ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ARNOLD PERKINS, DIRECTOR
RAFAT A. SHAHID, DEPUTY DIRECTOR

Alameda County CC4580
Environmental Health Services
1131 Harbor Bay Pkwy., #250
Alameda CA 94502-6577
(510)567-6700 FAX(510)337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

StID 1939 - 11976 Dublin Blvd, Dublin, CA 94568

February 1, 1996

Mr. Adadu Yemane
Unocal
P.O. Box 5155
San Ramon, CA 94583

Mr. Steve Thomas
Main Street Associates
3100 Oak Road, #360
Walnut Creek, CA 94596

Dear Messrs. Yemane and Thomas:

This letter confirms the completion of site investigation and remedial action for the six former underground storage tanks (2-10K, 2-12K gasoline and 1-280, and 1-510 gallon waste oil tanks) removed from the above site on June 13, 1990 and May 21, 1992. Enclosed is the Case Closure Summary for the referenced site for your records.

Based upon the available information, including the current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, Division 3, Chapter 16, Section 2721(e) of the California Code of Regulations. Please contact Ms. Eva Chu at (510) 567-6700 if you have any questions regarding this matter.

Very truly yours,

Jun Makishima

Jun Makishima, Interim Director

cc: Chief, Division of Environmental Protection
Kevin Graves, RWQCB
Mike Harper, SWRCB (with attachment)
files (unocald2.5)

61-1571

CONFIDENTIAL

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date: November 17, 1995**

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Pkwy**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Eva Chu** Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Unocal SS #5901**
Site facility address: **11976 Dublin Blvd, Dublin 94568**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **1939**
URF filing date: **6/21/90** SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Unocal **Attn. Adadu Yemane**	**P.O Box 5115, San Ramon 94583**	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10,000	Gasoline	Removed	6/13/90
2	10,000	Gasoline	Removed	6/13/90
3	280	Waste Oil	Removed	6/13/90
4	12,000	Gasoline	Removed	5/21/92
5	12,000	Gasoline	Removed	5/21/92
6	520	Waste Oil	Removed	5/21/92

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Leaking USTs and product lines**
Site characterization complete? **YES**
Date approved by oversight agency: **3/8/95**
Monitoring Wells installed? **Yes** Number: **6**
Proper screened interval? **Yes**
Highest GW depth below ground surface: **19.21'** Lowest depth: **22.35' (MW-6)**
Flow direction: **N, NE**
Most sensitive current use: **Commercial**
Are drinking water wells affected? **No** Aquifer name: **Dublin Sub-basin**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **None**

Report(s) on file? **YES** Where is report(s) filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda, CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank & Piping	3 USTs	Erickson, in Richmond	6/13/90
	3 USTs	Cleaned, recertified by Erickson	5/21/92
Soil	1,490 cy	GSX/Laidlaw, in Buttonwillow	6-7/1990
	60 cy	"	8-9/1992
	500 cy	Vasco Rd L.F. in Livermore	8/1992
Groundwater	30,000 gallon	Gibson Oil, in Bakersfield	6-7/1990

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm) Before	Soil (ppm) After	Water (ppb) Before[1]	Water (ppb) After
TPH (Gas)	5,700	120	2,300	240
TPH (Diesel)	120	120	ND	ND
Benzene	3.1	.74	3.1	5.1
Toluene	41	.14	.88	2.6
Ethylbenzene	110	.13	.39	ND
Xylenes	640	.17	250	1.8
Oil & Grease	3,500	ND	ND	ND
Heavy metals	Cd, Cr, Pb, Ni, Zn <10X STLC		NA	NA
Other 8010 constituents	note2	note4	ND	ND
8270 constituents	note3	note4	ND	NA

NOTE:
1. "Grab" groundwater from fuel tank pit.
2. 210 ppb 1,2 dichlorobenzene
   19 ppb PCE
3. 670 ppb bis(2-ethylhexyl)phthalate
   5,800 ppb 2-methylnaphthalene
   4,100 ppb naphthalene
   240 ppb phenanthrene
   120 ppb pyrene
4. All 8010 and 8270 constituents ND after overexcavation, except 19 ppb PCE.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **Undetermine**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **Undetermine**
Does corrective action protect public health for current land use? **YES**

Site management requirements: **None**
Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **Yes**
Number Decommissioned: **5** Number Retained: **1**
List enforcement actions taken: **None**
List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu** Title: **Haz Mat Specialist**

Signature: Eva Chu Date: 11/20/95

Reviewed by

Name: **Juliet Shin** Title: **Sr. Haz Mat Specialist**

Signature: Juliet Shin Date: 11/20/95

Name: **Scott Seery** Title: **Sr. Haz Mat Specialist**

Signature: Scott Seery Date: 11-20-95

VI. RWQCB NOTIFICATION

Date Submitted to RB: 11/22/95 RB Response: Approved

RWQCB Staff Name: **Kevin Graves** Title: **AWRCE**

Signature: Kevin Graves Date: 12/27/95

VII. ADDITIONAL COMMENTS, DATA, ETC.

Two generations of underground storage tanks were removed: one set in June 1990, the other, May 1992. The site is currently a Petco pet food store.

Fuel, waste oil USTs, and product lines removed in June 1990

On June 12, 1990 two 10,000 gallon gasoline (in a common pit) and one 280 gallon waste oil tanks (in another pit) were removed. Holes were noted in all three tanks. Groundwater was present at a depth of 7' in the UST excavations, necessitating the collection of both sidewall and water samples. (See Table 9)

Soil collected from the fuel UST pit sidewalls (SW1 thru SW6) exhibited up to 5,700 ppm TPH-G, and 2.1, 41, 110, and 640 ppm BTEX, respectively. Soil samples were also collected from the product pipe trenches (P1 thru P4) at 6' bgs, exhibiting insignificant concentrations of TPH-G and BTEX. The former fuel pit and product line trenches were subsequently overexcavated.

Confirmatory soil samples (SW1(6.5) and SW2(6.5), SW5(2.5), and SW6(3)) exhibited up to 32 ppm TPH-G, and 0.027, 0.14, 0.13, 0.17 ppm BTEX, respectively. This pit was backfilled with clean soil. A soil sample (WO1) from the bottom of the waste oil pit exhibited up to 1,500 ppm TOG, 120 ppm TPH-D, and unremarkable levels of TPH-G and BTEX. All EPA 8010 constituents were below the detection limit except for 0.21 ppm 1,2-dichlorobenzene. A soil sample (SWA) from the south wall of the waste oil pit exhibited up to 3,500 ppm TOG, the only analysis performed on this sample. (See Fig 2, 3, and Table 8.)

After removing 25,000 gallons of groundwater from the former fuel tank pit, a "grab" water sample (W1) was collected and analyzed, exhibiting 2,300 ppb TPH-G, and 3.1, 0.88, 0.39, and 250 ppb BTEX, respectively. (See Table 9.)

On June 26, 1990 four sidewall soil samples (SW11 thru SW14) were collected from the new UST pit, located to the west of the former pump islands. Approximately 10,000 gallons of groundwater were pumped from this pit and a water sample (W2) collected. No significant levels of TPH-G or BTEX were detected in the soil or water samples. Two 12,000 gallon double-walled fuel USTs were installed in this pit. (See Fig 4, 6, and Table 8, 9.)

The former waste oil pit was also overexcavated laterally and to an approximate depth of 8'. Confirmatory soil samples (SW-B thru SW-H) were collected from three walls at 6 to 6.3' bgs. The south wall could not be excavated at this time due to the proximity of the service station building. Approximately 5,000 gallons of water was pumped from the waste oil pit. A water sample (W3) was collected. Soil and water samples did not exhibit any remarkable levels of petroleum hydrocarbons. A new double-walled waste oil tank was installed in this pit. (See Fig 5, Table 10, 11.)

In November 1990 four groundwater monitoring wells (MW-1 thru MW-4) were installed. Groundwater was encountered at depths ranging from 5.4 to 9.5 feet below grade, except MW-3, which did not encounter groundwater until 15.2' bgs. The four wells were sampled on six consecutive quarters (Nov 90 thru Apr 92) without detecting petroleum hydrocarbons, or EPA method 8100 and 8010 constituents (except for periodic TPH-G in well MW-3). (See Table 4.)

Fuel, Waste Oil USTs, New and Abandoned Piping Removed in May 1992

In May 1992 the three newly-installed fuel and waste oil USTs were removed. Two hydraulic lifts and an oil/water separator, located within the former building were also removed, and the entire site leveled. Contaminated soil beneath the building (including the release associated with the former waste oil tank, hydraulic lifts, and oil/water separator) was overexcavated. Verification soil samples did not reveal any petroleum hydrocarbon constituents or semi-volatile compounds. (See Fig 6, Table 12, 13, 14.)

During the final round of UST removals and site demolition, several generations of abandoned product piping were discovered, east of the former building. All product piping was removed and soil samples collected (PT-1 thru PT-5). Up to 940 ppm TPH-G, and 0.81, 12, and 100 ppm TEX were detected at PT-2 at 5' depth. The product line trenches were overexcavated (over an area of approximately 19 X 15 X 16.5' bgs). Four confirmatory sidewalls soil samples (PT(SW1) thru PT(SW4)) at 12' depth, and a pit bottom sample (PT(16.5)) at 16.5' depth were collected. Petroleum hydrocarbons were not detected in the soil samples. (See Fig 6, Table 14.)

In August 1992, for site divestment purposes, 11 exploratory borings (EB1 thru EB11) were drilled at the site to collect soil and "grab" groundwater samples. Groundwater was encountered at depths ranging from 10.5 to 35.5' bgs. Low to non-detectable levels of TPH-G, TPH-D, BTEX, TOG, TPH-MO, and VOCs were identified in soil and groundwater samples. (See Fig 1, and Table 6, 7.)

A total of six monitoring wells were eventually installed at the site between 1990 and 1994. Well MW-2 was damaged and subsequently destroyed during overexcavation of the abandoned piping lines. Wells MW-1, MW-3, -4, and -5 were destroyed in April 1995. Calculated groundwater flow on the western portion of the site has been to the north-northeast, with a flat gradient (.004). The site is also reportedly near an alleged mapped trace of the Calaveras Fault. Such has been suggested by the consultant by the presence of comparative changes in the color and texture of encountered soil materials, and reported difference in groundwater elevation observed between the eastern and western portions of the site. It has been theorized that movement along the perceived fault trace appears to have created "gouge" zones, apparent barriers to ground water flow. Clearly, groundwater elevations, both those at which water was first observed during boring advancement and stabilized levels in completed wells (MW-2, 3, 5, and 6), are erratic near the eastern margins of the site. The presence of such a fault splay could account for these phenomena. (See Fig 8-12.)

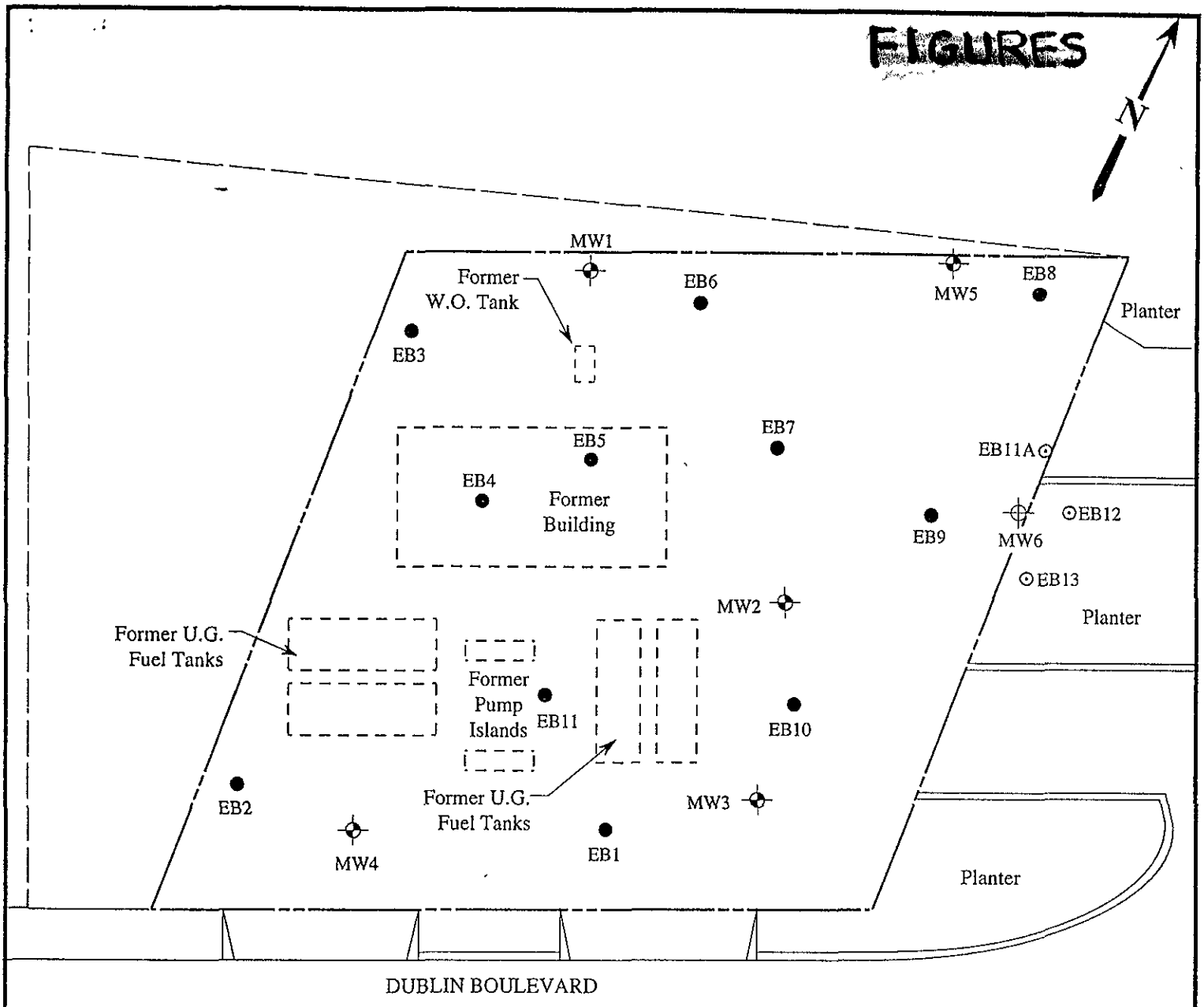
In September 1995, three additional exploratory borings (EB11A, EB12, and EB13) were emplaced just north, east, and south of well MW-6 (which continues to exhibit low levels of TPH-G and benzene). Groundwater was encountered at depths ranging from 24 to 27' bgs. Soil samples were collected at 5' intervals and analyzed for TPH-G and BTEX. A maximum of 4.9 ppm TPH-G and only trace levels of TEX were detected. Benzene was not detected. "Grab" groundwater from EB11A exhibited up to 110 ppb TPH-G, and 4.0 and 1.2 ppb benzene and toluene, respectively. (See Fig 1, Table 1, 2.)

The wells have been sampled quarterly from November 1990 to December 1994. TPH-G and BTEX have not been detected in wells MW-1, 2, 3, 4, or 5, except for trace concentrations of TPH-G on two occasions. The maximum concentrations detected in well MW-6, located east of the perceived fault splay and adjacent to a fairly deep pocket of soil contamination associated with a long-abandoned dispenser island and associated piping, are 790 ppb TPH-G and 8.1 ppb benzene. The most recent (12/94) concentrations of TPH-G and benzene in sampled groundwater are 240 and 5.1 ppb, respectively.

The majority of the hydrocarbon-impacted soil was removed during overexcavation activities. Approximately 30,000 gallons of water was pumped from the original fuel and the waste oil tank pits. The extent of soil and groundwater contamination have been delineated. Groundwater does not appear to be significantly impacted by the fuel release at this site. Continued groundwater sampling is not warranted.

unocald2.3

FIGURES



LEGEND

- Monitoring well
- Monitoring well (destroyed)
- Exploratory boring (drilled 8/24-25/92)
- Exploratory boring (drilled 9/25/95)

0 30 60

Approx. scale feet

EXPLORATORY BORING AND MONITORING WELL LOCATION MAP

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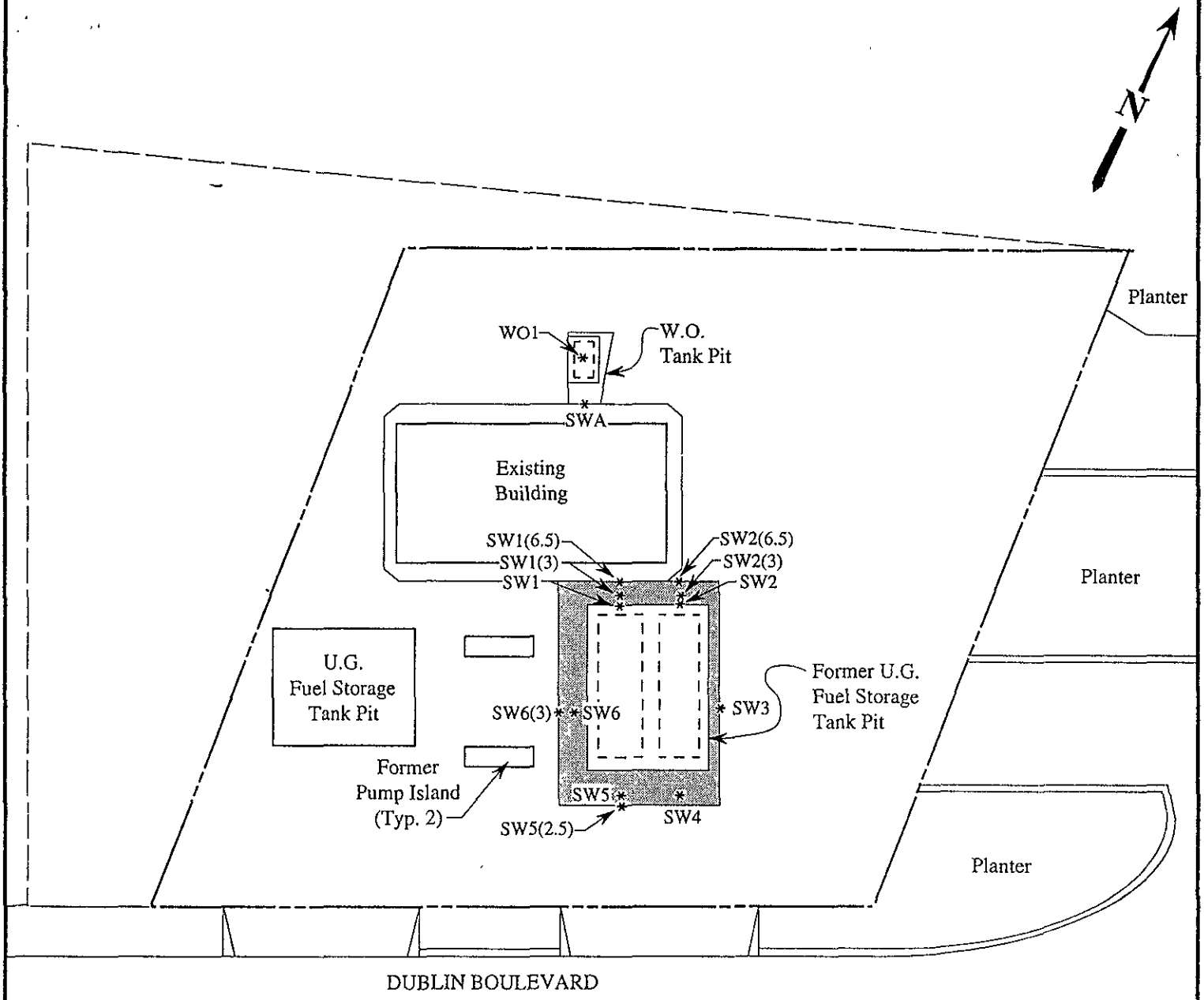
INCORPORATED

FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE
1



LEGEND

* Sample point location

Additional area of excavation

Samples collected on June 13, 15 & 20, 1990

0 30 60

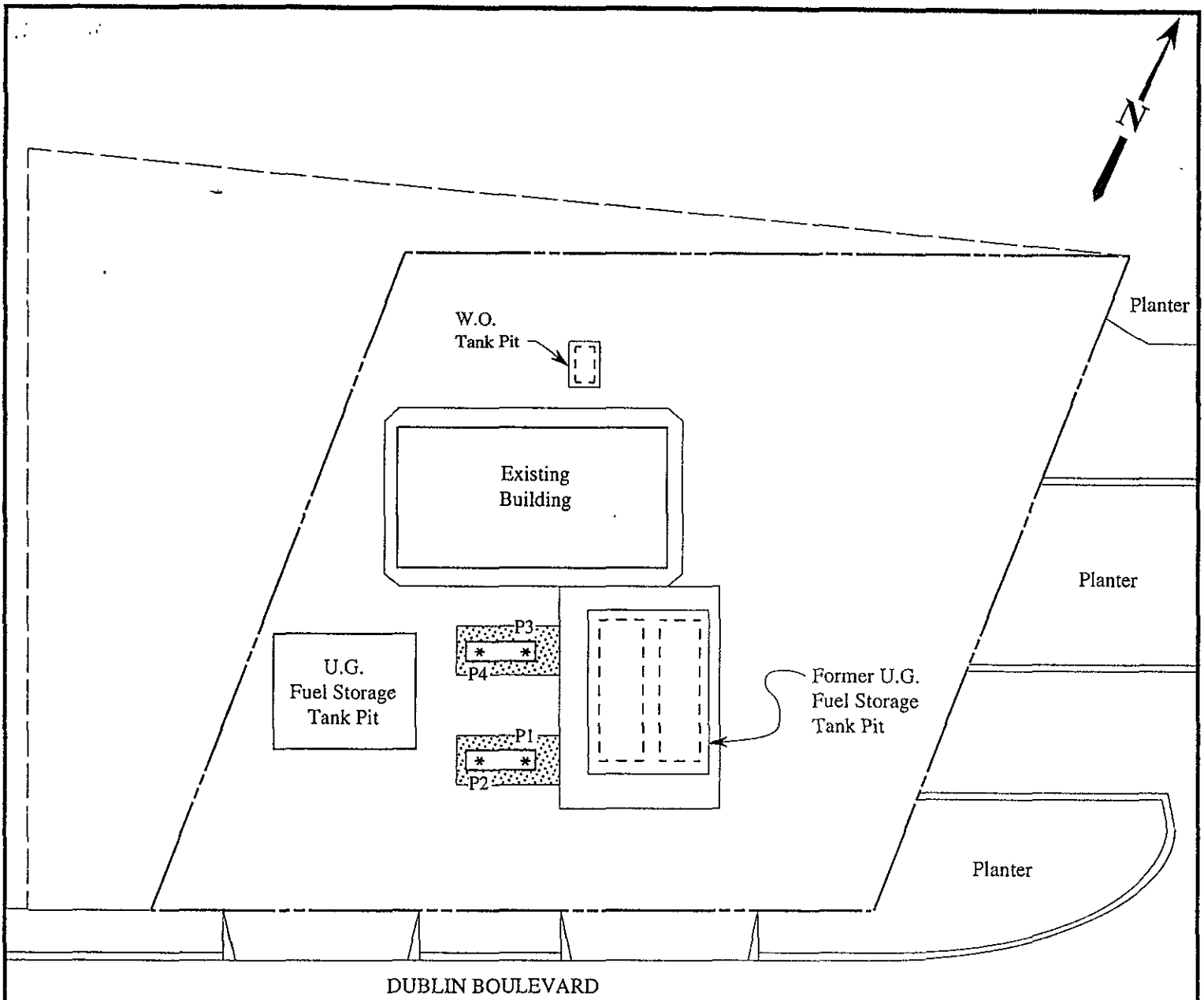
Approx. scale feet

SOIL SAMPLE POINT LOCATIONS MAP

KAPREALIAN ENGINEERING
INCORPORATED

FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE
2



LEGEND

* Sample point location

Area of additional Tank Pit excavation

Area of additional Pipe Trench excavation

Samples collected on June 15, 1990

0 30 60

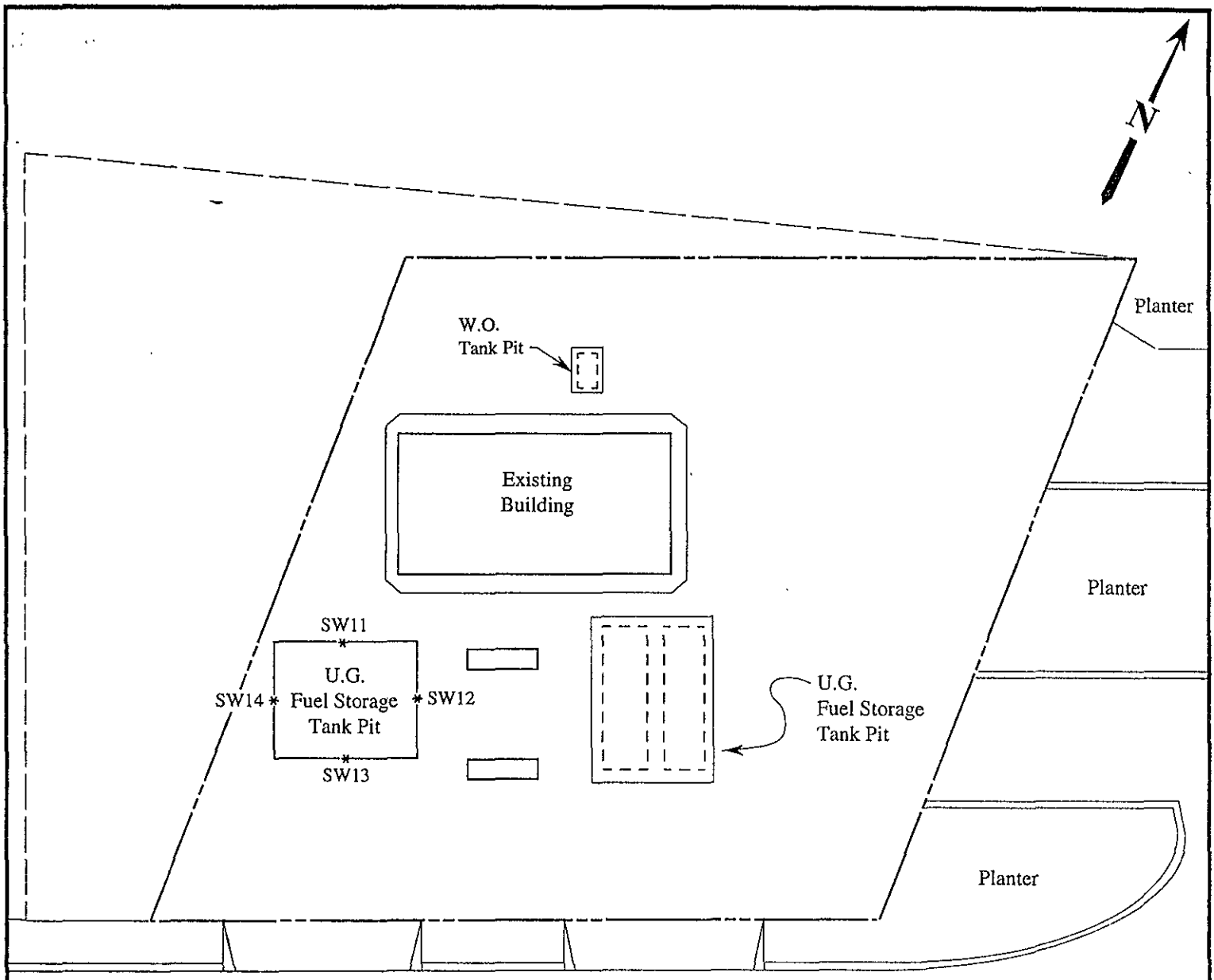
Approx. scale feet

SOIL SAMPLE POINT LOCATIONS MAP

KAPREALIAN ENGINEERING
INCORPORATED

FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE
3



LEGEND

* Sample point location

Samples collected on June 26, 1990

0 30 60

Approx. scale feet

SOIL SAMPLE POINT LOCATIONS MAP

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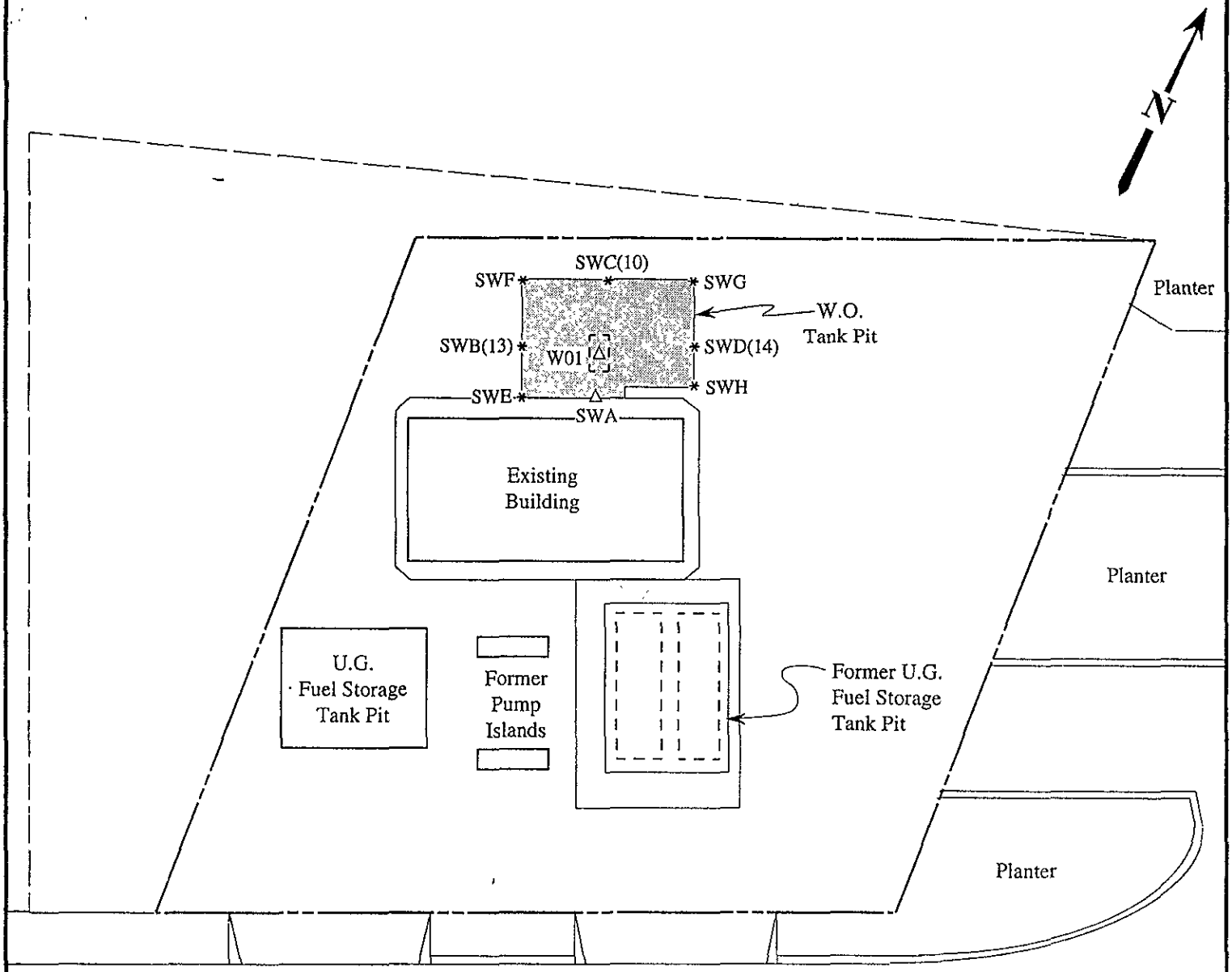
FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE
4



LEGEND

* Sample point location

△ Previous sample point location

Area of additional Tank Pit excavation

Samples collected on July 16 & 20, 1990

0 30 60

Approx. scale feet

SOIL SAMPLE POINT LOCATIONS MAP

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FORMER UNOCAL S/S #5901
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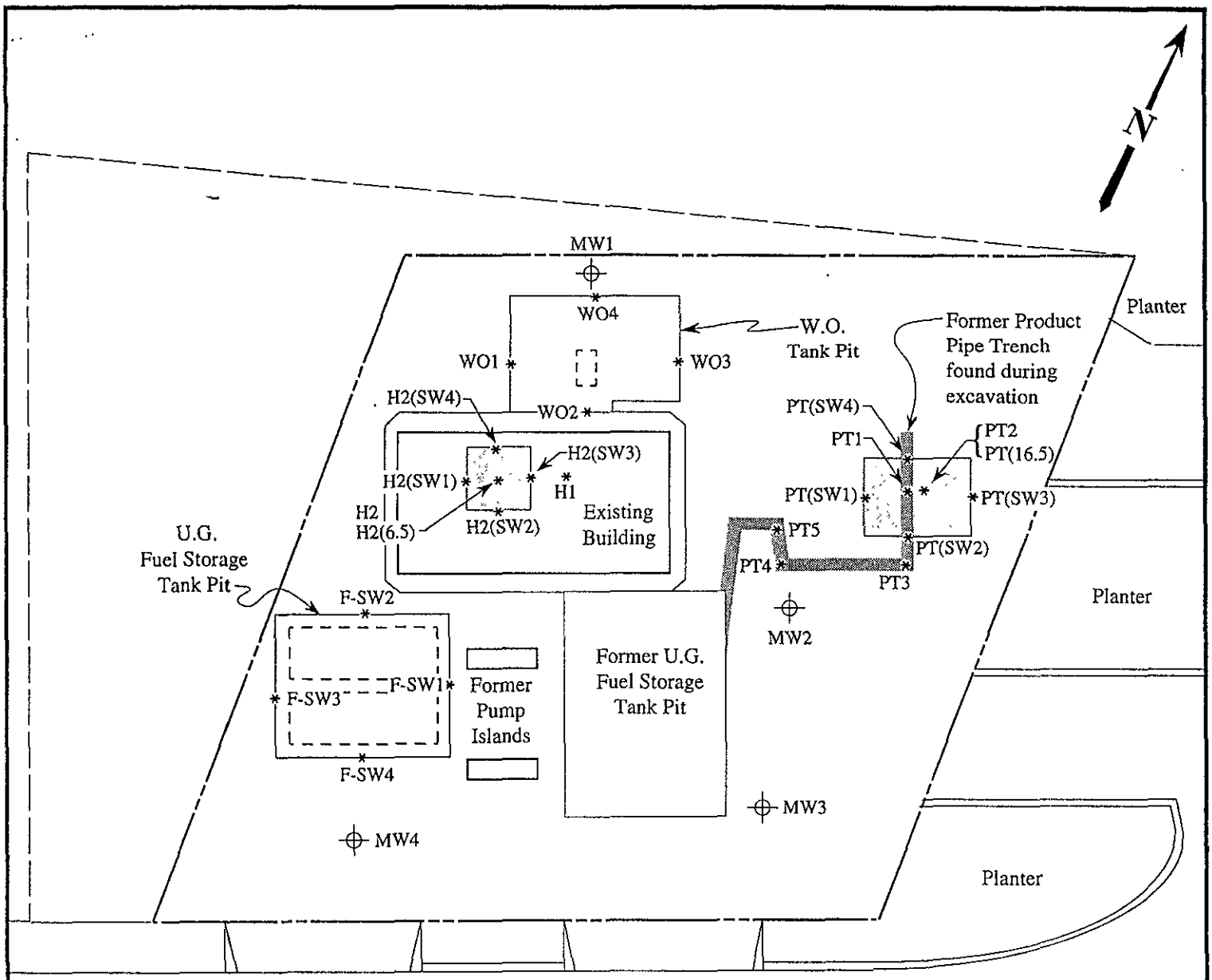
DUBLIN, CALIFORNIA

FIGURE
5



LEGEND

- Monitoring well
- * Sample point location
- Area of additional excavation

Samples collected on May 21 and June 15, 1992

0 30 60

Approx. scale feet

SOIL SAMPLE POINT LOCATIONS MAP

KAPREALIAN ENGINEERING
INCORPORATED

FORMER UNOCAL S/S #5901
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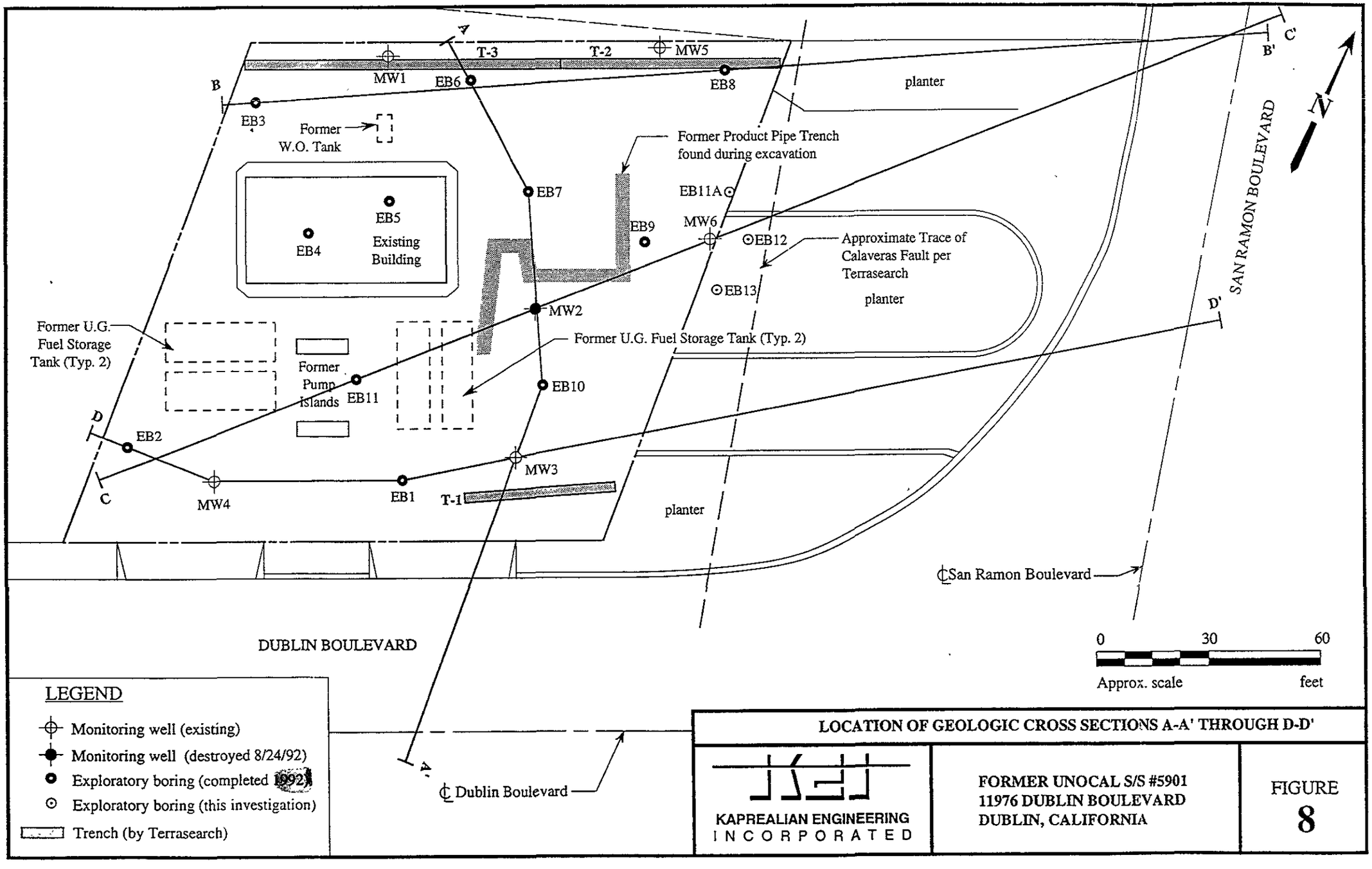
DUBLIN, CALIFORNIA

FIGURE
6



LOCATION OF GEOLOGIC CROSS SECTIONS A-A' THROUGH D-D'

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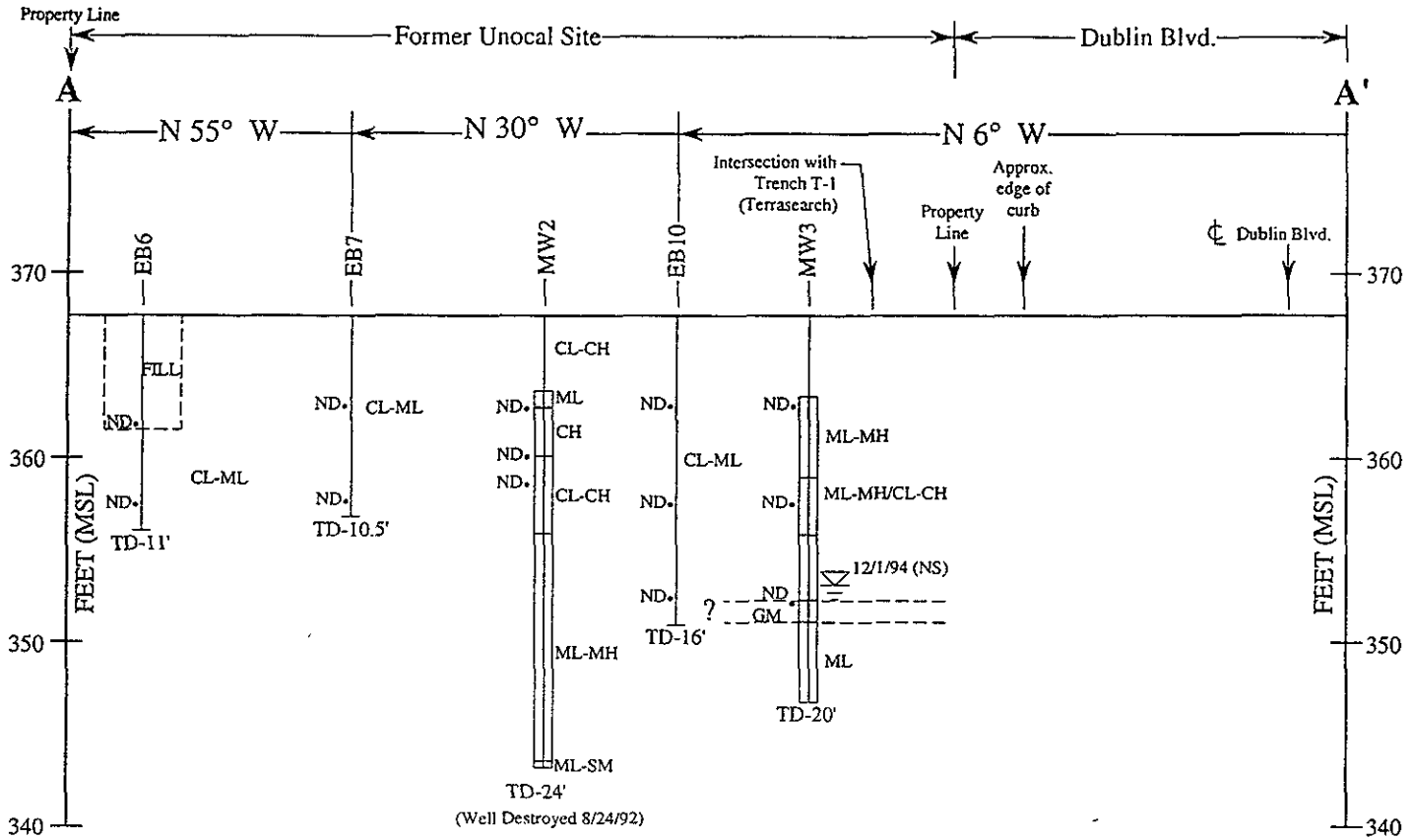
INCORPORATED

FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE
8



LEGEND

Soil classification symbols per USCS

- Ground water level on 12/1/94
- Screened interval of well
- ( ) Concentration of TPH as gasoline (µg/L) in ground water sample collected on date shown.
- • Concentration of TPH as gasoline (mg/kg) in soil sample collected at depth shown.
- NS Not sampled
- ND Non-detectable

0 30 60
Approx. horizontal scale feet

0 10 20
Approx. vertical scale feet

GEOLOGIC CROSS SECTION A–A'

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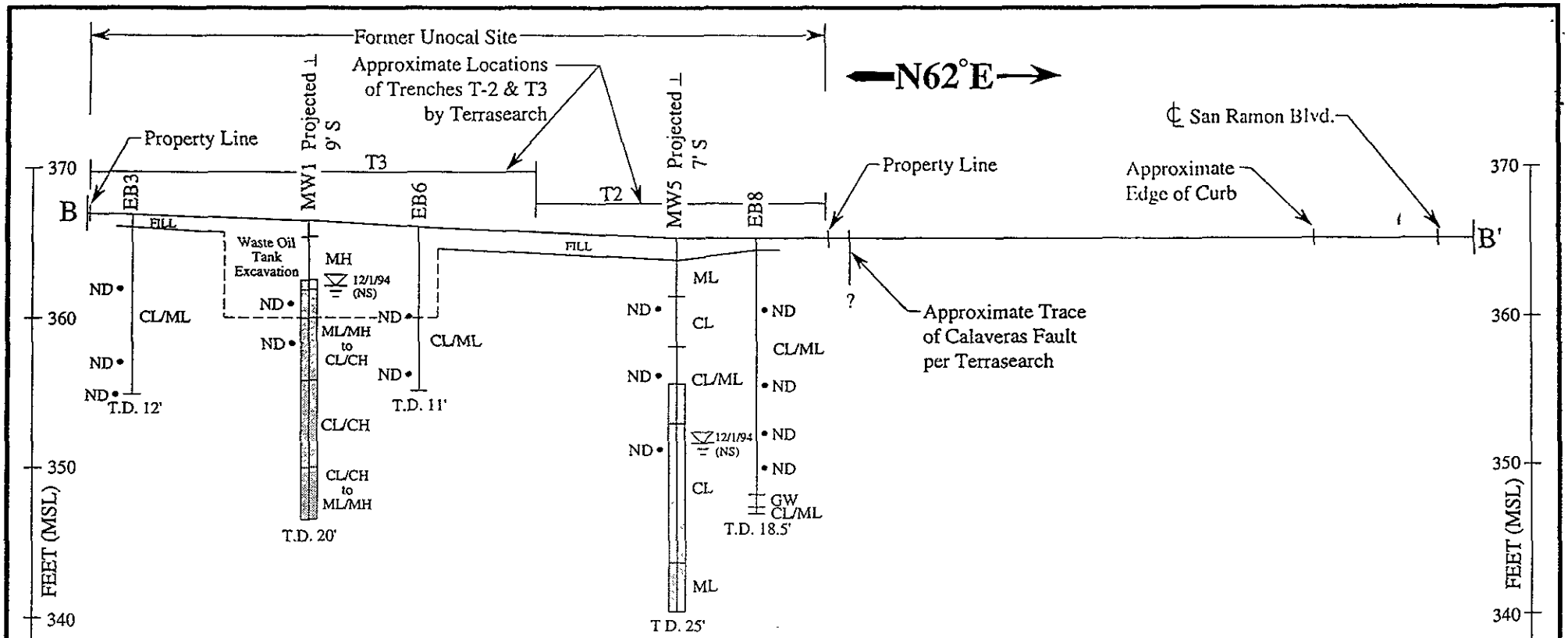
FIGURE
9



LEGEND

Soil classification symbols per USCS

Ground water level on 12/1/94

Screened interval of well

( ) Concentration of TPH as gasoline (µg/L) in ground water sample collected on date shown.

• Concentration of TPH as gasoline (mg/kg) in soil sample collected at depth shown.

NS Not sampled

ND Non-detectable

0 30 60

Approx. horizontal scale feet

0 10 20

Approx. vertical scale feet

GEOLOGIC CROSS SECTION B-B'

KAPREALIAN ENGINEERING
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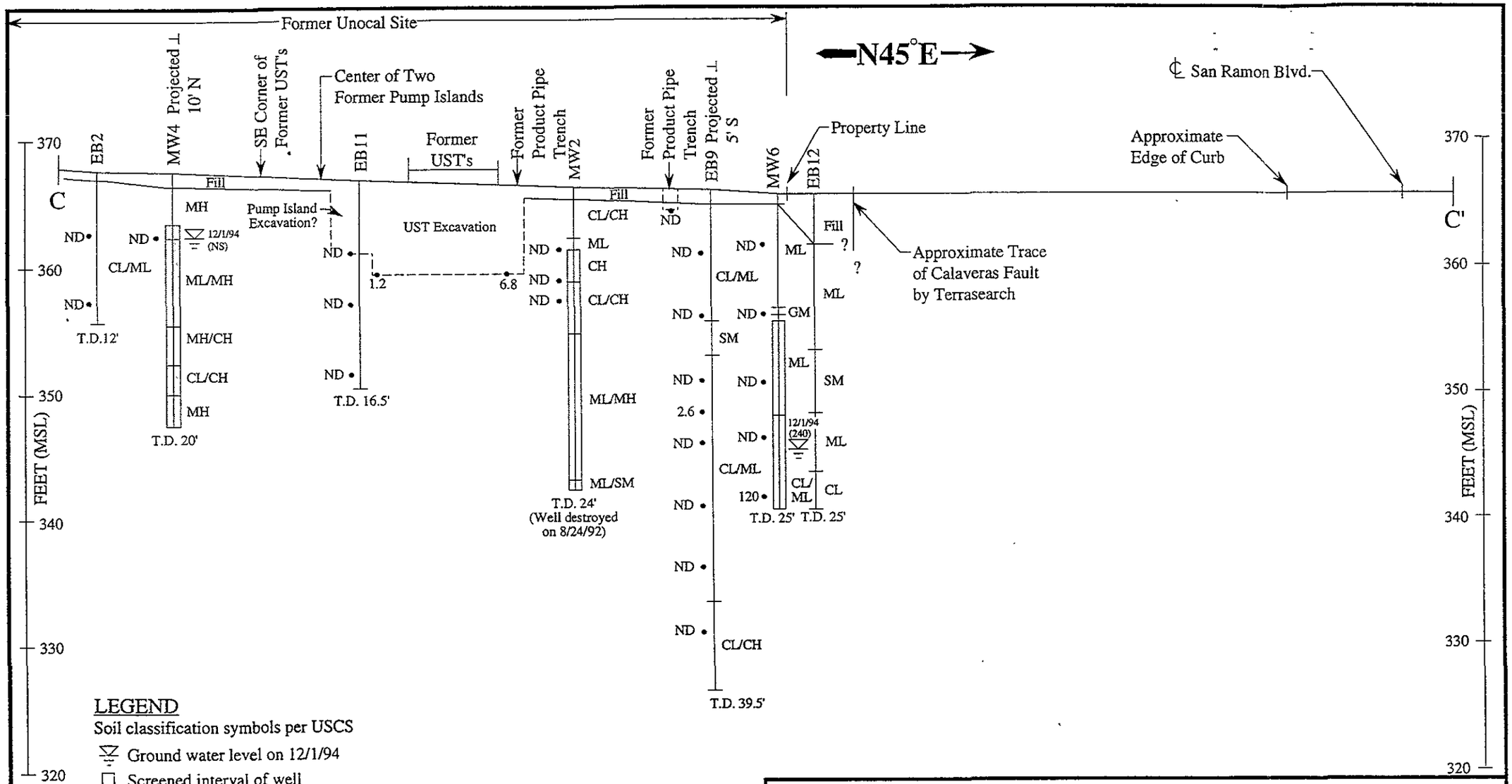
DUBLIN, CALIFORNIA

FIGURE
10



LEGEND

Soil classification symbols per USCS

- Ground water level on 12/1/94
- Screened interval of well
- ( ) Concentration of TPH as gasoline (µg/L) in ground water sample collected on date shown.
- • Concentration of TPH as gasoline (mg/kg) in soil sample collected at depth shown.

ND Non-detectable

NS Not sampled

0 30 60
Approx. horizontal scale feet

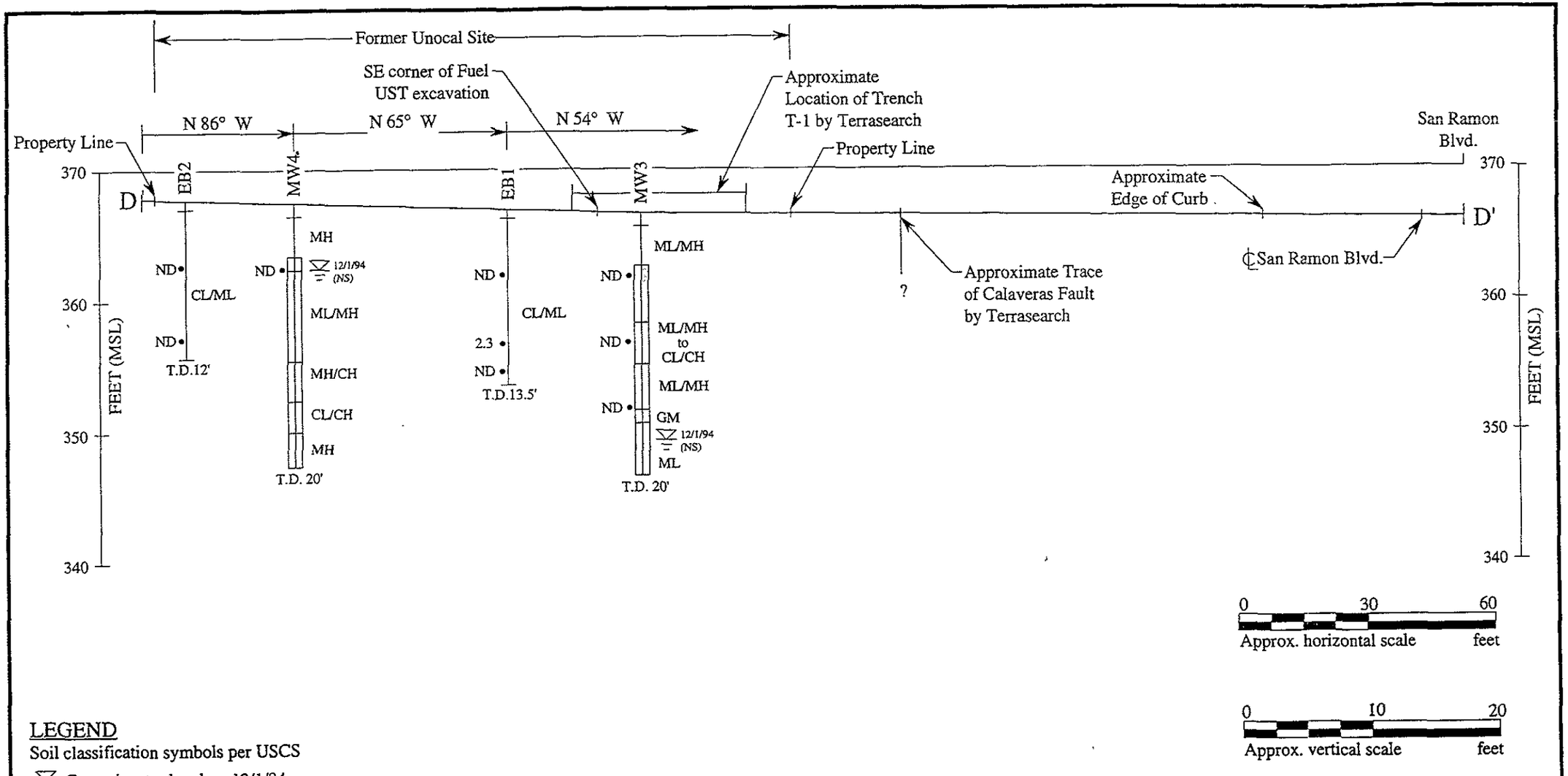
0 10 20
Approx. vertical scale feet

GEOLOGIC CROSS SECTION C – C'

KAPREALIAN ENGINEERING INCORPORATED

FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE **11**



LEGEND

Soil classification symbols per USCS

- Ground water level on 12/1/94
- Screened interval of well
- ( ) Concentration of TPH as gasoline (µg/L) in ground water sample collected on date shown.
- • Concentration of TPH as gasoline (mg/kg) in soil sample collected at depth shown.

ND Non-detectable

NS Not sampled

GEOLOGIC CROSS SECTION D-D'

KAPREALIAN ENGINEERING INCORPORATED

FORMER UNOCAL S/S #5901
11976 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

FIGURE
12

KEI-P90-0606.R15
October 24, 1995

TABLE 1

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
9/25/95	EB11A(5)	1.9*	ND	ND	ND	ND
	EB11A(10)	1.7*	ND	ND	ND	ND
	EB11A(15)	2.5*	ND	ND	ND	ND
	EB11A(20)	4.4	ND	ND	0.0083	0.031
	EB11A(22.5)	4.9	ND	ND	0.0087	0.043
	EB11A(25.5)	1.7*	ND	ND	ND	ND
	EB12(5)	2.2*	ND	ND	ND	ND
	EB12(10)	1.2*	ND	ND	ND	ND
	EB12(15)	ND	ND	ND	ND	ND
	EB12(20)	ND	ND	ND	ND	ND
	EB12(22.5)	ND	ND	ND	ND	ND
	EB13(5)	ND	ND	ND	ND	ND
	EB13(10)	1.4*	ND	ND	ND	0.024
	EB13(15)	1.6*	ND	ND	ND	0.023
	EB13(20)	1.4*	ND	0.0051	ND	0.027
	EB13(21)	1.9*	ND	ND	ND	0.025

NOTE: The soil samples were collected at the depths below grade indicated in the ( ) of the respective sample number.

ND = Non-detectable.

* Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 2

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample Number	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
9/25/95	EB11A	110*	4.0	1.2	ND	ND
	EB12	ND	ND	ND	ND	ND
	EB13	ND	ND	ND	ND	ND

* Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

ND = Non-detectable.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 3

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)♦	Total Well Depth (feet)♦	Product Thickness (feet)	Sheen	Water Purged (gallons)
(Monitored and Sampled on December 1, 1994)						
MW1*	362.13	4.67	19.75	0	--	0
MW3*	352.13	14.73	19.67	0	--	0
MW4*	362.48	5.10	19.70	0	--	0
MW5	351.55	14.00	24.97	0	No	7.5
MW6	345.04	20.64	25.13	0	No	3.5
(Monitored and Sampled on September 1, 1994)						
MW1*	361.80	5.00	19.73	0	--	0
MW3*	351.83	15.03	19.66	0	--	0
MW4*	362.10	5.48	19.72	0	--	0
MW5	350.73	14.82	24.97	0	No	7
MW6	343.33	22.35	25.12	0	No	2
(Monitored and Sampled on June 3, 1994)						
MW1*	362.01	4.79	NM	0	--	0
MW3*	351.94	14.92	NM	0	--	0
MW4*	362.35	5.23	NM	0	--	0
MW5	351.25	14.30	25.02	0	No	5.5
MW6	344.34	21.34	25.12	0	No	2
(Monitored and Sampled on March 3, 1994)						
MW1*	362.05	4.75	19.81	--	0	
MW3*	352.05	14.81	19.71	--	0	
MW4*	362.42	5.16	19.74	--	0	
MW5	351.64	13.91	25.03	No	8	
MW6	346.47	19.21	25.11	No	4.5	

TABLE 3 (Continued)

SUMMARY OF MONITORING DATA

Well #	Well Casing Elevation (feet)**
MW1	366.80
MW3	366.86
MW4	367.58
MW5	365.55
MW6	365.68

♦ The depth to water level and total well depth measurements were taken from the top of the well casings.

* Monitored only.

** The elevations of the top of the well casings have been surveyed relative to Mean Sea Level (MSL), per the National Geodetic Survey disk stamped "I-1257, reset 1975" (elevation = 439.93 feet MSL).

-- Sheen determination was not performed.

NM = Not measured.

NOTE: 1. Wells MW1 and MW4, wells MW3 and MW5, and well MW6 are considered to be located in three separate hydrologic regimes.

2. Monitoring and sampling data are supplied by MPDS Services, Inc. of Concord, California

KEI-P90-0606.R15
October 24, 1995

TABLE 4

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
12/01/94	MW5	ND	ND	ND	ND	1.3
	MW6	240	5.1	2.6	ND	1.8
9/01/94	MW5	ND	ND	1.6	ND	2.1
	MW6	490	8.1	2.9	ND	1.9
6/03/94	MW5	ND	ND	ND	ND	ND
	MW6	ND	ND	ND	ND	ND
3/03/94	MW5	ND	ND	0.84	ND	0.60
	MW6	150	2.4	2.8	ND	1.2
12/09/93	MW1♦	--	--	--	--	--
	MW3	ND	ND	ND	ND	ND
	MW5	ND	ND	ND	ND	ND
	MW6	790	0.64	1.0	ND	ND
10/09/93	MW5	ND	ND	ND	ND	ND
	MW6	480	1.8	0.63	0.81	ND
9/16/93	MW1♦	--	--	--	--	--
	MW3	ND	ND	ND	ND	ND
6/18/93	MW1♦	--	--	--	--	--
	MW3	ND	ND	ND	ND	ND
4/03/92	MW1*	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND
1/02/92	MW1*	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3**	38	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND
10/03/91	MW1*	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	32	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND

TABLE 4 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
7/02/91	MW1*	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND
4/01/91	MW1*	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND
11/16/90	MW1*	ND	ND	ND	ND	ND
	MW2	ND	ND	ND	ND	ND
	MW3	ND	ND	ND	ND	ND
	MW4	ND	ND	ND	ND	ND

♦ All EPA method 8100 constituents (polynuclear aromatic hydrocarbons) were non-detectable.

* TPH as diesel, TOG, and EPA method 8010 constituents were all non-detectable for MW1.

** All EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

-- Indicates analysis was not performed.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

NOTE: Laboratory analyses data subsequent to October 9, 1993, were provided by MPDS Services, Inc., of Concord, California.

KEI-P90-0606.R15
October 24, 1995

TABLE 5

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
11/06/90 & 11/07/90	MW1(5)*	5.0	ND	ND	ND	ND	ND	ND
	MW1(8)	8.0	--	ND	ND	ND	ND	ND
	MW2(5)	5.0	--	ND	ND	ND	ND	ND
	MW2(7.5)	7.5	--	ND	ND	ND	ND	ND
	MW2(9)	9.0	--	ND	ND	ND	ND	ND
	MW3(5)	5.0	--	ND	ND	ND	ND	ND
	MW3(10)	10.0	--	ND	ND	ND	ND	ND
	MW3(15)	15.0	--	ND	ND	ND	ND	ND
	MW3(5)	5.0	--	ND	ND	ND	ND	ND
	MW3(10)	10.0	--	ND	ND	ND	ND	ND
	MW3(15)	15.0	--	ND	ND	ND	ND	ND
	MW4(5)	5.0	--	ND	ND	ND	ND	ND
10/04/93	MW5(5)	5.0	--	ND	ND	ND	ND	ND
	MW5(9.5)	9.5	--	ND	ND	ND	ND	ND
	MW5(14.5)	14.5	--	ND	ND	ND	ND	ND
	MW6(5)	5.0	--	ND	ND	ND	ND	ND
	MW6(9.5)	9.5	--	ND	ND	ND	ND	ND
	MW6(15)	15.0	--	ND	ND	ND	ND	ND
	MW6(19.5)	19.5	--	ND	ND	ND	ND	ND
	MW6(24)	24.0	--	120	0.74	0.072	0.036	0.15

* TOG and EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

-- Indicates analysis was not performed.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 6

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on August 24 & 25, 1992)

Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG
EB1(5)	5.0	--	ND	ND	ND	ND	ND	--
EB1(8)	8.0	--	ND	ND	ND	ND	ND	--
EB1(10)	10.0	--	2.3	ND	ND	0.0057	0.11	--
EB1(12.5)	12.5	--	ND	ND	ND	ND	ND	--
EB2(5)	5.0	--	ND	ND	ND	ND	ND	--
EB2(10.5)	10.5	--	ND	ND	ND	ND	ND	--
EB3(5)*	5.0	ND	ND	ND	ND	ND	ND	ND
EB3(10)*	10.0	ND	ND	ND	ND	ND	ND	ND
EB3(13)*	13.0	ND	ND	ND	ND	ND	ND	ND
EB4(5)*+	5.0	--	ND	ND	ND	ND	ND	ND
EB4(10)*+	10.0	--	ND	ND	ND	ND	ND	ND
EB5(5)*+	5.0	--	ND	ND	ND	ND	ND	ND
EB5(10.5)*+	10.5	--	ND	ND	ND	ND	ND	ND
EB6(5.5)*	5.5	ND	ND	ND	ND	ND	ND	ND
EB6(10)*	10.0	ND	ND	ND	ND	ND	ND	ND
EB7(5)	5.0	--	ND	ND	ND	ND	ND	--
EB7(10)	10.0	--	ND	ND	ND	ND	ND	--
EB8(5)	5.0	--	ND	ND	ND	ND	ND	--
EB8(10)	10.0	--	ND	ND	ND	ND	ND	--
EB8(13)	13.0	--	ND	ND	ND	ND	ND	--
EB8(15.5)	15.5	--	ND	ND	ND	ND	ND	--
EB8(17.0)	17.0	--	ND	ND	ND	ND	ND	--
EB9(5)	5.0	--	ND	ND	ND	ND	ND	--
EB9(10)	10.0	--	ND	ND	ND	ND	ND	--
EB9(15)	15.0	--	ND	ND	ND	ND	0.010	--
EB9(17.5)	17.5	--	2.6	ND	0.010	0.015	0.018	--
EB9(20)	20.0	--	ND	ND	ND	ND	ND	--
EB9(25)	25.0	--	10	0.028	0.032	0.41	2.1	--
EB9(30)	30.0	--	ND	ND	ND	ND	ND	--
EB9(35)	35.0	--	ND	ND	ND	ND	ND	--

TABLE 6 (Continued)

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on August 24 & 25, 1992)

Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG
EB10(5)	5.0	--	ND	ND	ND	ND	ND	--
EB10(10)	10.0	--	ND	ND	ND	ND	ND	--
EB10(15.5)	15.5	--	ND	ND	ND	ND	ND	--
EB11(5.5)	5.5	--	ND	ND	ND	ND	ND	--
EB11(10)	10.0	--	ND	ND	ND	ND	ND	--
EB11(15.5)	15.5	--	ND	ND	ND	ND	ND	--

* All EPA method 8010 constituents were non-detectable, except in samples EB3(13), EB5(10.5), and EB6(10), where tetrachloroethene was detected at a concentration of 11 µg/kg in each case. Tetrachloroethene was also detected in sample EB6(5.5) at a concentration of 19 µg/kg.

\+ TPH as Hydraulic Fluid was non-detectable.

ND = Non-detectable.

-- Indicates analysis was not performed.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 7

SUMMARY OF LABORATORY ANALYSES
WATER

(Collected on August 24 & 25, 1992)

Sample Number	TPH as Hydraulic Fluid	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG (mg/L)
EB1	--	--	ND	ND	ND	ND	ND	--
EB2	--	--	ND	ND	ND	ND	ND	--
EB3*	--	ND	ND	ND	ND	ND	ND	ND
EB4*	510	--	ND	ND	ND	ND	ND	ND
EB5*	ND	--	ND	ND	ND	ND	ND	ND
EB6*	--	500**	ND	ND	ND	ND	ND	ND
EB7	--	--	ND	ND	ND	ND	ND	--
EB8	--	--	ND	ND	ND	ND	ND	--
EB9	--	--	840***	0.70	ND	ND	98	--
EB10	--	--	ND	ND	ND	ND	ND	--
EB11	--	--	ND	ND	ND	ND	ND	--

-- Indicates analysis was not performed.

ND = Non-detectable.

* All EPA method 8010 constituents were non-detectable.

** Sequoia Analytical Laboratory reported that the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

*** Sequoia Analytical Laboratory reported that the hydrocarbons detected did not appear to be gasoline.

NOTE: Water samples were collected during drilling. The results of the analyses may not be representative of formation water, and should be used for comparative informational purposes only.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 8

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on June 13, 15, 20 & 26, 1990)

	Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
"old" UST pit	SW1	6.0	--	5,700	2.1	41	110	640
	SW1(3)	6.0	--	2,200	1.8	6.3	30	76
	SW1(6.5)	6.0	--	32	0.020	0.14	0.13	0.17
	SW2	6.0	--	1,500	0.35	0.57	8.0	56
	SW2(3)	6.0	--	360	ND	1.0	3.0	2.0
	SW2(6.5)	6.5	--	6.8	0.020	0.052	0.029	0.063
	SW3	6.0	--	ND	ND	ND	ND	ND
	SW4	6.0	--	8.0	0.019	0.088	0.0071	0.16
	SW5	6.5	--	340	0.80	0.26	2.5	3.6
	SW5(2.5)	6.0	--	11	0.027	0.054	0.070	0.12
	SW6	6.5	--	120	ND	0.21	0.19	0.14
	SW6(3)	6.0	--	1.2	0.0084	0.012	0.012	0.021
pipings	P1	6.0	--	2.5	0.099	0.079	ND	0.034
	P2	6.0	--	37	0.78	0.14	0.43	3.8
	P3	6.0	--	8.5	0.028	0.016	0.35	0.080
	P4	6.0	--	16	0.091	ND	0.52	1.3
"new" UST pit	SW11*	6.0	--	ND	ND	ND	ND	0.0079
	SW12	6.0	--	ND	ND	ND	ND	ND
	SW13	6.0	--	ND	ND	0.022	ND	ND
	SW14	6.0	--	ND	ND	ND	ND	0.020
waste oil UST pit	WO1**	6.5	120	36	0.091	0.17	0.38	1.8
	SWA***	6.0	--	--	--	--	--	--

-- Indicates analysis was not performed.

ND = Non-detectable.

* TOG was 78 mg/kg.

** TOG was 1,500 mg/kg, and all EPA method 8010 constituents were non-detectable, except 1,2-dichlorobenzene at 210 µg/kg.

*** TOG was 3,500 mg/kg.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 9

SUMMARY OF LABORATORY ANALYSES
WATER

(Collected on June 20 & July 3, 1990)

Sample #	TOG (mg/L)	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
W1*	--	2,300	3.1	0.88	0.39	250
W2**	ND	ND	ND	0.96	ND	ND

* Collected from the former fuel storage tank pit.

** Collected from the new fuel storage tank pit.

-- Indicates analysis was not performed.

ND = Non-detectable.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

TABLE 10

SUMMARY OF LABORATORY ANALYSES
SOIL

(Collected on July 16 & 20, 1990)

Sample	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
SWB(13)*	6.0	ND	ND	ND	0.0095	ND	ND
SWC(10)*	6.0	ND	1.1	0.0061	0.0330	0.024	0.044
SWD(14)*	6.0	ND	ND	0.0052	0.015	ND	ND
SWE*	6.3	ND	ND	ND	0.031	ND	ND
SWF*	6.3	ND	ND	ND	0.029	0.0059	0.013
SWG*	6.3	ND	ND	ND	0.028	ND	ND
SWH*	6.3	ND	ND	ND	0.015	ND	ND

* TOG and all EPA method 8010 constituents were non-detectable.

ND = Non-detectable.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 11

SUMMARY OF LABORATORY ANALYSES
WATER

(Collected on July 19, 1990)

Sample #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
W3*	ND	ND	ND	ND	ND	ND

ND = Non-detectable.

* TOG and all EPA method 8010 constituents were non-detectable.

Results are in micrograms per liter (µg/L), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 12

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Depth (feet)	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Lead
5/21/92	F-SW1	6.5	--	ND	ND	ND	ND	ND	7.4
	F-SW2	6.5	--	ND	ND	ND	ND	ND	4.1
	F-SW3	6.5	--	ND	ND	ND	ND	ND	4.9
	F-SW4	6.5	--	ND	ND	ND	ND	ND	3.8
	PT-1	11.5	--	6.2	0.0072	0.072	0.054	0.33	4.0
	PT-2	5.0	--	940	ND	0.81	12	100	--
	PT-3	1.75	--	ND	0.0078	0.061	0.026	0.14	5.1
	PT-4	1.75	--	ND	ND	ND	ND	ND	6.5
	PT-5	1.75	--	ND	ND	ND	ND	ND	4.8
	WO-1*	6.0	ND	ND	ND	ND	ND	ND	4.9
	WO-2*	6.0	ND	ND	ND	ND	ND	ND	5.2
	WO-3*	6.0	ND	ND	ND	ND	ND	ND	5.0
	WO-4*	6.0	ND	ND	ND	ND	ND	ND	5.3
	H1**	5.0	--	ND	ND	ND	ND	ND	--
	H2***	5.5	--	230	ND	ND	1.3	0.66	4.4

-- Indicates analysis was not performed.

ND = Non-detectable.

* TOG and EPA method 8010 and 8270 constituents were all non-detectable.

** TPH as hydraulic fluid was 1.3 mg/kg.

*** TOG was non-detectable. TPH as hydraulic fluid was detected at a concentration of 120 mg/kg. EPA method 8010 and 8270 constituents were non-detectable, except for bis(2-ethylhexyl)phthalate at 670 µg/kg, 2-methylnaphthalene at 5,800 µg/kg, naphthalene at 4,100 µg/kg, phenanthrene at 240 µg/kg, and pyrene at 120 µg/kg.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

TABLE 13

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Cadmium	Chromium	Nickel	Zinc
5/21/92	WO-1	ND	29	35	44
	WO-2	ND	24	27	37
	WO-3	ND	24	26	39
	WO-4	ND	32	39	49
	H2	ND	33	43	55

ND = Non-detectable.

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

TABLE 14

SUMMARY OF LABORATORY ANALYSES
SOIL

Date	Sample Number	Depth (feet)	TPH as Hydraulic Fluid	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG
6/15/92	PT(16.5)	16.5	--	ND	ND	ND	ND	ND	--
	PT(SW1)	12.0	--	ND	ND	ND	ND	ND	--
	PT(SW2)	12.0	--	ND	ND	ND	ND	ND	--
	PT(SW3)	12.0	--	ND	ND	ND	ND	ND	--
	PT(SW4)	12.0	--	ND	ND	ND	ND	ND	--
	H2(6.5)*	6.5	ND	ND	ND	ND	ND	ND	ND
	H2(SW1)*	5.5	ND	ND	ND	ND	ND	ND	ND
	H2(SW2)*	5.5	ND	ND	ND	0.0098	ND	0.022	ND
	H2(SW3)*	5.5	ND	ND	0.069	0.068	0.064	0.21	ND
	H2(SW4)*	5.5	ND	ND	ND	ND	ND	ND	ND

-- Indicates analysis was not performed.

ND = Non-detectable.

* EPA method 8270 constituents were all non-detectable

Results are in milligrams per kilogram (mg/kg), unless otherwise indicated.

KEI-P90-0606.R15
October 24, 1995

TABLE 15

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Sample	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	Organic Lead
5/21/92	Water-1	--	ND	ND	ND	ND	2.7	ND
	Water-2*	86	ND	ND	ND	ND	ND	--
6/17/92	Water-3**	--	ND	ND	ND	ND	ND	--

-- Indicates analysis was not performed.

ND = Non-detectable.

* TOG, cadmium, chromium, lead, nickel, EPA method 8010 and 8270 constituents were all non-detectable. Zinc was detected at 0.037 ppb.

** TPH as hydraulic fluid, TOG, EPA method 8270 constituents, and the metals cadmium, chromium, lead, nickel, and zinc were all non-detectable.

Results are in micrograms per liter (μg/L), unless otherwise indicated.