STID 6558

D&A

October 24, 1997

Ms. Karen Bellini
Director of Real Estate
Harmon Management Corporation
199 First Street, Suite 212
Los Altos, CA 94022-2708

Dear Ms Bellini:

Re: Phase 2 Soil and Groundwater Investigation Results, Berkeley Farms Truck Repair Shop and Yard, 4575 San Pablo Blvd., Emeryville, California (D&A Proposal 97-06-01)

This document presents the findings of our investigation to assess what potential impact past land usage has had on soil and groundwater at the above-referenced property (Site). The scope of work was originally presented in our September 22, 1997 proposal to Harmon Management Corporation (HMC), and subsequently modified per our October 1, 1997 letter based on early findings of the project. From evaluations of current land usage and file review findings, Site soils and groundwater were investigated at nine locations for various chemical types; an attempt to collect groundwater from a tenth location was foiled due to lack of groundwater in the boring.

FINDINGS OVERVIEW

Soils impacted at levels greater than typical default cleanup levels were observed in four boring locations. Similarly, groundwater from four borings contained chemicals above potential levels of concern. The main areas of concern include the former locations of a gas station in the southern portion of the property and waste oil underground storage tank (UST) adjacent to the service bay adjacent to the northwestern edge of the current building. In addition, there is some evidence to indicate that gasoline-related compounds may be migrating onto the property from upgradient sources.

Given the current regulatory environment, it is possible that remediation may not be required at the former gas station location. However, some ongoing monitoring will

likely be requested by the oversight regulatory agency; the presence or absence of specific chemical types will need to be determined during such a monitoring program. Chemical concentrations at the former waste oil UST location are significant enough that some type of remediation may be requested, dependent on the findings of the monitoring program. The regulatory agency will probably request that a risk assessment be conducted to develop cleanup levels and/or ensure that residual levels of chemicals in Site soils and groundwater do not pose a health risk to future receptors at the Site. It is also likely that the oversight agency will require that a deed restriction or notification be filed with the county and/or city building department.

Figure 1 shows the Site's location in Emeryville. Figure 2 shows the Berkeley Farms facility, including the parcel west of San Pablo Avenue, which is the subject of this report. Figure 3 shows the approximate locations of historical land usage of interest, identified during this investigation, as well as sampling locations designed to investigate those areas of potential impact to Site soils and groundwater. Tables 1 and 2 present the sampling results for soil and groundwater, respectively. Site-specific boring logs and laboratory analytical reports are attached to this report.

SCOPE OF WORK

Historical Research

Review of historical Sanborn fire insurance maps, selected aerial photographs and available agency files indicate that:

1) the current facility includes parcels with former addresses of 4501 and 4503 as well as the current address of 4575 San Pablo Avenue;
2) a gas station was formerly located on the southern portion of the facility (4501) owned first by Flying A, then by Phillips 66 (1966-1978), Morgan C.A. 66 Service (1978-1979), and Reggies Auto Repair (1979-1985); the station at 4501 San Pablo Ave. was demolished in 1985, when three gasoline tanks were reportedly removed;
3) the middle portion of the facility (former address of 4503 San Pablo Avenue) has been the location for a succession of resturants, including Jory's Drive-In, Mr. Ed's Hamburgers, Dinner Corp., Munchies Inc., Yogi Bear Take Home and Loera's Mexican Food;

4) the northern portion of the facility, including the current building, has had the address of 4575 San Pablo Avenue since at least 1966, when four gasoline USTs, registered to Firestone Stores, were removed from the northeastern portion of the facility. While not clear in the files, it appears that Berkeley Farms purchased the property sometime between 1980 and 1984.

Sampling Scope

As agreed with HMC, the investigation was designed to provide a "screening level" evaluation. The presence of primary chemicals at a given location would be assessed; if found, then the presence of additional chemical species could be evaluated during a subsequent phase of work. Therefore, while we tested for gasoline in several locations, the potential presence of toxic constituents of gasoline (i.e. Benzene, Toluene, Ethylbenzene and Xylenes or BTEX) was not assessed. Similarly, where diesel or oil was of potential concern, its presence was assessed but Polynuclear Aromatic Hydrocarbons (PAHs) were not. Finally, where waste oil was a potential chemical of concern, the potential presence of oil and solvents was evaluated, but testing for heavy metals was not performed.

Soil borings SB2, SB5 and SB6 (Figure 3) were placed to investigate the most likely former locations of the underground tank farms. Boring SB3's location was chosen to investigate a feature observed on aerial photographs that could have been a pump island at the Phillips 66 station. SB1 was located a specified distance from the southeast property corner, where, according to a verbal report to HMC, a tank removal had reportedly occurred.

Additional areas that were investigated for this report (and the associated borings) include:

1) current above-ground storage tanks currently present in the northeast corner of the Site containing wastewater, used antifreeze or waste oil (SB5);
2) the storm drain access plate in the northwest corner of the site upon which stained drainage tracks converge (SB4);
3) an above-ground storage area in which small amounts of chemicals including gasoline and motor oil are stored (SB6);
4) the former location of a waste oil UST (SB7);

5) the former location of a hydraulic hoist inside the repair shop (SB8); and
6) just outside a room of unknown origin, adjacent to the battery storage room, where an etched concrete floor was observed.

In addition, the quality of upgradient groundwater coming onto the Site was monitored by SB9 and attempted at SB10 (no water). Two portable parts degreasers were observed onsite; due to their portability, their potential impact on Site environmental media was assessed at the storm drain grate where Site drainage converges (SB4).

Sampling Methodology

Soil borings were installed using a Geoprobe sampling rig; soil samples selected for analysis were based on visual and olfactory observations as well as the use of a photoionization detector (PID). Typical sample collection depths were near surface (0-5 feet below ground surface (bgs)), intermediate (5-10 feet bgs) and just above groundwater (often encountered at depths of 12-14 feet bgs). Groundwater samples were collected with a disposable bailer after slotted PVC casing was placed down the open borehole. In selected cases, the boreholes were left open for a period of time in order that sufficient groundwater for sample analysis could be collected. All borings were logged by a California-registered geologist using the Unified Soils Classification System (USCS).

A site-specific health and safety plan was prepared to govern implementation of field activities. All field activities were scheduled and coordinated with Berkeley Farms personnel. Prior to drilling, boring locations were marked, Underground Service Alert (USA) was contacted to locate public underground utility lines, and geophysical underground line locating was conducted to aid in the location of buried pipes and utilities

Soil and groundwater samples collected from the various soil borings were analyzed by AEN laboratories, a state-certified laboratory located in Pleasant Hill, California, using proper chain-of-custody procedures. All drilling and sampling equipment was appropriately decontaminated prior to its arrival onsite. Each boring was grouted with neat cement. Soils and water generated by the sampling and decontamination process were drummed and left onsite for eventual profiling and disposal.

INVESTIGATION FINDINGS

Sampling locations are shown on Figure 3. Tables 1 and 2 summarize the analytical results for soil and groundwater respectively. The depth from which the soil samples were collected is detailed for each boring in Table 1. The laboratory lab sheets are attached to this report. Significant findings are discussed below.

Former Phillips 66 Station:

The estimated locations of the southern former tank farm and associated structures were investigated with borings SB1, SB2 and SB3. Gasoline concentrations at 7.5 feet bgs in SB1 and 12.5 feet bgs in SB3 are higher than historical default cleanup levels for gasoline in soil (100 mg/kg). The logs for these borings indicate that greenish soils with gasoline-like odors are present at 12 feet bgs in SB1 and SB3. This is very similar to the contaminated soils observed across 45th Street at the former Standard Brands Paint facility. SB2, apparently drilled within the tankfarm backfill, contained saturated gravels with a "reddish-brown product observed on gravels" at that depth. At 5,300-48,000 ug/l, groundwater gasoline concentrations in these three borings are substantially higher than those historically considered as non-significant (50 ug/l).

Former Waste Oil UST:

According to a current employee of Berkeley Farms, a waste oil UST was formerly located just outside the service bay adjacent to the northwestern portion of the building (Figure 3). This former UST was not described in Phase 1 report and we did not see reference to it in the Emeryville Fire Department records (although several pages were missing from the file).

A capped-off fill pipe was observed inside the service bay, adjacent to it's northern wall. According to the employee, this pipe was used to dispose of waste oils prior to the tank's removal. Based on this accounting, the screening target analytes included gasoline, diesel, motor oil and VOCs.

During drilling of SB7, poor recovery of materials from 1-4 feet bgs was obtained. A gravelly, saturated clay with petroleum odor was recovered from approximately three feet bgs; a wet silty clay with a strong petroleum odor was present at four feet bgs.

Based on the observed moisture content in clays below 5 feet, it appears that a perched zone of moisture exists at this location, from at least 3'-5' bgs. The soil sample immediately below this perched zone contained high concentrations of oil, diesel and gasoline (25000, 8200 and 810 mg/kg, respectively). Soil samples at deeper intervals also included these compounds, at greater than historical default cleanup levels (i.e., 1000, 1000 and 100 mg/kg, respectively). Groundwater concentrations of these compounds are significant; further evaluation of specific toxic components will likely be necessary. In addition, VOCs were detected in groundwater at this location, two of which were recorded at concentrations slightly above Maximum Contaminant Levels (MCLs). Finally, the laboratory reported that the chromatograms for samples from this location contained "non-typical patterns, mineral spirits, diesel and oil".

Former Hoist

Soil Boring SB8 was located next to a patch in the concrete inside the building, which, according to Berkeley Farms' employees, was the former location of a hoist. Shallow soils contained elevated levels of diesel and oil (1300 and 2000 mg/kg, respectively), however these concentrations deceased significantly with depth. The laboratory reported that the chromatogram for SB8 at 2 feet bgs reflected the presence of a "product blend, heating oil, diesel, hydraulic oil, heavy oil". Neither oil nor diesel was detected in groundwater at this location. The moderate concentrations and limited vertical extent indicate that this area has not been significantly impacted.

Battery Storage/Etched Floor:

Boring SB9 was installed to assess near-surface and shallow samples (1 and 5 feet bgs. respectively) for the potential presence of metals and for pH. Several metals were detected; with the exception of Arsenic and Beryllium, all concentrations were below the USEPA's Preliminary Remediation Goals (PRGs) for residential soils. Arsenic and Beryllium concentrations, while above PRGs, are reflective of naturally occurring levels for these compounds. The soil samples' pH was within normal ranges. Therefore, this area does not appear to have been impacted by heavy metal compounds.

Onsite Migration

Gasoline was detected in groundwater from SB9 at the laboratory's detection level of 50 ug/l. Of special interest is the laboratory's report that, while not specifically analyzed for, chromatographic patterns reflective of MTBE (Methyl tertiary-Butyl Ether) was observed in the groundwater. The reported concentration of MTBE was 69 ug/l, which is greater than the current regulatory screening level of 35 ug/l. The use of MTBE as an additive to gasoline began around 1985, and the compound has been demonstrated to move more rapidly in saturated media than either gasoline or the BTEX compounds. Its presence at SB9, combined with the fact that known gasoline USTs were removed from the by 1985, suggests that gasoline-related compounds may be migrating towards and onto the Site from upgradient sources. Berkeley Farm employees indicated in casual conversations that USTs located at their facility across San Pablo Street and used until recently to fuel their fleet of delivery trucks were "taking on water". If true, this suggests that those tanks, which are located in the presumed upgradient direction, could be the source of gasoline and MTBE at SB9.

Other Areas:

Low levels of gasoline, diesel or oil were detected at other locations (e.g. SB4, SB5 and SB6). However, these concentrations are not considered significant due to their low levels. Low levels of "mineral spirits or extremely weathered gasoline" were observed at depth in SB5.

CONCLUSIONS AND RECOMMENDATIONS:

Based on the information available to and discovered by D&A, there appear to be two primary areas of impacted soils and groundwater at the truck parking and repair facility. Of special interest are the former gasoline station at the southern end of the facility, and the former waste oil UST area in the northwestern portion of the property. Additional information is necessary from both locations before any well-informed and appropriate decisions can be made as to the level of remediation that is required, if any. However, based on current findings, we expect that some sort of monitoring program will be required before closure can be negotiated with the oversight agency.

Due to the prevalence of petroleum-related compounds at the Site, The Alameda County Department of Environmental Health (ACDEH) is the likely oversight agency. However, the presence of VOCs in the vicinity of the former waste oil UST may warrant the involvement of the Regional Water Quality Control Board, San Francisco Bay Region. The agencies will want to understand the level of potential impact on Site environmental media as well as the direction of groundwater flow beneath the Site, in order to evaluate up- and downgradient conditions and receptors. Information on specific toxic compounds will be desired, and a risk assessment would be useful to determine the degree of cleanup, once the extent of impact has been determined.

The ACDEH should be notified of the findings of this investigation. We would expect them to request that a minimum of three monitoring wells be installed at the Site to determine groundwater flow direction over time. They will likely require that monitoring be conducted over at least four quarters, dependant on what is found during the monitoring program, and that gasoline, BTEX, diesel, PAHs, oil, metals and VOCs be included in the sampling program.

Given this expectation, the most appropriate well locations would include one in the southern portion of the facility, a second near the former waste oil UST location, and the third near SB9 to further evaluate the potential for onsite migration of chemicals from upgradient sources. Assuming that concentrations at SB7 are confirmed, it is possible that some active remediation (soil removal) may be requested at this location, and downgradient wells may subsequently be required on the AC Transit property to fully understand the extent of impact from the former waste oil UST. While impacted soils are present adjacent to the former hoist, the moderate concentrations and limited vertical extent will probably exclude them from serious consideration for remedial actions.

Once the extent of impacted media is understood, then a risk assessment similar to a Tier 2 Risk Based Corrective Action (RBCA) would be appropriate to determine whether active remediation (e.g. soil removal) will be required to protect potential receptors at the Site. Site-specific soil parameters should be tested for during well installation to facilitate the risk assessment. If the risk assessment conclusion is that residual levels of chemicals in Site soils and groundwater do not represent a significant potential health risk, and the monitoring program indicates limited mobility of the chemicals of concern, then it is possible that the Site may receive "no further action" status. However, in that event, a risk management plan would be requested by the

oversight agency, which can be anticipated to include contingencies for monitoring and filing a deed restriction with the county and/or or public works department

Figures, tables, boring logs and analytical reports follow. If you have any questions, or if I can be of further assistance, please call me at the number listed below. Thank you for the opportunity to be of service.

Sincerely,

Clifton Davenport, CEG/CHG
Principal

A:\KFC\PH2RPT.DOC

TABLE 2: GROUNDWATER SAMPLE RESULTS - SITE INVESTIGATION
Berkeley Farms Truck Maintenance Facility
4575 San Pablo Avenue
Emeryville, California

P.P.B.

Sample Location	TPH-g µg/L	TPH-d µg/L	TPH-mo µg/L	VOC µg/L	Antifreeze µg/L
SB1	5300.0	-	-	-	-
SB2	49000.0	-	-	-	-
SB3	9900.0	-	-	-	-
SB4	ND	ND	ND	ND	-
SB5	ND	ND	ND	-	ND
SB6	ND	120.0	ND	-	-
SB7	4200.0	10000.0	21000.0	4.3 1,2-DCB; 0.6 1,4-DCB; 7.0 1,1 DCA; 1.8 1,2 DCA	- - - -
SB8	-	ND	ND	-	-
SB9**	50.0	-	-	-	-
SB10	-	-	-	-	-

NOTES:			
TPH-g	Total Petroleum Hydrocarbons as gasoline	1,1-DCA	1,1-Dichloroethane
TPH-d	Total Petroleum Hydrocarbons as diesel	1,2-DCA	1,2-Dichloroethane
TPH-mo	Total Petroleum Hydrocarbons as motor oil	µg/L	micrograms per liter (ppb)
VOC	Volatile Organic Compounds	ND	Not Detected
1,2-DCB	1,2-Dichlorobenzene	-	Not Analyzed
1,4-DCB	1,4-Dichlorobenzene	**	MTBE observed at 69 ug/l

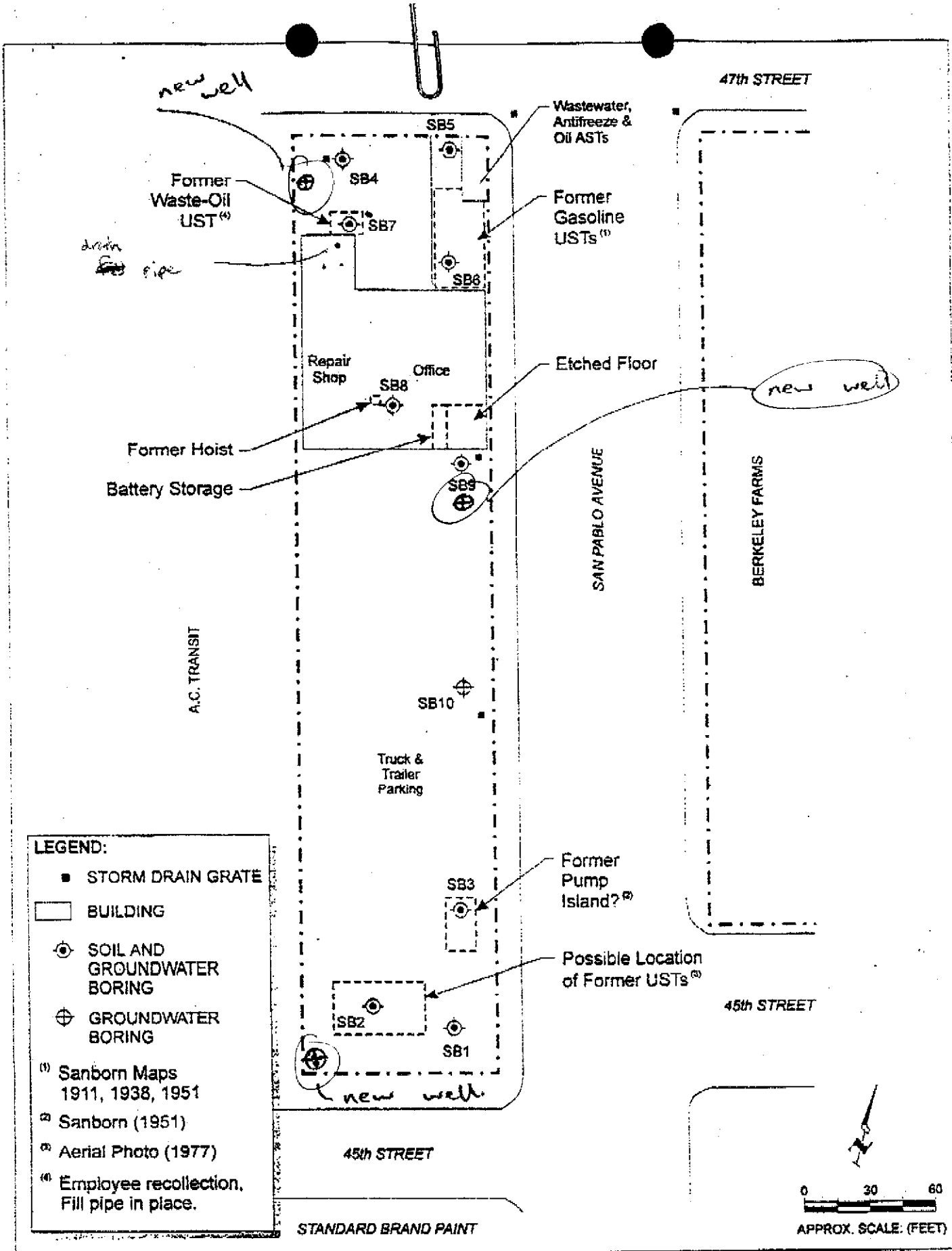
BTEX Range. 8220

TABLE 1: SOIL SAMPLE RESULTS - SITE INVESTIGATION
Berkeley Farms Truck Maintenance Facility
4575 San Pablo Avenue
Emeryville, California

Sample Location	Sample Depth (Feet)	TPH-g mg/Kg	TPH-d mg/Kg	TPH-mo mg/Kg	VOC mg/Kg	Antifreeze mg/Kg	Metals mg/Kg
SB1	2.5	6.1	ND	10.0	-	-	-
	7.5	140.0	-	-	-	-	-
	13.5	0.2	-	-	-	-	-
SB2	2.5	ND	-	-	-	-	-
	6.0	0.6	-	-	-	-	-
	13.0	25.0	-	-	-	-	-
SB3	1.0	11.0	-	-	-	-	-
	4.5	17.0	-	-	-	-	-
	12.5	210.0	-	-	-	-	-
SB4	1.5	ND	ND	8.0	ND	ND	-
	8.0	ND	ND	ND	ND	ND	-
	12.5	ND	ND	ND	ND	ND	-
SB5	4.0	ND	ND	34.0	ND	ND	-
	8.5	ND	ND	24.0	ND	ND	-
	14.0	1.2	5.0	ND	ND	ND	-
SB6	2.0	ND	5.0	8	-	ND	-
	7.0	ND	ND	ND	-	ND	-
	13.0	ND	ND	ND	-	ND	-
SB7	4.0	810.0	8200.0	25000.0	ND	-	-
	7.0	340.0	1600.0	9400.0	11 (1,2-DCB)	-	-
	11.0	13.0	690.0	2400.0	ND	-	-
SB8	2.0	-	1300.0	2000.0	-	-	-
	10.5	-	ND	85.0	-	-	-
	15.0	-	ND	ND	-	-	-
SB9	1.0	-	-	-	-	-	*As 5/ Be 0.8
	5.0	-	-	-	-	-	*As 5/ Be 0.4

NOTES:

TPH-g	Total Petroleum Hydrocarbons as gasoline	mg/Kg	micrograms per kilogram (ppm)
TPH-d	Total Petroleum Hydrocarbons as diesel		
TPH-mo	Total Petroleum Hydrocarbons as motor oil		
VOC	Volatile Organic Compounds	*	Metals above Residential PRGs not listed
ND	Not Detected (above Method reporting lim	NA	Not Analyzed
1,2-DCB	1,2-Dichlorobenzene		

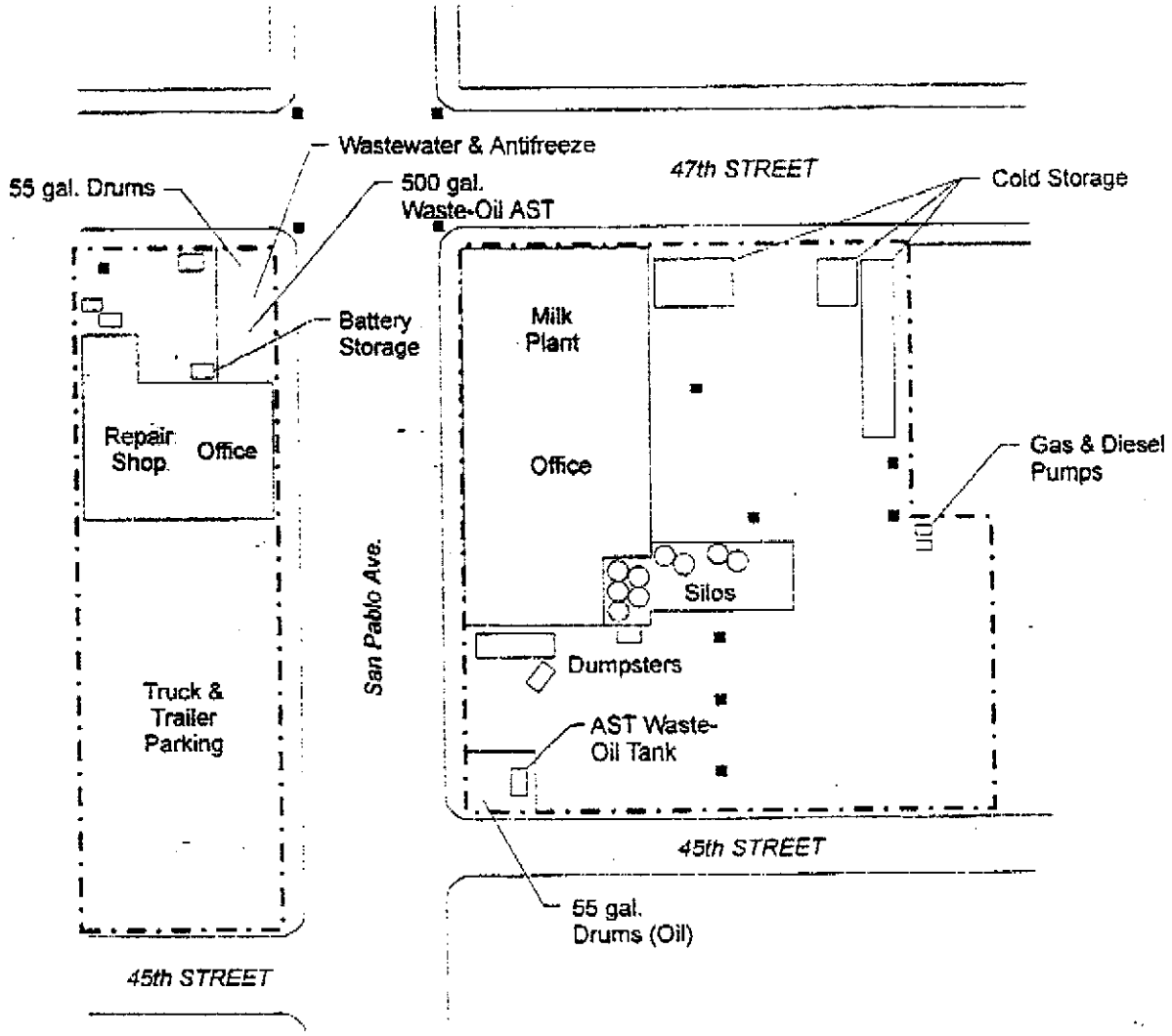


DAVENPORT & ASSOCIATES
2712 Rawson Street
Oakland, CA 94619

Advisory board
Boon owed.
Agency

FIGURE 3
SAMPLING LOCATIONS
BERKELEY FARMS TRUCK PARKING AND REPAIR FACILITY

EOAB



LEGEND:

- STORM DRAIN
- BUILDINGS
- ASPHALT AND PAVED SURFACES

0 50 100

APPROX. SCALE: (FEET)

DAVENPORT & ASSOCIATES
2712 Rawson Street
Oakland, CA 94619

FIGURE 2

SITE PLAN

BERKELEY FARMS