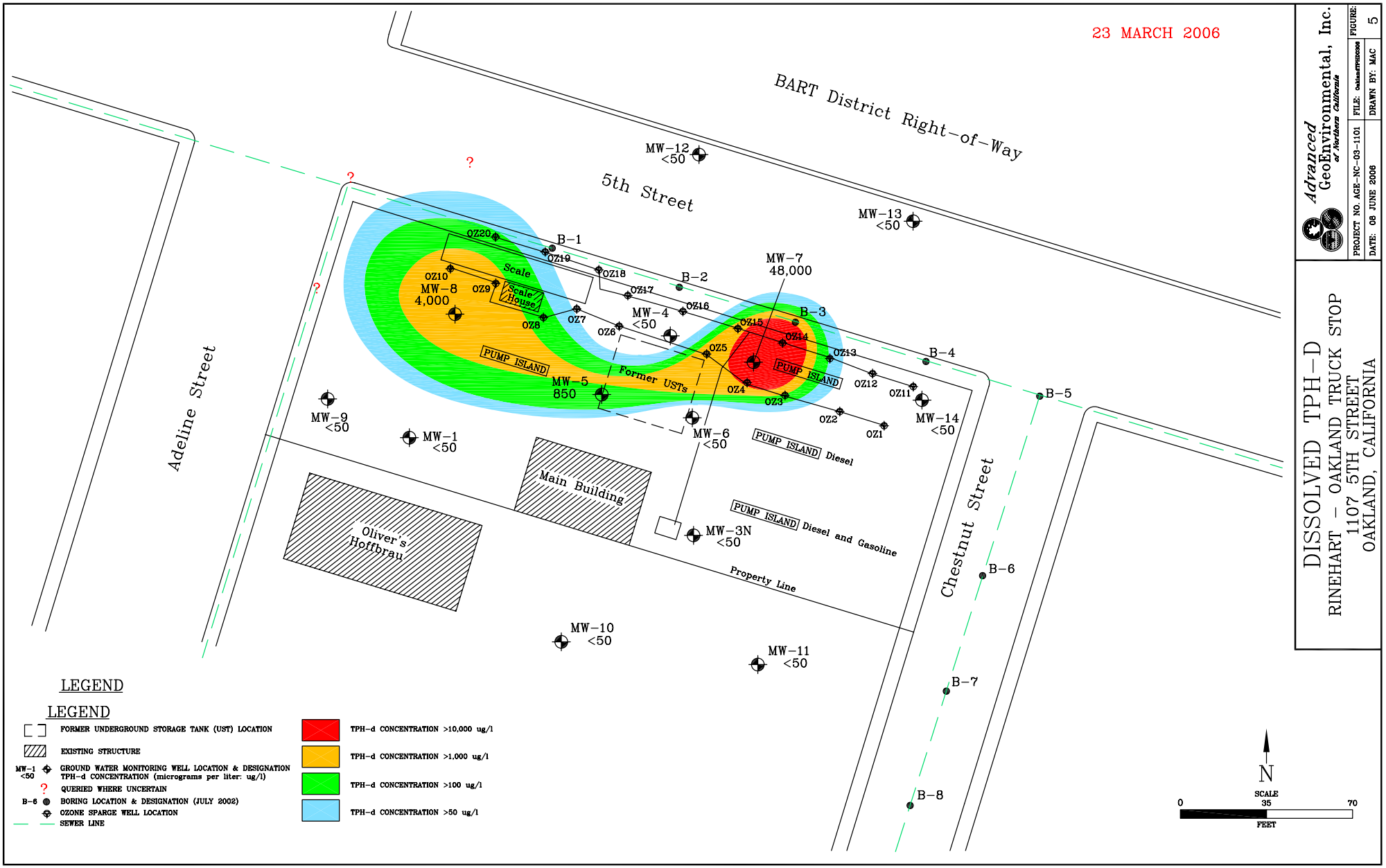
LEGEND

Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE-NC-03-1101 | FILE: oaklandfig0606 | FIGURE: 4
DATE: 08 JUNE 2006 | DRAWN BY: MAC

DISSOLVED TPH-G

RINEHART - OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA



LEGEND

Advanced GeoEnvironmental, Inc.
of Northern California

PROJECT NO. AGE-NC-03-1101 | FILE: oaklandfig0606 | FIGURE: 5
DATE: 08 JUNE 2006 | DRAWN BY: MAC

DISSOLVED TPH-D

RINEHART - OAKLAND TRUCK STOP
1107 5TH STREET
OAKLAND, CALIFORNIA

SITE INVESTIGATION WORKPLAN
SECOND SITE GROUP: CHANG'S AUTOMOTIVE AND MARBLE TECHNICS WEST
CYPRESS RECONSTRUCTION
OAKLAND, CALIFORNIA

Prepared for:

State Department of Transportation
Environmental Engineering Branch
111 Grand Avenue, 14th Floor
Oakland, California 94623-0660

Contract Number 53U495
Task Order Number 04-192211-05

Submitted by:

Environmental Solutions, Inc.
1201 North McDowell Boulevard
Petaluma, California

October 3, 1994

Project Number 94-911

Prepared by:

2.2 GEOLOGIC CONDITIONS AND THE OCCURRENCE OF GROUNDWATER

1. Logs of borings drilled by Geo/Resource on Chang's Automotive and Marble Technics West properties are presented in Appendix A. On the basis of work performed by Geo/Resource, Chang's Automotive is expected to be underlain by silty sand with clay to a depth of approximately 3.5 feet and is thought to be fill material. The Merritt Sand Formation was encountered from 3.5 feet below ground surface (bgs) to the bottom of the boring at 20 feet. Saturated soils were encountered at a depth of 12 feet although a static water level was not measured in the boring. At Marble Technics West, a very dense, light brown, fine-grained gravelly silty sand is present from the ground surface to the bottom of the boring at 15 feet. Some gray clay was observed at 13.5 feet bgs. Saturated soils were encountered at a depth of 13 feet but no static water level was measured in the boring. On July 6, 1992, a water level of 14.2 feet bgs was measured in the monitoring well located at the site.

DRAFT

MARBLE TECHNICS WEST

SITE #3

1035 7th Street

Oakland

Summary

The subject property is currently owned by Robert and Rusty Moody, and is a warehouse facility. There was a 10,000 gallon gasoline UST on the property that was removed in 1988. On June 22, 1991 one soil boring was completed to a maximum depth of 15 feet bgs near the former UST location. Soil and groundwater samples were collected and analyzed for TPH Gasoline. There results were all non-detect.

The review of regulatory agency databases, did not show the subject property listed. The property was known as Vend Mart, and is listed on the LUST list for Alameda County.
The site ownership/title search did not show any environmental concerns. The aerial photograph review did not show any environmental concerns. The Sanborn fire insurance maps did not show any environmental concerns.

Agency File Review

The subject site is not listed on CERCLIS, NPL, LIENS, CORTESE, CAL-SITES/AWP, BZP, CAL-SITES/ASPIS, HWIS, SWIS. The site is listed on the LUST, but very little information is currently in the database. The site is an active case for Alameda County as Vend Mart. The responsible party has been contacted.

Site Ownership / Title Search

A search of the tile records at the Alameda County Assessors and Recorders Offices. Currently the property is owned by Robert and Rusty Moody. The Moodys have owned the property since 1983. Prior to this the property was owned by F.A. and Mr. Harold Schroeder and Leo and Kay Macias who owned the property since 1983. Prior to this the property was owned by the George Curlin Trust. Mr. Curlin acquired the property from Snider Construction in 1974. Prior to this the property was owned by the Redevelopment Agency, City of Oakland. Records were not searched back any further.

Aerial Photograph Review

TRC reviewed aerial photographs at Pacific Aerial Surveys in Oakland, California from the years 1930, 1947, 1949, 1953, 1957, 1963, 1968, 1971, 1975, 1979, 1983, 1985, 1988, 1990,

and 1992. The earliest aerial photograph dating from 1930, shows the area as a vacant parcel. However it is difficult to pinpoint the exact property since there are no easily recognizable landmarks for references. The 1947 photograph shows the parcel to be a vacant lot. In this photograph the subject site is readily identifiable. The 1949 photograph again shows the subject site to be a vacant lot. The 1953 photograph shows at site as residential in nature. During this time period 1947 to 1953 the area shows general development. In the 1953 photo the 880 freeway is not visible. The 1957 photograph shows the site residential in nature. This photograph also shows the 880 freeway under construction. The 1963 photograph shows the building as it appears today. The 1979 photograph shows the site as it appears today. No remarkable changes were visible during these years. The 1983 photograph shows the site with many vehicles parking at the rear of the building. The 1985 photograph again shows many vehicles at the rear of the property. The 1990 photograph shows little change from the previous photo. The 1992 photograph shows some vehicles at the rear of the property.

Fire Insurance Maps

Sanborn Fire Insurance maps were reviewed for the area. Nothing of an environmental concern was noted from these maps.

Other Information

Information provided by Cal Trans indicates that the property was a gas and oil station from 1935 to 1951.

Marble Technics West
1035 7th Street
Oakland, CA 94607

Owner: Robert and Rusty Moody

R/W take: Part - 4000 sq ft. **Cost:** $6,600

Active case for Alameda County under VendMart. Leaking 10,000 gallon gasoline tank removed 1988, sample below tank 680 ppm TPH, soil pile tested less than 100 ppm so placed back in ground. Later in August 1988, 3 borings were drilled, one converted into a monitoring well. 10.5 feet below surface tested 49 ppm TPH. Groundwater tested 150 ppb. Quarterly monitoring reports are required. Susan Hugo is temporarily covering the case at Alameda County (510-271-4320).

Mr. Tom Peacock (formerly on the case) (1/7/92) said that they have just identified the Responsible Party and have sent a letter telling them to pay for oversight. Nothing else has been done. The RP is Wayne Delzell Corp., 2434 Chestnut Street, Oakland.

History:

1935 - Gas and Oil

1951 - Gas and Oil

1975 - Drug Service Inc, Snider Construction

1981 - Drug Service Inc.

1985 - Coffee Service, VendMart

would requirements for Caltrans be diff? ie must clean up? or if we handle excavated soil - then disposal costs for contaminated soil.

2.2 CHANG'S AUTOMOTIVE

On June 24, 1991, one soil boring (CA/H-1) was drilled using a drill rig equipped with 8-inch-diameter, hollow-stem augers. The boring was situated at a proposed footing location for the Caltran's expressway. The location of the boring is shown in Figure 3. Boring CA/H-1, was terminated at a depth of 20.0 feet bgs. Field soil samples were collected at ground surface, 4, 7, and 12 feet bgs. Specific sampling locations are depicted in the Lithologic Logs included in Appendix B.

One ground-water sample was collected from a depth of approximately 20 feet using the "Hydropunch" technique.

Upon completion of the soil and ground-water sampling, the borings were backfilled with cement grout and the cuttings were disposed of in 55-gallon U.S. DOT approved drums.

2.3 MARBLE TECHNICS WEST

On June 22, one soil borings (MT/B-1) was drilled using a drill rig equipped with 8-inch-diameter, hollow-stem augers. The boring was located at a proposed footing for the Caltran's expressway, close to the former underground fuel storage tank location. The location of the boring is shown in Figure 4. Boring MT/B-1 was terminated at 15 feet bgs. Field soil samples were collected at 0.5, 3, 7, 10, 11.5, and 13.5 feet bgs in boring MT/B-1 (See Appendix B).

One ground-water sample was collected from boring MT/B-1 at a depth of approximately 15 feet bgs using the grab sampling technique.

Upon completion of the soil and ground-water sampling, boring MT/B-1 was backfilled with cement grout and the cuttings were disposed of in 55-gallon U.S. DOT approved drums.

Wet soil conditions were encountered at approximately 20 feet bgs in MCI/H-1. No free ground-water level was measured during the excavation of the borings on this site.

HnU readings were obtained from each of the soil samples collected. Hydrocarbons were not detected in any of the soil samples tested.

3.1.2 Chang's Automotive

The area investigated at Chang's is underlain by silty sand with minor clay content (See Appendix B). The silty sand was observed to be medium dense, to very dense. From ground surface to approximately 3.5 feet bgs, soils are interpreted to be fill in origin. From approximately 3.5 feet bgs to bottom of boring at 20 feet bgs, the soils encountered in boring MCI/H-1 are interpreted to be of the Merritt Sand Formation.

Wet soil conditions were observed at approximately 12 feet bgs at boring CA/H-1. No free ground-water level was measured during the excavation of the borings on this site.

HnU readings were obtained from each of the soil samples collected. Hydrocarbons were not detected in any of the soil samples tested.

3.1.3 Marble Technics West

As indicated in boring MT/B-1, very dense, light brown, fine-grained gravelly silty sand is present from the ground surface to bottom of boring at 15 feet bgs. Minor amounts of gray clay were noted at about 13.5 feet bgs (See Appendix B).

Wet conditions were encountered at approximately 13.5 feet bgs. No free ground-water level was measured during the excavation of the borings on this site. However, ground water was measured at 14.2 feet bgs on July 6, 1992 in the pre-existing well located near the removed UST.

chemically analyzed for total recoverable petroleum hydrocarbons (TRPH) by EPA Method 418.1 and heavy metals by EPA Method 6010.

Soil

TRPH was detected in boring CA/H-1 at 43 mg/kg, 10 mg/kg, and 13 mg/kg, at 2 feet, 8 feet, and 13 feet bgs, respectively. Relatively low levels of heavy metals were detected in soil samples from boring CA/H-1.

Ground Water

A "Hydropunch" ground-water sample collected from CA/H-1 did not contain TRPH above laboratory detection limits. Elevated concentrations of several heavy metals were detected in the ground-water sample obtained from boring CA/H-1. These metals included arsenic at 0.45 mg/L, barium at 2.5 mg/L, cadmium at 0.20 mg/L, mercury at 0.004 mg/L, and lead at 0.72 mg/L. However, it should be noted that water samples were not filtered at the laboratory and probably contain some suspended solids and are not truly representative of dissolved metal concentrations in ground water.

3.2.3 Marble Technics West

Soil boring MT/B-1 was drilled to a depth of 15 feet. Three soil samples collected from the vadose zone were chemically analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 8015M and benzene, toluene, xylene, and ethyl benzene (BTXE) by EPA Method 8020.

Soil

No TPH-G nor BTXE compounds were present above laboratory detection limits in tested soil samples from boring MT/B-1.

Ground Water

The ground-water sample collected from the pre-existing monitoring well at Marble Technics did not contain TPH-G or BTXE compounds above laboratory detection limits.

5.0 REMEDIAL ACTIONS

Very limited data points were obtained at the sites investigated for this Task Order. However, based on the analyses conducted, remedial actions not appear necessary within the investigated areas at Micronesian Cargo International, Chang's Automotive or Marble Technics.

6.0 CONCLUSIONS

Two soil borings were drilled near Micronesian Cargo International where footings are proposed for the new highway. Low concentrations of TPH-D were reported in one soil sample. Hydrocarbons were not detected in the ground-water sample submitted. Thus, remedial actions are not recommended.

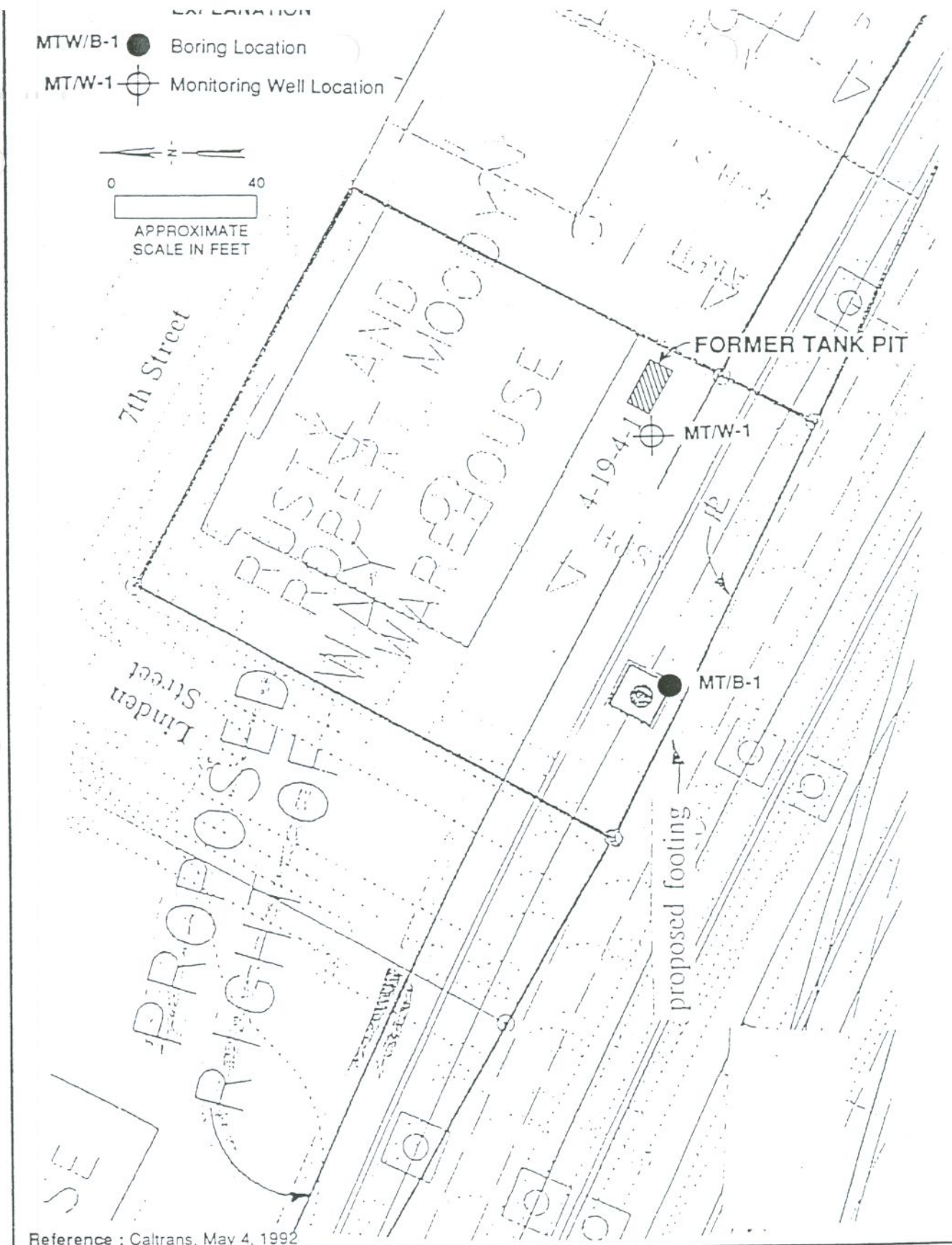
One soil boring was drilled at Chang's Automotive to investigate the area where a footing is proposed for the new highway. Low levels of TRPH were detected (under 50 mg/kg). Metals were detected above MCL's in the water samples submitted, however, the water samples were unfiltered prior to testing and may not be representative of dissolved metal concentrations in ground water. Thus, remedial actions are not recommended.

One soil boring was drilled at Marble Technics near a proposed footing location and one ground-water sample was collected at a pre-existing well. Hydrocarbons were not present above laboratory detection limits in either soil or ground-water samples. Thus, remedial actions are not recommended.

TABLE 1
AREA 3
DOT - CYPRESS
SUMMARY OF ANALYTICAL RESULTS - SOIL
GENERAL

UNITS EPA No.	TRPH mg/kg 418.1	TPH-G mg/kg 8015m	TPH-D mg/kg 8015m	BENZENE ug/kg 8020	TOLUENE ug/kg 8020	ETHYL BENZENE ug/kg 8020	XYLENES ug/kg 8020
MICRONESIAN CARGO INTERNATIONAL							
-Hand Auger							
MCI/A-1-1	-	-	ND	-	-	-	-
MCI/A-1-5	-	-	ND	-	-	-	-
MCI/A-1-9.5	-	-	30	-	-	-	-
-Hydropunch							
MCI/H-1-8	-	-	ND	-	-	-	-
MCI/H-1-16	-	-	ND	-	-	-	-
MCI/H-1-21	-	-	ND	-	-	-	-
CHANG'S AUTOMOTIVE							
-Hydropunnch							
CA/H-1-2	43	-	-	-	-	-	-
CA/H-1-8	10	-	-	-	-	-	-
CA/H-1-13	13	-	-	-	-	-	-
MARBLE TECHNICS WEST							
-Boring							
MT/B-1-0.5	-	ND	-	ND	ND	ND	ND
MT/B-1-7.5	-	ND	-	ND	ND	ND	ND
MT/B-1-12	-	ND	-	ND	ND	ND	ND
Detection Limit	5.0	5.0	5.0	5	5	5	5

NOTES: ND = Not Detected at Detection Limit on Laboratory Data Sheets
- = Not analyzed
( ) = Detection Limit
TRPH = Total Recoverable Petroleum Hydrocarbons
TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
Laboratory Analyses performed by CKY



Reference : Caltrans, May 4, 1992

Geo/ Resource Consultants, Inc. GEOLOGISTS / ENGINEERS / ENVIRONMENTAL SCIENTISTS 505 BEACH STREET, SAN FRANCISCO, CALIFORNIA 94133	SITE PLAN - AREA 3 MARBLE TECHNICS WEST - PARCEL No.3 D.O.T. - INTERSTATE 880 CYPRESS STRUCTURE RECONSTRUCTION OAKLAND, CALIFORNIA	FIGURE 4
Job No. 1689-019-00 Appr. _____ Date 7/20/92		

ENVIRONMENTAL SOLUTIONS, INC.

February 21, 1995

Ms. Lynn Nakashima
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2737

Project No. 94-911

Report of Findings
Second Site Group: Chang's Automotive and
Marble Technics West, Cypress Reconstruction
Oakland, California
Caltrans Contract 53U495, Task Order No. 04-192211-05

Dear Lynn,

This letter transmits one copy of the *Report of Findings, Second Site Group: Chang's Automotive and Marble Technics West, Cypress Reconstruction, Oakland, California.*

If you have any questions, please give me a call.

Very truly yours;
Environmental Solutions, Inc.

Cydney M. Miller
Senior Hydrogeologist

94911ctd.feb
February 21, 1995

Caltrans Contract 53U495
Task Order No. 04-192211-05

1201 North McDowell Boulevard • Petaluma, California 94954 • (707) 769-5250 • Fax (707) 762-3614
A TRC Company

2.0 SITE DESCRIPTION

1. The second site group is comprised of two sites, located near each other, which are known as Chang's Automotive, 1009 7th Street, and Marble Technics West, 1035 7th Street, Oakland, California (Figure 2). The location of the proposed footings is actually in back of the properties in a strip of land located next to an abandoned onramp of Interstate 880. There is a line of eucalyptus trees running along the back fence of the properties, making access to this area difficult.

2. A site history for Chang's Automotive and Marble Technics West was presented in the workplan[1] for the site investigation prepared by Environmental Solutions, Inc. A summary of the site histories is presented below.

2.1 SITE HISTORY AND PREVIOUS WORK

1. **Chang's Automotive.** Chang's Automotive is currently owned by James and Joyce Patterson and is reported to have been an auto service facility since 1967. There is no Underground Storage Tank (UST) on this facility. On June 24, 1991, Geo/Resource[2], consultants under contract to Caltrans, drilled one soil boring to a depth of 20 feet on this property, near a proposed footing location. Three soil samples and one Hydropunch groundwater sample were collected for analysis of total recoverable petroleum hydrocarbons (TRPH) by EPA Test Method 418.1 and heavy metals by EPA Test Method 6010. TRPH was detected at depths of 2, 8, and 10 feet at concentrations of 43, 10, and 13 milligrams per kilogram (mg/kg), respectively. Relatively low concentrations of metals were detected in the soil samples. The Hydropunch groundwater sample did not reveal TRPH concentrations at or above reported detection limits. Elevated concentrations of several heavy metals were detected including arsenic, barium, cadmium, mercury, and lead. However, the water sample was not filtered prior to analyzing and hence, is not representative of dissolved metal concentrations in ground water.

---

[1] *Environmental Solutions, Inc. Site Investigation Workplan, Second Site Group: Chang's Automotive and Marble Technics West, Cypress Reconstruction, Oakland, California. October 28, 1994.*

[2] *Geo/Resource Consultants, Inc., 1992. Site Investigation Report-Area 3, Department of Transportation, T.O. Number 04-192201-01, Highway 880, Cypress Reconstruction, Oakland, California. August.*

2. A review of regulatory agency databases did not show this property listed and the site ownership/title search did not show any environmental concerns. The aerial photograph review did not show any surface staining on the property and the Sanborn fire insurance maps also did not show any environmental concerns.

3. **Marble Technics West.** This site is currently owned by Robert and Rusty Moody and is a warehouse facility. In 1988 a leaking 10,000-gallon gasoline UST was removed. There is no reason to suspect that anything other than gasoline was stored in the UST. Some contamination of the soil and groundwater was detected at this time and a monitoring well was installed at the property.

4. On June 22, Geo/Resource[3] drilled one boring to a depth of 15 feet at the site. Three unsaturated soil samples were collected and analyzed for total petroleum hydrocarbons as gas (TPH-g) and aromatic volatile organic compounds according to EPA Test Method 8020. None of the soil samples showed the presence of any constituents at or above reported detection limits. The groundwater sample collected from the existing monitoring well did not detect the presence of any chemical compounds at or above the reported detection limits.

5. The review of regulatory agency databases did not show this property listed. The property was formerly known as Vend Mart and is listed on the Leaking Underground Storage Tank (LUST) list for Alameda County. The site ownership/title search and the Sanborn fire insurance maps did not show any environmental concerns.

---

[3]Geo/Resource Consultants, Inc., 1992. Site Investigation Report-Area 3, Department of Transportation, T.O. Number 04-199201-01, Highway 880, Cypress Reconstruction, Oakland, California. August.

5.0 SUMMARY

1. On October 31 and November 1 and 8, 1994, 6 borings located at the second site group areas were drilled to depths ranging between 6.5 to 11 feet bgs. A brief description of the site geology and analytical results from soil samples collected during this field investigation is presented below.

2. On the basis of the borings drilled during this investigation, the subsurface geology consists of interbedded layers of poorly graded sands and gravelly sands to a depth of approximately 11 feet. Occasionally encountered within the sands are roots and a trace of ceramic fragments. No groundwater was encountered during drilling of the borings.

3. On the basis of the soil samples collected and analyzed during this field investigation, petroleum hydrocarbons, VOCs, and hazardous levels of lead were detected in several soil samples.

4. TRPH concentrations exceeding 100 mg/kg were detected in soil samples collected from 4 borings. TPH-d was not detected but unknown compounds in the diesel and motor oil range were detected in several soil samples.

5. VOCs were detected in soil samples collected at depths ranging from 4 to 10 feet bgs. Tetrachloroethene was detected in soil samples collected from 3 borings at concentrations ranging from 7.1 to 92 ug/kg and trichloroethene was detected in one soil sample at a concentration of 7.1 ug/kg.

6. Lead concentrations exceeding ten times its STLC value were detected in soil samples collected from each boring. WET results show that soluble lead is present above 5 mg/l in 4 soil samples, which classifies these soils as hazardous waste according to CCR Title 22. Two soil samples have total lead values exceeding the TTLC value of 1000 mg/kg which also classifies these soils as a hazardous waste according to CCR Title 22.

TABLE 1. SOIL SAMPLE DEPTHS AND ANALYSES

BORING NUMBER*	TRPH 418.1	TPH-G 8015-M	TPH-D 8015-M	CAM 17 6010	CAM 6 6010***	VOCS 8240	SEMI VOCS 8270	CR VI 7196
B-1**	S, 1, 4, 7, 10	1, 4, 7, 10	S, 1, 4, 7, 10	S, 1, 4, 7, 10	NA	4, 7, 10	S, 1, 4, 7, 10	S, 1, 4, 7, 10
B-2	S, 1, 4, 7, 10	1, 4, 7, 10	S, 1, 4, 7, 10	NA	S, 1, 4, 7, 10	4, 7, 10	NA	NA
B-3	S, 1, 4, 7, 10	1, 4, 7, 10	S, 1, 4, 7, 10	NA	S, 1, 4, 7, 10	4, 7, 10	NA	NA
B-4	S, 1, 5	1, 5	S, 1, 5	S, 1, 5	NA	5	S, 1, 5	S, 1, 5
B-5**	S, 1, 4, 6	1, 4, 6	S, 1, 4, 6	NA	S, 1, 4, 6	4, 6	6	6
B-6	S, 1, 4, 7, 10	1, 4, 7, 10	S, 1, 4, 7, 10	S, 1, 4, 7, 10	NA	4, 7, 10	S, 1, 4, 7, 10	S, 1, 4, 7, 10

*In general soil samples were collected at the following depths from each boring: ground surface (S), 1, 4, 7, and 10 feet bgs (except as noted). Samples were analyzed for the following: Total Recoverable Petroleum Hydrocarbons (TRPH) according to EPA Test Method 418.1; Total Petroleum Hydrocarbons as gas and diesel (TPH-G, -D) according to modified EPA Test Method 8015; Heavy Metals according to EPA Test Method 6010; Volatile Organic Compounds (VOCs) according to EPA Test Method 8240; Semivolatile Organic Compounds (SEMIVOCs) according to EPA Test Method 8270; Hexavalent Chromium (CR VI) according to EPA Test Method 7196; and Soil pH according to EPA Test Method 9045.

**The soil pH was measured on the 1 foot soil samples collected from borings B1 and B5.

***CAM 6=Lead, Nickel, Chromium, Copper, Zinc, and Arsenic.

NA=Not Analyzed

Table 2: Analytical Results - Chang's Automotive

Sample No.	Depth (ft., bgs)	Hydrocarbons	8015m-Diesel (mg/kg)	8015m-Gasoline (mg/kg)	418.1 TRPH (mg/kg)	6010 Metals (mg/kg)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Soluble Metals (mg/L)	TCLP Lead	WET Lead
						TTLC	500	500	10000	75	100	2500	8000	2500	1000	20	3500	2000	100	500	700	2400	5000			
						10XSTLC	150	50	1000	8	10	5600	800	250	50	2	3500	200	10	50	70	240	2500			
B1-S	SFC		ND	--	33.0		ND	ND	63.0	0.22	0.60	1.6	5.6	24.0	68.0	0.11	ND	7.3	ND	ND	ND	16.0	140.0		--	18.0
B1-1	1.0		ND[a,f]	ND	33.0		ND	ND	120.0	0.28	0.39	3.7	5.9	20.0	44.0	0.15	ND	6.3	ND	ND	ND	18.0	55.0		--	--
B1-4	4.0		ND	ND	ND		ND	1.9	19.0	0.23	0.25	6.9	6.5	4.0	4.2	ND	ND	20.0	ND	ND	ND	13.0	21.0		--	--
B1-7	7.0		ND[d]	ND	ND		ND	ND	40.0	0.27	0.17	13.0	5.6	13.0	37.0	0.12	ND	11.0	ND	ND	ND	17.0	51.0		--	--
B1-10	10.0		ND	ND	ND		ND	ND	42.0	0.23	0.12	16.0	3.1	6.8	16.0	0.07	ND	13.0	ND	ND	ND	17.0	34.0		--	--
B2-S	SFC		ND[b]	--	ND		--	ND	--	--	--	7.7	--	45.0	200.0	--	--	10.0	--	--	--	--	82.0		ND	--
B2-1	1.0		ND[c,e,f]	ND	51.0		--	ND	--	--	--	6.8	--	28.0	150.0	--	--	12.0	--	--	--	--	78.0		--	9.6
B2-4	4.0		ND	ND	12.0		--	ND	--	--	--	9.3	--	8.7	62.0	--	--	7.4	--	--	--	--	32.0		--	1.7
B2-7	7.0		ND	ND	30.0		--	ND	--	--	--	16.0	--	6.1	15.0	--	--	13.0	--	--	--	--	26.0		--	--
B2-10	10.0		ND	ND	ND		--	1.7	--	--	--	4.5	--	3.2	2.2	--	--	20.0	--	--	--	--	15.0		--	--
B3-S	SFC		ND	--	150.0		--	ND	--	--	--	ND	--	26.0	71.0	--	--	1.5	--	--	--	--	94.0		--	3.9
B3-1	1.0		ND[d,e,f]	ND	71.0		--	ND	--	--	--	2.6	--	12.0	37.0	--	--	1.9	--	--	--	--	68.0		--	--
B3-4	4.0		ND[m,f]	ND	1700.0		--	3.3	--	--	--	17.0	--	6.1	25.0	--	--	11.0	--	--	--	--	14.0		--	--
B3-7	7.0		ND[l]	ND	ND		--	5.5	--	--	--	11.0	--	3.8	18.0	--	--	5.9	--	--	--	--	28.0		--	--
B3-10	10.0		ND	ND	ND		--	2.7	--	--	--	12.0	--	8.3	16.0	--	--	8.4	--	--	--	--	17.0		--	--
B4-S	SFC		ND[h,j,f]	--	20000.0		ND	ND	150.0	0.39	4.9	12.0	2.1	95.0	1000.0	0.57	3.7	13.0	ND	ND	ND	16.0	490.0		--	--
B4-1	1.0		ND	ND	23.0		ND	ND	270.0	0.43	0.50	5.0	2.2	110.0	210.0	0.31	ND	5.3	ND	ND	ND	14.0	180.0		ND	--
B4-5	5.0		ND	ND	ND		ND	ND	100.0	0.22	0.68	8.5	1.8	14.0	73.0	0.15	ND	6.6	ND	ND	ND	12.0	63.0		--	8.3
B4-7	7.0		--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--
B4-10	10.0		--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--

ND = Not Detected
-- = Not Tested

Table 2: Analytical Results - Chang's Automotive

Sample No.	Depth (ft., bgs)	7196 CHROM VI	8240 VOCs (ug/kg)	Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Methyl Ethyl Ketone	Carbon Tetrachloride	Chlorobenzene	Chloroethane	2-Chloroethylvinyl ether	Chloroform	Chloromethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	1,2-Dichloropropane	Cis-1,3-Dichloropropene	Trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methylene Chloride	Methyl Isobutyl Ketone	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Xylenes
			8240 VOCs (ug/kg)																																					
B1-S	SFC	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1-1	1.0	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1-4	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**38.0**	ND	ND	ND	ND	ND	ND	ND
B1-7	7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**69.0**	ND	ND	ND	ND	ND	ND	ND
B1-10	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**92.0**	ND	ND	ND	**7.1**	ND	ND	ND
B2-S	SFC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2-1	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2-4	4.0	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**64.0**	ND	ND	ND	ND	ND	ND	ND
B2-7	7.0	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**39.0**	ND	ND	ND	ND	ND	ND	ND
B2-10	10.0	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**10.0**	ND	ND	ND	ND	ND	ND	ND
B3-S	SFC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3-1	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3-4	4.0	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**15.0**	ND	ND	ND	ND	ND	ND	ND
B3-7	7.0	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B3-10	10.0	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.1**	ND	ND	ND	ND	ND	ND	ND
B4-S	SFC	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4-1	1.0	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4-5	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B4-7	7.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4-10	10.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

ND = Not Detected
- - = Not Tested

Table 2: Analytical Results - Chang's Automotive

Sample No.	Depth (ft., bgs)	Hydrocarbons			
		Hydrocarbons	8015m-Diesel (mg/kg)	8015m-Gasoline (mg/kg)	418.1 TRPH (mg/kg)
B5-S	SFC		ND[i,j,f]	--	170.0
B5-1	1.0		ND	ND	ND
B5-4	4.0		ND	ND	ND
B5-6	6.0		ND	ND	ND
B5-10	10.0		--	--	--
B6-S	SFC		ND[k]	--	44.0
B6-1	1.0		ND[e,f]	ND	400.0
B6-4	4.0		ND	ND	ND
B6-7	7.0		ND	ND	ND
B6-10	10.0		ND	ND	ND

Sample No.	Depth (ft., bgs)	6010 Metals (mg/kg)																		
		6010 Metals (mg/kg)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		TTLC	500	500	10000	75	100	2500	8000	2500	1000	20	3500	2000	100	500	700	2400	5000
		10XSTLC	150	50	1000	8	10	5600	800	250	50	2	3500	200	10	50	70	240	2500
B5-S	SFC		--	ND	--	--	--	24.0	--	140.0	2600.0	--	--	17.0	--	--	--	--	410.0
B5-1	1.0		--	ND	--	--	--	8.2	--	36.0	110.0	--	--	2.7	--	--	--	--	66.0
B5-4	4.0		--	ND	--	--	--	9.3	--	3.1	2.6	--	--	5.7	--	--	--	--	4.4
B5-6	6.0		ND	ND	44.0	0.28	0.40	15.0	3.7	4.0	1.8	ND	ND	13.0	ND	ND	ND	18.0	7.7
B5-10	10.0		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6-S	SFC		ND	2.8	50.0	0.18	0.50	12.0	3.2	14.0	180.0	0.15	ND	9.3	ND	0.46	ND	9.3	53.0
B6-1	1.0		ND	7.1	160.0	0.27	1.9	12.0	14.0	35.0	78.0	0.11	ND	20.0	ND	ND	ND	16.0	120.0
B6-4	4.0		ND	2.5	30.0	0.13	0.34	9.9	0.6	1.8	ND	ND	ND	6.0	ND	ND	ND	7.0	5.0
B6-7	7.0		ND	5.0	41.0	0.21	0.67	16.0	4.1	3.2	8.5	ND	ND	17.0	ND	ND	ND	12.0	12.0
B6-10	10.0		ND	3.2	38.0	0.16	0.68	12.0	3.0	2.5	3.4	ND	ND	12.0	ND	ND	ND	10.0	9.8

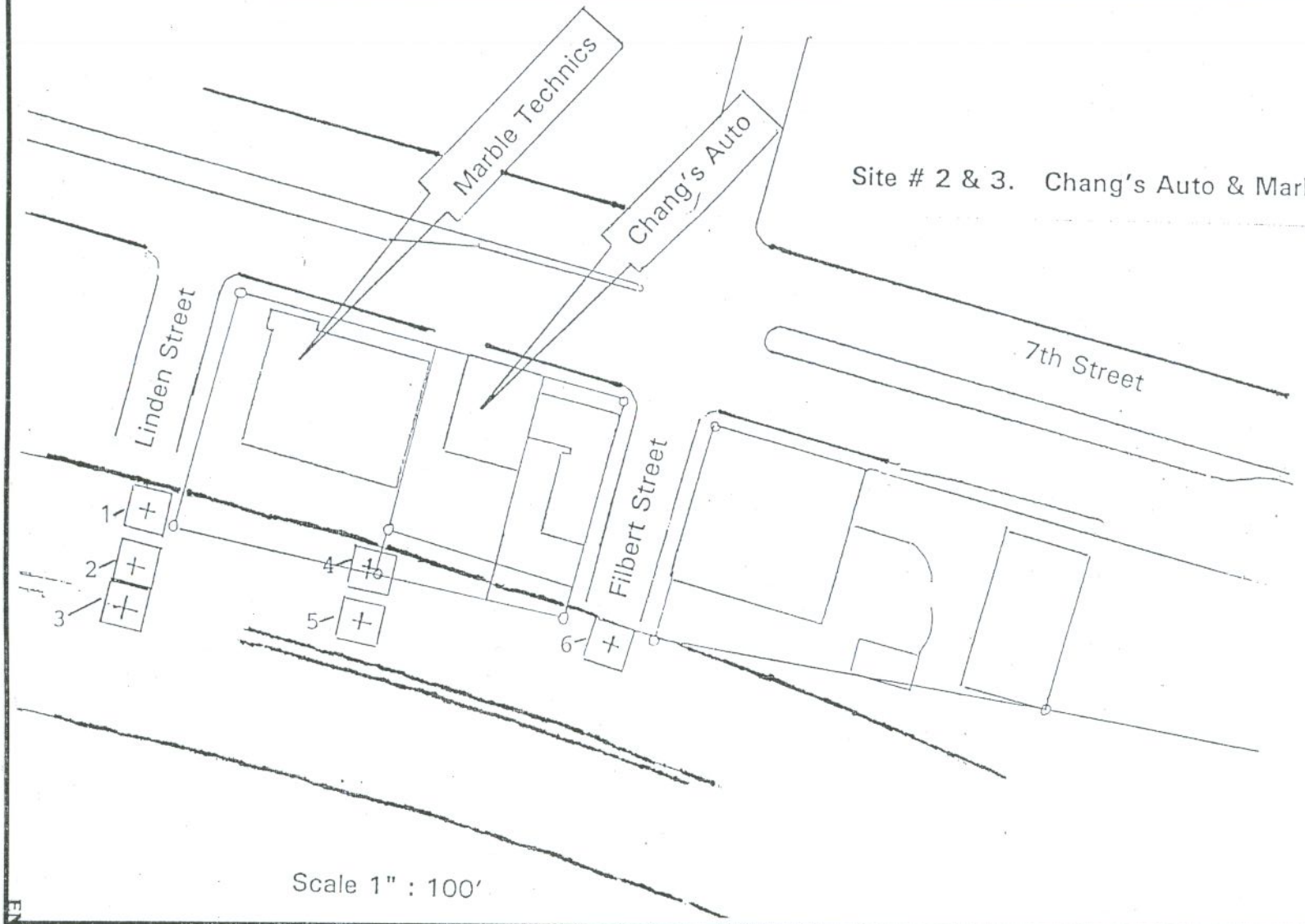
Sample No.	Depth (ft., bgs)	Sol. Metals		
		Soluble Metals (mg/L)	TCLP Lead	WET Lead
B5-S	SFC		--	--
B5-1	1.0		--	9.0
B5-4	4.0		--	--
B5-6	6.0		--	--
B5-10	10.0		--	--
B6-S	SFC		ND	--
B6-1	1.0		--	0.8
B6-4	4.0		--	--
B6-7	7.0		--	--
B6-10	10.0		--	--

ND = Not Detected
- - = Not Tested

Table 2: Analytical Results - Chang's Automotive

Sample No.	Depth (ft., bgs)	7196 CHROM VI	8240 VOCs (ug/kg)	Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Methyl Ethyl Ketone	Carbon Tetrachloride	Chlorobenzene	Chloroethane	2-Chloroethylvinyl ether	Chloroform	Chloromethane	Dibromochloromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	1,2-Dichloropropane	Cis-1,3-Dichloropropene	Trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methylene Chloride	Methyl Isobutyl Ketone	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Xylenes
			8240 VOCs (ug/kg)																																				
B5-S	SFC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5-1	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5-4	4.0	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B5-6	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B5-10	10.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6-S	SFC	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6-1	1.0	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6-4	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B6-7	7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B6-10	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not Detected
- - = Not Tested



Explanation

Proposed Footing Location

Proposed Boring Location

Date: 9/28/1994 | Drafting: JWA | Approval: CMM

BORING LOCATION MAP

Report of Findings
Second Site Group:
Chang's Automotive and Marble Technics West
Cypress Reconstruction
Oakland, CA

94-911

Figure 2

ENVIRONMENTAL SOLUTIONS

FINAL FEASIBILITY STUDY/REMEDIAL ACTION PLAN

INTERSTATE 880

CYPRESS REPLACEMENT PROJECT

OAKLAND, CALIFORNIA

CALIFORNIA DEPARTMENT OF TRANSPORTATION

DISTRICT 4

August 1995

Prepared for:

California Environmental Protection Agency
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710

Prepared by:

California Department of Transportation
District 4
Post Office Box 23660
Oakland, California 94623-0660

2. EXECUTIVE SUMMARY AND ADMINISTRATION RECORD LIST

2.1 OVERVIEW

This Feasibility Study/Remedial Action Plan (FS/RAP) summarizes the findings of previous site assessments and investigations conducted along the new Cypress Corridor, and presents the results of the evaluation of remedial alternatives leading to a recommended remedial action. Based on the results of these reports, the FS/RAP recommends remedial actions that are cost-effective, protective of human health and the environment and comply with all applicable, relevant and appropriate federal, state and local requirements.

The site known as the Cypress Corridor is divided into seven separate construction contracts. Individual parcels acquired by Caltrans for the project are categorized according to their corresponding construction area. Previous site assessments and investigations along the Corridor have consisted of Initial Site Assessments, Preliminary Site Investigation reports, Preliminary Endangerment Assessments, Report of Findings, and Remedial Action Options Reports. The relevant reports are listed in this executive summary.

An Interim Remedial Measure (IRM) began in the Southern Pacific Railroad Desert Rail Yard (Contracts C and D) in February of 1994 in order to allow freeway construction to proceed without delay. The IRM involves stockpiling soil excavated from freeway footing locations on Southern Pacific Property and U.S. Army property. A portion of stockpiled soil will be hauled off-site to a permitted disposal facility, and the rest of the soil will remain on-site pending approval for potential re-use on the Cypress Corridor project. A summary of this activity was published in the "Cypress Local Link, Caltrans Replacement Project Update #6", and was distributed to local Oakland residents and businesses. A copy of this newsletter is included in Appendix A.

Two removal actions related to the Cypress Corridor were completed. The actions occurred at the future site of the Oakland Fire Station #3 and the future site of the Main Oakland Post Office parking structure. In both cases soil contaminated with heavy metals was excavated and disposed off-site. A summary of the Post Office removal was published in the Cypress Local Link, Caltrans Replacement Project Update #9" and was distributed in July of 1994 to local residents and businesses. A copy of this newsletter is included in Appendix A.

Preliminary Remedial Goals (PRGs) were calculated by the DTSC in the early stages of the investigation of the Cypress Corridor in lieu of a baseline risk assessment. Chemical-

specific PRGs are concentration goals for individual chemicals for specific media in combination with specific land uses. They are designed to be protective of human health. For carcinogens, a concentration is calculated that corresponds to a one in a million incremental risk of an individual developing cancer over a lifetime as a result of an exposure. For non-carcinogens, a concentration is calculated that corresponds to Hazard Index (HI) of 1, which is the level of exposure below which it is unlikely for a sensitive population to experience adverse health effects. In the case of the Cypress Corridor, the PRGs calculated by the DTSC were based on the chemicals present and on the future land use of an asphalt-concrete freeway. The populations considered to be most at risk were construction workers employed in rebuilding the freeway, and motorists using the freeway, whether the freeway is at-grade or elevated. The PRGs are applicable only for the Cypress Corridor project for these populations. The list of PRGs developed for this project are included in Appendix B.

In several preliminary site investigation reports, various soil and ground water treatment alternatives were considered. In this document, soil and ground water treatment alternatives have been separated. Also, throughout this document, ground water means shallow ground water unless stated otherwise. Six separate alternatives for soil and seven alternatives for ground water were subjected to a detailed analysis using criteria set forth in federal and state guidance documents. These alternatives are:

Remedial Alternatives Considered for Soil:

- Alternative 1: No Action
- Alternative 2: Soil Excavation with Off-Site Disposal
- Alternative 3: Soil Excavation with On-Site Bioremediation
- Alternative 4: Soil Excavation with Stabilization
- Alternative 5: Soil Excavation with Reuse On-Site for Roadbed, Embankment and Structural Backfill
- Alternative 6: Capping

Remedial Alternatives Considered for Ground Water:

- Alternative 1: No Action
- Alternative 2: Direct and Continuous Discharge with Carbon Adsorption
- Alternative 3: Metal Precipitation with Carbon Adsorption to Reuse as Dust Control or Discharge

- Alternative 4: Extraction from Footing Excavations with Recharge into Adjacent Footing Excavations

- Alternative 5: Reuse as Dust Control with Carbon Adsorption

- Alternative 6: Off-Haul to a Liquid Disposal/Recycle Facility

- Alternative 7: Non-Attainment

These alternatives are evaluated for soil and water in detail in Section 7.

Recommended Final Remedial Action for Soil:

Alternative 2: Soil Excavation with Off-Site Disposal;

Alternative 5: Soil Excavation with Reuse On-Site for Roadbed, Embankment and Structural backfill (considered for SPTC and the Army Base only); and

Alternative 6: Capping - considered for UP (Caltrans easement only), and Container Freight

Recommended Final Remedial Action for Ground Water:

Alternative 2: Direct and Continuous Discharge with Carbon Adsorption; and

Alternative 5: Reuse as Dust Control with Carbon Adsorption (with Alternative 6, Off-Haul, as a backup)

Alternative 7: Non-Attainment

These alternatives are recommended for soil and ground water because they provide the most comprehensive, cost, and time effective remedial action. These alternatives will meet the Remedial Action Objectives (RAOs) throughout the Cypress Corridor, protect public health and the environment, provide a corrective action for contaminants detected in ground water and soil and comply with Applicable or Relevant and Appropriate Requirements (ARARs) in all affected media. RAOs will be achieved by a combination of off-site disposal, on-site reuse or capping and does so with minimal disruption to residents, businesses and construction schedules.

2.2 SITE HISTORY, NATURE AND EXTENT OF CHEMICALS IN SOIL AND GROUND WATER

The Cypress Corridor is located in an industrial area of western Oakland, with the majority of the corridor within Southern Pacific Transportation Company's (SPTC's) Desert and West Oakland Rail Yards. The remaining portions are owned by the U.S. Army (Oakland Army Base), Port of Oakland, City of Oakland, Caltrans and private individuals and companies. The main industries in the area are primarily related to cargo transportation, truck maintenance and repair, auto dismantling, manufacturing and warehouse storage.

The type of soil contamination found within the Cypress Corridor is closely related to the present or past industry found in the area. Section 4 includes a detailed description of the contaminants found at each site. General compounds associated with the following types of industries are:

- Rail Yards and Rail Track: Petroleum hydrocarbons (primarily oil and grease), heavy metals and semi-volatile organic compounds (SVOCs)
- Truck Maintenance and Repair: Petroleum hydrocarbons and heavy metals
- Auto Dismantling: Petroleum hydrocarbons, heavy metals and volatile organic compounds (VOC's)
- Manufacturing: Petroleum hydrocarbons, heavy metals and VOC's
- Warehouse Storage: Petroleum hydrocarbons, heavy metals, VOCs and SVOCs

2.4 APPROPRIATE FEDERAL, STATE, AND LOCAL GOVERNMENT REQUIREMENTS

2.4.1 General Requirements

California law and the Voluntary Cleanup Agreement between Caltrans and the Department of Toxic Substances Control (DTSC) require remedial actions for the Cypress Corridor be based on the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendment and Reauthorization Act (SARA) of 1986, the National Contingency Plan (NCP) (40 CFR Part 300) and the U.S. Environmental Protection Agency's guidance on remedial investigations and feasibility studies. SARA requires remedial action plans at a Superfund site achieve a level of remediation that protects human health and the environment. Additionally, remediation must attain "legally applicable or relevant and appropriate requirements" (ARARs) which are standards, criteria or limits promulgated under federal and state laws. The ARARs provide requirements against which the remedial action alternatives are reviewed and only

those promulgated state standards that are more stringent than federal requirements may be considered ARARs.

2.4.2 Applicable or Relevant and Appropriate Requirements

The terms "applicable" and "relevant and appropriate" are defined in the National Contingency Plan (NCP) as follows:

- **"Applicable requirements"** are those cleanup standards, standards of control and other substantive environmental protection requirements, criteria or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstance at a site.

- **"Relevant and appropriate requirements"** are those cleanup standards, standards of control and other substantive environmental protection requirements, criteria or limitations promulgated under federal or state law that while "not applicable" to a hazardous substance, pollutant, contaminant, remedial action, location or other circumstance at a site, address problems or situations sufficiently similar to those encountered at a site that their use is well suited to the particular site.

For a requirement to be applicable, the remedial actions or the circumstances at the site must be within the intended scope and authority of the requirement. For example, maximum contaminant levels (MCLs) are standards that must be met by owners/operators of public drinking-water supply systems. MCLs are applicable "at the tap" and are enforced by either the U.S. EPA or the state for water provided by a public water supply system. A requirement is considered as relevant and appropriate, if it addresses problems or situations similar to those encountered at a superfund site. For example, MCLs are typically judged to be relevant and appropriate for ground water remedial goals if the ground water is used or may be used for drinking water. However, MCLs are not applicable to ambient ground water quality because they are "at the tap" standards.

Nonpromulgated federal and state standards, policies and guidance documents and local requirements are not ARARs. However, they are criteria to be considered when remediating a site to protect human health and the environment. These nonpromulgated, non-binding criteria are referred to herein as "to be considered" (TBC) criteria. Examples of TBC criteria could include California EPA Recommended Drinking Water Action Levels (RDWALs) and federally proposed MCLs. These criteria would be considered for specific compounds in the absence of MCLs.

There are three types of ARARs. The three types are:

- Chemical-Specific - Requirements which set health or risk-based concentration limit/ranges for specified chemicals in the environment. Examples of this type of requirement are federal and state drinking water standards.

- Action-Specific - Requirements governing specific activities, such as remedial action design or performance, taken for hazardous substances or waste. Examples are NPDES requirements, which prohibit discharge of pollutants to U.S. waters unless a permit is issued in conformance with Clean Water Act standards.

- Location-Specific - Requirements regarding restrictions placed on remedial activities or concentrations of hazardous substances. Examples of location-specific requirements include restriction on activities in wetlands, flood plains and historic sites.

Potential ARARs and TBCs for the Cypress Corridor are presented in Appendix C.

2.5 REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are media-specific goals for protecting health and the environment. RAOs specify the compounds of concern, exposure routes and receptors and remediation goals for each exposure route.

Two of the exposure scenarios identified with the RAOs were construction workers who come into physical contact with contaminated soil and ground water during construction and fugitive dust inhalation for motorists on the freeway after construction. A set of Preliminary Remedial goals (PRGs) for various chemicals were calculated by the DTSC Office of Scientific Affairs (OSA) specifically for the Cypress Corridor. The PRGs are designed to be protective of human health based on a one-year construction worker exposure. For carcinogens, a concentration was calculated that corresponds to a one in a million incremental risk of an individual developing cancer over a lifetime as a result of an exposure. For non-carcinogens, a concentration was calculated that corresponds to a Hazard Index (HI) of 1, which is the level of exposure below which it is unlikely for a sensitive population to experience adverse health effects.

The remedial designs for each RAO will be based on the PRGs developed for the Cypress Corridor. After implementation of remedial actions, confirmation samples will be collected and a risk assessment will be conducted to verify that the RAOs have been met.

No other exposure pathways and receptors have been identified. If new exposure scenarios or receptors are discovered, the associated risks will be re-evaluated.
The PRGs which were developed for the Cypress Corridor are included in Appendix B.

2.6 DESCRIPTION OF REMEDIAL ALTERNATIVES

2.6.1 Contaminated Soil

- Alternative 1: No Action

No action would be taken to meet remedial action objectives. The no action alternative is not a viable option. Construction of the roadway requires excavation for the roadway structural section, footings, utilities and other structures.

- Alternative 2: Soil Excavation with Off-Site Disposal

Under this alternative, excavated soil containing VOCs, petroleum hydrocarbons, SVOCs, pesticides, PCBs and/or elevated metals concentrations would be transported off-site to an appropriate and permitted landfill. The excavation would be backfilled with suitable material and restored to original or appropriate freeway construction conditions. Treatment of excavated soils (incineration, stabilization, etc.) at the disposal facility may be required prior to ultimate landfill disposal.

- Alternative 3: Soil Excavation with On-Site Bioremediation

Soil contaminated with petroleum hydrocarbons including VOCs would be excavated and spread uniformly over a designated area. Additional nutrients such as nitrogen and/or oxygen would be injected on a regular basis to provide a favorable environment to enhance the proliferation of indigenous micro-organisms such as bacteria, actinomycetes and fungi. The micro-organisms would then decompose the petroleum hydrocarbons through metabolic action. This is not a viable option as it requires extended treatment time on large open spaces which are not available on the Cypress Corridor.

- Alternative 4: Soil Excavation with Stabilization

Soil containing heavy metal contaminants would be excavated and placed in a stockpile prior to stabilization. The contaminants would be stabilized by changing the constituents into immobile forms, binding them in an immobile, insoluble matrix, and/or binding them in a matrix which minimizes the material surface exposed to solvent leaching. Often the immobilized product has structural strength sufficient to help protect itself from future fracturing, thereby preventing increased leaching. Stabilization compounds include lime, concrete and asphalt mixtures. This alternative is not viable due to the time and space required for mixing the stabilization compounds.

- Alternative 5: Soil Excavation with Reuse On-Site for Roadbed, Embankment and Structural Backfill

This method involves excavation of contaminated soil and placement of the material either under roadway subgrade, encapsulated into an embankment or returned to the original excavation. A clay layer or an impermeable liner would be constructed between the bottom of the contaminated soil and the highest level of ground water. A minimum of two feet of suitable material, asphalt concrete or concrete pavement would be placed on top of the contaminated material. Institutional controls such as a deed restriction would be implemented to identify these areas and to restrict future land use. Only soil excavated on SPTC and Oakland Army properties will be considered for this alternative on Contracts A, B, C, D, E and F.

- Alternative 6: Capping

Contaminated soil that is not designated to be excavated due to the potential disturbance of the water table would be covered with a minimum of two feet of suitable clay material, asphalt concrete or concrete. Capping eliminates potential exposure to contaminated and hazardous materials. Institutional controls such as a deed restriction would be implemented to identify these areas and to restrict future land use. This alternative may be used only on the Union Pacific (Caltrans easement only) and Container Freight properties.

2.5.2 Contaminated Ground Water

As part of the Cypress Corridor construction, all footing excavations will be sealed to minimize the amount of ground water entering excavations. Thus, Caltrans is minimizing disturbance to the water table.

- Alternative 1: No Action

No action would be taken to meet the remedial action objectives. The no action alternative is not a viable option. Most excavations will require dewatering for construction activities to proceed.

- Alternative 2: Direct and Continuous Discharge with Carbon Adsorption

During dewatering activities, ground water would be pumped directly and continuously into adjacent storm water and/or sanitary sewer drains until completion of the structure within the excavation. Carbon adsorption would only be used when hydrocarbons or VOCs are present. Heavy metal concentrations would be limited to levels determined by the RWQCB. If these levels are exceeded, Alternative 6 (Off-Haul) would be implemented. This is a viable option and is currently under discussion with the RWQCB.

- Alternative 3: Metal Precipitation with Carbon Adsorption to Reuse as Dust Control or Discharge

Under this alternative, ground water would be filtered and pumped from excavations into 20,000 gallon storage capacity on-site transportable holding tanks for storage. Water samples would be collected at various depths and analyzed for contaminants of concern. If the analytical results indicate that the water samples contain volatile organic compounds and/or dissolved petroleum hydrocarbons, the water will be pumped into a portable treatment unit containing an activated carbon bed in which the petroleum hydrocarbons would adhere to the activated carbon. If dissolved metals are present, the water would then be transferred into a separate holding tank for metals precipitation. A polymer would be added to the water which would bind with the dissolved metals and then the resulting polymer/metal mix would be pumped onto a sludge rack designed to dry the material. The dried sludge would be transported and disposed of in a landfill permitted to accept such material. The treated water would be discharged and the resulting effluent would be sampled to determine the final disposition of the water. The disposal options in their order of preference are as follows:

Discharge Option 3a Reuse On-Site as Dust Control
Discharge Option 3b Discharge into Storm Drain
Discharge Option 3c Discharge into EBMUD Sewer

Reusing water on-site for dust control or other construction activities requires RWQCB approval and treatment to drinking water (MCLs) standards. Discharging into the City of Oakland's storm drain requires treatment to meet the NPDES permit from the RWQCB. Discharging into the East Bay Municipal Utility District's sewer system for further treatment requires an EBMUD permit. If the effluent, after treatment, does not satisfy any of the above disposal option standards or requirements, the effluent would be hauled off to a permitted recycle facility. This alternative was attempted on a trial basis and was determined to be too costly and slow for widespread use on the corridor. In addition, the number of holding tanks requires an enormous amount of site space and the quantity of tanks needed (approximately 200) are not commercially available.

- Alternative 4: Extraction from Footing Excavations with Discharge into Adjacent Footings Excavations

Ground water that infiltrates into open excavations would be pumped directly into adjacent excavations. The flow rate would be monitored to minimize turbidity and avoid overflow from the excavation. This alternative would not be viable for widespread use since the ground water usually enters the open excavation faster than it can re-enter the site soil in the adjacent excavations.

- Alternative 5: Re-use as Dust Control with Carbon Adsorption

During the summer and dry seasons, the water would be pumped into a water truck and sprayed in the construction area for dust control measures. This alternative would be limited to water contaminated with heavy metals below the Federal Cumulative Pollutant Loading Rates listed in Appendix D. This alternative is economically viable and benefits the site with dust control which is required in the job contract specifications. Discussions with the RWQCB are continuing.

- Alternative 6: Off-Haul to Liquid Disposal/Recycle Facility

Ground water that infiltrates into excavations would be pumped directly into a water transport vehicle and delivered to a permitted recycle or treatment facility. This alternative is not viable due to the immense cost of the off haul/disposal and the limited capacity of the facilities in the bay area.

- Alternative 7: Non-Attainment

Sites for this alternative would need to be approved by the RWQCB and concur with the Basin Plan's amended section "Non-Attainment of Ground Water Clean Up". This alternative is appropriate for sites which: 1 - have ground water pollution and residual soil pollution with limited water quality, environmental, and health risks and: 2 - which the approved cleanup program has not resulted in compliance with water quality objectives. The ground water would be monitored for contaminant containment at points located at the plume boundary and property boundary. Currently, J&A Trucking, Sutta Recycling, Church's Fried Chicken and Container Freight are candidates for the Non-Attainment Alternative.

2.7 Recommended Remedial Alternatives

Soil: An evaluation and cost comparison of treatment technologies for remediation resulted in the selection of:

- Alternative 2: Soil Excavation with Off-Site Disposal;
- Alternative 5: Soil Excavation with Reuse On-Site for Roadbed, Embankment and Structural Backfill; and
- Alternative 6: Capping;

as the alternatives that are the most cost efficient and cost-effective remediation measures that meet the remedial action objectives.

Ground Water: the following alternatives were selected as the most efficient and cost-effective remedies that meet the remedial action objectives:

- Alternative 2: Direct and Continuous Discharge with Carbon Adsorption
- Alternative 5: Reuse as Dust Control with Carbon Adsorption

2.8 Administrative Record List

This administrative record list consists of all documents the DTSC referenced or considered when selecting the remedial action proposed in this Draft FS/RAP.

The following are the PRGs for inorganic compounds:

Compound	PRG's (mg/kg)
Antimony	67
Arsenic	4.6
Barium	12,000
Beryllium	1.8
Cadmium	24
Chromium (III)	170,000
Chromium (IV)	.68
Copper	5,000
Fluorine	10,000
Lead	840
Mercury	45
Molybdenum	830
Nickel	44
Selenium	830
Silver	830
Thallium	14
Vanadium	1200
Zinc	50,000

Effect of Chemicals on Beneficial Uses-Section 25356.1(d)(2)

Groundwater in the vicinity and region of the site is not used for drinking water purposes or for municipal water supply, such as fire fighting, industrial and manufacturing uses. Water for drinking and municipal supply is drawn from surface water supplies stored in reservoirs located east of the region which capture precipitation and snow melt runoff derived from the Sierra Nevada foothills and mountains.

It is concluded that present uses of land and groundwater do not pose unacceptable risks to human health and the environment.

Because proposed remedial actions are based on PRGs and risk assessment calculations will be conducted after remediation,

existing chemicals in the soil would not affect future potential uses of the properties involved.

The groundwater in this area is considered to be unsuitable for drinking purposes due to the presence of regional contamination and high salinity. The groundwater underlying the Cypress corridor would require treatment prior to being used as a domestic supply. The Regional Water Quality Control Board (RWQCB) has determined that the water may be used as dust control provided it meets criteria for runoff to the storm drains. Caltrans is continuously working with RWQCB on the methods of handling the groundwater in accordance with RWQCB policies.

The future land use includes a major freeway; a neighborhood park; and property exchanges with the City of Oakland and affected railroad companies. Areas under aerial structures may be leased to private parties or used by Caltrans for storage and maintenance facilities. A final decision has not transpired on the future usage of excess land and areas below aerial structures.

The future use of groundwater may include industrial consumption. Residential and agricultural consumption would require treatment for the contaminants and the salinity prior to use. Currently, there are no beneficial uses of the groundwater except as dust control during construction of the Cypress Corridor.

Effect of Remedial Action on Availability of Groundwater Resources-Section 25356.1(d)(3)

Groundwater beneath the study area is not currently used for any beneficial purposes, therefore, groundwater extraction will not adversely affect any current groundwater usage. Extraction of groundwater during construction is necessary for installation of piles, footings and foundations for the freeway structures. Caltrans will place a concrete slurry mix at the sides and bottom of deep excavations to limit groundwater infiltration. Extensive dewatering was not considered because of the cost of handling the enormous amount of groundwater and the possibility of drawing down the regional water table resulting in settlement of the area and local

structures. Caltrans will pursue a non-attainment action from the RWQCB for sites with minor contamination. Groundwater at these sites will be monitored to ensure that groundwater contamination has not migrated offsite. This will also limit extensive local extraction of groundwater thereby limiting draw down of the regional water table resulting in settlement of the area.

Site-specific Characteristics-Section 25356.1(d)(4)

Typically, lead and petroleum hydrocarbons are the predominant contaminants of concern in the study area. Other contaminants in the ground water consist of minor levels of VOCs, SVOCs and heavy metals. Impacted groundwater remains in the upper saturated or aquifer zone which is located between 4 and 15 feet below ground surface. Underlying the upper aquifer zone is a clay zone (bay mud) of very low permeability.

Cost-Effectiveness of Alternative Remedial Action Measures-Section 25356.1(d)(5)

The proposed remedial actions for soil are alternatives 2 (soil excavation with off-site disposal), 5 (soil excavation with reuse on-site for roadbed, embankment and structure backfill) and 6 (capping). The No Action alternative is costly to implement for remedial action measures because in order to construct the freeway, capital costs such as health and safety training, personal protective and monitoring equipment, and construction delays would have to be paid. Alternative 5, soil excavation with reuse on-site for roadbed, embankment and structure backfill, is the least costly but is only acceptable in locations where the soil meets the PRGs and soil properties are acceptable for reuse. Alternative 6, capping, costs more because of the extensive monitoring requirements and is only acceptable in two locations. Capping would eliminate any potential contact with the public or construction workers, and monitoring of the ground water would be performed to ensure contamination remains on the site. This alternative would not reduce toxicity or volume or meet the PRGs. Alternative 4, soil excavation with stabilization, is only effective on soils contaminated with soluble

metals. Therefore, only 57,000 cubic yards of material would be acceptable for use. Alternative 3, soil excavation with on-site bioremediation, is more costly than the previous alternatives listed and is not acceptable because implementation requires a large area. Alternative 2, soil excavation with off-site disposal is the costliest alternative but meets the PRGs and provides the best protection for both human health and the environment.

The non-attainment alternative for groundwater is the least costly, but future remedial actions may be required if contamination migrates off-site. Alternative 4, extraction from footing excavations with recharge into adjacent footing excavations, costs more and has not been very successful in the past. Extraction of groundwater is mandatory for construction of the freeway and the no action alternative would not provide adequate protection to human health and the environment. Alternative 2, direct and continuous discharge with carbon adsorption is costlier than the above alternatives but provides for protection of human health and the environment except where metal contamination exists. Alternative 5, reuse as dust control with carbon adsorption, provides for adequate protection of human health and the environment but is more costly than alternative 2 because of additional equipment requirements. Alternative 6, off-haul to a liquid disposal/recycle facility is extremely expensive but provides for protection of human health and the environment. The costliest alternative is alternative 3, which remediates all contaminants encountered in the corridor. This alternative is only used when metal contamination exists. Each alternative is utilized to lower costs, expedite construction and ensure adequate protection of human health and the environment.

Potential Environmental Impacts of Selected Remedial Measures-Section 25356.1(d)(6)

An environmental impact report (EIR) and environmental impact statement (EIS) for the corridor was written in accordance with the California Environmental Quality Act (CEQA). An addendum was prepared to consider the alternatives selected which resulted in a no significant impact declaration. The addendum includes an environmental study checklist for the site which discussed potential

adverse environmental impacts of the recommended remedial alternatives as well as actions that will be taken to reduce or eliminate potential adverse environmental impacts during implementation.

Nonbinding Preliminary Allocation of Responsibility (NBAR)-Section 25356.1 (e)

Caltrans will assume 100 percent financial responsibility to remediate the areas that Caltrans is acquiring in fee. The only exception is the Southern Pacific Railroad property where the owner, Southern Pacific Transportation Company and Caltrans, have agreed to begin work using a compensation plan. Southern Pacific is currently under a DTSC order to prepare a draft Remedial Action Plan.

For areas Caltrans is acquiring in easement only, Caltrans will be responsible for remediating the material that is removed for construction purposes. Caltrans will absorb the cost of handling and disposing of the contaminated material, but will not clean up the remainder of the site.

Caltrans reserves the right to recover costs from responsible parties within the Cypress Corridor.

SITE REMEDIATION
COMPLETION REPORT

CHANG'S AUTOMOTIVE
1009 SEVENTH STREET
AND
MARBLE TECHNICS WEST
1035 SEVENTH STREET
OAKLAND, CALIFORNIA 94607

Submitted By:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
111 GRAND AVENUE
OAKLAND, CALIFORNIA

December 29, 1998

Prepared By: Christopher R. Wilson
Christopher R. Wilson, P.E.

Executive Summary

The California Department of Transportation (Caltrans) has been engaged in the process of remediating contaminated sites along the new Cypress (Interstate 880) freeway corridor in Oakland, California, prior to the placement of the new freeway. These remediation efforts were proposed in the Final Feasibility Study/Remedial Action Plan (RAP) approved by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) in August 1995. The subject sites, Chang's Automotive and Marble Technics West, are located on 7th Street between Linden and Filbert in Oakland. The sites lie immediately adjacent to both the former I-880 alignment and its new alignment (see Figure 2).

No remediation work was required for the Chang's Automotive and Marble Technics West sites, according to the RAP, and the soil excavated for the construction of freeway column footings located adjacent to the sites was to be off-hauled. As shown in Figure 2, the footings are located behind (to the south of) the subject sites. The footings closest to the sites are CR-6R, CR-6L, CR-5R, CR-5L, and CR-4R. The dimensions of the footings are 24 feet by 24 feet, except for CR-5R and CR-5L, which are 19 feet square. The approximate thickness of the footings is 8 feet.

While no remediation work was planned within the Chang's and Marble Technics site boundaries, the removal of the embankment material allied with the former I-880 alignment behind the subject sites was necessary before the excavations for the new footings could be completed. The embankment material was found to be contaminated with aerially deposited lead resulting from leaded fuel emissions on the former I-880 alignment. The detected lead concentrations in the embankment material ranged between 2 and 4700 mg/kg. Most of this material from the Caltrans right of way was remediated under the statewide variance granted to Caltrans by the DTSC for soil impacted by aerially deposited lead emissions (Caltrans Variance for Reuse of Lead-Contaminated Soils).

In May 1995, embankment material identified as having relatively lower lead levels was excavated, transported, and used as fill material in a highway construction project in Richmond under the lead-contaminated soils variance. The volume of material transported to Richmond was approximately 145,000 tons (103,850 yd^3). The excavation of embankment material identified as hazardous waste was completed in July and August 1995. Health and safety measures were implemented to protect the workers and nearby residents from exposure to the contamination. Approximately 20,300 tons (15,000 yd^3) of lead-impacted hazardous soils were removed and transported to an appropriate disposal facility, East Carbon Development Corporation in Utah. Confirmation samples collected in July and August 1995 from the areas identified as hazardous confirmed the effective removal of lead concentrations above the Cypress Preliminary Remedial Goal (PRG) for

lead. These remedial activities were followed by excavations for the new footing construction.

Most of the new footing locations are located within the former freeway embankment area. In October and November 1994 the then-proposed footing locations CR-6R, CR-6L, CL-6R, CR-5R, CR-5L, and CR-4R were sampled and analyzed for metals, volatile and semi-volatile organic compounds, fuel hydrocarbons, and total recoverable petroleum hydrocarbons (TRPH). The analytical results reflected the aerially deposited lead contamination in the embankment material, as the lead levels ranged between non-detect to 2600 mg/kg, and the higher lead concentrations were found in surface and near-surface soil samples. The surface samples from footings CR-5R and CR-5L exceeded the Cypress PRG for lead (840 mg/kg) at 1000 and 2600 mg/kg, respectively. TRPH was also detected primarily in surface and near-surface samples; the detectable concentrations ranged between 12 and 20,000 mg/kg. The highest detected TRPH concentration (20,000 mg/kg in the surface sample from footing CR-5R) was one of two sample results that exceeded the Cypress PRG for TRPH of 1000 mg/kg. Tetrachloroethene (PCE), a common chlorinated solvent, was found at very low concentrations in footing locations CR-6R, CR-6L, and CL-6R. The detectable PCE levels were between 7 and 92 µg/kg, which are well below the Cypress PRG for PCE of 92,000 µg/kg. One detectable concentration of another common chlorinated solvent, trichloroethene (TCE), was also found in footing location CR-6R at 7 µg/kg. The Cypress PRG for TCE is 250,000 µg/kg.

In August 1995, after removing over 100,000 yd^3 of contaminated embankment material, no plans were made for remediating the proposed footing locations. The footing locations are mostly within the former embankment area that had been mitigated. By excavating and disposing of the contaminated embankment material, the remediation of the new footing locations was mostly accomplished simultaneously. In late September 1995 the excavations for the footing locations directly behind Chang's and Marble Technics were completed. The volumes of material excavated for the footings varied from approximately 170 yd^3 for the smaller footings (CR-5R and CR-5L) to 250 yd^3 for the larger footings (CR-6R, CR-6L, and CR-4R). After the footings themselves were constructed, the excavated soils were mostly spread on the ground surface around the footing locations and were also used as backfill in the excavations.

While the embankment material excavations completed in August 1995 mitigated most of the proposed footing locations, approximately 75% of the then-proposed footing CR-5R surface area was outside of the embankment area and Caltrans' right of way (see Figure 3). This footing location was significant because a surface soil sample collected there in October/November 1994 contained lead at a concentration (1000 mg/kg) above the Cypress PRG. If this lead concentration was consistent with the concentrations found

around the entire proposed footing surface area, soils containing lead in excess of the PRG would have been left on the site when soils excavated for the footing construction were spread around the ground surface after completing the footing construction.

Because of this concern, in May 1998 six surface soil samples were collected around footing CR-5R to analyze the lead concentrations in the footing area. The detected lead concentrations were all well below the Cypress lead PRG, ranging between 57 and 280 mg/kg, with an average of 115 mg/kg. The conclusion drawn from the May 1998 and July/August 1995 confirmation samples is that the remediation work conducted adjacent to the Chang's Auto and Marble Technics sites effectively mitigated the contaminants to concentrations below the PRGs established for the Cypress freeway replacement project.

I Site History

Two neighboring sites, Chang's Automotive and Marble Technics West are located at 1009 and 1035 Seventh Street, respectively, in Oakland, CA (see Figure 1). Chang's Automotive has been an auto service facility since 1967. Marble Technics West is currently a warehouse facility. A leaking 10,000-gallon underground gasoline storage tank was removed from the Marble Technics West site in 1988. After the tank was removed, a single monitoring well was installed and quarterly monitoring was conducted under the direction of Alameda County. No analytical results from the tank removal or subsequent groundwater study are currently available.

After the 1989 Loma Prieta earthquake caused the collapse of the Cypress freeway, Caltrans prepared designs for a Cypress replacement using a different alignment. The new alignment required placing freeway column footings immediately behind the Chang's Automotive and Marble Technics West sites. Specifically, footings CR-6R, CR-6L, CR-5R, CR-5L, and CR-4R are located very near the southern perimeter of Chang's and Marble Technics (see Figure 2 for a site map). An easement was granted for constructing the footings, but no property was purchased from the site owners.

II Previous Investigations

In July 1992, upon request from Caltrans, Geo/Resource Consultants, Inc. conducted a preliminary investigation for three sites: Macronesian Cargo International, Chang's Automotive, and Marble Technics West. For the Chang's Automotive investigation, boring CA/H-1 (see Figure 2) was drilled and soil samples were collected at 2 feet, 8 feet, and 13 feet below ground surface (bgs). The samples were analyzed for total recoverable petroleum hydrocarbons (TRPH) and heavy metals. The analytical results showed low concentrations of these analytes. The TRPH results were all below 50 mg/kg, and none of the metals screened for were found to be a concern, including the lead results which were all below 25 mg/kg. A groundwater sample was collected from the boring at an approximate depth of 20 feet below the ground surface (bgs) using the Hydropunch technique. The water sample was non-detect (ND) for TRPH, but was found to have slightly elevated concentrations of numerous metals; however, the sample was not filtered before its analysis and the analytical results most likely don't reflect dissolved metals.

At Marble Technics West, one soil boring (MT/B-1) was drilled, and soil samples were collected for analysis at 0.5 foot, 7.5 feet, and 12 feet bgs. In addition, groundwater samples were collected from the existing monitoring well, MT/W-1, located at the site. The groundwater and soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and the volatile aromatic hydrocarbons benzene, toluene, ethyl benzene, and xylenes (BTEX). None of the analytes were detected at or above their detection limits. The depth to the water table was measured in MT/W-1 at 14.20 feet from the top of the well casing.

The boring locations for the 1992 investigations of Chang's Automotive and Marble Technics West, as shown in Figure 2, were placed where the freeway column footings were then proposed. By 1994 the initial freeway design had been changed, altering the proposed footing locations. An October/November 1994 subsurface investigation by Environmental Solutions was based on the revised footing locations. Six borings were advanced, one per proposed footing location as shown in Figure 2, and soil samples were collected generally at depths of 0, 1, 4, 7, and 10 feet bgs. The soil samples were analyzed for TRPH, TPH-G, total petroleum hydrocarbons as diesel (TPH-D), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and heavy metals.

The metals analysis showed low levels for all analytes except lead. Numerous soil samples had elevated levels of lead, including the two surface samples from borings B4 and B5 that had lead concentrations equal to or greater than the total threshold limit concentration (TTLC = 1000 mg/kg) defined for lead. These two reported lead concentrations were 1000 mg/kg and 2600 mg/kg, respectively. Lead solubility tests were conducted on ten of the samples with higher lead concentrations (>50 mg/kg). Four results exceeded the solubility threshold limit concentration (STLC = 5 mg/L) defined for lead: The soil samples from boring B1 at ground level (sample B1-S), B2 at 1 foot bgs (sample B2-1), B4 at 5 feet bgs (sample B4-5), and B5 at 1 foot bgs (sample B5-1) were reported to have soluble lead concentrations above 5 mg/L, as measured by the waste extraction test (WET), with the highest concentration being 18 mg/L. Three shallow samples tested for soluble lead by the Toxicity Characteristic Leaching Procedure (TCLP) were all ND.

The VOC analyses detected low levels of two chlorinated solvents in the footing locations. Trichloroethene (TCE) was found in one sample, B1-10, at 7.1 µg/kg. Tetrachloroethene (PCE) was found in samples from borings B1, B2, and B3. The PCE contamination was detected at depths of 4, 7, and 10 feet bgs in borings B1 and B2, which were the only sampling depths screened for VOCs. The PCE concentrations were reported between 7.1 µg/kg and 92 µg/kg. The Preliminary Remedial Goals (PRGs) defined for TCE and PCE in the Cypress freeway replacement project area are 250,000 µg/kg and 92,000 µg/kg, respectively.

The SVOC analyses found just one contaminant, di-n-butly phthalate, in soil samples from borings B1 and B6. The di-n-butyl phthalate contamination was found at all sampling depths between 0 and 10 feet bgs at concentrations ranging between 340 µg/kg and 1200 µg/kg. The reported di-n-butyl phthalate contamination, however, was somewhat dubious because the laboratory detected di-n-butyl phthalate in a method blank sample at a concentration of 1500 µg/kg. The Cypress PRG for di-n-butyl phthalate is 7,540 mg/kg.

TRPH was detected in all six borings and in every surface sample but B2-S. The only TRPH results greater than 500 mg/kg were B3-4 (1700 mg/kg) and B4-S (20,000 mg/kg). The TPH-G and TPH-D results were ND for all 48 samples analyzed.

Alongside the southern boundaries of the Chang's and Marble Technics sites, in the immediate vicinity of the footings located near the sites, was the embankment material for the former I-880 freeway alignment; the embankment is demonstrated by the elevation contours and spot elevations in Figure 2. The freeway embankment existed between Market and Adeline streets. In March 1995, extensive sampling of the embankment material resulted in approximately 130 soil samples being analyzed for lead and/or oil & grease. Fifteen of the soil samples were tested for BTEX, polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). Results of the analyses showed the highest concentrations of lead (≥1000 mg/kg) and oil & grease (≥750 mg/kg) tended to be in near-surface soils (<2 feet deep). The average lead concentration in samples collected from depths of three feet or less was approximately 600 mg/kg, with the highest reported concentration being 4700 mg/kg. The average oil & grease concentration in samples collected from depths of three feet or less was approximately 300 mg/kg, with the highest reported concentration being 2005 mg/kg. Seven soil samples had detectable levels of BTEX constituents, their concentrations ranging between 0.008 mg/kg and 1.7 mg/kg. Numerous PAH compounds were found at detectable concentrations, but all were well below their Cypress PRGs. PCBs (60% chlorine) were reported at a maximum concentration of 0.5 mg/kg.

Using the results of the many subsurface investigations performed along the then-proposed Cypress freeway corridor, the Final Feasibility Study and Remedial Action Plan (RAP) was prepared by Caltrans, reviewed by the Department of Toxic Substances Control (DTSC), and then approved in August 1995. In the RAP, remediation work was not required for the Chang's Automotive or Marble Technics West footing locations, and the spoils from the footing excavations behind the sites were proposed to be off-hauled. The RAP did not consider the status or condition of the embankment material that occupied the former freeway alignment alongside the Chang's and Marble Technics sites.

III Pre-Excavation Sub-Site Delineation

Before any proposed footing location could be excavated, the nearby embankment material for the former freeway needed to be removed and the area graded. The embankment was contiguous to the former I-880 freeway alignment, extending between Market and Adeline streets . As can be seen in the site map (Figure 2), there were overlaps between the new footing locations and the embankment area.

With the review and approval of the DTSC, three segments of the embankment area were defined as remedial excavation sub-sites because of their higher contamination levels reported in the March 1995 investigation results. Each sub-site was to be excavated to a particular depth, depending upon the vertical extent of the contamination. Figure 3 shows the limits and excavation depths for the three sub-sites. A 1-foot-deep excavation segment located immediately behind the Marble Technics and Chang's properties had the

ATTACHMENT B

DTSC SITE CLOSURE DOCUMENT

Department of Toxic Substances Control

Jesse R. Huff, Director
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, California 94710-2721

Winston H.
Hickox
Secretary for
Environmental
Protection

Gray Davis
Governor

FILE COPY

MEMORANDUM

TO: Lach McClenahen, Chief
Planning and Management Branch

FROM: Lynn Nakashima Lynn Nakashima
Northern California - Coastal Cleanup Operations Branch

DATE: February 16, 1999

SUBJECT: SITE CERTIFICATION FORMS

Please find attached a copy of the Site Certification Synopsis and Remedial Action Certification Form for both Chang's Automotive, 1009 7th Street, Oakland, and Marble Technics West, 1035 7th Street, Oakland. Both sites are part of the Cypress Freeway Voluntary Cleanup Agreement.

Department of Toxic Substances Control

Jesse R. Huff, Director
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

SITE CERTIFICATION SYNOPSIS

NAME AND LOCATION OF SITE: Marble Technics West/Cypress Freeway Reconstruction Project. The site is located within the western portion of the City of Oakland, immediately adjacent to both the former Interstate-880 and the new Cypress Freeway.

ADDRESS OF SITE: 1035 7th Street, Oakland, Alameda County.

DATE PROJECT BEGAN: Removal actions began in August 1995.

DATE PROJECT CERTIFIED: February 11, 1999

DESCRIPTION OF SITE AND CONTAMINANTS: The site is currently a warehouse and formerly residential property. As part of the reconstruction of the Cypress Freeway, Caltrans obtained easement rights to construct two footings, but no property was purchased from the site owner. The footings are located very near the southern perimeter of the property. Although soil sampling indicated that all chemical concentrations were below remedial levels, 1 to 5 feet of soil was excavated from the footings. This excavated soil was disposed at an off-site facility. The remaining soil excavated for footing construction was either placed back in the footing or spread on the ground surface immediately around the footing. Approximately 45 cubic yards of soil were removed.

DESCRIPTION OF PROBLEMS ENCOUNTERED WHICH CAUSE MAJOR DELAYS:

No problems were encountered during remediation which caused major delays.

DESCRIPTION OF ACCOMPLISHMENTS UNIQUE TO THIS PROJECT:

This site is included in the Cypress Reconstruction Project Remedial Action Plan that included 29 sites.

FINAL USE OF SITE:

The site now contains freeway footings and columns and is below the new Cypress Freeway.

REMEDIAL ACTION CERTIFICATION FORM
MARBLE TECHNICS WEST
1035 7TH STREET, OAKLAND, CA

---

1. Certification of Remedial or Removal Action:

I hereby certify that the following information is true and correct to the best of my knowledge.

1. Lynn Nakashima — Sr. Project Manager, Site Mitigation — 2/11/99 — Date

3. Barbara J. Cox — Regional Branch Chief — 2/11/99 — Date

2. Certification Statement: Based upon the information which is currently and actually know to the Department,

__X__ The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary.

_____ The Department has determined, based upon a remedial investigation or site characterization that the site poses no significant threat to public health, welfare or the environment, and therefore implementation of removal/remedial measures is not necessary.

_____ The Department has determined that all appropriate removal/remedial actions have been completed and that all acceptable engineering practices were implemented; however, the site requires ongoing operation and maintenance (O&M) and monitoring efforts. The site will be deleted from the "active" site list following (1) a trial operation and maintenance period and (2) execution of a formal written settlement between the Department and the responsible parties, if appropriate. However, the site will be placed on the Department's list of sites undergoing O&M to ensure proper monitoring of long-term clean-up efforts.

3. Site Name and Location: (Street address, County, City and zip code)

Marble Technics West, 1035 7th Street, Oakland, CA 94607, Alameda County.

A. List any other names that have been used to identify this site:
None

B. Address of site if different from above: _____

C. Assessor's Parcel Numbers: Not available

4. Responsible Parties (Use extra pages if necessary).

Name: Caltrans
Title: NA
Firm: NA
Address: 111 Grand Ave.
P.O. Box 23660
Oakland, CA 94623-0660
Telephone:
Relationship to site: Generator/Easement obtained for construction of freeway footings.

5. Brief Description and History of the Site: (Include previous and current uses of site, a brief description of the cleanup action and concentrations of significant hazardous substances left on site) The site is currently warehouse facility (since approximately 1963), and previously was a vacant lot (approximately 1930 to 1950's) and later developed into residential property. A 10,000 gallon gasoline US was removed from the property in 1988. At this time, the site was know as VendMart. The property was owned by various persons, including the City of Oakland Redevelopment Agency. As part of the reconstruction of the Cypress Freeway, Caltrans obtained easement rights to construct footings CR6R and CR-6L, but no property was purchased from the site owner. These footings are located very near the southern perimeter of the property. Although sample results indicate that soil from the footings were below remedial goals, soil from footing CR6L was excavated from 1 to 5 feet in depth while approximately 25% of soil from CR6R was excavated from 1 to 5 feet. This excavated soil was disposed at an off-site location. The remaining soil excavated for the footing construction was either placed back in the footing or spread on the ground surface immediately around the footing.

6. Type of Site: (Check appropriate response)

Included in Bond Expenditure Plan?
Yes ___ No X

RCRA-Permitted Facility	_____	Bond - Funded	_____
RCRA Facility Closures	_____	RP - Funded	_____
*NPL	_____	Federal Facility	_____
Other (i.e., walk-in):	X	Explain Briefly:	Site is included in the Voluntary Cleanup Agreement signed with Caltrans for the Cypress Freeway Reconstruction Project.

7. Size of Site: (Based on Expenditure Plan definition of size)

Small __X___ Medium ____ Large _____ Extra Large _____

8. Dates of Remedial or Removal Action

A. Initiated: August 1995 B. Completed: September 1995

9. Response Action Taken on Site: (check appropriate action)

_____ Removal Action (satisfactory abatement of site)

__X__ Final Remedial Action

_____ RCRA enforcement/closure action

_____ No action, further investigation verified that no cleanup action at site was needed.

A. Type of Remedial or Removal Action (e.g. excavation and redisposal, cap, on-site treatment?): Excavation with off-site disposal

B. Estimated quantity of waste associated with the site (i.e., tons/gallons/cubic yards) which was:

1. ___ treated Amount: _____

2. ___ untreated (capped sites) Amount: _____

3. _X_ removed Amount: 45 cubic yards disposed offsite

10. Cleanup Levels/Standards

A. What were the cleanup standards established by DTSC pursuant to the final remedial action plan or removal action workplan?
840 ppm lead.

B. Were the specified cleanup standards met? Yes _X_ No ____

C. If "no", why not: _____

11. DTSC Involvement in the Remedial or Removal Action:

A. Did the Department order the Remedial or Removal Action?
Yes _____ No _X_ Date of Order _____

B. Did the Department review and approve the following plans/procedures? (Indicate date of review/approval if done):

Sampling and Analysis Procedures Date: October 14, 1994

Health & Safety Procedures Date: October 14, 1994

Removal/Disposal Procedures Date: NA

Feasibility Study/Remedial Action Plan Date: August 14, 1995

C. If site was abated by a responsible party, did the Department receive a signed statement from a licensed professional on all phases of the Remedial Actions? (indicate date of statement)

Feasibility Study/Remedial Action Plan Date: August 14, 1995

Design & Construction Specifications Date: NA

Post Construction Date: December 29, 1998

D. Did a registered engineer or geologist verify that acceptable engineering practices were implemented?
Yes _X_ No ___ Name Christopher Wilson, PE Date: December 29, 1998

E. Did the Department confirm completion of all Remedial Actions?
Yes _X_ No ____ Date of verification: January 21, 1999
(i.e. manifest, sampling, demonstrated installation and operation of treatment)

F. Did the Department (directly or through a contractor) actually perform the Remedial Action?
Yes _____ No _X_ Name of Contractor: _____

G. Was there a community relations plan in place? Yes _X_ No ____

H. Was a remedial action plan or removal action workplan developed for this site?
Yes _X_ No _____

I. Did DTSC hold a public meeting regarding the draft RAP or RAW?
Yes _X_ No ____

J. Were public comments addressed?
Yes X No _____ Date of DTSC analysis and response: August 10, 1995

K. Are all of the facts cited above adequately document in the DTSC files?
Yes _X_ No ____

If no, identify the areas where documentation is lacking _____

_____

12. EPA Involvement in the Remedial or Removal Action:

A. Was the EPA involved in the site cleanup? Yes ____ No __X__

B. If yes, did EPA concur with all remedial actions? Yes ___ No ____

C. EPA comments: _____

_____

EPA staff involved in cleanup: _____
(Name, title)

_____
(Address, Phone Number)

13. Other Regulatory Agency Involvement in the Cleanup Action:

Agency:		Activity:
__X__	RWQCB	RWQCB was cc'd on all correspondence
____	ARB	_____
____	CHP	_____
__X__	Caltrans	Site RP
__X__	Other	Alameda County Health was cc'd on correspondence

Name of contact persons and agency: Derek Lee - RWQCB; Susan Hugo - Alameda County Health Department.

14. Post-Closure Activities:

A. Will there be post-closure activities at this site? (e.g. Operation and Maintenance)
Yes ___ No __X__

If yes, describe: _____

B. Have post-closure plans been prepared and approved by the Department?
Yes ___ No ____

C. What is the estimated duration of post-closure (including operations and maintenance) activities? _____years.

D. Are deed restrictions proposed or in place? Yes ____ No __X__

If "yes" have deed restrictions been recorded with the County Recorder?
Yes ____ No ____ Date: _____
If "no", who is responsible for assuring that the deed restrictions are recorded?
_____

Who is the Division Contact? Lynn Nakashima (510) 540-3839
Name/Phone Number

E. Has cost recovery been initiated? Yes _X_ No ____

If yes, amount received $ _____; _____% of DTSC costs.
Site is billed on a quarterly basis on Voluntary Cleanup Agreement

F. Were local planning agencies notified of the cleanup action?
Yes ____ No_X_ If yes, the name and address of agency: _____

15. Expenditure of Funds and Source:

(Information to be supplied by Toxic Accounting Unit)
Funding Source and amount expended:

_____HWCA $_____ _____HSA $_____

_____HSCF $_____ _____RCRA $_____

_____RP $_____ _____Other $_____

_____Federal Cooperative Agreement $_____

16. Additional Comments:

ATTACHMENT C

LABORATORY DATA REPORT
AND CHAIN-OF-CUSTODY RECORD

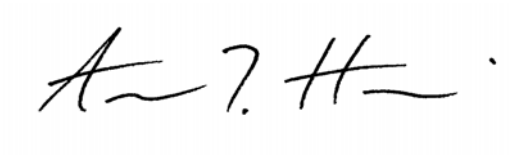
23 August 2006

Jim Gribi
Gribi Associates
1090 Adam Street, Suite K
Benicia, CA 94510

RE: Former Vend Mart Site

Enclosed are the results of analyses for samples received by the laboratory on 08/18/06 10:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Aaron Harris
Project Manager

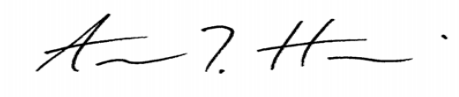
Gribi Associates	Project: Former Vend Mart Site	
1090 Adam Street, Suite K	Project Number: [none]	**Reported:**
Benicia CA, 94510	Project Manager: Jim Gribi	08/23/06 17:38

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	T601091-01	Water	08/16/06 13:45	08/18/06 10:30

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Aaron Harris, Project Manager

Gribi Associates	Project: Former Vend Mart Site	
1090 Adam Street, Suite K	Project Number: [none]	**Reported:**
Benicia CA, 94510	Project Manager: Jim Gribi	08/23/06 17:38

MW-1
T601091-01 (Water)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Purgeable Petroleum Hydrocarbons by EPA 8015m									
C6-C12 (GRO)	**57**	50	ug/l	1	6081813	08/18/06	08/21/06	EPA 8015m	
Surrogate: 4-Bromofluorobenzene		*92.0 %*	*65-135*		"	"	"	"	
Extractable Petroleum Hydrocarbons by 8015									
Diesel Range Hydrocarbons	ND	0.050	mg/l	1	6081814	08/18/06	08/22/06	EPA 8015m	
Surrogate: Chrysene		*83.0 %*	*65-135*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8021B									
Methyl tert-butyl ether	ND	4.0	ug/l	1	6081813	08/18/06	08/21/06	EPA 8021B	
Benzene	**1.9**	1.0	"	"	"	"	"	"	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
m,p-Xylene	ND	2.0	"	"	"	"	"	"	
o-Xylene	ND	1.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*65-135*		"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Aaron Harris, Project Manager

Gribi Associates	Project: Former Vend Mart Site	
1090 Adam Street, Suite K	Project Number: [none]	**Reported:**
Benicia CA, 94510	Project Manager: Jim Gribi	08/23/06 17:38

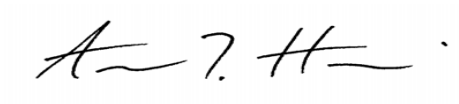
Purgeable Petroleum Hydrocarbons by EPA 8015m - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6081813 - EPA 5030 GC										
Blank (6081813-BLK1)				Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*38.6*		*ug/l*	*50.0*		*77.2*	*65-135*			
C6-C12 (GRO)	ND	50	"							
LCS (6081813-BS1)				Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*48.4*		*ug/l*	*50.0*		*96.8*	*65-135*			
C6-C12 (GRO)	4660	50	"	5500		84.7	75-125			
Matrix Spike (6081813-MS1)	**Source: T601091-01**			Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*52.2*		*ug/l*	*50.0*		*104*	*65-135*			
C6-C12 (GRO)	5040	50	"	5500	57	90.6	65-135			
Matrix Spike Dup (6081813-MSD1)	**Source: T601091-01**			Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*51.7*		*ug/l*	*50.0*		*103*	*65-135*			
C6-C12 (GRO)	5360	50	"	5500	57	96.4	65-135	6.15	20	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Aaron Harris, Project Manager

Gribi Associates	Project: Former Vend Mart Site	
1090 Adam Street, Suite K	Project Number: [none]	**Reported:**
Benicia CA, 94510	Project Manager: Jim Gribi	08/23/06 17:38

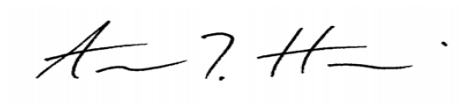
Extractable Petroleum Hydrocarbons by 8015 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6081814 - EPA 3510C GC										
Blank (6081814-BLK1)				Prepared: 08/18/06 Analyzed: 08/22/06						
Surrogate: Chrysene	*3.97*		*mg/l*	*4.00*		*99.2*	*65-135*			
Diesel Range Hydrocarbons	ND	0.050	"							
LCS (6081814-BS1)				Prepared: 08/18/06 Analyzed: 08/22/06						
Surrogate: Chrysene	*4.03*		*mg/l*	*4.00*		*101*	*65-135*			
Diesel Range Hydrocarbons	18.6	0.050	"	20.0		93.0	75-125			
Matrix Spike (6081814-MS1)		**Source: T601091-01**		Prepared: 08/18/06 Analyzed: 08/23/06						
Surrogate: Chrysene	*3.15*		*mg/l*	*4.00*		*78.8*	*65-135*			
Diesel Range Hydrocarbons	17.6	0.050	"	20.0	ND	88.0	75-125			
Matrix Spike Dup (6081814-MSD1)		**Source: T601091-01**		Prepared: 08/18/06 Analyzed: 08/23/06						
Surrogate: Chrysene	*3.54*		*mg/l*	*4.00*		*88.5*	*65-135*			
Diesel Range Hydrocarbons	17.0	0.050	"	20.0	ND	85.0	75-125	3.47	20	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Aaron Harris, Project Manager

Volatile Organic Compounds by EPA Method 8021B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6081813 - EPA 5030 GC										
Blank (6081813-BLK1)				Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*43.8*		*ug/l*	*50.0*		*87.6*	*65-135*			
Methyl tert-butyl ether	ND	4.0	"							
Benzene	ND	1.0	"							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
m,p-Xylene	ND	2.0	"							
o-Xylene	ND	1.0	"							
LCS (6081813-BS1)				Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*53.2*		*ug/l*	*50.0*		*106*	*65-135*			
Benzene	87.4	1.0	"	97.0		90.1	70-130			
Toluene	436	1.0	"	470		92.8	70-130			
Ethylbenzene	81.9	1.0	"	94.0		87.1	70-130			
m,p-Xylene	350	2.0	"	394		88.8	70-130			
o-Xylene	123	1.0	"	136		90.4	70-130			
Matrix Spike (6081813-MS1)	**Source: T601091-01**			Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*54.8*		*ug/l*	*50.0*		*110*	*65-135*			
Benzene	96.2	1.0	"	97.0	1.9	97.2	70-130			
Toluene	470	1.0	"	470	ND	100	70-130			
Ethylbenzene	89.7	1.0	"	94.0	ND	95.4	70-130			
m,p-Xylene	383	2.0	"	394	ND	97.2	70-130			
o-Xylene	135	1.0	"	136	ND	99.3	70-130			
Matrix Spike Dup (6081813-MSD1)	**Source: T601091-01**			Prepared: 08/18/06 Analyzed: 08/21/06						
Surrogate: 4-Bromofluorobenzene	*55.1*		*ug/l*	*50.0*		*110*	*65-135*			
Benzene	101	1.0	"	97.0	1.9	102	70-130	4.87	20	
Toluene	494	1.0	"	470	ND	105	70-130	4.98	20	
Ethylbenzene	94.1	1.0	"	94.0	ND	100	70-130	4.79	20	
m,p-Xylene	395	2.0	"	394	ND	100	70-130	3.08	20	
o-Xylene	140	1.0	"	136	ND	103	70-130	3.64	20	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Aaron Harris, Project Manager

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

T601091

SunStar Laboratories, Inc.
3002 Dow Ave, Suite 212
Tustin, CA 92780
1-800-781-6777

Chain of Custody Record

Client: **GRIBI ASSOCIATES**
Address: **1090 ADAMS STREET, SUITE K**
Phone: **(707) 748-7743** Fax: **(707) 748-7763**
Project Manager: **JAMES GRIBI**

Date: 8/16/06 Page: 1 Of 1
Project Name: FMR VeND Mart Site
Collector: **JIM GRIBI** Client Project #:
Batch #: Proposal #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Gas (M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB (8260B)	EPA 8260 (Full List)	Halogenated VOCs (8260B)		Laboratory ID #	Preservative	Comments	Total # of containers
MW-1	8/16/06	13:45	W	6 VOAs	X		X										01			6

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
James Gribi	8/17/06 1010		8/17/06 1010
GJO	8/18/06 1030		8/18/06 1030
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers 6
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 6°C

Notes
STD. TAT
ASH

Turn around time:

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___