10/27/89

Mr. Donald Byrne
Hazardous Materials Specialist
Alameda County Health Agency

In accordance with instructions of Wilbur Sprague of Del Monte, enclosed is a copy of the Property Assessment and Tank Removal Report covering Del Monte Plant No. 35 (4204 Hollis Ave.) Emeryville, CA. This report was prepared by CH2M Hill in September 1989.

If you have any questions regarding this report, please contact Susan Coleman at CH2M Hill.

PROPERTY ASSESSMENT AND TANK REMOVAL REPORT
DEL MONTE PLANT NO. 35
4204 HOLLIS AVE.
EMERYVILLE, CALIFORNIA

Prepared for
Del Monte, USA

By
CH2M HILL

September 1989

CONTENTS

TABLES

FIGURES

Section 1
INTRODUCTION

Section 1
INTRODUCTION

OBJECTIVES

CH2M HILL conducted an assessment of the approximately one-third acre parcel on the southwest corner of the Del Monte Plant No. 35 property (on the corner of Hollis Street and Park Avenue) in Emeryville, Alameda County, California. The purpose of this property assessment was to collect and review information about activities conducted on this corner parcel and nearby properties to evaluate whether chemicals may have been released to soil or groundwater beneath the property. A second objective of this report is to summarize underground storage tank removal and sampling activities.

The property assessment included the following activities:

- A walk-through inspection and visual examination of the building and surrounding area, and interviews with the plant manager about site history, past operations, and chemical use
- A drive-through windshield survey of surrounding nearby properties within approximately one-quarter mile
- A review of regulatory agency documentation including:
  - California Regional Water Quality Control Board, San Francisco Region (SFRWQCB)--Leaking Underground Storage Tanks
  - State of California Department of Health Services (DHS)--Hazardous Waste Sites
  - U.S. Environmental Protection Agency (EPA), Toxic Substances Control Division--Hazardous Waste Generators and Treatment, Storage, and Disposal Facilities
- A review of aerial photographs taken between 1947 and 1988

The underground storage tank removal activities including the following:

- Sampling the contents of four underground fuel oil tanks

- o Initial soil sampling near the tanks
- o Removing the tanks
- o Soil sampling beneath the tanks after removal
- o Installing groundwater monitoring wells
- o Groundwater sampling

Section 1 of this report explains the objectives of this report and describes the background of Del Monte's corner parcel including property development and use, and the environmental setting. Section 2 describes the removal of the four fuel oil tanks, and documents the methods and procedures for tank sampling, soil sampling, monitoring well installation, and groundwater sampling. The soil and groundwater sample results are discussed in Section 3. Section 4 presents the information on neighboring properties collected from various agency files. A recommended followup plan is presented in Section 5.

BACKGROUND

This section presents a summary of the property development and use of the southwest corner of Plant No. 35 and describes the environmental setting. Information about property development and use was obtained from discussions with the plant manager, property plot plans, and historic aerial photographs. The dates of the photographs reviewed were March 24, 1947; September 16, 1949; August 14, 1953; May 3, 1957; July 7, 1959; May 2, 1969; April 24, 1973; September 14, 1979; June 21, 1983; and March 30, 1988.

PROPERTY DEVELOPMENT AND USE

Plant No. 35 has been located on approximately 13.5 acres at 1250 Park Avenue, Emeryville, Alameda County, California, since about 1928 when Del Monte acquired the property (Figure 1-1). The history of the southwest corner since that time is uncertain. A building identified as Plant No. 554 appeared in a 1942 plot plan, with a corner of the building being on the southwest corner parcel (Figure 1-2). It is not clear whether this building actually existed because Plant No. 554 was not seen in a 1947 aerial photograph, and fish processing operations were conducted in this area until at least 1949.

The building that is currently on the southwest corner parcel existed in March 1947, based on the aerial photograph. It is unknown what operations were conducted in this

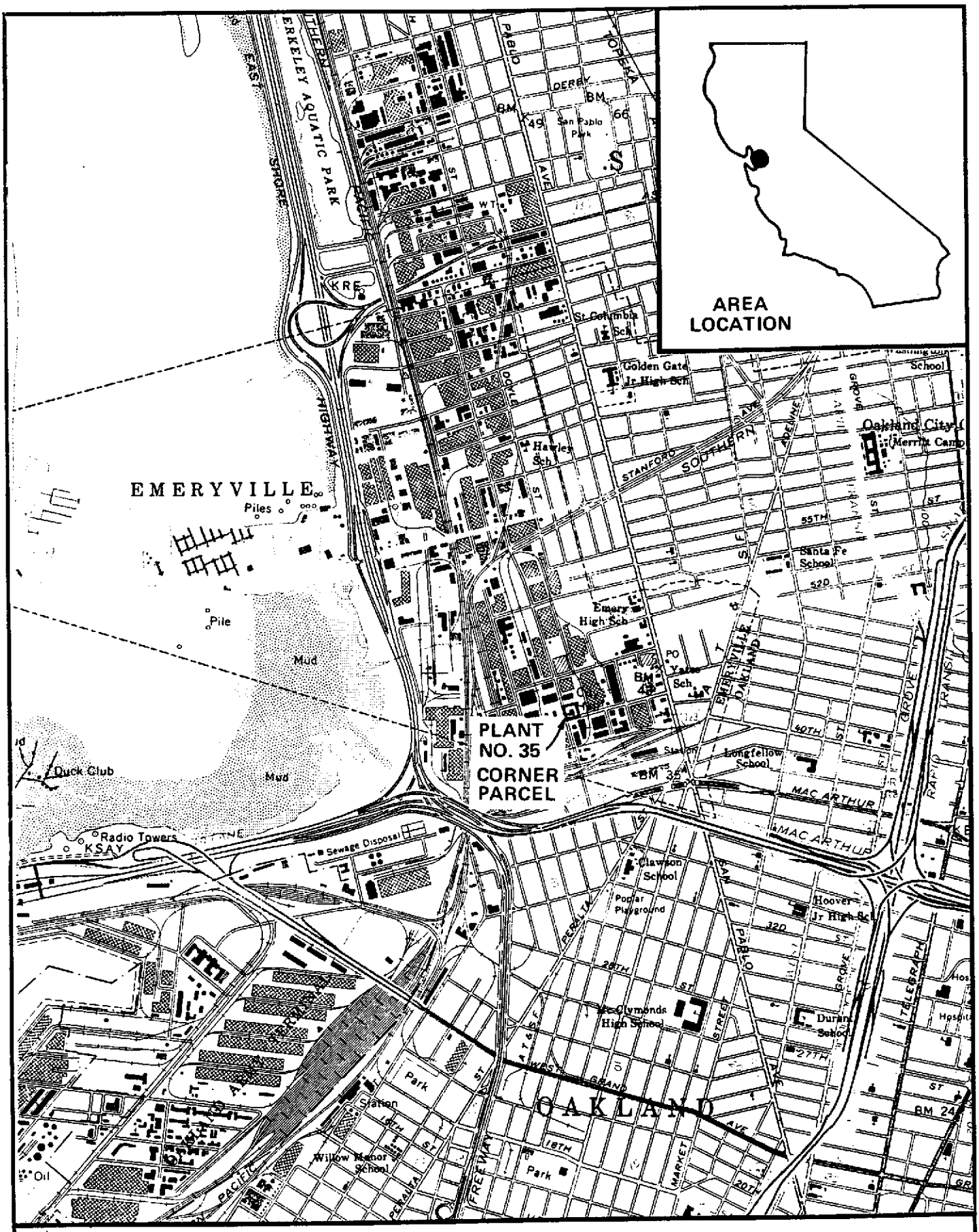


FIGURE 1–1
PROPERTY LOCATION MAP
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA

1" = 2000'

CH2M HILL

SFO27289.A0

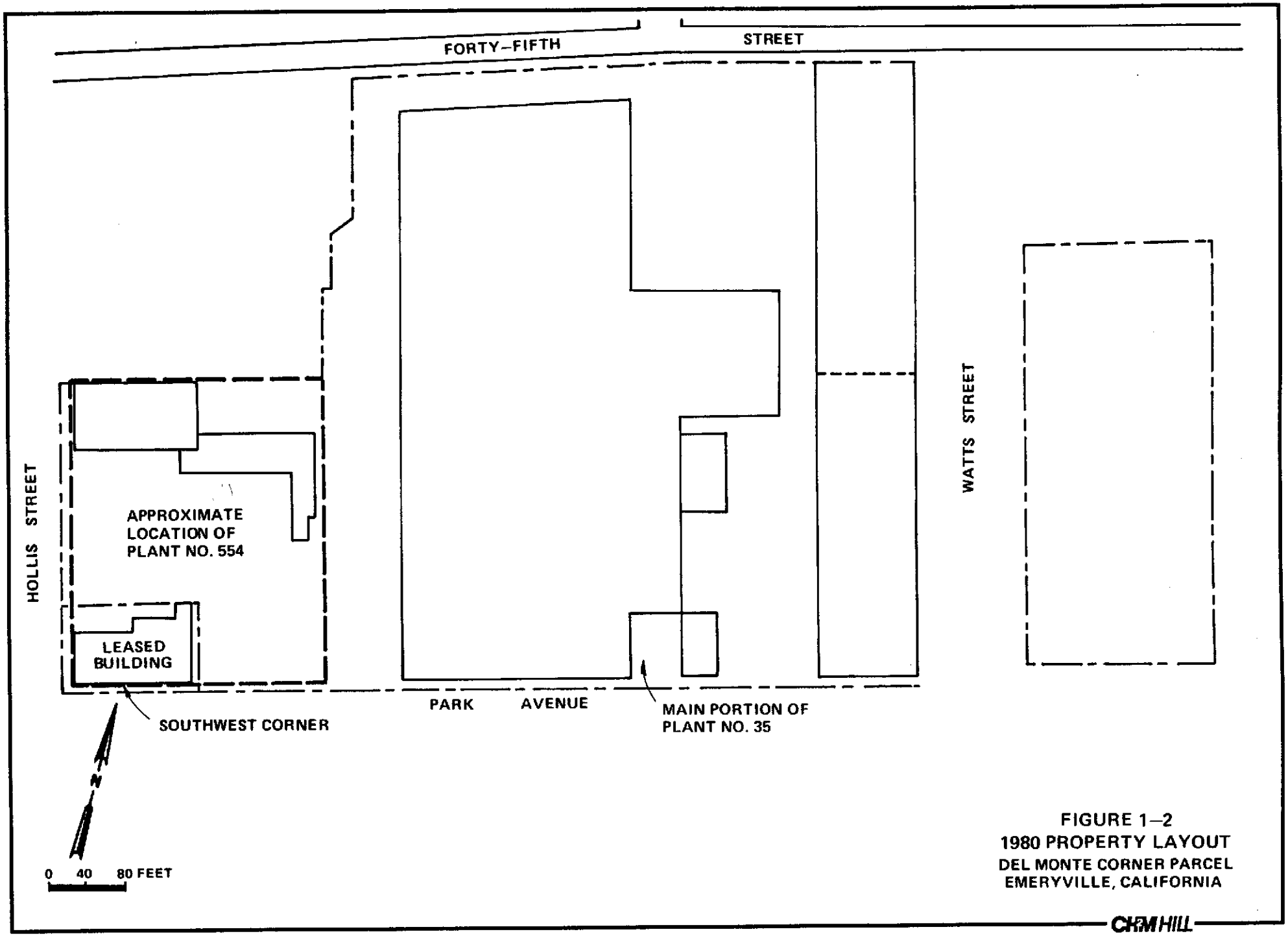


FIGURE 1–2
1980 PROPERTY LAYOUT
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA

CH2M HILL

SFO27289.A0

building during these early years. In 1971, a company called TECNA leased the building; however, no information is available on TECNA's operations except that the company performed medical research. Thoratec Laboratories, Inc. leased the building from 1976 to January 1989. Thoratec also conducted medical research. Chemicals reportedly used by Thoratec included methanol, acetone, ethanol, dimethylacetamide, dimethylformamide, and octamethylcyclotetrasiloxane (communication between J. Layton, Plant No. 35 Manager, and Thoratec, Inc.).

ENVIRONMENTAL SETTING

This section briefly describes the geographic setting, and the geologic and hydrogeologic conditions in the vicinity of the property.

Geographic Setting

This property is in the generally flat-lying area between San Francisco Bay to the west and the Berkeley Hills to the east. It is approximately one-third of a mile east of the original shoreline of San Francisco Bay (Nichols and Wright, 1971), and about one-half mile from the current shoreline.

Regional Geology

The active Hayward fault is approximately 3 miles to the east of this property and generally separates the bedrock-dominated Berkeley Hills from the alluvial and marine sediments that comprise the sloping plain that underlies the property. The alluvial and marine sediments consist of interbedded clays, silts, sands, and gravels. The alluvial sediments contain a larger proportion of sand and gravel, and the grain size generally increases toward the foot of the hills. The marine deposits are finer-grained and consist mainly of clay.

Regional Hydrogeology

The property is located above the Alameda Bay Plain Groundwater Basin (DWR, 1980). Groundwater in the Alameda Bay Plain Basin occurs within the generally discontinuous, permeable alluvial and marine sediments that extend from the ground surface to depths of over 500 feet below ground surface (DWR, 1980).

Regional information is not available about the horizontal or vertical directions of groundwater flow in the Emeryville area. Based on information for areas to the south (such as San Leandro), however, groundwater flow in both shallow and deeper zones is likely to be westward toward San Francisco

Bay. If there is local pumping, it is likely from the deeper zones, and such pumping could affect the direction of groundwater flow.

According to the Water Quality Control Plan for the San Francisco Bay Basin (SFRWQCB, 1982, 1986), potential beneficial uses of groundwater applicable to the main groundwater basins in the San Francisco area are municipal supply, industrial process water supply, industrial service supply, and agricultural supply. Factors limiting groundwater development in these basins include sea-water intrusion, aquifer materials of low permeability, and water quality (DWR, 1975). The lack of attention to the northern part of the Alameda Bay Plain Basin, where the property is located, tends to indicate a low level of groundwater use (SFRWQCB, 1982 and 1986; DWR, 1963 and 1975; USGS, 1972 and 1989).

Section 2
INVESTIGATION METHODS AND PROCEDURES

Section 2
INVESTIGATION METHODS AND PROCEDURES

In the following subsections, the methods and procedures for the tank removal activities and the associated tank sampling, and soil and groundwater sampling are described in the order the activities were conducted.

SAMPLING OF TANK CONTENTS

On December 1, 1988, prior to removal, the four fuel oil tanks (Figure 2-1) were sampled to identify the constituents and to help determine the volume of the contents needing disposal. The contents were analyzed for total petroleum hydrocarbons (TPH) as gasoline (EPA Method 5030/Modified 8015) and diesel (EPA Methods 3550/Modified 8015) and BTEX compounds (benzene, toluene, ethylbenzene, and xylene)(EPA Methods 5030/602).

Because the HNu and the explosimeter indicated levels of volatile organic compounds above background at the fill pipe, the level of protection for the sampling team was upgraded to level C (respirators) to continue sampling. In addition, the samples were also analyzed for volatile organic compounds (VOCs) (EPA Methods 601 and 602). The detected compounds are shown in Table 2-1. The laboratory data sheets are provided in Appendix A.

Table 2-1
SAMPLING RESULTS OF TANK CONTENTS

				Tank 4	
Constituent	Tank 1 (ppm)[a]	Tank 2 (ppm)[a]	Tank 3 (ppm)[a]	Nonaqueous Phase (ppm)[a]	Aqueous Phase (ppm)[a]
Dichlorodifluoromethanes	ND	0.810	ND	ND	ND
Methylene chloride	ND	0.006	ND	ND	0.058
1,1-Dichloroethene	ND	0.020	ND	ND	0.001
1,1-Dichloroethane	ND	0.002	ND	ND	ND
trans-1,2-Dichloroethene	ND	4.200	ND	ND	0.003
Chloroform	0.024	ND	0.059	0.011	0.025
1,2-Dichloroethane	0.003	ND	0.010	0.019	0.012
Carbon tetrachloride	0.004	ND	ND	ND	0.003
Trichloroethene	0.013	52	0.093	9.100	13
Bromodichloromethane	ND	ND	ND	ND	0.006
Benzene	0.017	12	47	3.900	3.600
Toluene	0.014	0.054	0.260	0.078	0.160
Ethyl benzene	0.004	0.045	0.220	0.020	0.053
Xylene	0.015	0.130	ND	0.070	0.280
TPH-gas (ppm)[a]	0.190	ND	ND	16	ND

[a]parts per million as mg/l
ND = Not detected

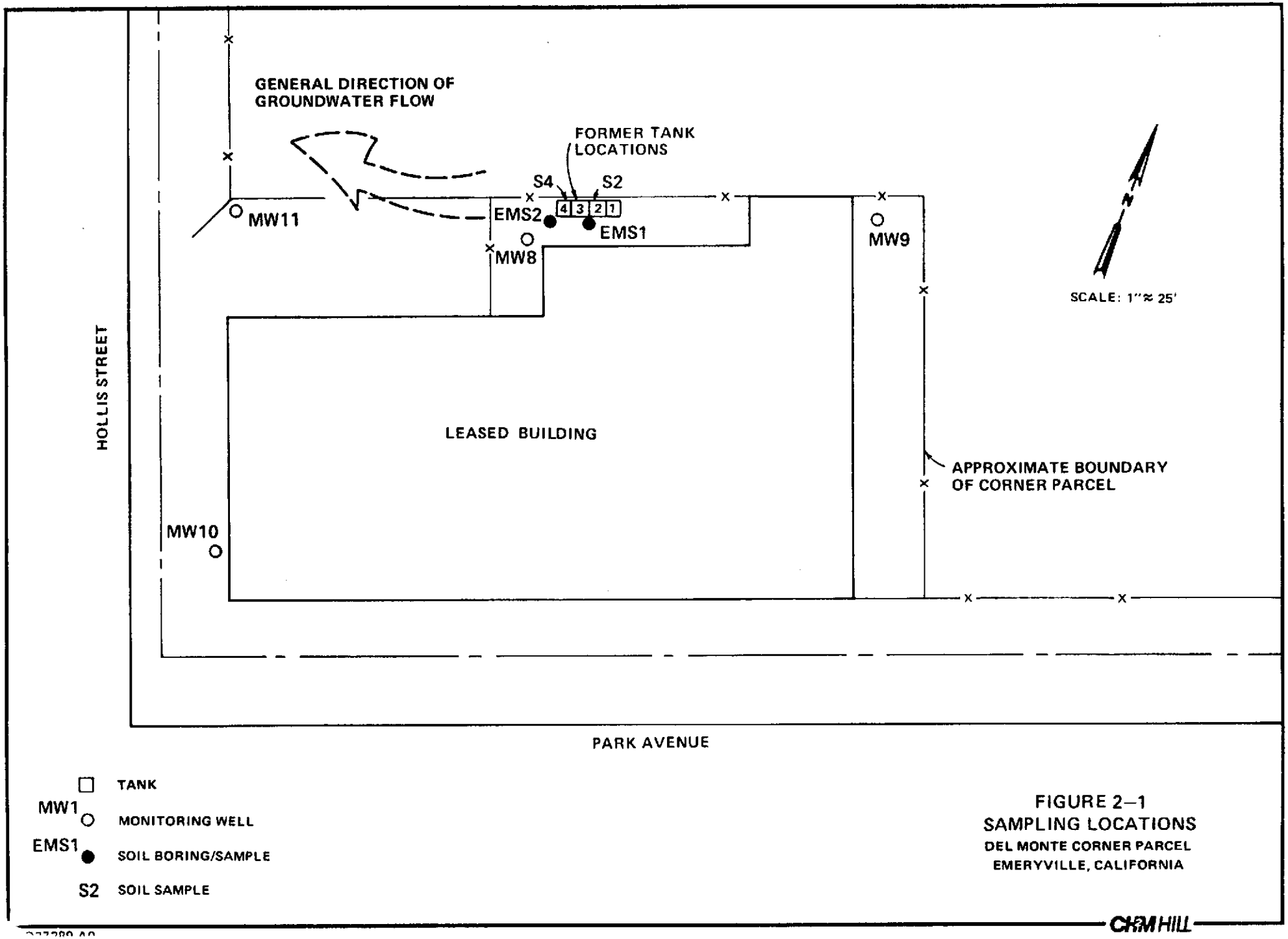


FIGURE 2–1
SAMPLING LOCATIONS
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA

CH2M HILL

INITIAL SOIL SAMPLING

Soil samples were collected on February 8, 1989, prior to tank removal, to assess whether a potential release had occurred. Two borings (EMS-1, EMS-2) were drilled down-gradient of the fuel tanks as shown in Figure 2-1.

Before sampling, equipment was decontaminated by washing in Alconox, rinsing twice with clean water, and rinsing once with distilled water. The brass sleeves used for soil sampling were also rinsed with isopropanol and allowed to dry.

The soil borings were drilled using 8-inch outer diameter hollow stem augering equipment operated by Exploration Geoservices, Inc. Soil samples were collected by driving a 2.5-inch-diameter, 18-inch-long Modified California sampler containing three 6-inch brass sleeves ahead of the augers. The sampler was advanced so that the middle sleeve was at the desired sample depth. At each location, a sample was collected between 6 and 6.5 feet below ground surface (bgs) and between 8.5 and 9 feet bgs.

The samples were analyzed for TPH as gasoline and diesel, BTEX compounds, and chlorinated solvents (EPA Method 8010). The analytical results are shown in Table 2-2 and the results are discussed in Section 3. The laboratory data sheets and chain-of-custody records are provided in Appendix A.

Table 2-2
SOIL SAMPLING RESULTS

Sample ID[a]	Date	TPH as Gasoline	TCE	1,2-DCE	PCE	Chloroform	Freon 113	Xylene
EMS1-6	2/8/89	<0.1	ND	ND	ND	ND	0.006	ND
EMS1-9	2/8/89	<0.1	ND	ND	ND	ND	0.008	ND
EMS2-6	2/8/89	0.3	0.008	ND	ND	0.008	ND	ND
EMS2-9	2/8/89	<0.1	0.017	ND	ND	ND	ND	0.006
S2-S2	3/22/89	ND	0.07	0.07	ND	ND	ND	ND
S2-S4	3/22/89	ND	ND	0.03	ND	ND	ND	ND
MW10-10	7/6/89	NA	ND	0.01	ND	ND	ND	NA
MW10-16	7/6/89	NA	ND	0.02	0.01	ND	ND	NA
MW11-10	7/6/89	NA	0.02	ND	ND	ND	ND	NA
MW11-16	7/6/89	NA	0.02	ND	ND	ND	ND	NA

[a]Refer to Figure 2-1 for sampling locations
ND = Not detected
NA = Not analyzed

The soil cuttings generated from drilling the borings were used to backfill the boreholes which were then sealed with a concrete cap.

UNDERGROUND STORAGE TANK REMOVAL

Four underground storage tanks were removed from the southwest corner of the property on March 22, 1989. The removal activities followed California Water quality Control Board Leaking Underground Fuel Tank (LUFT) guidelines (SWRCB, 1989). The Bay Area Air Quality Management District was notified in writing one week prior to removing the tanks as required by Regulation 8, Rule 40.

The tanks were numbered 1 through 4 from east to west as shown in Figure 2-1. The tanks were small, with a capacity of about 50 gallons each, and were made of steel. They were used to store fuel oil but reportedly not used for over 20 years. As shown in Table 2-1, the tanks also contained some chlorinated solvents. The four tanks were exposed in one excavation.

Prior to removal, the contents of the tanks were pumped out and the tanks were rinsed with water until the explosimeter indicated that the lower explosive limit (LEL) was at a safe level. About 500 gallons of liquid, including the contents and rinse water, were pumped out and treated and disposed by Solvent Service, Inc. A copy of the manifest is provided in Appendix B. Dry ice was then added to the tanks. After about one hour, the LEL and oxygen levels were measured:

Tank 1: LEL--0 to 3 percent; Oxygen--0 percent
Tank 2: LEL--5 percent; Oxygen--0 percent
Tank 3: LEL--100 percent; Oxygen--0 percent
Tank 4: LEL--45 percent; Oxygen--0 percent

Because there was no oxygen in the tanks, they were removed with the permission of Mr. Jim Eversole, Assistant Chief Fire Marshall, City of Emeryville. Prior to removal, the tanks did not appear to have large holes except on top where the fill pipes were broken off during excavation. Because the tanks were bent and broken during removal, their in-ground condition could not be accurately evaluated after they were removed. After the tanks were removed, the LEL in Tank 3 was zero percent and oxygen was 20 percent; in Tank 4, the LEL was 70 to 75 percent and oxygen was 12 percent. More dry ice was added to these two tanks. All of the tanks were covered with plastic prior to transport and disposal by H&H Ship Service, Company. A copy of the manifest is provided in Appendix B.

Mr. Dennis Byrne, Hazardous Materials Specialist, Alameda County Health Agency, was present to witness soil sampling. The soil surrounding the tank consisted of black silty clay. No detectable concentrations of volatile organics were measured using an organic vapor meter (OVM) at several

locations at the bottom of the excavation. Soil samples were collected by driving clean 2-inch diameter, 6-inch long brass tubes into the base of the excavation at the former locations of Tanks 2 and 4 (samples S2-S2 and S2-S4, respectively). The samples were analyzed for TPH as gasoline and diesel, BTEX, chlorinated solvents (EPA Method 8010), and semivolatile compounds (EPA Method 8270). The detected compounds are shown on Table 2-2 and are discussed in Section 3. The laboratory data sheets and chain-of-custody records are provided in Appendix A. The excavation was backfilled with the soil that was originally removed and some of the clean soil excavated from the gasoline tank removal conducted on the main portion of the property (described in another report [CH2M HILL, August 1989]).

GROUNDWATER MONITORING WELL INSTALLATION AND SAMPLING

A groundwater monitoring well (MW8) was installed about 10 feet downgradient of the former tank locations as shown in Figure 2-1. After the groundwater data were received, three additional wells were installed: MW9, MW10, and MW11 (Figure 2-1). The wells were installed fairly close together so that they were located on the corner parcel. The well installation, development, and sampling activities are described in this section.

WELL INSTALLATION

CH2M HILL developed well construction specifications following RWQCB guidelines and retained Exploration Geoservices, Inc. of San Jose, California to drill and install the monitoring wells. The location of underground utilities in the vicinity of the proposed wells was delineated by contacting Underground Services Alert and subsequently by contacting specific utility companies. Prior to drilling, 18-inch-wide square holes were cut through the existing concrete or asphalt and holes about 3.5 feet deep were dug by Diablo Tank and Equipment to verify the absence of underground piping.

MW8 was installed on May 3, 1989, and MW9, MW10, and MW11 were installed on July 5 and 6, 1989. Before installation, the drilling equipment was decontaminated by steam cleaning.

The boreholes for MW8 and MW10 were drilled using a Mobile B-24 drill with 6-inch outer diameter flight augers. Flight augers were required because a small drill rig was needed for close access to buildings. The flight augers were suitable for well installation because of the cohesiveness of the soil. MW9 and MW11 were drilled using a Mobile B-40 drill with a 9-inch outer diameter hollow stem auger.

The borehole for MW8 was drilled to about 25 feet bgs, which is about 15 feet below the bottom of the tanks as required by the LUFT Field Manual. The boreholes for MW9, MW10, and MW11 were drilled to about 20 feet bgs. Once total depth was reached, the augers were withdrawn from the borehole and the monitoring well was installed within the open 6-inch or 9-inch-diameter boring.

The monitoring wells were constructed with 2-inch-diameter, flush threaded, schedule 40 PVC casing and 0.020-inch slot screen. Threaded caps were placed on the bottom of the casings. Because MW8 was installed according to the LUFT Field Manual requirements, the screen extended from about 5 feet to about 25 feet bgs. Groundwater was encountered between 9 and 10 feet bgs in MW8 and MW9, and between about 7 and 8 feet bgs in MW10 and MW11. MW9, MW10, and MW11 were installed to monitor the region of groundwater movement and the screened intervals were based on the lithology encountered. The screened intervals covered a region where there was a higher percentage of fine sand or silt because this was the only permeable layer encountered. This region was from approximately 10 feet to 20 feet bgs in MW9, and from about 8 feet to 18 feet bgs in MW10 and MW11. (Boring logs are provided in Appendix A.)

Clean, washed Monterey sand (Lone Star No. 3, 8 x 20 sieve size) was used for sand pack. The elevation of the sand pack was continually sounded as the sand was being added. The sand pack was installed from the bottom of the borehole upward to approximately 1.5 to 2 feet above the top of the screen.

After the sand pack was in place, a 1-foot-thick bentonite pellet seal was placed on top of the gravel pack. Water was added to the borehole in MW8 (MW9, MW10, and MW11 were submerged so water was not necessary) and the bentonite pellets were allowed to hydrate for 15 to 30 minutes to form a seal before well construction continued.

An annular seal of portland cement concrete was installed from the top of the bentonite (about 2.5 feet bgs) to the ground surface. The wells were completed below grade with a water-tight traffic box. The top of the traffic box protrudes approximately 0.5 inch above the top of the existing pavement ("ground surface") to promote drainage. A locking, watertight well cap and lock were placed in the top of the PVC casing upon completion of the wells.

During drilling MW8, the subsurface lithology was logged from drill cuttings. MW9 and MW11, however, were sampled continuously using a wireline sampler, and MW10 was sampled

every 5 feet using a Modified California sampler. Four samples were collected from each boring from the region where the screen would be installed; two samples were analyzed for physical properties (bulk density; porosity; percent silt, sand, and clay; and percent organic carbon in the silt, sand, and clay), and two samples were analyzed for chlorinated solvents (EPA Method 8010). The data are summarized in Table 2-2 and are discussed in Section 3. The laboratory data sheets, chain-of-custody records, and monitoring well boring logs are provided in Appendix A.

For each of the wells, the elevation of the top of the casing was surveyed to the nearest 0.01 foot. The survey data are also provided in Appendix A.

WELL DEVELOPMENT

MW8 was developed on May 8 and 9, 1989, by pumping with bilge and gas-powered centrifugal pumps until the water was free of fine-grained particles. MW9, MW10, and MW11 were developed on July 10, 1989, using a gas-powered centrifugal pump. A total of approximately 126 gallons were purged from MW8, 65 gallons from MW9, 110 gallons from MW10, and 110 gallons from MW11. Electrical conductivity remained fairly constant but the water was still slightly cloudy due to the high clay and silt content of the soils.

GROUNDWATER SAMPLING

Groundwater from MW8 was sampled on May 12, 1989, and on July 10, 1989, when MW9, MW10, and MW11 were sampled. Prior to sampling at each well, the well sounder and clear bailer were decontaminated with an Alconox and tap water wash followed by a tap water rinse. The sampling bailer was also rinsed with isopropanol then distilled water. New rope and plastic hose was used for sampling each well.

Standing water was purged from the wells using a hand-powered suction pump MW8 and a gas-powered centrifugal pump at MW9, MW10, and MW11. New plastic hose was used for each well. Over 10 well casing volumes of groundwater were removed from each of the wells. While evacuating the water from the well, temperature and specific conductance were measured. A water sample was then collected using a teflon bailer and transferred to the appropriate sample containers. The 40-ml VOA bottles were carefully filled to prevent aeration or formation of air bubbles within the containers after sealing. Sample containers were labeled, decontaminated with Alconox and clean water, placed in zip-lock plastic bags, and stored in an ice-filled cooler. Chain-of-custody records were completed and samples were delivered to

the laboratory on the same or following day. All pumped groundwater was stored in 55-gallon drums on the property.

The groundwater sample collected from MW8 on May 12, 1989, was analyzed for chlorinated solvents (EPA Method 601) and phenols (EPA Method 604). The samples collected from MW9, MW10, and MW11 on July 10, 1989, were analyzed for chlorinated solvents, pH, electrical conductivity, sulfate, nitrate, chloride, and total dissolved solids (TDS); the sample collected from MW8 on July 10, was analyzed for chlorinated solvents only. The detected compounds are shown in Table 2-3 and are discussed in Section 3. Laboratory data sheets and chain-of-custody records are provided in Appendix A.

Table 2-3
GROUNDWATER SAMPLING RESULTS

Sample ID	Concentration (ppm) 1,2-DCE[a]	1,1-DCE[b]	1,2-DCA[c]	TCE[d]	PCE[e]	VC[f]	DP[g]
MW8 (5/12/89)	0.29	<0.010	<0.010	1.4	0.02	0.078	<0.010
MW8 (7/10/89)	0.14	<0.0025	<0.0025	0.330	0.014	0.017	<0.0025
MW8-dup	0.13	<0.0025	<0.0025	0.310	0.012	0.016	<0.0025
MW9	0.063	<0.0005	<0.0005	0.013	0.038	0.016	<0.0005
MW10	0.085	0.0008	<0.0005	0.027	0.042	0.028	<0.0005
MW11	0.073	<0.001	0.004	0.160	0.012	0.016	0.0057

[a]1,2-Dichloroethene
[b]1,1-Dichloroethene
[c]1,2-Dichloroethane
[d]Trichloroethene
[e]Tetrachloroethene
[f]Vinyl chloride
[g]1,2-Dichloropropane

WASTE DISPOSAL

Water from steam cleaning drilling equipment, from cleaning development and sampling equipment, and from development and sampling was temporarily stored in 55-gallon drums on the property. The water will be removed from the site, and treated and disposed by Solvent Service, Inc.

Drill cuttings from each well were stored in separate 55-gallon drums. A sample of the cuttings from MW8 was collected because the soil was not sampled during drilling. The sample from MW8 cuttings (ST-1) contained 0.02 ppm 1,2-dichloroethene (1,2-DCE) and 0.63 ppm trichloroethene (TCE). The soil was then spread separately on a plastic sheet and aerated. After aeration, a sample of MW8 cuttings (DM-MW8S) contained 0.18 ppm TCE and 0.15 ppm of chloroform. The laboratory data sheets and chain-of-custody records are provided in Appendix A. The soil from MW8 was transported by Kern Backhoe Services, Inc. to Liquid Waste Management's Class II landfill in McKittrick, California. The soil cuttings from MW9, MW10, and MW11 are currently stored on the property, and will be disposed after aeration to nondetectable concentrations.

SFO95/003.50

Section 3
DISCUSSION OF RESULTS

Section 3
DISCUSSION OF RESULTS

This section discusses the results of the soil and groundwater sampling conducted at the 1/3-acre parcel at the corner of Hollis Street and Park Avenue in Emeryville. The nature and extent of chemicals found in soil and groundwater near the former tank locations is described.

SOILS

The TCE concentration in soil and groundwater is illustrated in Figure 3-1. TCE was detected in soil beneath Tank 2 (the contents of which contained the highest TCE concentration of 52 ppm) at 0.07 ppm but was not detected 2 feet away at 6 and 9 feet bgs (Sample EMS1 in Table 2-2). TCE was not detected in soil beneath Tank 4 (the contents of which contained 13 ppm TCE) but was detected about 2 feet away at 0.08 and 0.017 ppm at 6 and 9 feet bgs, respectively (Sample EMS2 in Table 2-2.). TCE was also detected in the soil cuttings from MW8, about 6 feet from the excavation, at 0.63 ppm. TCE was not detected in the soil from MW9, upgradient of the tanks, or MW10. At ten and 16 feet bgs in MW11, TCE was detected near the analytical detection limit.

As shown in Figure 3-2, 1,2-DCE was detected in soil beneath Tank 2 at 0.07 ppm and beneath Tank 4 at 0.03 ppm. 1,2-DCE was not detected in soil samples collected 2 feet away from the tanks, but was detected in cuttings from MW8 at 0.02 ppm, and in MW10 at 0.01 and 0.02 ppm at 10 and 16 feet bgs, respectively (Table 2-2).

PCE, Freon 113, xylene, and chloroform were also detected at low concentrations in some of the soil samples (Table 2-2).

It appears that the extent of soil contamination is limited to the vicinity of the tanks because TCE and 1,2-DCE were not detected at MW9 (upgradient), and was only detected at or near the analytical detection limit in MW10 and MW11. These samples were collected from the saturated zone and the solvents that were detected in the soil could be associated with transport in the groundwater.

The potential for human exposure to the chemicals in the soil may be through direct dermal contact. The soil, however, is covered by a concrete loading dock. It is possible that future excavation of soils could expose workers through direct contact or inhalation. However, any future exposure can be controlled by protecting workers during excavation or by soil treatment before excavation begins.

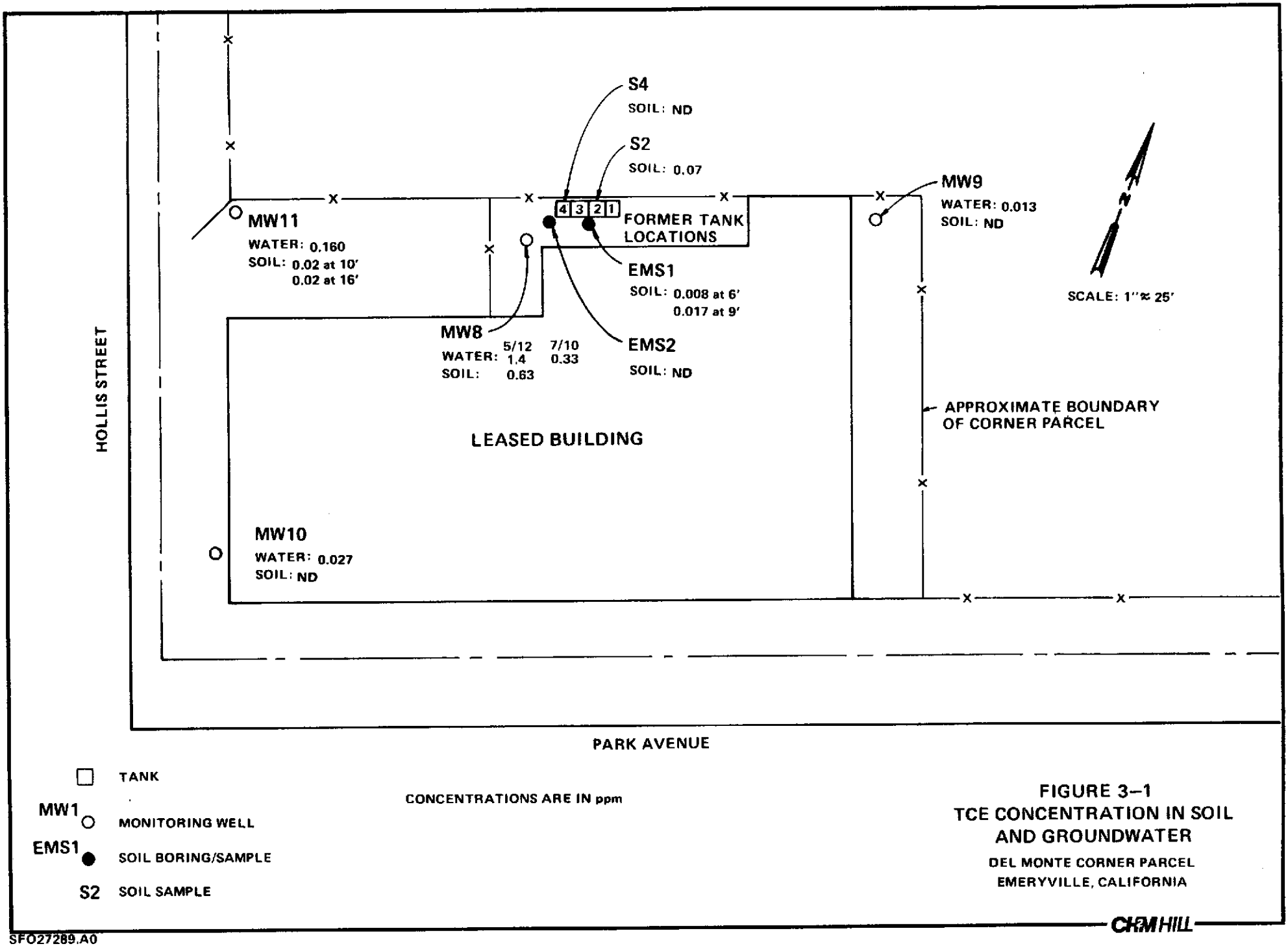


FIGURE 3–1
TCE CONCENTRATION IN SOIL AND GROUNDWATER
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA

CH2MHILL

SFO27289.A0

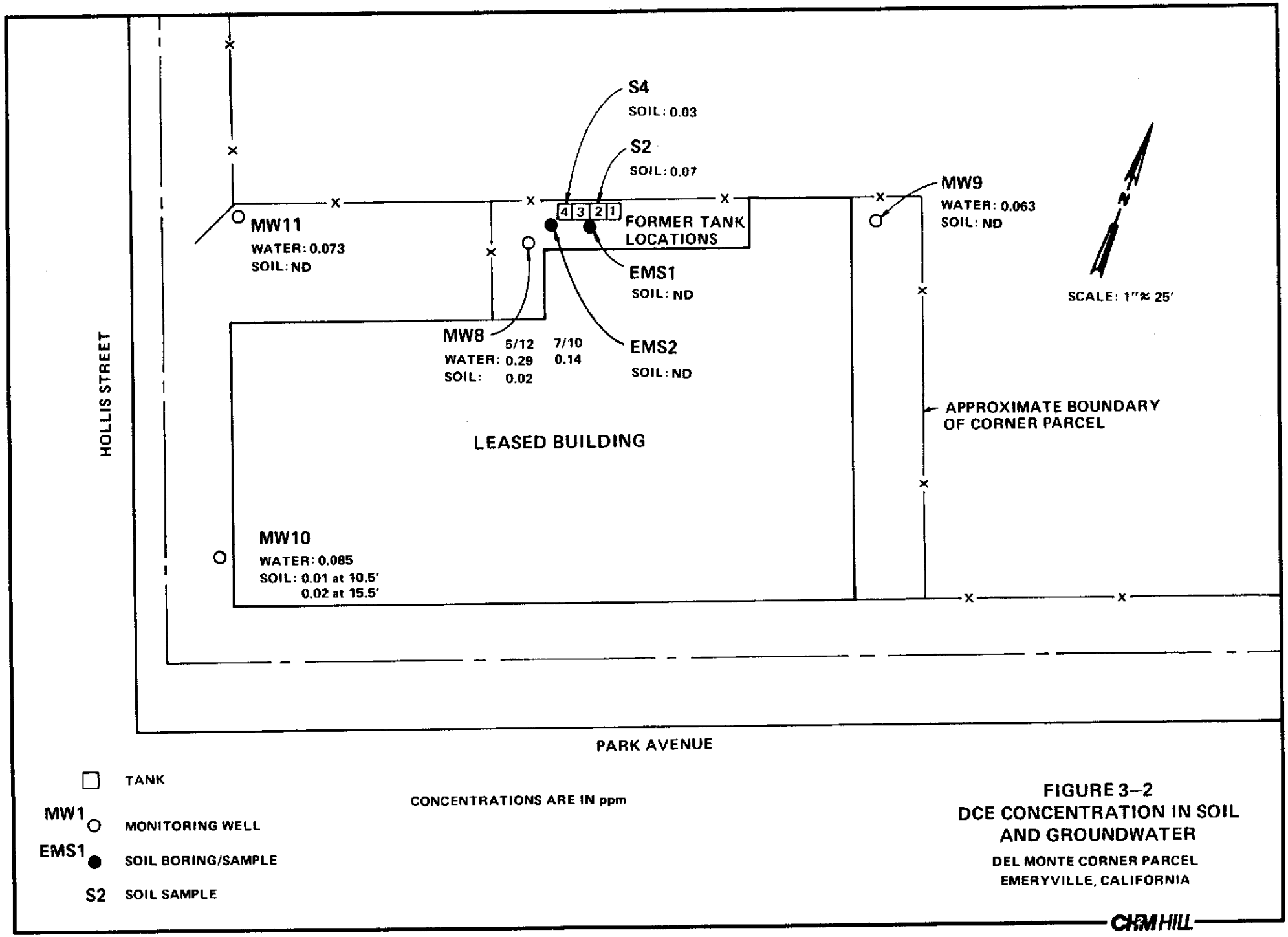


FIGURE 3–2
DCE CONCENTRATION IN SOIL AND GROUNDWATER
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA

CH2M HILL

SFO27289.A0

GROUNDWATER

Shallow groundwater exists beneath the corner parcel at a depth of approximately 7 to 10 feet bgs. The soils consist of clay, silty clay, and sandy silt with some fine sand. The shallow groundwater flows west to west southwest toward San Francisco Bay under a horizontal hydraulic gradient of approximately 0.014 ft./ft. The rate of movement of the shallow groundwater can be calculated using the following formula:

$$V = ki/\Phi_p$$

where,

V = velocity (ft/year)
k = hydraulic conductivity (ft/day * 365 days/year)
i = hydraulic gradient (ft/ft)
Φ_p = effective porosity (%)

The hydraulic conductivity value was obtained from an investigation report on the Electro-Coatings site, a California Superfund site, located one block west on Hollis Street (Woodward-Clyde, 1981, 1983). The investigation included an 8-hour pump test and two slug tests. The hydraulic conductivity at Electro-Coatings was determined to be approximately 0.25 feet/day for the clayey silt and sandy clay layer beneath that property. This layer appears to be similar to the silty clay layer beneath the Del Monte corner property. The porosity was determined to be 42.5 percent by averaging the porosity values for the 6 samples taken from MW9, MW10, and MW11 (Appendix A). Using the above formula, the velocity for the shallow groundwater is approximately 3 feet per year:

$$\frac{(0.25 \text{ ft/day}) * (365 \text{ days/year}) * (0.014 \text{ ft/ft})}{0.425} = 3 \text{ ft/year}$$

The source of the chlorinated solvents in the four tanks is not known. As previously mentioned, the building was leased by different companies from 1971 to 1976 and 1976 to 1989. If it is assumed that the solvents leaked from the tanks in 1976, they could have traveled up to about 39 feet in the groundwater based on the groundwater velocity calculated. However, chemical compounds generally do not travel as fast as the groundwater because of retardation and dispersion effects with the surrounding soil.

As would be expected, MW8, the well closest to the tanks, contained the highest concentrations of TCE and 1,2-DCE, and

the concentration of TCE is lowest in the upgradient well, MW9, and higher in MW11 than MW10 (Figures 3-1 and 3-2). The concentration of 1,2-DCE, however, is similar in MW9, MW10 and MW11 (Figure 3-2), and the PCE concentration is similar in MW9 and MW10, but lower in MW11.

It is unclear how the contaminated groundwater migrated upgradient to MW9. Because water accumulates in the basement of a building on the main portion of the Plant No. 35 property on a periodic basis, the potential affects of the tidal fluctuation was tested. A data recorder was installed in MW9, MW11, and MW1, to record the water level over a 24-hour period. (MW1 was installed during a property assessment conducted on the main portion of Plant No. 35 [CH2M HILL, June 1989].) The data are presented in Table 3-1 and shown in Figure 3-3 It does not appear that the tides have a significant impact on the groundwater flow direction.

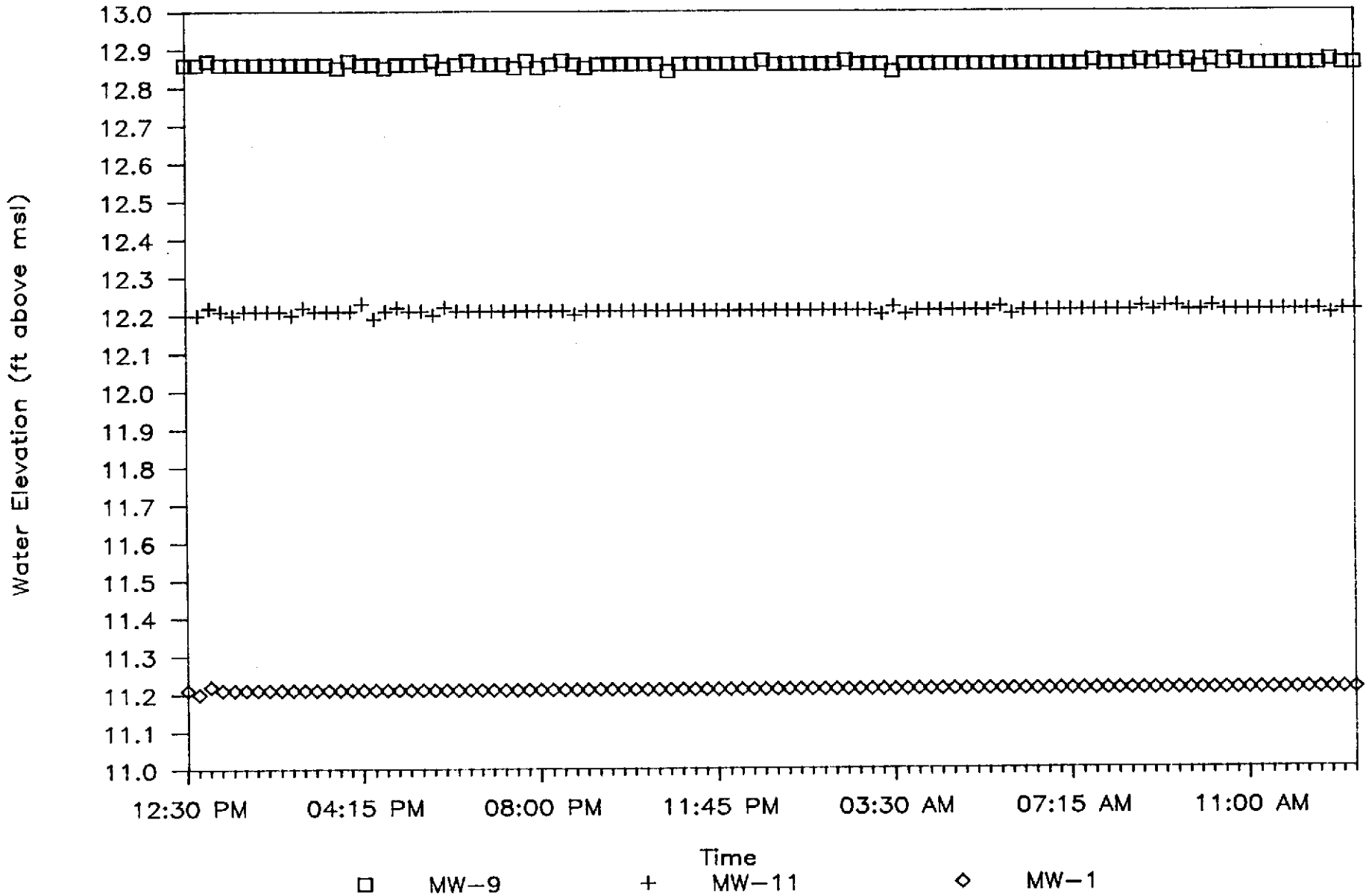
The contaminated groundwater may have been transported through the backfill in utility trenches. There are at least four utility lines in the vicinity of the upgradient well, MW9. (Three holes were dug, in which conduits were encountered, before a clear area could be found to install the well.) However, the presence of conduits between the former tank locations and MW9 is not known.

As seen in Table 2-3, the concentration of TCE, 1,2-DCE, and vinyl chloride in MW8 have decreased substantially since the source, the underground tanks, were removed.

Table 3-1
24-HOUR WATER LEVEL MEASUREMENTS

		MW-9		MW-11		MW-1	
Elevation at toc		22.3		19.3		20.8	
Date	Time	Level	Elevation	Level	Elevation	Level	Elevation
26-Jul-89	12:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	12:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	01:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	01:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	01:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	01:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	02:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	02:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	02:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	02:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	03:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	03:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	03:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	03:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	04:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	04:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	04:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	04:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	05:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	05:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	05:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	05:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	06:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	06:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	06:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	06:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	07:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	07:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	07:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	07:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	08:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	08:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	08:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	08:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	09:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	09:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	09:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	09:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	10:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	10:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	10:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	10:45 PM	9.4	12.8	7.1	12.2	9.6	11.2
26-Jul-89	11:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	11:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	11:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
26-Jul-89	11:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:45 AM	9.4	12.9	7.1	12.2	9.6	11.2

		MW-9		MW-11		MW-1	
Elevation at toc		22.3		19.3		20.8	
Date	Time	Level	Elevation	Level	Elevation	Level	Elevation
27-Jul-89	01:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	01:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	01:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	01:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	02:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	02:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	02:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	02:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	03:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	03:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	03:30 AM	9.4	12.8	7.1	12.2	9.6	11.2
27-Jul-89	03:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	04:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	04:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	04:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	04:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	05:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	05:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	05:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	05:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	06:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	06:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	06:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	06:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	07:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	07:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	07:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	07:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	08:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	08:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	08:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	08:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	09:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	09:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	09:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	09:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	10:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	10:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	10:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	10:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	11:00 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	11:15 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	11:30 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	11:45 AM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:15 PM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:30 PM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	12:45 PM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	01:00 PM	9.4	12.9	7.1	12.2	9.6	11.2
27-Jul-89	01:15 PM	9.4	12.9	7.1	12.2	9.6	11.2



DATE: 7/26-27/89

FIGURE 3-3
24-HOUR WATER LEVEL MEASUREMENTS
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA

CH2M HILL

SFO27289.A0

Section 4
NEIGHBORING PROPERTIES

Section 4
NEIGHBORING PROPERTIES

To determine whether potential offsite sources of organic chemicals exist in the vicinity of the corner parcel, a windshield survey was conducted. The names of industrial facili-ties that were located within a one-quarter mile radius of the corner parcel were recorded and are presented in Appendix C. Regulatory agency files for these facilities were reviewed to determine whether chemicals from these facilities have been released. The agencies contacted are included in Appendix F. If the agency files contained data on chemicals released from facilities outside of the one-quarter mile radius, the information was also collected and reviewed.

This section presents a summary of the information collected from the SFRWQCB on leaking underground storage tanks, the DHS on hazardous waste sites, and the U.S. EPA Region IX on hazardous waste generators and treatment, storage, and disposal (TSD) facilities.

LEAKING UNDERGROUND STORAGE TANKS

The SFRWQCB was contacted for information regarding leaking underground storage tanks at the facilities identified during the windshield survey. This information is summarized in Table 4-1.

Of the sites listed in Table 4-1, four--AC Transit, Berkeley Farms, Kaiser Engineers, and Del Monte--are located upgradient of the site. AC Transit and Berkeley Farms are located about one-half mile upgradient of the corner parcel. There was no TPH detected in groundwater at the AC Transit site and there was no groundwater impact at the Berkeley Farms site from the fuel leak. No information was available about the fuel leak at Kaiser Engineers. The Del Monte property is the main portion of the Plant No. 35. A gasoline tank was removed from the property in February 1989. The concentrations of gasoline components remaining in the soil and groundwater are indicated in Table 4-1.

HAZARDOUS WASTE SITES

The known hazardous waste sites in Alameda County, California, listed by the DHS as State or Federal Superfund Sites, which are within 3 miles of the corner parcel are presented

Table 4-1
SAN FRANCISCO RWQCB FILE REVIEW SUMMARY

Site	Address	Position Relative To Plant No. 35	Contamination	Cause of Contamination	Degree of Contamination
Electro-Coating	1421 Park Avenue	900 ft. southwest	Soil: Total Chromium (40 - 2030 ppm) Water Hexavalent Chromium (ND - 892 ppm) TCE (ND - 580 ppm) PCE (21 - 42 ppm)	Chromium Waste Storage Pit	Chromium contamination at concentrations greater than 0.05 ppm in shallow groundwater extend 1300 feet downgradient to Hubbard Street. TCE and PCE sampling conducted in 1985.
PG&E	4525 Hollis Street	2200 ft. northwest	Soil: PCB (ND - 170 ppm) Pyrene 19.2 ppm Fluoranthene (ND - 17.1 ppm) Toluene (ND - 0.107 ppm) Methylene Chloride (ND - 1.61 ppm) Heavy Metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Ti, Zn) Water: As (0.113 ppm) Pb (0.051 ppm) Cd (0.011 ppm) Cr (0.06 - 0.08 ppm)	Multiple Sources	Soil and groundwater contamination known
Berkeley Farms	1313 53rd Avenue	1750 ft. northeast	Soil: TPH (ND - 2.8 ppm)	Fuel Leak	No water quality impact or threat
A.C. Transit	47th and San Pablo 45th and San Pablo	1750 ft. northeast 1300 ft. northeast	Soil: TPH (240 - 300 ppm) Water: TPH (<1 ppm) Benzene (0.06 ppm)	Fuel Leak	Identified groundwater and soil impact in an area of limited groundwater use
Kaiser Engineers	1140 45th Street	500 ft. northeast	No Information	Fuel Leak	Identified soil impact in an area of limited groundwater use
Ransome Co.	4030 Hollis Street	800 ft. south	Soil: Contaminated with unknown compound	Fuel Leak	Identified soil impact in an area of limited groundwater use
Shell	4250 Horton Street	1300 ft. west	Tank and soil removed No contamination information	Fuel Leak	Identified soil impact in an area of limited groundwater use
City of Emeryville	1420 45th Street	900 ft. northwest	Water: TPH (190 ppm) Benzene (160 ppb)	Fuel Leak	Groundwater contamination in an area of limited groundwater use
Del Monte	1250 Park Avenue	Adjacent, east	Soil: TPH (ND-470 ppm) Xylene (ND-5.4 ppm) Water: TPH (0.5) Benzene (0.005 ppm) Toluene (0.0006 ppm) Xylene (0.0056 ppm)	Tank Leak	Groundwater contamination in an area of limited groundwater use

Notes:

TPH = Total Petroleum Hydrocarbons
TCE = Trichloroethylene
PCE = Perchloroethylene
DCE = 1,2-Dichloroethylene
VC = Vinyl Chloride

PCB = Polychlorinated Biphenyls
As = Arsenic
Cd = Cadmium
Cr = Chromium
Cu = Copper

Pb = Lead
Hg = Mercury
Ni = Nickel
Ti = Titanium
Zn = Zinc

SFR53/073

in Table 4-2. None of the sites listed in Table 4-2 are upgradient of the corner parcel. Therefore, impact to soil or groundwater at the corner parcel from these sites would not be likely.

Table 4-2
STATE AND FEDERAL SUPERFUND SITES
WITHIN 3 MILES OF DEL MONTE'S CORNER PARCEL

Site Location	Position Relative to the corner parcel
Pacific Gas & Electric 4525 Hollis Street Emeryville, California 94608	2,200 ft northwest
Electro-Coatings 1421 Park Avenue Emeryville, California 94617	900 ft southwest
Westinghouse Electric Company 5899 Peladeau Street Emeryville, California 94608	1 mile northwest
Wareham Properties 2900 Fifth Street and 700 Heinz Avenue Berkeley, California 94710	3 miles northwest

The soil at the Pacific Gas and Electric site contains polychlorinated biphenyls (PCBs) and lead, and the groundwater contains heavy metals which may have originated at the site. The degree and extent of offsite contamination is unknown.

The Electro-Coating site, 900 feet west of the Del Monte corner parcel, is an inactive plating facility which previously disposed of chromium waste in an onsite disposal pit. The soil and groundwater in the vicinity of the site contains hexavalent chromium, and groundwater contamination extends west to Hubbard Street. The groundwater also contains chlorinated solvents including up to 580 ppm of TCE.

The Westinghouse Electric Company site is a 2-acre, undeveloped, vacant area. Operations at this facility included maintenance and repair of electrical apparatus, including

transformers containing PCB fluids. Some of these fluids leaked onto or were discharged on the site.

The Wareham Properties site was formerly used for the production of vegetable and food oils. Numerous drums of nickel catalyst and some acids and bases were contained on the site.

HAZARDOUS WASTE GENERATORS AND TSD FACILITIES

EPA Region IX was contacted for information on hazardous waste generators and TSD facilities in the vicinity of Del Monte's corner parcel. Only one TSD facility was identified within 3 miles of the plant: Pfizer, Inc. at 4650 Shellmound Street, Emeryville. This site is located about 3/8 to 1/2 mile northwest of the corner parcel.

Section 5
RECOMMENDED FOLLOW-UP PLAN

Section 5
RECOMMENDED FOLLOW-UP PLAN

The recommended short-term followup plan is continued groundwater monitoring because of the decrease in concentrations since the tanks were removed. The groundwater in MW8, MW9, MW10, and MW11 will be sampled quarterly for chlorinated solvents (EPA Method 601). Monitoring will be conducted for 3 more quarters and the data will be submitted in monitoring reports to the Alameda County Health Agency, Division of Hazardous Materials, Department of Environmental Health, and the California RWQCB, San Francisco Region. At the end of the one year period, the data will be evaluated. A letter will be submitted to the regulatory agencies if a new or modified plan is proposed. Notification of future owners of the property will include these requirements.

SFO95/006.50

Section 6

REFERENCES

Section 6
REFERENCES

California Regional Water Quality Control Board. Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure. May, 1988.

California Regional Water Quality Control Board. San Francisco Region, Water Quality Control Plan for the San Francisco Bay Basin. 1982, 1986.

California Regional Water Quality Control Board, San Francisco Region.
List of Sites with Fuel Leaks in Alameda County. October 19, 1988.

California Department of Water Resources. Bulletin No. 118-80: Groundwater Basins in California. January 1980.

California Department of Water Resources. California's Ground Water, Bulletin No. 118. September, 1975.

California Department of Water Resources. Bulletin No. 13, Alameda County Investigation. March, 1963.

California Department of Health Services. Expenditure Plan for the Hazardous Substance Cleanup Bond Act of 1984. Volumes 1 and 2. Revised January 1988.

Ecology and Environment. Site Investigation of the Pacific Gas and Electric Company Materials Distribution Center in Emeryville, California. June 1984.

J.P. Klienfelder and Associates. Preliminary Summary Report, Electro-Coating, Inc. 1985.

Kaiser Engineers, AC Transit Facility Monitoring Well Sampling Report. March 16, 1987.

Kaprealian Engineering, Inc. Letter Report, Soil Sampling Investigation, Berkeley Farms. March 2, 1988.

Nichols, D.R. and N.A. Wright. Preliminary Map of Historic Margins of Marshland, San Francisco Bay, California. USGS Open File Report. 1971.

Sax, N. Irving, and Richard Lewis, Sr. Hawley's Condensed Chemical Distionary. Van Nostrand Reinhold Company. New York. 1987.

U.S. Department of the Interior, Geological Survey, Water Resources Division. A Summary View of Water Supply and Demand in the San Francisco Bay Region, California. July 14, 1972.

U.S. Department of the Interior, Geological Survey, Water Resources Data. California, Water Year 1988 (Water-Data Report CA-88-A). April, 1989.

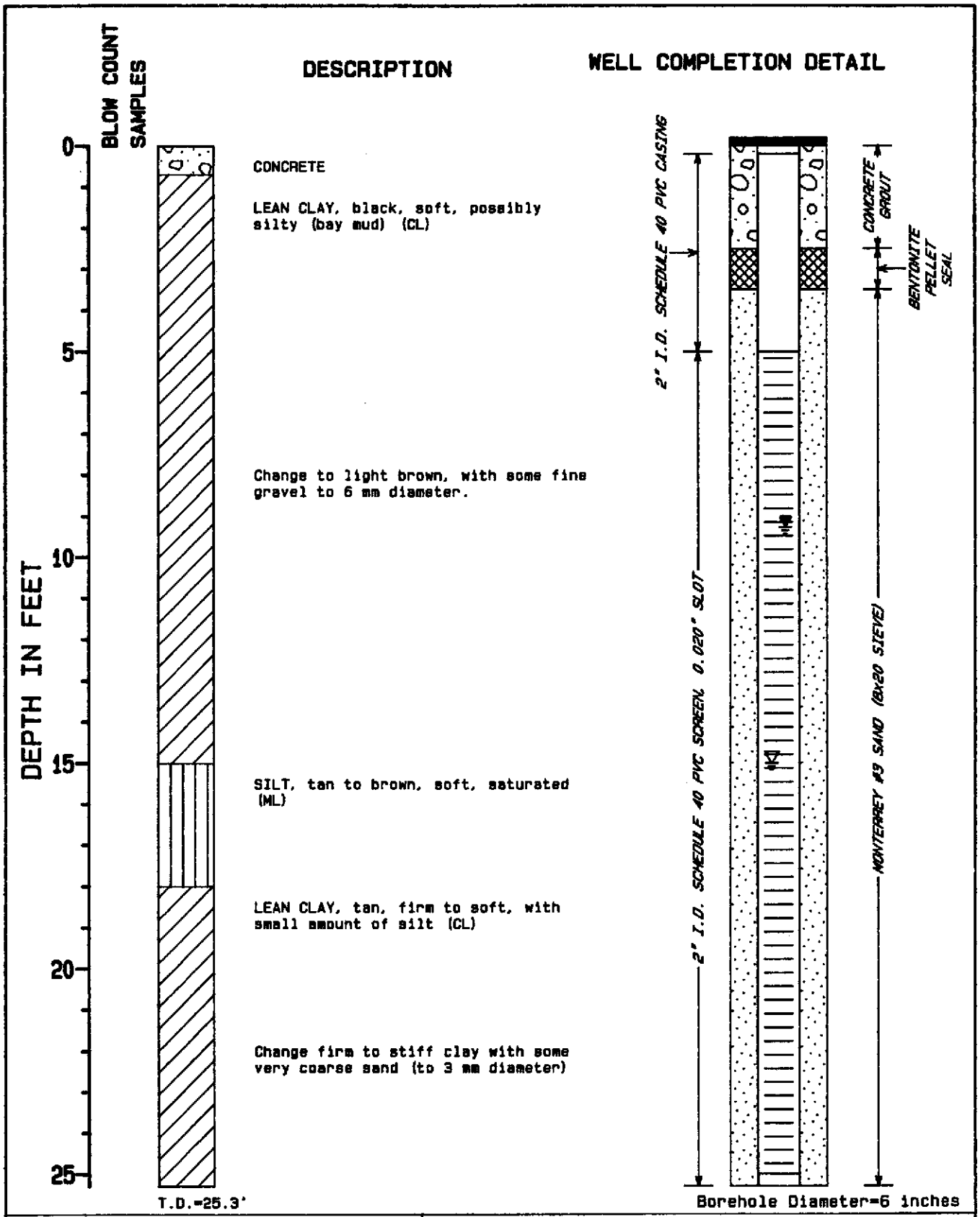
SFO34/010.50

Appendix A
FIELD AND LABORATORY DATA SHEETS

Appendix A
FIELD AND LABORATORY DATA SHEETS

This appendix contains the following:

- Monitoring well boring logs
- Surveying data
- Laboratory Data sheets
  - Tank Contents
  - Soil
  - Groundwater



▽ = Water level first encountered

▼ = Water level after development

MW8

Del Monte Emeryville Plant No. 35

Date Completed: 05/03/89

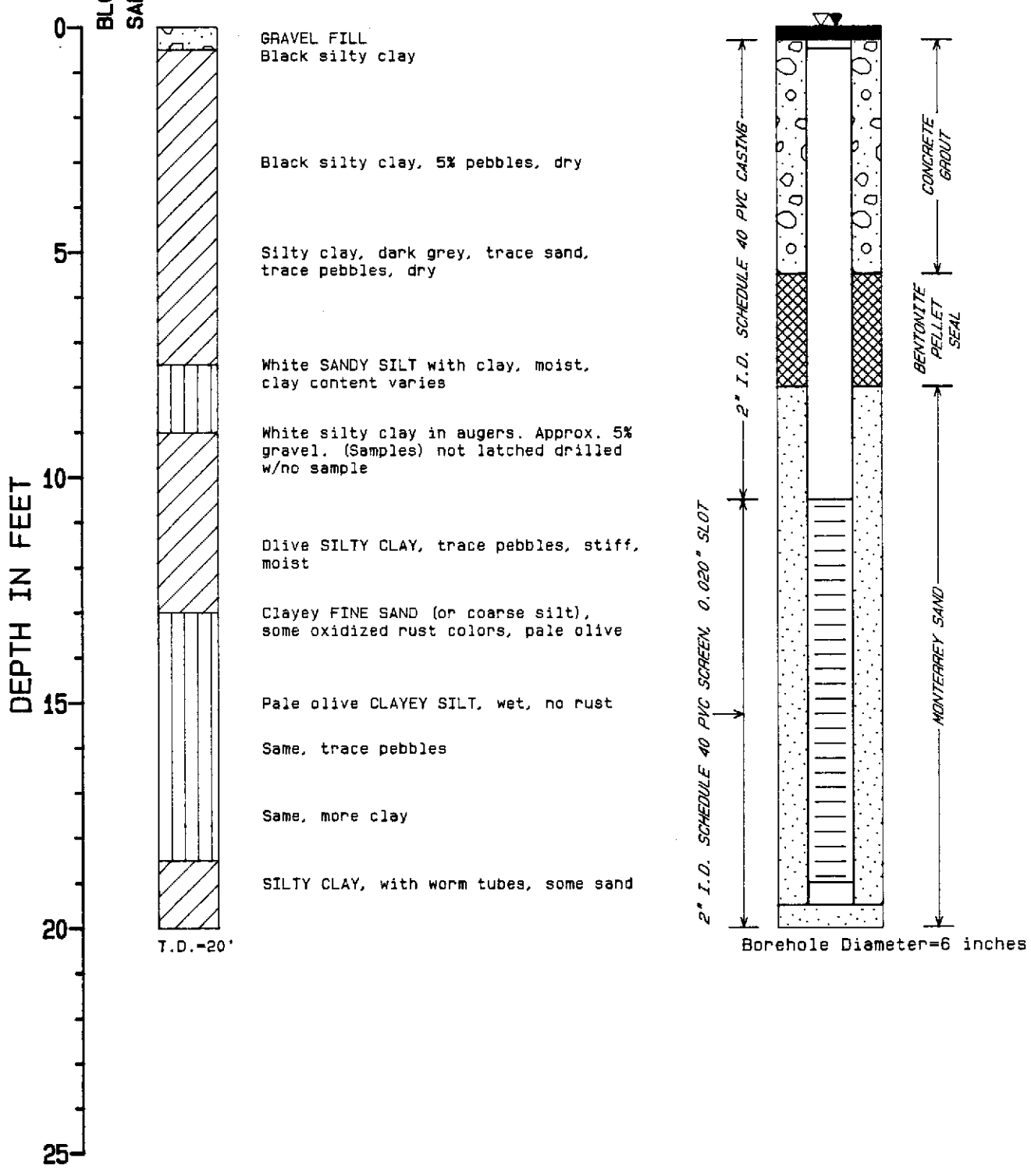
Top of casing elevation (MSL)=21.72

SF027289.A0.GW

BLOW COUNT SAMPLES

DESCRIPTION

WELL COMPLETION DETAIL



▽ = Water level first encountered

▼ = Water level after development

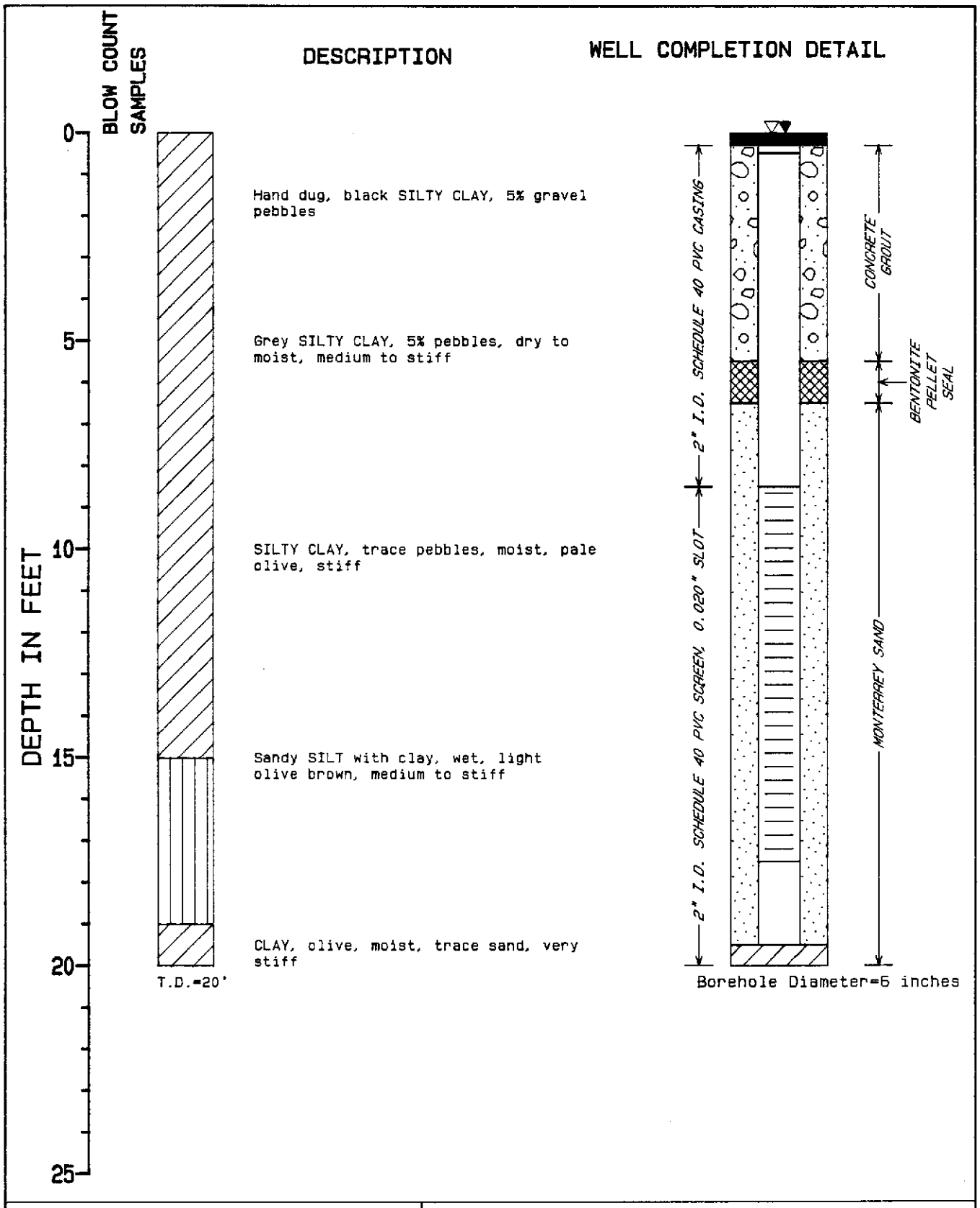
MW-9

Del Monte Emeryville Plant No. 35

Date Completed: 07/05/89

Top of casing elevation (MSL)=0

SF027289.A0.GW



▽ = Water level first encountered

▼ = Water level after development

MW-10

Del Monte Emeryville Plant No. 35

Date Completed: 07/06/89

Top of casing elevation (MSL)=0

SF027289.A0.GW

BLOW COUNT SAMPLES

DESCRIPTION

WELL COMPLETION DETAIL

DEPTH IN FEET

0
5
10
15
20
25

Black, SILTY CLAY, trace pebbles, dry, stiff

White, SILTY CLAY, with sand, trace pebbles. Silty sand seams at about 7.5" & 8" (1" approx. thick), dry to moist, medium

Pale olive SILTY CLAY, trace pebbles, moist, stiff

Sandy SILT with clay

Olive SILTY CLAY, mottled with black splotches that look oxidized, worm tubes, stiff

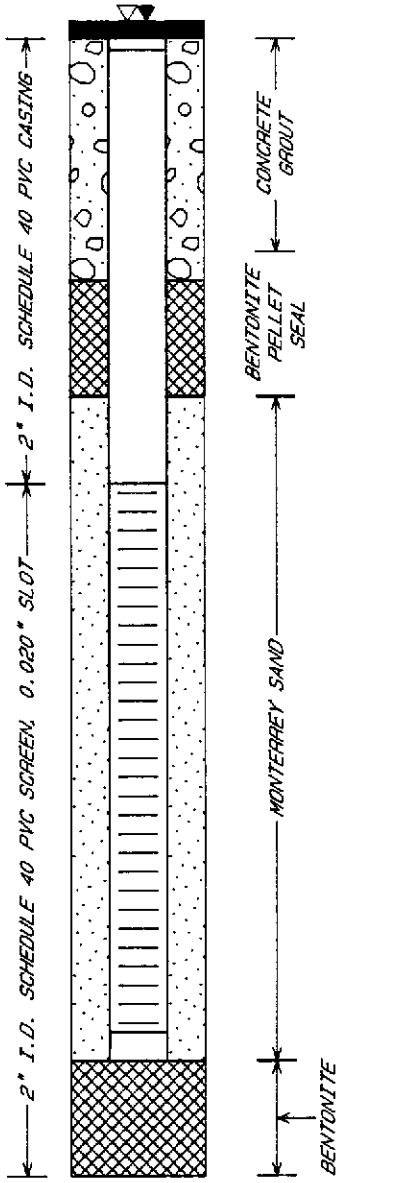
Pale olive with rust stains, clayey SILT, with sand, medium (not as stiff as before). No recovery.

Sandy silt-silty sand, trace gravel, some clay, light olive brown

Olive SILTY CLAY, trace pebbles, wet

Olive CLAY, moist, very stiff

T.D.=20'



Borehole Diameter=6 inches

▽ = Water level first encountered

▼ = Water level after development

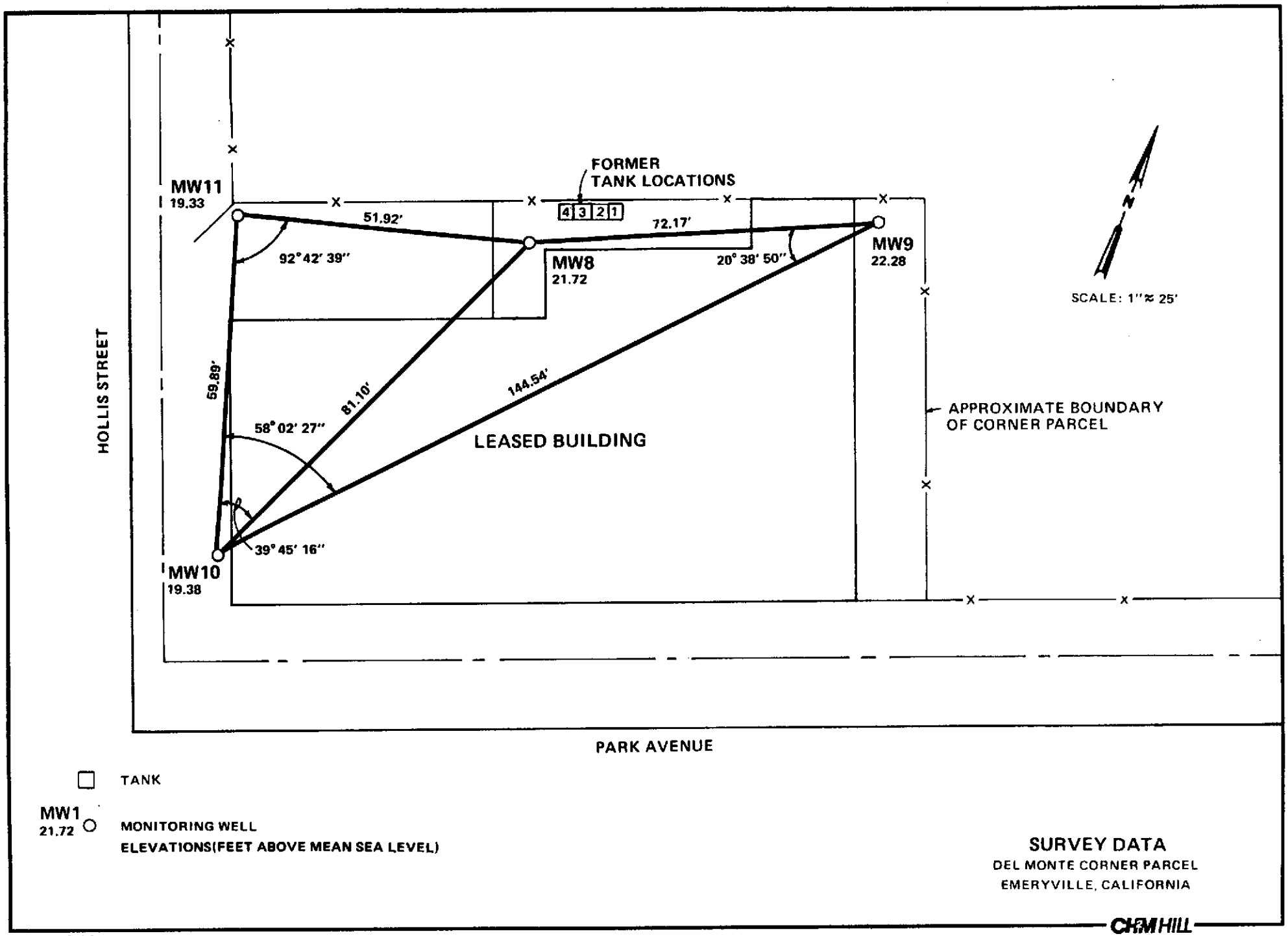
MW-11

Del Monte Emeryville Plant No. 35

Date Completed: 07/06/89

Top of casing elevation (MSL)=0

SF027289.A0.GW


MW11
19.33
FORMER
TANK LOCATIONS
4 3 2 1
51.92'
72.17'
92° 42' 39"
MW8
21.72
20° 38' 50"
MW9
22.28
SCALE: 1" ≈ 25'
59.89'
81.10'
144.54'
58° 02' 27"
LEASED BUILDING
APPROXIMATE BOUNDARY
OF CORNER PARCEL
39° 45' 16"
MW10
19.38
HOLLIS STREET
PARK AVENUE
TANK
MW1
21.72
MONITORING WELL
ELEVATIONS(FEET ABOVE MEAN SEA LEVEL)
SURVEY DATA
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA
CH2M HILL

SFO27289.A0

CH2M HILL ENVIRONMENTAL LABORATORY
2218 RAILROAD AVENUE
REDDING, CA 96001 916-243-5831

REPORT TO: DEL MONTE-EMERYVILLE
CH2M HILL/SFO
SF027035.A0.FW
ATTENTION: SUSAN COLMAN
SAMPLE DESCRIPTION: UNKNOWN LIQUID
DATE OF SAMPLE: 12-1-88

REFERENCE NUMBER: 21729

DATE: 1-20-89
PHONE:
SAMPLED BY: A. COATE
DATE RECEIVED: 12-2-88

A M E N D E D R E P O R T

TEST	TOTAL FUEL HYDROCARBONS GAS	TOTAL FUEL HYDROCARBONS DIESEL
TANK #1	190	<500 *
TANK #2	<100	<500
TANK #3	<100	<500
TANK #4 AQUEOUS	<100	<500
TANK #4 NON-AQUEOUS	16000	<500
UNITS	mg/l	ug/l
DETECT LIMIT	100	500 **
DATE ANALYZED	12-17-88	12-29-88
METHOD NUMBER	DHS LUFT	DHS LUFT

COMMENTS: * Reported a higher detection limit due to matrix interference.
** 2/9/89 Corrected value supersedes previous data.
mg/l = milligrams per liter
ug/l = micrograms per liter

The information shown on this sheet is test data only and no analysis or interpretation is intended or implied.

ANALYST: _____ APPROVED BY: Barnett J Tyson

CH2M HILL ENVIRONMENTAL LABORATORY
2218 RAILROAD AVENUE
REDDING, CA 96001 916-243-5831

REPORT TO: DEL MONTE-EMERYVILLE
CH2M HILL/SFO
SF027035.A0.FW
ATTENTION: ALEX COATE AND S. COLMAN
SAMPLE DESCRIPTION: UNKNOWN LIQUID
DATE OF SAMPLE: 12-1-88

REFERENCE NUMBER: 21729

DATE: 1-4-89
PHONE:
SAMPLED BY: A. COATE
DATE RECEIVED: 12-2-88
DATE ANALYZED: 12-15-88

TEST METHODS: EPA-601-8010
EXTRACTION METHOD: EPA 5030

CONSTITUENT	TANK #1	DETECT LIMIT	TANK #2	DETECT LIMIT	TANK #3	DETECT LIMIT
Chloromethane	<1	1	<1	1	<10	10
Bromomethane	<1	1	<1	1	<10	10
Dichlorodifluoromethanes & Vinyl chloride	<1	1	810	100	<10	10
Chloroethane	<1	1	<1	1	<10	10
Methylene chloride	<5	5	6	5	<50	50
Trichlorofluoromethane	<1	1	<1	1	<10	10
1,1-Dichloroethene	<1	1	20	1	<10	10
1,1-Dichloroethane	<1	1	2	1	<10	10
trans-1,2-Dichloroethene	<1	1	4200	100	<10	10
Chloroform	24	1	<100	100	59	10
1,2-Dichloroethane	3	1	<100	100	10	10
1,1,1-Trichloroethane	<1	1	<100	100	<10	10
Carbon Tetrachloride	4	1	<100	100	<10	10
Bromodichloromethane	<1	1	<100	100	<10	10
1,2-Dichloropropane	<1	1	<100	100	<10	10
cis-1,3-Dichloropropene	<1	1	<100	100	<10	10
Trichloroethene	13	1	52000	5000	93	10
Dibromochloromethane	<1	1	<100	100	<10	10
1,1,2,2-Tetrachloroethane	<1	1	<100	100	<10	10
Tetrachloroethene	<1	1	<100	100	<10	10
Chlorobenzene	<1	1	<100	10	<10	10
1,3-Dichlorobenzene	<1	1	<100	10	<10	10
1,2-Dichlorobenzene	<1	1	<100	10	<10	10
1,4-Dichlorobenzene	<1	1	<100	10	<10	10

COMMENTS: Results in micrograms per liter
2-Chloroethylvinyl ether not analyzed

The information shown on this sheet is test data only and no analysis or interpretation is intended or implied.

ANALYST: F.W. APPROVED BY: Bennett J. Tyson

CH2M HILL ENVIRONMENTAL LABORATORY
2218 RAILROAD AVENUE
REDDING, CA 96001 916-243-5831

REPORT TO: DEL MONTE-EMERYVILLE
CH2M HILL/SFO
SF027035.A0.FW
ATTENTION: ALEX COATE AND S. COLMAN
SAMPLE DESCRIPTION: UNKNOWN LIQUID
DATE OF SAMPLE: 12-1-88

REFERENCE NUMBER: 21729

DATE: 1-4-89
PHONE:
SAMPLED BY: A. COATE
DATE RECEIVED: 12-2-88
DATE ANALYZED: 12-15-88

TEST METHODS: EPA-601-8010
EXTRACTION METHOD: EPA 5030

CONSTITUENT	ORGANIC TANK #4	DETECT LIMIT	AQUEOUS TANK #4	DETECT LIMIT
Chloromethane	<10	10	<1	1
Bromomethane	<10	10	<1	1
Dichlorodifluoromethane	<10	10	<1	1
Vinyl chloride	<10	10	<1	1
Chloroethane	<10	10	<1	1
Methylene chloride	<50	50	58	50
Trichlorofluoromethane	<10	10	<1	1
1,1-Dichloroethene	<10	10	1	1
1,1-Dichloroethane	<10	10	<1	1
trans-1,2-Dichloroethene	<10	10	3	1
Chloroform	11	10	25	1
1,2-Dichloroethane	19	10	12	1
1,1,1-Trichloroethane	<10	10	<1	1
Carbon Tetrachloride	<10	10	3	1
Bromodichloromethane	<10	10	6	1
1,2-Dichloropropane	<10	10	<1	1
cis-1,3-Dichloropropene	<10	10	<1	1
Trichloroethene	9100	1000	13000	1000
Dibromochloromethane	<10	10	<10	10
1,1,2,2-Tetrachloroethane	<10	10	<10	10
Tetrachloroethene	<10	10	<10	10
Chlorobenzene	<10	10	<1	1
1,3-Dichlorobenzene	<10	10	<1	1
1,2-Dichlorobenzene	<10	10	<1	1
1,4-Dichlorobenzene	<10	10	<1	1

COMMENTS: Results in micrograms per liter
2-Chloroethylvinyl ether not analyzed
Holding time exceeded on aqueous tank #4; sample ran per client.
The information shown on this sheet is test data only and no analysis or interpretation is intended or implied.

ANALYST: J.D APPROVED BY: Bennett J Tyson

CH2M HILL ENVIRONMENTAL LABORATORY
2218 RAILROAD AVENUE
REDDING, CA 96001 916-243-5831

REPORT TO: DEL MONTE-EMERYVILLE
CH2M HILL/SFO
SF027035.A0.FW
ATTENTION: SUSAN COLMAN
SAMPLE DESCRIPTION: UNKNOWN LIQUID
DATE OF SAMPLE: 12-1-88

REFERENCE NUMBER: 21729

DATE: 1-4-89
PHONE:
SAMPLED BY: A. COATE
DATE RECEIVED: 12-2-88
DATE ANALYZED: 12-15-88

TEST METHODS: EPA-602-8020
EXTRACTION METHOD: EPA 5030

A M E N D E D R E P O R T

CONSTITUENT	TANK #1	DETECT LIMIT	TANK #2	DETECT LIMIT	TANK #3	DETECT LIMIT
Benzene	17	1	<5000 *	5000 *	47000	1000
Toluene	14	1	54	10 *	260	100
Ethyl benzene	4	1	45	10 *	220	100
Xylene	15	1	130	10 *	<100	100
Chlorobenzene	<1	1	<10	10 *	<100	100
1,4-Dichlorobenzene	<1	1	<10	10 *	<100	100
1,3-Dichlorobenzene	<1	1	<10	10 *	<100	100
1,2-Dichlorobenzene	<1	1	<10	10 *	<100	100
tertbutylmethylether	<1	1	<10	10 *	<100	100

COMMENTS: Results are in micrograms per liter.
* 2/9/89 Corrected value supersedes previous data.

The information shown on this sheet is test data only and no interpretation is intended or implied.

ANALYST: JW APPROVED: Bennett J Tyson

CH2M HILL ENVIRONMENTAL LABORATORY
2218 RAILROAD AVENUE
REDDING, CA 96001 916-243-5831

REPORT TO: DEL MONTE-EMERYVILLE
CH2M HILL/SFO
SF027035.A0.FW
ATTENTION: SUSAN
SAMPLE DESCRIPTION: UNKNOWN LIQUID
DATE OF SAMPLE: 12-1-88

REFERENCE NUMBER: 21729

DATE: 1-4-89
PHONE:
SAMPLED BY: A. COATE
DATE RECEIVED: 12-2-88
DATE ANALYZED: 12-15-88

TEST METHODS: EPA-602-8020
EXTRACTION METHOD: EPA 5030

CONSTITUENT	ORGANIC DETECT TANK #4	DETECT LIMIT	AQUEOUS DETECT TANK #4	DETECT LIMIT
Benzene	3900	100	3600	100
Toluene	78	10	160	10
Ethyl benzene	20	10	53	10
Xylene	70	10	280	10
Chlorobenzene	<10	10	<10	10
1,4-Dichlorobenzene	<10	10	<10	10
1,3-Dichlorobenzene	<10	10	<10	10
1,2-Dichlorobenzene	<10	10	<10	10
tertbutylmethylether	<10	10	<10	10

COMMENTS: Results are in micrograms per litre.
Aqueous Tank #4 exceeded holding time, analyzed by client.

The information shown on this sheet is test data only and no interpretation is intended or implied.

ANALYST: J.W.

APPROVED: Bennett J Tyson

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-02-248

Received: 08 FEB 89
Reported: 22 FEB 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
02-248-1	EMS 1-6	08 FEB 89
02-248-2	EMS 1-9	08 FEB 89
02-248-3	EMS 2-6	08 FEB 89
02-248-4	EMS 2-9	08 FEB 89
02-248-5	EMS 3-6	08 FEB 89

PARAMETER	02-248-1	02-248-2	02-248-3	02-248-4	02-248-5
C18-C30 Hydrocarbons, mg/kg	<10	<10	<10	<10	<10
Fuel Hydrocarbons, Volatile (Low Level), mg/kg	<0.1	<0.1	0.3	<0.1	1.5

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-02-248

Received: 08 FEB 89
Reported: 22 FEB 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
02-248-1	EMS 1-6	08 FEB 89
02-248-2	EMS 1-9	08 FEB 89
02-248-3	EMS 2-6	08 FEB 89
02-248-4	EMS 2-9	08 FEB 89
02-248-5	EMS 3-6	08 FEB 89

PARAMETER	02-248-1	02-248-2	02-248-3	02-248-4	02-248-5
EPA Method 8010					
Date Extracted	02/15/89	02/15/89	02/15/89	02/15/89	---
1,1,2,2-Tetrachloroethane, ug/kg	<5	<5	<5	<5	---
1,1,2-Trichloroethane, ug/kg	<5	<5	<5	<5	---
1,1-Dichloroethane, ug/kg	<5	<5	<5	<5	---
1,1-Dichloroethylene, ug/kg	<5	<5	<5	<5	---
1,2-Dichlorobenzene, ug/kg	<5	<5	<5	<5	---
1,2-Dichloroethane, ug/kg	<5	<5	<5	<5	---
trans-1,2-Dichloroethylene, ug/kg	<5	<5	<5	<5	---
1,2-Dichloropropane, ug/kg	<5	<5	<5	<5	---
1,3-Dichlorobenzene, ug/kg	<5	<5	<5	<5	---
1,4-Dichlorobenzene, ug/kg	<5	<5	<5	<5	---
2-Chloroethylvinylether, ug/kg	<5	<5	<5	<5	---
Bromodichloromethane, ug/kg	<5	<5	<5	<5	---
Bromomethane, ug/kg	<5	<5	<5	<5	---
Bromoform, ug/kg	<5	<5	<5	<5	---
Chlorobenzene, ug/kg	<5	<5	<5	<5	---
Carbon Tetrachloride, ug/kg	<5	<5	<5	<5	---
Chloroethane, ug/kg	<5	<5	8	<5	---
Chloroform, ug/kg	<5	<5	<5	<5	---
Chloromethane, ug/kg	<5	<5	<5	<5	---
Dibromochloromethane, ug/kg	<5	<5	<5	<5	---
Dichlorodifluoromethane, ug/kg	<5	<5	<5	<5	---

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-02-248

Received: 08 FEB 89
Reported: 22 FEB 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
02-248-1	EMS 1-6	08 FEB 89
02-248-2	EMS 1-9	08 FEB 89
02-248-3	EMS 2-6	08 FEB 89
02-248-4	EMS 2-9	08 FEB 89
02-248-5	EMS 3-6	08 FEB 89

PARAMETER	02-248-1	02-248-2	02-248-3	02-248-4	02-248-5
Freon 113, ug/kg	6	8	<5	<5	---
Methylene chloride, ug/kg	<5	<5	<5	<5	---
Tetrachloroethylene, ug/kg	<5	<5	<5	<5	---
1,1,1-Trichloroethane, ug/kg	<5	<5	<5	<5	---
Trichloroethylene, ug/kg	<5	<5	8	17	---
Trichlorofluoromethane, ug/kg	<5	<5	<5	<5	---
Vinyl chloride, ug/kg	<5	<5	<5	<5	---
cis-1,3-Dichloropropene, ug/kg	<5	<5	<5	<5	---
trans-1,3-Dichloropropene, ug/kg	<5	<5	<5	<5	---
Other EPA Method 8010	---	---	---	---	---

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-02-248

Received: 08 FEB 89
Reported: 22 FEB 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
02-248-1	EMS 1-6	08 FEB 89
02-248-2	EMS 1-9	08 FEB 89
02-248-3	EMS 2-6	08 FEB 89
02-248-4	EMS 2-9	08 FEB 89
02-248-5	EMS 3-6	08 FEB 89

PARAMETER	02-248-1	02-248-2	02-248-3	02-248-4	02-248-5
EPA Method 8020					
Date Extracted	02/15/89	02/15/89	02/15/89	02/15/89	02/16/89
1,2-Dichlorobenzene, ug/kg	<5	<5	<5	<5	<5
1,3-Dichlorobenzene, ug/kg	<5	<5	<5	<5	<5
1,4-Dichlorobenzene, ug/kg	<5	<5	<5	<5	<5
Chlorobenzene, ug/kg	<5	<5	<5	<5	<5
Benzene, ug/kg	<5	<5	<5	<5	<5
Ethylbenzene, ug/kg	<5	<5	<5	<5	<5
Toluene, ug/kg	<5	<5	<5	6	<5
Total Xylene Isomers, ug/kg	---	---	---	---	---
Other EPA Method 8020					

CHM HILL CHAIN OF CUSTODY RECORD

LOG # 8902248

PROJECT NUMBER	PROJECT NAME
SFO 27289.A0.FW	Plant 35 Tanks

CLIENT NAME: Del Monte

REPORT TO: Susan Colman

COPY TO:

REQUESTED COMPLETION DATE: 2/22/89

LABORATORY: Brown & Caldwell

FOR LAB USE ONLY

LAB # _____

PROJ # _____

ACK _____ VERIFIED _____

DATE INVOICED _____

NO. OF SAMPLES _____ pg _____ of _____

DISPOSITION: D R _____ DATE

ANALYSES REQUESTED

STA NO	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	TPH aq gas – 5030	TPH aq diesel – sonication	BTEX – EPA 8020	Solvents – 8010
1	2/8/89	10:10		✓	EMS1-6	1	✓	✓	✓	✓
1		10:30		✓	EMS1-9	1	✓	✓	✓	✓
2		10:40		✓	EMS2-6	1	✓	✓	✓	✓
2		11:05		✓	EMS2-9	1	✓	✓	✓	✓
3		11:55		✓	EMS3-6	1	✓	✓	✓	
3	↓	12:05		✓	EMS3-9	1	✓	✓	✓	

REMARKS

Note methods –

TPH aq gas → 5030

TPH diesel → sonication

Fuel smell

↓

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
1	2/8/89 12:30	2	2/8/89 12:40	3 Monika Scott	2/9/89 12:43

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY LAB: (SIGNATURE)	DATE/TIME
4		5		6		7	

REMARKS _____

SAMPLING PROGRAM: SDWA ☐ NPDES ☐ RCRA ☐ OTHER _____ (SPECIFY)

SAMPLE SHIPPED VIA: ☐ UPS ☐ BUS ☐ FED-EX ☐ HAND OTHER _____

AIR BUS BILL NUMBER

ORIGINAL ACCOMPANIES SHIPMENT – PINK – COPY TO COORDINATOR FIELD FILES – YELLOW – CLIENT

REV. 6/87 FORM

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-03-552

Received: 22 MAR 89
Reported: 07 APR 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
03-552-1	S2-S4	22 MAR 89
03-552-2	S2-S2	22 MAR 89
03-552-3	S2-G2	22 MAR 89

PARAMETER	03-552-1	03-552-2	03-552-3
C18-C30 Hydrocarbons, mg/kg	<10	<10	<10
Fuel Hydrocarbons + BTX			
Date Analyzed	04.03.89	04.03.89	04.03.89
Dilution Factor, Times	1	1	50
Benzene, mg/kg	<0.1	<0.1	<0.1
Ethylbenzene, mg/kg	<0.1	<0.1	<0.1
Toluene, mg/kg	<0.1	<0.1	0.14
Total Xylene Isomers, mg/kg	<0.1	<0.1	0.72
Fuel Characterization, .	---	---	GAS
Volatile Fuel Hydrocarbons, mg/kg	<5.0	<5.0	220
Other Fuel Hydrocarbons + BTX	---	---	---

This fuel characterization is a qualitative identification based upon a visual comparison of sample chromatograms with those from authentic standards.

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-03-552

Received: 22 MAR 89
Reported: 07 APR 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
03-552-1	S2-S4	22 MAR 89
03-552-2	S2-S2	22 MAR 89
03-552-3	S2-G2	22 MAR 89

PARAMETER	03-552-1	03-552-2	03-552-3
EPA Method 8010			
Date Analyzed	03.29.89	04.01.89	---
Date Extracted	03.29.89	04.01.89	---
1,1,1-Trichloroethane, mg/kg	<0.01	<0.01	---
1,1,2,2-Tetrachloroethane, mg/kg	<0.01	<0.01	---
1,1,2-Trichloroethane, mg/kg	<0.01	<0.01	---
1,1-Dichloroethane, mg/kg	<0.01	<0.01	---
1,1-Dichloroethylene, mg/kg	<0.01	<0.01	---
1,2-Dichlorobenzene, mg/kg	<0.01	<0.01	---
1,2-Dichloroethane, mg/kg	<0.01	<0.01	---
1,2-Dichloroethene (Total), mg/kg	0.03	0.07	---
1,2-Dichloropropane, mg/kg	<0.01	<0.01	---
1,3-Dichlorobenzene, mg/kg	<0.01	<0.01	---
1,4-Dichlorobenzene, mg/kg	<0.01	<0.01	---
2-Chloroethylvinylether, mg/kg	<0.01	<0.01	---
Bromodichloromethane, mg/kg	<0.01	<0.01	---
Bromomethane, mg/kg	<0.01	<0.01	---
Bromoform, mg/kg	<0.01	<0.01	---
Chlorobenzene, mg/kg	<0.01	<0.01	---
Carbon Tetrachloride, mg/kg	<0.01	<0.01	---
Chloroethane, mg/kg	<0.01	<0.01	---
Chloroform, mg/kg	<0.01	<0.01	---
Chloromethane, mg/kg	<0.01	<0.01	---
Dibromochloromethane, mg/kg	<0.01	<0.01	---
Dichlorodifluoromethane, mg/kg			

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-03-552

Received: 22 MAR 89
Reported: 07 APR 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
03-552-1	S2-S4	22 MAR 89
03-552-2	S2-S2	22 MAR 89
03-552-3	S2-G2	22 MAR 89

PARAMETER	03-552-1	03-552-2	03-552-3
Freon 113, mg/kg	<0.01	<0.01	---
Methylene chloride, mg/kg	<0.01	<0.01	---
Tetrachloroethylene, mg/kg	<0.01	<0.01	---
Trichloroethylene, mg/kg	<0.01	0.07	---
Trichlorofluoromethane, mg/kg	<0.01	<0.01	---
Vinyl chloride, mg/kg	<0.01	<0.01	---
cis-1,3-Dichloropropene, mg/kg	<0.01	<0.01	---
trans-1,3-Dichloropropene, mg/kg	<0.01	<0.01	---

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-03-552

Received: 22 MAR 89
Reported: 07 APR 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
03-552-1	S2-S4	22 MAR 89
03-552-2	S2-S2	22 MAR 89
03-552-3	S2-G2	22 MAR 89

PARAMETER	03-552-1	03-552-2	03-552-3
B/N,A Ext.Pri.Poll. (EPA-8270)			
Date Extracted	03.22.89	03.22.89	---
Date Analyzed	03.31.89	03.31.89	---
Dilution Factor, Times	1	1	---
1,2,4-Trichlorobenzene, mg/kg	<0.1	<0.1	---
1,2-Dichlorobenzene, mg/kg	<0.1	<0.1	---
1,2-Diphenylhydrazine, mg/kg	<0.1	<0.1	---
1,3-Dichlorobenzene, mg/kg	<0.1	<0.1	---
1,4-Dichlorobenzene, mg/kg	<0.1	<0.1	---
2,4,6-Trichlorophenol, mg/kg	<0.1	<0.1	---
2,4-Dichlorophenol, mg/kg	<0.1	<0.1	---
2,4-Dimethylphenol, mg/kg	<0.1	<0.1	---
2,4-Dinitrotoluene, mg/kg	<1	<1	---
2,4-Dinitrophenol, mg/kg	<0.1	<0.1	---
2,6-Dinitrotoluene, mg/kg	<0.1	<0.1	---
2-Chloronaphthalene, mg/kg	<0.1	<0.1	---
2-Nitrophenol, mg/kg	<0.1	<0.1	---
2-Chlorophenol, mg/kg	<0.1	<0.1	---
2-Methyl-4,6-dinitrophenol, mg/kg	<0.1	<0.1	---
3,3'-Dichlorobenzidine, mg/kg	<0.1	<0.1	---
4-Bromophenylphenylether, mg/kg	<0.1	<0.1	---
4-Chloro-3-methylphenol, mg/kg	<0.1	<0.1	---
4-Chlorophenylphenylether, mg/kg	<2	<2	---
4-Nitrophenol, mg/kg	<0.1	<0.1	---
Acenaphthene, mg/kg			

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-03-552

Received: 22 MAR 89
Reported: 07 APR 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
03-552-1	S2-S4	22 MAR 89
03-552-2	S2-S2	22 MAR 89
03-552-3	S2-G2	22 MAR 89

PARAMETER	03-552-1	03-552-2	03-552-3
Acenaphthylene, mg/kg	<0.1	<0.1	---
Anthracene, mg/kg	<0.1	<0.1	---
Bis(2-ethylhexyl)phthalate, mg/kg	<10	<10	---
Benzidine, mg/kg	<4	<4	---
Bis(2-chloroethyl)ether, mg/kg	<0.1	<0.1	---
Bis(2-chloroisopropyl)ether, mg/kg	<0.1	<0.1	---
Bis(2-chloroethoxy)methane, mg/kg	<0.1	<0.1	---
Benzo(a)anthracene, mg/kg	<0.1	<0.1	---
Benzo(a)pyrene, mg/kg	<0.1	<0.1	---
Benzo(b)fluoranthene, mg/kg	<0.1	<0.1	---
Benzo(g,h,i)perylene, mg/kg	<0.1	<0.1	---
Benzo(k)fluoranthene, mg/kg	<0.1	<0.1	---
Butylbenzylphthalate, mg/kg	<0.1	<0.1	---
Chrysene, mg/kg	<0.1	<0.1	---
Di-n-octylphthalate, mg/kg	<0.1	<0.1	---
Dibenzo(a,h)anthracene, mg/kg	<0.1	<0.1	---
Dibutylphthalate, mg/kg	<0.1	<0.1	---
Diethylphthalate, mg/kg	<0.1	<0.1	---
Dimethylphthalate, mg/kg	<0.1	<0.1	---
Fluorene, mg/kg	<0.1	<0.1	---
Fluoranthene, mg/kg	<0.1	<0.1	---
Hexachlorobenzene, mg/kg	<0.1	<0.1	---
Hexachlorobutadiene, mg/kg	<0.1	<0.1	---
Hexachlorocyclopentadiene, mg/kg	<0.1	<0.1	---
Hexachloroethane, mg/kg	<0.1	<0.1	---

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-03-552

Received: 22 MAR 89
Reported: 07 APR 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.AD.FW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
03-552-1	S2-S4	22 MAR 89
03-552-2	S2-S2	22 MAR 89
03-552-3	S2-G2	22 MAR 89

PARAMETER	03-552-1	03-552-2	03-552-3
Indeno(1,2,3-c,d)pyrene, mg/kg	<0.1	<0.1	---
Isophorone, mg/kg	<0.1	<0.1	---
N-Nitrosodi-n-propylamine, mg/kg	<0.1	<0.1	---
N-Nitrosodimethylamine, mg/kg	<0.1	<0.1	---
N-Nitrosodiphenylamine, mg/kg	<0.1	<0.1	---
Naphthalene, mg/kg	<0.1	<0.1	---
Nitrobenzene, mg/kg	<0.1	<0.1	---
Pentachlorophenol, mg/kg	<0.1	<0.1	---
Phenanthrene, mg/kg	0.2	<0.1	---
Phenol, mg/kg	<0.1	<0.1	---
Pyrene, mg/kg			

Sim D. Lessley, Ph.D., Laboratory Director

CH2M HILL CHAIN OF CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
SFO27289.A0.FW	Del Monte Plant 35 Tanks

CLIENT NAME: CH2M HILL

REPORT TO: Susan Colman

COPY TO:

REQUESTED COMPLETION DATE:

LABORATORY: Brown & Caldwell

ANALYSES REQUESTED: NUMBER OF CONTAINERS; TPH as diesel? / gasoline (5030/8015); BTEX (5030/8020); 8010; 8270; HOLD

STA NO	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (field)		NUMBER OF CONTAINERS	TPH	BTEX	8010	8270	HOLD		REMARKS
1	3/22	11:15		✓	S2-G1*	high		1	1			X	8903551	normal TAT - hold
2	↓	12:00		✓	S2-S4	low		1	1	1	1			↓
3		12:05		✓	S2-S2	low		1	1	1	1			↓
4		13:10		✓	S2-G2	high		1	1					↓
5		13:25		✓	S2-G3	~20 ppm		1	1					24 hr RUSH 89035501
6	↓	13:30		✓	S2-G4	~20 ppm		1	1					24 hr RUSH -2
7	↓	13:45		✓	S2-G5	(high)		1	1					24 hr RUSH -3

FOR LAB USE ONLY

LAB # ______
PROJ # ______
ACK ______ VERIFIED ______
DATE INVOICED ______
NO. OF SAMPLES ______ pg ____ of ____
DISPOSITION: D R ______ DATE

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
1 Susan Colman	3/22/89	2 Susan Colman	3/22/89 14:35	3 ——	——

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY LAB: (SIGNATURE)	DATE/TIME
4 ——	——	5 ——	——	6 ——	——	7 Terry Blake	03/22/89 14:45

REMARKS ______

SAMPLING PROGRAM: SDWA ☐ NPDES ☐ RCRA ☐ OTHER ______ (SPECIFY)

SAMPLE SHIPPED VIA: ☐ UPS ☐ BUS ☐ FED-EX ☐ HAND OTHER ______

AIR BUS BILL NUMBER

WHITE - ... PINK - COPY TO COORDINATOR FIELD FILES YELLOW - CLIENT

REV. 6/87 FORM

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-143

Received: 04 MAY 89
Reported: 08 MAY 89

REVISED 5/25/89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
05-143-1	AS-1, Aerated Soil From Gas Excavation	04 MAY 89
05-143-2	GT-1, Well Cuttings From Gas Tank	04 MAY 89
05-143-3	ST-1, Well Cuttings From Solvent Tanks	04 MAY 89

PARAMETER	05-143-1	05-143-2	05-143-3
Ammonia Nitrogen, mg/kg	---	---	4.6
TPH - Volatile Hydrocarbons			
Date Analyzed	05.04.89	05.04.89	---
Dilution Factor, Times	1	1	---
C4 to C12 Hydrocarbons, mg/kg	18	52	---
Other TPH - Volatile Hydrocarbons	---	---	---

Sim D. Lessley, Ph.D., Laboratory Director

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-143

Received: 04 MAY 89
Reported: 08 MAY 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
05-143-3	ST-1, Well Cuttings From Solvent Tanks	04 MAY 89

PARAMETER	05-143-3
Ammonia Nitrogen, mg/kg	4.6

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-143

Received: 04 MAY 89
Reported: 08 MAY 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
05-143-3	ST-1, Well Cuttings From Solvent Tanks	04 MAY 89

PARAMETER	05-143-3
EPA Method 8010	
Date Analyzed	05.06.89
Date Extracted	05.04.89
1,1,1-Trichloroethane, mg/kg	<0.01
1,1,2,2-Tetrachloroethane, mg/kg	<0.01
1,1,2-Trichloroethane, mg/kg	<0.01
1,1-Dichloroethane, mg/kg	<0.01
1,1-Dichloroethene, mg/kg	<0.01
1,2-Dichlorobenzene, mg/kg	<0.01
1,2-Dichloroethane, mg/kg	<0.01
1,2-Dichloroethene (Total), mg/kg	0.02
1,2-Dichloropropane, mg/kg	<0.01
1,3-Dichlorobenzene, mg/kg	<0.01
1,4-Dichlorobenzene, mg/kg	<0.01
2-Chloroethylvinylether, mg/kg	<0.01
Bromodichloromethane, mg/kg	<0.01
Bromomethane, mg/kg	<0.01
Bromoform, mg/kg	<0.01
Chlorobenzene, mg/kg	<0.01
Carbon Tetrachloride, mg/kg	<0.01
Chloroethane, mg/kg	<0.01
Chloroform, mg/kg	<0.01
Chloromethane, mg/kg	<0.01
Dibromochloromethane, mg/kg	<0.01
Dichlorodifluoromethane, mg/kg	<0.01
Freon 113, mg/kg	<0.01
Methylene chloride, mg/kg	<0.01

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-143

Received: 04 MAY 89
Reported: 08 MAY 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
05-143-3	ST-1, Well Cuttings From Solvent Tanks	04 MAY 89

PARAMETER	05-143-3
Tetrachloroethylene, mg/kg	<0.01
Trichloroethene, mg/kg	0.63
Trichlorofluoromethane, mg/kg	<0.01
Vinyl chloride, mg/kg	<0.01
cis-1,3-Dichloropropene, mg/kg	<0.01
trans-1,3-Dichloropropene, mg/kg	<0.01

Results were reported verbally to you on 05.08.89. TB 05.09.89
Results for TCE on sample ST-1 were confirmed upon a second review of the data.
TB 05.10.89

Hedy J. Ficklin for
Sim D. Lessley, Ph.D., Laboratory Director

CHAIN OF CUSTODY RECORD

BC L[redacted]ber [redacted]89-[redacted]-14[redacted]

Client name: CH2M HILL	Project or PO#: SF027289.A0.GW
Address: 6425 Christie Ave	Phone #: 652-2426
City, State, Zip: Emeryville CA	Report attention: Susan Colman

Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by / Sample description	Number of containers	TPH-gasoline 5030	TPH-[redacted] 5030	8010	NH3	Hazardous sample Special handling required	Remarks
AS-1	5/4/89	0800	SO	Aerated soil from gas excavation	1	X					24 hr Rush (TB)
GT-1	5/4/89	0820	SO	well cuttings from gas tank	1	X					
ST-1	↓	0830	SO	well cuttings from solvent tanks	1			X	X		

	Signature	Print Name	Company	Date	Time
Relinquished by	Susan Colman	Susan Colman	CH2M HILL	5/4/89	9:15
Received by					
Relinquished by					
Received by					
Relinquished by					
Received by Laboratory	Tony Blake	Tony Blake	BCAL	5/4/89	09:15

BROWN AND CALDWELL LABORATORIES

☒ 1255 Powell Street, Emeryville, CA 94608 (415) 428-2300

☐ 373 South Fair Oaks Avenue, Pasadena, CA 91105 (818) 795-7553

☐ 1200 Pacific[redacted]nue, Anaheim, CA 92805

Note:
Samples are discarded 30 days after results are reported unless other arrangements are made.
Hazardous samples will be returned to client or disposed of at client expense.

*KEY: AQ—Aqueous NA—Nonaqueous SL—Sludge GW—Groundwater SO—Soil C[redacted]her PE—Petroleum

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-590

Received: 19 MAY 89
Reported: 06 JUN 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
05-590-1	DM-MW8S-589	19 MAY 89

PARAMETER	05-590-1
EPA Method 8010	
Date Analyzed	06.01.89
Date Extracted	05.31.89
1,1,1-Trichloroethane, mg/kg	<0.01
1,1,2,2-Tetrachloroethane, mg/kg	<0.01
1,1,2-Trichloroethane, mg/kg	<0.01
1,1-Dichloroethene, mg/kg	<0.01
1,1-Dichloroethane, mg/kg	<0.01
1,2-Dichloroethane, mg/kg	<0.01
1,2-Dichlorobenzene, mg/kg	<0.01
1,2-Dichloroethene (Total), mg/kg	<0.01
1,2-Dichloropropane, mg/kg	<0.01
1,3-Dichlorobenzene, mg/kg	<0.01
1,4-Dichlorobenzene, mg/kg	<0.01
2-Chloroethylvinylether, mg/kg	<0.01
Bromodichloromethane, mg/kg	<0.01
Bromomethane, mg/kg	<0.01
Bromoform, mg/kg	<0.01
Chlorobenzene, mg/kg	<0.01
Carbon Tetrachloride, mg/kg	<0.01
Chloroethane, mg/kg	<0.01
Chloroform, mg/kg	0.15
Chloromethane, mg/kg	<0.01
Dibromochloromethane, mg/kg	<0.01
Dichlorodifluoromethane, mg/kg	<0.01
Freon 113, mg/kg	<0.01
Methylene chloride, mg/kg	<0.01

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-590

Received: 19 MAY 89
Reported: 06 JUN 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
05-590-1	DM-MW8S-589	19 MAY 89

PARAMETER	05-590-1
Trichloroethene, mg/kg	0.18
Trichlorofluoromethane, mg/kg	<0.01
Tetrachloroethene, mg/kg	<0.01
Vinyl chloride, mg/kg	<0.01
Cis-1,3-Dichloropropene, mg/kg	<0.01
trans-1,3-Dichloropropene, mg/kg	<0.01

Sim D. Lessley, Ph.D., Laboratory Director

CHM HILL CHAIN OF CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
SF027289.A0.GW	Plant 35 Groundwater

CLIENT NAME: Del Monte

REPORT TO: Sue Colman/SFO | COPY TO: Jeff Heglie/SFO

REQUESTED COMPLETION DATE: See remarks. | LABORATORY: B&C/Emeryville

ANALYSES REQUESTED

STA NO	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	TPH-Gas - Solvent Extr.	EPA8010=Hal. VOCs
1	0519	13:00	X		DM-MW7S-589 Soil	1	X	
2	0519	13:03	X		DM-MW8S-589 Soil	1		X

FOR LAB USE ONLY

LAB # _____

PROJ # _____

ACK _____ VERIFIED _____

DATE INVOICED _____

NO. OF SAMPLES _____ pg _____ of _____

DISPOSITION: D R _____ DATE

REMARKS

Analyze ASAP-24-48hr
Normal Turn-Around Time

NOTE Homogenize Samples
Mix contents of each jar (separately) before extraction.

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
1 [signature] Hydrogeologist	051989 13:15	2		3	

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY LAB: (SIGNATURE)	DATE/TIME
4		5		6 [signature]	051989 13:55	[signature] Bellon	5/19/89 1354

REMARKS: LOG # 8905590 NORMAL
8905594 RUSH

SAMPLING PROGRAM: SDWA ☐ NPDES ☐ RCRA ☐ OTHER _____ (SPECIFY)

SAMPLE SHIPPED VIA: ☐ UPS ☐ BUS ☐ FED-EX ☒ HAND OTHER _____

AIR BUS BILL NUMBER

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

CH2M - HILL
SAN FRANCISICO

LOG NO: E89-07-044

Received: 05 JUL 89
Reported: 17 JUL 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
07-044-1	MW9-8-8.5	05 JUL 89
07-044-2	MW9-14-14.5	05 JUL 89
07-044-3	MW11-10-10.5	05 JUL 89
07-044-4	MW11-16-16.5	05 JUL 89
07-044-5	MW10-10.5-11	06 JUL 89

PARAMETER	07-044-1	07-044-2	07-044-3	07-044-4	07-044-5
EPA Method 8010					
Date Analyzed	07.12.89	07.13.89	07.13.89	07.13.89	07.13.89
Date Extracted	07.12.89	07.12.89	07.12.89	07.12.89	07.12.89
1,1,1-Trichloroethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2,2-Tetrachloroethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichloroethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,1-Dichloroethene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,1-Dichloroethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloroethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichlorobenzene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,2-Dichloroethene (Total), mg/kg	<0.01	<0.01	<0.01	<0.01	0.01
1,2-Dichloropropane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,3-Dichlorobenzene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
1,4-Dichlorobenzene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
2-Chloroethylvinylether, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Bromodichloromethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Bromomethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Bromoform, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorobenzene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Carbon Tetrachloride, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroform, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Chloromethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-044

Received: 05 JUL 89
Reported: 17 JUL 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
07-044-1	MW9-8-8.5	05 JUL 89
07-044-2	MW9-14-14.5	05 JUL 89
07-044-3	MW11-10-10.5	05 JUL 89
07-044-4	MW11-16-16.5	05 JUL 89
07-044-5	MW10-10.5-11	06 JUL 89

PARAMETER	07-044-1	07-044-2	07-044-3	07-044-4	07-044-5
Dibromochloromethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Dichlorodifluoromethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Freon 113, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Methylene chloride, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Trichloroethene, mg/kg	<0.01	<0.01	0.02	0.02	<0.01
Trichlorofluoromethane, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Tetrachloroethene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl chloride, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
Cis-1,3-Dichloropropene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01
trans-1,3-Dichloropropene, mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-044

Received: 05 JUL 89
Reported: 17 JUL 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
07-044-6	MW10-15.5-16	06 JUL 89

PARAMETER	07-044-6
EPA Method 8010	
Date Analyzed	07.13.89
Date Extracted	07.12.89
1,1,1-Trichloroethane, mg/kg	<0.01
1,1,2,2-Tetrachloroethane, mg/kg	<0.01
1,1,2-Trichloroethane, mg/kg	<0.01
1,1-Dichloroethene, mg/kg	<0.01
1,1-Dichloroethane, mg/kg	<0.01
1,2-Dichloroethane, mg/kg	<0.01
1,2-Dichlorobenzene, mg/kg	<0.01
1,2-Dichloroethene (Total), mg/kg	0.02
1,2-Dichloropropane, mg/kg	<0.01
1,3-Dichlorobenzene, mg/kg	<0.01
1,4-Dichlorobenzene, mg/kg	<0.01
2-Chloroethylvinylether, mg/kg	<0.01
Bromodichloromethane, mg/kg	<0.01
Bromomethane, mg/kg	<0.01
Bromoform, mg/kg	<0.01
Chlorobenzene, mg/kg	<0.01
Carbon Tetrachloride, mg/kg	<0.01
Chloroethane, mg/kg	<0.01
Chloroform, mg/kg	<0.01
Chloromethane, mg/kg	<0.01
Dibromochloromethane, mg/kg	<0.01
Dichlorodifluoromethane, mg/kg	<0.01
Freon 113, mg/kg	<0.01
Methylene chloride, mg/kg	<0.01

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-044

Received: 05 JUL 89
Reported: 17 JUL 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SFO 27289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
07-044-6	MW10-15.5-16	06 JUL 89

PARAMETER	07-044-6
Trichloroethene, mg/kg	<0.01
Trichlorofluoromethane, mg/kg	<0.01
Tetrachloroethene, mg/kg	0.01
Vinyl chloride, mg/kg	<0.01
Cis-1,3-Dichloropropene, mg/kg	<0.01
trans-1,3-Dichloropropene, mg/kg	<0.01

Note: QA report included consists only of laboratory control standard.
No charge will be applied. T. Blake 07.26.89

L. D. Lessley

Sim D. Lessley, Ph.D., Laboratory Director

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907044

ATE REPORTED : 07/20/89

LABORATORY CONTROL STANDARDS

AMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
P Method 8010	07.12.89	247	7231	7231	No.	100
Analyst ID	07.12.89	247	0.010	0.010	ug	100
Detection Limit	07.12.89	247	1	1	Times	100
Dilution Factor	07.12.89	247	0.101	0.100	ug	101
1,1,1-Trichloroethane	07.12.89	247	0.094	0.100	ug	94
1,1-Dichloroethene	07.12.89	247	0.103	0.100	ug	103
1,1-Dichloroethane	07.12.89	247	0.102	0.100	ug	102
1,2-Dichloroethane	07.12.89	247	0.122	0.100	ug	122
1,2-Dichlorobenzene	07.12.89	247	0.089	0.100	ug	89
1,2-Dichloroethene (Total)	07.12.89	247	0.104	0.100	ug	104
1,2-Dichloropropane	07.12.89	247	0.116	0.100	ug	116
1,3-Dichlorobenzene	07.12.89	247	0.120	0.100	ug	120
1,4-Dichlorobenzene	07.12.89	247	0.106	0.100	ug	106
2-Chloroethylvinylether	07.12.89	247	0.106	0.100	ug	106
Bromodichloromethane	07.12.89	247	0.082	0.100	ug	82
Bromomethane	07.12.89	247	0.112	0.100	ug	112
Bromoform	07.12.89	247	0.108	0.100	ug	108
Chlorobenzene	07.12.89	247	0.103	0.100	ug	103
Carbon Tetrachloride	07.12.89	247	0.097	0.100	ug	97
Chloroethane	07.12.89	247	0.103	0.100	ug	103
Chloroform	07.12.89	247	0.069	0.100	ug	69
Chloromethane	07.12.89	247	0.110	0.100	ug	110
Dibromochloromethane	07.12.89	247	0.109	0.100	ug	109
Freon 113	07.12.89	247	0.140	0.100	ug	140
Methylene chloride	07.12.89	247	0.102	0.100	ug	102
Trichloroethene	07.12.89	247	0.118	0.100	ug	118
Trichlorofluoromethane	07.12.89	247	0.091	0.100	ug	91
Tetrachloroethene	07.12.89	247	0.050	0.100	ug	50
Vinyl chloride						

CH2M HILL CHAIN OF CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
550 27289.A8.GW	Del Monte
CLIENT NAME: CH2M HILL	
REPORT TO: Susan Colman	COPY TO:
REQUESTED COMPLETION DATE: 7/20/89	LABORATORY: Brown & Caldwell

FOR LAB USE ONLY

LAB # _____

PROJ # _____

ACK _____ VERIFIED _____

DATE INVOICED _____

NO. OF SAMPLES _____ pg _____ of _____

DISPOSITION: D R _____ DATE

STA NO	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	8010	REMARKS
mw9	7/5/89	1200		X	mw9-8-8.5	1	X	
↓	↓	1300		X	mw9-14-14.5	1	X	
mw11		1520		X	mw11-10-10.5	1	X	
↓	↓	1535		X	mw16-16.5	1	X	Labelled MW11-16-16.5

LOG # 8907044

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
1 Susan Colman	7/5/89 1615	2 Susan Colman	7/5/89 1625	3	

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY LAB: (SIGNATURE)	DATE/TIME
4		5		6		Yvonne Bellon	7/5/89 1629

REMARKS _____

SAMPLING PROGRAM: SDWA ☐ NPDES ☐ RCRA ☐ OTHER _____ (SPECIFY)

SAMPLE SHIPPED VIA: ☐ UPS ☐ BUS ☐ FED-EX ☐ HAND OTHER _____

AIR BUS BILL NUMBER

DISTRIBUTION: WHITE — ORIGINAL ACCOMPANIES SHIPMENT PINK — COPY TO COORDINATOR FIELD FILES YELLOW — CLIENT

REV 6/87 FORM

CH2M HILL CHAIN OF CUSTODY RECORD

LOG # 3707044

PROJECT NUMBER	PROJECT NAME
SF027289.A0.GW	Del Monte Plant 35

CLIENT NAME: CH2M HILL

REPORT TO: Susan Colman | COPY TO:

REQUESTED COMPLETION DATE: 7/20/89 | LABORATORY: Brown & Caldwell

STA NO	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	8010
MW10	7/6/89	1005		X	MW10-10.5-11	1	X
↓	↓	1030		X	MW10-15.5-16	1	X

ANALYSES REQUESTED

FOR LAB USE ONLY

LAB # _____

PROJ # _____

ACK _____ VERIFIED _____

DATE INVOICED _____

NO. OF SAMPLES _____ pg _____ of _____

DISPOSITION: D R _____ DATE

REMARKS

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
1 Susan Colman	7/6/89 1055	2 Susan Colman	7/6/89 1745	3 —	—

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY LAB: (SIGNATURE)	DATE/TIME
4 —	—	5 —	—	6 —	—	7 [signature]	7/6/89 1745

REMARKS _____

SAMPLING PROGRAM: SDWA ☐ NPDES ☐ RCRA ☐ OTHER _____ (SPECIFY)

SAMPLE SHIPPED VIA: ☐ UPS ☐ BUS ☐ FED-EX ☐ HAND OTHER _____

AIR BUS BILL NUMBER

DISTRIBUTION: WHITE — ORIGINAL ACCOMPANIES SHIPMENT PINK — COPY TO COORDINATOR FIELD FILES YELLOW — CLIENT

REV. 6/87 FORM 340

Engineers
Planners
Economists
Scientists

August 15, 1989

LRD191.10

CH2M HILL
6425 Christie Ave., Suite 500
Emeryville, CA 94608

Attention: Susan Colman

Dear Susan:

Enclosed please find the results for samples received at our laboratory on July 7, 1989 for the Del Monte Project.

If you have any questions please feel free to contact us.

Thank you for selecting a CH2M HILL laboratory for your analytical testing needs.

Sincerely,

CH2M HILL QUALITY ANALYTICS LABORATORY

Barbara J. Hurley

Barbara J. Hurley
Document Control Officer

Encl.

CH2M HILL
Engineers
Planners
Economists
Scientists

Report To: Del Monte Plant 35
CH2M Hill/SFO
SFO 27289.AO.GW
Attention: Susan Coleman/SFO
Sample Description: Soils
Date of Sample: 7/5/89

Reference Number: 23680

Date: 8/14/89
Phone:
Sampled By: Client
Date Received: 7/7/89

TEST	MW9 8.5-9	MW9 13-13.5	UNITS	DETECTION LIMIT	DATE ANALYZED	METHOD NUMBER
Bulk Density	1.60	1.48	grams/cm3	N/A	7-28-89	30.2
Porosity	38.5	43.3	*	N/A	8-9-89	21-2.1
% Sand	39	31	%	1	7-13-89	514.4.4
% Silt	30	44	%	1	7-13-89	514.4.4
% Clay	31	25	%	1	7-13-89	514.4.4
TOC/Sand 75-2000u	560	2310	mg/kg	100	8-11-89	3-75
TOC/Silt 45-75u	675	410	mg/kg	100	8-11-89	3-75
TOC/Clay <45u	1170	1390	mg/kg	100	8-11-89	3-75
Particle Density	2.60	2.61	units	N/A	7-28-89	29-3.2

Comments: mg/kg = milligrams per kilogram.
TOC = Total Organic Carbon.
* Percentage of the bulk volume not occupied by solids.

The information shown on this sheet is test data only and no analysis or interpretation is intended or implied.

Approved By: Bryan M. Jones

CH2M HILL Redding Environmental Laboratory 5090 Caterpillar Road Redding, California 96003 916.244.5227

Engineers
Planners
Economists
Scientists

Report To: Del Monte Plant 35
CH2M Hill/SFO
SFO 27289.AO.GW
Attention: Susan Coleman/SFO
Sample Description: Soils
Date of Sample: 7/5/89

Reference Number: 23680

Date: 8/14/89
Phone:
Sampled By: Client
Date Received: 7/7/89

TEST	MW11 10.5 -11	MW11 16.5 -17	UNITS	DETECTION LIMIT	DATE ANALYZED	METHOD NUMBER
Bulk Density	1.47	1.40	grams/cm3	N/A	7-28-89	30.2
Porosity	43.5	46.0	*	N/A	8-9-89	21-2.1
% Sand	24	31	%	1	7-13-89	514.4.4
% Silt	44	41	%	1	7-13-89	514.4.4
% Clay	32	28	%	1	7-13-89	514.4.4
TOC/Sand 75-2000u	735	395	mg/kg	100	8-11-89	3-75
TOC/Silt 45-75u	525	870	mg/kg	100	8-11-89	3-75
TOC/Clay <45u	1450	1370	mg/kg	100	8-11-89	3-75
Particle Density	2.60	2.59	units	N/A	7-28-89	29-3.2

Comments: mg/kg = milligrams per kilogram.
TOC = Total Organic Carbon.
* Percentage of the bulk volume not occupied by solids.

The information shown on this sheet is test data only and no analysis or interpretation is intended or implied.

Approved By: Eugene R. Jones

CH2M HILL
Engineers
Planners
Economists
Scientists

Report To: Del Monte Plant 35
CH2M Hill/SFO
SFO 27289.AO.GW
Attention: Susan Coleman/SFO
Sample Description: Soils
Date of Sample: 7/5/89

Reference Number: 23680

Date: 8/14/89
Phone:
Sampled By: Client
Date Received: 7/7/89

TEST	MW10 11-11.5	MW10 16-16.5	UNITS	DETECTION LIMIT	DATE ANALYZED	METHOD NUMBER
Bulk Density	1.55	1.45	grams/cm3	N/A	7-28-89	30.2
Porosity	39.5	44.2	*	N/A	8-9-89	21-2.1
% Sand	20	33	%	1	7-13-89	514.4.4
% Silt	49	39	%	1	7-13-89	514.4.4
% Clay	31	28	%	1	7-13-89	514.4.4
TOC/Sand 75-2000u	325	260	mg/kg	100	8-11-89	3-75
TOC/Silt 45-75u	295	780	mg/kg	100	8-11-89	3-75
TOC/Clay <45u	285	19700	mg/kg	100	8-11-89	3-75
Particle Density	2.56	2.60	units	N/A	7-28-89	29-3.2

Comments: mg/kg = milligrams per kilogram.
TOC = Total Organic Carbon.
* Percentage of the bulk volume not occupied by solids.

The information shown on this sheet is test data only and no analysis or interpretation is intended or implied.

Approved By: Bryan R. Jones

CH2M HILL Redding Environmental Laboratory 5090 Caterpillar Road Redding, California 96003 916.244.5227

CHM HILL CHAIN OF CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
5F02789.A8 GW	Del Monte Plant 35

CLIENT NAME: CH2M HILL

REPORT TO: Susan Colman

COPY TO:

REQUESTED COMPLETION DATE: 7/27/89

LABORATORY: CH2M HILL - Redding

ANALYSES REQUESTED

FOR LAB USE ONLY

LAB # _____

PROJ # _____

ACK _____ VERIFIED _____

DATE INVOICED _____

NO. OF SAMPLES _____ pg _____ of _____

DISPOSITION: D R _____ DATE

STA NO	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	Bulk density	Porosity	% sand	% silt	% clay	Inorganic Carbon	% org. carbon in s.f.	% org. carbon in clay	REMARKS
mw9	7/5	1200		X	mw9-8.5-9	1	X	X	X	X	X	X	X	X	
↓		1240		X	mw9-13.-13.5	1	X	X	X	X	X	X	X	X	Cylinder 7 9/16" x 2 1/2"
mw11	↓	1520		X	mw11-10.5-11	1	X	X	X	X	X	X	X	X	
↓	↓	1535		X	mw11-16.5-17	1	X	X	X	X	X	X	X	X	
mw10	7/6	1005		X	mw10-11-11.5	1	X	X	X	X	X	X	X	X	
↓	↓	1030		X	mw10-16-16.5	1	X	X	X	X	X	X	X	X	* Note % organic carbon NOT organic matter

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
1	7/6/89 1100	2	7/6/89 1310	3	

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY LAB: (SIGNATURE)	DATE/TIME
4		5		6		7	

REMARKS _____

SAMPLING PROGRAM: SDWA ☐ NPDES ☐ RCRA ☐ OTHER _____ (SPECIFY)

SAMPLE SHIPPED VIA: ☐ UPS ☒ BUS ☐ FED-EX ☐ HAND OTHER _____

AIR BUS BILL NUMBER: 258 976 5

DISTRIBUTION: WHITE — ORIGINAL ACCOMPANIES SHIPMENT PINK — COPY TO COORDINATOR FIELD FILES YELLOW — CLIENT

REV. 6/87 FORM

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-416

Received: 12 MAY 89
Reported: 31 MAY 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
05-416-1	DM-MW6-589	12 MAY 89
05-416-2	DM-MW7-589	12 MAY 89
05-416-3	DM-MW8-589	12 MAY 89

PARAMETER	05-416-1	05-416-2	05-416-3
EPA Method 604 - Phenols			
2,4,6-Trichlorophenol, ug/L	---	---	<20
2,4-Dichlorophenol, ug/L	---	---	<10
2,4-Dimethylphenol, ug/L	---	---	<10
2,4-Dinitrophenol, ug/L	---	---	<20
2-Nitrophenol, ug/L	---	---	<10
2-Chlorophenol, ug/L	---	---	<10
2-Methyl-4,6-dinitrophenol, ug/L	---	---	<20
4-Chloro-3-methylphenol, ug/L	---	---	<20
4-Nitrophenol, ug/L	---	---	<20
Dilution Factor, Times	---	---	1
Pentachlorophenol, ug/L	---	---	<20
Phenol, ug/L	---	---	<10
Other EPA Method 604 - Phenols	---	---	---

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-416

Received: 12 MAY 89
Reported: 31 MAY 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
05-416-1	DM-MW6-589	12 MAY 89
05-416-2	DM-MW7-589	12 MAY 89
05-416-3	DM-MW8-589	12 MAY 89

PARAMETER	05-416-1	05-416-2	05-416-3
EPA Method 601			
Date Analyzed	---	---	05.26.89
Date Extracted	---	---	05.26.89
1,1,1-Trichloroethane, ug/L	---	---	<10
1,1,2,2-Tetrachloroethane, ug/L	---	---	<10
1,1,2-Trichloroethane, ug/L	---	---	<10
1,1-Dichloroethane, ug/L	---	---	<10
1,1-Dichloroethene, ug/L	---	---	<10
1,2-Dichlorobenzene, ug/L	---	---	<10
1,2-Dichloroethane, ug/L	---	---	<10
1,2-Dichloroethene (Total), ug/L	---	---	290
1,2-Dichloropropane, ug/L	---	---	<10
1,3-Dichlorobenzene, ug/L	---	---	<10
1,4-Dichlorobenzene, ug/L	---	---	<10
2-Chloroethylvinylether, ug/L	---	---	<10
Bromodichloromethane, ug/L	---	---	<10
Bromomethane, ug/L	---	---	<10
Bromoform, ug/L	---	---	<10
Chlorobenzene, ug/L	---	---	<10
Carbon Tetrachloride, ug/L	---	---	<10
Chloroethane, ug/L	---	---	<10
Chloroform, ug/L	---	---	<10
Chloromethane, ug/L	---	---	<10
Dibromochloromethane, ug/L	---	---	<10
Dichlorodifluoromethane, ug/L	---	---	<10

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-05-416

Received: 12 MAY 89
Reported: 31 MAY 89

Ms. Susan Colman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Project: SF027289.A0.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
05-416-1	DM-MW6-589	12 MAY 89
05-416-2	DM-MW7-589	12 MAY 89
05-416-3	DM-MW8-589	12 MAY 89

PARAMETER	05-416-1	05-416-2	05-416-3
Freon 113, ug/L	---	---	<10
Methylene chloride, ug/L	---	---	<10
Trichloroethene, ug/L	---	---	1400
Trichlorofluoromethane, ug/L	---	---	<10
Tetrachloroethene, ug/L	---	---	20
Vinyl chloride, ug/L	---	---	78
cis-1,3-Dichloropropene, ug/L	---	---	<10
trans-1,3-Dichloropropene, ug/L	---	---	<10

S. D. Lessley

Sim D. Lessley, Ph.D., Laboratory Director

CH2M HILL CHAIN OF CUSTODY RECORD

Log # 890416

PROJECT NUMBER	PROJECT NAME
SF027289.AQGW	Del Monte Plant 35

CLIENT NAME: Del Monte

REPORT TO: Sue Colman / COPY TO: CH2MHILL

REQUESTED COMPLETION DATE: | LABORATORY:

STA NO	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION	NUMBER OF CONTAINERS	BTXE-EPA602	TPH-Gasoline	Halogenated VOCs-601	Phenol-EPA 604	REMARKS
MW-6	0512	13:58		X	DM-MW6-589	2	X	X			Standard Turn-Around
MW-7	0512	15:20		X	DM-MW7-589	2	X	X			"
MW-8	0512	16:00		X	DM-MW8-589	3			X	X	"

NOTE: HCl Preservative Added by Lab

ANALYSES REQUESTED

FOR LAB USE ONLY

LAB # _____

PROJ # _____

ACK _____ VERIFIED _____

DATE INVOICED _____

NO. OF SAMPLES _____ pg _____ of _____

DISPOSITION: D R _____ DATE

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME
1 Hydrogeologist	051289 1630			3	

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY LAB: (SIGNATURE)	DATE/TIME
4		5		6	051289 1640	7	5/12/89 1640

REMARKS _____

SAMPLING PROGRAM: SDWA ☐ NPDES ☐ RCRA ☐ OTHER _____ (SPECIFY)

SAMPLE SHIPPED VIA: ☐ UPS ☐ BUS ☐ FED-EX ☒ HAND OTHER _____

AIR BUS BILL NUMBER

REV. 6/87 FORM

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-137

Received: 11 JUL 89
Reported: 25 JUL 89

Ms. Susan Coleman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Purchase Order: SFO 27289.AO.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-137-3	MW-8	10 JUL 89
07-137-4	MW-13	10 JUL 89

PARAMETER	07-137-3	07-137-4
EPA Method 601		
Date Analyzed	07.14.89	07.14.89
Date Extracted	07.14.89	07.14.89
1,1,1-Trichloroethane, ug/L	<2.5	<2.5
1,1,2,2-Tetrachloroethane, ug/L	<2.5	<2.5
1,1,2-Trichloroethane, ug/L	<2.5	<2.5
1,1-Dichloroethene, ug/L	<2.5	<2.5
1,1-Dichloroethane, ug/L	<2.5	<2.5
1,2-Dichloroethane, ug/L	<2.5	<2.5
1,2-Dichlorobenzene, ug/L	<2.5	<2.5
1,2-Dichloroethene (Total), ug/L	140	130
1,2-Dichloropropane, ug/L	<2.5	<2.5
1,3-Dichlorobenzene, ug/L	<2.5	<2.5
1,4-Dichlorobenzene, ug/L	<2.5	<2.5
2-Chloroethylvinylether, ug/L	<2.5	<2.5
Bromodichloromethane, ug/L	<2.5	<2.5
Bromomethane, ug/L	<2.5	<2.5
Bromoform, ug/L	<2.5	<2.5
Chlorobenzene, ug/L	<2.5	<2.5
Carbon Tetrachloride, ug/L	<2.5	<2.5
Chloroethane, ug/L	<2.5	<2.5
Chloroform, ug/L	<2.5	<2.5
Chloromethane, ug/L	<2.5	<2.5
Dibromochloromethane, ug/L	<2.5	<2.5
Dichlorodifluoromethane, ug/L	<2.5	<2.5
Freon 113, ug/L	<2.5	<2.5

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-137

Received: 11 JUL 89
Reported: 25 JUL 89

Ms. Susan Coleman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Purchase Order: SFO 27289.AO.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-137-3	MW-8	10 JUL 89
07-137-4	MW-13	10 JUL 89

PARAMETER	07-137-3	07-137-4	
Methylene chloride, ug/L	<2.5	<2.5	
Trichloroethene, ug/L	330	310	
Trichlorofluoromethane, ug/L	<2.5	<2.5	
Tetrachloroethene, ug/L	14	12	
Vinyl chloride, ug/L	17	16	
Cis-1,3-Dichloropropene, ug/L	<2.5	<2.5	
trans-1,3-Dichloropropene, ug/L	<2.5	<2.5	

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-137

Received: 11 JUL 89
Reported: 25 JUL 89

Ms. Susan Coleman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Purchase Order: SFO 27289.AO.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-137-5	MW-9	10 JUL 89
07-137-6	MW-10	10 JUL 89
07-137-7	MW-11	10 JUL 89

PARAMETER	07-137-5	07-137-6	07-137-7
Nitrate (as N), mg/L	5.6	6.0	4.2
Conductivity, umhos/cm	870	920	900
pH, Units	6.9	6.9	6.9
Filterable Residue (TDS), mg/L	540	650	610
Chloride, mg/L	32	24	25
Sulfate, mg/L	54	60	51

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-137

Received: 11 JUL 89
Reported: 25 JUL 89

Ms. Susan Coleman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Purchase Order: SFO 27289.AO.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-137-5	MW-9	10 JUL 89
07-137-6	MW-10	10 JUL 89
07-137-7	MW-11	10 JUL 89

PARAMETER	07-137-5	07-137-6	07-137-7
EPA Method 601			
Date Analyzed	07.13.89	07.13.89	07.13.89
Date Extracted	07.13.89	07.13.89	07.13.89
1,1,1-Trichloroethane, ug/L	<0.5	<0.5	<1.0
1,1,2,2-Tetrachloroethane, ug/L	<0.5	<0.5	<1.0
1,1,2-Trichloroethane, ug/L	<0.5	<0.5	<1.0
1,1-Dichloroethene, ug/L	<0.5	0.8	<1.0
1,1-Dichloroethane, ug/L	<0.5	<0.5	<1.0
1,2-Dichloroethane, ug/L	<0.5	<0.5	4.0
1,2-Dichlorobenzene, ug/L	<0.5	<0.5	<1.0
1,2-Dichloroethene (Total), ug/L	63	85	73
1,2-Dichloropropane, ug/L	<0.5	<0.5	5.7
1,3-Dichlorobenzene, ug/L	<0.5	<0.5	<1.0
1,4-Dichlorobenzene, ug/L	<0.5	<0.5	<1.0
2-Chloroethylvinylether, ug/L	<0.5	<0.5	<1.0
Bromodichloromethane, ug/L	<0.5	<0.5	<1.0
Bromomethane, ug/L	<0.5	<0.5	<1.0
Bromoform, ug/L	<0.5	<0.5	<1.0
Chlorobenzene, ug/L	<0.5	<0.5	<1.0
Carbon Tetrachloride, ug/L	<0.5	<0.5	<1.0
Chloroethane, ug/L	<0.5	<0.5	<1.0
Chloroform, ug/L	<0.5	<0.5	<1.0
Chloromethane, ug/L	<0.5	<0.5	<1.0
Dibromochloromethane, ug/L	<0.5	<0.5	<1.0
Dichlorodifluoromethane, ug/L			

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E89-07-137

Received: 11 JUL 89
Reported: 25 JUL 89

Ms. Susan Coleman
CH2M HILL
6425 Christie Street, Suite 500
Emeryville, California 94608

Purchase Order: SFO 27289.AO.GW

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-137-5	MW-9	10 JUL 89
07-137-6	MW-10	10 JUL 89
07-137-7	MW-11	10 JUL 89

PARAMETER	07-137-5	07-137-6	07-137-7
Freon 113, ug/L	<0.5	<0.5	<1.0
Methylene chloride, ug/L	<0.5	<0.5	<1.0
Trichloroethene, ug/L	13	27	160
Trichlorofluoromethane, ug/L	<0.5	<0.5	<1.0
Tetrachloroethene, ug/L	38	42	12
Vinyl chloride, ug/L	16	28	16
Cis-1,3-Dichloropropene, ug/L	<0.5	<0.5	<1.0
trans-1,3-Dichloropropene, ug/L	<0.5	<0.5	<1.0

Sim D. Lessley, Ph.D., Laboratory Director

BATCH QC REPORT
Definitions and Terms

Accuracy: The ability of a procedure to determine the "true" concentration of an analyte.

Batch: A group of samples analyzed sequentially using the same calibration curve, reagents, and instrument.

Laboratory Control Standard (LCS): Laboratory reagent water spiked with known compounds and subjected to the same procedures as the samples. The LCS thus indicates the accuracy of the analytical method and, because it is prepared from a different source than the standard used to calibrate the instrument, it also serves to double-check the calibration.

LC Result: Laboratory result of an LCS analysis.

LT Result: Expected result, or true value, of the LCS analysis.

Matrix QC: Quality control tests performed on actual client samples. For most inorganic analyses, the laboratory uses a pair of duplicate samples and a spiked sample. For most organic analyses, the laboratory uses a pair of spiked samples (duplicate spikes).

Percent Recovery: The percentage of analyte recovered.
For LCS, the percent recovery calculation is

$$LC \div LT \times 100.$$

For spike recoveries, the percent recovery calculation is

$$\frac{(\text{S Bar} - \text{Sample Concentration})}{\text{Spike Amount}} \times 100$$

Precision: The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes.

R1, R2 Result: Result of the analysis of replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision.

Relative Percent Difference (RPD): Calculated using one of the following:

$$\frac{(R1 - R2) \times 100}{(R1 + R2) \div 2} \qquad \frac{(S1 - S2) \times 100}{(S1 + S2) \div 2}$$

S Bar Result: The average of spike analysis results.

S1, S2 Result: Result of the analysis of replicate spiked aliquots, with S1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy.

True value: The theoretical, or expected, result of a spike sample analysis.

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907137

DATE REPORTED : 07/26/89

LABORATORY CONTROL STANDARDS

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
PH-Volatile Hydrocarbons/BTEX						
Dilution Factor	07.14.89	38	1	1	Times	100
C4 to C12 Hydrocarbons	07.14.89	38	1140	1110	ug/L	103
PH-Volatile Hydrocarbons/BTEX						
Dilution Factor	07.14.89	38	1	1	Times	100
Benzene	07.14.89	38	101	100	ug/L	101
Ethylbenzene	07.14.89	38	95	100	ug/L	95
Toluene	07.14.89	38	98	100	ug/L	98
Total Xylene Isomers	07.14.89	38	236	200	ug/L	118
C4 to C12 Hydrocarbons	07.14.89	38	1130	1100	ug/L	103
PH-Volatile Hydrocarbons/BTEX						
Dilution Factor	07.17.89	39	1	1	Times	100
Benzene	07.17.89	39	99	100	ug/L	99
Ethylbenzene	07.17.89	39	91	100	ug/L	91
Toluene	07.17.89	39	96	100	ug/L	96
Total Xylene Isomers	07.17.89	39	230	200	ug/L	115
4 to C12 Hydrocarbons	07.17.89	39	1150	1110	ug/L	104
PA Method 601						
1,1,1-Trichloroethane	07.13.89	250	18	20	ug/L	90
1,1-Dichloroethene	07.13.89	250	20	20	ug/L	100
1,1-Dichloroethane	07.13.89	250	21	20	ug/L	105
1,2-Dichloroethane	07.13.89	250	20	20	ug/L	100
1,2-Dichlorobenzene	07.13.89	250	17	20	ug/L	85
1,2-Dichloroethene (Total)	07.13.89	250	42	40	ug/L	105
1,2-Dichloropropane	07.13.89	250	19	20	ug/L	95
1,3-Dichlorobenzene	07.13.89	250	17	20	ug/L	85
1,4-Dichlorobenzene	07.13.89	250	18	20	ug/L	90
2-Chloroethylvinylether	07.13.89	250	22	20	ug/L	110
Bromodichloromethane	07.13.89	250	20	20	ug/L	100
Bromomethane	07.13.89	250	21	20	ug/L	105
Bromoform	07.13.89	250	20	20	ug/L	100
Chlorobenzene	07.13.89	250	19	20	ug/L	95
Carbon Tetrachloride	07.13.89	250	18	20	ug/L	90
Chloroethane	07.13.89	250	21	20	ug/L	105
Chloroform	07.13.89	250	26	20	ug/L	130
Chloromethane	07.13.89	250	12	20	ug/L	60
Dibromochloromethane	07.13.89	250	20	20	ug/L	100
Freon 113	07.13.89	250	16	20	ug/L	80
Methylene chloride	07.13.89	250	21	20	ug/L	105
Trichloroethene	07.13.89	250	19	20	ug/L	95
Trichlorofluoromethane	07.13.89	250	18	20	ug/L	90

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907137

DATE REPORTED : 07/26/89

LABORATORY CONTROL STANDARDS

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Tetrachloroethene	07.13.89	250	21	20	ug/L	105
Vinyl chloride	07.13.89	250	23	20	ug/L	115
Nitrate (as N)	07.21.89	47	1.0	1.0	mg/L	100
Conductivity	07.12.89	60	1030	1000	umhos/c	103
pH	07.12.89	145	7.0	7.0	Units	100
pH	07.12.89	145	7.0	7.0	Units	100
Sulfate	07.19.89	34	20	20	mg/L	100
Sulfate	07.19.89	34	16	15	mg/L	107
EPA Method 601						
1,1,1-Trichloroethane	07.13.89	248	14	20	ug/L	70
1,1-Dichloroethene	07.13.89	248	22	20	ug/L	110
1,1-Dichloroethane	07.13.89	248	19	20	ug/L	95
1,2-Dichloroethane	07.13.89	248	16	20	ug/L	80
1,2-Dichlorobenzene	07.13.89	248	24	20	ug/L	120
1,2-Dichloroethene (Total)	07.13.89	248	30	40	ug/L	75
1,2-Dichloropropane	07.13.89	248	15	20	ug/L	75
1,3-Dichlorobenzene	07.13.89	248	23	20	ug/L	115
1,4-Dichlorobenzene	07.13.89	248	25	20	ug/L	125
2-Chloroethylvinylether	07.13.89	248	20	20	ug/L	100
Bromodichloromethane	07.13.89	248	25	20	ug/L	125
Bromomethane	07.13.89	248	23	20	ug/L	115
Bromoform	07.13.89	248	23	20	ug/L	115
Chlorobenzene	07.13.89	248	22	20	ug/L	110
Carbon Tetrachloride	07.13.89	248	15	20	ug/L	75
Chloroethane	07.13.89	248	23	20	ug/L	115
Chloroform	07.13.89	248	16	20	ug/L	80
Chloromethane	07.13.89	248	21	20	ug/L	105
Dibromochloromethane	07.13.89	248	22	20	ug/L	110
Freon 113	07.13.89	248	12	20	ug/L	60
Methylene chloride	07.13.89	248	13	20	ug/L	65
Trichloroethene	07.13.89	248	14	20	ug/L	70
Trichlorofluoromethane	07.13.89	248	19	20	ug/L	95
Tetrachloroethene	07.13.89	248	21	20	ug/L	105
Vinyl chloride	07.13.89	248	25	20	ug/L	125
EPA Method 601						
1,1,1-Trichloroethane	07.13.89	248	13	20	ug/L	65
1,1-Dichloroethene	07.13.89	248	21	20	ug/L	105
1,1-Dichloroethane	07.13.89	248	18	20	ug/L	90
1,2-Dichloroethane	07.13.89	248	17	20	ug/L	85

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907137

TE REPORTED : 07/26/89

LABORATORY CONTROL STANDARDS

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
1,2-Dichlorobenzene	07.13.89	248	25	20	ug/L	125
1,2-Dichloroethene (Total)	07.13.89	248	28	40	ug/L	70
1,2-Dichloropropane	07.13.89	248	15	20	ug/L	75
1,3-Dichlorobenzene	07.13.89	248	23	20	ug/L	115
1,4-Dichlorobenzene	07.13.89	248	25	20	ug/L	125
2-Chloroethylvinylether	07.13.89	248	24	20	ug/L	120
Bromodichloromethane	07.13.89	248	25	20	ug/L	125
Bromomethane	07.13.89	248	21	20	ug/L	105
Bromoform	07.13.89	248	25	20	ug/L	125
Chlorobenzene	07.13.89	248	22	20	ug/L	110
Carbon Tetrachloride	07.13.89	248	15	20	ug/L	75
Chloroethane	07.13.89	248	20	20	ug/L	100
Chloroform	07.13.89	248	16	20	ug/L	80
Chloromethane	07.13.89	248	11	20	ug/L	55
Dibromochloromethane	07.13.89	248	21	20	ug/L	105
Freon 113	07.13.89	248	9.0	20	ug/L	45
ethylene chloride	07.13.89	248	12	20	ug/L	60
Trichloroethene	07.13.89	248	13	20	ug/L	65
Trichlorofluoromethane	07.13.89	248	19	20	ug/L	95
Tetrachloroethene	07.13.89	248	22	20	ug/L	110
Vinyl chloride	07.13.89	248	21	20	ug/L	105
loride	07.18.89	43	10	10	mg/L	100

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907137

DATE REPORTED : 07/26/89

MATRIX QC PRECISION (DUPLICATES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	R1 RESULT	R2 RESULT	UNIT	RELATIVE % DIFF
Nitrate (as N)	07.21.89	47	7.2	7.2	mg/L	0
Conductivity	07.12.89	60	920	900	umhos/c	2
pH	07.12.89	145	6.9	6.9	Units	0
[illegible]	07.12.89	145	7.8	7.9	Units	1
Sulfate	07.19.89	34	54	54	mg/L	0
Chloride	07.18.89	43	25	26	mg/L	4

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907137

DATE REPORTED : 07/26/89

MATRIX QC PRECISION (DUPLICATE SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	S1 RESULT	S2 RESULT	UNIT	RELATIVE % DIFF
TPH-Volatile Hydrocarbons/BTEX						
Dilution Factor	07.14.89	38	1	1	Times	0
Benzene	07.14.89	38	3.47	3.51	mg/kg	1
Ethylbenzene	07.14.89	38	3.66	3.57	mg/kg	2
Toluene	07.14.89	38	3.62	3.60	mg/kg	1
Total Xylene Isomers	07.14.89	38	9.24	8.97	mg/kg	3
C4 to C12 Hydrocarbons	07.14.89	38	50.5	49.5	mg/kg	2
EPA Method 601						
1,1,1-Trichloroethane	07.13.89	250	21	7.5	ug/L	95
1,1-Dichloroethene	07.13.89	250	11	12	ug/L	9
1,1-Dichloroethane	07.13.89	250	11	10	ug/L	10
1,2-Dichloroethane	07.13.89	250	11	9.8	ug/L	12
1,2-Dichloroethene (Total)	07.13.89	250	120	110	ug/L	9
1,2-Dichloropropane	07.13.89	250	12	11	ug/L	9
Bromodichloromethane	07.13.89	250	17	16	ug/L	6
Bromoform	07.13.89	250	15	13	ug/L	14
Carbon Tetrachloride	07.13.89	250	8.2	8.7	ug/L	6
Chloroform	07.13.89	250	11	12	ug/L	9
Dibromochloromethane	07.13.89	250	17	16	ug/L	6
Methylene chloride	07.13.89	250	7.3	8.3	ug/L	13
Trichloroethene	07.13.89	250	170	160	ug/L	6
Tetrachloroethene	07.13.89	250	30	32	ug/L	6
Vinyl chloride	07.13.89	250	25	27	ug/L	8
EPA Method 601						
1,1,1-Trichloroethane	07.13.89	248	21	7.5	ug/L	95
1,1-Dichloroethene	07.13.89	248	11	12	ug/L	9
1,1-Dichloroethane	07.13.89	248	11	10	ug/L	10
1,2-Dichloroethane	07.13.89	248	11	9.8	ug/L	12
1,2-Dichloroethene (Total)	07.13.89	248	120	110	ug/L	9
1,2-Dichloropropane	07.13.89	248	12	11	ug/L	9
Bromodichloromethane	07.13.89	248	17	16	ug/L	6
Bromoform	07.13.89	248	15	13	ug/L	14
Carbon Tetrachloride	07.13.89	248	8.2	8.7	ug/L	6
Chloroform	07.13.89	248	11	12	ug/L	9
Dibromochloromethane	07.13.89	248	17	16	ug/L	6
Methylene chloride	07.13.89	248	7.3	8.3	ug/L	13
Trichloroethene	07.13.89	248	170	160	ug/L	6
Tetrachloroethene	07.13.89	248	30	32	ug/L	6
Vinyl chloride	07.13.89	248	25	27	ug/L	8

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907137

DATE REPORTED : 07/26/89

MATRIX QC ACCURACY (SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	SBAR RESULT	TRUE VALUE	UNIT	PERCENT RECOVERY
TPH-Volatile Hydrocarbons/BTEX						
Dilution Factor	07.14.89	38	1	1	Times	100
Benzene	07.14.89	38	3.49	4.87	mg/kg	72
Ethylbenzene	07.14.89	38	3.615	4.87	mg/kg	74
Toluene	07.14.89	38	3.61	4.87	mg/kg	74
Total Xylene Isomers	07.14.89	38	9.105	9.74	mg/kg	93
C4 to C12 Hydrocarbons	07.14.89	38	50	54.1	mg/kg	92
EPA Method 601						
1,1,1-Trichloroethane	07.13.89	250	14.25	12	ug/L	119
1,1-Dichloroethene	07.13.89	250	11.5	13	ug/L	88
1,1-Dichloroethane	07.13.89	250	10.5	12	ug/L	88
1,2-Dichloroethane	07.13.89	250	10.4	12	ug/L	87
1,2-Dichloroethene (Total)	07.13.89	250	115	100	ug/L	143
1,2-Dichloropropane	07.13.89	250	11.5	12	ug/L	96
Bromodichloromethane	07.13.89	250	16.5	12	ug/L	138
Bromoform	07.13.89	250	14	12	ug/L	117
Carbon Tetrachloride	07.13.89	250	8.45	12	ug/L	70
Chloroform	07.13.89	250	11.5	12	ug/L	96
Dibromochloromethane	07.13.89	250	16.5	12	ug/L	138
Methylene chloride	07.13.89	250	7.8	12	ug/L	65
Trichloroethene	07.13.89	250	165	194	ug/L	26
Tetrachloroethene	07.13.89	250	31	33	ug/L	93
Vinyl chloride	07.13.89	250	26	27	ug/L	95
Nitrate (as N)	07.21.89	47	4.1	4.1	mg/L	100
Conductivity	07.12.89	60	1830	1920	umhos/c	91
Sulfate	07.19.89	34	75	74	mg/L	105
EPA Method 601						
1,1,1-Trichloroethane	07.13.89	248	14.25	12	ug/L	119
1,1-Dichloroethene	07.13.89	248	11.5	13	ug/L	88
1,1-Dichloroethane	07.13.89	248	10.5	12	ug/L	88
1,2-Dichloroethane	07.13.89	248	10.4	12	ug/L	87
1,2-Dichloroethene (Total)	07.13.89	248	115	100	ug/L	143
1,2-Dichloropropane	07.13.89	248	11.5	12	ug/L	96
Bromodichloromethane	07.13.89	248	16.5	12	ug/L	138
Bromoform	07.13.89	248	14	12	ug/L	117
Carbon Tetrachloride	07.13.89	248	8.45	12	ug/L	70
Chloroform	07.13.89	248	11.5	12	ug/L	96
Dibromochloromethane	07.13.89	248	16.5	12	ug/L	138
Methylene chloride	07.13.89	248	7.8	12	ug/L	65
Trichloroethene	07.13.89	248	165	194	ug/L	26

BROWN AND CALDWELL LABORATORIES

BATCH QC REPORT
ORDER E8907137

DATE REPORTED : 07/26/89

MATRIX QC ACCURACY (SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	SBAR RESULT	TRUE VALUE	UNIT	PERCENT RECOVERY
Tetrachloroethene	07.13.89	248	31	33	ug/L	93
Vinyl chloride	07.13.89	248	26	27	ug/L	95
Chloride	07.18.89	43	48	46	mg/L	110

CHAIN OF CUSTODY RECORD

CRMHILL

PROJECT NUMBER	PROJECT NAME
SFO 27289.A0.CW	Del Monte

LABORATORY: Brown and Caldwell, Emeryville

STA. NO.	DATE	TIME	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	BTX-E (gasoline)	TPH	Method 601 or 8010	pH, Cond, SO4, TDS, Nitrate (mg/L)	REMARKS
1 MW-6	7/10/89	1220		X	MW-6 ✓	3	X	X			Didn't know if lab needed 2 VOAs, total or two for each analysis, so filled three VOAs (didn't have enough VOAs onsite for 6 VOA's per sample for BTX-E and TPH
2 MW-7	7/10/89	1630		X	MW-7 ✓	3	X	X			
3 MW 8	7/10/89	1730		X	MW-8 ✓	2			X		
5 MW 9	7/10/89	1810		X	MW-9 ✓	4			X	X	
6 MW 10	7/10/89	1415		X	MW-10 ✓	4			X	X	
7 MW 11	7/10/89	1117		X	MW-11 ✓	4			X	X	
4 MW-13	7/10/89	1800		X	MW-13 ✓	2			X		

SAMPLED BY AND TITLE (SIGNATURE)	DATE/TIME	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)
Ken Zarn Hydrogeologist 05848	7/10/89 4PM	Ken Zarn	7/11/89 7:49	
RELINQUISHED BY: (SIGNATURE)	**DATE/TIME**	**RECEIVED BY: (SIGNATURE)**	**RELINQUISHED BY: (SIGNATURE)**	**DATE/TIME** / **RECEIVED BY LAB: (SIGNATURE)**
				7/11/89 7:50

REMARKS

SAMPLE SHIPPED VIA
☐ UPS ☐ BUS
☐ FEDERAL EXPRESS

AIR BUS BILL NUMBER

DISTRIBUTION: WHITE — ORIGINAL ACCOMPANIES SHIPMENT, PINK — COPY TO COORDINATOR FIELD FILES, YELLOW — CLIENT

FORM 340

Appendix B
MANIFESTS

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-91)
Please print or type. *(Form designed for use on elite (12-pitch typewriter).*

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD981139111 — Manifest Document No. 05988 — 2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Del Monte Foods, USA
1250 Park Ave
Emeryville, CA 94608

4. Generator's Phone (415) 420-3[illegible]

A. State Manifest Document Number: 88605988

B. State Generator's ID: HAMQ3609886 9

5. Transporter 1 Company Name: Solvent Service Inc — 6. US EPA ID Number: CAD059494310

C. State Transporter's ID: 900953

D. Transporter's Phone: 453-6046

7. Transporter 2 Company Name — 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address: Solvent Service, Inc
1021 Berryessa Rd
San Jose, CA 95133 — 10. US EPA ID Number: CAD059494310

G. State Facility's ID: CAD059494310

H. Facility's Phone: (408) 453-6046

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Hazardous waste liquid, N.O.S., ORM-E, NA 9189 DOTE 8706	001	TT	00500	G	State 213 / EPA/Other F001/F005
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
A) Profile # HWL 1255

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
Gloves + Respirators

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR — Printed/Typed Name: Bharat Shah — Signature — Month Day Year: 10 32 89

TRANSPORTER — 17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: James L Lehr — Signature: 23605 — Month Day Year: 10 32 89

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name — Signature — Month Day Year

FACILITY — 19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. — Printed/Typed Name — Signature — Month Day Year

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

DHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

Blue: GENERATOR SENDS THIS COPY TO DOHS WITHIN 30 DAYS
To: P.O. Box 400, Sacramento, CA 95812-0400

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-91)
Please print or type. *(Form designed for use on elite (12-pitch typewriter).*

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CAD981391108 — Manifest Document No.: 2D1448
2. Page 1 of

Information in the shaded areas is not required by Federal law.

A. State Manifest Document Number: 88227448

B. State Generator's ID

3. Generator's Name and Mailing Address: WILMOTTE CORP [illegible] 35, 1250 PARK AVE EMERYVILLE CA 94608

4. Generator's Phone (4 5) 4 [illegible]

5. Transporter 1 Company Name: H&H SHIP SERVICE CO
6. US EPA ID Number: CAD004771168

C. State Transporter's ID

D. Transporter's Phone (415) 543-4735

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address: H&H SHIP SERVICE CO, 220 CHINA BASIN ST, SAN FRANCISCO CA 94107
10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone (415) 543-4735

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WASTE EMPTY GASOLINE TANK FLAMMABLE LIQUID UN 1203	001	TP	1000	G	State 512; EPA/Other D001
b. WASTE EMPTY FUEL OIL TANKS COMBUSTIBLE LIQUID NA 1993	004	TP	5560	G	State 512; EPA/Other NA
c.					State; EPA/Other
d.					State; EPA/Other

J. Additional Descriptions for Materials Listed Above

EMPTY UNDERGROUND GASOLINE & FUEL OIL STORAGE TANKS WITH LESS THAN ONE GALLON RESIDUAL LIQUID IN EACH TANK

K. Handling Codes for Wastes Listed Above: a. b. c. d.

15. Special Handling Instructions and Additional Information

BOOT'S & GLOVE'S

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
BHARAT SHAH	[signature]	1	22	89

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
KEVIN E. JOHNSON	Kevin E Johnson	02	22	89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

Blue: GENERATOR SENDS THIS COPY TO DOHS WITHIN 30 DA
To: P.O. Box 400, Sacramento, CA 95812-0400

Appendix C
WINDSHIELD SURVEY

Appendix C
WINDSHIELD SURVEY

A windshield survey was conducted in the vicinity of the southwest corner of Del Monte's Plant No. 35, in Emeryville, California. The addresses of industrial facilities within a one-quarter mile radius of Plant No. 35 were recorded and are presented in Table C-1.

Table C-1
WINDSHIELD SURVEY
SOUTHWEST CORNER OF DEL MONTE EMERYVILLE PLANT NO. 35

Name	Map I.D. Number*	Address	Notes
Mac Pherson's	1	1327 Park Avenue	Large warehouse
Integrated Automation	2	1255 Park Avenue Also 4095 Harlan	Large warehouse
Apartments--Besler Building	3	4053 Harlan Street	
Emeryville Industrial Court	4		
a. Automotive Service Co.	4a	4020 Harlan Street	
b. Sea Bright	4b	4026 Harlan Street	
c. Index Records Management	4c	4040 Harlan Street	
Mazda Service	5		
Easy-European Auto Salvage Yard (653-EASY)	6	No number	
Esmar Distributing	7	1215 Park Street	
For Lease	8	1201 Park Avenue	Offices
Brooks Beco	9	4051 Watts Street	Warehouse
Tractor Trailer, Heavy Machinery, etc.	10		
For Lease	11	4058-4066 Watts Street 4053-4065 Emery	Large warehouse
Empty lot	12		Rubble, old drum, garbage

*See Figure C-1 for location.

Table C-1
(Continued)

Name	Map I.D. Number*	Address	Notes
Dunlop Tires	13	4062 Emery Street	
For Lease	14	1145 Park Avenue	Empty
Pepsi-Cola Bottling Company	15	1150 Park Avenue	
Texaco Gas Station	16	4000 San Pablo	
Post Office	17		
Commercial Store	18		
AC Transit	19	From San Pablo to Doyle	Bus service, parking, gas pumps, tank leak--not determined during W.S.
Berkeley Farms	20	San Pablo	Tank leak--not determined during W.S.
a. Mitsubishi Engines	21a	1250 45th and Doyle	Closed
b. Equipment Associates Co., Inc.	21b		For lease
	22	1266-1290 45th St.	Industrial offices
a. PG&E Central Warehouse	23a	4525 Hollis Street	Shipping
b. Open storage yard	23b		Pallets, drums, equipment
PG&E General Construction	24	45th and Hollis	
a. Custom Woodcraft & Plastics F. Halaby, Inc.	25a	4514 Hollis	Cabinet making
b. Beck Electrical Supply	25b	4512 Hollis Street	Drums outside

*See Figure C-1 for location.

Table C-1
(Continued)

Name	Map I.D. Number*	Address	Notes
Westvaco Distribution Company	26	5000 Hollis	
General Electric Supply Company	27	Corner of Hollis and 53rd	
Emeryville Research & Development Center	28	4560 Horton Street	Chiron, Cetus, Aquanautics, Espresso
Cetus	29	1400 53rd	
	30		Old and new converted warehouse and offices
P.T. Hutchison Company, Ltd.	31	4525 Horton Street	Started 1960, chemicals, process equipment, coating, formulating
Tulloch Construction (could be name of company)	32	Horton Street	Constructing new building
Sherwin Williams Coatings	33	1450 Sherwin Avenue	Drums, vertical tanks, processing
	34 & 35		Unmarked warehouse type buildings
Charles Lowe Company/Chromex	36	1400 Park Avenue	
Available	37		Large warehouse
Western Brake	38	1461 Park Avenue	

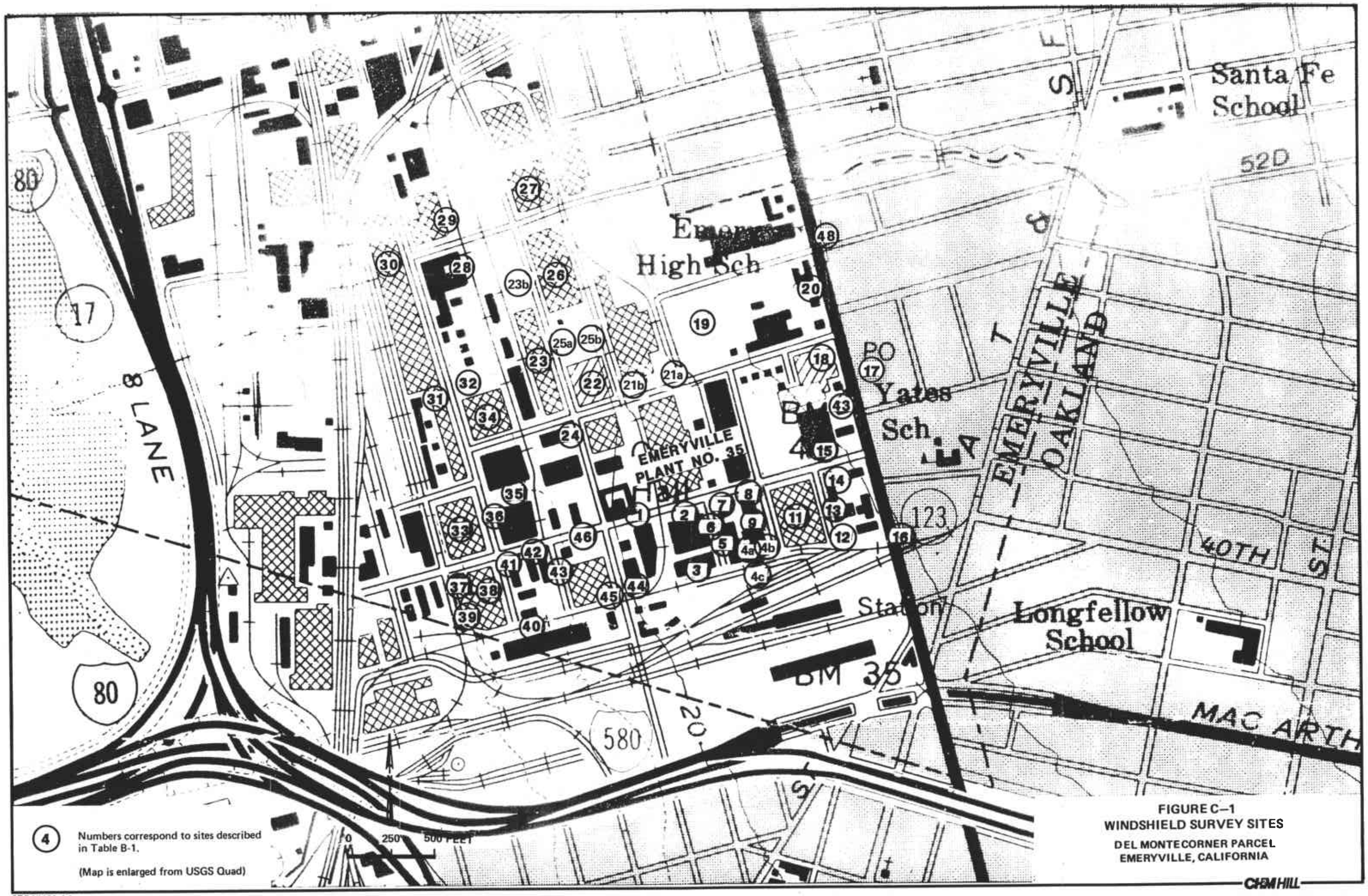
*See Figure C-1 for location.

Table C-1
(Continued)

Name	Map I.D. Number*	Address	Notes
Bon Motif Company	39	No number Hubbard	
	40		Old warehouse
Puls Plywood & Lumber Sales	41	4050 Horton	
Electro-Coatings, Inc. Plant 22	42	1421 Park Avenue	Chromium, Lexaualent compounds on public notice on sign
WDCO	43	4064 Holden	
Ransome Comp. Construction Engineers	44	4030 Hollis Street	
Industrial Safety Supply	45	4041 Hollis Street	
Lindco Associates	46	1350 Park Avenue	
Fire Department	47	4431 San Pablo Avenue	Gas pumps
Accurate Manufacturing Company	48	4770 San Pablo	

*See Figure C-1 for location.

SFO95/084.WP



4 Numbers correspond to sites described in Table B-1.

(Map is enlarged from USGS Quad)

FIGURE C–1
WINDSHIELD SURVEY SITES
DEL MONTE CORNER PARCEL
EMERYVILLE, CALIFORNIA

CHEM HILL

SFO27289.A0

Appendix D
AGENCY CONTACTS

Appendix D
AGENCY CONTACTS

U.S. Environmental Protection Agency

Ms. Ida Toliver — 415/974-8135
Freedom of Information Officer

Mr. Stan Brown — 415/974-8135
Toxic Substances Division

State of California Department of Water Resources

Ms. Betty Swatsenberg — 916/322-717
Water Well Drillers Reports

San Francisco Regional Water Quality Control Board

Mr. Lester Feldman — 415/464-1332
Investigation Oversight

Ms. Lisa McColl — 415/464-1255
Underground Storage Tank Regulation

Alameda County Flood Control and Water Conservation District

Mr. J. Killingstad — 415/484-2600
Groundwater Protection Ordinance Application

East Bay Municipal Utilities District

Mr. Albert Yip — 415/891-0624
Underground Utilities

Alameda County Environmental Health

Mr. Dennis Byrne — 415/271-4320
Underground Storage Tank Removal

SF095/001.WP