ES ENGINEERING-SCIENCE

600 BANCROFT WAY • BERKELEY, CALIFORNIA 94710 • 415/548-7970

18 September 1987
Ref: NC049.03

Emeryville Bay Front Limited Partnership
c/o Ronald V. Schwartz, President
Benefit Capital Corporation
1330 Broadway, Suite 500
Oakland, California 94612

Subject: Underground Fuel Storage Tank Site Investigation near the Southeast Corner of the Warehouse Building, 1650 65th Street Property, Emeryville, California

INTRODUCTION

This report describes the implementation of the underground fuel storage tank site characterization plan submitted to Benefit Capital Corporation (BCC) by Engineering-Science (ES) in a letter proposal dated 25 June 1987. The scope of this work included observation of removal of the abandoned Underground Storage Tank (UST) by Cleveland Wrecking Company (CWC), soil sampling beneath the UST, and installation of a groundwater monitoring well if warranted by evidence of soil contamination.

SITE LOCATION AND HISTORY

The property, approximately 5.5 acres, is located in western Emeryville two blocks south of the Emeryville/Berkeley city boundary. Figure 1 is a site location map. Originally below sea level, the property was used as a municipal disposal site from the early 1940's to the late 1950's. Following construction of the existing warehouse in the mid-1950's, the property was leased to the supermarket company, Louis Stores, which used the warehouse as a distribution center. From 1973 to the present, the United States Post Office has occupied the warehouse, using it for storage and distribution of postal service equipment. Figure 2 is a site plan of the 1650 65th Street property.

The abandoned UST is located near the southeast corner of the warehouse building. It has an estimated 2,000 gallon capacity and was probably installed over 20 years ago. The tank initially contained gasoline and later stored waste oil.

TANK CLOSURE ACTIVITIES

CWC excavated the UST on 2 July 1987 and hauled it off-site. Figure 3 shows the excavation boundaries, tank and piping layout and soil sampling locations. A small volume of residual oily sludge was pumped from the tank prior to tank removal. Excavation began with removal of the vent and product line pipes; strong hydrocarbon odors emanated from soil removed from this area. A small amount of gasoline spilled from the product line piping during its removal. Excavation of the tank itself revealed no indication of contaminantion; the clayey soil and sandy fill excavated from around the tank exhibited no odor. Following completion of each excavation section, CWC immediately backfilled each excavated area with soil removed from that area. Documentation of the excavation in the form of copies of permits and shipping manifests has already been provided to BCC by Cleveland Wrecking Company. Photographic documentation of the excavation is presented in Appendix A.

The tank, vent pipe, product line and fittings were examined by ES personnel for signs of corrosion and holes. The tank, vent lines and product lines were in good condition and showed no signs of corrosion. The product line fittings were rusty, however.

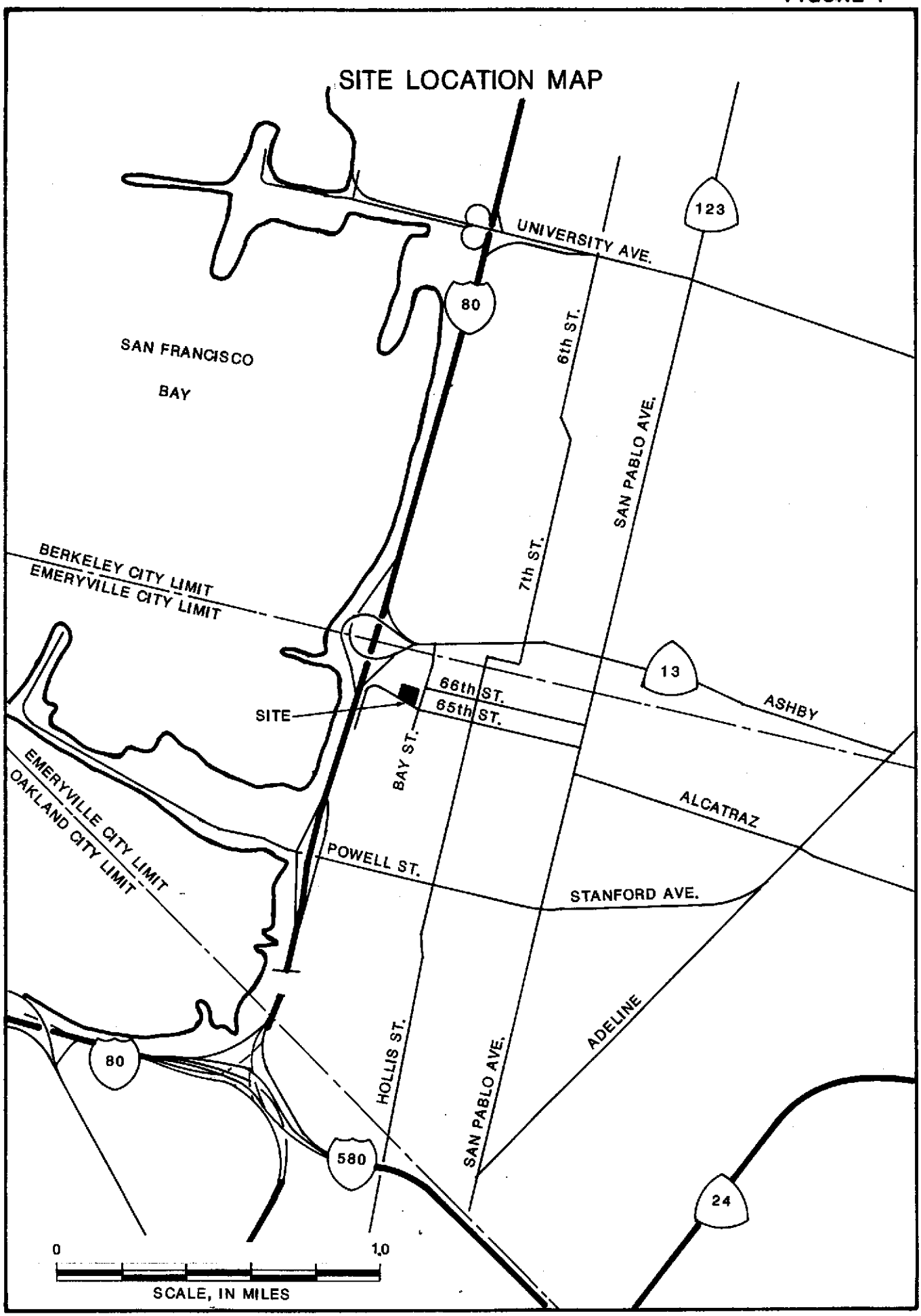
ES personnel collected three soil samples during the tank excavation: one from beneath the product line (FP-1) and one from beneath both the northern (N-1) and the southern (S-1) end of the tank. The samples, collected in 2-inch brass tubes, were analyzed for total fuel hydrocarbons (EPA Method 8015), aromatic volatile organics (EPA Method 8020) and for lead. Only sample FP-1, with 490 mg/kg total petroleum hydrocarbons, had a significant level of contamination. Analytical results are summarized in Table 1. Complete analytical results are presented in Appendix B. Chain of custody records are included in Appendix C.

GROUNDWATER MONITORING WELL INSTALLATION

Because the contaminant level in soil sample FP-1 exceeded the 100 ppm limit established by the Regional Water Quality Control Board (RWQCB), a groundwater monitoring well was installed to determine the effect of soil contamination on ground water quality. The well site, selected to be downgradient of the UST contaminant source, was located west of the UST excavation and north of the product line trench. This was near the area where Sample FP-1 was collected.

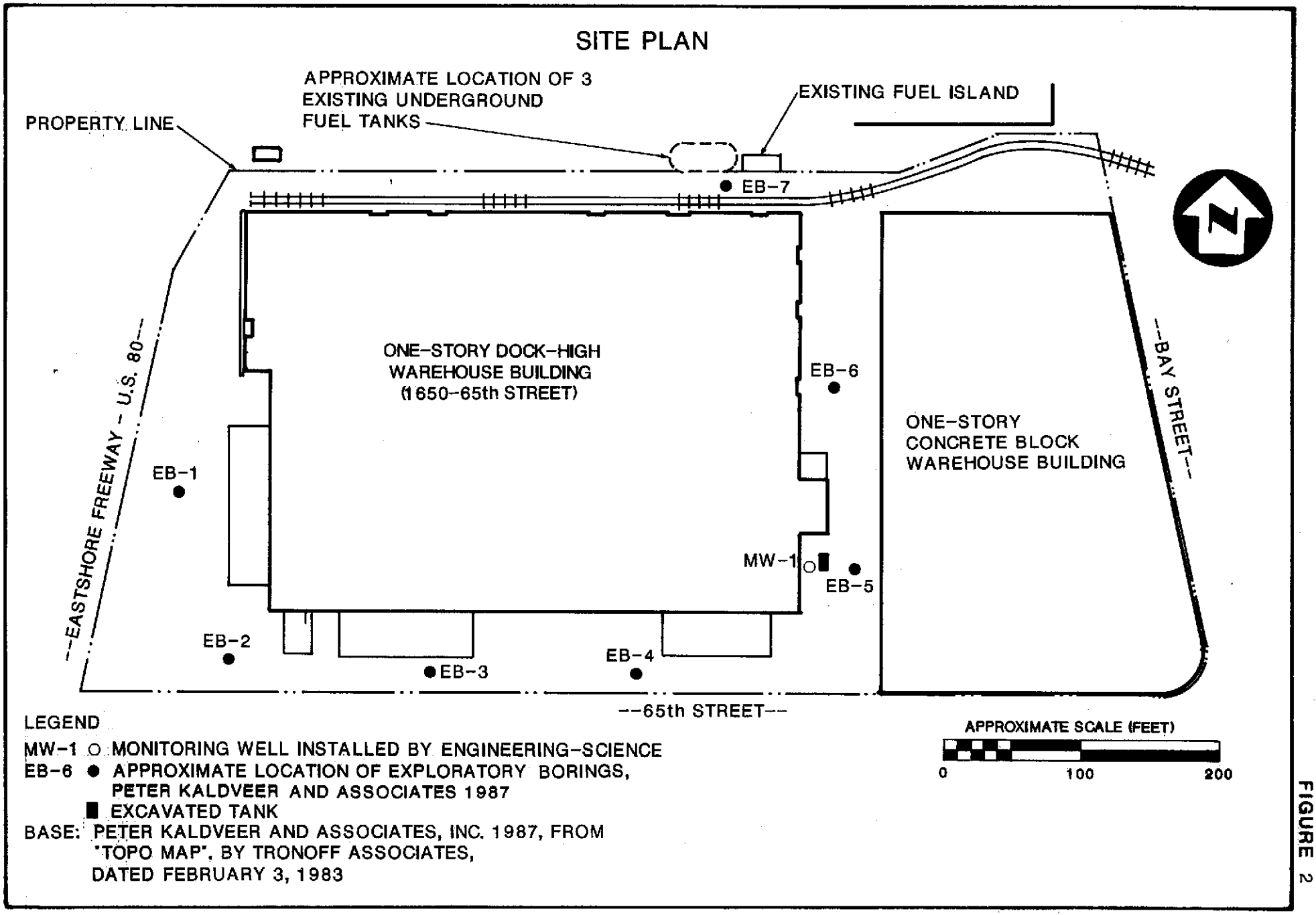
Well installation occurred on 27 July and began with drilling of a borehole roughly 3 feet west of the excavation. Metal scraps encountered 15 feet below ground surface caused drilling refusal and required abandonment of the initial borehole. A second borehole was drilled roughly three feet west of the initial borehole. This borehole was completed as the 30-foot deep monitoring well MW-1. Figure 3 shows the locations of the abandoned borehole and Monitoring Well MW-1.

FIGURE 1



ENGINEERING-SCIENCE

SITE PLAN



LEGEND

MW-1 ○ MONITORING WELL INSTALLED BY ENGINEERING-SCIENCE

EB-6 ● APPROXIMATE LOCATION OF EXPLORATORY BORINGS, PETER KALDVEER AND ASSOCIATES 1987

■ EXCAVATED TANK

BASE: PETER KALDVEER AND ASSOCIATES, INC. 1987, FROM "TOPO MAP", BY TRONOFF ASSOCIATES, DATED FEBRUARY 3, 1983

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FIGURE 2

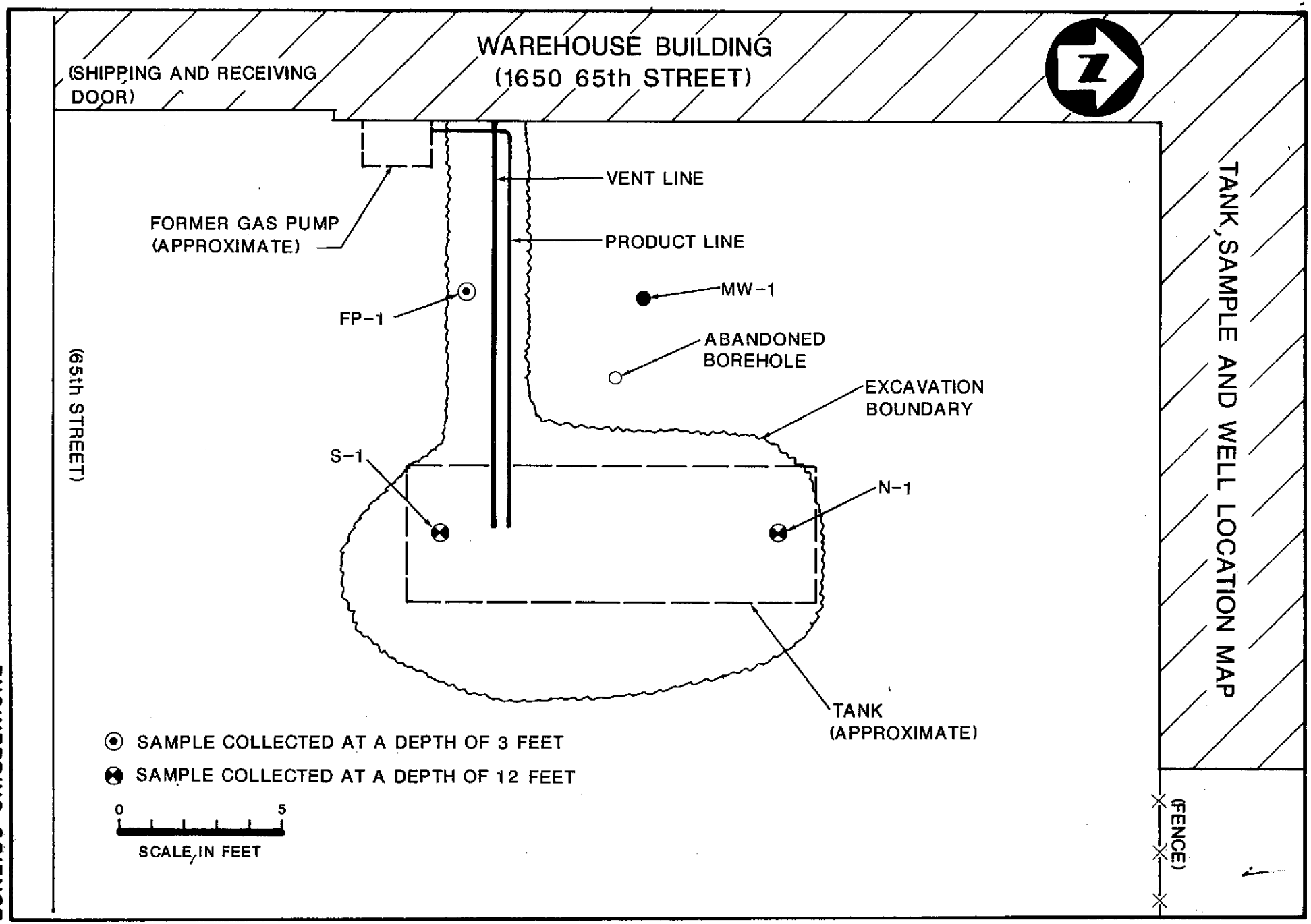
WAREHOUSE BUILDING
(1650 65th STREET)
(SHIPPING AND RECEIVING DOOR)
VENT LINE
PRODUCT LINE
FORMER GAS PUMP (APPROXIMATE)
MW-1
FP-1
ABANDONED BOREHOLE
EXCAVATION BOUNDARY
(65th STREET)
S-1
N-1
TANK (APPROXIMATE)
SAMPLE COLLECTED AT A DEPTH OF 3 FEET
SAMPLE COLLECTED AT A DEPTH OF 12 FEET
0
5
SCALE, IN FEET
TANK, SAMPLE AND WELL LOCATION MAP
(FENCE)
ENGINEERING-SCIENCE

FIGURE 3

TABLE 1

SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS

Sample I.D.	Matrix	Analysis			
		Total Fuel Hydrocarbons	EPA Method 8020		
			Toluene (ppm)	Xylene (ppm)	Lead (mg/kg, dry)
N-1	Soil	<.01 ppm	<.03	<.04	5
S-1	Soil	<.01 ppm	<.03	<.04	4.8
FP-1	Soil	[redacted]	0.90	23	[redacted]
MW-5	Soil	[redacted]	NA	NA	NA
MW-10	Soil	[redacted]	NA	NA	NA
MW-1	Water	[redacted]	NA	NA	NA

NA - not analyzed.

Hydrocarbon odors were detected in both borings. The strongest hydrocarbon odors detected during drilling of Monitoring Well MW-1 were in soil cuttings from 13 to 16 feet below ground surface; a mild gasoline odor was detected in cuttings from 17 to 23 feet below ground surface. In the abandoned borehole, a strong gasoline odor was observed in saturated, sandy cuttings originating from 12 to 15 feet below ground surface. Geologic logs for both the abandoned borehole and Monitoring Well MW-1, along with construction details for MW-1, are presented in Appendix D.

During drilling of the initial borehole, two soil samples were collected by California modified split spoon sampler: one at at depth of 5 feet (MW-5) and one at a depth of 10 feet (MW-10). These samples were analyzed for total fuel hydrocarbons by EPA Method 8015. Results are summarized in Table 1. Complete analytical results are presented in Appendix B. Appendix C contains chain of custody records. No additional samples were collected during drilling of the borehole completed as the monitoring well, MW-1.

Monitoring Well MW-1 was sampled on 28 July 1987. The sample, MW-1, was collected with a quartz teflon bailer and analyzed by EPA Method 8015 for total fuel hydrocarbons. No free product was found floating on the groundwater surface on 28 July or on 17 August, when the site was visited again. However, both times the groundwater was yellow and had a strong gasoline odor. Groundwater level, measured on 17 August following a period of equilibration, was 12.27 feet below ground surface. The groundwater sample analytical results are summarized in Table 1 and presented in full in Appendix B. Sampling notes and chain of custody records are presented in Appendix C.

SOIL AND GROUNDWATER SAMPLING RESULTS

Analytical results of soil and water samples revealed moderate (>100 - <1,000 ppm) to high (>1,000 ppm) soil contamination west of the UST and low level (<100 ppm) contamination of ground water. The highest contamination in the soil, 6,600 ppm total petroleum hydrocarbons, was found 10 feet below ground surface (MW-10) while shallower samples ranged from 170 ppm (MW-5) to 490 (FP-1) ppm total fuel hydrocarbons. Analysis revealed 33 mg/l total fuel hydrocarbons in the groundwater. Conversations with laboratory chemists indicated that, for samples MW-5 and MW-10, gasoline was the major fuel hydrocarbon detected. Some long chain hydrocarbons, indicative of petroleum hydrocarbons such as oil, were also noted by the laboratory chemists; these were not included in the soil analysis results.

Because gasoline was the major hydrocarbon detected in the soil samples, contamination probably occurred as a result of gasoline leaking from the UST or as a result of gasoline spills. The lower concentration of MW-5 compared to MW-10 indicates that if spills rather than leaks caused contamination, the spills did not occur in the vicinity of the abandoned borehole where samples MW-5 and MW-10 were collected. If leaks were responsible for the contamination, they probably were in the product line

fittings since no corrosion or holes were observed on the tank itself. It is unlikely that an UST other than the one excavated could be responsible for the hydrocarbon contamination. The closest known UST is north of the site, near EB-7 (Figure 2); this UST is too far away to explain the high levels of contamination in the soil relative to those in the groundwater. If the UST near EB-7 were the origin of contaminants detected in monitoring well MW-1, high contaminant concentrations in the water relative to the soil would be expected.

The remediation for the site depends upon the extent of contamination. The RWQCB guidelines require excavation of soil containing greater than 1000 ppm total petroleum hydrocarbons and quarterly sampling of UST monitoring wells. In addition, a site having greater that 1000 ppm hydrocarbons must be ranked to determine the need for additional remediation procedures. An Unauthorized Release Contamination Report detailing contaminant concentrations, sent to the County of Alameda Environmental Health Services Hazardous Materials Management Program and to the RWQCB, is included in Appendix D.

The extent of the soil containing greater than 1000 ppm cannot be determined from contamination characterization done to date. High levels of contamination extend west of the UST at least as far as the abandoned borehole from which the samples were collected. Previous site investigations (Reference 1) detected total petroluem hydrocarbons at a level of 200 ppm east of the excavation (soil boring EB-5, Figure 2). This suggests that moderate levels of contamination originating from the UST have migrated eastward despite the absence of petroleum hydrocarbons in the samples collected from below the UST or that gasoline spills may have occurred east of the excavation.

CONCLUSIONS

- One underground storage tank and associated vent and product pipes were removed from the vicinity of the southeast corner of the warehouse building. The tank and piping were in good shape; the product line fittings were rusty.

- Hydrocarbon odors were detected in soils excavated from around the product line. A soil sample from this area had 490 ppm total petroleum hydrocarbons. Soil and samples from the main excavation were clean.

- Soil samples were collected from a 15 foot borehole situated west of the tank excavation. The soil sample taken at a depth of 5 feet revealed moderate levels of hydrocarbon contamination. The soil sample collected at 10 feet contained hydrocarbons at 6,600 mg/kg; this exceeds the 1,000 ppm total petroleum hydrocarbons limit established in the Regional Water Quality Control Board UST guidelines and the Alameda County Environmental Health Department. Soil with contamination exceeding this limit requires excavation for treatment or disposal to a Class 1 landfill.

- A 30-foot monitoring well, MW-1, was installed west of the tank excavation. A groundwater sample from this well contained 33 mg/l hydrocarbons.

Previous site investigations indicate that moderate level hydrocarbon contamination, probably originating from the [redacted] of the excavation area.

RECOMMENDATIONS

- Soil sampling to define extent of soil containing greater than 1000 ppm total petroleum hydrocarbons
- Excavation and disposal of the contaminated soil to a Class I hazardous waste landfill by a State of California Certified Hazardous Waste Hauler and/or treatment of the contaminated soil by aeration/ bacterial degradation enhancement.
- Ranking of site to determine additional remedial actions required by the RWQCB
- Quarterly sampling of the groundwater monitoring well for a period of one year (three more quarterly samplings) to determine seasonal fluctuation of groundwater contamination, if any.

It has been a pleasure to provide Benefit Capital Corporation with the requested services. Should you have any questions, please call.

Very truly yours,

Katherine A. Chesick
Project Geohydrologist

Dan B. McCullar
Senior Geohydrologist

Richard S. Makdisi
Project Manager

dkm/337.23
cc: Mark Sher/Dan Norse, Wareham Development
Lee Eisner, Wareham Development
Ted Gerow, Alameda County Environmental Health Department
Greg Zentner, RWQCB

REFERENCES

1. Peter Kaldveer and Associates, Inc., 1987, Site Characterization and Preliminary Soil Testing 1650 65th Street Warehouse Emeryville, California.

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION OF THE UST EXCAVATION

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Client BCC | Job No. NC049.00 | Sheet 1 of 3

Subject UST DEMOLITION/ SITE CHARACTERIZATION | By RSM | Date 8/13/87 | Checked | Rev.

PHOTO 1: General view of UST intake and preparation of dry ice installation.

PHOTO 2: Dry ice installation into UST.

PHOTO 3: Upending of tank in excavation:
Some breakage of tank occurred during removal.

PHOTO 4: Close-up of rupture created during removal.

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Client BCC | Job No. NC049.00 | Sheet 3 of 3

Subject UST DEMOLITION/ SITE CHARACTERIZATION | By RSM | Date 8/13/87

Checked | Rev.

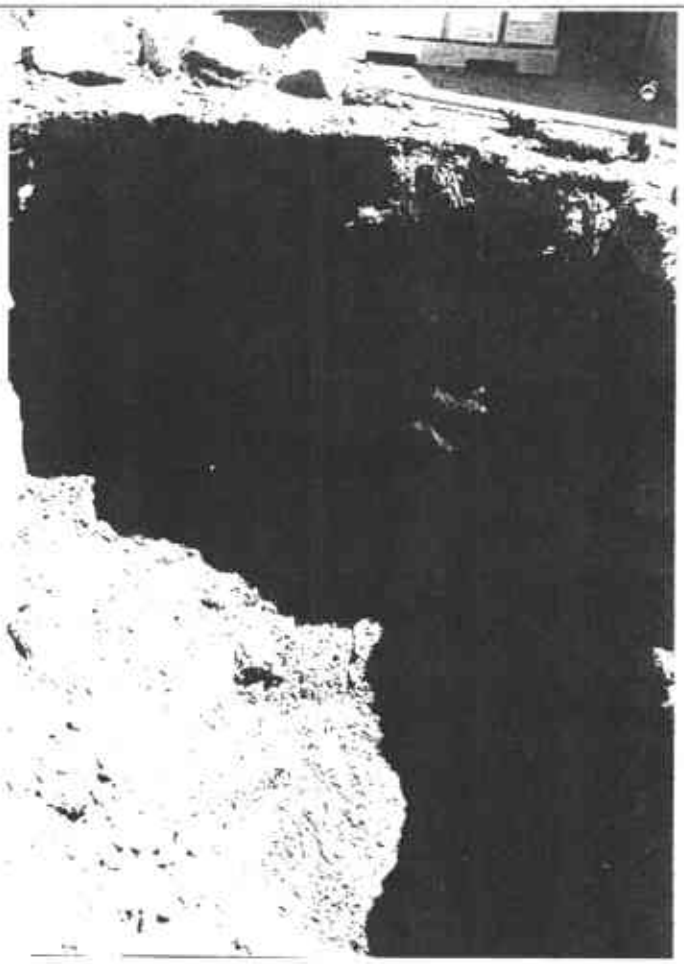

PHOTO 5: Excavation after UST removal.

PHOTO 6: UST showing area of rupture near vent pipes created during UST removal.

TMA
Thermo Analytical Inc.

TMA/Norcal
2030 Wright Avenue
Richmond, CA 94804-0040
(415) 235-2633

July 20, 1987

Engineering Science
600 Bancroft Way
Berkeley, CA 94710

Attention: Mr. Wang

Dear Mr. Wang:

Please find enclosed the analytical report for fuel analysis from our Los Angeles based laboratory, TMA/ARLI. TMA/ARLI is certified by the State of California for hazardous waste testing by Gas Chromatography. TMA/Norcal is certified in many of the other categories including inorganics, GC/MS and pesticides. Completion of our certification for fuel and general GC should be quite soon.

The results for lead analysis and percent moisture are as follows:

Sample Identification Client	TMA/Norcal	Lead mg/kg dry	Moisture %
N-1	2226-40-2	5.0	11.0
S-1	2226-40-4	4.8	1.7
FP-1	2226-40-6	36	7.53

Please contact me if you have any questions regarding this report.

Sincerely,

Mary Janney
Program Manager

MJ/dss

Enclosure

TMA Inc. REPORT Work Order # 87-07-003

Received: 07/06/87 07/15/87 11:43:33

REPORT TO: TMA/NORCAL
2030 Wright Ave
Richmond, CA 94804

ATTEN: Sample Control

CLIENT: TMA NORCAL SAMPLES: 3
COMPANY: TMA/NORCAL
FACILITY:

WORK ID: Project No. 2226-40
TAKEN: By Unknown
TRANS: By Federal Express
TYPE: Soils
P. O. #: 6463
INVOICE: under separate cover

PREPARED BY: Thermo Analytical, Inc.
160 Taylor Street
Monrovia, CA 91016

ATTEN:
PHONE: 818-357-3247

CERTIFIED BY

CONTACT: JSC

This report is for the sole and exclusive use of the client to whom it is addressed. Samples not destroyed in testing are retained a maximum of thirty (30) days unless otherwise requested.

Data Reported by Telecon 7/9/87

SAMPLE IDENTIFICATION

01 N-1
02 S-1
03 FP-1

TEST CODES and NAMES used on this report

8015M Fuels-Total Hydrocarbons
8020 Aromatic Volatile Organics

Received: 07/06/87 Results by Sample

SAMPLE ID N-1 FRACTION Q1A TEST CODE 8015M NAME Fuels-Total Hydrocarbons
Date & Time Collected not specified Category

MODIFIED 8015 - FUEL HYDROCARBONS

COMPOUND	RESULT	DET LIMIT
C5 - C12 Hydrocarbons	ND	0.1
C10 - C16 Hydrocarbons	ND	0.1
C9 - C22 Hydrocarbons	ND	0.1
C9 - C14 Hydrocarbons	ND	0.1

ANALYST YY
DATE INJECTED 07/07/87
DILUTION FACTOR 1.00
VERIFIED JSC

NOTE: All results reported in ppm unless otherwise specified
ND = Not detected at the specified limits

Received: 07/06/87 Results by Sample

SAMPLE ID N-1 FRACTION 01A TEST CODE 8020 NAME Aromatic Volatile Organics
Date & Time Collected not specified Category

8020 AROMATIC VOLATILE ORGANICS

COMPOUND	RESULT	DET LIMIT
Benzene	ND	0.03
Chlorobenzene	ND	0.03
1,2-Dichlorobenzene	ND	0.04
1,3-Dichlorobenzene	ND	0.04
1,4-Dichlorobenzene	ND	0.04
Ethylbenzene	ND	0.04
Toluene	ND	0.03
Xylenes (Dimethylbenzenes)	ND	0.04

ANALYST MLH
DATE INJECTD 07/07/87
DILUTION FACTOR 1.00
VERIFIED JSC

NOTE: All results reported in ppm unless otherwise specified
ND = Not detected at the specified limits

Received: 07/06/87 Results by Sample

SAMPLE ID S-1 FRACTION 02A TEST CODE 8015M NAME Fuels-Total Hydrocarbons
Date & Time Collected not specified Category

MODIFIED 8015 - FUEL HYDROCARBONS

COMPOUND	RESULT	DET LIMIT
C5 - C12 Hydrocarbons	ND	0.1
C10 - C16 Hydrocarbons	ND	0.1
C9 - C22 Hydrocarbons	ND	0.1
C9 - C14 Hydrocarbons	ND	0.1

ANALYST YY
DATE INJECTED 07/07/87
DILUTION FACTOR 1.00
VERIFIED JSC

NOTE: All results reported in ppm unless otherwise specified
ND = Not detected at the specified limits

Received: 07/06/87 Results by Sample

SAMPLE ID S-1 FRACTION 02A TEST CODE 8020 NAME Aromatic Volatile Organics
Date & Time Collected not specified Category

8020 AROMATIC VOLATILE ORGANICS

COMPOUND	RESULT	DET LIMIT
Benzene	ND	0.03
Chlorobenzene	ND	0.03
1,2-Dichlorobenzene	ND	0.04
1,3-Dichlorobenzene	ND	0.04
1,4-Dichlorobenzene	ND	0.04
Ethylbenzene	ND	0.04
Toluene	ND	0.03
Xylenes (Dimethylbenzenes)	ND	0.04

ANALYST MLH
DATE INJECTD 07/07/87
DILUTION FACTOR 1.00
VERIFIED JSC

NOTE: All results reported in ppm unless otherwise specified
ND = Not detected at the specified limits

SAMPLE ID FP-1 FRACTION 03A TEST CODE 8015M NAME Fuels-Total Hydrocarbons
Date & Time Collected not specified Category

MODIFIED 8015 - FUEL HYDROCARBONS

COMPOUND	RESULT	DET LIMIT
C5 - C12 Hydrocarbons	ND	0.1
C10 - C16 Hydrocarbons	ND	0.1
C9 - C22 Hydrocarbons	ND	0.1
C9 - C14 Hydrocarbons	490.	0.1

ANALYST YY
DATE INJECTED 07/07/87
DILUTION FACTOR 1.00
VERIFIED JSC

NOTE: All results reported in ppm unless otherwise specified
ND = Not detected at the specified limits

Received: 07/06/87 Results by Sample

SAMPLE ID FP-1 FRACTION 03A TEST CODE 8020 NAME Aromatic Volatile Organics
Date & Time Collected not specified Category

8020 AROMATIC VOLATILE ORGANICS

COMPOUND	RESULT	DET LIMIT
Benzene	ND	1.0
Chlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.1
1,3-Dichlorobenzene	ND	1.1
1,4-Dichlorobenzene	ND	1.1
Ethylbenzene	ND	1.1
Toluene	0.90	0.90
Xylenes (Dimethylbenzenes)	23.	1.1

ANALYST MLH
DATE INJECTD 07/07/87
DILUTION FACTOR 1.00
VERIFIED JSC

NOTE: All results reported in ppm unless otherwise specified
ND = Not detected at the specified limits

TMA/NORCAL

Three soil samples from project 2226-40 were submitted for analysis on a rush basis. The soils were extracted and analyzed for fuel hydrocarbons by the modified 8015 method, and also for aromatic 8020 compounds. The sample labled "FP-1" was found to contain approximately 490 ppm of a C9 - C14 petroleum hydrocarbon - possibly Stoddard's Solvent. This solvent was used for the quantitation. The sample was also found to contain xylene iomers, which was confirmed by GC/MS. The results are attached.

BROWN AND CALDWELL LABORATORIES

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

ANALYTICAL REPORT

LOG NO: E87-07-508

Received: 27 JUL 87
Reported: 30 JUL 87

Ms. Katherine Chesick
Engineering Science
600 Bancroft Way
Berkeley, California 94710

Project: NG049

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
07-508-1	MW-5', 1650 65th Street	27 JUL 87
07-508-2	MW-10', 1650 65th Street	27 JUL 87

PARAMETER	07-508-1	07-508-2
Total Fuel Hydrocarbons, mg/kg	170	6600

D. A. McLean, Laboratory Director

BROWN AND CALDWELL LABORATORIES

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

ANALYTICAL REPORT

LOG NO: E87-07-520

Received: 28 JUL 87
Reported: 30 JUL 87

Ms. Kathleen Chesick
Engineering Science
600 Bancroft Way
Berkeley, California 94710

Project: N0049.02

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
07-520-1	MW-1	28 JUL 87

PARAMETER	07-520-1
Total Fuel Hydrocarbons, mg/L	33

D. A. McLean, Laboratory Director

GROUNDWATER SAMPLING FIELD NOTES

Benefit Capital Corp.
1650 65th Street
Emeryville, CA

PROJECT/LOCATION

PROJ. NO. NC049 DATE 28 July 1987

WELL ID	SAMPLE DATE, TIME AND SAMPLER	WATER LEVEL BEFORE *, WELL DIAMETER AND DEPTH	WATER LEVEL AFTER *	GALLONS PER CASING VOLUME WELL PURGING METHOD **	PUMP ON	PUMP OFF	FLOW RATE / GALLONS PURGED	TEMPERATURE °C	SPECIFIC CONDUCTIVITY (UMHOS / CM)	pH	TOTAL WATER PURGED (GALLONS)	SAMPLE COLLECTION METHOD **	ANALYSIS AND PRESERVATIVE NO. AND TYPE OF CONTAINERS	COMMENTS (SAMPLE TURBIDITY, SAMPLE ODOR, WEATHER CONDITIONS, ETC.)
MW-1	28 July 87 10:54 W. Hauck	12.09 2" diam. 30 ft.	13.04	2.9	B							10.0	B	GC/ FID Total Pet. Hydro.	2 40 ml VOA	No free product observed on water surface; purged water initially yellow. Sample very turbid w/ strong gas odor.

* WATER LEVEL FROM GROUND SURFACE, IN FEET

**WW-WELL WIZARD; G-GRUNDFOS PUMP; B-BAILER

WATER LEVEL DATA

PERSONNEL *K. Chesick*

PROJECT/LOCATION *1650 65th Street*

PROJ. NO. *NC049* DATE *8/17/87*

WELL NO.	DEPTH TO T. O. C. [1]	WATER LEVEL FROM T.O.C.	WATER LEVEL FROM GROUND SURFACE	MEASURED WELL DEPTH	GALLONS/ LINEAR CASING FT. [2]	GALLONS/ CASING VOLUME [3]	WELL ELEVATION (USGS)	WATER LEVEL ELEVATION (USGS)	
MW-1	0.19	12.08	12.27	27.97	0.16	2.51			

1. RELATIVE TO GROUND SURFACE; BY CONVENTION, T.O.C. ABOVE GROUND SURFACE HAVE NEGATIVE DEPTHS, THOSE BELOW HAVE POSITIVE DEPTHS
2. TO DETERMINE NUMBER OF GALLONS PER CASING VOLUME, ASSUME: FOR 2" ID CASING, 0.16 GALLONS PER LINEAR CASING FOOT; FOR 4" ID CASING, 0.65 GALLONS PER LINEAR CASING FOOT; FOR 6" ID CASING, 1.47 GALLONS PER LINEAR CASING FOOT.
3. GALLONS PER CASING VOLUME=[(MEASURED WELL DEPTH)-(WATER LEVEL FROM GROUND SURFACE)]x(GALLONS PER LINEAR CASING FT.)

ENGINEERING-SCIENCE, INC.

CHAIN OF CUSTODY RECORD

Proj. No.	Project Name
NC 0049.02	Emeryville Bay Front Partnership

SAMPLERS (Signature): Isabel Wong

STA. NO.	DATE	TIME	STATION LOCATION	NO. OF CONTAINERS	Aromatics (BTX) EPA 8020	Total Petroleum Hydrocarbons	Metal → Lead (Pb)	REMARKS
N-1/2	7/2	1235	N-bed	2	X	X	X	10K turnaround 270
S-1	7/2	1235	S-bed	1	X	X	X	~~24 hour turnaround~~
FP-1/2	7/2	1040	~~FP~~ F.P. pipe/product line	2	X	X	X	

verbal results to
Richard Makdisi
415-548-7970

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Isabel Wong	7/2/87 1610				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	
		Debbie Fisher	7/2/87 16:10		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

ENGINEERING - SCIENCE, INC.
CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT:	PROJECT MANAGER:	PROJ. NO.:
ENGINEERING-SCIENCE, INC. BERKELEY	K. Chesick	NC049.02

PROJECT NAME / LOCATION: B.C.C. 1650 65th St.

SAMPLER(S): (SIGNATURE) K. Chesick

SAMPLE ID	DATE	TIME	MATRIX	SAMPLE LOCATION	NO. OF CONTAINERS	ANALYSES REQUIRED: GC/FID Total Petroleum Hydrocarbons	PRESERVED	TO BE COMPOSITED BY LAB	REMARKS
MW-5'	7/27/87	9:50	Soil	1650 65th St.	1	✓			Brass tubes ? 24 hr
MW-10'	7/27/87	10:20	Soil	"	1	✓			Brass tubes] turnaround

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)
Katherine Chesick	7/27/87 15:04	Edward Kwong			

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE/TIME	REMARKS
				24 hr turnaround

DISTRIBUTION: ORIGINAL ACCOMPANIES SHIPMENT; COPY TO COORDINATOR FIELD FILES

ENGINEERING – SCIENCE, INC.
CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT:	PROJECT MANAGER:	PROJ. NO.:
ENGINEERING-SCIENCE, INC. BERKELEY	K. Chesick	NC049.02

PROJECT NAME / LOCATION: 1650 65th St. Emeryville

SAMPLER(S): (SIGNATURE)

SAMPLE ID	DATE	TIME	MATRIX	SAMPLE LOCATION	NO. OF CONTAINERS	ANALYSES REQUIRED: GC/FID Total Petroleum Hydrocarbons	PRESERVED	TO BE COMPOSITED BY LAB	REMARKS
MW-1	7/28/87	10:54	H20		2	✓			24 hr turnaround

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)	RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED BY: (SIGNATURE)
Wayne Hauer	7-28-87 11:20	E. Kwong			

RELINQUISHED BY: (SIGNATURE)	DATE/TIME	RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE/TIME	REMARKS
				24 hr turnaround

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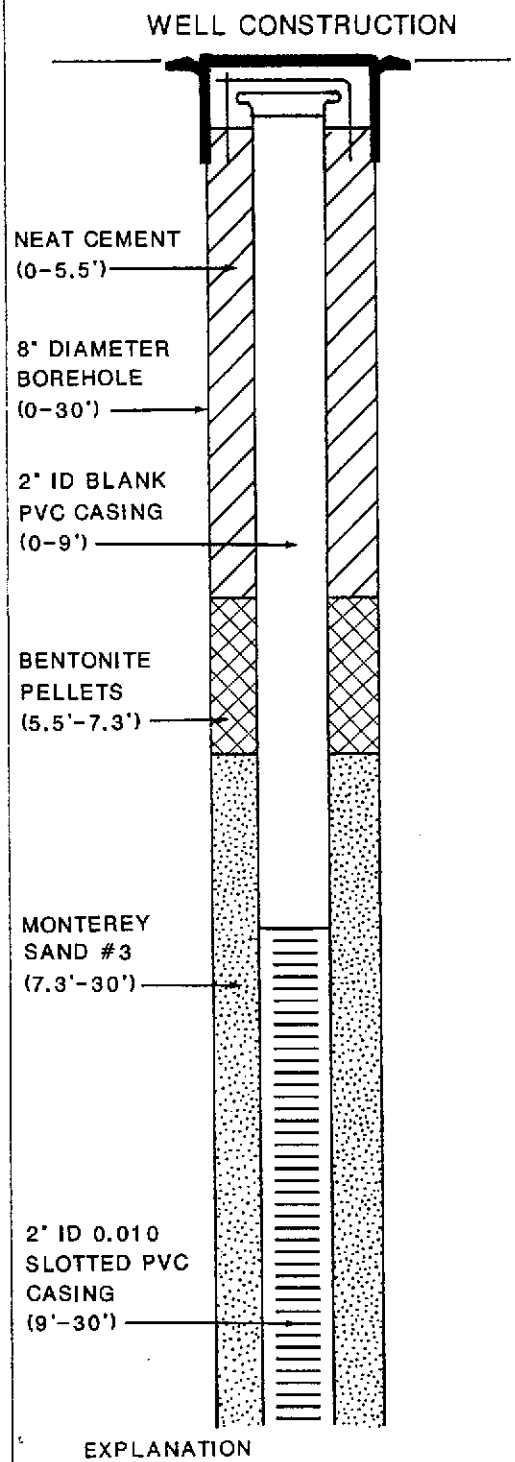
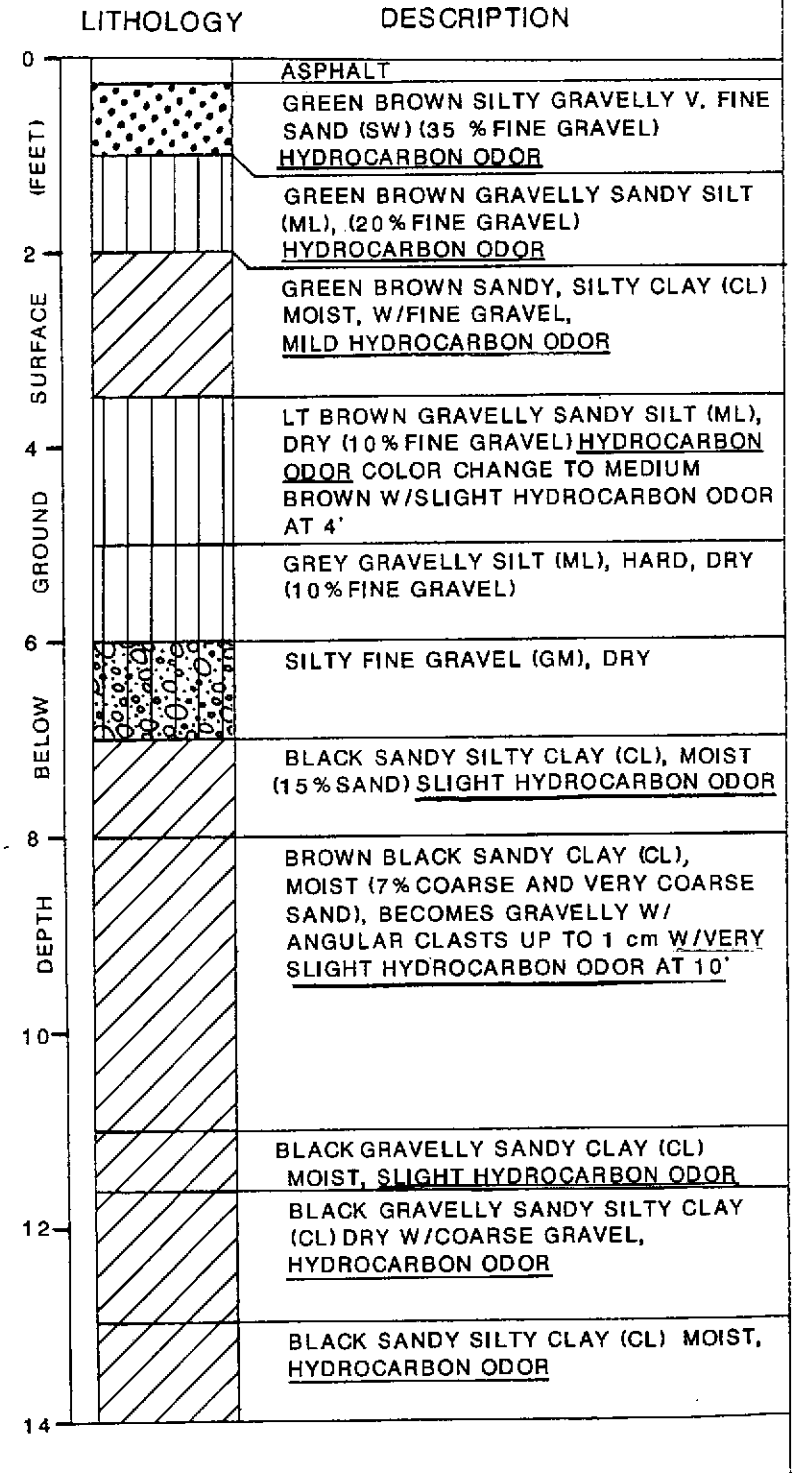
CLIENT BENEFIT CAPITAL CORPORATION
1650 65th STREET
LOCATION EMERYVILLE, CALIFORNIA
DATE 27 JULY 1987
GEOLOGIST K. CHESICK

TEST HOLE NUMBER MW-1
DRILLER AQUA SCIENCE ENGINEERS, INC.
DRILLING METHOD HOLLOW STEM AUGER
HOLE DIAMETER 8-INCH





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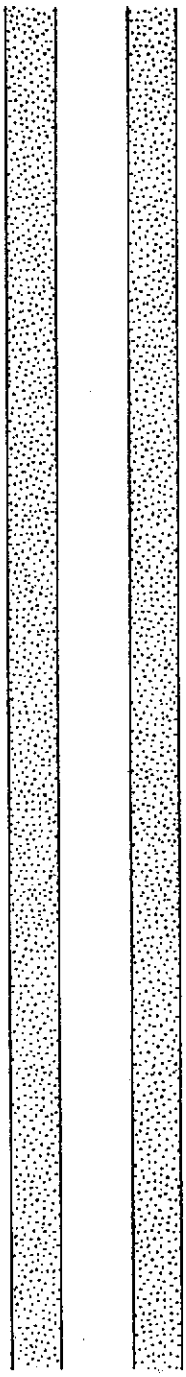
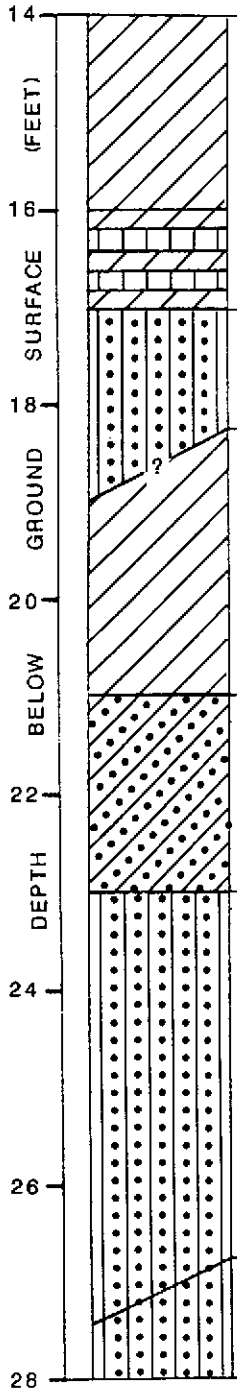
WELL CONSTRUCTION



LITHOLOGY



DESCRIPTION

AS ABOVE W/BROWN GREEN SANDY SILTSTONE

BLACK FINE GRAVELLY MED. COARSE SILTY SAND (SM), SATURATED, MILD GASOLINE ODOR

BLACK SANDY CLAY (CL)

BLACK CLAYEY SAND (SC)

BLACK CLAYEY SILTY SAND (SM) HYDROCARBON ODOR, COMES UP AS STIFF SLURRY

BLACK SILTY SAND (SM)

EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

CLIENT: BENEFIT CAPITAL CORPORATION

LOCATION: 1650 65th STREET EMERYVILLE, CALIFORNIA

DATE: 27 JULY 1987

GEOLOGIST: K. CHESICK

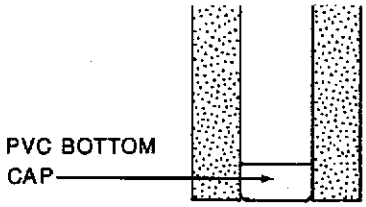
TEST HOLE NUMBER: MW-1

DRILLER: AQUA SCIENCE ENGINEERS INC.

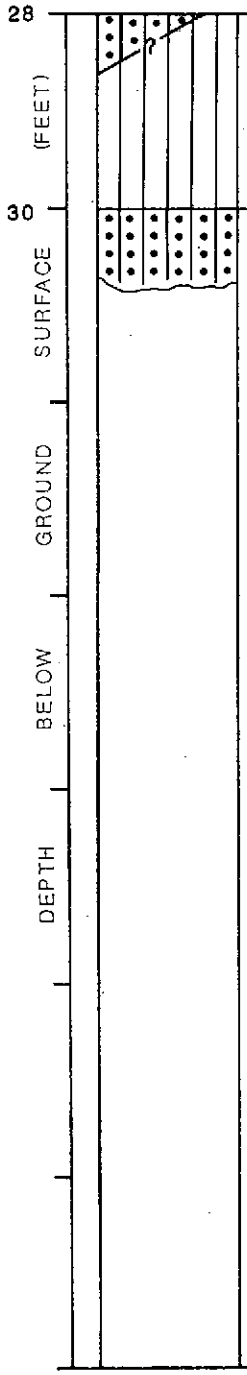
DRILLING METHOD: HOLLOW STEM AUGER

HOLE DIAMETER: 8-INCH

WELL CONSTRUCTION



LITHOLOGY



DESCRIPTION

LT ORANGE BROWN CLAYEY V. FINE SANDY SILT (ML), STIFFNESS INCREASES WITH DEPTH

BLACK SILTY MED. -COARSE SAND (SM), WELL SORTED

EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

CLIENT BENEFIT CAPITAL CORPORATION

LOCATION 1650 65th STREET EMERYVILLE, CALIFORNIA

DATE 27 JULY 1987

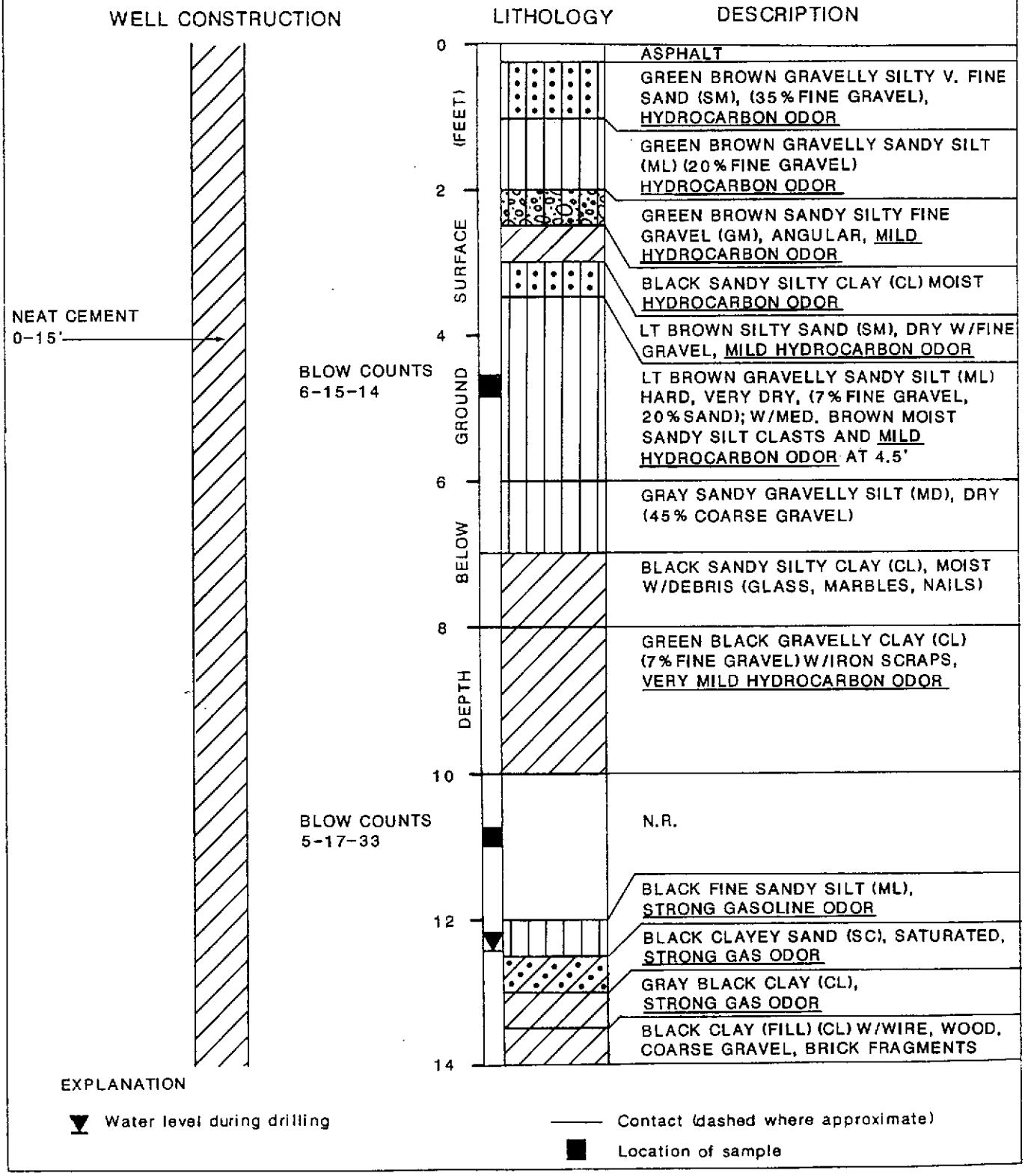
GEOLOGIST K. CHESICK

TEST HOLE NUMBER ABANDONED BOREHOLE

DRILLER AQUA SCIENCE ENGINEERS, INC.

DRILLING METHOD HOLLOW STEM AUGER

HOLE DIAMETER 8-INCH



CLIENT BENEFIT CAPITAL CORPORATION

LOCATION 1650 65th STREET EMERYVILLE, CALIFORNIA

DATE 27 JULY 1987

GEOLOGIST K. CHESICK

TEST HOLE NUMBER ABANDONED BOREHOLE

DRILLER AQUA SCIENCE ENGINEERS INC.

DRILLING METHOD HOLLOW STEM AUGER

HOLE DIAMETER 8-INCH

WELL CONSTRUCTION	DEPTH BELOW GROUND SURFACE (FEET)	LITHOLOGY	DESCRIPTION
	14		N.R.
BOTTOM OF BOREHOLE	16	BOTTOM OF BOREHOLE	BLACK SILTY SAND (SM), SATURATED, WELL SORTED, MED. GRAINED GASOLINE ODOR BOREHOLE ABANDONED DUE TO WIRE WRAPPED AROUND PLUG IN DRILL BIT

EXPLANATION

▼ Water level during drilling

——— Contact (dashed where approximate)

■ Location of sample

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☒ NO

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.
SIGNED _____ DATE _____

REPORT DATE: 08/07/87 CASE #:

REPORTED BY
NAME OF INDIVIDUAL FILING REPORT: RICHARD S MAKDISI PHONE: (415) 548-7970 SIGNATURE:
REPRESENTING ☐ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☒ OTHER CONSULTANT
COMPANY OR AGENCY NAME: ENGINEERING-SCIENCE INC.
ADDRESS: 600 BANCROFT WAY (STREET) BERKELEY (CITY) CA (STATE) 94710 (ZIP)

RESPONSIBLE PARTY
NAME ☒ UNKNOWN
CONTACT PERSON (PRESENT OWNER): RON SCHARTZ, B.C.C. INC. PHONE: (415) 834-1337
ADDRESS: 1330 BROADWAY, SUITE 500 (STREET) CITY OAKLAND STATE CA. ZIP 94612

SITE LOCATION
FACILITY NAME (IF APPLICABLE): OPERATOR: PHONE: ( )
ADDRESS: 1650 65TH STREET (STREET) EMERYVILLE (CITY) ALAMEDA (COUNTY) ZIP
CROSS STREET:
TYPE OF AREA ☐ COMMERCIAL ☒ INDUSTRIAL ☐ RURAL ☐ RESIDENTIAL ☐ OTHER
TYPE OF BUSINESS ☐ RETAIL FUEL STATION ☐ FARM ☒ OTHER POST OFFICE DEPO

IMPLEMENTING AGENCIES
LOCAL AGENCY: ALAMEDA COUNTY HEALTH CONTACT PERSON: TED GEROW PHONE: (415) 874-6434
REGIONAL BOARD: RWQCB CONTACT PERSON: GREGORY S ZENTNER PHONE: (415) 464-0840

SUBSTANCES INVOLVED
(1) NAME: DIESEL FUEL QUANTITY LOST (GALLONS): ☒ UNKNOWN
(2) GASLINE ☒ UNKNOWN

DISCOVERY/ABATEMENT
DATE DISCOVERED: 07/27/87 HOW DISCOVERED ☐ INVENTORY CONTROL ☒ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☒ TANK REMOVAL ☐ OTHER
DATE DISCHARGE BEGAN: ☒ UNKNOWN
HAS DISCHARGE BEEN STOPPED? ☒ YES ☐ NO IF YES, DATE ≈ 06/77
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY): ☐ REMOVE CONTENTS ☐ REPLACE TANK ☐ CLOSE TANK ☐ REPAIR TANK ☐ REPAIR PIPING ☐ CHANGE PROCEDURE ☐ OTHER

SOURCE/CAUSE
SOURCE OF DISCHARGE: ☐ TANK LEAK ☐ UNKNOWN ☒ PIPING LEAK ☐ OTHER
TANKS ONLY/CAPACITY: 2000 GAL. AGE >30 YRS ☐ UNKNOWN
MATERIAL: ☐ FIBERGLASS ☒ STEEL ☐ OTHER
CAUSE(S): ☐ OVERFILL ☐ RUPTURE/FAILURE ☒ CORROSION ☐ UNKNOWN ☐ SPILL ☐ OTHER

CASE TYPE
CHECK ONE ONLY: ☐ UNDETERMINED ☐ SOIL ONLY ☒ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS
CHECK ONE ONLY: ☒ SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) ☐ CLEANUP IN PROGRESS ☐ SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) ☐ NO ACTION TAKEN ☐ POST CLEANUP MONITORING IN PROGRESS ☐ NO FUNDS AVAILABLE TO PROCEED ☐ EVALUATING CLEANUP ALTERNATIVES

REMEDIAL ACTION
CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT)
☐ CONTAINMENT BARRIER (CB) ☐ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ TREATMENT AT HOOKUP (HU) ☐ NO ACTION REQUIRED (NA) ☒ OTHER (OT) BEING EVALUATED.

COMMENTS
GREATEST CONCENTRATION OF TOTAL PET. HYDROCARBONS IN SOIL SAMPLES WAS 6,600 ppm. GROUNDWATER CONCENTRATIONS AT 33 ng/l ... BTX levels < detection limit of 1 ppm.

HSC 25 (4-87)