# SUPPLEMENTAL GROUNDWATER INVESTIGATION

NOVEMBER 1994

## 2662 FRUITVALE AVENUE
Oakland, California

For:

City of Oakland
Oakland, California

92404-D0

BASELINE

5900 Hollis Street, Suite D • Emeryville, CA 94608 • (510) 420-8686

# BASELINE ENVIRONMENTAL CONSULTING

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94 NOV 17 PM 12:52

# TRANSMITTAL

**TO:** Mr. Barney Chan
Alameda County Department of Env. Health
1131 Harbor Bay Parkway
Alameda, CA 94502

**Date:** 16 November 1994

**Project No:** 92404-D0

**SUBJECT:** Report on Supplemental Groundwater Investigation at 2662 Fruitvale Avenue, Oakland, California

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**TRANSMITTED BY:**

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## ENVIRONMENTAL CONSULTING

16 November 1994
92404-D0

Mr. Andrew Clark-Clough
City of Oakland
Environmental Affairs Division
1333 Broadway, Suite 330
Oakland, CA 94612

**Subject:** **Report on Supplemental Groundwater Investigation at 2662 Fruitvale Avenue, Oakland, California**

Dear Andrew:

Enclosed please find three copies of the report referenced above. The report documents soil and groundwater sampling and analysis activities and analytical data collected during supplemental subsurface investigations at and adjacent to the project site. Upon your direction, copies of the report have been submitted to Mr. Barney Chan, Alameda County Health Agency and Mr. Richard Hiett, San Francisco Bay Region Regional Water Quality Control Board.

Sincerely,

Yane Nordhav
Principal
Reg. Geologist No. 4009

Kevin O'Dea
Senior Geologist

5900 Hollis Street, Suite D • Emeryville, CA 94608 • (510) 420-8686 • FAX (510) 420-1707
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NOVEMBER 1994

## 2662 FRUITVALE AVENUE
## Oakland, California

For:

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# SUPPLEMENTAL GROUNDWATER INVESTIGATION
## 2662 Fruitvale Avenue
## Oakland, California

## INTRODUCTION

This report documents additional soil and groundwater quality sampling activities conducted in September 1994 at and adjacent to the City of Oakland's property located at 2662 Fruitvale Avenue in Oakland, California (Figure 1). The purpose of the sampling was to evaluate whether hazardous materials have been released from the former sump operated at the east-central portion of the site and to investigate the potential for the release of fuel products from underground tanks formerly located at the south-central portion of the site. The investigation was conducted in accordance with a work plan submitted to the Alameda County Health Services Agency, Department of Environmental Health (ACDEH). The field activities were performed under a site health and safety program.

## BACKGROUND

A Phase I site assessment completed for the site indicated that a service station, which included an auto repair facility, was present on the site from the 1940s to the 1980s. The City of Oakland purchased the site from Texaco in 1983. The site was subsequently rented for retail use as a produce stand and Christmas tree sales lot. Development of a low-cost housing community has been proposed for the site and the property immediately to the east.

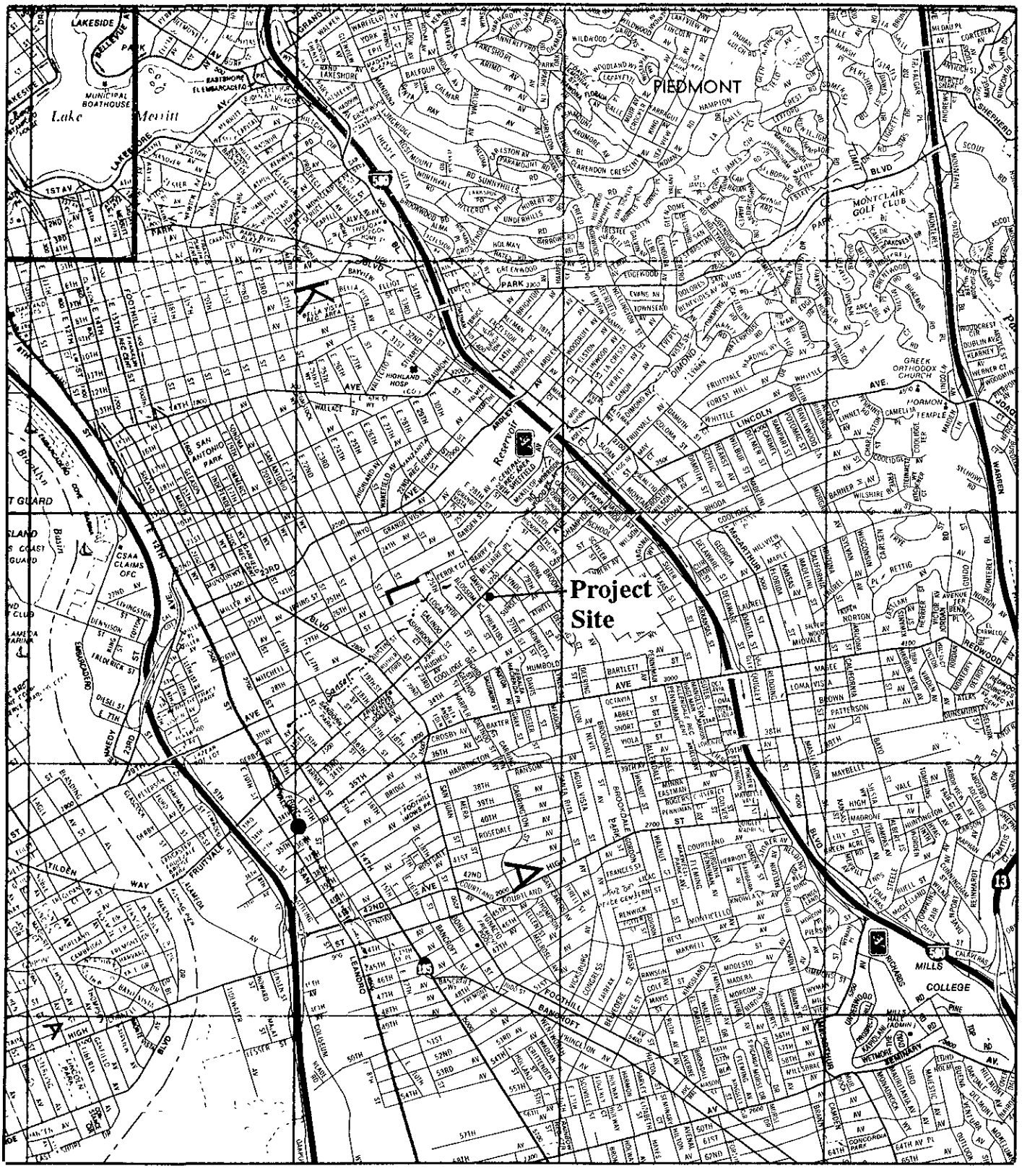
In January and August 1993, BASELINE performed soil and groundwater investigations at the site. The results of these investigations identified the presence of petroleum hydrocarbons in the soil throughout the site, but the groundwater quality beneath the site did not appear to have been significantly impacted. A subsequent groundwater sampling event performed on 29 June 1994 indicated that low levels of toluene were detectable in samples collected from monitoring wells MW-F2 (0.0011 mg/L) and MW-F3 (0.0029 mg/L).

Following the completion of initial investigations, the City of Oakland demolished the structures on the site. An oil sump in the concrete floor of the service station building in the east-central portion of the site (Figure 2) was removed with other components of the building. The contents of the sump had been previously removed, and the sump had undergone multiple cleanings in August 1993. However, no soil samples were collected at the time of removal to assess whether any releases from the sump had occurred. The top of monitoring well MW-F3 was also damaged and buried during demolition activities.

A work plan was prepared by BASELINE and submitted to ACDEH in May 1994. The plan recommended sampling of soil at the former location of the sump and installation of a new monitoring well (MW-F4) at a location south of the southern property boundary of the site. The well location was chosen to provide groundwater quality data at a position between the project site and a monitoring well (MW-13) that had been installed and monitored as part of a investigation of petroleum hydrocarbon releases from the former Chevron service station located at 2681 Fruitvale

# REGIONAL LOCATION

**Figure 1**




**2662 Fruitvale Avenue**
**Oakland, California**

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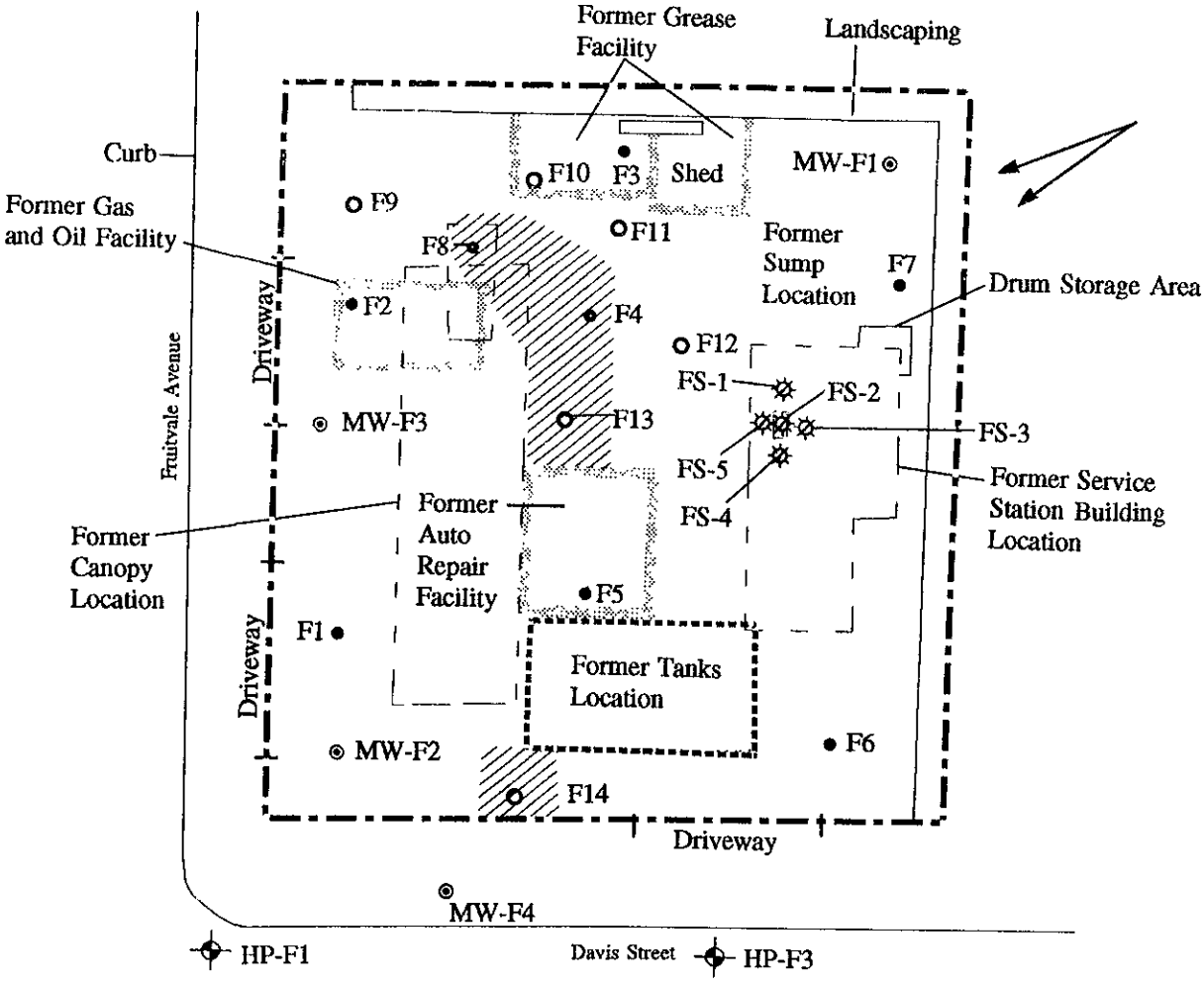
92404-AO.01 4/28/92

# SITE PLAN

**Figure 2**




Legend

| | | |
|---|---|---|
| | | Areas with Elevated TPH Concentrations |
| F1 to F8 | • | Soil Boring Location - Phase II |
| F9 to F14 | O | Soil Boring Location - Phase III |
| FS-1 | ✲ | Sump Area Boring Location |
| MW-F2 | ◉ | Monitoring Well Location |
| HP-F1 | ⊕ | Temporary Well Location |
| | | Range of calculated groundwater flow directions between 8/93 - 9/94. (Based on water level elevations measured in MW-F1, MW-F2, and MW-F3.) |
| | | Project Site Boundary |

0 30 Feet

## 2662 Fruitvale Avenue
## Oakland, California

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92404-AO.03 10/31/94

Avenue. Total petroleum hydrocarbons (TPH) as gasoline and aromatic hydrocarbons had been detected at relatively high concentrations in well MW-13.

The work plan was modified in response to comments on the work plan by Mr. Barney Chan of the ACDEH to include the installation of temporary well points south of the project site in Davis Street (Figure 2). The purpose of the well points was to obtain additional information on groundwater quality downgradient of the project site.

## HYDROGEOLOGY

The project site is located on the East Bay Plain, a gently sloping surface between the East bay Hills to the east and San Francisco Bay to the west. The plain has been formed by the deposition and modification of coalescing alluvial fans. The stratigraphy and hydrogeology of the project site and vicinity were evaluated during the installation of numerous borings and monitoring wells (Figure 3) for investigation of potential releases of petroleum hydrocarbons at the site and at a former service station located at 2681 Fruitvale Avenue. The alluvial sediments at the project site and surrounding area are characterized by an upper layer of clay, silty clay, and silt deposits which generally extend from the surface to depths between 8 to 14 feet. The fine-grained sediments are underlain by silty and clayey sands and gravel. These deposits become less clayey with depth and grade into sandy gravels and silty sands. In the area of boring F5 (in the central portion of the site), the coarse-grained deposits are not overlain by the fine-grained deposits. It is possible that this boring was advanced through the backfill surrounding the tanks that were removed from this area.

Boring logs for wells MW-16 and MW-13 indicate that the fine-grained surficial clays and silts and clayey sands and gravels extend to depth of 27 to 33 feet below the ground surface where sands and gravels were encountered. Some of the deepest borings at the site and adjacent areas (MW-11 and MW-13) indicate that the coarse-grained deposits are underlain by clay, silty clay, and silt.

Groundwater level data collected at the project site and in wells installed for investigation of the site at 2681 Fruitvale Avenue indicate that shallow sandy and gravelly deposits are the uppermost aquifer (Table 1). Groundwater levels measured in the area indicate a persistent westwardly directed groundwater gradient. The measured on-site gradient is consistent with regional groundwater flow toward the Bay. The hydraulic conductivity of the uppermost aquifer has not been measured by pumping tests but the visual characterization of the sediments indicate that the hydraulic conductivity would be variable, in the range of $10^{-5}$ cm/sec (clayey gravels) to $10^{-1}$ cm/sec (sandy gravels and sands).

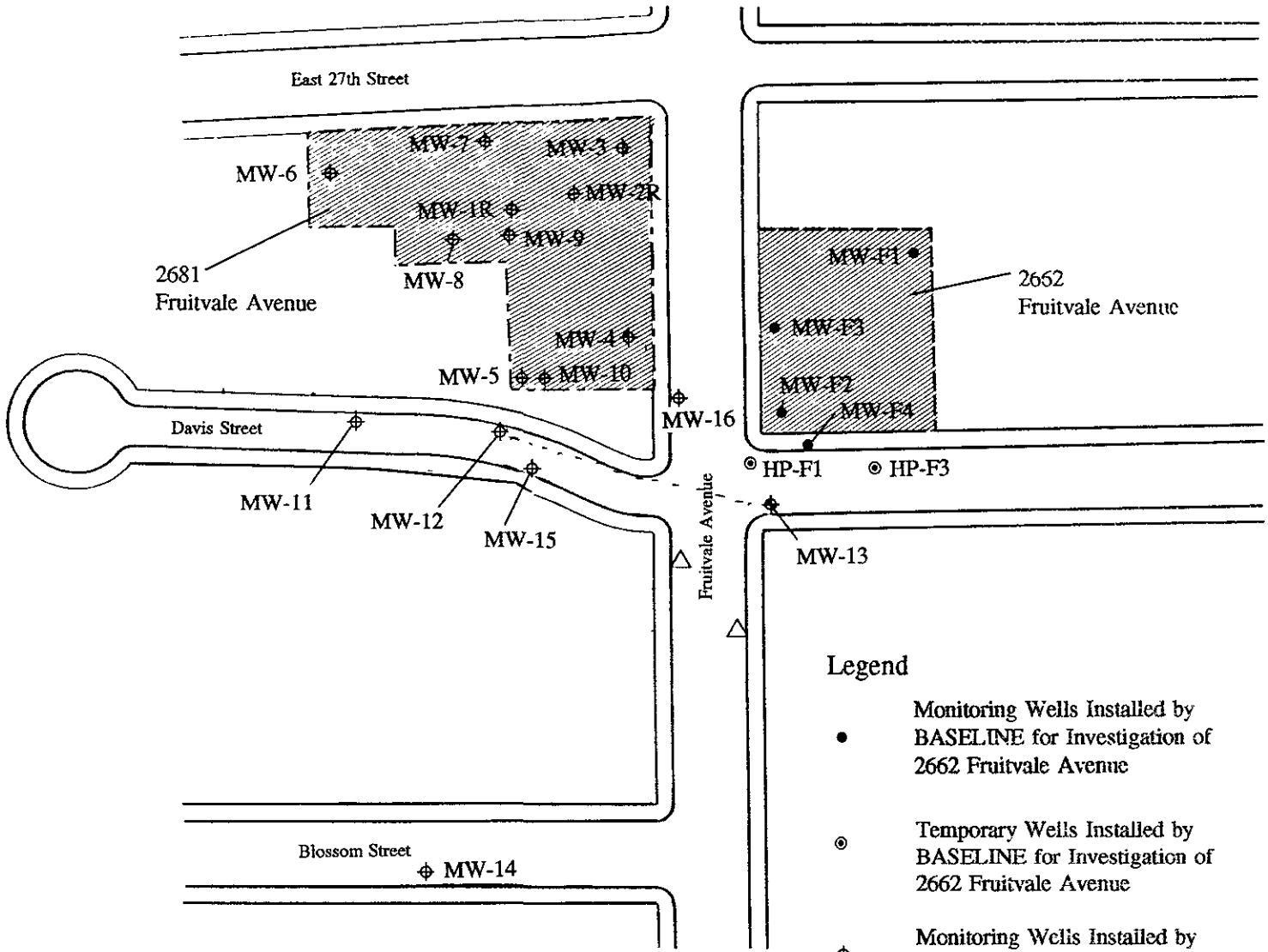
## FIELD ACTIVITIES

### Soil Boring - Sump Location

On 7 and 8 September 1994, a BASELINE geologist directed the drilling and sampling activities performed by HEW Drilling Company, Inc. at and adjacent to the project site. Five borings were drilled and sampled in the area of the former sump location (Figure 2). A slight petroleum odor and detection of organic vapors in the sample collected near the center of the sump (FS-2) prompted the decision to collect samples in the orthogonal directions to better define the extent of the suspected release. Shallow soil samples were collected from each boring at depths ranging from 4.5 to 6.0 feet.

# GROUNDWATER MONITORING POINTS

**Figure 3**




Source: Base Map - Modified from Groundwater Technology, Inc, 1993, Site Plan Map.

## 2662 Fruitvale Avenue
## Oakland, California

92404-DO 11/1/94

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TABLE 1

**GROUNDWATER ELEVATION DATA AND GRADIENT DETERMINATION**
**2662 Fruitvale Avenue, Oakland, CA**

| Monitoring Well | Date | TOC Elevation (feet)[1] | Depth to Groundwater (feet) | Groundwater Elevation (feet)[1] | Groundwater Gradient | |
|---|---|---|---|---|---|---|
| | | | | | Direction | Magnitude |
| MW-F1 | 8/16/93 | 104.41 | 11.13 | 93.28 | S88W | 0.025 |
| | 6/29/94 | | 10.38 | 93.53 | N87W | 0.026 |
| | 9/09/94 | | 11.56 | 92.85 | S82W | 0.03 |
| MW-F2 | 8/16/93 | 102.22 | 12.15 | 90.07 | | |
| | 6/29/94 | | 11.74 | 90.48 | | |
| | 9/09/94 | | 12.21 | 90.01 | | |
| MW-F3 | 8/16/93 | 102.42 | 11.99 | 90.43 | | |
| | 6/29/94 | | 11.40 | 91.02 | | |
| | 9/09/94 | | 12.39 | 90.03 | | |
| MW-F4 | 9/09/94 | 101.56 | 11.21 | 90.35 | | |
| MW-I3[2] | 9/09/94[3] | 101.20 | 12.27 | 88.93 | | |

[1] Elevations are presented as feet above City of Oakland datum.
[2] Monitoring well installed by Resna for investigation of 2681 Fruitvale Avenue.
[3] Free product detected by dual interface probe.

A sample was also collected at each boring location from a depth (11 feet) just above the groundwater level (determined by water levels in existing on-site monitoring wells). The logs for the borings at the former sump location are presented in Appendix A. Drilled cuttings generated during drilling were stored in sealed steel drums at the project site.

The soil samples were collected by advancing the boring with hollow-stem augers then driving a sampler fitted with clean, stainless steel, thin-walled sampling tubes. The sample tubes were then capped with teflon film and plastic caps, sealed with silicon tape, labelled, and stored in a cooled container. The samples were submitted to Chromalab, Inc. in San Ramon. The two samples collected from boring FS-2 were submitted for analysis of total petroleum hydrocarbons as gasoline (TPHg) and as motor oil (TPHmo), benzene, toluene, ethylbenzene, and xylenes (BTEX), non-polar oil and grease, soluble lead, and volatile organics. The other soil samples collected from the sump area were placed on hold, pending the results of the analysis of the FS-2 samples. Following detection of relatively high levels of nonpolar oil and grease in the FS-2 sample from a depth of six feet, the shallow samples from the other four borings were also analyzed for nonpolar oil and grease. The borings were backfilled with a cement-bentonite grout.

## Monitoring Well Installation

Monitoring well MW-F4 was installed in the sidewalk bordering the southern margin of the project site (Figure 2). The boring was advanced with hollow-stem auger and samples were collected (in the manner described above) at depths of 5.5 and 11 feet. The samples were sealed, labeled, and stored in a cooled container. The soil samples were submitted under chain-of-custody to Curtis and Tompkins Laboratories in Berkeley. The samples were analyzed for TPHg and BTXE.

Mechanical failure on the drilling rig occurred while drilling at a depth of 17 feet. Considering the hydrogeologic conditions at the site (known from previous investigations), and the type of suspected contaminant (TPHg and BTXE), the well was completed to a depth of 17 feet. The well screen was placed at the depth interval from 8.5 to 17.0 feet. The boring log and well construction summary for MW-F4 is presented in Appendix B.

## Well Point/Temporary Well Installation

On 8 September 1994, HEW installed two well points at the locations south of the project site, in Davis Street, shown on Figure 2. Borings were advanced with solid-flight augers to approximately ten feet below the ground surface. Four-foot long temporary well points were then pushed in and installed to depths of 15 and 16 feet at locations HP-F1 and HP-F3, respectively. The proposed well point location HP-F2 was not accessible due to proximity of utility lines. Kevin O'Dea, project Manager with BASELINE, contacted Mr. Barney Chan of the ACEHD to discuss the conflict between the well point and utility locations. Considering that relocation of the well point to the north or south would place the well within approximately 20 feet of existing groundwater monitoring wells, Mr. Chan agreed that the location was not necessary.

The well points were monitored over several hours to determine if sufficient groundwater was collected for sampling. The well points did not produce sufficient water for sampling. Therefore, the well points were extracted and the borings at each location were advanced with solid flight augers to the depth of the bottom of the well point. Two inch diameter PVC well screens were placed in the boring. The annular space between the well casing and boring was backfilled to above the screened interval with sand (Lonestar #3). A one-foot thick bentonite seal was placed above the sand. A temporary cover was placed over the wells and the wells were allowed to stand overnight. Following sampling (discussed below), cement-bentonite grout was poured into the well casing. The solid portion of the well casing was detached and removed, and the remainder of the boring was backfilled with grout. The details of the temporary well installations are presented on the boring logs in Appendix B.

## Groundwater Sampling Activities

Groundwater samples were collected from monitoring wells MW-F1, MW-F2, and MW-F3 and temporary wells HP-F1 and HP-F3 on 29 June 1994 (Figure 2). The presence of floating product was checked and water levels were measured in each of the wells using a dual-interface probe prior to sampling activities. The probe was decontaminated by washing in a trisodium phosphate solution and rinsing in deionized water between well locations.

Approximately four to five well volumes were slowly purged from each well using a double-diaphragm pump and new disposable polyethylene tubing. The details for groundwater sampling

activities are documented on the groundwater sampling forms presented in Appendix D. The temperature, pH, and electrical conductivity of the groundwater were monitored during purging until they appeared to have stabilized. Water levels were measured again following purging to ensure that groundwater had sufficiently recharged. All decontamination rinsate and purged groundwater were stored on-site in sealed drums pending laboratory analysis. Groundwater samples were collected directly (without purging) from the temporary well casings with a clean, disposable bailer. Following sampling, a new christy box was installed at monitoring well MW-F3 as replacement of the box destroyed during site demolition activities.

Chevron provided access for BASELINE to sample MW-13, an off-site well installed in October 1991 during investigation of petroleum hydrocarbon releases to soil and groundwater at the former Chevron service station located at 2681 Fruitvale Avenue. Prior to purging, a thin layer of petroleum hydrocarbon on the groundwater was indicated by a dual interface probe. The well was purged until pH, EC, and temperature had stabilized. The purged water had a petroleum odor. Prior to sampling the well, the groundwater level was recorded and the dual interface probe indicated that a layer of free petroleum product had accumulated (0.53 feet thick) in the well. The presence of free product confirmed that the groundwater at the location of MW-13 had been affected by the release of petroleum hydrocarbons. Due to the presence of free product, a groundwater sample was not collected from the well. The details of observations and measurements at the monitoring wells (including MW-13) are presented on well sampling forms in Appendix D.

### Surveying

Following completion of groundwater sampling, the elevation of the ground surface and top of casing elevations of monitoring wells MW-F1, MW-F2, MW-F3, and MW-F4 (Figure 2) were surveyed by Bates and Bailey, land surveyors. The elevations were determined relative to the City of Oakland Datum. The survey did not indicate that the initially determined elevation of the top of casing at MW-F3 had changed as the result of observed disturbance. The report of surveyed elevations are presented in Appendix E.

## ANALYTICAL RESULTS

### Soil

The results of the analytical testing of soil samples collected at and adjacent to the project site in September 1994 are summarized in conjunction with analytical results from previously collected soil samples in Table 2. The laboratory reports for the sump area soil samples are presented in Appendix F.

The soil sample from 6.0 feet at boring F-S2 (near the center of the former sump location) contained TPHmo (650 mg/kg) and nonpolar oil and grease (1,600 mg/kg); the sample did not contain detectable volatile organic compounds or soluble lead. The deeper soil sample collected from F-S2 did not contain detectable levels of petroleum hydrocarbons, oil and grease, volatile organics, or soluble lead. The shallow soil sample collected from boring F-S5 contained total oil and grease at a concentration of 200 mg/kg; the remaining shallow samples from borings F-S1, F-S3, and F-S4 did not contain detectable levels of oil and grease.

TABLE 2

SUMMARY OF ANALYTICAL RESULTS, SOIL
**2662 Fruitvale Avenue**
**Oakland, California**
(mg/kg, unless indicated)

| Sample Location | Sample Date | Depth (feet) | TPH as Gasoline[1] | TPH as Kerosene[2] | TPH as Motor Oil[2] | Total/ Nonpolar Oil & Grease[3] | Benzene[4] | Toluene[4] | Ethyl-benzene[4] | Xylenes[4] |
|---|---|---|---|---|---|---|---|---|---|---|
| Soil Borings | | | | | | | | | | |
| F1 | 1-20-93 | 2.0[5] | <1 | <1.0 | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 9.5[5] | **6** | <1.0 | <10 | -- | <0.005 | <0.005 | **0.014** | <0.005 |
| | | 11 0[5] | **66** | <1.0 | <10 | -- | <0.005 | **0.072** | **0.260** | <0.005 |
| F2 | 1-21-93 | 2.0[5] | <1 | <1.0 | **11** | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 8.0[5] | **1.1** | <1.0 | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| F3 | 1-20-93 | 2.0 | -- | <1.0 | <10 | --/<50 | -- | -- | -- | -- |
| | | 8.0 | -- | <1.0 | **14** | --/**300** | -- | -- | -- | -- |
| F4 | 1-20-93 | 2.0[6] | **3.7** | <5.0 | **940** | -- | <0.005 | <0.005 | **0.0064** | <0.005 |
| | | 10.0[5] | **15** | <1.0 | <10 | -- | <0.005 | <0.005 | **0.320** | <0.005 |
| F5 | 1-20-93 | 2 0[7,8] | <1 | <1.0 | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 8.0[7,8] | <1 | <1.0 | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| F6 | 1-21-93 | 2.0[8,9] | -- | <1.0 | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 8.0[6,8] | -- | <1.0 | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| F7 | 1-20-93 | 2.0[7,8] | -- | <1.0 | **13** | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 8 5[7,8] | -- | <1.0 | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| F8 | 1-20-93 | 2.0[5] | **220** | <1.0 | **44** | -- | <0.005 | <0.005 | **3.400** | **17.000** |
| | | 8.5[5] | **810** | <1.0 | <10 | -- | <0.005 | <0.005 | **5.400** | <0.005 |
| F9 | 8-10-93 | 3.0[10] | <1 | <1 | <30 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 9 5[10] | **10** | **76** | <30 | -- | <0.005 | <0.005 | **0.052** | **0.042** |



*(Continued)*

Table 2 - Summary of Analytical Results, Soil *(continued)*

| Sample Location | Sample Date | Depth (feet) | TPH as Gasoline[1] | TPH as Kerosene[2] | TPH as Motor Oil[2] | Total/ Nonpolar Oil & Grease[3] | Benzene[4] | Toluene[4] | Ethyl-benzene[4] | Xylenes[4] |
|---|---|---|---|---|---|---|---|---|---|---|
| F10 | 8-10-93 | 3.0[10] | <1 | <1 | <30 | --/<50 | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 10.0[10] | **30** | **33** | <30 | --/<50 | <0.005 | <0.005 | **0.073** | **0.250** |
| F11 | 8-10-93 | 2.5[10] | <1 | **2** | <30 | --/<50 | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 10.0[10] | **2** | **6** | <30 | --/<50 | <0.005 | **0.012** | <0.005 | **0.009** |
| F12 | 8-10-93 | 2.5[10] | **2** | **2** | <30 | -- | <0.005 | **0.007** | <0.005 | <0.005 |
| | | 9.5[10] | **2** | <1 | <30 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| F13 | 8-10-93 | 3.0[10] | **230** | **12** | **90** | -- | <0.030 | **0.750** | **0.550** | **1.500** |
| | | 9.5[10] | **1,500** | **650** | <30 | -- | <0.200 | **3.700** | **8.800** | **8.100** |
| F14 | 8-10-93 | 3.0[10] | <1 | <1 | <30 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 10.5[10] | **1,600** | **150** | <30 | -- | **0.300** | **3.100** | **5.700** | **6.000** |
| F-S1 | 9-8-94 | 5.5 | -- | -- | -- | <50/<50 | -- | -- | -- | -- |
| F-S2 | 9-8-94 | 6.0[8,11] | <1 | -- | **650** | --/**1,600** | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 11.0[8,11] | <1 | -- | <10 | --/<50 | <0.005 | <0.005 | <0.005 | <0.005 |
| F-S3 | 9-8-94 | 5.5 | -- | -- | -- | <50/<50 | -- | -- | -- | -- |
| F-S4 | 9-8-94 | 4.5 | -- | -- | -- | <50/<50 | -- | -- | -- | -- |
| F-S5 | 9-8-94 | 5.5 | -- | -- | -- | **210/200** | -- | -- | -- | -- |
| Monitoring Wells | | | | | | | | | | |
| MW-F1 | 8-11-93 | 3.0[10] | <1 | -- | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 10.0[10] | <1 | -- | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-F2 | 8-10-93 | 3.0[10] | <1 | <1 | <30 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 12 0[10] | <1 | **3** | <30 | -- | <0.005 | <0.005 | <0.005 | <0.005 |



*(Continued)*

Table 2 - Summary of Analytical Results, Soil *(continued)*

| Sample Location | Sample Date | Depth (feet) | TPH as Gasoline[1] | TPH as Kerosene[2] | TPH as Motor Oil[2] | Total/ Nonpolar Oil & Grease[3] | Benzene[4] | Toluene[4] | Ethyl-benzene[4] | Xylenes[4] |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-F3 | 8-11-93 | 3.0[10] | <1 | -- | <10 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 10.0[10] | **33** | -- | <10 | -- | <0.015 | <0.015 | **0.077** | <0.005 |
| MW-F4 | 9-7-94 | 5.5 | <1 | **37**[13] | <30 | -- | <0.005 | <0.005 | <0.005 | <0.005 |
| | | 11.0 | **2100**[12,13] | **420**[13] | <300 | -- | **1.7**[12] | **11**[12] | **66**[12] | **230**[12] |

[1] Test Method = DOHS Method/LUFT, EPA 5030/8015.
[2] Test Method = DOHS Method/LUFT, EPA 3550/8015.
[3] Test Method = SMWW 17:5520EF for total and 5520E&F for nonpolar.
[4] Test Method = EPA 5030/8020.
[5] Sample also analyzed for lead; lead concentration less than TTLC and less than ten times STLC.
[6] Sample also analyzed for lead; lead concentration (480 mg/kg) less than TTLC, and greater than ten times STLC; soluble lead concentration (1.1 mg/L) less than STLC.
[7] Sample also analyzed for Title 26 metals; all metal concentrations less than TTLC and less than ten times STLC.
[8] Sample also analyzed for volatile organic compounds (EPA 8240); no compounds detected above reporting limits.
[9] Sample also analyzed for Title 26 metals; lead concentration (120 mg/kg) less than TTLC, and greater than ten times STLC; soluble lead concentration (0.6 mg/L) less than STLC.
[10] Sample also analyzed for halogenated hydrocarbons (EPA 8010); no compounds detected above reporting limits.
[11] Sample also analyzed for soluble lead; soluble lead not identified above reporting limits.
[12] Results obtained past the recommended holding time.
[13] Sample chromatogram does not match the pattern of the standard.

Notes: <x.x = Compound not identified above detection limits.
**x.x** = Bold values indicate compound identified above detection limits.
-- = Compound not analyzed.
TPH = Total Petroleum Hydrocarbons.
Sample locations are shown on Figure 2.
Laboratory reports for September 1994 samples are included in Appendix F.
TTLC = Total threshold limit concentration.
STLC = Soluble threshold limit concentration.

The shallow sample from MW-F4 contained petroleum hydrocarbons in the kerosene range (37 mg/kg) but the chromatogram did not match the kerosene standard. The deeper sample contained high levels of total petroleum hydrocarbons in the gasoline and kerosene ranges and BTXE. The high levels of TPH in the samples required that the laboratory perform numerous dilutions to obtain measurement of the TPH concentrations in the sample. The final analysis of the sample was completed after the recommended holding time elapsed due to time spent on repeated dilutions and analyses of the sample. The results of the analysis indicated that the sample contained benzene (1.7 mg/kg), toluene (11 mg/kg), ethylbenzene (66 mg/kg), and xylenes (230 mg/kg). The sample also contained total petroleum hydrocarbons (TPH). The chromatograms for the sample did not match the pattern of laboratory standard for TPH standards. However, the laboratory reported the detected TPH in the gasoline range (2,100 mg/kg) and kerosene range (420 mg/kg).

### Groundwater

Groundwater samples collected from the on-site monitoring wells (MW-F1, MW-F2, and MW-F3) did not contain detectable levels of TPH as gasoline or BTEX. Duplicate samples from MW-F4, the newly installed off-site well, contained TPHg, benzene, toluene, ethylbenzene, and xylenes. TPHg and BTEX were also detected in the groundwater samples collected from temporary wells HP-F1 and HP-F3. The laboratory results for groundwater analyses are summarized in Table 3. The laboratory reports are presented in Appendix G.

## CONCLUSIONS

- Groundwater level measurements at the project site (Table 1) and for the investigation of the site at 2681 Fruitvale Avenue indicate that the groundwater gradient is consistently directed westward (N87W to S82W) with a generally uniform slope (0.025 to 0.030).

- The September 1994 groundwater sampling event did not confirm the presence of toluene in groundwater at wells MW-F2 and MW-F3 as indicated by the June 1994 sampling results.

- The results of the soil sampling at the location of the sump formerly located in the service station building which was removed from the project site indicate the release of motor oil and nonpolar oil and grease to underlying soils. The soils affected by elevated levels of nonpolar oil and grease (greater than 1,000 mg/kg) appear to be restricted to the area directly under the sump, at and near boring F-S2. If excavated, off-site disposal or treatment facilities may require additional characterization of the soil.

- The detection of TPH and BTEX in soil and groundwater in the off-site area adjacent to and south of the project site suggests the release of fuel products to the subsurface. The non-detectable to low concentrations of TPH in shallow soil samples at MW-F4 and F14 indicates a subsurface release. Proximity of the affected area to the former location of tanks removed from the south central area of the project site suggests that leakage from the tanks is a potential source for the release. It is possible that the deeper soil contamination has been caused by migration to the area of TPH on (as free product) or in (as dissolved product) the groundwater.

- The chromatograms for the deeper soil sample collected from MW-F4 indicate that the detected TPH does not match laboratory standards for petroleum hydrocarbons products. The detected

TABLE 3

**SUMMARY OF ANALYTICAL RESULTS, GROUNDWATER**
**2662 Fruitvale Avenue**
**Oakland, California**
**January 1993 through September 1994**
(mg/L)

| Sample Location | Sample Date | TPH as Gasoline[1] | TPH as Motor Oil[2] | Benzene[3] | Toluene[3] | Ethyl-benzene[3] | Xylenes[3] |
|---|---|---|---|---|---|---|---|
| Monitoring Wells | | | | | | | |
| MW-F1 | 8-16-93 | <0.05 | <0.5 | <0.002 | <0.002 | <0.002 | <0.002 |
| | 6-29-94 | <0.05 | -- | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| | 9-09-94 | <0.9 | -- | <0.0009 | <0.0009 | <0.0009 | <0.0009 |
| MW-F2 | 8-16-93 | <0.05 | <0.5 | <0.002 | <0.002 | <0.002 | <0.002 |
| | 6-29-94 | <0.05 | -- | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| | 9-09-94 | <0.9 | -- | <0.0009 | <0.0009 | <0 0009 | <0.0009 |
| MW-F3 | 8-16-93 | <0.1 | <0.5 | <0.002 | <0.002 | <0.002 | <0.002 |
| | 6-29-94 | <0.05 | -- | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| | 9-09-94 | <0.9 | -- | <0.0009 | <0.0009 | <0.0009 | <0.0009 |
| MW-F4 | 9-09-94 | **3.4-3.5** | -- | **0.029/0.028** | **0.0030/0.0028** | **0.038/0.033** | **0.094/0.099** |
| Soil Borings[4] | | | | | | | |
| F1[5] | 1-20-93 | **13** | <0.5 | **0.610** | <0.018 | **0.830** | **0.046** |
| F2[5,6] | 1-20-93 | **6.8** | <0.5 | **0.011** | <0.002 | **0.016** | <0.002 |
| F5 | 1-20-93 | <0.05 | -- | -- | -- | -- | -- |
| F7 | 1-20-93 | <0.05 | <0.5 | -- | -- | -- | -- |
| Hydropunch | | | | | | | |
| HP-F1 | 9-09-94 | **26** | -- | **0.46** | **0.16** | **1.5** | **4.4** |
| HP-F3 | 9-09-94 | **0.21** | -- | **0.0009** | **0.0007** | **0.0049** | **0.02** |

Table 3 - Summary of Analytical Results, Groundwater (*continued*)

Notes: <x.x = Compound not identified above reporting limits.
**x.x** = Bold values indicate compound identified above reporting limits.
x.x/x.x = Analytical testing results for duplicate samples.
-- = Compound not analyzed.
TPH = Total Petroleum Hydrocarbons.
Sample locations are shown on Figure 2
Laboratory reports for September 1994 groundwater analyses are included in Appendix G.

[1] Test Method = EPA 5030/8015.
[2] Test Method = EPA 3510/8015.
[3] Test Method = EPA 602 or 624.
[4] Water collected from open boreholes in January 1993.
[5] Sample also analyzed for Title 26 metals; all metal concentrations less than STLC.
[6] Sample contained trans-1,3-dichloropropene.

TPH may represent a mixture of products or a degraded fuel product. In this modified form, the specific source of the TPH compound(s) would be difficult to determine.

- Detection of TPHg and BTEX in samples from MW-F4, HP-F1, and HP-F3 and the presence of free product in MW-13 indicate the presence of a plume of groundwater contamination in the area south and southwest of the project site. The limits of the groundwater plume are not accurately known at this time. However, the results of the September 1994 groundwater sampling event and the data developed for the investigation of the site at 2681 Fruitvale Avenue suggest that northward, westward, and eastward extent of the plume is restricted to the immediate area around the intersection of Fruitvale Avenue and Davis Street. The low concentration of TPHg (0.21 mg/L) and associated aromatic hydrocarbons detected in temporary well HP-F3 indicate that this location is currently near the eastern edge of the plume. Nondetectable results from MW-F2 and previously collected data from MW-16 indicate that these positions are north of the northern edge of the plume. Groundwater data collected from MW-15 indicate that this well may be located near the western margin of the plume.

- Existing groundwater data for the project site and surrounding area do not provide conclusive evidence for identification of the source of the petroleum hydrocarbons detected in groundwater south and west of the project site. Groundwater data collected for investigation of the site at 2681 Fruitvale Avenue indicate that the southern margin of a groundwater plume containing TPH as gasoline (9.2 mg/L) and BTEX had affected groundwater quality at location MW-12 on 8 November 1991. Subsequent data collected from MW-12 and other wells along Davis Street, with the exception of MW-13, indicate either nondetectable or relatively low levels of TPH as gasoline and BTEX in groundwater. It is possible that the contaminants associated with this plume have migrated southward to the area between monitoring wells MW-15 and MW-16. Alternatively, the contaminants detected groundwater in the area of the intersection of Davis Street and Fruitvale Avenue may be associated with westward groundwater migration from the area west-southwest of the 2662 Fruitvale Avenue site. Definition of affected groundwater will require additional monitoring points in the area of the intersection and concurrent groundwater quality monitoring of all wells installed for investigation of the two sites.

Who's going to bail + remove free product from MW 13 ?

## RECOMMENDATIONS

quarterly for Oakland site (2662) including MW 13

- Semi-annual monitoring of the on-site wells (MW-F1, MW-F2, and MW-F3) in Figure 2, the off-site well (MW-F4), and the Chevron well MW-13 should continue to provide further characterization of temporal groundwater quality at and adjacent to the site. The semi-annual monitoring should be coordinated with semi-annual groundwater quality monitoring being performed for investigation of the former Chevron service station at 2681 Fruitvale Avenue. Coordinated sampling will provide useful information for contouring the identified groundwater plume affected by TPHg and BTEX.

- Two additional monitoring wells should be installed west of the project site at the locations shown in Figure 3. The purpose of these wells would be to further define the extent of the plume of groundwater affected by gasoline and aromatic hydrocarbons. The wells would be

— Who will perform this?

two inches in diameter and screened within the uppermost aquifer. The well screens would extend to at least two feet above the highest groundwater level recorded in MW-13.

(Excavation)

- Remaining tasks recommended in the work plan prepared by BASELINE, dated May 1994, should be implemented as soon as possible. Soil and groundwater sample analyses indicate that the area of elevated TPHg detected in soil samples from boring F14 may extend to the southern project boundary. Excavation of soil in this area may therefore require extension beyond the approximate boundaries of the soil removal area presented in the work plan. Field monitoring during excavation (supported by laboratory analysis of confirmation samples) would determine the actual extent of soil removal necessary to remove soils containing in excess of 1,000 mg/kg of TPH.

## LIMITATIONS

The conclusions presented in this report are professional opinions based on the indicated data described in this report. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study. Changes in the conditions of the subject property can occur with time, because of natural processes or the works of man, on the subject sites or on adjacent properties. Changes in applicable standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

# APPENDIX A

## BORING LOGS
## SUMP AREA BORINGS
## FS-1 to FS-5

# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S1 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | | | |
| | Fill | Fill, clayey SAND with gravel, moist (Fill). | |
| 1 | | | |
| | CL | Very dark gray to black, silty CLAY with sand, low plasticity, moist. | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| | SC | Dark, bluish gray, clayey SAND, trace of silt, very fine- to fine-grained, loose, moist. | |
| 5 | | | 4-5-7<br>HNu = 0 ppm in breathing zone<br>HNu = 2 ppm in borehole<br>LEL = 0% in borehole |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S1 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 10 | | Total boring depth = 10.0 feet. | 9-13-14 |
| | | Brown and gray mottled, silty CLAY, low plasticity, stiff, veinlets, very moist. | HNu = 0 ppm in breathing zone<br>HNu = 1 ppm in borehole<br>LEL = 0% in borehole |
| 11 | | Total depth = 11.5 feet. | |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S2 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | Fill | Fill, clayey SAND, with gravel, moist (Fill). | |
| 1 | | | |
| 2 | | | |
| 3 | CL | Brown, slightly mottled with gray iron oxide, sandy CLAY, low plasticity, moist. | |
| 4 | | | |
| 5 | | | 7-8-12<br>HNu = 0 ppm in breathing zone<br>HNu = 20 ppm in borehole<br>LEL = 0% in borehole<br>Slight odor of motor oil? |
| 6 | SC | Greenish gray, clayey SAND, some silt and gravel, very fine- to fine-grained, loose, medium dense, moist. | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |



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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S2 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 10 | | Total boring depth = 10.0 feet. | 9-14-20<br>HNu = 0 ppm in breathing zone<br>HNu = 30 ppm in borehole<br>LEL = 0% in borehole |
| 11 | | Total depth = 11.5 feet. | |
| | CL | Brown, mottled with gray, silty CLAY, low plasticity, stiff, | |
| 12 | | veinlets, very moist. | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S3 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | | | |
| | Fill | Brown, clayey SAND with gravel, moist (Fill). | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | SC/CL | Brown, sandy CLAY/clayey SAND, low plasticity, very fine-grained, firm, moist. | 8-7-10<br>HNu = 0 ppm in breathing zone<br>HNu = 3 ppm in borehole<br>LEL = 0% in borehole |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | SC | | |
| 10 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S3 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 10 | | Total boring depth = 10.0 feet | |
| | SC | Brown, clayey SAND with gravel, fine- to coarse-grained, 1/3- to 3/4-inch sub angular clasts, loose to medium dense, very moist | 7-9-14<br>HNu = 0 ppm in breathing zone<br>HNu = 15 ppm in borehole<br>LEL = 0% in borehole |
| 11 | | Total depth = 11.5 feet | |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S4 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | | | |
| | Fill | Clayey SAND with gravel, moist (Fill). | |
| 1 | | | |
| 2 | SC | Brown, clayey SAND, fine- to medium-grained, loose, moist. | |
| 3 | | | |
| 4 | | | 4-7-10<br>HNu = 0 ppm in breathing zone<br>HNu = 5 ppm in borehole<br>LEL = 0% in borehole |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| | SW | Bluish gray, SAND with clay and gravel, fine- to medium-grained, loose, very moist to wet. | |
| 10 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S4 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | NA |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 10 | SW | Total boring depth = 10.0 feet | 5-5-8<br>HNu = 0 ppm in breathing zone<br>LEL = 0% in borehole<br>Water in bottom of borehole |
| 11 ▼ | | | |
| 12 | CL | Mottled gray and brown, sandy CLAY, low plasticity, firm, veinlets, wet. | |
| | | Total depth = 11.5 feet | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S5 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | 2 inches |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | Fill | Clayey SAND with gravel, moist (Fill). | |
| 1 | | | |
| 2 | CL | Very dark brown, silty CLAY, low plasticity, firm, moist. | |
| 3 | | | |
| 4 | CL/ML | Bluish gray, silty CLAY/clayey SILT with sand, low plasticity, firm, moist, iron oxide stained. | |
| 5 | | | 5-7-9<br>HNu = 0 ppm in breathing zone<br>HNu = 3 ppm in borehole<br>LEL = 0% in borehole |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | SC | Brown, clayey SAND, fine- to medium-drained, loose, very moist. | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | F-S5 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | 2 inches |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 10 | | Total boring depth = 10.0 feet | 9-13-16<br>HNu = 0 ppm in breathing zone<br>HNu = 0 ppm in borehole<br>LEL = 0% in borehole |
| | SC | | |
| 11 | CL | Mottled gray and brown, silty CLAY with sand, low plasticity, firm, veinlets, red iron oxide stains, very moist. | |
| | | Total depth = 11.5 feet | |
| 12 | | | |
| 13 | | | |
| 14 | | | |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |



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# APPENDIX B

## BORING LOG/WELL CONSTRUCTION SUMMARY
## MW-F4

# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | MW-F4 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/7/94 |
| Logger | WKS Datum TOC 101.56 ft msl Bore size 8 inches | Casing size | 2 inches |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | | Concrete slab | Background HNu = 0 ppm<br>Background LEL = 0% |
| 1 | GW | Reddish brown, GRAVEL with sand (Baserock). | HNu = 0 ppm in breathing zone<br>LEL = 0% in borehole |
| 2 | CL | Very dark gray, silty CLAY, low plasticity, soft to firm, moist. | HNu = 0 ppm in breathing zone |
| 3 | | | |
| 4 | CL | Very dark brown, mottled with gray, silty CLAY, minor gravel, low plasticity, subangular to subrounded clasts, 1/3- to 1/2-inch diameter, veinlets, firm to stiff, moist. | Slight petroleum odor |
| 5 | | | 9-11-17<br>HNu = 0 ppm in breathing zone<br>HNu = 50 ppm in sample<br>LEL = 0% in breathing zone |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |



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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | MW-F4 |
| Driller | HEW | Project no. | 9/7/94 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum TOC 101.56 ft msl Bore size 8 inches | Casing size | 2 inches |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 10 | GC/SC | Gray and greenish gray interbedding of clayey GRAVEL with sand and clayey SAND with gravel. Subrounded clasts, 1/3- to 3/4-inch diameter, fine- to coarse-grained sand, medium dense, very moist. Brown, silty clay, low plasticity, firm. | HNu = 0 ppm in breathing zone<br>HNu = 150 ppm in borehole |
| 11 | | | 6-12-18<br>HNu = 150 ppm in sample<br>LEL = 2% in borehole |
| 12 | | | |
| 13 | GC/CL | Brown, clayey GRAVEL with sand/gravelly CLAY with sand, low plasticity, subrounded to angular clasts, 1/3- to 3/4-inch diameter, loose to medium dense, interbedding of sandy clay, very moist. | 8-16-24<br>Some wetness in the gravel lense |
| 14 | | | |
| 15 | | | 5-9-22 (standard pin) |
| 16 | | | |
| 17 | | Total depth = 17.0 feet. | Something very hard at 17.0 feet. Broke drill rig U-joint and transfer. Cannot advance auger, well completed at this depth. |
| 18 | | | |
| 19 | | | |
| 20 | | | |



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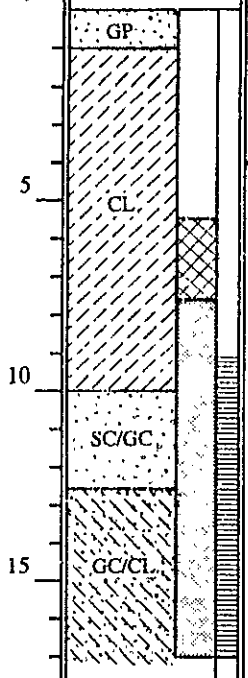


# WELL CONSTRUCTION SUMMARY

| | |
|---|---|
| Project name | Fruitvale Avenue |
| Location | 2662 Fruitvale Avenue |
| | Oakland, CA |

| | | | |
|---|---|---|---|
| Project no. | 92404-D0 | Well no. | MW-F4 |
| Date | 9/7/94 | | |
| Personnel | WKS | | |
| Driller | HEW | | |

## DRILLING SUMMARY

| | |
|---|---|
| Drill rig | Diedrich D-25 |
| Auger/bits | Hollow stem |
| Drilling fluid | None |
| Boring diameter (inch) | 8 |
| Boring depth (feet) | 17.0 |
| Surface completion | Traffic-rated christy box |
| Ground surface elevation (feet) | 101.96 |
| TOC elevation (feet) | 101.56 |

## WELL DESIGN

**Basis:** × Geologic log  Geophysical log

| Casing Diameter (inch) | Material and Length (feet) | Slot Size | Interval (feet bgs) |
|---|---|---|---|
| 2 | PVC 8' 3" | -- | -0.1 - 8.5 |
| 2 | PVC 8' 5" | 020 | 8.5 - 17 |
| | | | |
| | | | |
| | | | |
| | | | |

| | | |
|---|---|---|
| Centralizer | None | |
| Filter material | Lonstone #3 | 7.5 - 17 |
| Bentonite | Bentonite | 5.5 - 7.5 |
| Cement | Neat | 0 - 5.5 |

## WATER LEVELS

| | Date | Time | Depth (ft bgs) |
|---|---|---|---|
| During drilling: | 9/7/94 | | None |
| After completion: | 9/7/94 | NA | NA |
| Before development: | 9/8/94 | 7:50 | 11.19 |

## CONSTRUCTION TIME LOG

| Task | Start Date | Start Time | Finish Date | Finish Time |
|---|---|---|---|---|
| Drilling | 9/7/94 | 9:10 | 9/7/94 | 11:45 |
| | | | | |
| Geophys log | | | | |
| Casing | 9/7/94 | 11:55 | 9/7/94 | 11:58 |
| | | | | |
| | | | | |
| Filter placement | 9/7/94 | 12:05 | 9/7/94 | 12:20 |
| Cementing | 9/7/94 | 12:20 | 9/7/94 | 12:35 |
| Development | 9/8/94 | 7:50 | 9/8/94 | 3:00 |
| | | | | |
| | | | | |
| Other | | | | |
| | | | | |

## WELL DEVELOPMENT

Method: Double diaphragm  Date: 9/8/94

| Time | Gallons | Appearance |
|---|---|---|
| 7:50 | 2 | Very turbid |
| 8:00 | 3 | Very turbid |
| 8:15 | 4 | Very turbid |
| 8:30 | 5 | Very turbid |
| | | Well ran dry |
| 1:00 | 6 | Clear |
| 1:15 | 6.5 | Clear |
| 1:30 | 7 | Clear |
| 1:45 | 7.5 | Clear |
| 2:00 | 8 | Clear |
| 3:00 | 10 | Clear |
| | | |

## COMMENTS

92404SEP.XLW (10/20/94)

Signature: _____

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# WELL DEVELOPMENT

| | | | | | |
|---|---|---|---|---|---|
| Project no.: | 92404-D0 | Well no.: | MW-F4 | Date: | 9/8/94 |
| Project name: | Fruitvale Avenue | Depth of well from TOC (feet): | 16.9 | | |
| Location: | 2662 Fruitvale Avenue | Well diameter (inch): | 2.00 | | |
| | Oakland, CA | Screened interval from TOC (feet) | 8.5-16.84 | | |
| Recorded by: | WKS | TOC elevation (feet msl): | 101.56 City of Oakland datum | | |
| Weather: | Sunny | Water level from TOC (feet): | 11.19 | Time | 7:30 |
| Precip in past | | Product level from TOC (feet): | None | Time | 7:30 |
| 5 days (inch): | None | Water level (feet msl): | 90.37 | | |

**FIELD MEASUREMENTS**

| Time | Gallons Removed | Appearance | **Recharge:** Time | Water Level (feet) |
|---|---|---|---|---|
| 7:50 | 2 | Very turbid | 9:51 | 14.50 |
| 8:00 | 3 | Very turbid | 10:02 | 14.25 |
| 8:15 | 4 | Very turbid | 10:13 | 13.95 |
| 8:30 | 5 | Very turbid | 10:20 | 13.80 |
| | | Well ran dry | 10:25 | 13.70 |
| 1:00 | 6 | Clear | 10:30 | 13.60 |
| 1:15 | 6.5 | Clear | 10:36 | 13.50 |
| 1:30 | 7 | Clear | 10:41 | 13.40 |
| 1:45 | 7.5 | Clear | 10:47 | 13.30 |
| 2:00 | 8 | Clear | 11:00 | 13.10 |
| 3:00 | 10 | Clear | 11:42 | 12.55 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**Comments:** Very slow recharge rate

| | | | |
|---|---|---|---|
| Total gallons removed | 10 | Average recharge rate (ft/min) | 0.038 ft/min |
| Development method | Double diaphragm p | Purged water disposal | Drum MW-FW1 |
| | | Number of drums | 1 |
| Decontamination method | TSP wash | Rinsate disposal | Drum MW-FW1 |

92404SEP.XLW (10/20/94)

# APPENDIX C

## BORING LOGS
## TEMPORARY WELLS
## HP-F1 and HP-F3

# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | HP-F3 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Solid flight | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 8 inches | Casing size | 2 inches |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | | Asphalt cover<br>Baserock | |
| 1 | CL | Very dark brown, silty CLAY, trace of gravel, low plasticity, firm, moist. | |
| 2 | | | |
| 3 | | | |
| 4 | | | HNu = 0 ppm in breathing zone<br>HNu = 2 ppm in borehole<br>LEL = 0% in borehole |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | CL | Very dark gray, silty CLAY, some sand, low plasticity, soft to firm, very moist. | HNu = 0 ppm in breathing zone<br>HNu = 3 ppm in borehole<br>LEL = 0% in borehole |
| 9 | | | |
| 10 | | | |





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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | HP-F1 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 6 inches | Casing size | 1-2 inches |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 0 | | Asphalt<br>Baserock | |
| 1 | CL | Very dark gray, silty CLAY, trace of gravel, low plasticity, soft to firm, moist. | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | CL | Very dark brown to brown, silty CLAY, trace of sand and gravel, firm, moist. | |
| 8 | | | |
| 9 | | | |
| 10 | | | |





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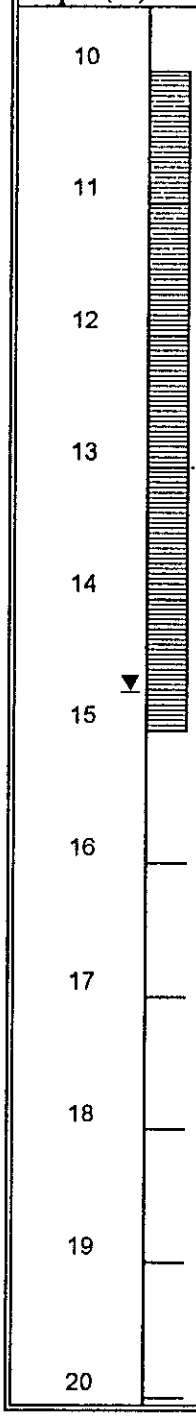
# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | HP-F1 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Hollow stem | Date | 9/8/94 |
| Logger | WKS Datum None Bore size 6 inches | Casing size | 1-2 inches |




| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| | GC/CL | Interbedding of clayey GRAVEL with sand and gravelly CLAY with sand, very moist to wet. | HNu = 0 ppm in breathing zone<br>HNu = 20 ppm in borehole<br>LEL = 0% in borehole |
| | CL | Brown, sandy CLAY, trace of gravel, very moist to wet. | Installed 2" PVC with #3 Lonstone sand, because no water in F-HP-3 after several hours. |
| | | Total Depth = 15.0 feet. | Water level on 9-9-94 at 8:10: 14.75 feet |



92404DDL.XLW (10/20/94)

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# DRILLING LOG

| | | | |
|---|---|---|---|
| Location | 2662 Fruitvale Avenue, Oakland, CA | Boring no. | HP-F3 |
| Driller | HEW | Project no. | 92404-D0 |
| Method | Solid flight | Date | 9/8/94 |
| Logger | WKS Datum None | Bore size 8 inches | Casing size 2 inches |

| Depth (ft.) | Graphic | Lithology | Notes |
|---|---|---|---|
| 10 | | | |
| 11 | | | |
| 12 | ▼ | Total boring depth = 12.5 feet. | Set hole at 12.5. Water level in MW-F4 was 11.2 from TOC, ground surface at F-HP3 is ~1.5 foot higher than TOC at HW-F4. |
| 13 | CL | Brown, sandy CLAY, trace of gravel, very moist to wet. | |
| 14 | | | Water level on 9-9-94 at 8:10: 12.10 feet |
| 15 | | | |
| 16 | | Total depth = 16.0 feet. | |
| 17 | | | |
| 18 | | | |
| 19 | | | |
| 20 | | | |



92404DDL.XLW (10/20/94)

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# APPENDIX D

## GROUNDWATER SAMPLING FORMS
## September 1994

# GROUNDWATER SAMPLING

| | | | | | |
|---|---|---|---|---|---|
| Project no.: | 92404-D0 | Well no.: | MW-F1 | Date: | 9/9/94 |
| Project name: | Fruitvale Avenue | Depth of well from TOC (feet): | 25.11 | | |
| Location: | 2662 Fruitvale Avenue | Well diameter (inch): | 2 | | |
| | Oakland, CA | Screened interval from TOC (feet): | 8.5-25.11 | | |
| Recorded by: | WKS | TOC elevation (feet): | 104.41 (City of Oakland datum) | | |
| Weather: | Sunny | Water level from TOC (feet): | 11.56 | Time | 8:04 |
| Precip in past | | Product level from TOC (feet): | None | Time | 8:04 |
| 5 days (inch): | None | Water level device: | Dual interface probe | | |

**VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:**

[( 25.11 ft) - ( 11.56 ft)] × ( 0.083 ft)² × 3.14 × 7.48 =
Well depth Water level Well radius

2.2 gallons in one well volume
11.0 gallons in 5 well volumes
12 total gallons removed

**CALIBRATION:**

| | Time | Temp (° C) | pH | EC (µmho/cm) |
|---|---|---|---|---|
| Calibration Standard: | 7:30 | 22 | 7.00-10.01 | 1,000 |
| Before Purging: | 7:31 | 22 | 7.00-10.01 | 900 |
| After Purging: | 11:26 | 20 | 7.14-9.88 | 1,000 |

**FIELD MEASUREMENTS:**

| Time | Temp (° C) | pH | EC (µmho/cm) | Cumulative Gallons Removed | Appearance |
|---|---|---|---|---|---|
| 11:06 | 19.2 | 7.16 | 400 | 3 | Clear |
| 11:13 | 19.6 | 7.16 | 400 | 6 | Clear |
| 11:19 | 19.5 | 7.08 | 400 | 9 | Clear |
| 11:25 | 19.6 | 7.13 | 400 | 12 | Clear |

| | | | | | |
|---|---|---|---|---|---|
| Water level after purging prior to sampling (feet): | 11.57 | | | Time | 14:25 |
| Appearance of sample: | Clear | | | Time | 14:30 |
| Duplicate/blank number: | None | | | Time | -- |
| Purge method: | Double diaphragm pump | | | | |
| Sampling equipment: | Disposable PVC bailer | VOC attachment: | Used for VOC sample | | |
| Sample containers: | 2 40-ml VOAs | | | | |
| Sample analyses: | TPH as gasoline, BTXE | Laboratory: | Chromalab | | |
| Decontamination method: | TSP and water, DI water rinse | Rinsate disposal: | Drum MW-FW1 | | |

92404SEP.XLW (11/1/94)

# GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| Project no.: | 92404-D0 | Well no.: MW-F2 | Date: 9/9/94 |
| Project name: | Fruitvale Avenue | Depth of well from TOC (feet): | 19.88 |
| Location: | 2662 Fruitvale Avenue | Well diameter (inch): | 2 |
| | Oakland, CA | Screened interval from TOC (feet): | 8.5-19.88 |
| Recorded by: | WKS | TOC elevation (feet): | 102.22 (City of Oakland datum) |
| Weather: | Sunny | Water level from TOC (feet): | 12.21 Time 8:06 |
| Precip in past | | Product level from TOC (feet): | None Time 8:06 |
| 5 days (inch): | None | Water level device: | Dual interface probe |

**VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:**

[( 19.88 ft) - ( 12.21 ft)] × ( 0.083 ft)² × 3.14 × 7.48 =

(Well depth — Water level — Well radius)

1.2 gallons in one well volume
6.2 gallons in 5 well volumes
4 total gallons removed

**CALIBRATION:**

| | Time | Temp (° C) | pH | EC (µmho/cm) |
|---|---|---|---|---|
| Calibration Standard: | 7:30 | 22 | 7.00-10.01 | 1,000 |
| Before Purging: | 7:31 | 22 | 7.00-10.01 | 900 |
| After Purging: | 11:26 | 20 | 7.14-9.88 | 1,000 |

**FIELD MEASUREMENTS:**

| Time | Temp (° C) | pH | EC (µmho/cm) | Cumulative Gallons Removed | Appearance |
|---|---|---|---|---|---|
| 10:00 | 20.8 | 7.15 | 600 | 1 | Clear |
| 10:06 | 21.8 | 7.10 | 600 | 2 | Clear |
| 10:12 | 21.0 | 7.06 | 600 | 3 | Clear |
| 10:18 | 20.8 | 7.05 | 600 | 4 | Clear |

| | | | |
|---|---|---|---|
| Water level after purging prior to sampling (feet): | 14.29 | | Time 13:56 |
| Appearance of sample: | Clear | | Time 14:00 |
| Duplicate/blank number: | None | | Time -- |
| Purge method: | Double diaphragm pump | | |
| Sampling equipment: | Disposable PVC bailer | VOC attachment: | Used for VOC sample |
| Sample containers: | 2 40-ml VOAs | | |
| Sample analyses: | TPH as gasoline, BTXE | Laboratory: | Chromalab |
| Decontamination method: | TSP and water, DI water rinse | Rinsate disposal: | Drum MW-FW1 |

92404SEP.XLW (11/1/94)

# GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| Project no.: | 92404-D0 | Well no.: MW-F3 | Date: 9/9/94 |
| Project name: | Fruitvale Avenue | Depth of well from TOC (feet): | 8.5-24.45 |
| Location: | 2662 Fruitvale Avenue | Well diameter (inch): | 2 |
| | Oakland, CA | Screened interval from TOC (feet): | 8.5-24.45 |
| Recorded by: | WKS | TOC elevation (feet): | 102.42 (City of Oakland datum) |
| Weather: | Sunny | Water level from TOC (feet): | 12.39 Time 8:08 |
| Precip in past | | Product level from TOC (feet): | None Time 8:08 |
| 5 days (inch): | None | Water level device: | Dual interface probe |

**VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:**

[( 24.45 ft) - ( 12.39 ft)] × ( 0.083 ft)² × 3.14 × 7.48 =
Well depth Water level Well radius

2.0 gallons in one well volume
9.8 gallons in 5 well volumes
7.0 total gallons removed

**CALIBRATION:**

| | Time | Temp (° C) | pH | EC (µmho/cm) |
|---|---|---|---|---|
| Calibration Standard: | 7:30 | 22 | 7.00-10.01 | 1,000 |
| Before Purging: | 7:31 | 22 | 7.00-10.01 | 900 |
| After Purging: | 11:26 | 20 | 7.14-9.88 | 1,000 |

**FIELD MEASUREMENTS:**

| Time | Temp (° C) | pH | EC (µmho/cm) | Cumulative Gallons Removed | Appearance |
|---|---|---|---|---|---|
| 10:34 | 20.4 | 7.12 | 700 | 1 | Clear |
| 10:44 | 20.4 | 7.10 | 650 | 2.5 | Clear |
| 10:51 | 20.0 | 7.04 | 650 | 5.0 | Clear |
| 10:56 | 19.9 | 7.05 | 650 | 7.0 | Clear |

| | | | |
|---|---|---|---|
| Water level after purging prior to sampling (feet): | 13.90 | | Time 14:10 |
| Appearance of sample: | Clear | | Time 14:15 |
| Duplicate/blank number: | None | | Time -- |
| Purge method: | Double diaphragm pump | | |
| Sampling equipment: | Disposable PVC bailer | VOC attachment: | Used for VOC sample |
| Sample containers: | 2 40-ml VOAs | | |
| Sample analyses: | TPH as gasoline, BTXE | Laboratory: | Chromalab |
| Decontamination method: | TSP and water, DI water rinse | Rinsate disposal: | Drum MW-FW1 |

92404SEP.XLW (11/1/94)

# GROUNDWATER SAMPLING

| | | | | | |
|---|---|---|---|---|---|
| Project no.: | 92404-D0 | Well no.: | MW-F4 | Date: | 9/9/94 |
| Project name: | Fruitvale Avenue | Depth of well from TOC (feet): | 16.84 | | |
| Location: | 2662 Fruitvale Avenue | Well diameter (inch): | 2 | | |
| | Oakland, CA | Screened interval from TOC (feet): | 8.5 - ? | | |
| Recorded by: | WKS | TOC elevation (feet): | 101.56 (City of Oakland datum) | | |
| Weather: | Sunny | Water level from TOC (feet): | 11.21 | Time | 8:11 |
| Precip in past | | Product level from TOC (feet): | None | Time | 8:11 |
| 5 days (inch): | None | Water level device: | Dual interface probe | | |

**VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:**

[( 16.84 ft) - ( 11.21 ft)] × ( 0.083 ft)² × 3.14 × 7.48 =
Well depth Water level Well radius

0.9 gallons in one well volume
4.6 gallons in 5 well volumes
3.8 total gallons removed

**CALIBRATION:**

| | Time | Temp (° C) | pH | EC (µmho/cm) |
|---|---|---|---|---|
| Calibration Standard: | 7:30 | 22 | 7.00-10.01 | 1,000 |
| Before Purging: | 7:31 | 22 | 7.00-10.01 | 900 |
| After Purging: | 11:26 | 20 | 7.14-9.88 | 1,000 |

**FIELD MEASUREMENTS:**

| Time | Temp (° C) | pH | EC (µmho/cm) | Cumulative Gallons Removed | Appearance |
|---|---|---|---|---|---|
| 9:19 | 21.1 | 6.92 | 800 | 0.5 | Clear, slight petroleum odor |
| 9:25 | 21.3 | 7.11 | 800 | 1.3 | Clear, slight petroleum odor |
| 9:36 | 21.8 | 7.19 | 900 | 2.0 | Clear, slight petroleum odor |
| 9:43 | 20.7 | 7.23 | 900 | 2.8 | Clear, slight petroleum odor |
| 9:52 | 21.1 | 7.24 | 900 | 3.8 | Clear, slight petroleum odor |

| | | | | | |
|---|---|---|---|---|---|
| Water level after purging prior to sampling (feet): | 13.29 | | | Time | 13:38 |
| Appearance of sample: | Clear | | | Time | 13:40 |
| Duplicate/blank number: | Duplicate MW-F4A | | | Time | 13:45 |
| Purge method: | Double diaphragm pump | | | | |
| Sampling equipment: | Disposable PVC bailer | VOC attachment: | Used for VOC sample | | |
| Sample containers: | 2 40-ml VOAs | | | | |
| Sample analyses: | TPH as gasoline, BTXE | Laboratory: | Chromalab | | |
| Decontamination method: | TSP and water, DI water rinse | Rinsate disposal: | Drum MW-FW1 | | |

92404SEP.XLW (11/1/94)

# GROUNDWATER SAMPLING

| | | | |
|---|---|---|---|
| Project no.: | 92404-D0 | Well no.: | MW-13 (Chevron) Date: 9/9/94 |
| Project name: | Fruitvale Avenue | Depth of well from TOC (feet): | 24.13 (Soft bottom measured) |
| Location: | 2662 Fruitvale Avenue | Well diameter (inch): | 2 |
| | Oakland, CA | Screened interval from TOC (feet): | 14.5 - 24.5 |
| Recorded by: | WKS | TOC elevation (feet): | 101.24 (City of Oakland datum) |
| Weather: | Sunny | Water level from TOC (feet): | 12.27 Time 8:13 |
| Precip in past | | Product level from TOC (feet): | 12:23 Time 8:13 |
| 5 days (inch): | None | Water level device: | Dual interface probe |

**VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:**

[( 24.13 ft) - ( 12.23 ft)] × ( 0.083 ft)² × 3.14 × 7.48 = 1.9 gallons in one well volume
Well depth Water level Well radius
9.6 gallons in 5 well volumes
9.5 total gallons removed

**CALIBRATION:**

| | Time | Temp (° C) | pH | EC (µmho/cm) |
|---|---|---|---|---|
| Calibration Standard: | 7:30 | 22 | 7.00-10.01 | 1,000 |
| Before Purging: | 7:31 | 22 | 7.00-10.01 | 900 |
| After Purging: | 11:26 | 20 | 7.14-9.88 | 1,000 |

**FIELD MEASUREMENTS:**

| Time | Temp (° C) | pH | EC (µmho/cm) | Cumulative Gallons Removed | Appearance |
|---|---|---|---|---|---|
| 8:48 | 20.2 | 6.66 | 725 | 1.5 | Very slightly turbid, petroleum odor |
| 8:57 | 20.1 | 6.61 | 725 | 5 | Clear |
| 9:02 | 20.2 | 6.78 | 725 | 7 | Clear |
| 9:07 | 20.3 | 6.77 | 725 | 9.5 | Clear |

Product level from TOC after purging (feet): 12.12 Time: 12:52
Water level from TOC after purging (feet): 12.65 Time: 12:52

Comments: 0.53 foot of product accumulated into well after purging. Note that product level was 0.04 foot in well prior to purging. Not sampled due to presence of free product in well.

| | | | |
|---|---|---|---|
| Water level after purging prior to sampling (feet): | N/A | | Time -- |
| Appearance of sample: | N/A | | Time -- |
| Duplicate/blank number: | N/A | | Time -- |
| Purge method: | Double diaphragm pump | | |
| Sampling equipment: | N/A | VOC attachment: | N/A |
| Sample containers: | N/A | | |
| Sample analyses: | N/A | Laboratory: | N/A |
| Decontamination method: | TSP and water, DI water rinse | Rinsate disposal: | Drum MW-FW1 |

92404SEP.XLW (11/1/94)

# APPENDIX E

## SURVEYOR'S REPORT
## September 1994

BATES AND BAILEY
LAND SURVEYORS
15 SHATTUCK SQUARE • BERKELEY, CA 94704
TELEPHONE (510) 843-2007

P.O BOX 592
BERKELEY, CA 94701-0592

September 19, 1994



Baseline Environmental
5900 Hollis St., Suite D
Emeryville, CA 94608

Attention: Bill Scott

Dear Bill,

Enclosed are copies of the survey indicationg the location of the new well at 2662 Fuuitvall Ave., Oakland and listed below are the elevations of the wells.

| WELL | T.C. ELEVATION | COVER ELEVATION |
|---|---|---|
| MW - F1 | 104.41 | 104.81 |
| MW - F2 | 102.22 | 102.48 |
| MW - F3 | 102.42 | 102.73 |
| MW - F4 | 101.56 | 101.96 |

The elevations are based on City of Oakland datum Bench Mark 19C.
14

Yours truly,

Robert W. Wilson

Robert W. Wilson

RWW/dd
Enc.

# APPENDIX F

## LABORATORY REPORTS
## SUMP AREA SOIL SAMPLES

# CHROMALAB, INC.

Environmental Services (SDB)

September 13, 1994 *Submission #:* 9409111

BASELINE ENVIRONMENTAL/EMRYVL

*Atten:* Bill Scott

*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994

*re:* Two samples for Oil & Grease analysis

*Matrix:* SOIL
*Sampled:* September 8, 1994 *Analyzed:* September 13, 1994
*Method:* STD Method 5520 E & F

| Sample # | Client Sample I.D. | Oil & Grease (mg/Kg) |
|---|---|---|
| 62198 | FS-2-6.0-6.5 | 1600 |
| 62199 | FS-2-11.0-11.5 | N.D. |
| Blank | | N.D. |
| Reporting Limit | | 50 |

ChromaLab, Inc.

Carolyn M. House
Analyst

Ali Kharrazi
Organic Manager

cc

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

# CHROMALAB, INC.

Environmental Services (SDB)

September 14, 1994 *Submission #:* 9409111

BASELINE ENVIRONMENTAL/EMRYVL

*Atten:* Bill Scott

*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994

*re:* 2 samples for Gasoline and BTEX analysis.

*Matrix:* SOIL
*Sampled:* September 8, 1994 *Lab Run#:* 3836 *Analyzed:* September 13, 1994
*Method:* EPA 5030/8015M/8020

| Spl # CLIENT SMPL ID | Gasoline (mg/Kg) | Benzene (ug/Kg) | Toluene (ug/Kg) | Ethyl Benzene (ug/Kg) | Total Xylenes (ug/Kg) |
|---|---|---|---|---|---|
| *62198* F-S2 6.0-6.5 | N.D. | N.D. | N.D. | N.D. | N.D. |
| *62199* F-S2 11.0-11.5 | N.D. | N.D. | N.D. | N.D. | N.D. |
| Reporting Limits | 1.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Blank Result | N.D. | N.D. | N.D. | N.D. | N.D. |
| Blank Spike Result (%) | 110 | 99 | 97 | 97 | 98 |

ChromaLab, Inc.

Billy Thach
Chemist

Ali Kharrazi
Organic Manager

GC1

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

GC BILLY 21 10 43

# CHROMALAB, INC.

Environmental Services (SDB)

September 14, 1994 *Submission #:* 9409111

BASELINE ENVIRONMENTAL/EMRYVL

*Atten:* Bill Scott

*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994

*re:* 2 samples for California W.E.T. (STLC) Lead analysis.

*Matrix:* SOIL *Extracted:* September 14, 1994
*Sampled:* September 8, 1994 *Lab Run#:* 3846 *Analyzed:* September 14, 1994
*Method:* CA WET/EPA 3010/6010

| Spl # | CLIENT SMPL ID | LEAD (mg/L ) | REPORTING LIMIT (mg/L ) | BLANK RESULT (mg/L ) | BLANK SPIKE RESULT (%) |
|---|---|---|---|---|---|
| *62198* | F-S2 6.0-6.5 | N.D. | 0.1 | N.D. | 101 |
| *62199* | F-S2 11.0-11.5 | N.D. | 0.1 | N.D. | 101 |

ChromaLab, Inc.

Charles Woolley
Chemist

John S. Labash
Inorganic Supervisor



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(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

# CHROMALAB, INC.

Environmental Services (SDB)

September 15, 1994 *Submission #:* 9409111

BASELINE ENVIRONMENTAL/EMRYVL

*Atten:* Bill Scott

*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994

*re:* 2 samples for Motor Oil analysis

*Matrix:* SOIL
*Sampled:* September 8, 1994 *Analyzed:* September 14, 1994
*Method:* EPA 3550/8015

| Sample # | Client Sample ID | Motor Oil (mg/Kg) |
|---|---|---|
| 62198 | F-S2 6.0-6.5 | 650 |
| 62199 | F-S2 11.0-11.5 | N.D. |
| Blank | | N.D. |
| Blank Spike Recovery | | 84% |
| Reporting Limit | | 10 |

ChromaLab, Inc.

Sirirat Chullakorn
Analytical Chemist

Ali Kharrazi
Organic Manager

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

# CHROMALAB, INC.

Environmental Services (SDB)

September 15, 1994 *Submission #:* 9409111

BASELINE ENVIRONMENTAL/EMRYVL
*Atten:* Bill Scott
*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994
*re:* One sample for Volatile Organic Compounds analysis.

*Sample ID:* **F-S2 6.0-6.5** *Matrix:* SOIL
*Sampled:* September 8, 1994 *Spl#:* 62198 *Run:* 3859 *Analyzed:* September 12, 1994
*Method:* EPA 8240/8260

| ANALYTE | RESULT (ug/Kg) | REPORTING LIMIT (ug/Kg) | BLANK RESULT (ug/Kg) | BLANK SPIKE RESULT (%) |
|---|---|---|---|---|
| ACETONE | N.D. | 25 | N.D. | -- |
| BENZENE | N.D. | 5.0 | N.D. | 91 |
| BROMODICHLOROMETHANE | N.D. | 5.0 | N.D. | -- |
| BROMOFORM | N.D. | 5.0 | N.D. | -- |
| BROMOMETHANE | N.D. | 5.0 | N.D. | -- |
| 2-BUTANONE | N.D. | 5.0 | N.D. | -- |
| CARBON TETRACHLORIDE | N.D. | 5.0 | N.D. | -- |
| CHLOROBENZENE | N.D. | 5.0 | N.D. | 84 |
| CHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 2-CHLOROETHYLVINYLETHER | N.D. | 5.0 | N.D. | -- |
| CHLOROFORM | N.D. | 5.0 | N.D. | -- |
| CHLOROMETHANE | N.D. | 5.0 | N.D. | -- |
| DIBROMOCHLOROMETHANE | N.D. | 5.0 | N.D. | -- |
| 1,1-DICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 1,2-DICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 1,1-DICHLOROETHENE | N.D. | 5.0 | N.D. | 91 |
| 1,2-DICHLOROETHENE (CIS) | N.D. | 5.0 | N.D. | -- |
| 1,2-DICHLOROETHENE (TRANS) | N.D. | 5.0 | N.D. | -- |
| 1,2-DICHLOROPROPANE | N.D. | 5.0 | N.D. | -- |
| 1,3-DICHLOROPROPENE (CIS) | N.D. | 5.0 | N.D. | -- |
| 1,3-DICHLOROPROPENE (TRANS) | N.D. | 5.0 | N.D. | -- |
| ETHYL BENZENE | N.D. | 5.0 | N.D. | -- |
| 2-HEXANONE | N.D. | 5.0 | N.D. | -- |
| METHYLENE CHLORIDE | N.D. | 25 | N.D. | -- |
| 4-METHYL-2-PENTANONE | N.D. | 5.0 | N.D. | -- |
| STYRENE | N.D. | 5.0 | N.D. | -- |
| 1,1,2,2-TETRACHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| TETRACHLOROETHENE | N.D. | 5.0 | N.D. | -- |
| TOLUENE | N.D. | 5.0 | N.D. | 83 |
| 1,1,1-TRICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 1,1,2-TRICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| TRICHLOROETHENE | N.D. | 5.0 | N.D. | 83 |
| TRICHLOROFLUOROMETHANE | N.D. | 5.0 | N.D. | -- |
| VINYL ACETATE | N.D. | 5.0 | N.D. | -- |
| VINYL CHLORIDE | N.D. | 5.0 | N.D. | -- |
| XYLENES (TOTAL) | N.D. | 5.0 | N.D. | -- |

ChromaLab, Inc.

Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager



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(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

# CHROMALAB, INC.

Environmental Services (SDB)

September 15, 1994 *Submission #:* 9409111

BASELINE ENVIRONMENTAL/EMRYVL
*Atten:* Bill Scott
*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994
*re:* One sample for Volatile Organic Compounds analysis.

*Sample ID:* **F-S2 11.0-11.5** *Matrix:* SOIL
*Sampled:* September 8, 1994 *Spl#:* 62199 *Run:* 3859 *Analyzed:* September 12, 1994
*Method:* EPA 8240/8260

| ANALYTE | RESULT (ug/Kg) | REPORTING LIMIT (ug/Kg) | BLANK RESULT (ug/Kg) | BLANK SPIKE RESULT (%) |
|---|---|---|---|---|
| ACETONE | N.D. | 25 | N.D. | -- |
| BENZENE | N.D. | 5.0 | N.D. | 91 |
| BROMODICHLOROMETHANE | N.D. | 5.0 | N.D. | -- |
| BROMOFORM | N.D. | 5.0 | N.D. | -- |
| BROMOMETHANE | N.D. | 5.0 | N.D. | -- |
| 2-BUTANONE | N.D. | 5.0 | N.D. | -- |
| CARBON TETRACHLORIDE | N.D. | 5.0 | N.D. | -- |
| CHLOROBENZENE | N.D. | 5.0 | N.D. | 84 |
| CHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 2-CHLOROETHYLVINYLETHER | N.D. | 5.0 | N.D. | -- |
| CHLOROFORM | N.D. | 5.0 | N.D. | -- |
| CHLOROMETHANE | N.D. | 5.0 | N.D. | -- |
| DIBROMOCHLOROMETHANE | N.D. | 5.0 | N.D. | -- |
| 1,1-DICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 1,2-DICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 1,1-DICHLOROETHENE | N.D. | 5.0 | N.D. | 91 |
| 1,2-DICHLOROETHENE (CIS) | N.D. | 5.0 | N.D. | -- |
| 1,2-DICHLOROETHENE (TRANS) | N.D. | 5.0 | N.D. | -- |
| 1,2-DICHLOROPROPANE | N.D. | 5.0 | N.D. | -- |
| 1,3-DICHLOROPROPENE (CIS) | N.D. | 5.0 | N.D. | -- |
| 1,3-DICHLOROPROPENE (TRANS) | N.D. | 5.0 | N.D. | -- |
| ETHYL BENZENE | N.D. | 5.0 | N.D. | -- |
| 2-HEXANONE | N.D. | 5.0 | N.D. | -- |
| METHYLENE CHLORIDE | N.D. | 25 | N.D. | -- |
| 4-METHYL-2-PENTANONE | N.D. | 5.0 | N.D. | -- |
| STYRENE | N.D. | 5.0 | N.D. | -- |
| 1,1,2,2-TETRACHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| TETRACHLOROETHENE | N.D. | 5.0 | N.D. | -- |
| TOLUENE | N.D. | 5.0 | N.D. | 83 |
| 1,1,1-TRICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| 1,1,2-TRICHLOROETHANE | N.D. | 5.0 | N.D. | -- |
| TRICHLOROETHENE | N.D. | 5.0 | N.D. | 83 |
| TRICHLOROFLUOROMETHANE | N.D. | 5.0 | N.D. | -- |
| VINYL ACETATE | N.D. | 5.0 | N.D. | -- |
| VINYL CHLORIDE | N.D. | 5.0 | N.D. | -- |
| XYLENES (TOTAL) | N.D. | 5.0 | N.D. | -- |

ChromaLab, Inc.

Aaron McMichael
Chemist

Ali Kharrazi
Organic Manager



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(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

# CHAIN OF CUSTODY I

SUBM #: 940911[illegible]
CLIENT: BASELINE
DUE: 09/15/94
REF #:18304

9/8/1994
Normal
Chromalabs
Bill Scott/Kevin O'Dea

| Project No. | Project Name and Location |
|---|---|
| 92404-00 | 2662 Fruitvale |

Samplers: (Signature) [signature]

| Sample ID No. Station | Date | Time | Media | Depth | No. of Containers | TEH | Gas/Silica (TPH with BTX&E) | Oil & Grease | Motor Oil | PNAs | Title 22 Metals Soluble Total Lead (STLC) | 8240 | | | | | | | Remarks/ Composite | Detection Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F-S1; 5.5-6.0 | 9-8-94 | 12:54 | Soil | 5.5-6.0 | 1 | | X | X | X | | | X | X | | | | | | HOLD | |
| F-S1 11.0-11.5 | 9 | 13:14 | | 11.0-11.5 | 1 | | | | | | | X | | | | | | | Hold | |
| F-S2; 6.0-6.5 | | 13:30 | | 6.0-6.5 | 1 | | X | X | X | | | X | X | | | | | | | |
| F-S2; 11.0-11.5 | | 13:46 | | 11.0-11.5 | 1 | | X | X | X | | | X | X | | | | | | | |
| F-S3; 5.5-6.0 | | 14:00 | | 5.5-6.0 | 1 | | | | | | | | | | | | | | Hold | |
| F-S3; 11.0-11.5 | | 14:17 | | 11.0-11.5 | 1 | | | | | | | | | | | | | | Hold | |
| F-S4; 4.5-5.0 | | 14:52 | | 4.5-5.0 | 1 | | | | | | | | | | | | | | Hold | |
| F-S4; 11.0-11.5 | | 15:00 | | 11.0-11.5 | 1 | | | | | | | | | | | | | | Hold | |
| F-S5; 5.5-6.0 | | 15:20 | | 5.5-6.0 | 1 | | | | | | | | | | | | | | Hold | |
| F-S5; 11.0-11.5 | | 15:34 | | 11.0-11.5 | 1 | | | | | | | | | | | | | | Hold | |

| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Date / Time | Conditions of Samples Upon Arrival at Laboratory: |
|---|---|---|---|---|
| | | | | Cold |
| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Date / Time | Remarks: Samples received good condition Cold 9-8-94 BW |
| Relinquished by: (Signature) [signature] | Date / Time 9-8-94/18:49 | Received by: (Signature) [signature] | Date / Time 9-8-94 1849 | |

# CHROMALAB, INC.

Environmental Services (SDB)

September 21, 1994 *Submission #:* 9409223

BASELINE ENVIRONMENTAL/EMRYVL

*Atten:* Kevin O'Dea/Bill Scott

*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994

*re:* 4 samples for Total Oil and Grease, with animal and veg. oils analysis.

*Matrix:* SOIL
*Sampled:* September 8, 1994 *Lab Run#:* 3892 *Analyzed:* September 20, 1994
*Method:* STANDARD METHODS 5520 E

| Spl # | CLIENT SMPL ID | TOTAL OIL & GREASE (mg/Kg) | REPORTING LIMIT (mg/Kg) | BLANK RESULT (mg/Kg) | BLANK SPIKE RESULT (%) |
|---|---|---|---|---|---|
| *62957* | F-S1 5.5-6.0' | N.D. | 50 | N.D. | 99 |
| *62958* | F-S3 5.5-6.0' | N.D. | 50 | N.D. | 99 |
| *62959* | F-S5 5.5-6.0' | 210 | 50 | N.D. | 99 |
| *62960* | F-S4 4.5-5.0' | N.D. | 50 | N.D. | 99 |

ChromaLab, Inc.

Carolyn House
Extraction Supervisor

Ali Kharrazi
Laboratory Director

EXTRACTION

QC JILL 16 16 26

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(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

# CHROMALAB, INC.

Environmental Services (SDB)

September 21, 1994 *Submission #:* 9409223

BASELINE ENVIRONMENTAL/EMRYVL

*Atten:* Kevin O'Dea/Bill Scott

*Project:* 2662 FRUITVALE *Project#:* 92404-DO
*Received:* September 8, 1994

*re:* 4 samples for Oil and Grease analysis.

*Matrix:* SOIL
*Sampled:* September 8, 1994 *Lab Run#:* 3892 *Analyzed:* September 20, 1994
*Method:* STANDARD METHODS 5520 E&F

| Spl # CLIENT SMPL ID | OIL & GREASE (mg/Kg) | REPORTING LIMIT (mg/Kg) | BLANK RESULT (mg/Kg) | BLANK SPIKE RESULT (%) |
|---|---|---|---|---|
| *62961* F-S4 4.5-5.0' | N.D. | 50 | N.D. | 99 |
| *62962* F-S1 5.5-6.0' | N.D. | 50 | N.D. | 99 |
| *62963* F-S3 5.5-6.0' | N.D. | 50 | N.D. | 99 |
| *62964* F-S5 5.5-6.0' | 200 | 50 | N.D. | 99 |

ChromaLab, Inc.

Carolyn House
Extraction Supervisor

Ali Kharrazi
Laboratory Director



2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

SUBM #: 9409222
CLIENT: BASELINE
DUE: 09/23/94
REF #:18418 ADD 9409111

# CHROMALAB, INC.

# ADD ON

2457 - 62964

**Order No.:** 18418

**Name of Caller:** Base line

**Call date:** 9-16 - Fax **Time:** 14:04

**ADD ON DUE DATE:** 9-23-94 **Date Sampled:**

**Comments:**

by

ORIGINAL COC INFO

**Project Mgr.:** Kevin O'Dea

**Project Name:** 2662 Fruitvale Ave.

**Project No.:** 92404-DO

**Date Received:** 9-8-94

**Submission No.:** 9409111

| SAMPLE ID. | DATE | TIME | MATRIX | PRESERV. | TPH - Gasoline (EPA 5030, 8015) | TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020) | TPH - Diesel (EPA 3510/3550, 8015) | PURGEABLE AROMATICS BTEX (EPA 602, 8020) | PURGEABLE HALOCARBONS (EPA 601, 8010) | VOLATILE ORGANICS (EPA 624, 8240, 524.2) | BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525) | TOTAL OIL & GREASE (EPA 5520, B+F, E+F) | PCB (EPA 608, 8080) | PESTICIDES (EPA 608, 8080) | TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1) | | METALS: Cd, Cr, Pb, Zn, Ni | CAM METALS (17) | PRIORITY POLLUTANT METALS (13) | TOTAL LEAD | EXTRACTION (TCLP, STLC) | Total and Non-Polar Oil + Grease | 5520 B + 5520 B/F | | NUMBER OF CONTAINERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F-S1, 5.5-6.0 | | | S | | | | | | | | | | | | | | | | | | | X | | | 1 |
| F-S3, 5.5-6.0 | | | ↓ | | | | | | | | | | | | | | | | | | | X | | | 1 |
| F-S4, 4.5-5.0 | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| F-S5-5.5-6.0 | | | | | | | | | | | | | | | | | | | | | | X | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900



# ANALYTICAL REPORT

Prepared for:

Baseline Environmental
5900 Hollis Street
Suite D
Emeryville, CA 94608

Date: 06-OCT-94
Lab Job Number: 117300
Project ID: 92404-DO
Location: Fruitvale,2662 Fruitvale

Reviewed by: Teresa K Morris

Reviewed by:

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 117300
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: 92404-D0
LOCATION: Fruitvale, 2662 Fruitvale

DATE SAMPLED: 09/07/94
DATE RECEIVED: 09/07/94
DATE ANALYZED: 09/21/94
DATE REPORTED: 10/06/94

Total Volatile Hydrocarbons with BTXE in Soils & Wastes
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

| LAB ID | SAMPLE ID | TVH AS GASOLINE (mg/Kg) | BENZENE (ug/Kg) | TOLUENE (ug/Kg) | ETHYL BENZENE (ug/Kg) | TOTAL XYLENES (ug/Kg) |
|---|---|---|---|---|---|---|
| 117300-1 | MW-F4 5.5-6.0 | ND(1) | ND(5) | ND(5) | ND(5) | ND(5) |
| 117300-METHOD BLANK | | ND(1) | ND(5) | ND(5) | ND(5) | ND(5) |

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

| | |
|---|---|
| RPD, % | 23 |
| RECOVERY, % | 102 |

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 117300
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: 92404-D0
LOCATION: Fruitvale, 2662 Fruitvale

DATE SAMPLED: 09/07/94
DATE RECEIVED: 09/07/94
DATE ANALYZED: 09/28/94
DATE REPORTED: 10/06/94

Total Volatile Hydrocarbons with BTXE in Soils & Wastes
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

| LAB ID | SAMPLE ID | TVH AS GASOLINE (mg/Kg) | BENZENE (ug/Kg) | TOLUENE (ug/Kg) | ETHYL BENZENE (ug/Kg) | TOTAL XYLENES (ug/Kg) |
|---|---|---|---|---|---|---|
| 117300-2 | MW-F4 11.0-11.5 | 2,100#* | 1,700# | 11,000# | 66,000#+ | 230,000#+ |
| 117300-METHOD BLANK | | ND(1) | ND(5) | ND(5) | ND(5) | ND(5) |

* Sample chromatogram does not resemble gasoline standard.
# Results obtained past the technical holding time.
+ Analyzed at a 1:333 dilution on 9/30/94.

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

| | |
|---|---|
| RPD, % | <1 |
| RECOVERY, % | 102 |

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

T17

# CHAIN OF CUSTODY RECORD

Turn-around Time: Normal
Lab: Curtis & Tompkins
BASELINE Contact Person: Bill Scott Kevin D'Amore

| Project No. | Project Name and Location |
|---|---|
| 92404-DO | Fruitvale, 2662 Fruitvale Ave |

Samplers: (Signature) William K Scott

| Sample ID No. Station | Date | Time | Media | Depth | No. of Containers | TEH | TPH (gasoline) with BTX&E | Oil & Grease | Motor Oil | PNAs | Title 22 Metals Sch-44 Total Lead | 2240 | Remarks/ Composite | Detection Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-F4 5.5-6.0 | 9-7-94 | 9:43 | Soil | 5.5-6.0 | 1 | | X | | X | | | | | |
| MW-F4 11.0-11.5 | 9-7-94 | 10:22 | Soil | 11.0-11.5 | 1 | | X | | X | | | | | |
| MW-F4 12.5-13.0 | 9-7-94 | 10:43 | Soil | 12.5-13.0 | 1 | | X | | X | | | | HOLD | |

| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Date / Time | Conditions of Samples Upon Arrival at Laboratory: |
|---|---|---|---|---|
| | | | | Cold |
| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Date / Time | Remarks: |
| | | | | |
| Relinquished by: (Signature) William K Scott | Date / Time 9-7-94 14:20 | Received by: (Signature) Kathy Ortner | Date / Time 9/7/94 1420 | |

COCTRCDE.FM2

ADMIN(AD4)-5/27/92

# APPENDIX G

## LABORATORY REPORTS
## GROUNDWATER SAMPLES
## September 1994

# CHROMALAB, INC.

Environmental Services (SDB)

Revised 10/18/94

October 18, 1994

*Submission #:* 9409117

BASELINE ENVIRONMENTAL/EMRYVL

*Atten:* William Scott

RECEIVED
OCT 26 1994
BASELINE

*Project:* 2662 FRUITVALE, OAKLAND *Project#:* 92404-DO
*Received:* September 9, 1994

*re:* 7 samples for Gasoline and BTEX analysis.

*Matrix:* WATER
*Sampled:* September 9, 1994 *Run#:* 3839 *Analyzed:* September 14, 1994
*Method:* EPA 5030/8015M/602/8020

| Spl # | CLIENT SMPL ID | Gasoline (mg/L) | Benzene (ug/L) | Toluene (ug/L) | Ethyl Benzene (ug/L) | Total Xylenes (ug/L) |
|---|---|---|---|---|---|---|
| *62247* | HP-F3 | 0.21 | 0.9 | 0.7 | 4.9 | 20 |
| *62248* | HP-F1 | 26 | 460 | 160 | 1500 | 4400 |
| Note: | DETECTION LIMIT: | BTEX=0.9 UG/L | | GASOLINE=0.9 MG/L | | |
| *62250* | MW-F4A | 3.5 | 28 | 2.8 | 33 | 99 |
| *62251* | MW-F2 | N.D. | N.D. | N.D. | N.D. | N.D. |
| *62252* | MW-F3 | N.D. | N.D. | N.D. | N.D. | N.D. |
| *62253* | MW-F1 | N.D. | N.D. | N.D. | N.D. | N.D. |

*Matrix:* WATER
*Sampled:* September 9, 1994 *Run#:* 3849 *Analyzed:* September 13, 1994
*Method:* EPA 5030/8015M/602/8020

| Spl # | CLIENT SMPL ID | Gasoline (mg/L) | Benzene (ug/L) | Toluene (ug/L) | Ethyl Benzene (ug/L) | Total Xylenes (ug/L) |
|---|---|---|---|---|---|---|
| *62249* | MW-F4 | 3.4 | 29 | 3.0 | 38 | 94 |
| | Reporting Limits | 0.05 | 0.5 | 0.5 | 0.5 | 0.5 |
| | Blank Result | N.D. | N.D. | N.D. | N.D. | N.D. |
| | Blank Spike Result (%) | 80 | 96 | 103 | 100 | 107 |

Ali Kharrazi (For)
Billy Thach
Chemist

Ali Kharrazi
Ali Kharrazi
Organic Manager

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(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

[redacted]

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

# CHAIN OF CUSTODY RECORD

Turn-around Time: Normal
Lab: Chromalab
BASELINE Contact Person: Bill Scott Kieran Opar

| Project No. | Project Name and Location |
|---|---|
| 92404-PO | Fruitvale, 3662 Fruitvale, Oakland |

Samplers: (Signature) William K. Scott

SUBM #: 9409117
CLIENT: BASELINE
DUE: 09/16/94
REF #:18311

| Sample ID No. Station | Date | Time | Media | Depth | No. of Containers | Analysis: TEH | (TPH with BTX&E) | Oil & Grease | Motor Oil | PNAs | Title 22 Metals | Total Lead | | | | | | | Remarks/ Composite | Detection Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HP-F3 | 9-9-94 | 11.40 | water | | 2 | | X | | | | | | | | | | | | | Tri Valley |
| HP-F1 | 9-9-94 | 11.50 | water | | 2 | | X | | | | | | | | | | | | | |
| MW-F4 | " | 13:40 | water | | 2 | | X | | | | | | | | | | | | | |
| MW-F4A | | 13:45 | water | | 1 | | X | | | | | | | | | | | | | |
| MW-F2 | | 14:00 | water | | 2 | | X | | | | | | | | | | | | | |
| MW-F3 | | 14:15 | water | | 2 | | X | | | | | | | | | | | | | |
| MW-F1 | | 14:30 | water | | 2 | | X | | | | | | | | | | | | | |

| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Date / Time | Conditions of Samples Upon Arrival at Laboratory: |
|---|---|---|---|---|
| | | | | Cold Good cond no air bubbles |
| Relinquished by: (Signature) | Date / Time | Received by: (Signature) | Date / Time | Remarks: ORC Unpreserved container |
| Relinquished by: (Signature) William K. Scott | Date / Time 9-9-94/16:20 | Received by: (Signature) Gary Cook | Date / Time 9/9/94 16:20 | |

CCSTRCDF.FM2

ADMIN(AD4)-5/27/92