



August 25, 1995

REMEDIAL ACTION COMPLETION CERTIFICATION

Attn: Bob Boust
Unocal Corp.
PO Box 5155
San Ramon CA 94583

DEPARTMENT OF ENVIRONMENTAL HEALTH
Environmental Protection Division
1131 Harbor Bay Parkway, #250
Alameda, CA 94502-6577
(510) 567-6700

STVD 219

Howard Schwartz
100 St. James Dr.
Piedmont CA 94611

RE: Former Unocal service station #0064, 200 East 18th St., Oakland CA 94606

Dear Mr. Boust,

This letter confirms the completion of site investigation and remedial action for the following four underground storage tanks at the above referenced site: 280-gallon waste oil, two 10,000-gallon gasoline, and 50-gallon waste oil. Based on the available information 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. If a change in land use is proposed, the owner must promptly notify this agency.

If you have any questions regarding this letter, please contact Jennifer Eberle at (510) 567-6700, ext. 6761.

Very truly yours,

A handwritten signature in cursive script that reads "Jun Makishima".

Jun Makishima, Acting Director

cc: Leroy Todd, Acting Chief, Environmental Protection Division/file
Kevin Graves, RWQCB
Mike Harper, SWRCB (with attachment)
Greg Gurss, GeoStrategies, Inc., 3035 Prospect Park Dr., Suite 110, Rancho Cordova CA
95670
Jennifer Eberle

ENVIRONMENTAL
PROJECT

95 JUL 20 PM 1:13
CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: 6/19/95

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

II. CASE INFORMATION

Site facility name: **former Unocal service station #0064**
Site facility address: **200 East 18th St., Oakland CA 94606**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **219**
URF filing date: **4/22/93** SWEEPS No: **N/A**

Responsible Parties: Addresses: Phone Numbers:
Attn: Bob Boust, Unocal Corp., PO Box 5155, San Ramon CA 94583

Howard Schwartz, 100 St. James Dr., Piedmont CA 94611

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	280	waste oil	removed	4/21/93
2	10,000	gasoline	removed	3/16/95
3	10,000	gasoline	removed	3/16/95
4	50	waste oil	removed	4/14/95

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **historical use of site as service station (since 1920s)**

Site characterization complete? **YES**

Date approved by oversight agency: **n/a**

Monitoring Wells installed? **YES** Number: **3**

Proper screened interval? **YES**

Highest GW depth below ground surface: **0.38'bgs (U1 on 11/11/94)**
Lowest depth: **5.92'bgs (U2 on 8/12/94)**

Flow direction: **variable:** S on 2/5/94 at 0.006 ft/ft, W on 5/7/94 at 0.004 ft/ft, N on 8/12/94 at 0.02 ft/ft, N at 0,003 ft/ft on 11/11/94, W on 2/9/95 at 0.002 ft/ft, SW on 5/4/95 at 0.02 ft/ft.

Most sensitive current use: **vacant lot at present**

Are drinking water wells affected? **NO** Aquifer name:

Leaking Underground Fuel Storage Tank Program

Is surface water affected? Probably not Nearest SW name: Lake Merritt is approx 300' NW of the site

Off-site beneficial use impacts (addresses/locations): n/a

Report(s) on file? YES Where is report(s) filed?
Alameda County, 1131 Harbor Bay Pky, Alameda Ca 94502

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment of Disposal w/destination)</u>	<u>Date</u>
Tank	280 gal	disposed to H&H (#92217119)	4/21/93
	two 10,000 gal	disposed to Erickson (#95204860)	3/16/95
	50 gal	disposed to Erickson (#95204884)	4/19/95
Soil	2,850 yd3	disposed to Forward Landfill	3/31 to 5/10/95
Groundwater	49,000 gal	disposed at Unocal's Richmond Refinery	April 95

**III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)
Maximum Documented Contaminant Concentrations - - Before and After Cleanup**

280-GAL WASTE OIL UST

Contaminant	Soil (ppm)		Water (ppm)	
	<u>Before</u>	<u>After*</u>	<u>Before</u>	<u>After</u>
TPH (Gas)	90	0.67	18	NA
TPH (Diesel)	ND	ND	ND	NA
Benzene	ND	ND	.0093	NA
Toluene	2.2	ND	.020	NA
Xylene	11	ND	.440	NA
Ethylbenzene	1.6	ND	.068	NA
Oil & Grease	4,700	670	100#	NA
TPH-motor oil	7,600**	220	3,700	NA
Heavy metals	<10X the STLCS***		see attached Table 2	

*after overexcavation on 4/26/93 **but stockpile had 18,000 ppm
***except 210 ppm total lead in stockpile (6.2 ppm WET lead)
#230 ppm in replicate sample

Leaking Underground Fuel Storage Tank Program

TWO 10,000-GAL GASOLINE USTS

Contaminant	Soil (ppm)		Water (ppm)##	
	Before	After	Before	After
TPH (Gas)	100	4200	ND	ND
TPH (Diesel)	NA	730	ND	
Benzene	0.20	7.5	ND	ND
Toluene	0.13	2.0	ND	ND
Xylene	1.2	44	ND	ND
Ethylbenzene	0.40	31	ND	ND
Oil & Grease	NA	74	ND	
total lead	28	28	NA	

from the 3 wells onsite

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Undetermined

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Undetermined

Does corrective action protect public health for current land use? YES
Site management requirements: NA

Should corrective action be reviewed if land use changes? YES NO

Monitoring wells Decommissioned: Not yet

Number Decommissioned: Number Retained:

List enforcement actions taken: none

List enforcement actions rescinded:

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Jennifer Eberle Title: Hazardous Materials Specialist
Signature: *J Eberle* Date: 7-7-95

Reviewed by
Name: Eva Chu Title: Hazardous Materials Specialist
Signature: *E Chu* Date: 7/7/95

Name: Dale Klettke Title: Hazardous Materials Specialist
Signature: *Dale Klettke* Date: 7-7-95

VI. RWQCB NOTIFICATION

Date Submitted to RB:
RWQCB Staff Name: Kevin Graves

RB Response: *Approved*
Title: AWRCE Date: 7/17/95

Kevin Graves

Leaking Underground Fuel Storage Tank Program

VII. ADDITIONAL COMMENTS, DATA, ETC.

On 4/21/93, a 280-gallon waste oil UST was removed. The UST had holes near the bottom. Groundwater appeared in the excavation at approximately 5' bgs. Two wall samples were taken at 4' bgs (see Plate 1). Results indicated 7600 ppm TPH-oil, 4667 ppm O&G, 90 ppm TPHg, ND benzene, ND TPHd, some TEX, metals below 10 X the STLCS, and ND 8270 (semi-VOCs) (see Table 1). The stockpile had 18,000 ppm TPH-oil, 13,763 ppm O&G, 320 ppm TPHg, ND benzene, ND TPHd. And metals below 10X the STLCS except 210 ppm total lead. On 4/26/93, the pit was overexcavated and the walls (3 locations) were resampled at 3' bgs. Results indicated 670 ppm O&G, 220 ppm TPH-oil, and ND for the other constituents (see Table 1). These concentrations were left in place. A water sample was taken from the open pit on 4/28/93. Results indicated 18,000 ppb TPHg, 9.3 ppb benzene, some TEX, ND TPHd, 3,700,000 ppb TPH-oil, and 100,000 ppb O&G (230,000 ppb O&G from a replicate sample), as well as the 5 metals, and ND semi-volatiles (see Table 2).

Three Mws were installed onsite in January 1994 (see Plate 2). Soil sampled from the boreholes were ND in wells U2 and U3, but well U1 had 820 ppm TPHg, 2.2 ppm benzene, some TEX, and ND O&G (see Table 3).

On 3/16/95, two 10,000-gal gasoline USTs were removed (see Plate 3). Groundwater was entering the excavation at approximately 4' bgs. There were no obvious holes in the USTs; they were tar-wrapped. The tank invert was approximately 12' bgs. However, samples were taken at approx 4' bgs because the soil was saturated below that depth. The East end was excavated slightly further than the West end, due to apparent soil contamination. Four wall samples were taken, and were all ND for TPHg and BTEX except sample TP1-S-4, taken from the East end: 100 ppm TPHg, 0.20 ppm benzene, and some TEX (see Table 4).

Subsequent excavation and sampling included the pump islands, the station building area (which included two hydraulic hoists), the former product line which led from the 10,000-gal USTs towards East 18th St. (where USTs were apparently located back in 1920), the former UST pit area located immediately N-NE of the 10,000-gal USTs (where USTs were apparently located back in 1939), the former car wash area, the former oil/water separator, the former wooden structure, and another 50-gallon waste oil UST which was discovered on 4/14/95 during these excavation activities (see Plates 3, 4, 5 and Table 4).

A total of 2,850 cubic yards of soil was removed, as well as a total of 49,000 gal of water purged from the excavations.

Leaking Underground Fuel Storage Tank Program

Residual concentrations were left in place. Up to 4200 ppm TPHg, 7.5 ppm benzene, 31 ppm ethylbenzene, and 44 ppm xylenes were detected in a soil sample collected from the sewer trench at Athol St. (sample 26 aka T9-S-4). Up to 730 ppm TPHd (sample 37 aka T28-S-4.5), and up to 210 ppm O&G (sample 33 aka T24-S-4.5) were detected in soil samples collected from the S-SW side of the site, along East 18th St. However, they were located at the property boundaries at the sidewalk interface, with the exception of an insignificant concentration of 74 ppm O&G (left onsite). This means that any future development onsite (even residential), should not be affected; these concentrations are below the sidewalk, not onsite (**see Plates 4 and 5 and Table 4**). The highest concentrations of volatile hydrocarbons remaining in place exist in sample 26 (aka T9-S-4). In light of the enormous amount of soil excavation and offsite disposal (approximately 3,000 yd³), and considering the non-detectable concentrations of TPH-gasoline and benzene in nearby samples 3 and 12, the concentrations remaining in sample 26 represent a relatively insignificant mass of hydrocarbons.

Six consecutive quarters of groundwater monitoring have shown ND concentrations of TPHg and BTEX, as well as one quarter of ND TPHd, and two quarters of ND O&G (**See Table 5**). It appears that groundwater has NOT been affected by the soil contamination, even though groundwater is very shallow.

The groundwater flow direction has been variable and very flat. The variation may be either due to its flatness or tidal influence from Lake Merritt, which is located approximately 300 feet NW of the site.

table 1

ANALYTICAL DATA

SAMPLE I.D.	SAMPLE DEPTH (FT)	SAMPLE DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH-D (PPM)	TPH-MOTOR OIL (PPM)	O&G (PPM)	Cd (PPM)	Cr (PPM)	Pb (PPM)	Zn (PPM)	Ni (PPM)	WET Pb (PPM)
UW-1	4	21-Apr-93	90 ✓	<.50 ✓	2.2 ✓	1.8	11	<250 ✓	7800 ✓	4700 ✓	0.31 ✓	30 ✓	30 ✓	34 ✓	27 ✓	-
UW-2A-B	4	21-Apr-93	<.50 ✓	<.0050 ✓	<.0050	<.0050	<.0050	<10 ✓	<10 ✓	<50 ✓	0.23 ✓	32 ✓	10 ✓	27 ✓	20 ✓	-
UX-3	3	20-Apr-93	<.50 ✓	<.0050 ✓	<.0050	<.0050	<.0050	<10 ✓	2200	2500	0.21 ✓	34 ✓	10 ✓	21 ✓	41 ✓	-
UX-4	3	28-Apr-93	<.50 ✓	<.0050 ✓	<.0050	<.0050	<.0050	<10 ✓	<10 ✓	<50 ✓	0.48 ✓	48 ✓	6.3 ✓	20 ✓	60 ✓	-
UX-5	3	26-Apr-93	.67 ✓	<.0050 ✓	<.0050	<.0050	<.0050	<10 ✓	<10 ✓	<60 ✓	0.40 ✓	32 ✓	25 ✓	35 ✓	26 ✓	-
UT-1A-B	-	21-Apr-93	300 ✓	<.50 ✓	<.50	<.50	<.50	<10 ✓	<10 ✓	<50 ✓	0.68 ✓	41 ✓	9.7 ✓	61 ✓	86 ✓	-
UWS-1A-D	-	21-Apr-93	320 ✓	<.50 ✓	<.50	<.50	1.2	<1300 ✓	18000 ✓	14000 ✓	0.57 ✓	37 ✓	210	170 ✓	40 ✓	6.2 ✓

0.59
0.58
ND
ND
ND
ND
ND
ND

PPM = Parts Per Million.
 TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline.
 TPH-D = Total Petroleum Hydrocarbons calculated as Diesel.
 TPH-Motor Oil = Total Petroleum Hydrocarbons calculated as Motor Oil.
 O&G = Oil and Grease.

Notes: 1. High reporting limits due to dilution factor.
 2. All data shown as <x are reported as ND (none detected).
 3. Laboratory values are reported in units of mg/kg which are generally synonymous with parts per million (ppm).

WET = Waste Extraction Test for Lead.
 * = Product is not typical gasoline. Sample UWS-1A-D has a chromatographic pattern similar to aged gasoline.

STLC 1.0 5 5 250 20

MEMORANDUM

DATE: May 30, 1995

TO: EPD SUPPORT STAFF

FROM: JB & MEE LING TUNG

SUBJ: SUPPORT STAFF MEMETING

PLEASE PLACE ON YOUR CALANDER FOR TOMORROW MAY 31, 1995 AT 1:30 PM THE WILL BE A SUPPORT STAFF MEETING. Tentatively the place will be rm 201 if nothing changes. See you there.

TABLE 2

~~GROUNDWATER ANALYTICAL DATA~~

1% = 10,000 ppb
3700 ppb

Semi-vol.

SAMPLE (I.D.)	SAMPLE DATE	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)	TPH-D (PPB)	TPH-MOTOR OIL (%)	O&G (PPB)	Cd (PPB)	Cr (PPB)	Pb (PPB)	Zn (PPB)	Ni (PPB)
UH-2	28-Apr-93	8000	3500	20	68	440	<.0043	37	100000	150	2400	20000	34000	3000

↑
625
ND

and
~~200000~~ (replicate)

- O&G = Oil and Grease.
- TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline.
- TPH-D = Total Petroleum Hydrocarbons calculated as Diesel.
- TPH-Motor Oil = Total Petroleum Hydrocarbons calculated as Motor Oil.
- PPB = Parts Per Billion (ug/L).
- (%) = PPB - 10³; see Certified Analytical Report for explanation.
- = Product is not typical standard gasoline. ✓ Chromatographic pattern is similar to Stoddard solvent.

- Notes:
1. All data shown as <x are reported as ND (none detected).
 2. Laboratory values are reported in units of ug/L, which are generally synonymous with parts per billion.

TABLE X 3

SOIL ANALYTICAL DATA

SAMPLE I.D.	SAMPLE DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	O&G (PPM)
U-1-3.0	26-Jan-94 ✓	820 ✓	2.2 ✓	3.5 ✓	5.8 ✓	6.0 ✓	<50 ✓
U-2-5.0	26-Jan-94 ✓	<1.0 ✓	<0.005 ✓	<0.005 ✓	<0.005 ✓	<0.005 ✓	<50 ✓
U-3-4.5	26-Jan-94 ✓	<1.0 ✓	<0.005 ✓	<0.005 ✓	<0.005 ✓	<0.005 ✓	<50 ✓

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline.
 O&G = Oil and Grease
 PPM = Parts Per Million.

- Notes:
1. All data shown as <x are reported as ND (none detected).
 2. The second number of the sample ID corresponds to the depth the sample was collected.

sample #1 does not correlate w/fig. 3

TABLE 4

LABORATORY ANALYTICAL RESULTS
FOR SOIL SAMPLES FROM EXCAVATIONS
Unocal Service Station No. 0064
200 East 18th Street
Oakland, California

5520 E+F

SAMPLE ID FIG. 3

SAMPLE NO.	SAMPLE DEPTH (FT)	SAMPLE DATE	TPHg (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYL BENZENE (PPM)	XYLENES (PPM)	TPHg (PPM)	D&G (PPM)	TPH(mo) (PPM)	Pb (PPM)
TP1-S-4	1	16-Mar-95	100'	0.20	0.13	0.40	1.2	NA	NA	NA	6.4
TP2-S-4	2	16-Mar-95	<1.0	<0.0050	0.0067	<0.0050	0.045	NA	NA	NA	28
TP3-S-4	3	16-Mar-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	25
TP4-S-8.5	4	16-Mar-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA
TR1-S-4	5	20-Mar-95	420	0.41	1.3	2.1	2.2	NA	NA	NA	10
TR2-S-4	6	20-Mar-95	6.4	0.015	0.023	0.050	0.017	NA	NA	NA	7.1
TR3-S-4	7	20-Mar-95	55	<0.05	<0.05	<0.05	0.35	NA	NA	NA	15
TR4-S-5	8 5' 40"	20-Mar-95	1200'	<1.25	5.5	2.6	38	NA	2,600	NA	5.9
TR5-S-4	10	20-Mar-95	660	1.2	2.3	4.2	18	160 ²	NA	NA	16
T1-S-6	WE 6.0 12	03-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA
T2-S-6	of 6.0 13	03-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA
T3-S-6	gas 6.0 14	03-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA
T4-S-6	WSTs 6.0 15	03-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	0.011	NA	NA	NA	NA
T5-S-6	near 6.0 16	03-Apr-95	4.6 ³	<0.0050	0.066	0.044	0.088	5.1 ⁴	340	20 ⁵	NA
T6-S-6	E. 18th 6.0 17	03-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<50	<10	NA
T7-S-8	6.0 5 9	03-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	10 ⁴	98	62 ⁵	NA
T8-S-4 5	11	14-Apr-95	690 ⁶	<0.50	2.0	1.2	1.4	250 ⁴	200	NA	NA
T9-S-4	26	14-Apr-95	4200 ⁶	7.5	<2.5	31	44	NA	NA	NA	NA
T10-S-6	18	14-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	<50	NA	NA
T11-S-6	19	14-Apr-95	1.3 ⁷	<0.0050	<0.0050	<0.0050	0.023	NA	<50	NA	NA
T12-S-6	20	14-Apr-95	250 ⁷	<0.12	<0.12	<0.12	1.7	NA	<50	NA	NA
T13-S-4	21	14-Apr-95	8.3 ⁷	<0.0050	<0.0050	<0.0050	0.11	NA	180	NA	NA
T14-S-6	22	14-Apr-95	180 ⁷	<0.12	<0.12	0.45	1.8	980 ⁴	3500	NA	NA
T15-S-6	23	14-Apr-95	120 ⁷	<0.050	<0.050	0.13	0.49	NA	<50	NA	NA
T16-S-6	24	14-Apr-95	500 ⁷	<0.50	<0.50	0.75	3.6	360 ⁴	240	NA	NA
T17-S-5	25	14-Apr-95	<1.0	<0.0050	0.0080	<0.0050	0.0089	NA	81	NA	NA
T18-S-6	27	24-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	<50	NA	NA
T19-S-6	28	24-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	<50	NA	NA
T20-S-6	29	24-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	74	NA	NA
T21-S-6	30	26-Apr-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<50	NA	NA

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TABLE X 4 (cont)

LABORATORY ANALYTICAL RESULTS
 FOR SOIL SAMPLES FROM EXCAVATIONS
 Unocal Service Station No. 0064
 200 East 18th Street
 Oakland, California

SAMPLE I.D.	SAMPLE DEPTH (FT)	SAMPLE DATE	TPHg (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYL-BENZENE (PPM)	XYLENES (PPM)	TPHd (PPM)	O&G (PPM)	TPHmo (PPM)	Pb (PPM)
T22-S-4.5	31 4.5	02-May-95	1.8 ⁷	<0.0050	<0.0050	<0.0050	0.0062	1.8 ⁴	NA	NA	NA
T23-S-4.5	32 4.5	02-May-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	1.2 ⁴	NA	NA	NA
T24-S-4.5	33 4.5	02-May-95	33 ^a	0.038	<0.025	0.040	0.062	53 ⁴	210	NA	NA
T25-S-6	34 6.0	03-May-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA
T26-S-5.5	35 5.5	03-May-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA	NA
T27-S-6	36 6.0	03-May-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	71	NA	NA
T28-S-4.5	37 4.5	04-May-95	370 ⁷	<0.12	<0.12	<0.12	1.2	730 ⁴	NA	NA	NA
T29-S-6	38 6.0	04-May-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	NA	NA	NA
T30-S-6	39 6.0	04-May-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	NA	NA	NA
T31-S-4.5	40 4.5	04-May-95	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<50	NA	NA

lit left in place

- TPHg = Total Petroleum Hydrocarbons calculated as Gasoline.
- TPHd = Total Petroleum Hydrocarbons calculated as Diesel.
- O&G = Oil and Grease.
- TPHmo = Total Petroleum Hydrocarbons calculated as Motor Oil.
- Pb = Lead
- PPM = Parts Per Million.
- NA = Not Analyzed.
- = Gasoline and unidentified hydrocarbons >C9.
- = Unidentified hydrocarbons <C13.
- = Weathered gasoline.
- = Unidentified hydrocarbons C9-C24.
- = Unidentified hydrocarbons C16-C36.
- = Unidentified hydrocarbons C6-C12.
- = Unidentified hydrocarbons C8-C12.
- = Unidentified hydrocarbons <C8 and weathered gasoline C8-C12.

- Notes:
1. All data shown as <x are reported as ND (none detected).
 2. Laboratory values are reported in units of mg/kg which are generally synonymous with parts per million (ppm).

TABLE X 5

SUMMARY OF LABORATORY ANALYSES
 WATER

Date	Well #	TPH as Diesel	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG (mg/L)
5/04/95	U-1	--	ND	ND	ND	ND	ND	--
	U-2	--	ND	ND	ND	ND	ND	--
	U-3	--	ND	ND	ND	ND	ND	--
2/09/95	U-1	--	ND	ND	ND	ND	ND	--
	U-2	--	ND	ND	ND	ND	ND	--
	U-3	--	ND	ND	ND	ND	ND	--
11/11/94	U-1	--	ND	ND	ND	ND	ND	--
	U-2	--	ND	ND	ND	ND	ND	--
	U-3	--	ND	ND	ND	ND	ND	--
8/12/94	U-1	--	ND	ND	ND	ND	1.9	--
	U-2	--	ND	ND	1.9	ND	3.1	--
	U-3	--	ND	ND	1.1	ND	0.79	--
5/07/94	U-1▲	ND	ND	ND	ND	ND	ND	ND
	U-2	--	ND	ND	ND	ND	ND	--
	U-3	--	ND	ND	ND	ND	ND	--
2/05/94	U-1	--	ND	ND	ND	ND	ND	ND
	U-2	--	ND	ND	ND	ND	ND	ND
	U-3	--	ND	ND	ND	ND	ND	ND

5

TABLE ~~X~~ (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

▲ Total extractable petroleum hydrocarbons as motor oil was non-detectable.

TOG = Total Oil & Grease.

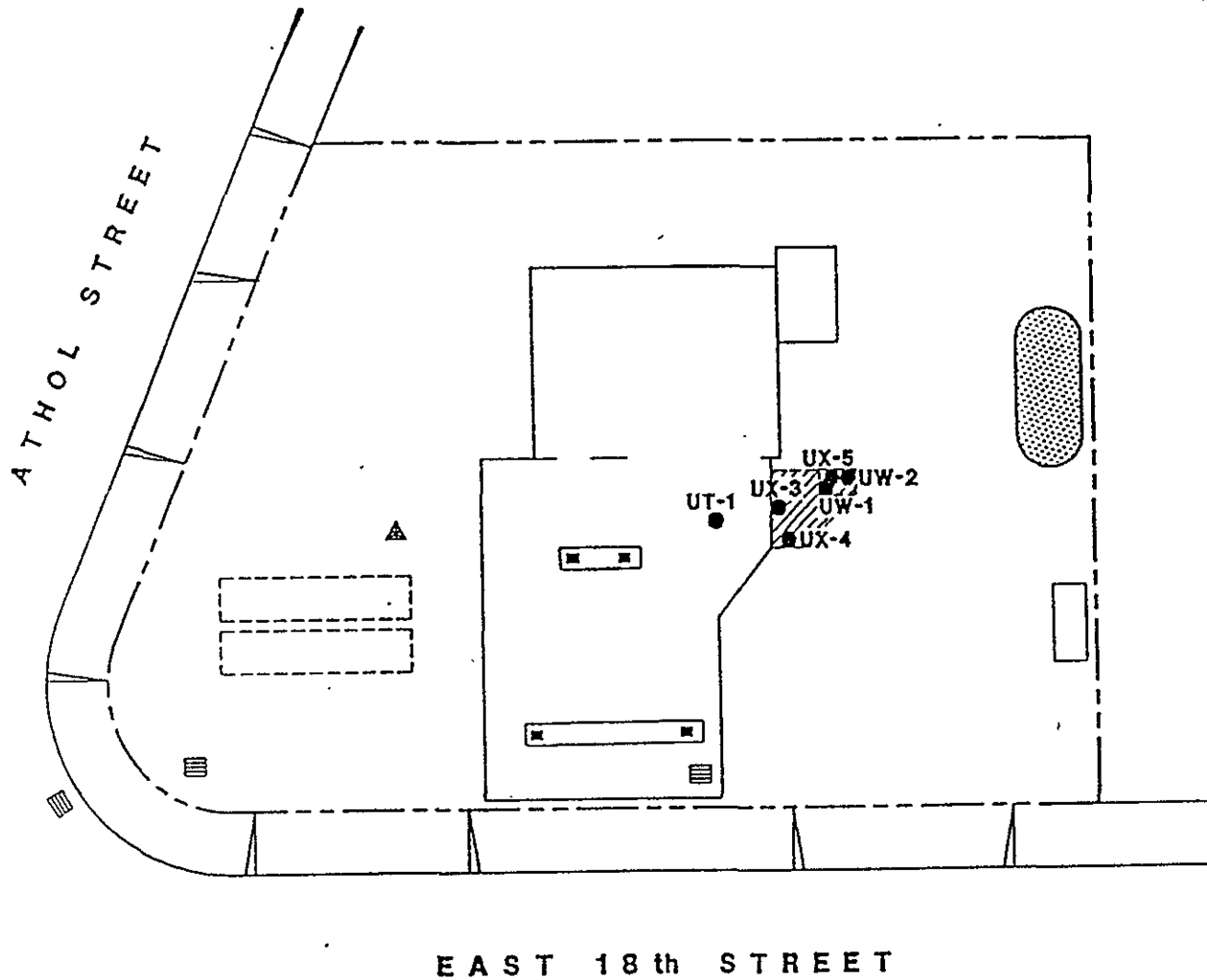
mg/L = milligrams per liter.

ND = Non-detectable.

-- Indicates that analysis was not performed.

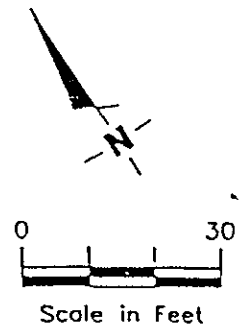
Results are in micrograms per liter ($\mu\text{g/L}$), unless otherwise indicated.

Note: Laboratory analyses data prior to May 7, 1994, were provided by GeoStrategies, Inc.



- LEGEND**
- ▲ Observation well
 - Soil Sample
 - ▨ Excavation
 - Stockpile

Base Map: Robert H. Lee & Associates, Inc.
 Site Plan (9-2-92)
 Field observations (5-6-93)



GeoStrategies Inc.

SOIL SAMPLE & STOCKPILE MAP
 UNOCAL Service Station #0064
 200 East 18th Street
 Oakland, California

PLATE

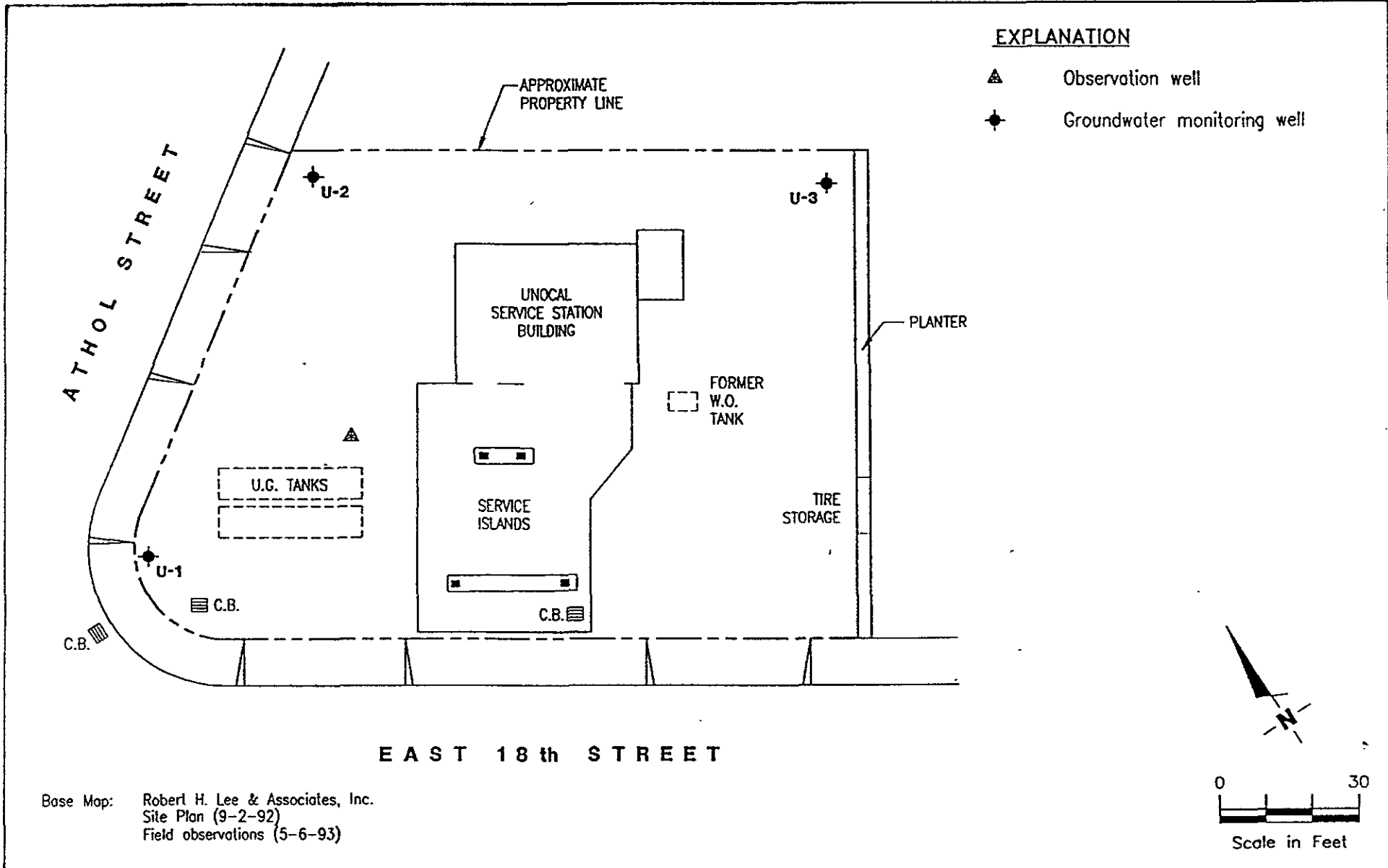
3

OB NUMBER
 787701-1

REVIEWED BY

DATE
 5/93

REVISED DATE
 7/93



EXPLANATION

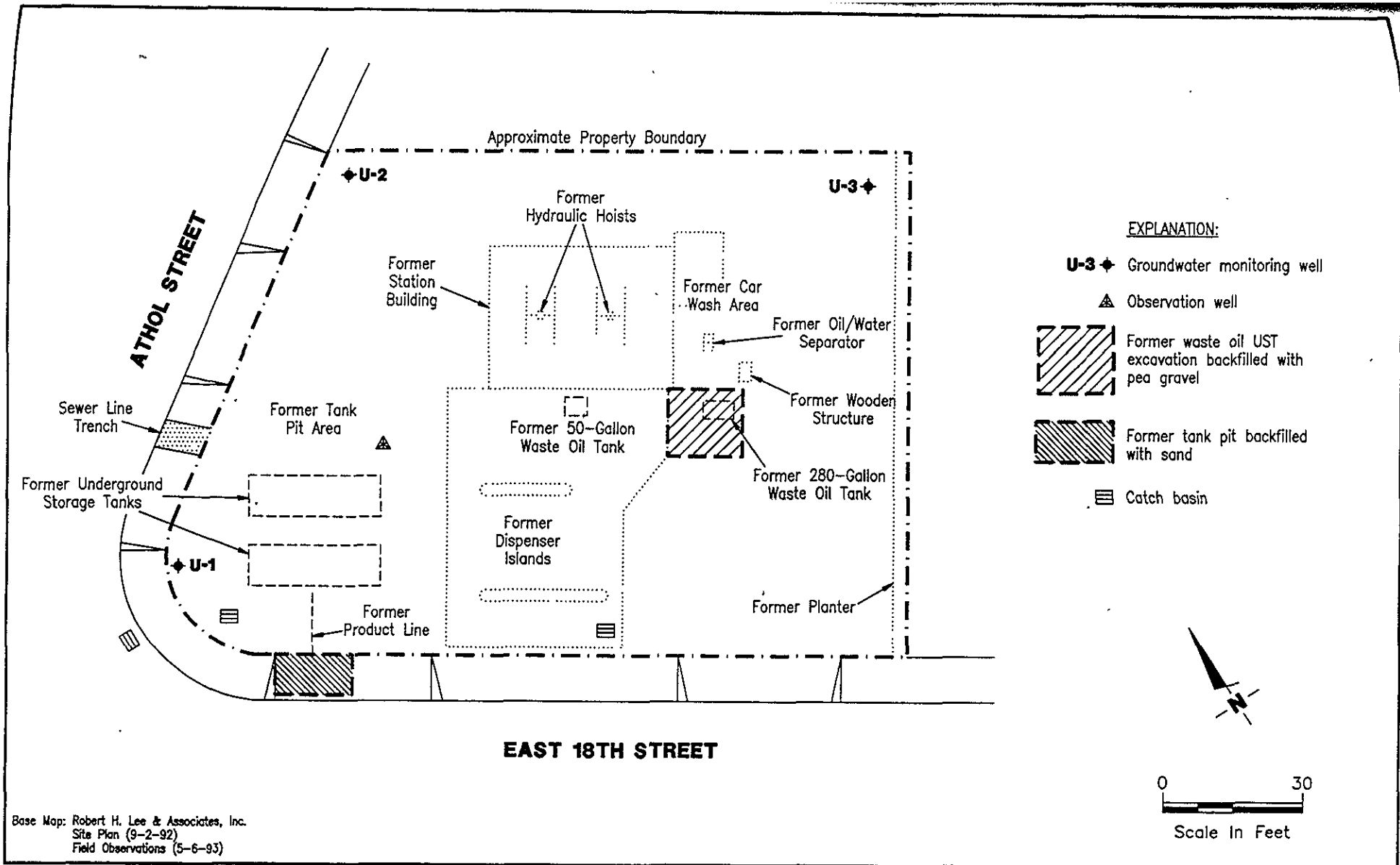
- ▲ Observation well
- ◆ Groundwater monitoring well

Base Map: Robert H. Lee & Associates, Inc.
 Site Plan (9-2-92)
 Field observations (5-6-93)




GSI GeoStrategies Inc.

SITE PLAN
 UNOCAL Service Station #0064
 200 East 18th Street
 Oakland, California

PLATE
2



EXPLANATION:

- U-3** ◆ Groundwater monitoring well
- ▲ Observation well
-  Former waste oil UST excavation backfilled with pea gravel
-  Former tank pit backfilled with sand
-  Catch basin

Base Map: Robert H. Lee & Associates, Inc.
 Site Plan (9-2-92)
 Field Observations (5-6-93)



SITE PLAN
 Unocal Service Station No. 0064
 200 East 18th Street
 Oakland, California

FIGURE

3 2

JOB NUMBER
7877.03

REVIEWED BY

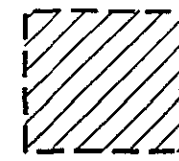


DATE
6/95

REVISION DATE

EXPLANATION:

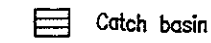
- U-3 Groundwater monitoring well
- Observation well



Former waste oil UST excavation backfilled with pea gravel



Former tank pit backfilled with sand



Catch basin



Excavation limit

(180/980/3,500)
Concentration of TPHg/TPHd/O&G in soil samples measured in parts per million

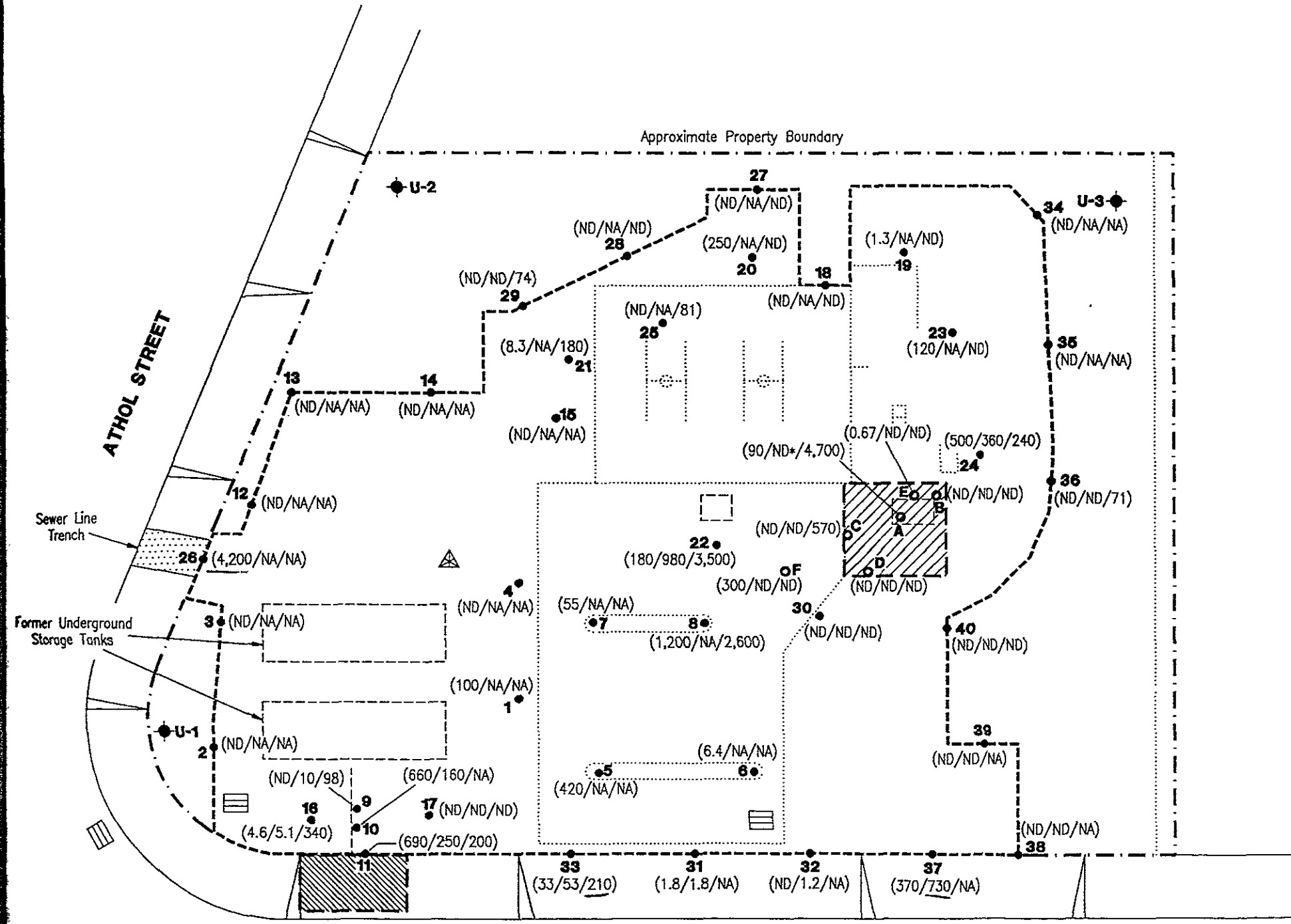
ND Not detected

NA Not analyzed

* Method detection limit for TPHd was increased to 250 ppm; 7,600 ppm TPHd was detected in this sample.

- 40 Soil sample
- | | |
|--------------|---------------|
| 1: TP1-S-4 | 21: T13-S-4 |
| 2: TP2-S-4 | 22: T14-S-6 |
| 3: TP3-S-4 | 23: T15-S-6 |
| 4: TP4-S-8.5 | 24: T16-S-6 |
| 5: TR1-S-4 | 25: T17-S-5 |
| 6: TR2-S-4 | 26: T9-S-4 |
| 7: TR3-S-4 | 27: T18-S-6 |
| 8: TR4-S-5 | 28: T19-S-6 |
| 9: T7-S-8 | 29: T20-S-6 |
| 10: TR5-S-4 | 30: T21-S-6 |
| 11: T8-S-4.5 | 31: T22-S-4.5 |
| 12: T1-S-6 | 32: T23-S-4.5 |
| 13: T2-S-6 | 33: T24-S-4.5 |
| 14: T3-S-6 | 34: T25-S-6 |
| 15: T4-S-6 | 35: T26-S-5.5 |
| 16: T5-S-6 | 36: T27-S-6 |
| 17: T6-S-6 | 37: T28-S-4.5 |
| 18: T10-S-6 | 38: T29-S-6 |
| 19: T11-S-6 | 39: T30-S-6 |
| 20: T12-S-6 | 40: T31-S-4.5 |

- Fo Soil sample collected in April 1993
- | | |
|---------|---------|
| A: UW-1 | D: UX-4 |
| B: UW-2 | E: JX-5 |
| C: UX-3 | F: UT-1 |



problems (into left in place)

11

19

36

23

24

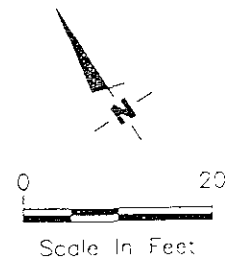
25

26

27

28

(TPHg/TPHd/O&G)



EXPLANATION:

U-3 ● Groundwater monitoring well

▲ Observation well

Former waste oil UST excavation backfilled with pea gravel

Former tank pit backfilled with sand

Catch basin

40 ● Soil sample

- | | |
|--------------|---------------|
| 1: TP1-S-4 | 21: T13-S-4 |
| 2: TP2-S-4 | 22: T14-S-6 |
| 3: TP3-S-4 | 23: T15-S-6 |
| 4: TP4-S-8.5 | 24: T16-S-6 |
| 5: TR1-S-4 | 25: T17-S-5 |
| 6: TR2-S-4 | 26: T9-S-4 |
| 7: TR3-S-4 | 27: T18-S-6 |
| 8: TR4-S-5 | 28: T19-S-6 |
| 9: T7-S-8 | 29: T20-S-6 |
| 10: TR5-S-4 | 30: T21-S-6 |
| 11: T8-S-4.5 | 31: T22-S-4.5 |
| 12: T1-S-6 | 32: T23-S-4.5 |
| 13: T2-S-6 | 33: T24-S-4.5 |
| 14: T3-S-6 | 34: T25-S-6 |
| 15: T4-S-6 | 35: T26-S-5.5 |
| 16: T5-S-6 | 36: T27-S-6 |
| 17: T6-S-6 | 37: T28-S-4.5 |
| 18: T10-S-6 | 38: T29-S-6 |
| 19: T11-S-6 | 39: T30-S-6 |
| 20: T12-S-6 | 40: T31-S-4.5 |

FO Soil sample collected in April 1993

- | | |
|---------|---------|
| A: UW-1 | D: UX-4 |
| B: UW-2 | E: UX-5 |
| C: UX-3 | F: UT-1 |

Gasoline UST excavation (March 16, 1995)

Product line and dispenser excavation (March 20, 1995)

Former tank pit area excavation (April 3, 1995)

Former product line area excavation (April 3, 1995)

Station building and former car wash area excavation (April 1, 1995)

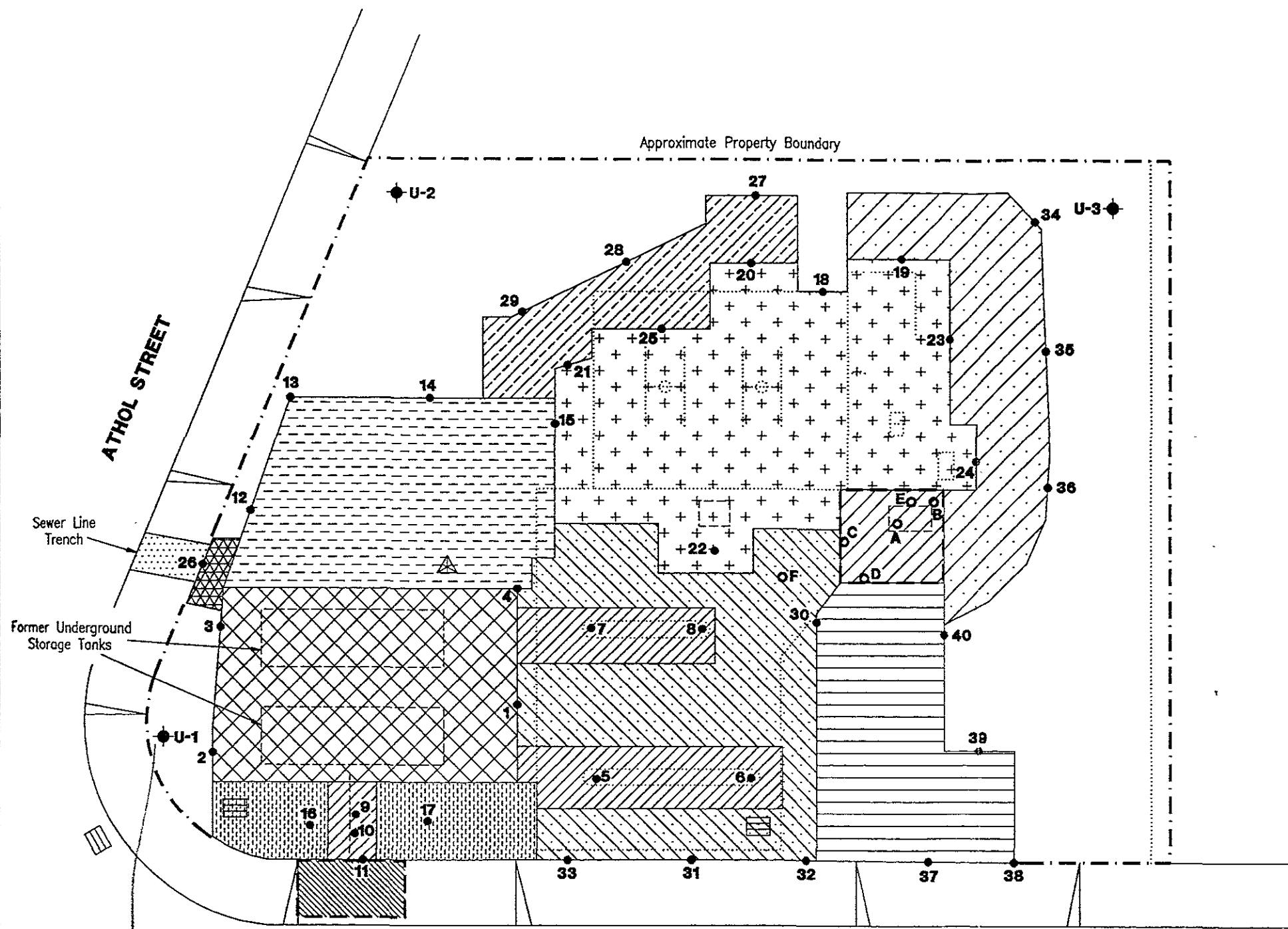
Sewer line trench area excavation (April 14, 1995)

Excavation north of station building (April 24, 1995)

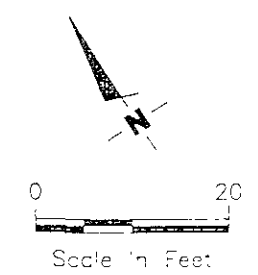
Dispenser island area excavation (April 26-27, 1995)

Excavation northeast of station building (May 3, 1995)

Former dispenser islands area excavation (May 4, 1995)



820 ppm Toluene
MD 02G
U1 lot 3 bags



Base Map Robert H. Lee & Associates, Inc.
Site Plan (9-2-92)
Field Observations (5-6-93)