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February 16, 1994

BAE28830.P2.01

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Subject: Workplan for Groundwater Treatment System Expansion and Additional Investigation Activities
Del Monte Plant 35, Emeryville, California

This letter presents a plan that focuses on three investigation and remedial tasks at Plant 35:

- Expansion of the existing groundwater collection and treatment system
- Offsite delineation of chlorinated hydrocarbons in groundwater
- Supplemental onsite investigation of soil and groundwater

These activities were discussed at the Del Monte Plant 35/Kaiser Hospital meeting on January 11, 1994 for the purpose of obtaining closure of Plant 35. We are submitting the following focused workplan separately from the overall closure workplan to expedite the schedule of the groundwater treatment system expansion and the offsite investigation activities.

In addition to this letter, Del Monte is currently preparing a closure workplan that addresses all of the remaining remedial activities at Plant 35, including groundwater monitoring. We anticipate submitting the closure workplan to the Alameda County Department of Environmental Health (ACDEH) and the Regional Water Quality Control Board (RWQCB) in early April 1994. According to the existing agreement between Del Monte and Kaiser, the closure workplan that will be completed in early April needs to be approved by the ACDEH and the RWQCB by the end of May. We anticipate that it may be necessary to have another meeting during this time.

TASK 1: GROUNDWATER TREATMENT SYSTEM EXPANSION

BACKGROUND

A groundwater collection and treatment system has been operating in the southwest corner of the Del Monte property since January 1993. The system has been successful in reducing levels of chlorinated hydrocarbons detected in nearby monitoring wells, although elevated levels of TCE are still being detected, particularly in monitoring well MW-11. The system has been collecting groundwater at a rate of approximately 4 gallons per minute.

The objective of this task is to reduce chlorinated hydrocarbon concentrations in groundwater as much as possible by expanding the system to collect and treat a greater volume of groundwater at the downgradient edge of the Del Monte property. The downgradient edge is along Hollis Street as shown in Figure 1.

CONCEPTUAL PLAN

Figure 2 shows the proposed system expansion. The expanded system includes a groundwater extraction trench 75 feet long parallel to Hollis Street near the downgradient property boundary of Plant 35. The extraction trench will be 19 feet deep, with the bottom 9 feet lined with filter fabric and filled with drain gravel. The top 10 feet will be backfilled with the soil that was excavated, provided the soil does not contain detectable levels of chlorinated hydrocarbons and the soil can be sufficiently compacted. Backfill compaction will achieve 95% of the maximum dry density at optimum moisture as determined from the Standard or Modified Proctor Test.

The expanded system is expected to extract an estimated 15 to 20 gallons per minute, based on groundwater flow rates into the existing extraction sump. To accommodate the increased flow, the treatment capacity will be increased by adding a set of two carbon

canisters to operate in parallel to the existing set and making other necessary system modifications. A flow diagram of the existing treatment system is provided in Figure 3.

We anticipate operating the system through June 1995 or until asymptotic concentration levels of chlorinated hydrocarbons in the groundwater are achieved, whichever occurs first. Asymtotic concentrations of chlorinated hydrocarbons will be assessed from monitoring data of onsite wells MW-7, MW-9, MW-10, and MW-11 and the proposed offsite well MW-12 (described under Task 2).

CONSTRUCTION

Before construction activities begin, Del Monte will contact the Emeryville Fire Department, Bay Area Air Quality Management District, and East Bay Municipal Utility District.

The system expansion will be constructed by a remediation contractor with oversight provided by CH2M HILL. To characterize soil potentially useable as backfill for the trenches and to provide data on the presence of chlorinated hydrocarbons in in-place soil, CH2M HILL will collect soil samples from the sidewalls of the excavated trench and from stockpiled excavated soil. Samples will be analyzed for chlorinated hydrocarbons (EPA method 8010). Six soil samples will be collected from trench sidewalls, one from above the groundwater table and one from below the groundwater table at three locations. In addition, samples of the excavated soil will be collected to confirm its suitability for use as backfill and to determine appropriate disposal options for excess soil.

TREATMENT SYSTEM O&M

Operation and maintenance (O&M) activities will consist of weekly system inspections and quarterly water sampling from the treatment system. Samples will be analyzed for chlorinated hydrocarbons by EPA Method 601. During weekly system inspections, monitoring well water level measurements will be collected.

Results of water sample analyses and other measurements will be presented in the Del Monte Plant 35 quarterly groundwater monitoring reports submitted to the agencies in accordance with the groundwater monitoring plan for the property.

TASK 2: OFFSITE INVESTIGATION ACTIVITIES

BACKGROUND

Groundwater grab samples were collected in November 1993 across Hollis Street from the Del Monte property to assess the potential that chlorinated hydrocarbons have migrated offsite. Sample results are presented in *Investigation Report for Del Monte Plant 35* dated December 1993. At one location (HOL-2), TCE was detected at 170 ug/l. Subtask 2 is designed to confirm and assess the extent of offsite migration of chlorinated hydrocarbons through additional groundwater collection and analysis, including the installation of a monitoring well at the location where chlorinated hydrocarbons were detected in a groundwater grab sample.

FIELDWORK PREPARATION

CH2M HILL will obtain the necessary regulatory permits for soil borings and well installation. Permits will include an encroachment permit from the City of Emeryville and permits for well installation and soil borings from the County.

GROUNDWATER GRAB SAMPLES

To assess the downgradient offsite extent of chlorinated hydrocarbons in groundwater, CH2M HILL will collect grab samples of groundwater at 10 locations west of Plant 35 as shown on Figure 4. Samples will be analyzed for chlorinated hydrocarbons by EPA Method 601. After sample collection, boreholes will be grouted and finished to conform with the existing surface.

The procedure for collecting groundwater grab samples will be as follows:

1) Drill a 7-inch diameter borehole with a hollow-stem auger drilling rig to a depth of approximately 5 to 10 feet below the existing water table and remove augers.

2) Purge approximately three borehole volumes of groundwater from the borehole and ensure that conductivity stabilizes to within 10 percent and pH stabilizes to within 0.20.

3) Install a 2-inch diameter PVC well casing with a minimum of 10 feet of well screen (0.01-inch slot size opening). Position the well screen so that it intersects the groundwater table.

4) Purge an additional gallon of groundwater from the borehole through the well casing.

5) Collect a groundwater sample with a bailer that has a low-flow attachment to prevent possible volatilization.

6) Remove the well casing from the borehole and seal the borehole with grout.

This sampling methodology obtains a representative groundwater sample by allowing the sampler to purge the temporary well as recommended by the U. S. EPA (Groundwater Handbook, March 1987) and the Alameda County Water District (Groundwater Monitoring Guidelines, February 1990).

During drilling, bore holes will be continuously logged to obtain information about subsurface soil types.

GROUNDWATER MONITORING WELL INSTALLATION

CH2M HILL will install, develop, and sample a groundwater monitoring well at the location on Hollis Street (HOL-2 on Figure 4) where elevated levels of chlorinated hydrocarbons were detected in a groundwater sample in November 1993. The proposed well is shown as MW-12 on Figure 4. During drilling, the bore hole will be continuously logged to obtain information about subsurface soil types. The water sample collected will be analyzed by EPA Method 601 for chlorinated hydrocarbons. After the initial sample collection following well installation, the well will be sampled as part of the Plant 35 quarterly groundwater monitoring program.

TASK 3: SUPPLEMENTAL ONSITE INVESTIGATION

BACKGROUND

A groundwater grab sample collected at the Del Monte property during November 1993 (A20-DM-06) contained a similar mix of chlorinated hydrocarbons as those encountered in the monitoring wells in the vicinity of the former fuel oil tanks. Task 3.1 is designed to assess the eastern edge of groundwater containing chlorinated hydrocarbons by collecting groundwater samples upgradient of A20-DM-06.

ACDEH has requested the collection and analysis of additional soil samples of in-place soil in the vicinity of the groundwater collection system. Agency representatives have also requested that additional data be collected on local subsurface stratigraphy. Task 3.2 was developed to comply with these agency requests.

FIELDWORK PREPARATION

CH2M HILL will obtain the necessary regulatory permits for soil borings.

3.1 ONSITE GROUNDWATER GRAB SAMPLES

Three groundwater grab samples will be collected near A20-DM-06. The locations are shown on Figure 5. Samples will be analyzed for chlorinated hydrocarbons by EPA Method 601. The procedure for collecting the groundwater samples will be the same as that described for Task 2.

3.2 SUPPLEMENTAL ONSITE SOIL SAMPLING

CH2M HILL will collect soil samples at 6 locations in the existing groundwater collection pit as shown in Figure 6. Samples will be collected by hand augering to a depth of about 1 foot below the ground surface and driving a sampling device into the soil beneath the auger hole. One sample will be collected at each location and analyzed for chlorinated hydrocarbons by EPA Method 8010.

To collect additional information about onsite subsurface soil stratigraphy, three soil borings will be drilled near the property edge along Hollis Street as shown in Figure 6. Boring depths will be approximately 25 feet below ground surface. The borings will be continuously logged. Unsaturated soil samples will be collected from borings B-1 and B-2 and analyzed for chlorinated hydrocarbon analysis to assess soil characteristics in the area of the proposed trench excavation.

TASK 4: DOCUMENTATION/REPORTING

Upon completion of Tasks 2 and 3, CH2M HILL will prepare a letter-report documenting field activities and analytical results. The report will be prepared for submittal to the ACDEH and the RWQCB.

SCHEDULE

The proposed schedule for the work described in this letter is shown in the attached table.

Please call me at (510) 251-2888 ext 2118 if you have any questions about this workplan. In order to expedite this phase of the investigation and remediation process at Plant 35, Del Monte and Kaiser request your concurrence with this plan by February 22, 1994.

Sincerely,

CH2M HILL

Madeline Wall

for Bern Baumgartner
Project Manager

Madeline Wall

Madeline Wall
Project Engineer

cc: Mr. Thomas Bender/Del Monte
Mr. Steven Ronzone/Del Monte
Mr. Soon Kim/Del Monte
Mr. Mark Zemelman/Kaiser
Mr. David Harnish/ENVIRON

Proposed Schedule Del Monte Plant 35	
Task	**Anticipated Schedule**
1 GROUNDWATER TREATMENT SYSTEM EXPANSION	
Construction	March 14 - 18
System Operation/Maintenance	March 1994 through June 1995
Treatment System Reporting	Quarterly through June 1995
2 OFFSITE INVESTIGATION ACTIVITIES	
Fieldwork Preparation	February 16 - 22
Groundwater Grab Samples and Monitoring Well Installation	February 23 - March 2
3 SUPPLEMENTAL ONSITE INVESTIGATION	
Onsite Groundwater Grab Samples	March 2 - 4
Onsite Soil Sampling	March 2 - 4
4 SUBMIT REPORT OF TASKS 2 AND 3 TO AGENCIES	March 28
CLOSURE WORKPLAN AND GROUNDWATER MONITORING PLAN SUBMITTED	March 28
AGENCY WRITTEN APPROVAL OF CLOSURE WORKPLAN	Prior to May 3

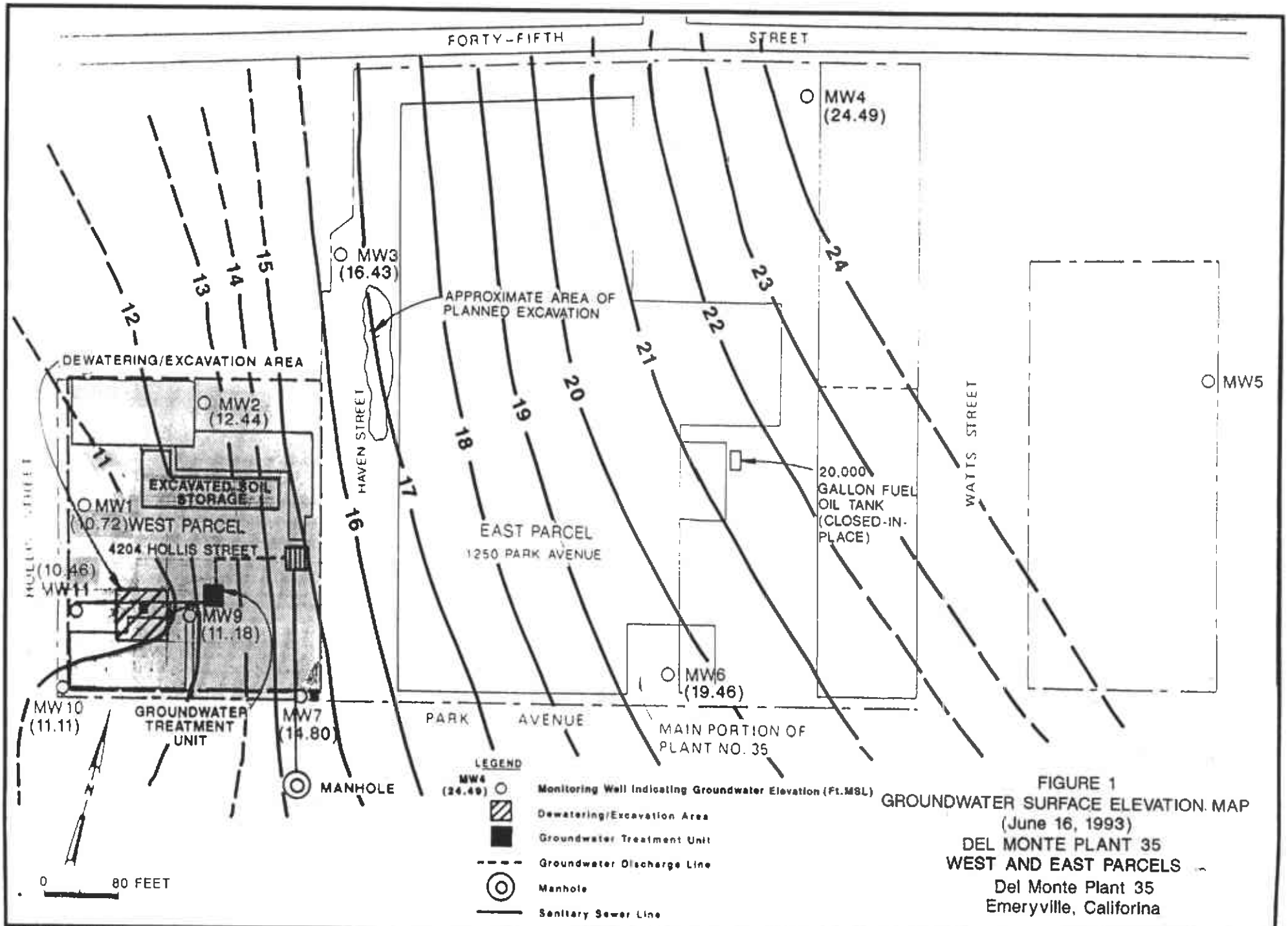

FIGURE 1
GROUNDWATER SURFACE ELEVATION MAP
(June 16, 1993)
DEL MONTE PLANT 35
WEST AND EAST PARCELS
Del Monte Plant 35
Emeryville, California

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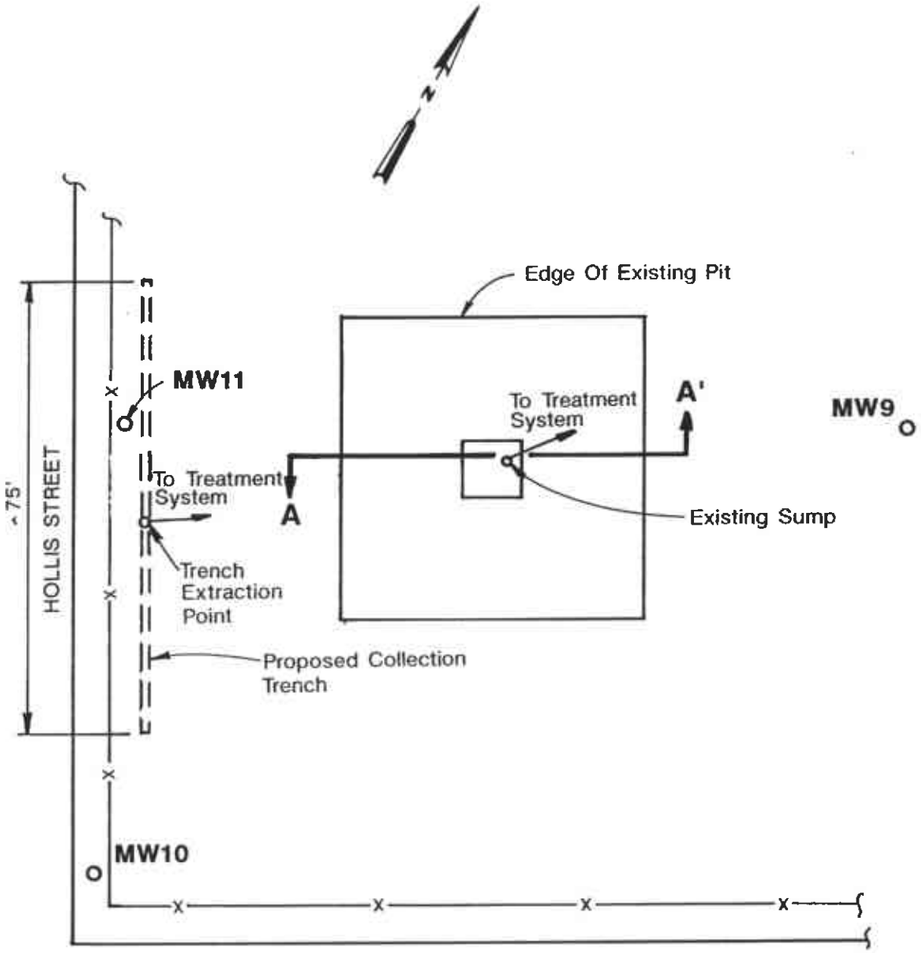
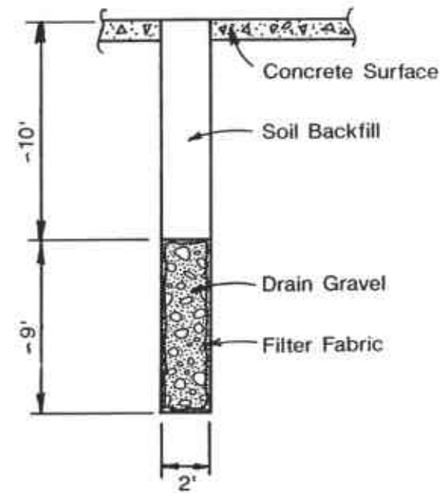
CH2M HILL



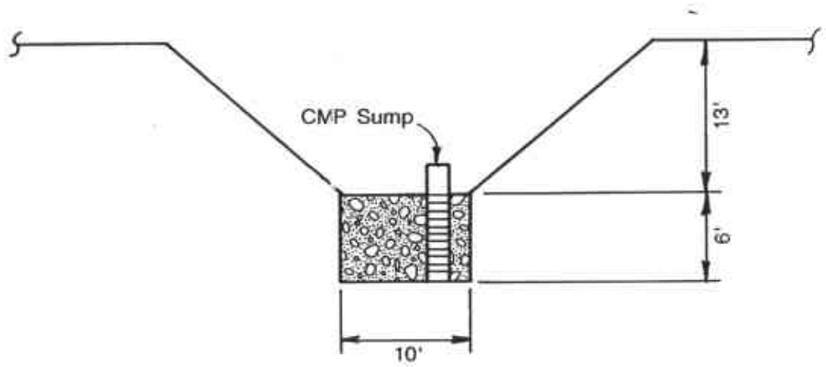
PLAN

Scale: 1" = 25'



COLLECTION TRENCH CROSS-SECTION

Not To Scale



SECTION A-A'

Not To Scale

FIGURE 2
PROPOSED EXPANSION OF COLLECTION SYSTEM
Del Monte Plant 35
Emeryville, Californa

CH2M HILL

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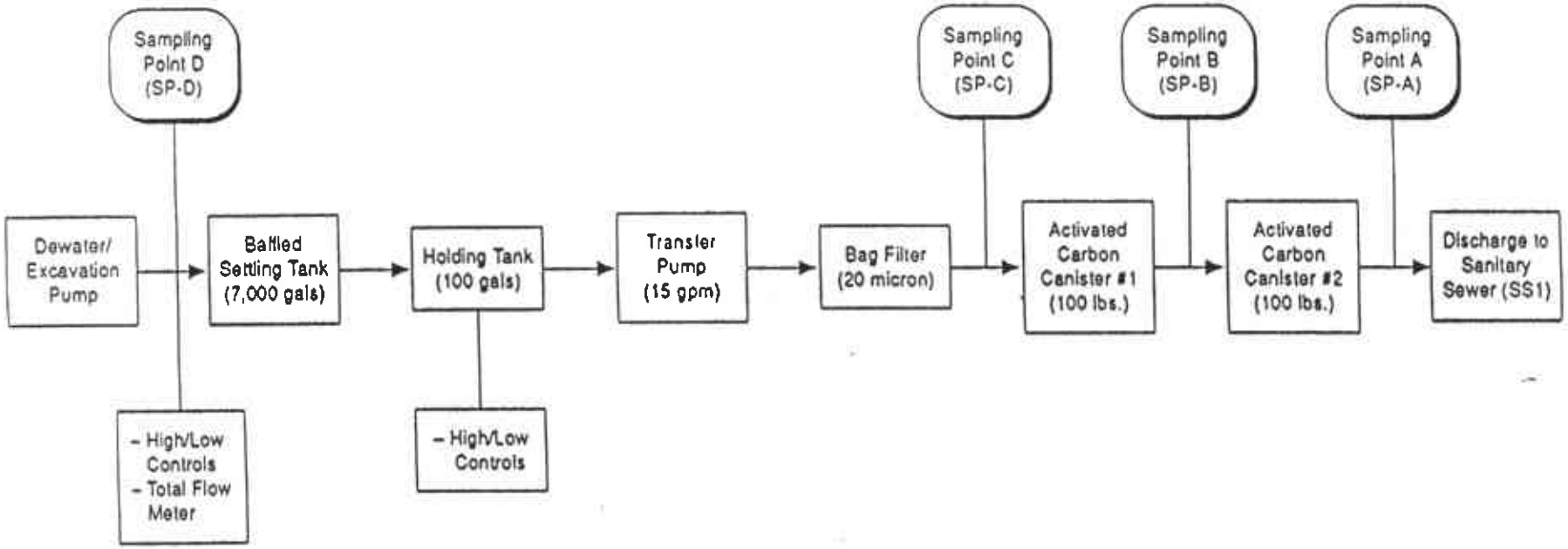
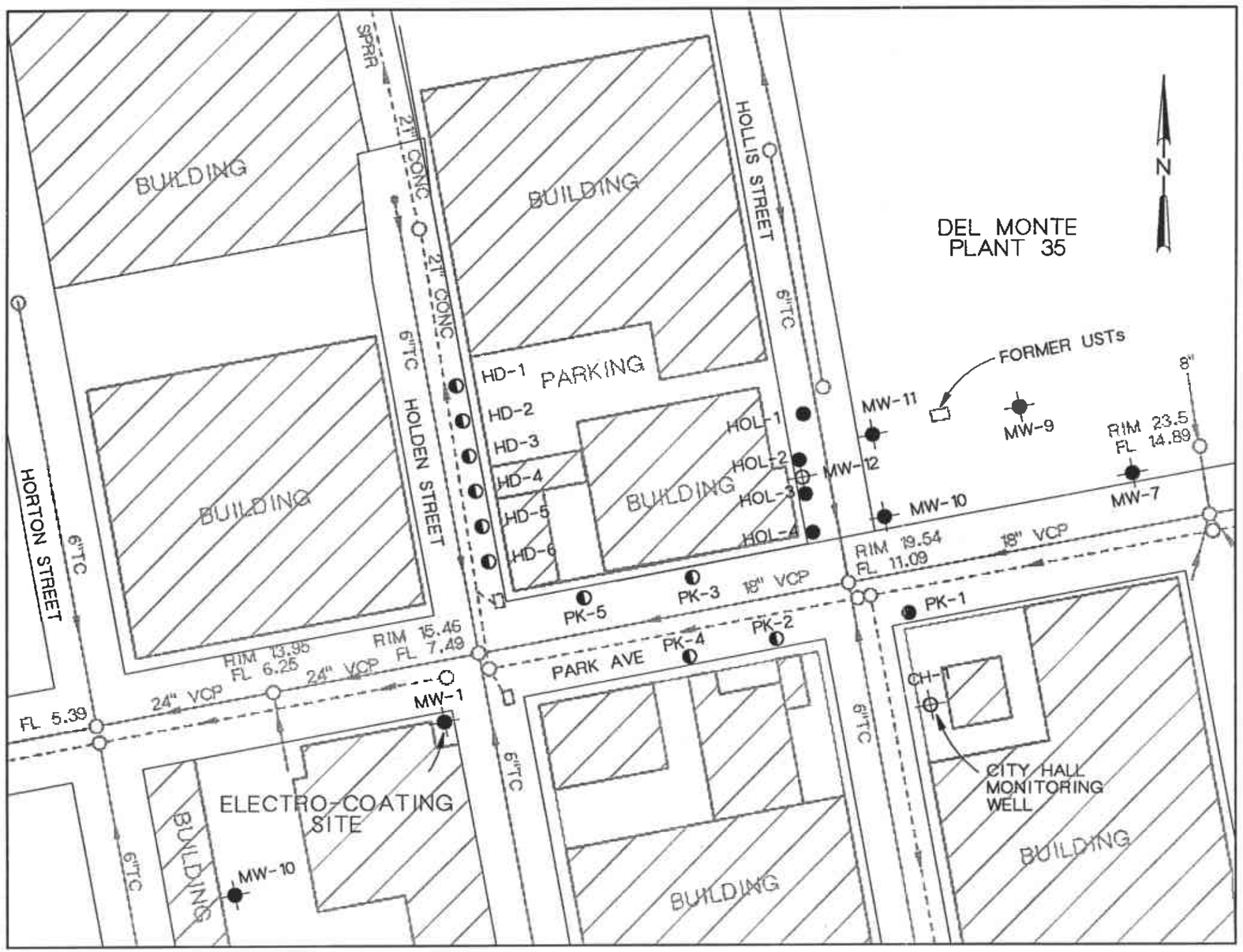


FIGURE 3
DEL MONTE PLANT 35
GROUNDWATER TREATMENT UNIT
Del Monte Plant 35
Emeryville, Californa

CH2M HILL



LEGEND:

- APPROXIMATE BUILDING LOCATION
- MW-11 — EXISTING MONITORING WELL
- HOL-1 — GROUNDWATER GRAB SAMPLE LOCATION
- MW-12 — PROPOSED MONITORING WELL
- HD-3 — PROPOSED GROUNDWATER GRAB SAMPLE LOCATION

SUMMARY OF TRICHLOROETHENE (TCE) CONCENTRATIONS IN GROUNDWATER

SAMPLE LOCATION	OWNER	TYPE	TCE RANGE (ug/l)	TCE Dec. 21, 1993 (ug/l)
MW-7	Del Monte	MW	17-51	17
MW-9	Del Monte	MW	9-29	16
MW-10	Del Monte	MW	<1-89	<1
MW-11	Del Monte	MW	46-560	220
HOL-1	Del Monte	Grab	2.1	NA
HOL-2	Del Monte	Grab	170	NA
HOL-3	Del Monte	Grab	6.4	NA
HOL-4	Del Monte	Grab	1.1	NA
PK-1	Del Monte	Grab	2.2	NA
CH-1	City Hall	MW	5.9	NA
MW-1	Electro-Coatings	MW	11-33	NA
MW-10	Electro-Coatings	MW	5100-14000	NA

Sources:
Del Monte Plant 35 Quarterly Report (CH2M HILL, 1/31/94)
Electro-Coating Groundwater Report (American Environmental Management Corporatiion, 1/27/92)

FIGURE 4
OFFSITE SAMPLE LOCATIONS
DEL MONTE PLANT 35
EMERYVILLE, CALIFORNIA

H:*SFO28830*28830F03.DGN

FORTY-FIFTH STREET

HOLLIS STREET
(street width not to scale)

BUCKER BLDG. WAREHOUSE

STORAGE YARD

WAREHOUSE

WEST PARCEL

BOX STORAGE

LEASED BUILDING

OPEN YARD
FRUIT RECEIVING

MW-11

MW-9

MW-10

MW-7

PROPOSED HAVEN STREET

APPROXIMATE LOCATION OF FORMER FISH PIT

A20-DM-06

PEAR SHED WAREHOUSE

WTS & MEASURE AUTOMOTIVE

WAREHOUSE

BOX YARD

PEAR PROCESSING

PAINT STORAGE

EAST PARCEL

LABEL ROOM

CANNERY

BOILER HOUSE

PITTING ROOM

PREPARATION DEPT.

COLD STORAGE BLDG.

GENERAL OFFICES

WAREHOUSE 16 NORTH

WAREHOUSE 16 SOUTH

APPROXIMATE PROPERTY BOUNDARY

WATTS STREET

FORMER DEL MONTE EMPLOYEE PARKING

PARK AVENUE
(street width not to scale)

LEGEND

NOTE: All sample locations are approximate.

- Previous Groundwater Sample Location
- Proposed Groundwater Sample Location
- Existing Monitoring Well
- Existing Building
- Del Monte Property Boundary

N

0 40' 80'

Scale in Feet

FIGURE 5
ADDITIONAL ONSITE GROUNDWATER SAMPLE LOCATIONS
Del Monte Plant 35
Emeryville, Califorina

CH2MHILL

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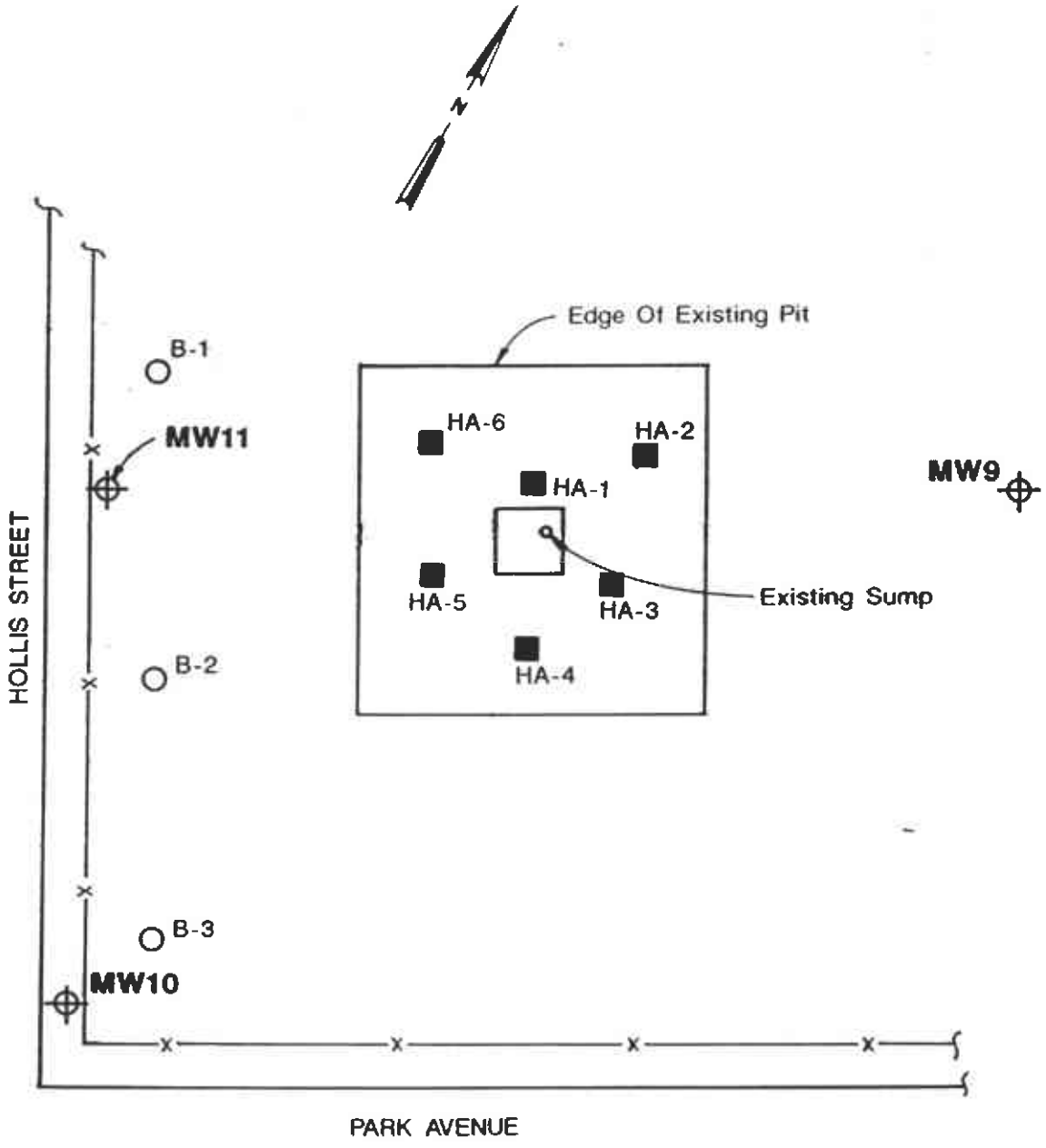

Legend:

MW11 — Existing monitoring well

B-1 — Proposed soil boring location

HA-3 — Proposed hand angered soil sample location

PLAN

Scale: 1" = 25'

FIGURE 6

SOIL SAMPLE LOCATIONS FOR

CHLORINATED HYDROCARBONS

Del Monte Plant 35

Emeryville, Califorina

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CH2M HILL