GETTLER-RYAN INC.

TRANSMITTAL

OCT 01 2001

TO: Mr. Thomas Bauhs
Chevron Products Company
P.O. Box 6004
San Ramon, CA 95627

DATE: September 26, 2001
PROJ. #: DG90338B.3C01
SUBJECT: Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

FROM:
Geoffrey D. Risse
Staff Geologist
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Note 5427 Telegraph
S10 3160 = Telegraph Business Properties

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SITE CONCEPTUAL MODEL

Chevron Station No.9-0338
5500 Telegraph Avenue
Oakland, California

Report No. DG90338B.3C01
Delta Project No. DG90-338

Prepared for:

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Prepared by:

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September 26, 2001

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Chevron Station No.9-0338
5500 Telegraph Avenue
Oakland, California

Report No. DG90338B.3C01
Delta Project No. DG 90-338

1.0 INTRODUCTION

At the request of Chevron Products Company (Chevron), Delta Environmental Consultants Inc. network associate Gettler-Ryan Inc. (GR) has prepared this report presenting the Site Conceptual Model (SCM) for the Chevron service station located at 5500 Telegraph Avenue, Oakland, California. The purpose of this work was to evaluate whether the implementation of further environmental investigation and/or remediation related to soil and groundwater is warranted at the site. This report was prepared based on information provided by Chevron, and describes site hydrogeological conditions and distribution of contaminants in space and time, identifies potential current and future receptors, and recommends the most appropriate action plan for the site.

2.0 SITE DESCRIPTION

2.1 General

The subject site is a Chevron service station located at the northeastern corner of Telegraph Avenue and 55th Street in Oakland, California (Figure 1). Site facilities consists of a station building, a car wash, six dispenser islands, and two underground storage tanks (USTs) that share a common pit near the northern site boundary. Pertinent site features are shown on Figure 2. The site vicinity is used for transportation, commercial, and residential purposes. The subject site is bordered to the north by State Route 24, to the east by residential housing, to the west by Telegraph Avenue, to the south by 55th Street. Beyond 55th Street to the south and southwest lie commercial buildings. West of Telegraph Avenue lies State Route 24.

2.2 Previous Environmental Work

Groundwater Monitoring Well Installation/Destruction

Three on-site groundwater monitoring wells (C-1 through C-3) were installed in 1989. Total Petroleum Hydrocarbons as gasoline (TPHg) or benzene, toluene, ethylbenzene, and xylenes (BTEX) were not detected in soil samples collected from the well borings.

In addition, Total Petroleum Hydrocarbons as diesel (TPHd), total oil and grease (TOG), or volitile organic compounds (VOCs) were not detected in soil samples collected from well boring C-3. TPHg or BTEX were not detected in initial groundwater samples collected from wells C-1, C-2, and C-3. TPHd or TOG were not detected in initial groundwater sample collected from well C-3.

On June 30, 1998, GR supervised the destruction of well C-3. Following destruction of well C-3, GR collected a grab groundwater sample from the UST backfill well. TPHg or benzene were not detected in this sample, however methyl-tert butyl ether (MtBE) was detected at a concentration of 15,000 parts per billion (ppb).

On May 15, 1999, GR supervised the installation of two new groundwater monitoring wells (C-4 and C-5) and replacement of two existing groundwater monitoring wells (C-1 and C-2 with C-1A and C-2A, respectively). TPHg, benzene, or MtBE were not detected in soil samples collected from well boring C-5, except the soil sample at 11 feet below ground surface (bgs) in capillary fringe zone. This sample contained TPHg, benzene, and MtBE at concentrations of 1.3, 0.017 and 0.10 parts per million (ppm), respectively. Groundwater sample collected from wells C-2A and C-4 did not contain TPHg or benzene; however, MtBE was detected in both samples at a concentration of 44 ppb. Groundwater samples collected from wells C-1A and C-5 contained: TPHg at 9,100 and 2,800 pbb, respectively; benzene at 40 and 350 ppb, respectively; and MtBE at 35 and 2,500 ppb, respectively.

UST, Product Line and Hydraulic Hoist Removal

In October of 1988, Chevron removed one 1,000 gallon waste oil UST. A soil sample collected from beneath the waste oil tank at a depth of 8 feet bgs contained TOG at a concentration of 81 ppm. TPHd or VOCs were not detected in the waste oil tank sample. The extent of the waste oil UST excavation is shown on Figure 4

In July of 1989, Chevron replaced product lines associated with the gasoline USTs. During the removal and replacement of the product lines, contaminated soil was discovered in the western-most product line trench (closest to Telegraph Avenue). Ten compliance soil samples were collected from the western-most product trench at depths of 4 to 6.75 feet bgs. TPHg were detected in seven of the ten soil samples at concentrations ranging from 1.5 to 480 ppm. Benzene was detected in only one soil sample at a concentration of 0.31 ppm. The contaminated soil around the product lines was excavated and removed from the site. No confirmation samples were taken after soil was removed from the site.

On July 22, 1998, GR removed three 10,000 gallon single wall fiberglass gasoline USTs, one 1,000 gallon fiberglass waste oil UST, associated product lines and dispenser islands, three hydraulic hoists, and an oil/water separator. The extent of the UST, waste oil UST, dispenser islands, and hydraulic hoist excavations are shown on Figure 4. Groundwater was encountered in the UST pit at 9 feet bgs. Six compliance samples were collected from the gasoline UST pit sidewalls at approximately 9 feet bgs. TPHg were not detected in any of the sidewalls samples.

10-23-01 Left message w/ Keith Mathews City of Oakland was this tank removal closure transferred?

Benzene was detected in one soil sample at a concentration of 0.013 ppm. MtBE was detected in all six soil samples at concentrations ranging from 3.5 ppm to 6.8 ppm. Pb results 0.21 .74

Five soil samples were collected beneath the product lines at depths between 3.5 and 4 feet bgs. TPHg, benzene or MtBE were not detected in any of these samples. Lead was detected in two of the five samples at concentrations of 1.0 and 2.8 ppm.

One soil sample was collected from beneath the waste oil UST at a depth of 9 feet bgs. No groundwater was encountered in the waste oil UST pit. TPHg, benzene, MtBE, TPHd, VOCs, semivolatile organic compounds (SVOCs), and lead were not detected in this sample. However, TOG was detected in this sample at a concentration of 130 ppm.

Compliance soil samples were collected from beneath the three hydraulic hoists and oil/water separator at depths of 9 feet bgs. Soil samples collected beneath the oil/water separator contained 1.6 ppm of TPHg, 2,000 ppm of TPHd, and 2,600 ppm of TOG. One soil sample collected from beneath one hydraulic hoist contained 2,800 ppm of Total Petroleum Hydrocarbons as hydraulic oil (TPHho). TPHho were not detected beneath the other two hydraulic hoists.

(2) new tanks & 6 dispensers installed.

Groundwater Monitoring and Sampling

Between November 1989 and May 2001, the wells were monitoring and sampled a total of 21 times. During this period, the depth to shallow groundwater beneath the site fluctuated between 6 and 12 feet bgs. During the same period, groundwater flow fluctuated between west and southeast.

The highest concentrations of TPHg have been detected in well C-1A at 11,000 ppb (5/10/00). The highest concentrations of benzene and MtBE have been detected in well C-5 at 350 and 2,200 ppb, respectively (5/27/99).

In well C-1A, the concentrations of TPHg have decreased over the last four quarters. The concentration of MtBE has decreased to nondetectable concentrations over the last nine quarters in well C-4. In well C-5, the concentrations of TPHg and MtBE have decreased over the last nine quarters. The concentration of benzene has stabilized in well C-5.

During the recent monitoring and sampling event conducted on May 7, 2001, petroleum hydrocarbons were detected in two of the four wells sampled. TPHg were detected in wells C-5 and C-1A at concentrations of 100 and 3,000 ppb, respectively. Benzene was detected in wells C-5 and C-1A at concentrations of 2.1 and 37 ppb, respectively. MtBE was detected in wells C-1A and C-5 at concentrations ranging from 63 to 210 ppb, respectively. Currently the dissolved hydrocarbon plume remains undefined northwest and west of well C-5 and southwest, south, and southeast of well C-1A.

2.3 Geology and Hydrogeology

The subject site is located on the East Bay Plain, approximately 2.5 miles east of San Francisco Bay and 2 miles north of Lake Merritt. The local topography is relatively flat at an elevation of approximately 125 feet above mean sea level. As mapped by E.J. Helley and others (1979, Flatland Deposits of the San Francisco Bay Region, California: U.S. Geological Survey Professional Paper 943), soil in the site vicinity consists of Holocene-age Bay Mud consisting of unconsolidated saturated dark plastic carbonaceous clay and silty clay. These materials are underlain by late Pleistocene-age alluvium consisting of weakly consolidated slightly weathered poorly sorted irregularly interbedded clay, silt, sand, and gravel. The nearest surface water body is Glen Echo Creek located approximately 1 mile south of the site. Based on historical quarterly groundwater monitoring data, the shallow groundwater flow beneath the site fluctuates between the west and the southeast.

Boring logs indicate the subject site is underlain by sandy clays and silts underlain by clayey gravels and silty sands to the total depth explored. The aquifer consists of clayey gravel, which grades downward into silty sand and sand with gravel.

3.0 SITE CONCEPTUAL MODEL

The site conceptual model was prepared based on site assessment and quarterly monitoring and sampling data collected at the site to date. A pictorial representation of the site conceptual model is presented as Figure 8.

3.1 Release Scenario and Plume Characterization

A hydrocarbon release was discovered at the subject site in July 1989 during replacement of the product lines. Some of the potential primary sources of release (product lines) were removed in July 1989. Impacted soil from the product lines trenches was excavated and removed from the site in July of 1989. A subsequent environmental investigation indicated that soil and shallow groundwater were not impacted with petroleum hydrocarbons. The remaining potential primary sources of release (three gasoline USTs, a second waste oil tank, dispenser islands, associated piping, three hydraulic hoists, and oil/water separator) were removed in July 1998. Removal of affected subsurface soils (secondary sources) was conducted in 1989 and 1998. The excavations extended over the area of approximately 2,000 square feet and covered the central portion of the site. Vertically, the excavations extended to the maximum depth of 9 feet bgs (depth at which shallow groundwater was encountered). The majority of petroleum hydrocarbon impacted soil has been excavated. The maximum hydrocarbon concentrations in smear zone soil within the excavations are 1.6 ppm TPHg, 2,000 ppm TPHd, 2,600 ppm TOG, and 2,800 ppm TPHho in the vicinity of the oil/water separator and hydraulic hoists, in the north central portion of the site. The lateral extent of hydrocarbon impacted soil is delineated to the north, south, east and west by non detectable hydrocarbon levels in well borings C-2A, C-4, C-3, C-1A, and C-5.

It appears that hydrocarbon-impacted soil inside the excavation limits may be present over the area of approximately 2,000 square feet (conservative estimate). The extent of hydrocarbon affected soil is shown on Figure 4.

Groundwater beneath the site has been monitored and sampled since November 1989 through the network of five wells. During this period of time, shallow groundwater depth ranged between 6 and 12 feet bgs with a groundwater flow direction that varied between the west and the southeast. Groundwater analytical data indicate that groundwater beneath the subject has been impacted by petroleum hydrocarbons at concentrations up to 11,000 ppb TPHg, 350 ppb benzene, and 2,500 ppb MtBE. Initially, significant hydrocarbon concentrations were present in wells C-1A and C-5 with the highest concentrations in well C-5. Hydrocarbon concentrations in well C-1A have been fluctuating since initial sampling. However, a decreasing trend in the concentrations of TPHg has been observed in well C-1A since May of 2000, as shown on Chart 1. Since the initial high concentrations in well C-5, a decreasing trend in MtBE has been observed in well C-5, as shown on Chart 2.

Currently, petroleum hydrocarbons are present in ground water in the vicinity of wells C-1A and C-5. The lateral extent of hydrocarbon impacted groundwater has not being delineated north and northwest of well C-5 and southwest, south, and southeast of C-1A. The extent of TPHg, benzene, and MtBE in groundwater beneath the site is shown on Figures 5, 6 and 7, respectively.

3.2 Potential Receptors

The hydrocarbon plume extends beneath the area currently used for commercial (the subject site) and transportation (sidewalk and public streets: 55th Street and Telegraph Avenue) purposes. Most of this area is paved with asphalt or concrete. No buildings are located over the plume area (the nearest commercial or residential buildings are located approximately 100 feet southwest beyond the plume's edge). There are no surface water bodies in the plume's vicinity (Glen Echo Creek, the nearest surface water body is located approximately 1 mile to the south). A review of Department of Water Resources (DWR) well logs was conducted to identify water supply wells in the vicinity of the plume. Results of the DWR well log review are tabulated in Table 1 and depicted as Figure 3. No water supply wells are located within or in the vicinity of the plume area. The nearest downgradient water supply well is an irrigation well located approximately 1,900 feet southwest of the site (map ID #7).

Therefore, the only potential exposure receptors are current site workers (service station personnel) and site visitors (customers, motorists, pedestrians, construction worker and utility workers). Potential exposure media are ambient air, soil, and groundwater in potential future excavation area (i.e. utility trenches).

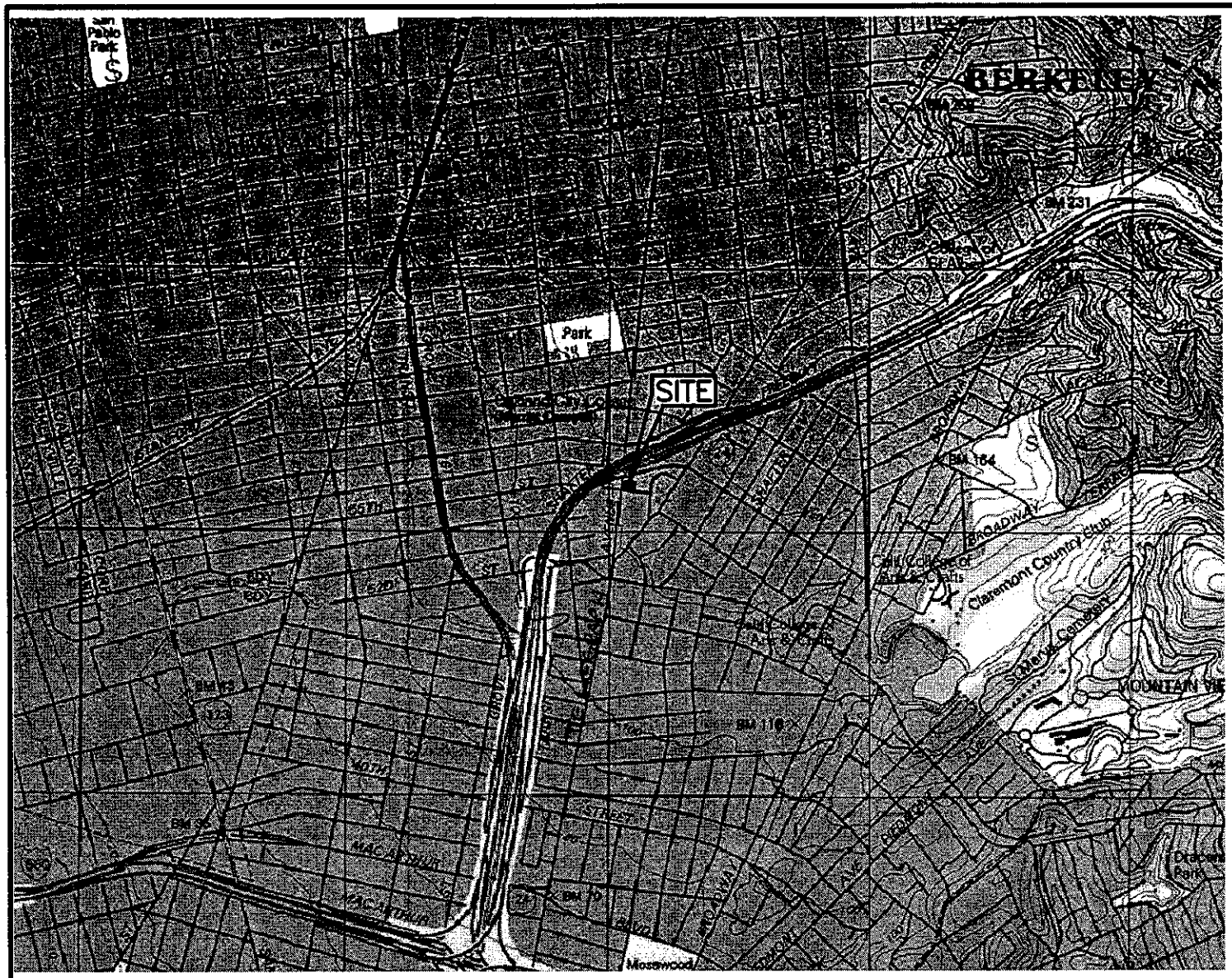
3.3 Other Environmental Issues

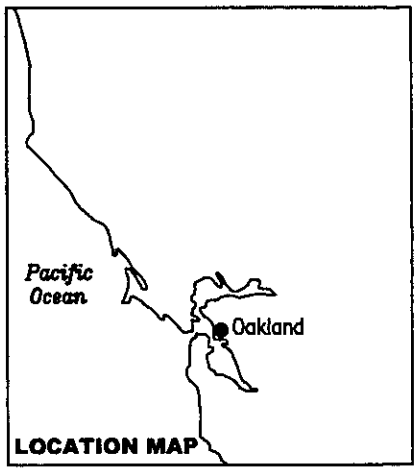
An underground utility search has been conducted. The results of the utility search are depicted on Figure 2. Utility trenches may be acting as preferential pathways that may affect plume migration since sewer and storm drain burial depths (8.5 to 21 feet bgs) are below the groundwater table. The burial depths of gas and electrical lines are not known.

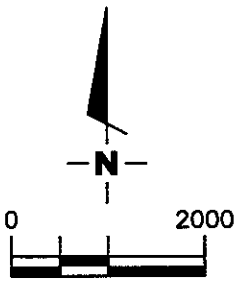
4.0 DISCUSSION

Site conditions consist of petroleum-impacted soil and groundwater. A majority of hydrocarbon impacted soil has been removed. However, some petroleum hydrocarbon impacted soil still remains at the limits of the former excavations. The lateral extent of petroleum hydrocarbon impacted soil have been delineated; however, the lateral extent of petroleum impacted groundwater has not been delineated. Currently, petroleum hydrocarbons are present in three of the four site wells. There are no water supply wells within the dissolved groundwater plume or in the site vicinity; therefore, impacted groundwater present beneath the site is not a concern for groundwater ingestion. Impacted subsurface soil remaining in place is not a concern for dermal contact, because it is covered by low permeability asphalt or concrete.

The dissolved plume is not delineated. However, concentrations of dissolved hydrocarbons appear to be decreasing. Except for utility trenches, there are no existing or potential receptors downgradient that might be impacted by hydrocarbons from this site. GR recommends continuing monitoring and sampling of all site wells for TPHg, BTEX, and MtBE. Wells C-1A and C-5 continue to show the presence of dissolved hydrocarbons and should be sampled quarterly. TPHg and BTEX have never been detected in wells C-2A and C-5 and MtBE concentrations detected in these wells are mostly below California's Primary Maximum Contaminant Level of 13 ppb. The sampling frequency of these wells should be decreased to annually. Decreasing concentration trends in wells C-1A and C-5 suggests concentrations may decrease to acceptable levels in 2 to 3 years. Monitoring and sampling should be continued on the proposed schedule to monitor these decreasing trends.







Source: National Geographic California Seamless USGS Topographic Maps on CD-ROM.

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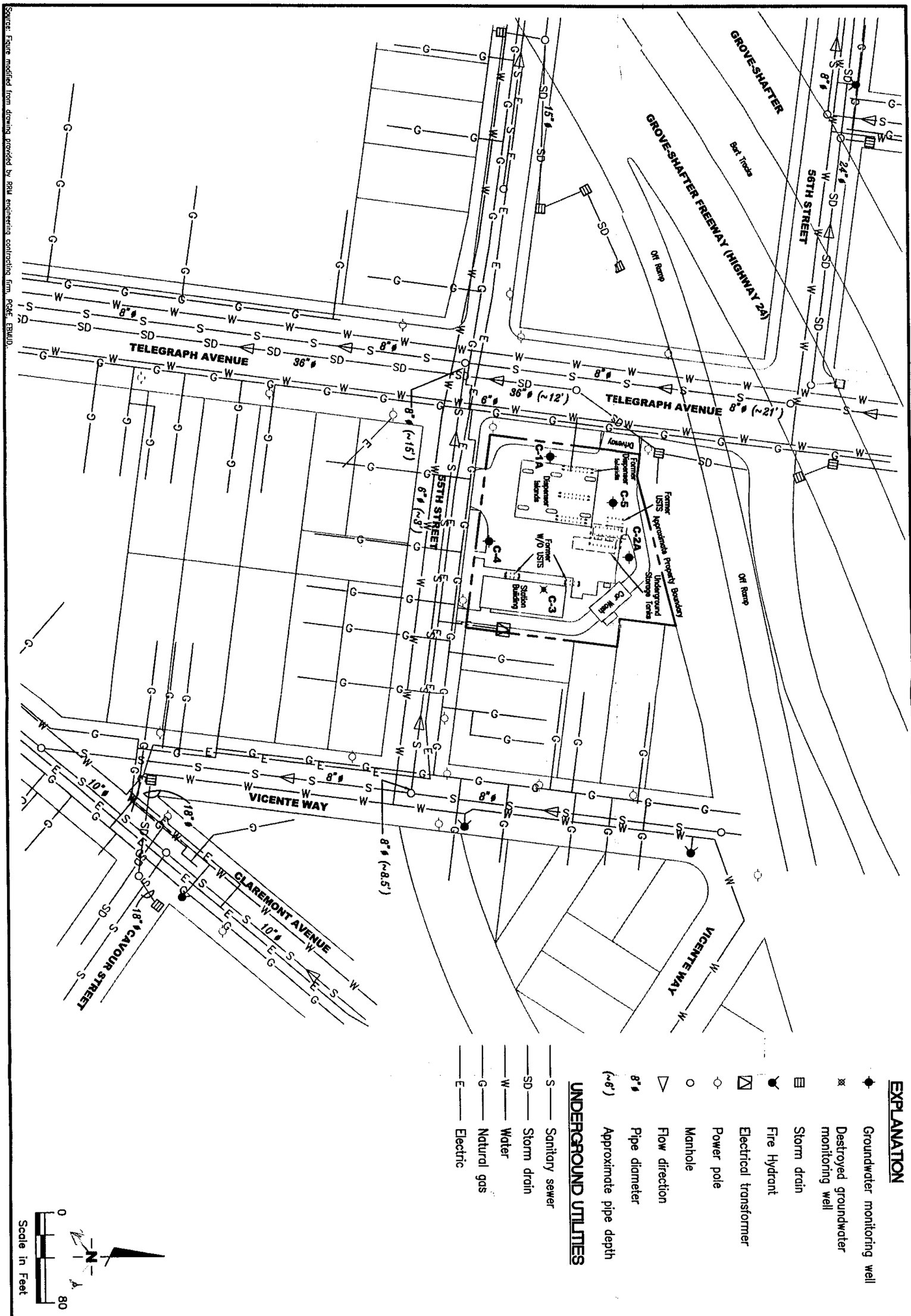
VICINITY MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

FIGURE
1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90338B.3C01		7/01	

FILE NAME: P:\ENVIRO\CHEVRON\9-0338\VIC-9-0338.DWG | Layout Tab: CA-North



EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- Storm drain
- Fire Hydrant
- Electrical transformer
- Power pole
- Manhole
- Flow direction
- 8"ø Pipe diameter
- (~6') Approximate pipe depth

UNDERGROUND UTILITIES

- S — Sanitary sewer
- SD — Storm drain
- W — Water
- G — Natural gas
- E — Electric

Source: Figure modified from drawing provided by RRM engineering contracting firm, PG&E, EBMUD.

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UTILITY MAP
Chevron Service Station No. 9-0338
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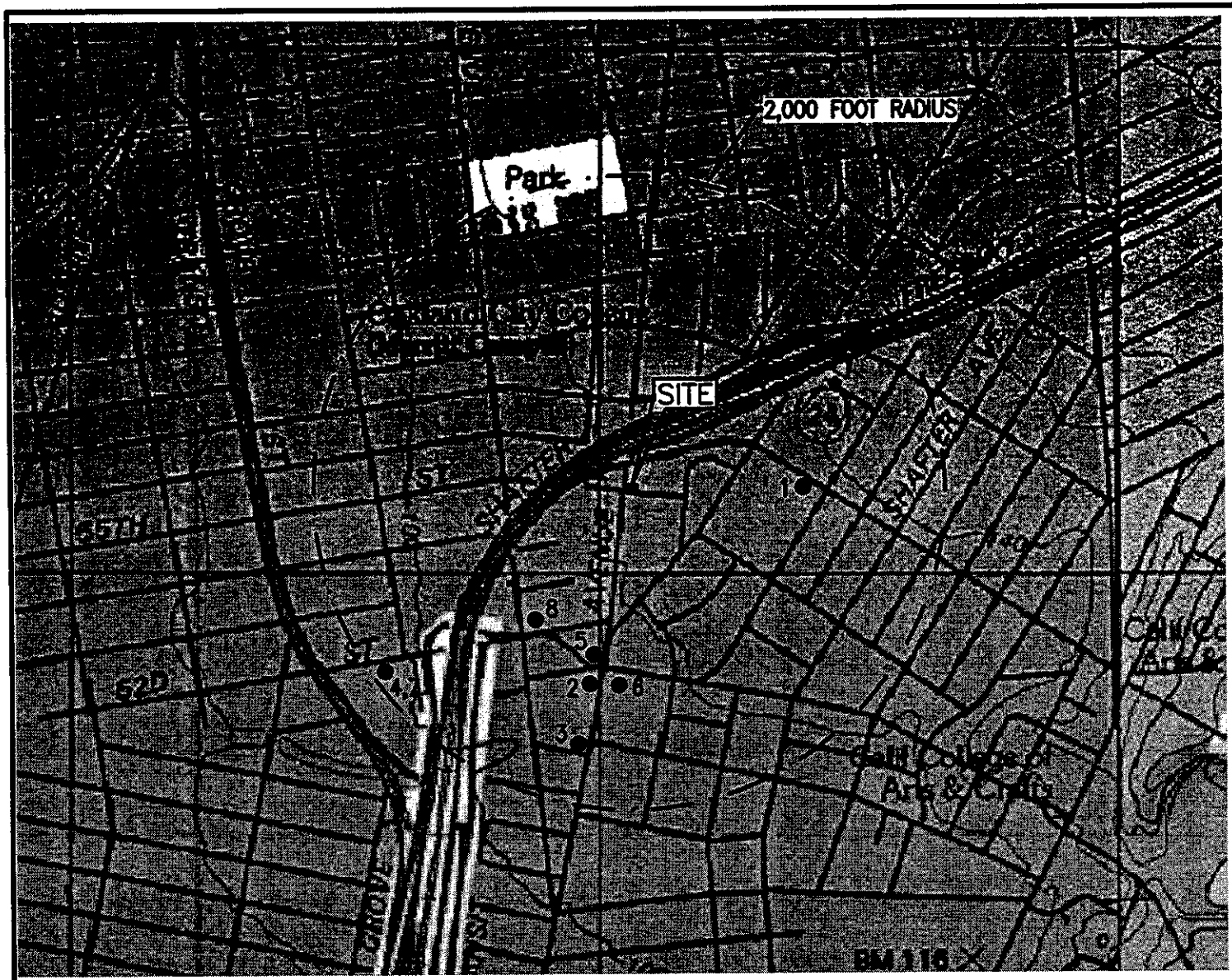
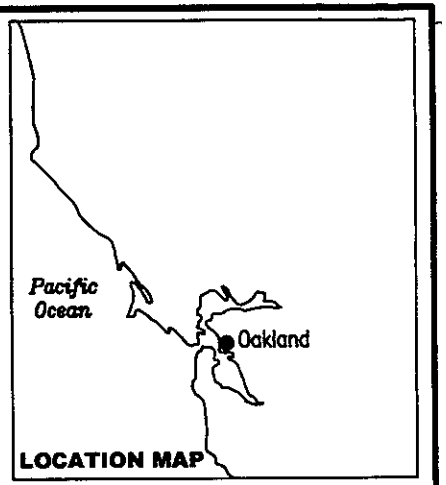
FIGURE
2

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90338B.3C01		7/01	

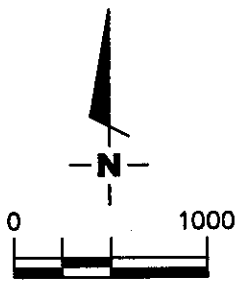
FILE NAME: P:\ENVIRO\CHEVRON\9-0338\A01-9-0338.DWG | Layout Tab: Utility Map 7-01





EXPLANATION

● Well Location



Source: National Geographic California Seamless USGS Topographic Maps on CD-ROM.

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WELL SEARCH MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

FIGURE
3

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90338B.3C01		7/01	

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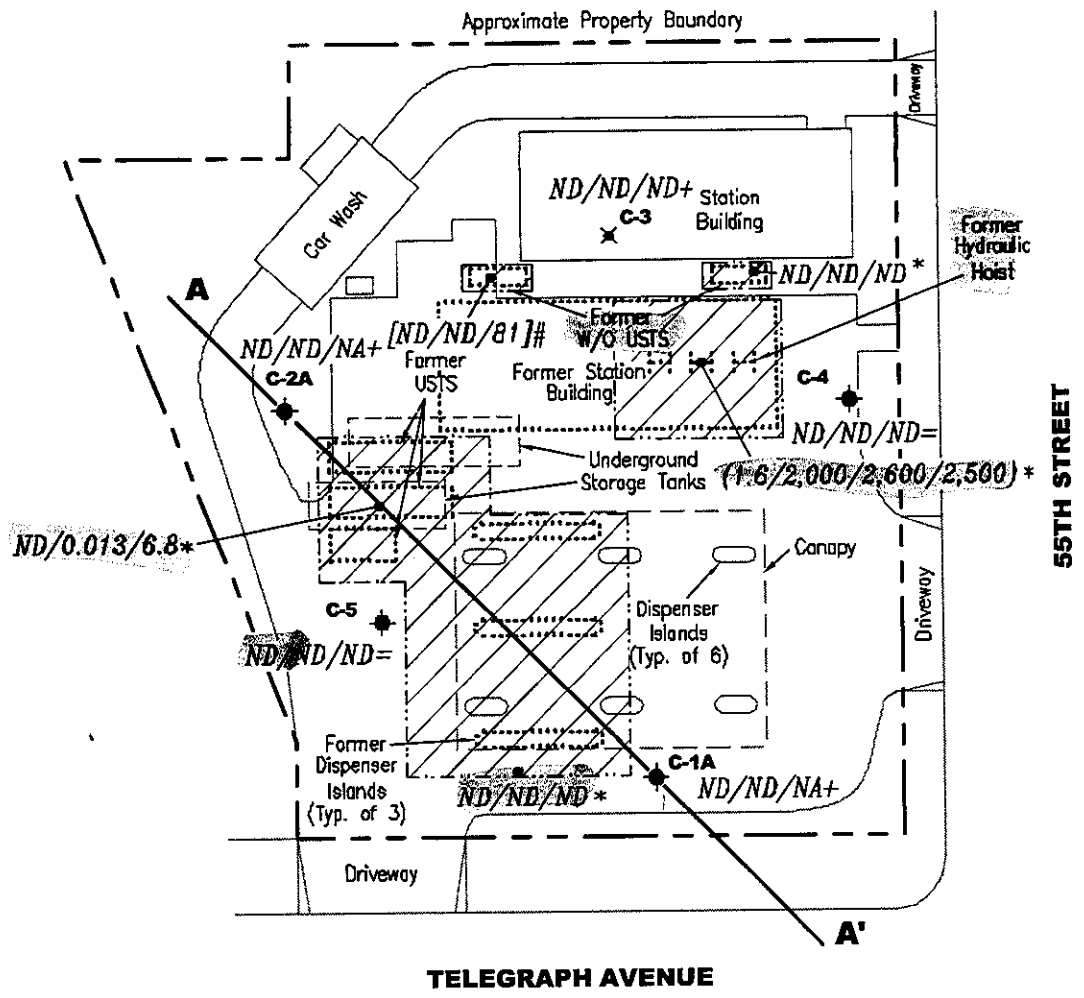

EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- Soil sample location
- Area excavated to a depth of approximately 9 feet
- *A/B/C* — TPH(G)/Benzene/MTBE concentrations in ppm
- *[A/B/C]* — TPH(D)/VOC/TOG concentrations in ppm
- *(A/B/C/D)* — TPH(D)/TPH(G)/TOG/TPH(HO) concentrations in ppm
- *ND* — Not Detected
- *NA* — Not Analyzed
- * — Sampled July 1998
- + — Sampled in 1989
- = — Sampled in 1999
- # — Sampled October 1988
- A — A' — Cross section line

Gradient

N

0 40

Scale in Feet

Source: Figure modified from drawing provided by RRN engineering contracting firm.

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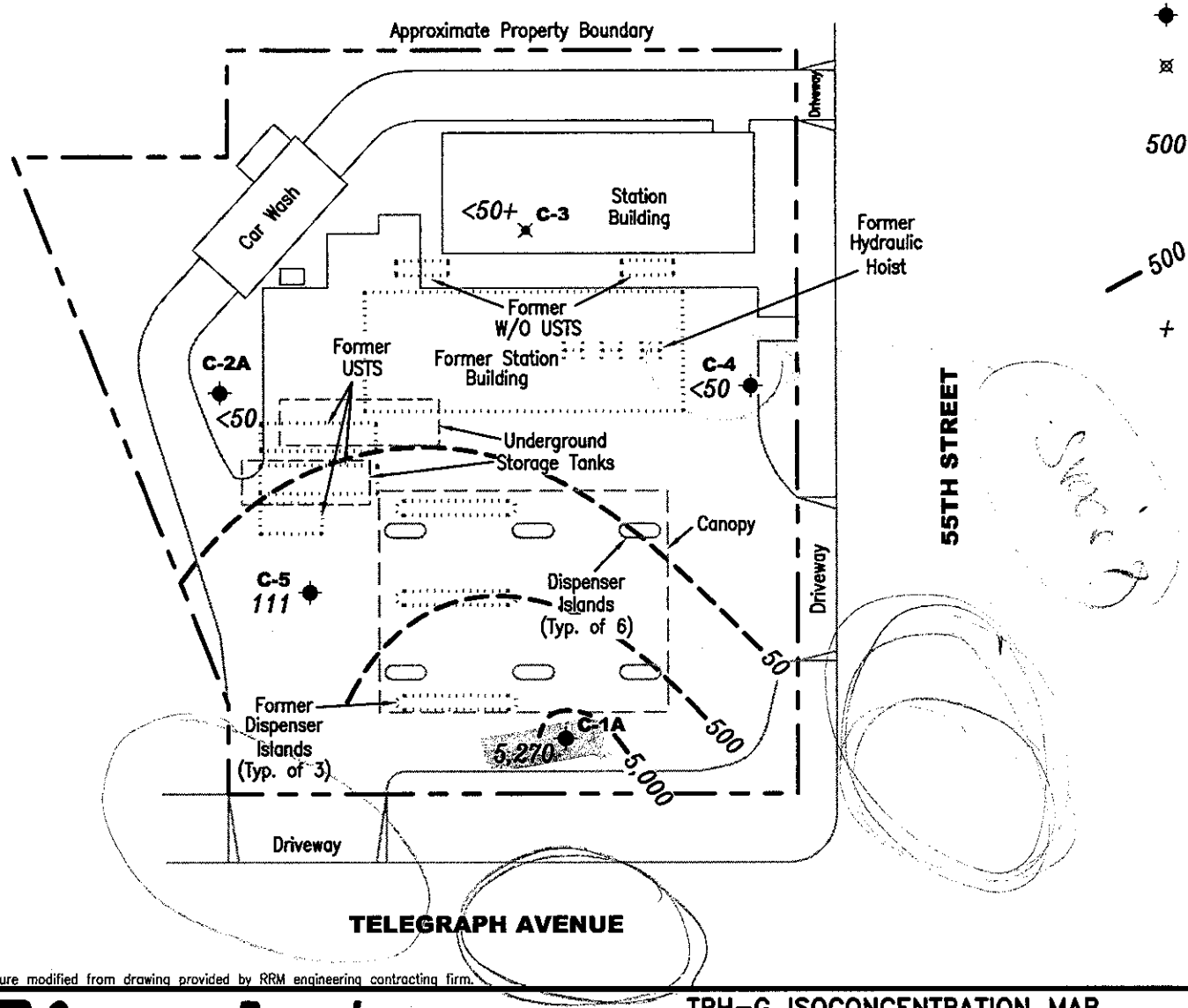
SOIL CONCENTRATION MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

FIGURE
4

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90338B.3C01		9/01	

FILE NAME: P:\ENVIRO\CHEVRON\9-0338\A01-9-0338.DWG | Layout Tab: Con 9-01



EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- 500 — TPH–G (Total Petroleum Hydrocarbons as Gasoline) concentrations in ppb
- 500 — TPH–G isoconcentration contour, dashed where inferred
- \+ Sample collected (6/28/98)

0 40

Scale in Feet

Source: Figure modified from drawing provided by RRM engineering contracting firm.

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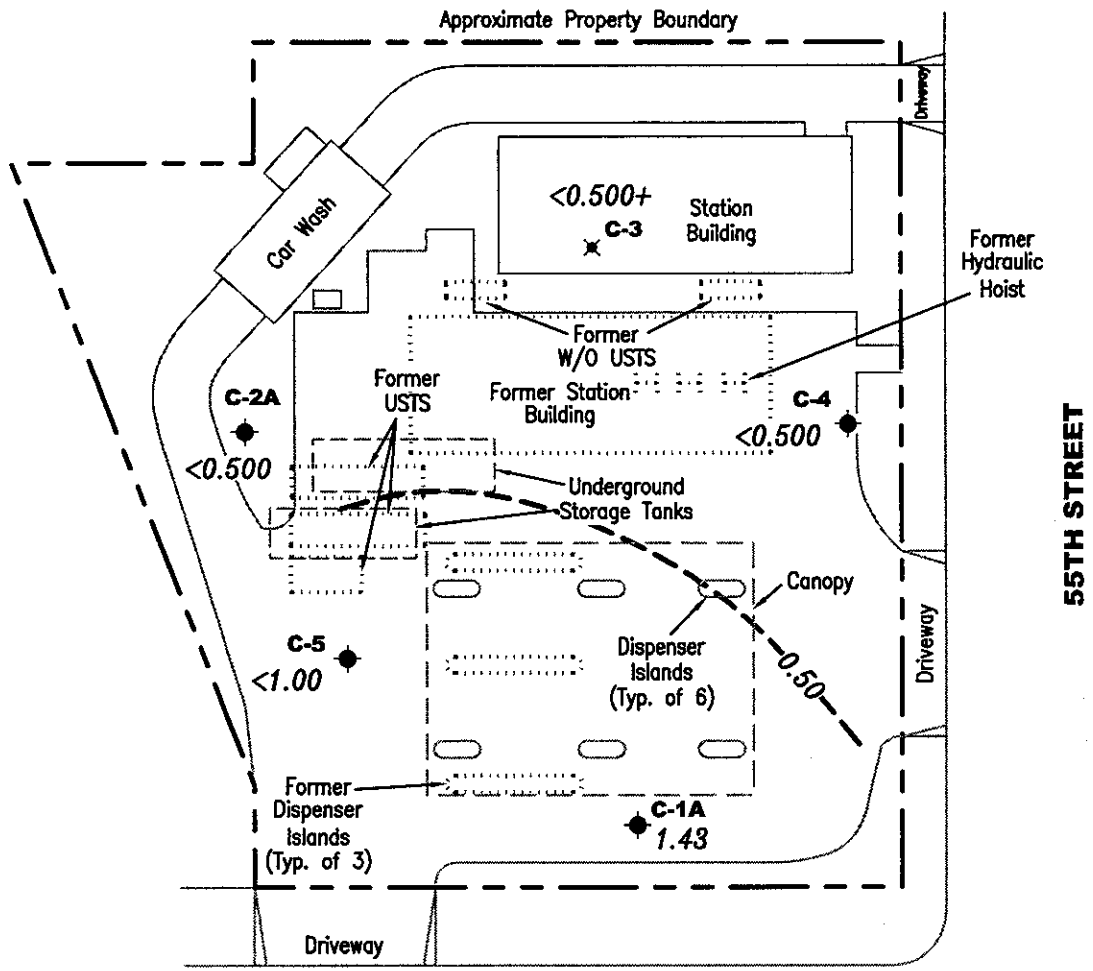
TPH–G ISOCONCENTRATION MAP
Chevron Service Station No. 9–0338
5500 Telegraph Avenue
Oakland, California

FIGURE
5

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90338B.3C01		February 5, 2001	

FILE NAME: P:\ENVIRO\CHEVRON\9-0338\A01-9-0338.DWG | Layout Tab: Tphg1 9-01



EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- 5.00 — Benzene concentration in ppb
- 5.00 — Benzene isoconcentration contour, dashed where inferred
- \+ Sample collected (6/28/98)

N

0 40

Scale in Feet

Source: Figure modified from drawing provided by RRM engineering contracting firm.

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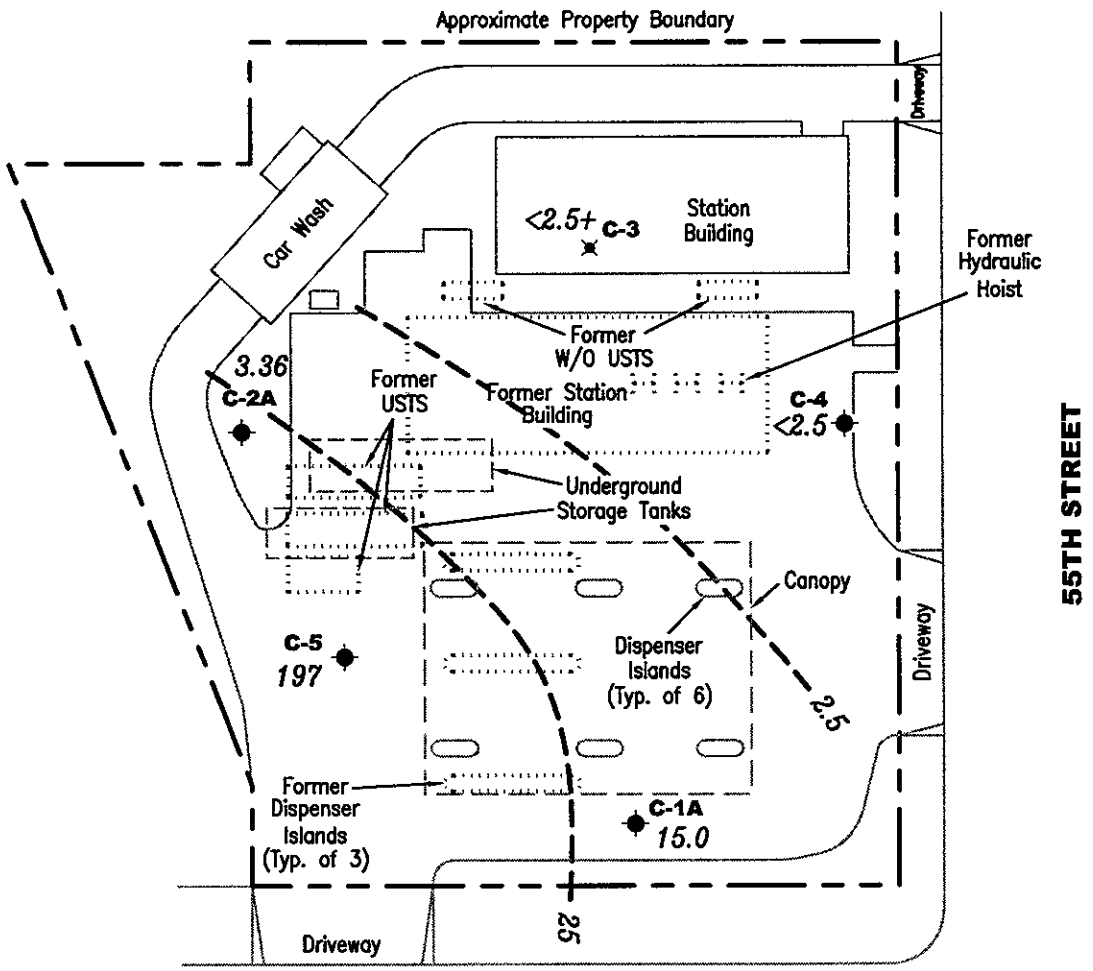
BENZENE ISOCONCENTRATION MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

FIGURE
6

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90338B.3C01		February 5, 2001	

FILE NAME: P:\ENVIRO\CHEVRON\9-0338\A01-9-0338.DWG | Layout Tab: Benz1 9-01



EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- 500 — MTBE concentration in ppb
- 500 — MTBE isoconcentration contour dashed where inferred
- \+ Sample collected (6/28/98)

N

0 40

Scale in Feet

Source: Figure modified from drawing provided by RRM engineering contracting firm.

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MTBE ISOCONCENTRATION MAP
Chevron Service Station No. 9-0338
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Oakland, California

FIGURE
7

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90338B.3C01		February 5, 2001	

FILE NAME: P:\ENVIRO\CHEVRON\9-0338\A01-9-0338.DWG | Layout Tab: Mtbe1 9-01

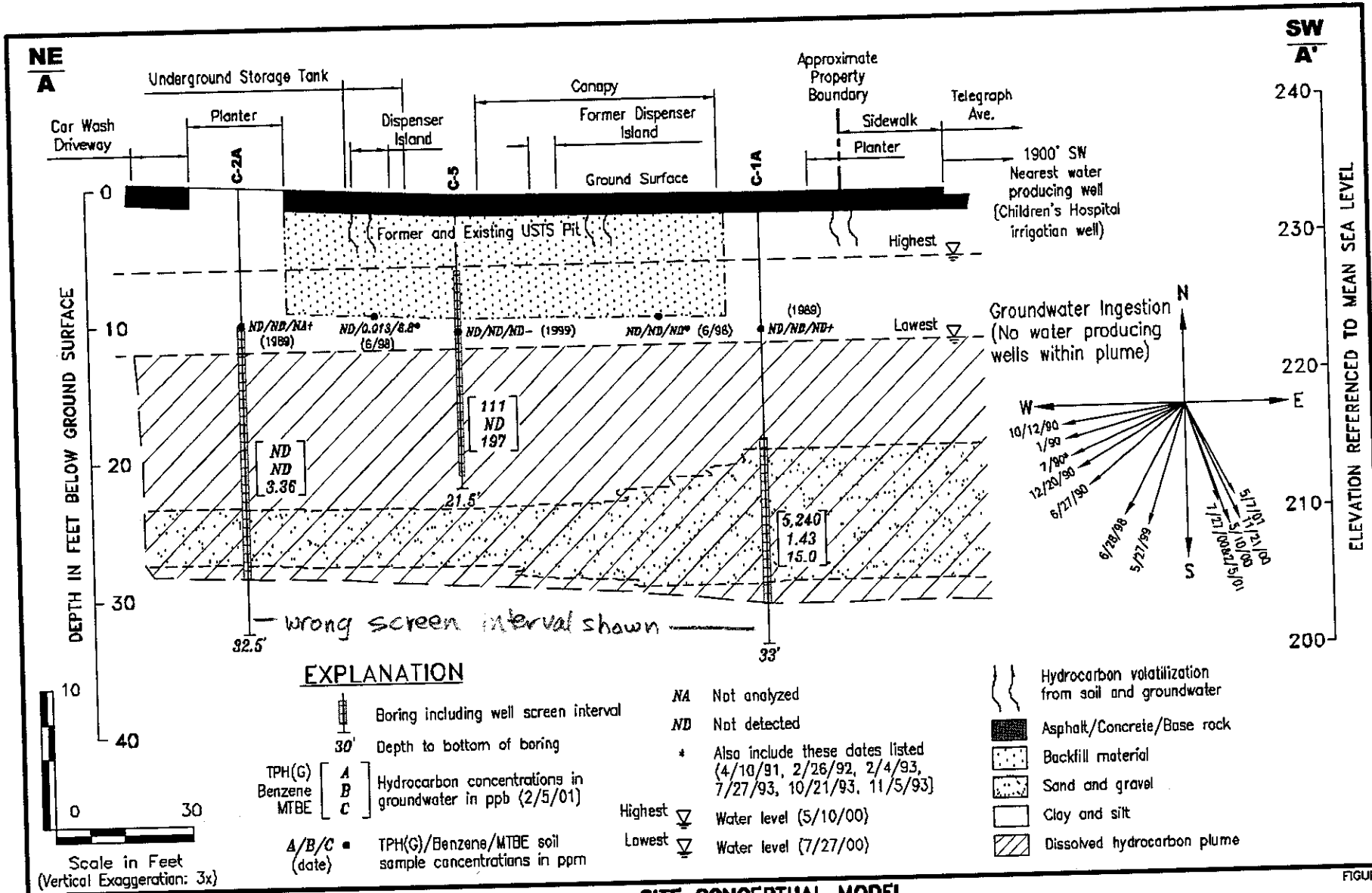

FIGURE 8

SITE CONCEPTUAL MODEL
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

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TABLE 1 - DWR Well Search Results

Chevron Service Station No. 9-0338

5500 Telegraph Avenue

Oakland, California

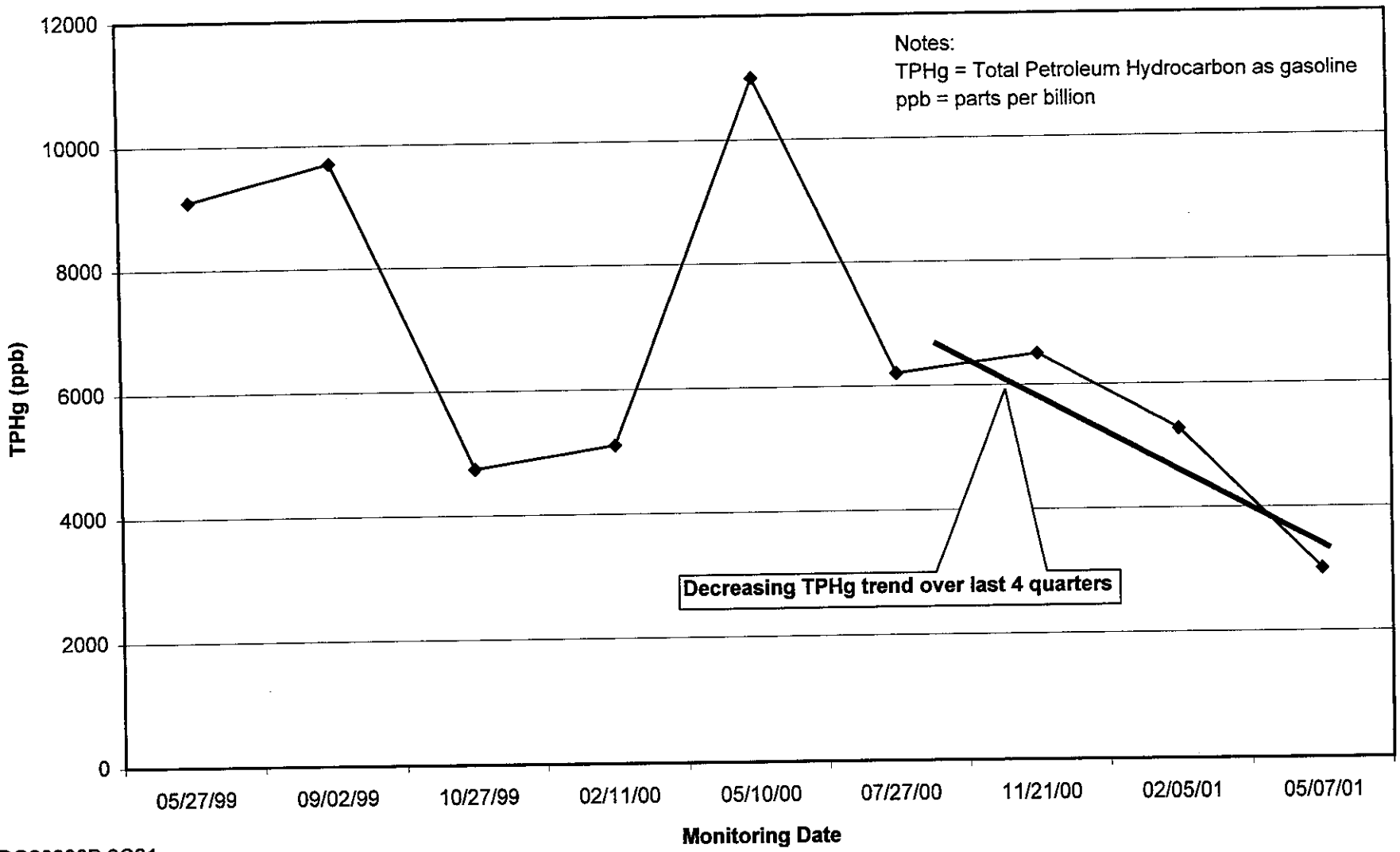
Map ID	Well Owner	Well Loction	Well Use	State Well Number	Year Installed
1	Pacific Gas & Electric	Clifton and Claremont	Cathodic	01S04W13M80	1975
2	Pacific Rim Development	51st St and Telegraph Ave	2 MWs	01S04W14R03,02	1987
3	Oakland Shopping Center	49th St and Telegraph Ave	Test Wells	01S04W14R	1987
4	Children's Hospital	747 52nd St	Test Wells	01S04W14R	1987
5	Chevron USA	5101 Telegraph Ave	5 MWs	01S04W14R4,5,6,7	1990
6	Berkeley Farms Land Co.	Corner of 51st St and Telegraph Ave	5 MWs	01S04W14R8-12	1991
7	Children's Hospital	747 52nd St	Irrigation	01S04W14R13	1992
8	Arco Products Co.	5131 Shattuck Ave	7 MWs	01S04W14R14-20	1993

Notes

MWs = monitoring wells

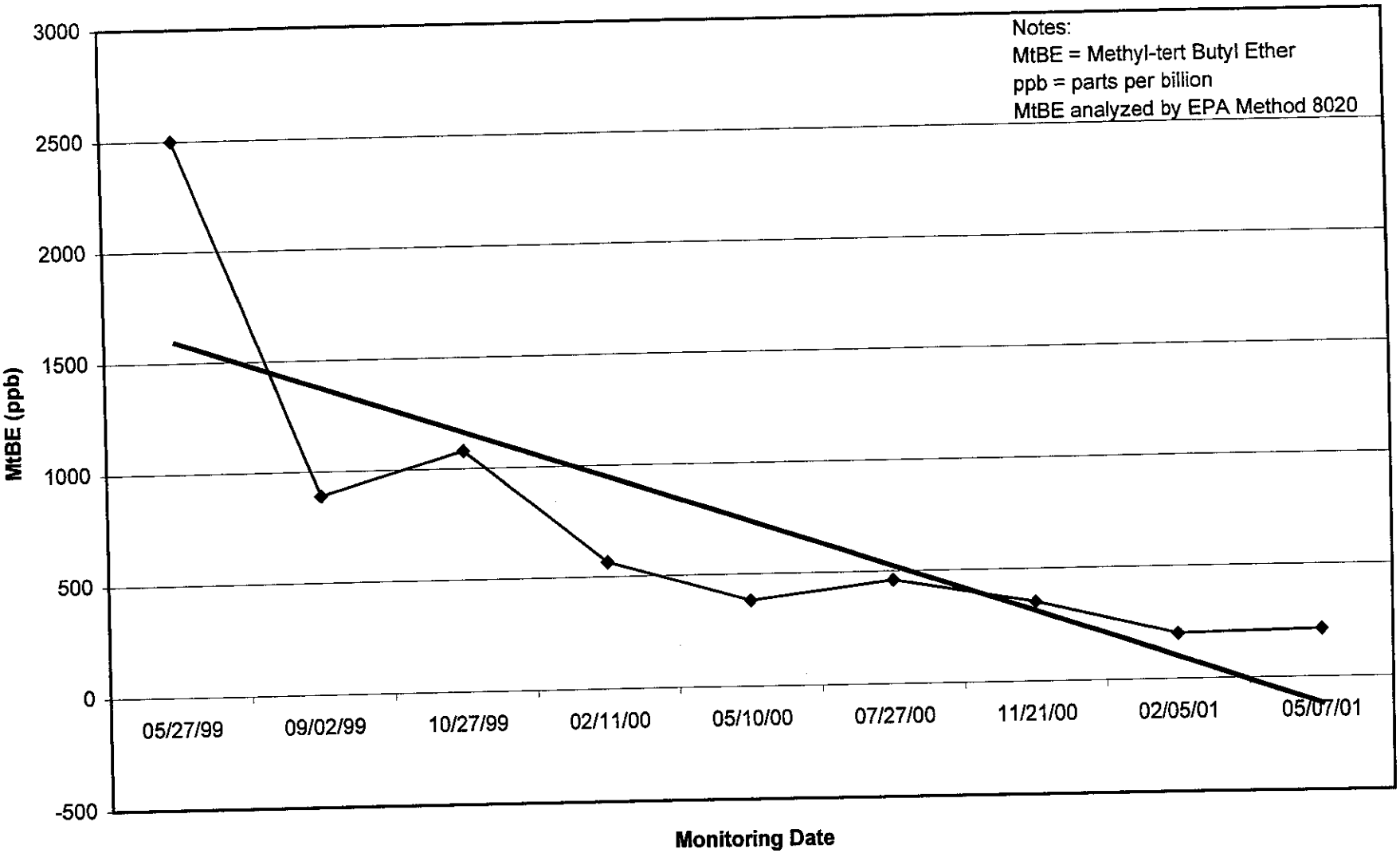
Data obtained from Department of Water Resources files in Sacramento on June 25, 2001

Chart 1 - Concentrations of TPHg in Well C-1A Over Last Nine Quarters



DG90338B.3C01

Chart 2 - Concentrations of MtBE in Well C-5 Over Last Nine Quarters



DG90338B.3C01

Table 1
Soil Analytical Data
Total Petroleum Hydrocarbons
(TPH as Gasoline, BTEX Compounds, TPH as Diesel, and Total Oil and Grease)

Chevron Service Station 9-0338
5500 Telegraph Avenue at 55th Street
Oakland, California

Sample ID	Date Sampled	Sample Depth (feet)	TPH as Gasoline (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	TPH as Diesel (ppm)	Total Oil and Grease (ppm)
Groundwater Monitoring Wells									
C-1	11/13/89	10.5	<1	<0.05	<0.05	<0.05	<0.05	NA	NA
		15.5	<1	<0.05	<0.05	<0.05	<0.05	NA	NA
		25.5	<1	<0.05	<0.05	<0.05	<0.05	NA	NA
C-2	11/13/89	10.5	<1	<0.05	<0.05	<0.05	<0.05	NA	NA
		15.5	<1	<0.05	<0.05	<0.05	<0.05	NA	NA
		25.5	<1	<0.05	<0.05	<0.05	<0.05	NA	NA
C-3	11/13/89	10.5	<1	<0.05	<0.05	<0.05	<0.05	<10	<20
		15.5	<1	<0.05	<0.05	<0.05	<0.05	<10	<20
		25.5	<1	<0.05	<0.05	<0.05	<0.05	<10	<20
Waste Oil Tank Excavation									
WOOP	10/05/88	8.0	NA	NA	NA	NA	NA	<10	<50
Pump Island and Product Line Excavation									
1	07/11/89	6.75	<1	<0.05	<0.1	<0.1	<0.1	NA	NA
2	07/11/89	6.75	130	<0.05	<0.1	2.2	3.0	NA	NA
3	07/11/89	6.25	<1	<0.05	<0.1	<0.1	<0.1	NA	NA
4	07/11/89	6.25	480	0.31	<0.1	10	28	NA	NA

ppm = Parts per million
< = Not detected at specified detection limit
NA = Not analyzed

Table 3. Soil Analytical Results - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California.

Sample ID	Depth	Date (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	Fraction Organic Carbon %	Bulk Density Dry gm/cc	Bulk Density Natural gm/cc	Bulk Density Matrix gm/cc	Porosity %	Moisture Content %
			<----------ppm---------->											
C4-6	6	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	0.39	1.85	2.15	2.64	29.8	13
C4-11	11	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	—	—	—	—
C4-16	16	05/12/99	---	---	---	---	---	---	0.12	1.66	2.01	2.57	35.6	—
C5-6	6	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	—	—	—	—
C5-11	11	05/12/99	1.3	0.017	<0.0050	<0.0050	0.012	0.10	—	—	—	—	—	—
SP (A-D)	—	05/12/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	—	—	—	—	---	—	—

EXPLANATION:
TPHg = Total Petroleum Hydrocarbons as gasoline
MtBE = Methyl t-Butyl Ether
ft = Feet
ppm = Parts per million
gm/cc = gram per cubic centimeter
— = Not analyzed/not applicable

ANALYTICAL METHODS:
TPHg, benzene, toluene, ethylbenzene, xylenes, MtBE = EPA Methods 5030/8015Mod/8020
Porosity, densities = Method API RP-40

ANALYTICAL LABORATORY:
Sequoia Analytical (ELAP #1271)

TABLE 1

Metal Concentration in Soil Samples *

SAMPLE/DEPTH (ft)	TOTAL CHROMIUM(1)	CADMIUM(2)	ZINC(3)	LEAD(4)
C-3 / 10.5	16	1.0	39	<10
C-3 / 15.5	12	0.6	60	<10
C-3 / 25.5	27	1.4	74	10
Common Trace Element Concentration in Soils	7-1000	0.01-7.0	10-600	3-350

* All concentrations in milligrams per kilogram (mg/kg)

(1) Detection level 2 mg/kg for chromium
(2) Detection level 0.2 mg/kg for cadmium
(3) Detection level 0.2 mg/kg for zinc
(4) Detection level 10 mg/kg for lead

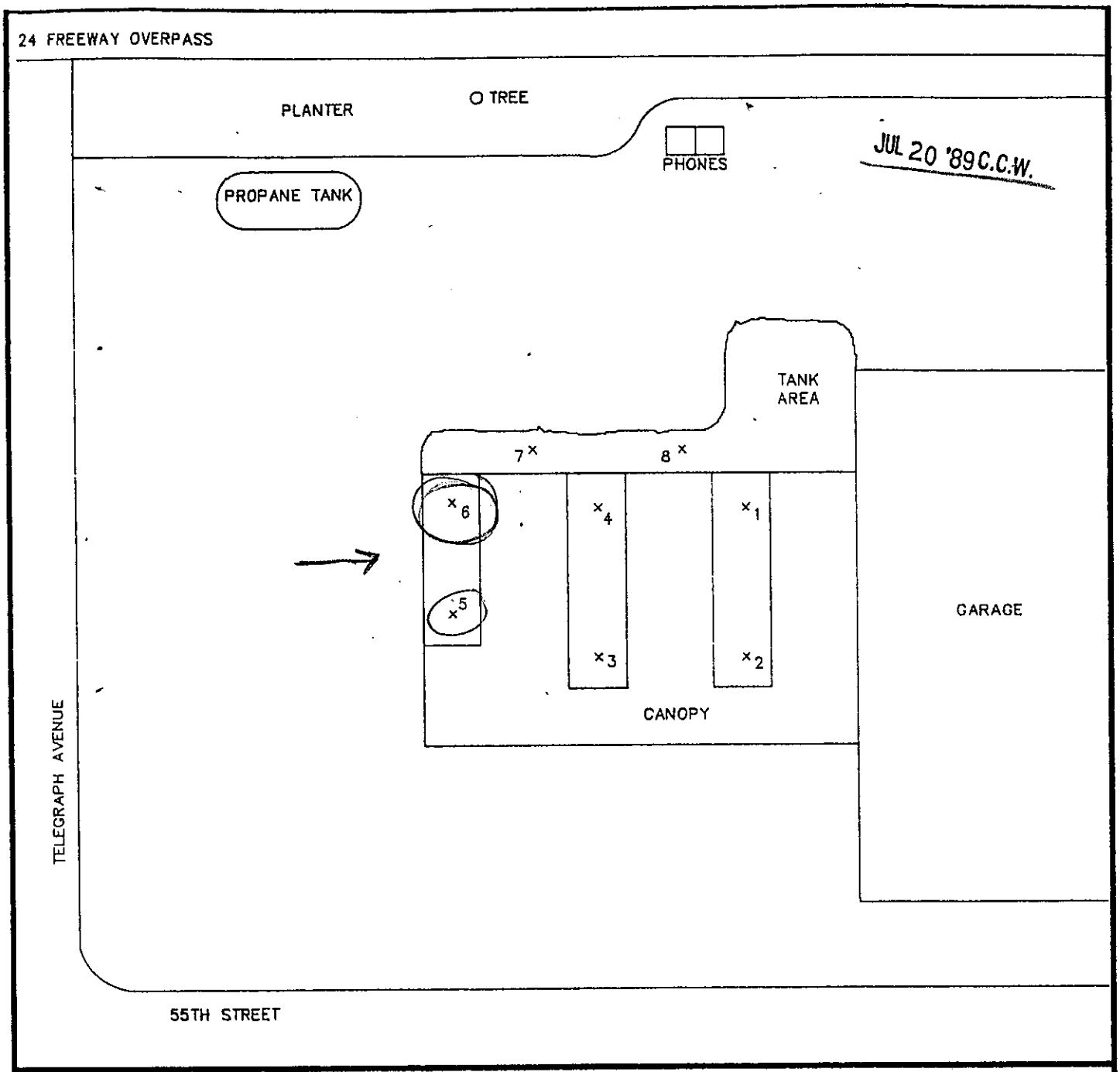
TABLE 2

Metal Concentrations in Ground-water Samples *

SAMPLE ID	TOTAL CHROMIUM(1)	CADMIUM(2)	ZINC(3)	LEAD(4)
C-3	500	20	1000	<500
Common Trace Element Concentrations in Groundwater	0.43-21	20-71	10-980	<5-1300
State of California Current Maximum Contaminant Levels	50-100(5)	10	NA-5000(5)	50

* All concentrations in micrograms per liter (ug/l)

(1) Detection level 100 ug/l for chromium
(2) Detection level 10 ug/l for cadmium
(3) Detection level 10 ug/l for zinc
(4) Detection level 500 ug/l for lead
(5) EPA value



LEGEND

× SOIL SAMPLE

NORTH

NOT TO SCALE

GEOTEST

SAMPLE LOCATION MAP
CHEVRON STATION #90338
5500 TELEGRAPH AVENUE, OAKLAND
PROJECT NO: 90686-01

7/89

FIGURE 1

GEOTEST
An Environmental Monitoring and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

where are these samples from? product line

LABORATORY REPORT

CHEVRON
2410 CAMINO RAMON
SAN RAMON, CALIFORNIA
94583-0804

ATTENTION: CYNTHIA WONG

DATE RECEIVED: 07-07-89
DATE ANALYZED: 07-07-89
SAMPLE MATRIX: SOIL
CLIENT ID:
GEOTEST PROJECT NO.: 90686-01
ANALYSES: MODIFIED 8015

PROJECT NAME: CHEVRON #90338
LOCATION: 5500 TELEGRAPH AVE.
OAKLAND, CALIFORNIA

ANALYSIS OF HYDROCARBON CONTENT BY GAS CHROMATOGRAPHY
EPA METHOD MODIFIED 8015

SAMPLE ID	RESULTS (mg/kg)	DETECTION LIMIT (mg/kg)
1	ND	10
2	ND	10
3	ND	10
4	ND	10
5	340	10
6	800	10
7	ND	10
5B	ND	10
6C	49	10

ND - Not detected below indicated limit of detection.

Analyst: MPJ

Checked and Approved: [signature]
Report Date: 07/14/89

GEOTEST
An Environmental Monitoring and Testing Service

Post Office Box 90911, Long Beach, California 90809-0911 (213) 498-9515 (800) 624-5744

JUL 17 '89 C.C.W.

LABORATORY REPORT

CHEVRON
2410 CAMINO RAMON
SAN RAMON, CALIFORNIA 94583-0804

ATTENTION: CYNTHIA WONG

DATE RECEIVED: 07-07-89
DATE ANALYZED: 07-07-89
SAMPLE MATRIX: SOIL
CLIENT ID:
GEOTEST PROJECT NO.: 90686-01
ANALYSES: BTXE

PROJECT NAME: CHEVRON #90338
LOCATION: 5500 TELEGRAPH AVE.
OAKLAND, CALIFORNIA

ANALYSIS OF ORGANIC VOLATILE AROMATICS
EPA METHOD 8020

COMPONENTS	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES
DETECTION LIMITS	(mg/kg) .01	(mg/kg) .01	(mg/kg) .05	(mg/kg) .05
SAMPLE ID				
1	ND	ND	ND	ND
2	ND	ND	ND	ND
3	ND	ND	ND	ND
4	ND	ND	ND	ND
5	0.24	0.09	0.74	4.0
6	3.5	11	12	59
7	ND	ND	ND	ND
8	ND	ND	ND	ND
5B	ND	ND	ND	ND
6C	0.37	ND	0.72	3.0

ND - Not detected below indicated limit of detection.

Analyst: MPJ

Checked and Approved: _____
Report Date: 07/11/89

TABLE OF SAMPLING LOCATIONS AND ANALYTICAL RESULTS

NOTE: Analytical results are reported in Parts Per Million or Parts Per Billion

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS RMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM TPH AS GAS	PPM BENZENE	PPM TOLUENE	PPM ETHYL BENZENE	PPM XYLENES
DISPENSER PUMP ISLAND (WEST)														
SOUTHWEST	6.75	ELECTIVE	HANDRIVE	SOIL	07/11/89	89192-M-1	#2	SEQUOIA	907-0725	130	ND	ND	2.2	3.0
	4.5	ELECTIVE	CONFIRM	SOIL	07/14/89	89195-M-1	#4	SEQUOIA	907-1503	73*	ND	ND	ND	ND
NORTHWEST	6.25	ELECTIVE	HANDRIVE	SOIL	07/11/89	89192-M-1	#3	SEQUOIA	907-0726	ND	ND	ND	ND	ND
	4.0	ELECTIVE	CONFIRM	SOIL	07/14/89	89195-M-1	#5	SEQUOIA	907-1504	1.5	ND	ND	ND	ND
SOUTHEAST	6.75	ELECTIVE	HANDRIVE	SOIL	07/11/89	89192-M-1	#1	SEQUOIA	907-0724	ND	ND	ND	ND	ND
	5.0	ELECTIVE	CONFIRM	SOIL	07/14/89	89195-M-1	#2	SEQUOIA	907-1501	ND	ND	ND	ND	ND
NORTHEAST	6.25	ELECTIVE	HANDRIVE	SOIL	07/11/89	89192-M-1	#4	SEQUOIA	907-0727	480	0.31	ND	10	28
	4.5	ELECTIVE	CONFIRM	SOIL	07/14/89	89195-M-1	#1	SEQUOIA	907-1500	9.7	ND	ND	ND	ND
SOUTH	4.5	ELECTIVE	CONFIRM	SOIL	07/14/89	89195-M-1	#3	SEQUOIA	907-1502	3.0	ND	ND	ND	ND
NORTH	5.0	ELECTIVE	CONFIRM	SOIL	07/14/89	89195-M-1	#6	SEQUOIA	907-1505	1.8	ND	ND	ND	ND
STOCK	6-12"	STANDARD	BAAQMD-M	SOIL	07/26/89	890726-A-3	#1A-B	SEQUOIA	907-3265	1.4	ND	ND	ND	ND

*NOTE: THESE RESULTS DO NOT APPEAR TO BE DUE TO GASOLINE.

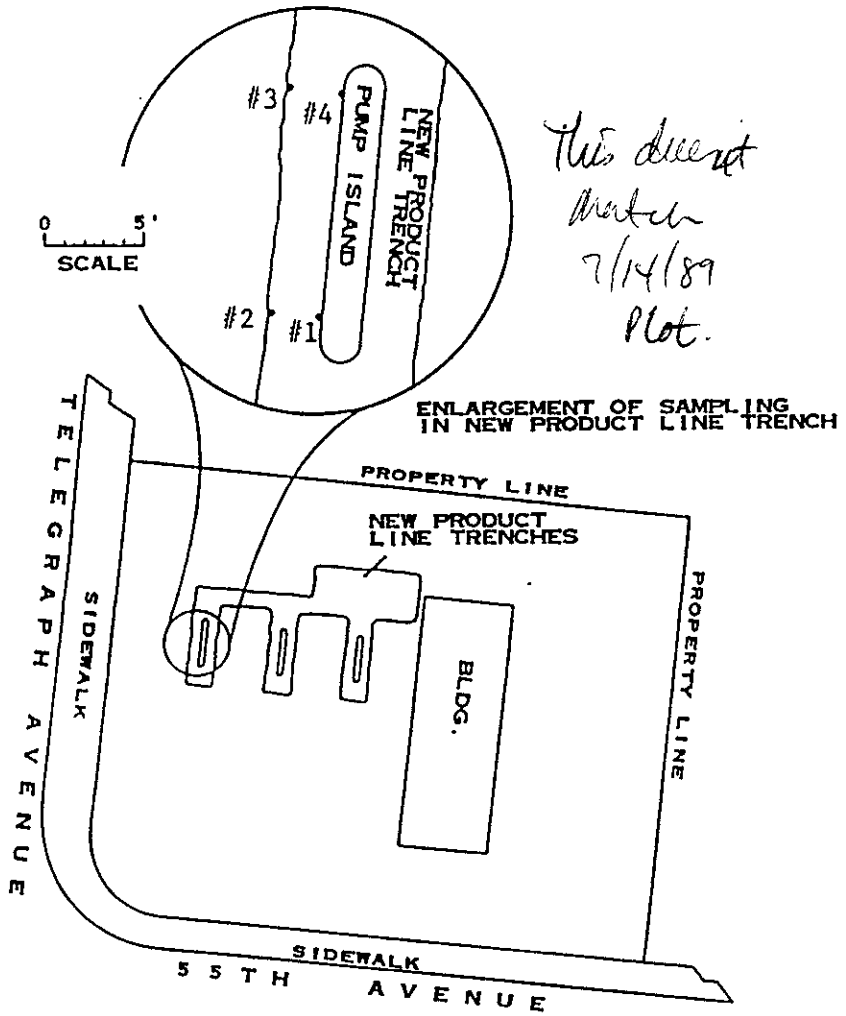
Standard - The location conformed to established (professional or regulatory) definitions for the type of sample being collected. Example: a standard RWQCB interface sample.

LIA - The local implementing agency inspector chose a sampling location that was different from a standard (pre-defined) location.

Elective - Elective samples are not taken to comply with regulatory requirements, but to obtain information. Sampling locations may be chosen by the property owner, the contractor, a consultant, etc. The samples may of may not be analyzed.

PUMP ISLAND AND PRODUCT LINE DIAGRAM

July 11, 1989 / 89192-M-1



N

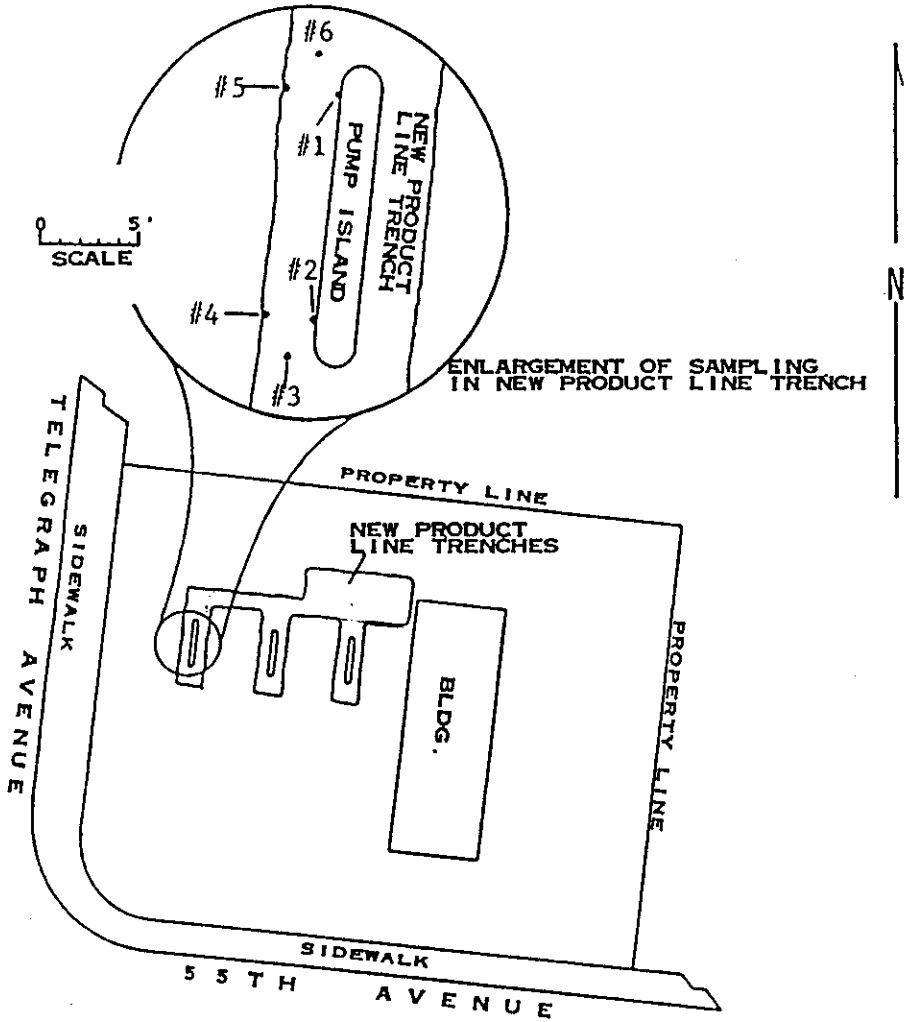
SCALE: 0 20' 40'

MAP REF: THOMAS BROS. ALAMEDA CO. P.4 C-5

SAMPLING PERFORMED BY MARGO MACKEY
DIAGRAM PREPARED BY BRENT ADAMS

PUMP ISLAND AND PRODUCT LINE DIAGRAM

July 14, 1989 / 89195-M-1



0 20' 40'
SCALE:

MAP REF: THOMAS BROS. ALAMEDA CO. P.4 C-5

SAMPLING PERFORMED BY MARGO MACKEY
DIAGRAM PREPARED BY BRENT ADAMS

January 13, 1989

Mr. Thomas Peacock
Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 20
Oakland, California 94621

Re: Used Oil Tank Removal From
Chevron Station #9-0338
5500 Telegraph Avenue
Oakland, California

Dear Mr. Peacock:

On October 5, 1988, one 1,000 gallon used oil tank was removed from the subject site. Attached is the Blainetec soil sampling report.

Total petroleum hydrocarbons, and oil and grease in all soil samples were under 100 ppm. The tank hole was backfilled and no further action is proposed.

If you have any questions, please call Mr. Darrell Hovander at (415) 842-9518.

Very truly yours,

D. MOLLER

By DNH
Darrell Hovander
Engineer

DNH:vjs:Q256
Attachment

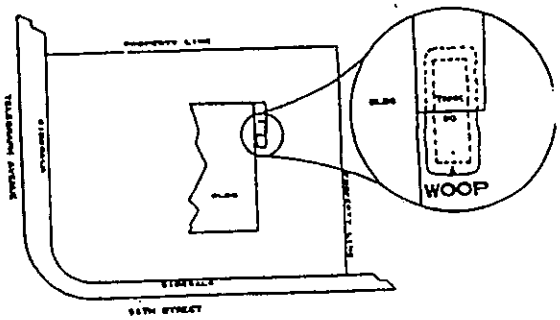
bcc: Mr. M. R. Brown

BLAINE
TECH SERVICES

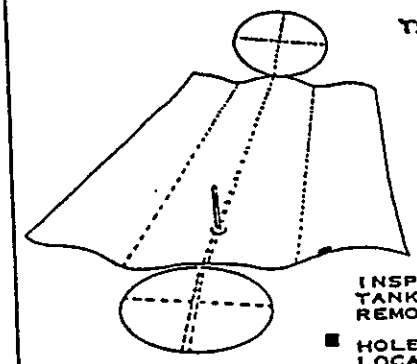
UNDERGROUND STORAGE TANK
REMOVAL AND SAMPLING LOG

TANK
WO

TANK WO 1,000 GALLON WASTE OIL TANK
STEEL CONSTRUCTION



SITE DIAGRAM



TSR PROJECTION

INSPECTION OF THE TANK FOLLOWING REMOVAL FOUND

■ HOLE IN THE LOCATION DEPICTED ON THE TSR PROJECTION

□ NO HOLES

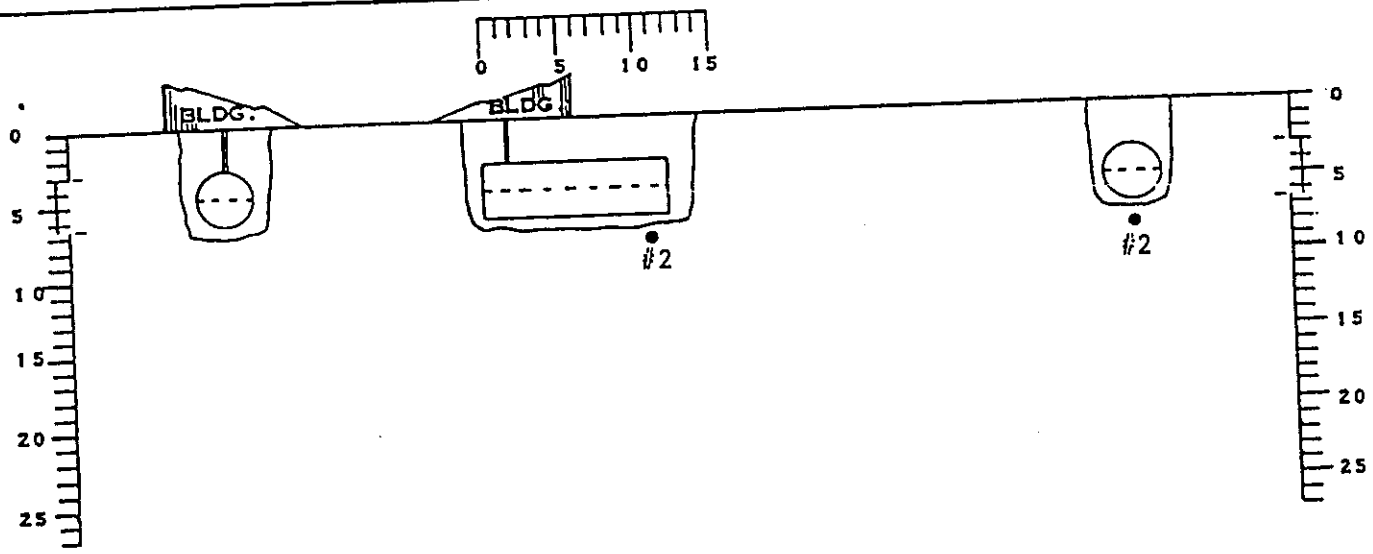


TABLE OF SAMPLING LOCATIONS AND ANALYTICAL RESULTS

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS APPVL LABORATORY	LABORATORY SAMPLE I.D.	ANALYTICAL RESULTS IN PARTS PER MILLION -- PPM TPH-EPF DIESEL	TOTAL OIL & GREASE	EPA 8240 COMPOUNDS
Woop	8'	STANDARD	INTERFACE	SOIL	10/5/88	88279-M-1	#2	BROWN & CALDWELL	10-867-2	ND	ND	ND

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0338

5500 Telegraph Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
C-1A									
05/27/99	123.27	115.93	7.34	9100	40	25	560	1900	35
09/02/99	123.27	115.72	7.55	9700	24	18.4	626	754	66
10/27/99	123.27	115.84	7.43	4740	<10	<10	276	270	<100/66.6[2]
02/11/00	123.27	115.27	8.00	5100	17.5	<10	182	333	<50
05/10/00	123.27	116.65	6.62	11,000[1]	110	170	480	980	<500
07/27/00	123.27	115.14	8.13	6,200[1]	<50	<50	540	150	<250
11/21/00	123.27	115.60	7.67	6,500[1]	19	<10	450	360	<50
02/05/01	123.27	115.91	7.36	5,270	1.43	1.04	326	269	15.0
05/07/01	**123.27**	**115.90**	**7.37**	**3,000[1]**	**37**	**27**	**520**	**490**	**63**
C-2A									
05/27/99	125.89	119.53	6.36	<50	<0.5	<0.5	<0.5	<0.5	44
09/02/99	125.89	117.04	8.85	<50	<0.5	<0.5	<0.5	<0.5	<2.5
10/27/99	125.89	116.65	9.24	<50	<0.5	<0.5	<0.5	<0.5	8.75/7.77[2]
02/11/00	125.89	117.64	8.25	<50	<0.5	<0.5	<0.5	<0.5	17.8
05/10/00	125.89	117.46	8.43	<50	<0.50	<0.50	<0.50	<0.50	3.2
07/27/00	125.89	116.34	9.55	<50	<0.50	<0.50	<0.50	<0.50	20
11/21/00	125.89	116.39	9.50	<50	<0.50	<0.50	<0.50	<0.50	<50
02/05/01	125.89	116.50	9.39	<50.0	<0.500	<0.500	<0.500	<0.500	3.36
05/07/01	**125.89**	**116.29**	**9.60**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**
C-4									
05/27/99	125.40	115.34	10.06	<50	<0.5	<0.5	<0.5	<0.5	44
09/02/99	125.40	114.89	10.51	<50	<0.5	<0.5	<0.5	<0.5	3.1
10/27/99	125.40	115.03	10.37	<50	<0.5	<0.5	<0.5	<0.5	<5.0/<2.0[2]
02/11/00	125.40	114.48	10.92	<50	<0.5	<0.5	<0.5	<0.5	2.79
05/10/00	125.40	116.28	9.12	<50	<0.50	<0.50	<0.50	<0.50	<2.5
07/27/00	125.40	113.50	11.90	<50	<0.50	<0.50	<0.50	<0.50	<2.5
11/21/00	125.40	113.76	11.64	<50	<0.50	<0.50	<0.50	<0.50	<2.5
02/05/01	125.40	115.21	10.19	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50
05/07/01	**125.40**	**114.45**	**10.95**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0338

5500 Telegraph Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
C-5									
05/27/99	124.15	117.54	6.61	2800	350	73	32	280	2,200/2,500[2]
09/02/99	124.15	116.27	7.88	570	9.0	<2.5	<2.5	<2.5	890
10/27/99	124.15	116.90	7.25	543	4.22	<0.5	3.28	<0.5	845/1,080[2]
02/11/00	124.15	117.41	6.74	488	0.56	<0.5	1.45	<0.5	565
05/10/00	124.15	118.36	5.79	140[1]	3.6	1.2	0.53	2.0	380
07/27/00	124.15	116.92	7.23	260[1]	1.4	1.2	0.93	2.8	460
11/21/00	124.15	117.47	6.68	130[1]	0.74	0.73	<0.50	<0.50	350
02/05/01	124.15	117.74	6.41	111	<1.00	<1.00	<1.00	<1.00	197
05/07/01	**124.15**	**117.91**	**6.24**	**100[1]**	**2.1**	**1.0**	**<0.50**	**0.80**	**210**
TRIP BLANK									
05/27/99	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
09/02/99	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
10/27/99	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
02/11/00	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5
05/10/00	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
07/27/00	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
11/21/00	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5
02/05/01	--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50
05/07/01	**--**	**--**	**--**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0338

5500 Telegraph Avenue

Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to May 10, 2000, were compiled from reports prepared by Blaine Tech Services, Inc.

TOC = Top of Casing

(ft.) = Feet

GWE = Groundwater Elevation

(msl) = Mean sea level

DTW = Depth to Water

TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

E = Ethylbenzene

X = Xylenes

MTBE = Methyl tertiary butyl ether

(ppb) = Parts per billion

-- = Not Measured/Not Analyzed

[1] Laboratory report indicates gasoline C6-C12.

[2] Confirmation run.

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California

Well ID/ TOC (ft)	Date	DTW (ft)	GWE (msl)	Product Thickness (ft)	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
					<----------ppb---------->					
C-1										
123.88	11/21/89	10.75	113.13	0	<500	<0.5	<0.5	<0.5	<0.5	---
	03/20/90	9.93	113.95	0	<50	<0.5	<0.5	<0.5	<0.5	---
	06/27/90[1]	9.64	114.24	0	<50	<0.5	<0.5	<0.5	<0.5	---
(d)	06/27/90[1]	9.64	114.24	0	---	---	---	---	---	---
	10/12/90[2]	10.91	112.97	0	<50	<0.5	<0.5	<0.5	<0.5	---
(d)	10/12/90	10.91	112.97	0	75	<0.5	0.9	0.8	3	---
	12/20/90	9.76	114.12	0	73	<0.5	0.6	0.7	2	---
(d)	12/20/90	9.76	114.12	0	<50	0.7	1.2	<0.5	1.0	---
	04/10/91	8.76	115.12	0	<50	0.9	1.5	<0.5	2	---
(d)	04/10/91	8.76	115.12	0	<50	<0.5	<0.5	<0.5	<0.5	---
	02/26/92	8.08	115.80	0	<50	<0.5	<0.5	<0.5	<0.5	---
	02/04/93	8.26	115.62	0	<50	<0.5	<0.5	<0.5	<1.5	---
	07/27/93	10.04	113.84	0	79	<0.5	<0.5	<0.5	<1.5	---
	09/22/93	10.32	113.56	0	<50	<0.5	<0.5	<0.5	<0.5	---
	11/15/93	10.40	113.48	0	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	06/28/98	8.74	115.14	0						
C-2										
124.92	11/21/89	10.75	114.17	0	<500	<0.5	<0.5	<0.5	<0.5	---
	03/20/90	9.44	115.48	0	<50	<0.5	<0.5	<0.5	<0.5	---
	06/27/90[1]	9.55	115.37	0	<50	<0.5	<0.5	<0.5	<0.5	---
	10/12/90	10.89	114.03	0	<50	<0.5	<0.5	<0.5	<0.5	---
	12/20/90	9.65	115.27	0	<50	<0.5	<0.5	<0.5	<05	---
	04/10/91	8.04	116.88	0	<50	<0.5	<0.5	<0.5	<0.5	---
	02/26/92	7.03	117.89	0	<50	<0.5	<0.5	<0.5	<0.5	---
	02/04/93	7.06	117.86	0	<50	<0.5	<0.5	<0.5	<1.5	---
	07/27/93	9.78	115.14	0	<50	<0.5	<0.5	<0.5	<1.5	---
	09/22/93	9.97	114.95	0	<50	<0.5	<0.5	<0.5	<0.5	---
	11/15/93	10.32	114.60	0	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	06/28/98	7.85	117.07	0						
C-3										
125.64	11/21/89	11.28	114.36	0	<500	<0.5	<0.5	<0.5	<0.5	---
	01/12/90[3]	---	---	0	---	---	---	---	---	---
	03/20/90[4]	10.39	115.25	0	<50	<0.5	<0.5	<0.5	<0.5	---
	06/27/90[1]	10.32	115.32	0	<50	<0.5	<0.5	<0.5	<0.5	---
	10/12/90	11.28	114.36	0	<50	<0.5	<0.5	<0.5	<0.5	---
	12/20/90	10.25	115.39	0	<50	<0.5	<0.5	<0.5	<0.5	---
	04/10/91	8.79	116.85	0	<50	<0.5	<0.5	<0.5	<0.5	---
	02/26/92	7.83	117.81	0	<50	<0.5	<0.5	<0.5	<0.5	---
	02/04/93	7.94	117.70	0						

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California (continued)

Well ID/ TOC (ft)	Date	DTW (ft)	GWE (msl)	Product Thickness (ft)	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
					<----------ppb---------->					
C-3 (cont)	07/27/93	10.59	115.05	0	280[5]	<0.5	<0.5	<0.5	<0.5	---
	09/22/93	10.78	114.86	0	<50	<0.5	<0.5	<0.5	<0.5	---
	11/15/93[6]	11.06	114.86	0	<50	<0.5	<0.5	<0.5	<0.5	---
	06/28/98	9.53	116.11	0	<50	<0.50	<0.50	<0.50	<0.50	<2.5
Rinsate	06/27/90	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	10/12/90[2]	---	---	---	---	---	---	---	---	---
	12/20/90	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	04/10/91	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	02/26/92	---	---	---	<50	<0.5	<0.5	<0.5	3.3	---
	11/15/93	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
Trip Blank	03/20/90[7]	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	06/27/90	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	10/12/90[2]	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	12/20/90	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	04/10/91	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	02/26/92	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	07/27/93	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	09/22/93	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
	11/15/93	---	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
TB-LB	06/28/98	---	---	---	<50	<0.50	<0.50	<0.50	<0.50	<2.5

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California (continued)

EXPLANATION:

TOC = Top of casing elevation
(ft) = Feet
DTW = Depth to water
GWE = Groundwater elevation
msl = Measurements referenced relative to mean sea level
TPH-Gasoline = Total Purgeable Petroleum Hydrocarbons as gasoline
MTBE = Methyl tertiary-butyl ether
TPH-Diesel = Total Purgeable Petroleum Hydrocarbons as diesel
ppb = Parts per billion
--- = Not analyzed/Not applicable
(d) = Duplicate

NOTES:

1. Sample was tested for lead; results were <0.5 ppb.
2. Sample was broken by laboratory.
3. Sample was tested fir TPH-Diesel and Total Oil and Grease; results were <1,000 ppb and <5,000 ppb, respectively.
4. Sample was tested for TPH-Diesel and Total Oil and Grease; results were <50 ppb and <5,000 ppb, respectively.
5. Gasoline range concentrations reported. The pattern of peaks observed in the chromatogram shows only single peak in the gasoline range.
6. Dichloromethane reported at 1.0 ppb.
7. Sample was tested for TPH-Diesel; results were <50 ppb.

6456.tqm

Table 2. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California.

Well ID/ TOC (feet)	Date	DTW (feet)	GWE (msl)	Product Thickness (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE
					<--------		ppb			-------->
C-1A/ 123.27	05/27/99	7.34	115.93	0	9,100	40	25	560	1,900	35
C-2A/ 125.89	05/27/99	6.36	119.53	0	<50	<0.50	<0.50	<0.50	<0.50	44
C-4/ 125.40	05/27/99	10.06	115.34	0	<50	<0.50	<0.050	<0.50	<0.50	44
C-5/ 124.15	05/27/99	6.61	117.54	0	2,800	350	73	32	280	2,200/2,500[1]
TB-LB	05/27/99	—	—	—	<50	<0.50	<0.50	<0.50	<0.50	<2.5

EXPLANATION:

DTW – Depth to water
TOC – Top of casing elevation
GWE – Groundwater elevation
TPHg – Total Petroleum Hydrocarbons as gasoline
MtBE – Methyl t-Butyl Ether
TB-LB – Trip blank
msl – Measurements referenced relative to mean sea level
ppb – Parts per billion
— – Not analyzed/Not applicable
[1] – MtBE result by EPA Method 8260

ANALYTICAL METHODS:

TPHg, benzene, toluene, ethylbenzene, xylenes – EPA Methods 5030/8015Mod/8020
MtBE – EPA Methods 8020 and 8260

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP #1271)

NOTES:

Wells C-1A, C-2A, C-4 and C-5 were surveyed on June 9, 1999, by Virgil Chavez of Vallejo, California (PLS 6323).

TABLE 2

GROUND-WATER ANALYSES DATA

WELL NO.	SAMPLE DATE	ALUMINUM (PPM)	ARSENIC (PPM)	BARIUM (PPM)	CADMIUM (PPM)	CHROMIUM (PPM)	COPPER (PPM)	LEAD (PPM)	MERCURY (PPM)	NICKEL (PPM)	SELENIUM (PPM)	SILVER (PPM)	ZINC (PPM)
C-1	20-Mar-90	45	0.014	0.25	<0.005	0.28	0.066	0.016	<0.0004	0.50	<0.003	<0.01	0.18
C-2	20-Mar-90	270	0.11	2.0	<0.005	0.82	0.38	0.12	0.0010	1.4	<0.003	<0.01	1.0
C-3	20-Mar-90	310	0.12	2.5	<0.005	1.0	0.43	0.12	0.0010	1.7	<0.003	<0.01	1.1

Note: 1. All data shown as <x are reported as ND (none detected)

TABLE 3

ANALYTICAL LOG

SAMPLE DATE	SAMPLE POINT	TPH (PPB)	BENZENE (PPB)	TOLUENE (PPB)	E.B. (PPB)	XYLENES (PPB)	ZINC (PPB)	LEAD (PPB)	CHROMIUM (PPB)	CADMIUM (PPB)	DIBROMIDE (PPB)	OIL&GR (PPB)	DIESEL (PPB)
21-Nov-89	C-1	<500.	<0.5	<0.5	<0.5	<0.5	N/A	N/A	N/A	N/A	<0.05	N/A	N/A
20-Mar-90	C-1	<50.	<0.5	<0.5	<0.5	<0.5	0.18	0.016	0.28	<0.005	N/A	N/A	N/A
21-Nov-89	C-2	<500.	<0.5	<0.5	<0.5	<0.5	N/A	N/A	N/A	N/A	<0.05	N/A	N/A
20-Mar-90	C-2	<50.	<0.5	<0.5	<0.5	<0.5	1.0	0.12	0.82	<0.005	N/A	N/A	N/A
21-Nov-89	C-3	<500.	<0.5	<0.5	<0.5	<0.5	1000.	<500.	500.	20.	<0.05	N/A	N/A
12-Jan-90	C-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<5000	<1000
20-Mar-90	C-3	<50.	<0.5	<0.5	<0.5	<0.5	1.1	0.12	1.0	<0.005	N/A	<5000	<50

ALL DATA SHOWN AS <X ARE REPORTED AS ND (NONE DETECTED)

TABLE OF MONITORING DATA
GROUNDWATER WELL SAMPLING REPORT

WELL I.D.	C-1	C-2	C-3
Casing Diameter (inches)	2	2	2
Total Well Depth (feet)	30.1	29.1	28.0
Depth to Water (feet)	10.75	10.75	11.28
Free Hydrocarbons (feet)	none	none	none
Reason Not Sampled	----	----	----
Calculated 4 Case Vol.(gal.)	16.0	15.6	14.2
Did Well Dewater?	yes	no	no
Volume Evacuated (gal.)	12	16	13
Purging Device	Bailer	Bailer	Bailer
Sampling Device	Bailer	Bailer	Bailer
Time	09:08	10:35	09:57
Temperature (F)*	67.8	64.2	65.4
pH*	7.05	7.06	6.83
Conductivity (umhos/cm)*	1925	873	864

* Indicates Stabilized Value

SUPERIOR ANALYTICAL LABORATORY INC.
825 ARNOLD, STE. 2 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 80298
CLIENT: Chevron
CLIENT JOB NO.: 3263

DATE RECEIVED: 11/30/89
DATE REPORTED: 12/04/89

ANALYSIS FOR TOTAL CADMIUM
by SW-846 Method 7130

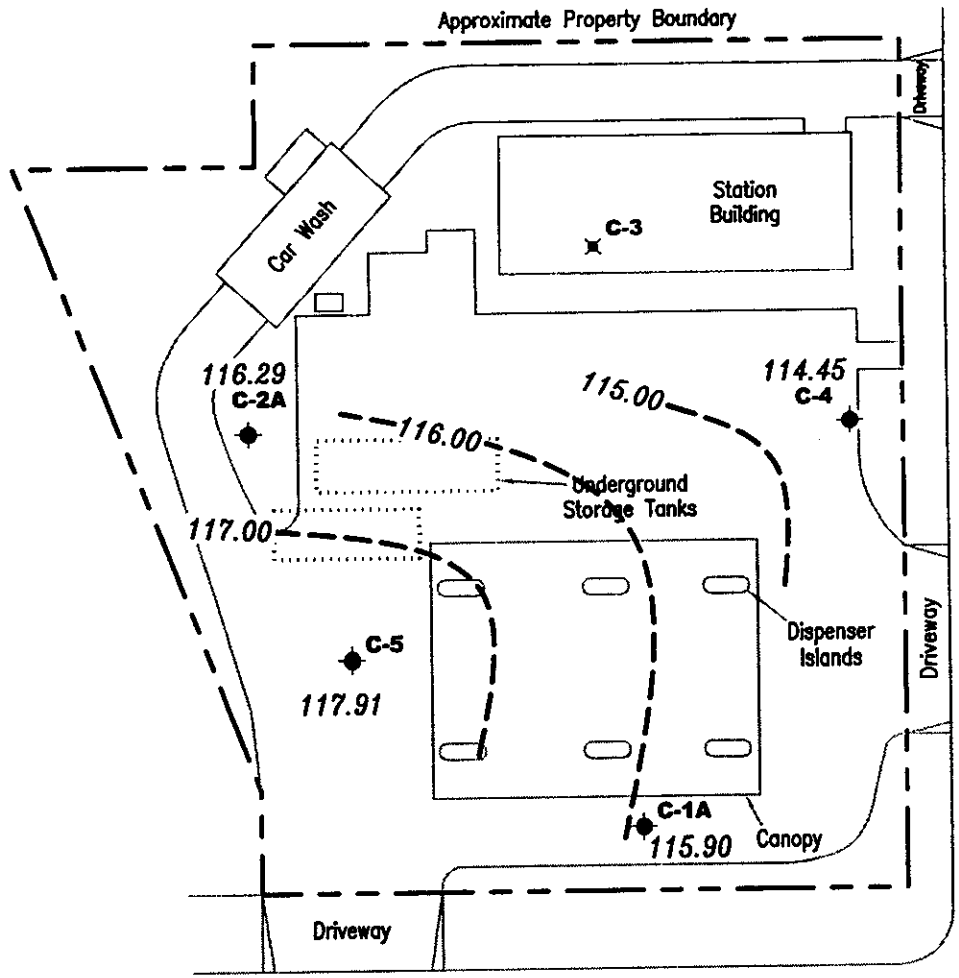
LAB #	Sample Identification	Concentration (ug/L) Total Cadmium
1	C-3	20

ug/L - parts per billion (ppb)

Method Detection Limit for Cadmium in Soil: 0.2 mg/kg
Method Detection Limit for Cadmium in Water: 10 ug/L

QAQC Summary: MS/MSD Average Recovery : 106%
Duplicate RPD : 2%

Edward R. Morales
Laboratory Manager



EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 — Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.03 Ft./Ft.

N

0 40

Scale in Feet

Source: Figure modified from drawing provided by RRM engineering contracting firm.

FIGURE 1

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

POTEMTIOMETRIC MAP
Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

PROJECT NUMBER 386456

REVIEWED BY

DATE May 7, 2001

REVISED DATE

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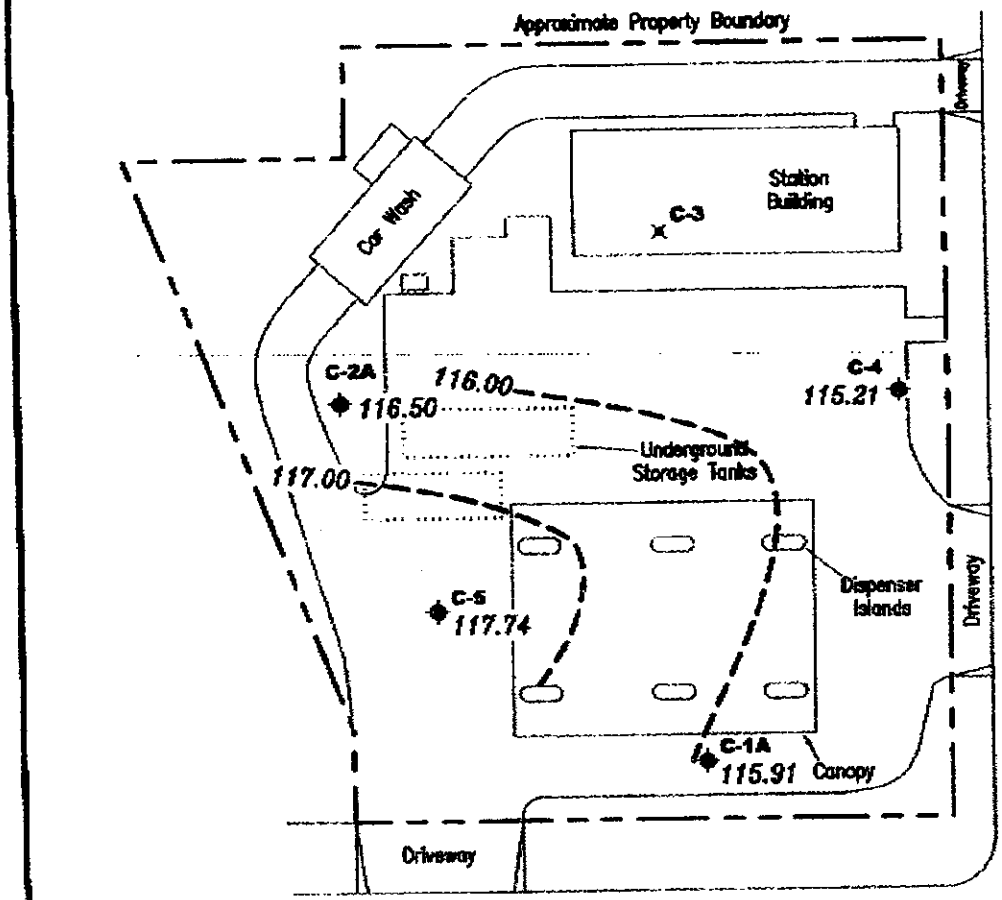


EXPLANATION

- Groundwater monitoring well
- Destroyed groundwater monitoring well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.02 Ft./Ft.

N

0 40

Scale in Feet

Source: Figure modified from drawing provided by RBM engineering contracting firm.

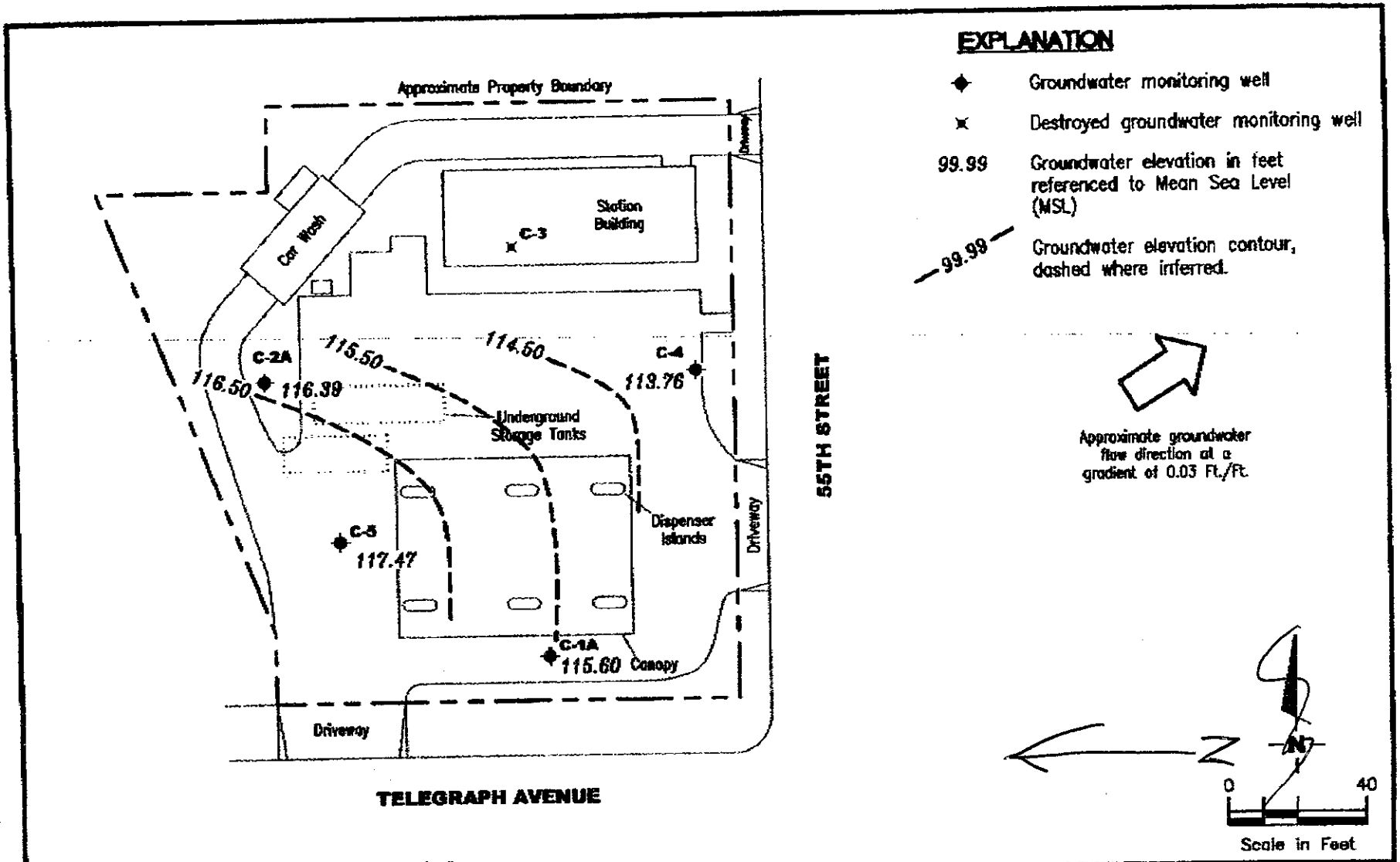
FIGURE 1

POTENTIOMETRIC MAP
Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

GETTLER-RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

PROJECT NUMBER 386456
REVIEWED BY
DATE February 5, 2001
REVISED DATE

FILE NAME: P:\ENVIRO\CHEVRON\9-0338\001-9-0338.DWG | Layout Tab: Pot1



Source: Figure modified from drawing provided by RRM engineering contracting firm.

GETTLER-RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(925) 551-7555

POTENTIOMETRIC MAP
Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

FIGURE
1

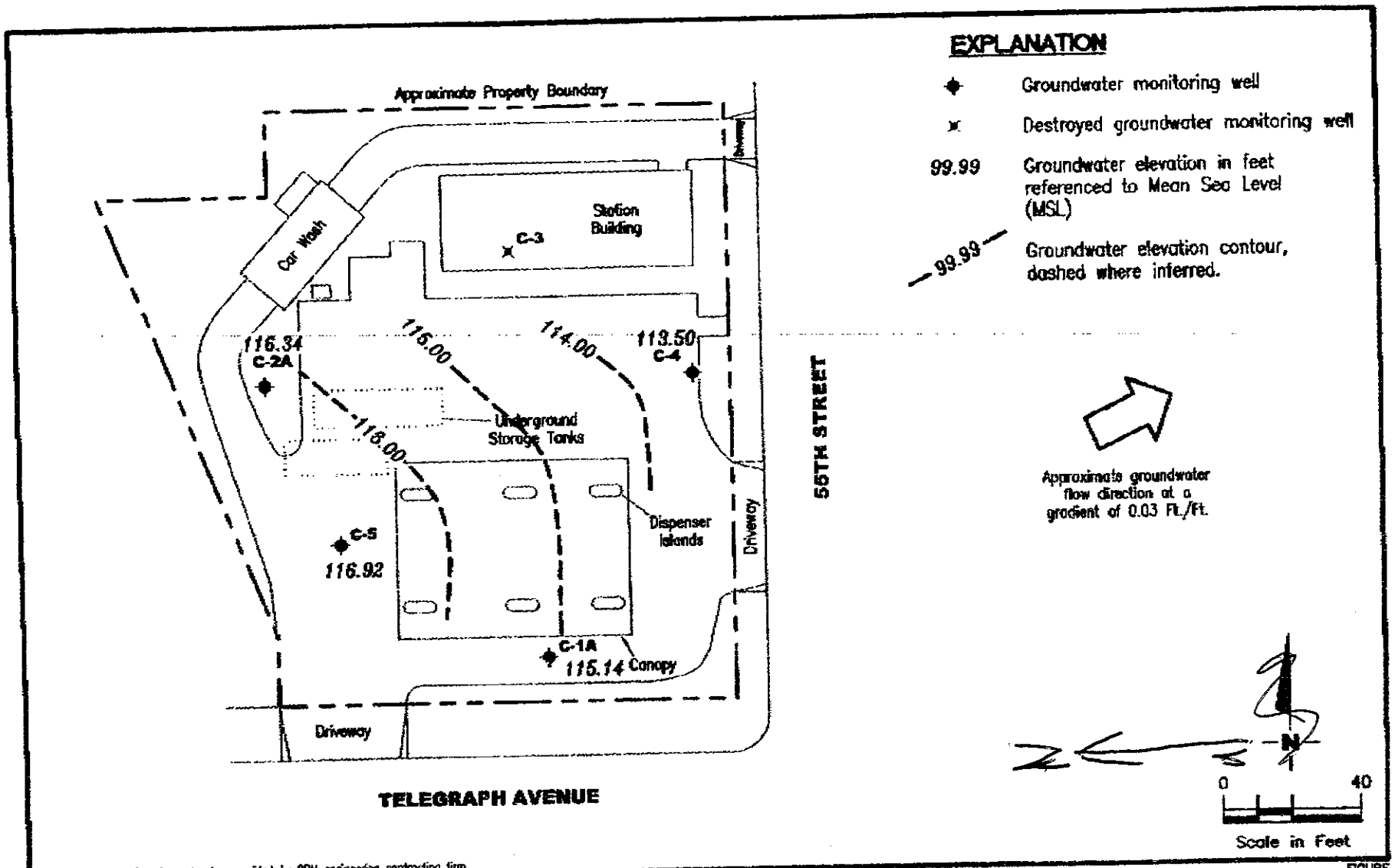
PROJECT NUMBER
386456

REVIEWED BY

DATE
November 21, 2000

REVISED DATE

FILE NAME: P:\ENVIRO\CHEVRON\9-0338\D09-9-0338.DWG | Layout Tab: Plot4



Source: Figure modified from drawing provided by RBH engineering contracting firm.

FIGURE 1

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

POTENTIOMETRIC MAP
Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

PROJECT NUMBER 386456
REVIEWED BY
DATE July 27, 2000
REVISED DATE

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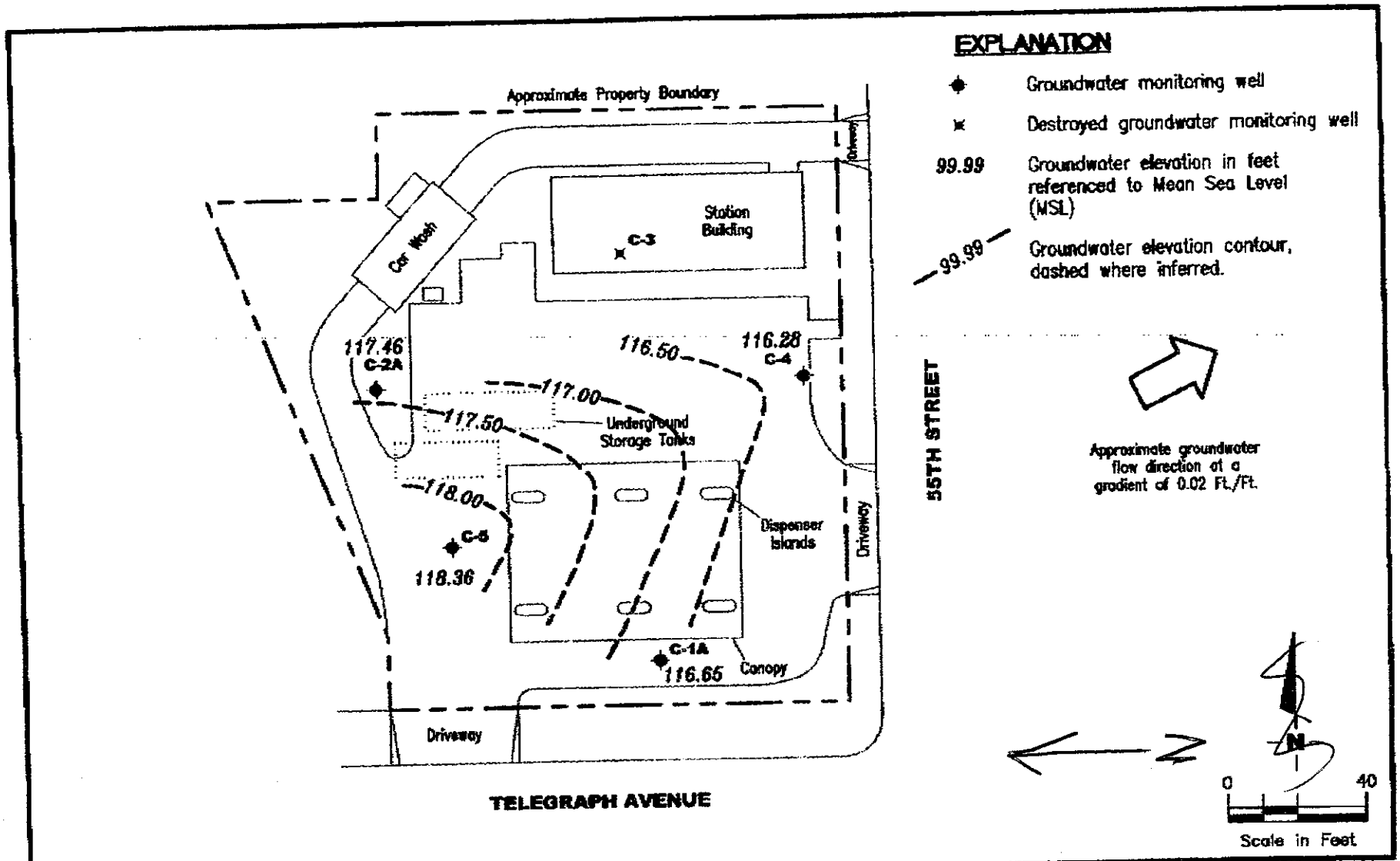


Source: Figure modified from drawing provided by KRM engineering contracting firm.

FIGURE 1

POTENTIOMETRIC MAP
Chevron Service Station #9-0338
5500 Telegraph Avenue
Oakland, California

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(925) 551-7555

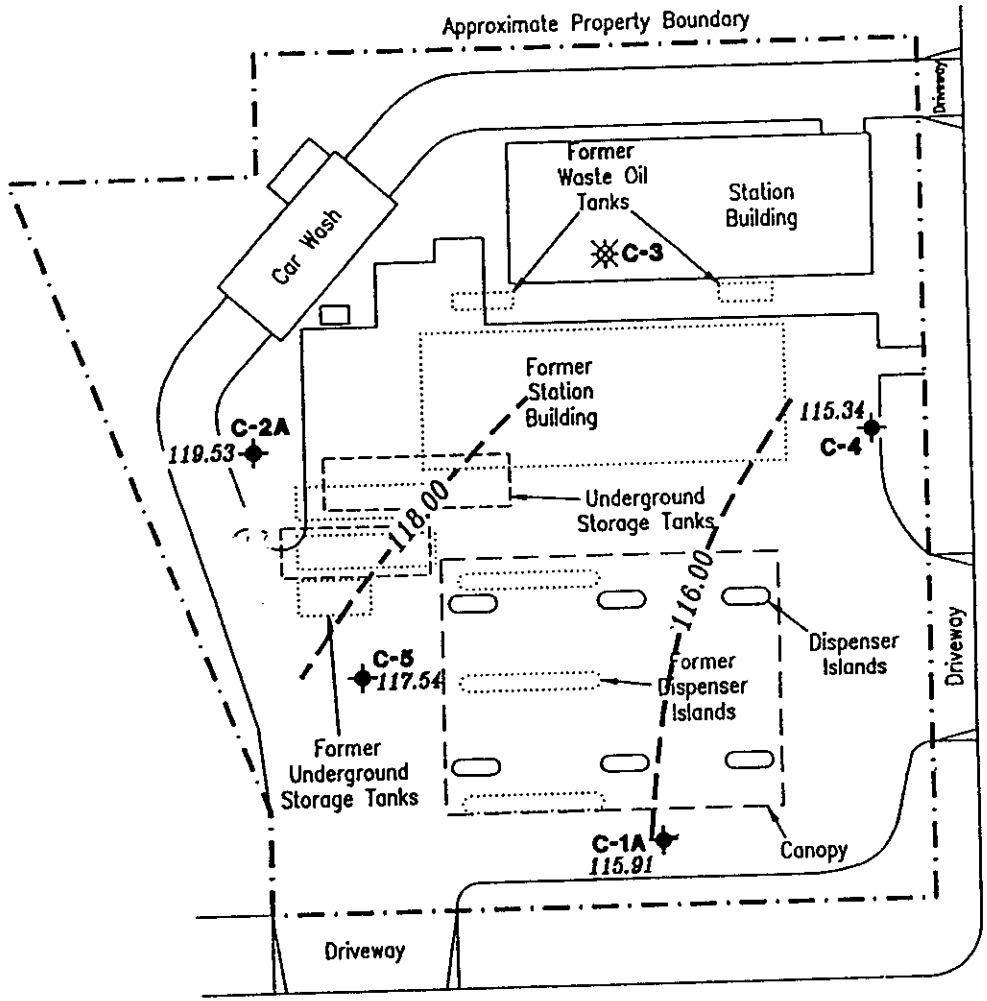
PROJECT NUMBER
386456

REVIEWED BY

DATE
May 10, 2000

REVISED DATE

FILE NAME: P:\FMRD\CHEVRON\9-0338\000-9-0338.DWG [Layout Tab: POT2]



EXPLANATION:

- Groundwater Monitoring Well
- Destroyed Groundwater Monitoring Well
- 119.53 Groundwater Elevation Measured In Feet Referenced To Mean Sea Level
- 118.00 Groundwater Elevation Contour, Dashed Where Inferred
- Approximate Groundwater Flow Direction At A Gradient Of 0.03 Ft./Ft.

Note: Wells C-1A and C-2A were installed in locations of drilled-out wells C-1 and C-2

N

0 40

Scale in Feet

Source: Figure Modified From Drawing Provided By Chevron.

FIGURE 2

Gettler - Ryan Inc.

6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

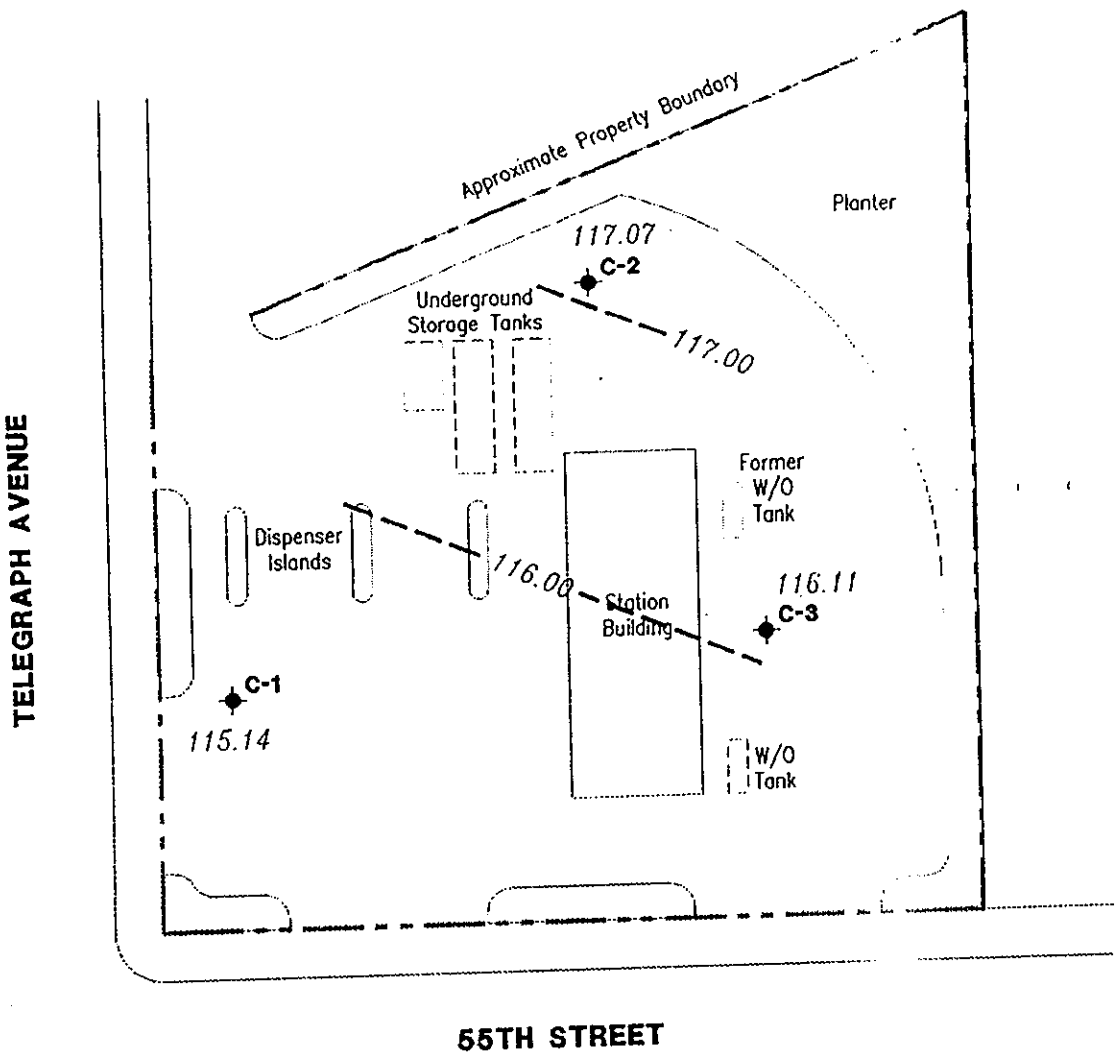
POTENTIOMETRIC MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

JOB NUMBER 346456.02

REVIEWED BY

DATE May 27, 1999

REVISED DATE



EXPLANATION

- ✦ Groundwater monitoring well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.02 Ft./Ft.

N

0 40

Scale in Feet

FIGURE 1

Gettler - Ryan Inc.

6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

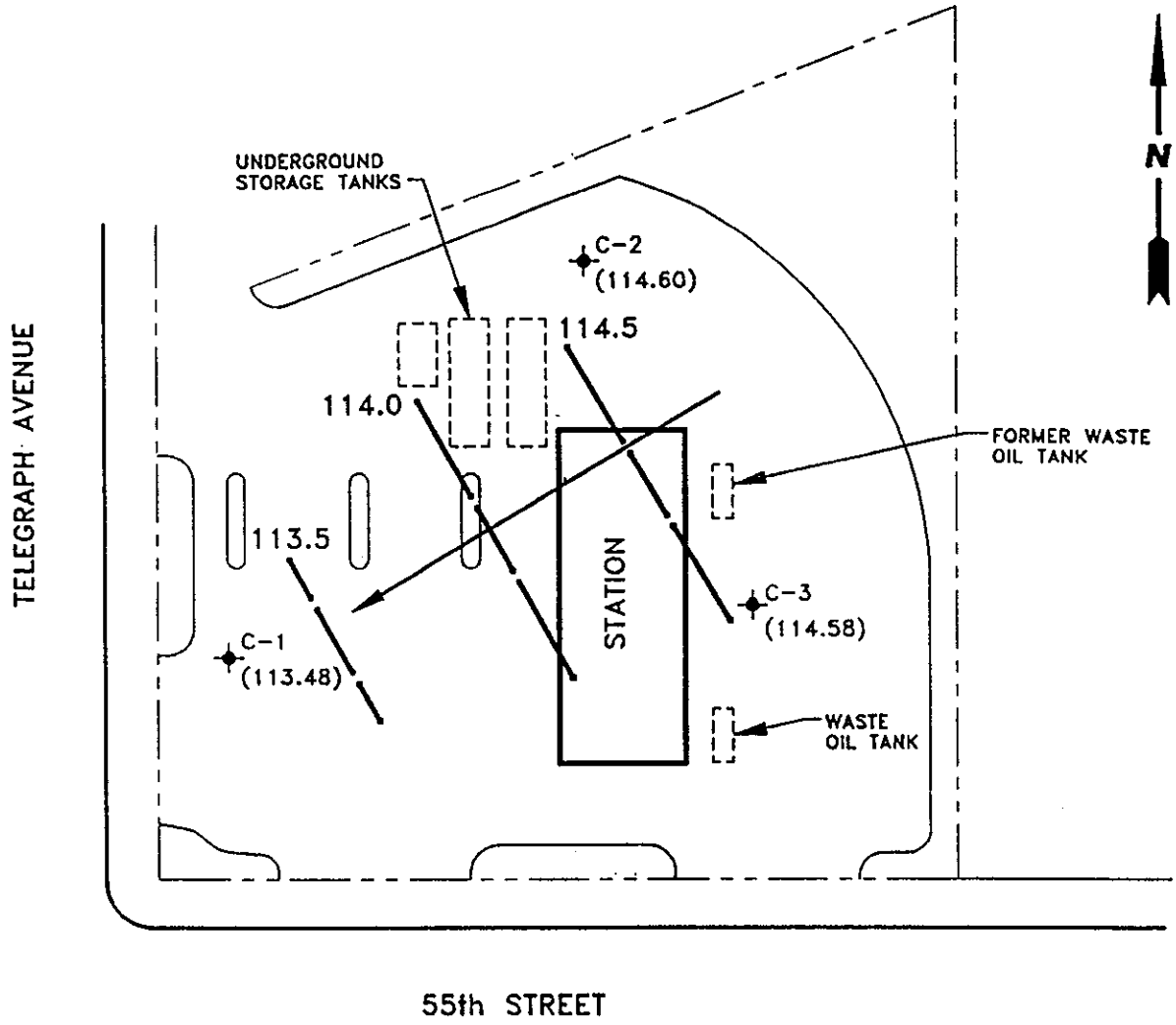
POTENTIOMETRIC MAP
Chevron Service Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

JOB NUMBER 6456

REVIEWED BY

DATE June 28, 1998

REVISED DATE

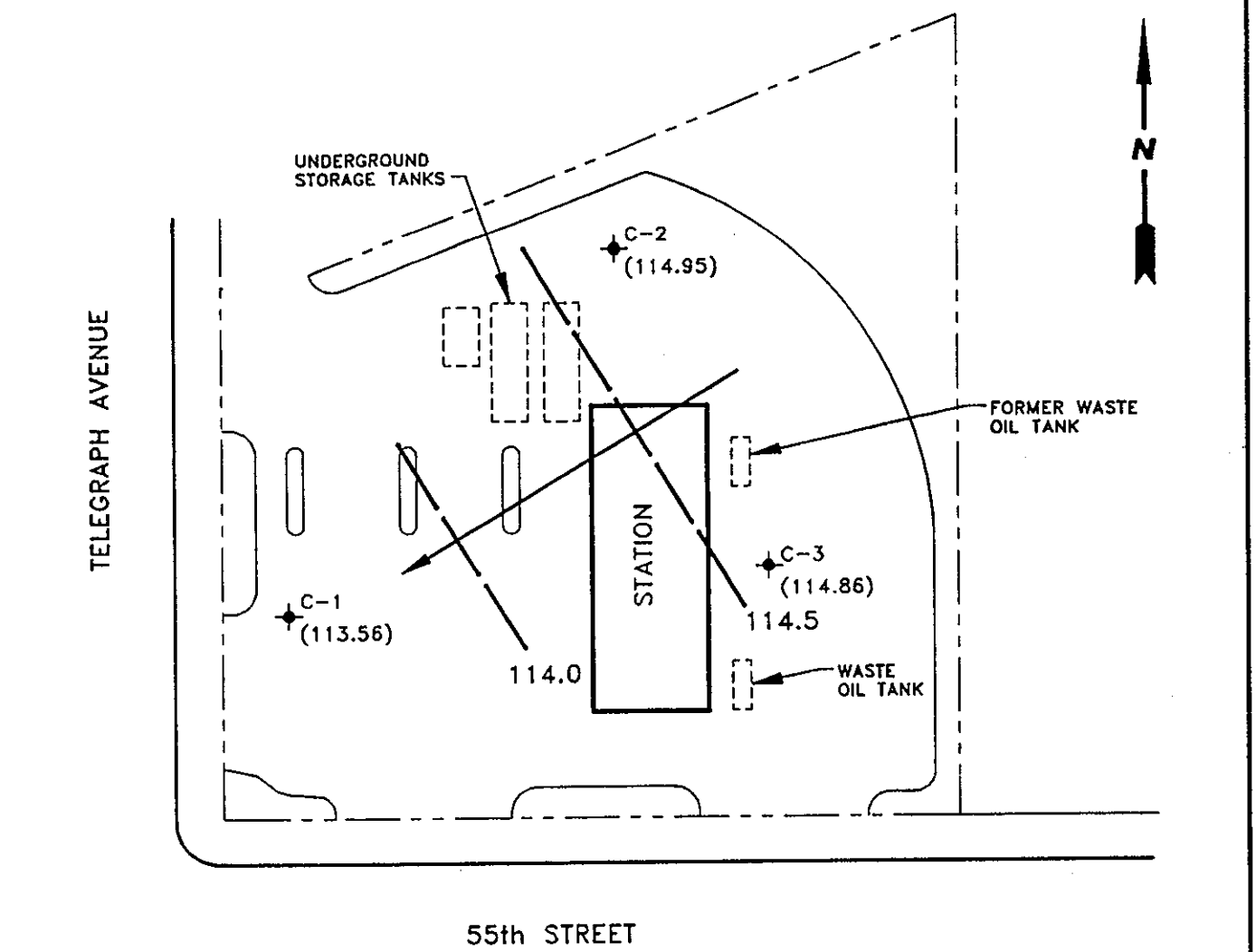


LEGEND

- ✦ MONITORING WELL
- ( ) POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- PONTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

0 FEET 40
SCALE

GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY. CONCORD, CA 94520 (510) 671-2387				POTENTIOMETRIC SURFACE MAP (11/5/93)		
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0338				LOCATION: 5500 TELEGRAPH AVENUE OAKLAND, CALIFORNIA	REV. NO.: 0	DATE: 12/9/93
PM: JAW	PE/RG:	DESIGNED: TW	DETAILED: CY	ACAD FILE: PSMD93	PROJECT NO.: 020204116	FIGURE: 1



LEGEND

- ✦ MONITORING WELL
- ( ) POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- —— PONTIOMETRIC SURFACE CONTOUR
- ←—— GROUNDWATER FLOW DIRECTION

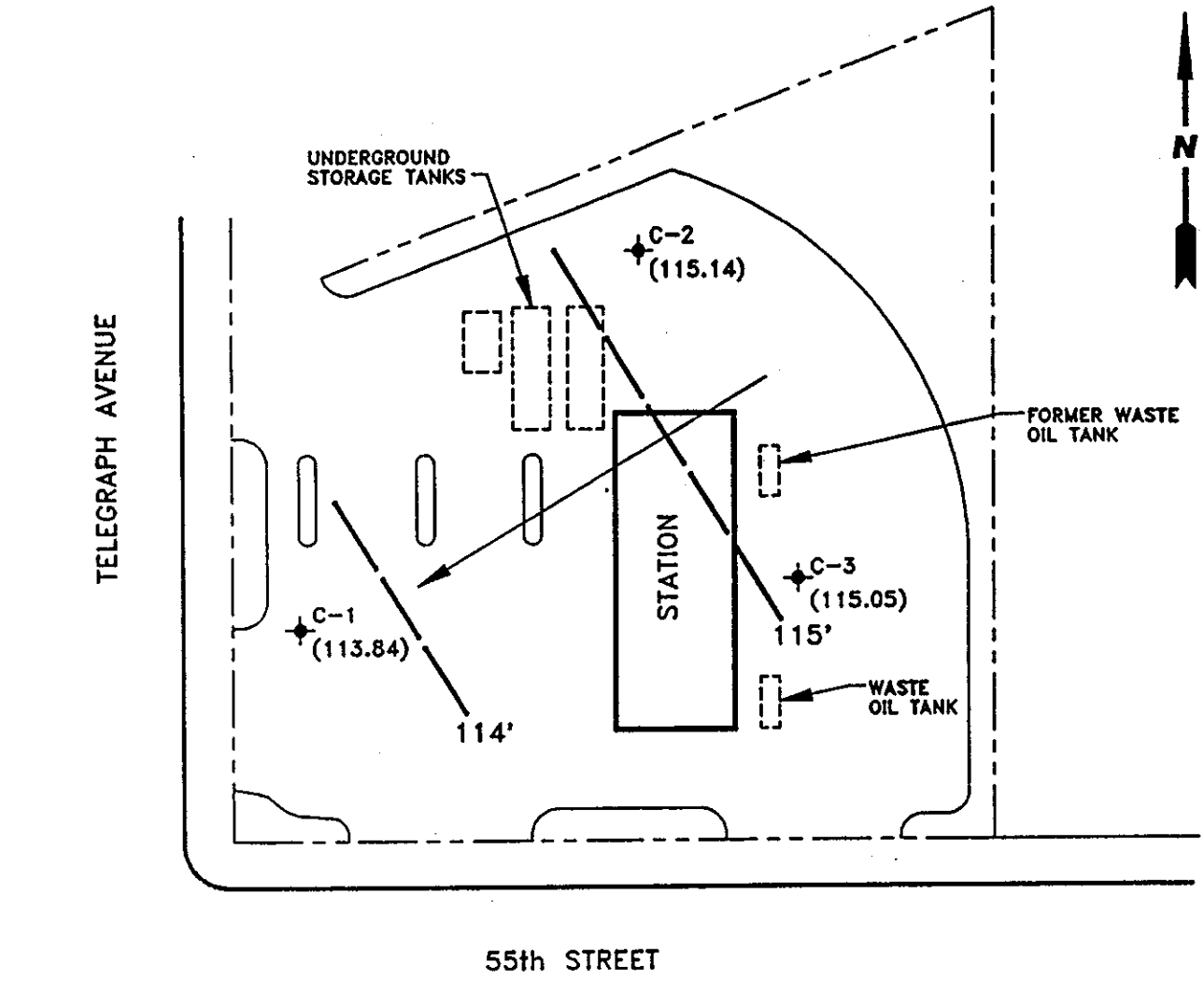
0 FEET 40
SCALE

GROUNDWATER TECHNOLOGY
4057 PORT CHICAGO HWY.
CONCORD, CA 94520
(510) 671-2387

POTENTIOMETRIC SURFACE MAP (10/21/93)

CLIENT:	LOCATION:	REV. NO.:	DATE:
CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0338	5500 TELEGRAPH AVENUE OAKLAND, CALIFORNIA	0	10/21/93

PM	PE/RG	DESIGNED	DETAILED	ACAD FILE:	PROJECT NO.:	FIGURE:
IAS	MB	TW	CY	PSM093	020204116	1



LEGEND

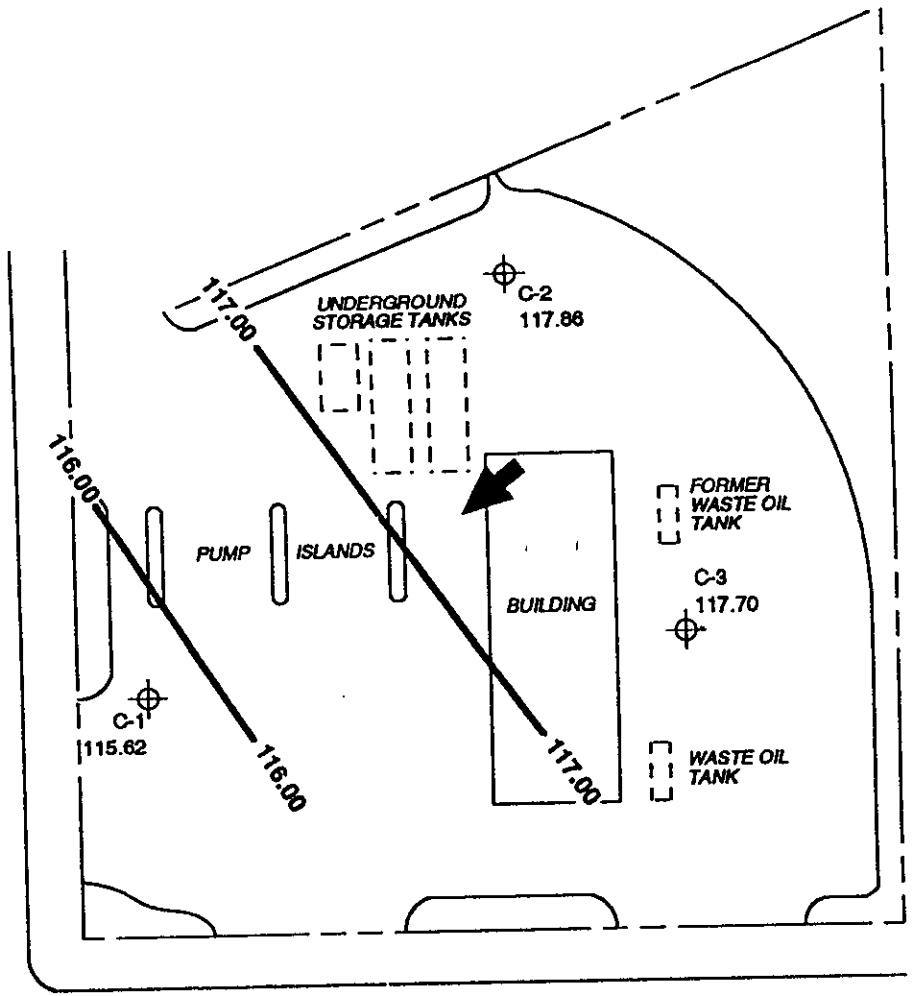
- ✦ MONITORING WELL
- ( ) POTENTIOMETRIC SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- PONTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

0 FEET 40
SCALE

GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY. CONCORD, CA 94520 (510) 671-2387				POTENTIOMETRIC SURFACE MAP (7/27/93)		
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0338				LOCATION: 5500 TELEGRAPH AVENUE OAKLAND, CALIFORNIA	REV. NO.: 0	DATE: 8/13/93
PM: IAW	PE/RG: ORF	DESIGNED: TW	DETAILED: ML	ACAD FILE: PSM72793/SP893	PROJECT NO.: 020204116	FIGURE: 1

LEGEND

- C-3 — Ground water monitoring well
- 117.70 — Ground water elevation, in feet below mean sea level [NGVD-1929]
- Ground water elevation contour
- General direction of ground water gradient



NOTES:
Contour lines are interpretive based on fluid levels collected February 4, 1993.
Contour interval - 1.0 foot.

SCALE (feet)
0 20 40

GROUND WATER ELEVATION CONTOUR MAP
February 4, 1993

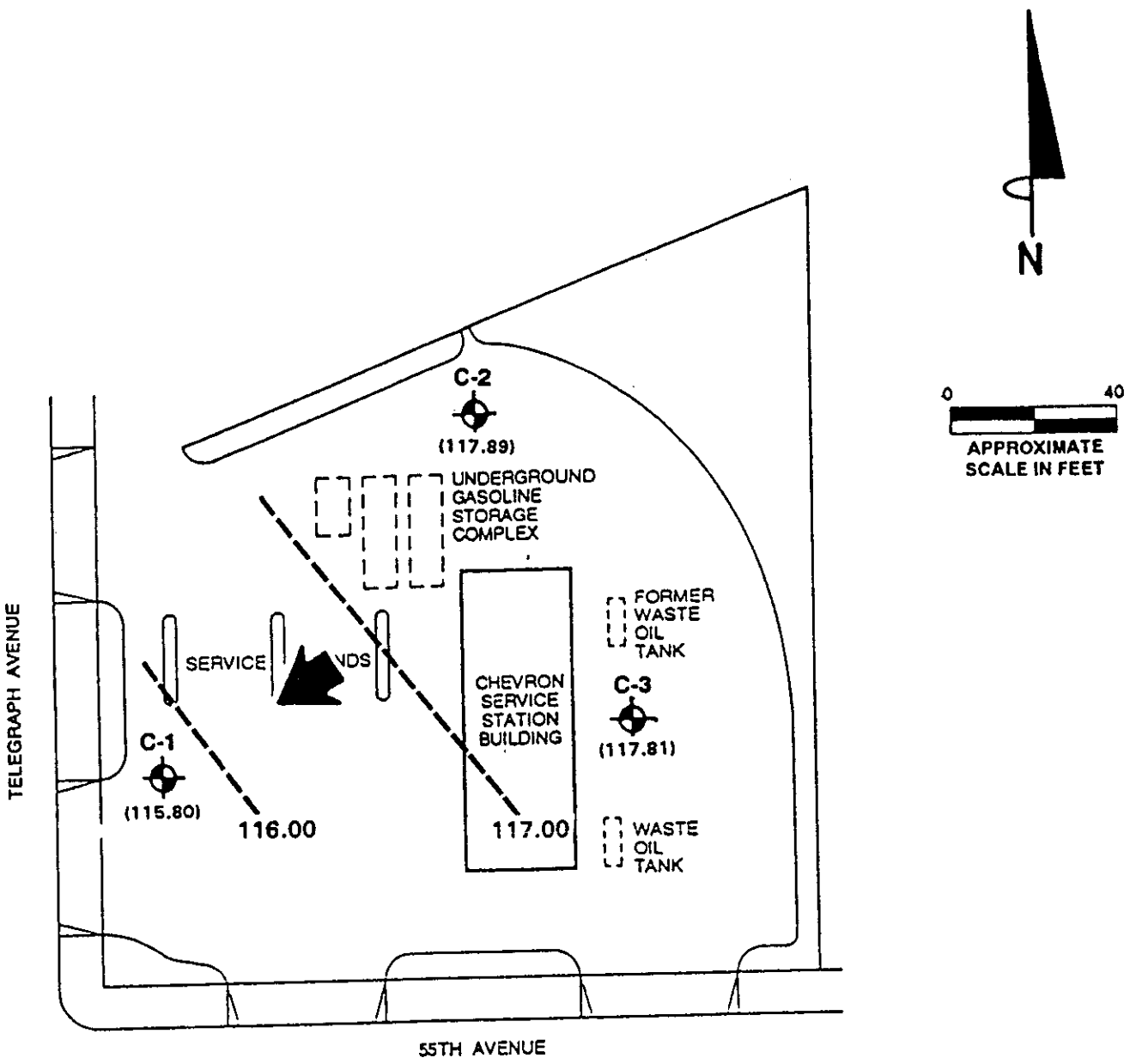
Chevron Station No. 9-0338
5500 Telegraph Avenue
Oakland, California

FIGURE 2

ALTON GEOSCIENCE
Pleasanton, California

Source: Geostrategies, Inc.

31-0261 4/2/93



LEGEND:

GROUND WATER MONITORING WELL

(115.80) GROUND WATER ELEVATION (FEET ABOVE MEAN SEA LEVEL (NGVD-1929))

GROUND WATER ELEVATION CONTOUR

GENERAL GROUND WATER GRADIENT DIRECTION

NOTE:

1. CONTOUR LINES ARE INTERPRETIVE BASED ON FLUID LEVELS IN MONITORING WELLS MEASURED ON 2/26/92.

SOURCE: GEOSTRATEGIES INC.

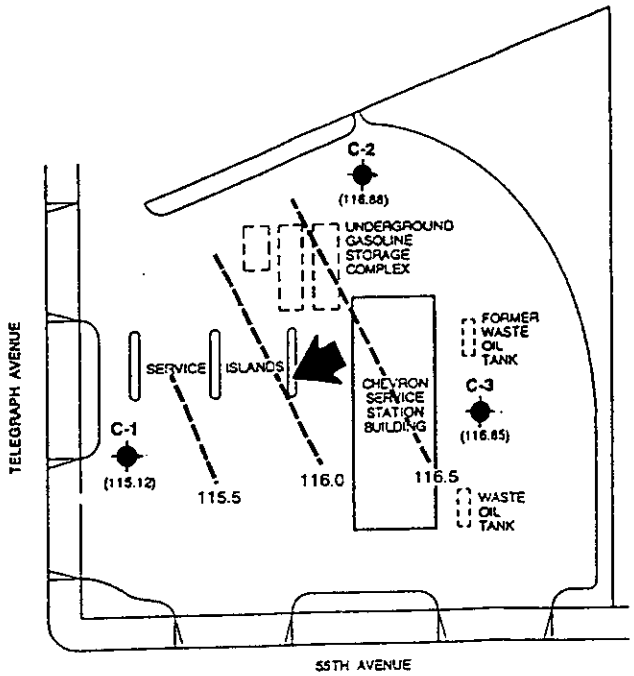
PROJECT NO. 31-0261

FIGURE 2.

GROUND WATER ELEVATION CONTOUR MAP

CHEVRON SERVICE STATION
NO. 9 - 0338
5500 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA,

ALTON GEOSCIENCE
Pleasanton, California



N

0 40

APPROXIMATE SCALE IN FEET

LEGEND:

- GROUND WATER MONITORING WELL
- (115.12) GROUND WATER ELEVATION (FEET ABOVE MEAN SEA LEVEL (NGVD-1929))
- GROUND WATER ELEVATION CONTOUR
- GENERAL DIRECTION OF GROUND WATER FLOW

Note:
Contour lines are interpretive based on fluid levels in monitoring wells measured on 04/10/91.

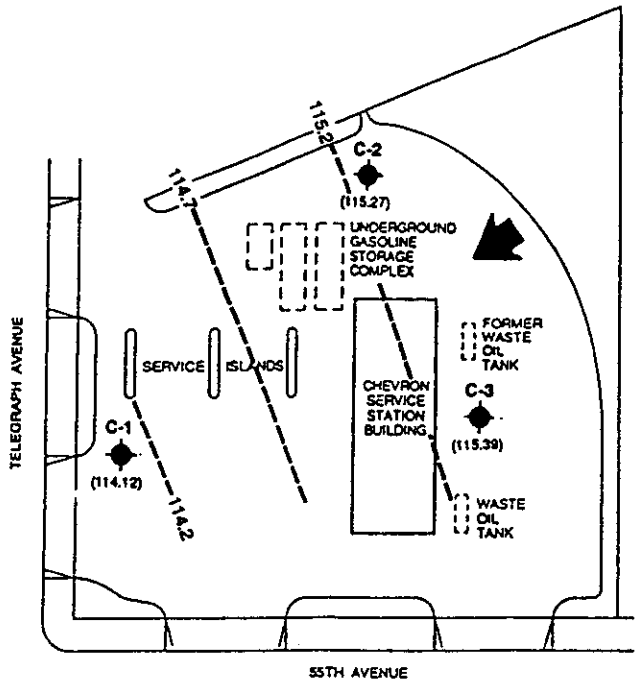
FIGURE 2. GROUND WATER ELEVATION CONTOUR MAP

CHEVRON SERVICE STATION NO. 9 - 0338
5500 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA,

ALTON GEOSCIENCE
1000 Burnett Ave., Ste. 140
Concord, CA 94520

SOURCE: GEOSTRATEGIES INC.

PROJECT NO. 30-261



N

0 40

APPROXIMATE SCALE IN FEET

LEGEND:

- GROUND WATER MONITORING WELL
- (114.12) GROUND WATER ELEVATION (FEET ABOVE MEAN SEA LEVEL [NGVD-1929])
- GROUND WATER ELEVATION CONTOUR
- GENERAL DIRECTION OF GROUND WATER FLOW

Note:
Contour lines are interpretive based on fluid levels in monitoring wells measured on 12/20/90.

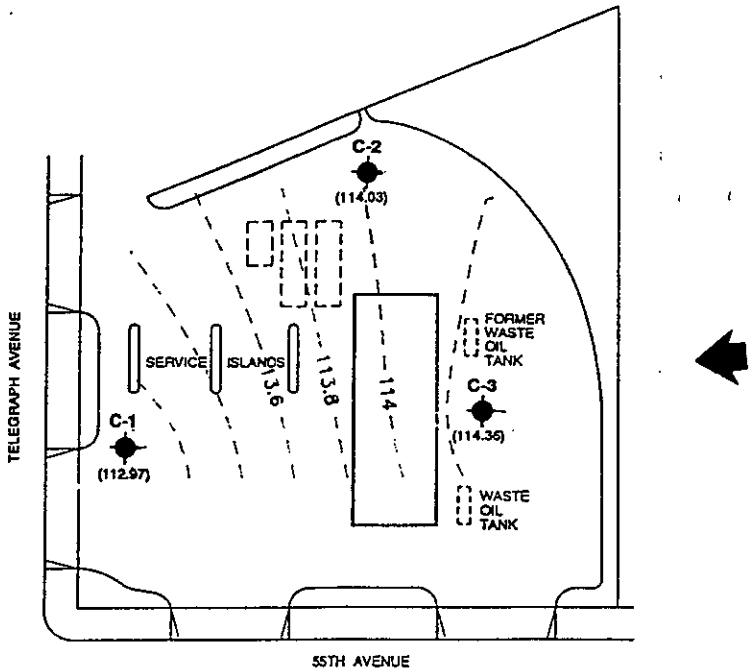
FIGURE 2. GROUND WATER ELEVATION CONTOUR MAP

CHEVRON SERVICE STATION NO. 9 - 0338
5500 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA

SOURCE: GeoStrategies Inc.

PROJECT NO. 30-261

ALTON GEOSCIENCE
1000 Burnett Ave., Ste. 140
Concord, CA 94520



N

0 40

APPROXIMATE SCALE IN FEET

LEGEND:

- GROUND WATER MONITORING WELL
- GROUND WATER ELEVATION (FEET ABOVE MEAN SEA LEVEL [NGVD-1929])
- GROUND WATER ELEVATION CONTOUR (0.10 FOOT INTERVAL)
- GENERAL DIRECTION OF GROUND WATER FLOW

Note:
Contour lines are interpretive based on fluid levels in monitoring wells measured on 10/12/90.

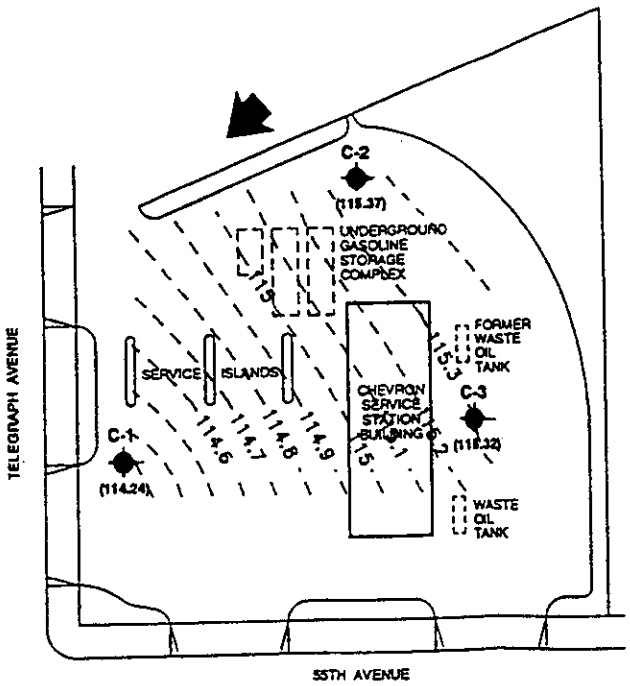
FIGURE 2. GROUND WATER ELEVATION CONTOUR MAP

CHEVRON SERVICE STATION NO. 9 - 0338
5500 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA,

SOURCE: GeoStrategies Inc.

PROJECT NO. 30 - 189

ALTON GEOSCIENCE
1000 Burnett Ave., Ste. 140
Concord, CA 94520



N

0 40

APPROXIMATE SCALE IN FEET

LEGEND:

- GROUND WATER MONITORING WELL
- (118.37) GROUND WATER ELEVATION (FEET ABOVE MEAN SEA LEVEL [NGVD-1929])
- GROUND WATER ELEVATION CONTOUR (0.10 FOOT INTERVAL)
- GENERAL DIRECTION OF GROUND WATER FLOW

Note:
Contour lines are interpretive based on fluid levels in monitoring wells measured on 6-27-90.

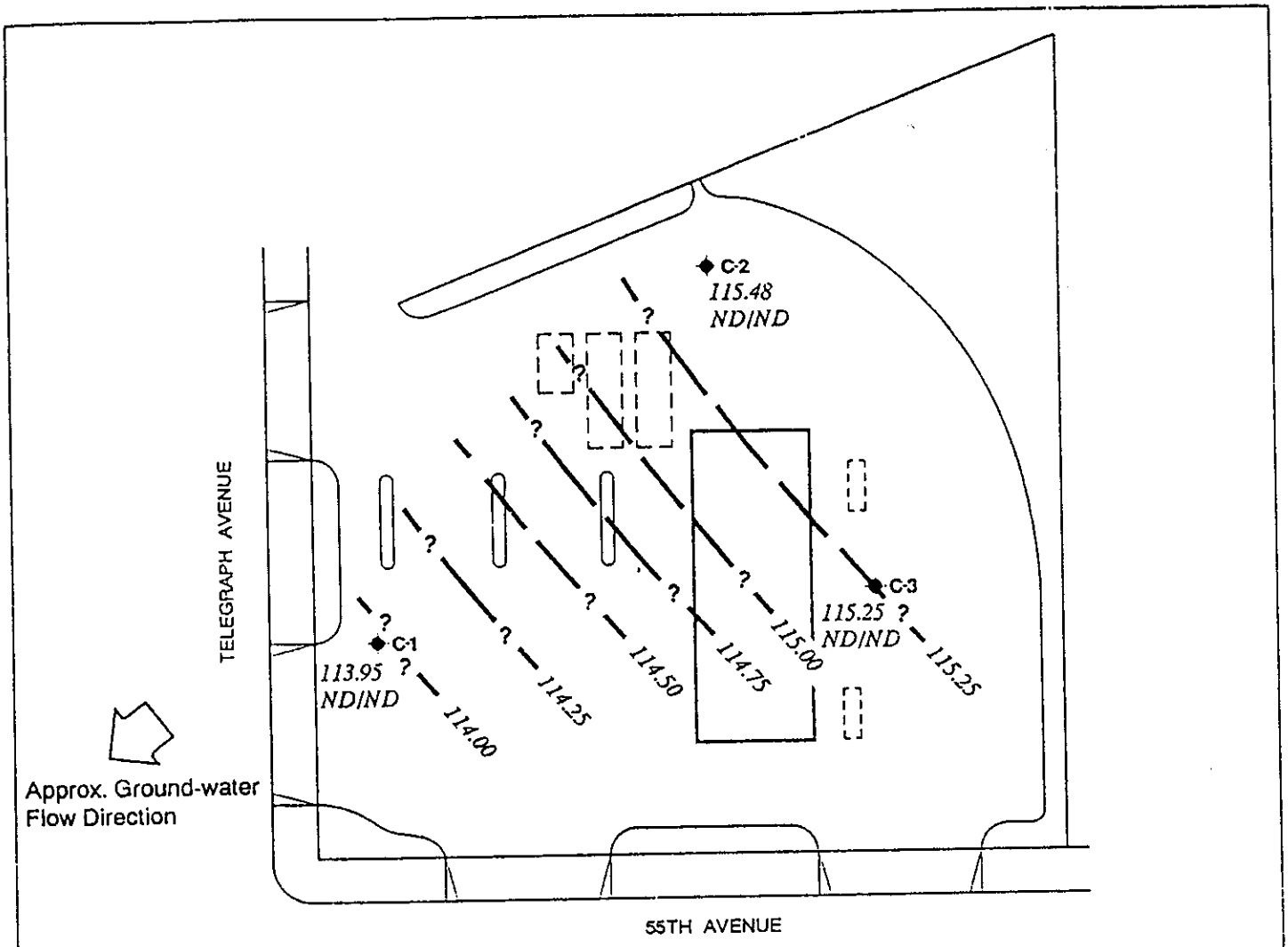
FIGURE 2. GROUND WATER ELEVATION CONTOUR MAP

CHEVRON SERVICE STATION NO. 9 - 0338
5500 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA,

SOURCE: GeoStrategies Inc.

PROJECT NO. 30 - 189

ALTON GEOSCIENCE
1000 Burnett Ave., Ste. 140
Concord, CA 94520



EXPLANATION

◆ C-1	Ground-water monitoring well location
114.00	Ground-water elevation contour Approximate Gradient = 0.013
113.95	Ground-water elevation in feet referenced to Mean Sea Level (MSL) measured on March 20, 1990
ND/ND	TPH-G (Total Petroleum Hydrocarbons calculated as Gasoline)/Benzene concentrations in ppb sampled on March 20, 1990
ND	Not Detected (see laboratory reports for detection limits)

N

0 40 80

Scale in Feet

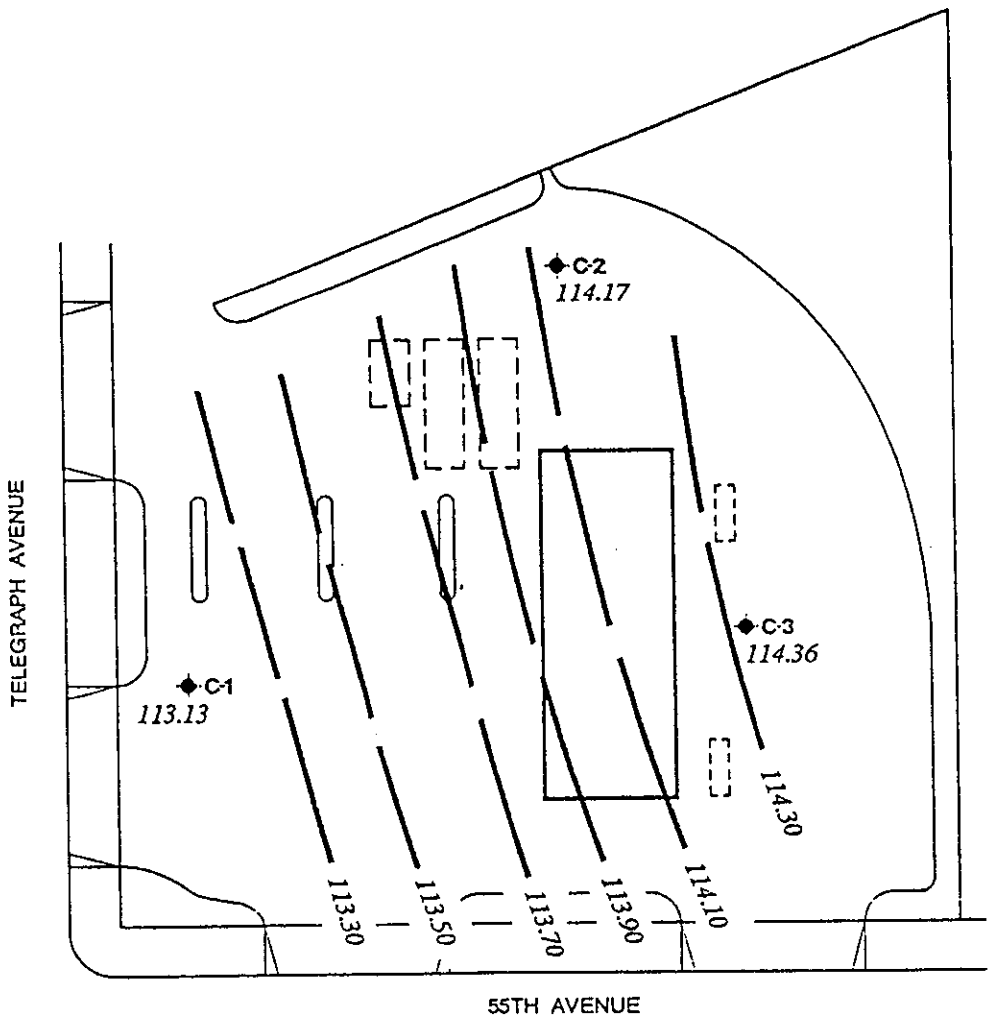
Note: Contours may be influenced by irrigation practices and/or site construction activities

GSI GeoStrategies Inc.

Potentiometric and Chemical Concentration Map
Chevron Service Station #0338
5500 Telegraph Avenue
Oakland, California

PLATE 3

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	CEG 1262	07/90		



Approx. Ground-water Flow Direction

EXPLANATION

C-1 Ground-water monitoring well location

113.70 Ground-water elevation contour
Approximate Gradient = 0.01

114.17 Ground-water elevation in feet referenced to Mean Sea Level (MSL) measured on November 21, 1989

N

0 40 80
Scale in Feet

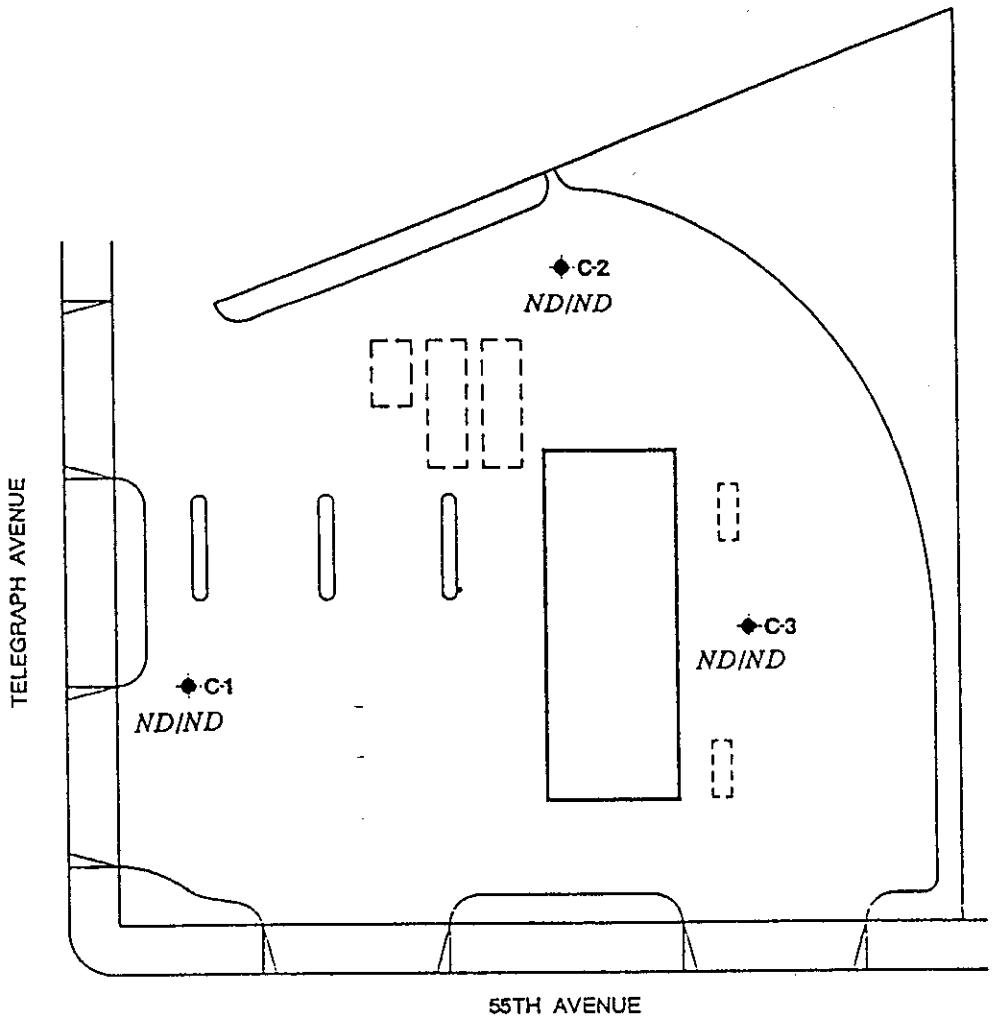
Note: Contours may be influenced by irrigation practices and/or site construction activities

GeoStrategies Inc.

Potentiometric Map
Chevron Service Station #0338
5500 Telegraph Avenue
Oakland, California

PLATE 3

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	CEG 1262	1/90		



EXPLANATION

◆ C-1	Ground-water monitoring well location
ND/ND	TPH-G (Total Petroleum Hydrocarbons calculated as Gasoline)/Benzene concentrations in ppb sampled on November 21, 1989
ND	Not Detected (see laboratory reports for detection limits)

N

0 40 80

Scale in Feet

GeoStrategies Inc.

TPH-G/Benzene Concentration Map
Chevron Service Station #0338
5500 Telegraph Avenue
Oakland, California

PLATE 4

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	RJM CEG 1262	1/90		

Field location of boring:

(See Plate 2)

Project No.: 7263	Date: 11/13/89	Boring No: C-1	
Client: Chevron Service Station #0338			
Location: 5500 Telegraph Avenue			
City: Oakland, California		Sheet 1 of 2	
Logged by: R.S.Y.	Driller: Bayland		

Casing installation data:

Drilling method: Hollow-Stem Auger

Hole diameter: 8-Inch

Top of Box Elevation: 123.88 Datum: MSL

Water Level	24.5	10.75		
Time	11:15	09:08		
Date	11-13-89	11-21-89		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								PAVEMENT SECTION - 2.0 feet
				1				
				2				
				3				CLAY with SAND (CL) - very dark brown (10YR 2/2), damp, medium stiff; 15% coarse sand; mottled light brown; brick and wood fragments to 3.0 feet; low plasticity; open voids; no chemical odor.
0	100	S&H		4				
	150	push	C-1	5				
	200		5.0					
				6				
				7				SILT with SAND (ML) - dark yellow brown (10YR 4/6); 15% very fine sand.
				8				
				9				
0	100	S&H						
	250	push	C-1	10				
	250		10.5					CLAYEY GRAVEL (GC) - gray (7.5YR 6/0), dense, moist; 75% angular gravel; sand stringers; pockets of silt - 2 mm; no chemical odor.
				11				
				12				
				13				
				14				
0	9	S&H						COLOR CHANGE to dark yellow brown (10YR 4/6); no chemical odor.
	12		C-1	15				
	14		15.5					
				16				
				17				
				18				less gravel at 18.0 feet; no chemical odor.
				19				

Remarks:

Log of Boring

BORING NO. C-1

GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	CEG 1262	11/89		

Field location of boring: (See Plate 2)	Project No.: 7263	Date: 11/13/89	Boring No: C-1
	Client: Chevron Service Station #0338		
	Location: 5500 Telegraph Avenue		
	City: Oakland, California		Sheet 2 of 2
	Logged by: R.S.Y.	Driller: Bayland	
Drilling method: Hollow-Stem Auger	Casing installation data:		
Hole diameter: 8-Inch	Top of Box Elevation:	Datum:	

	Water Level	Time	Date

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
0	7	S&H		20				
	9		C-1					SILTY SAND (SM) - dark yellow brown (10YR 4/6),
	14		20.5					medium dense, very moist; 80% very fine sand; 20% silt;
				21				no chemical odor.
				22				
				23				
				24				
0	4	S&H				▽		COLOR CHANGE to light gray (7.5YR 6/0), saturated;
	7		C-1	25				organic fragments; no chemical odor.
	10		25.5					
				26				
				27				
				28				
				29				SANDY CLAY (CL) - dark yellow brown (10YR 4/4), very
0	4	S&H						stiff, moist; 10% well rounded gravels; 30% fine sand; no
	11		C-1	30				chemical odor.
	20		30.5					
				31				
	10	S&H		32				same as above; no chemical odor.
	19							
	23			33				Bottom of sample at 33.0 feet.
								Bottom of boring at 33.0 feet.
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

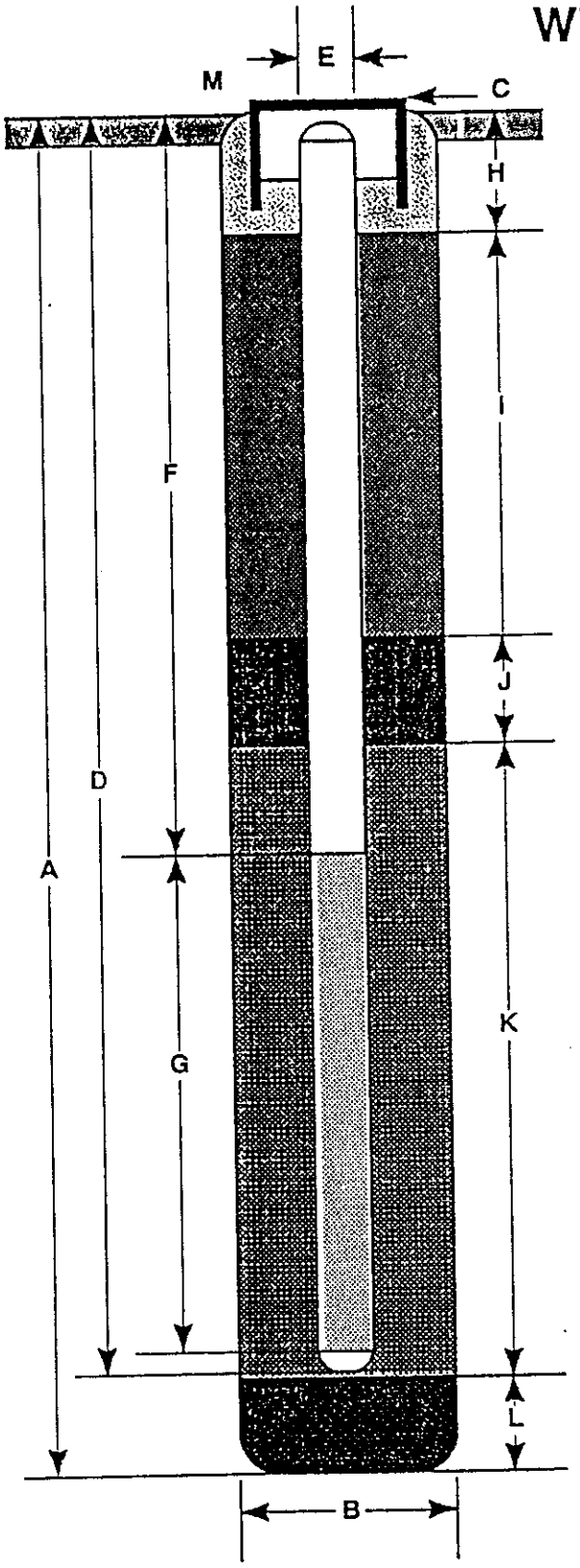
Log of Boring

BORING NO. C-1

GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	RMP CEG 1262	11/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 33 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow-Stem Auger

C Top of Box Elevation 123.88 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 30 ft.
Material PVC Schedule 40

E Casing Diameter 2 in.

F Depth to Top Perforations 18 ft.

G Perforated Length 12 ft.
Perforated Interval from 18 to 30 ft.
Perforation Type Machine Slot
Perforation Size 0.020 in.

H Surface Seal from 0.0 to 1.5 ft.
Seal Material Concrete

I Backfill from 1.5 to 14 ft.
Backfill Material Cement Grout

J Seal from 14 to 16 ft.
Seal Material Bentonite Pellets

K Gravel Pack from 16 to 30 ft.
Pack Material Lonestar #2/12 Sand

L Bottom Seal 3 ft.
Seal Material Native Material

M

Well Construction Detail

WELL NO.

GSI GeoStrategies Inc.

C-1

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263		11/89		

Field location of boring:

(See Plate 2)

Project No.:	7263	Date: 11/13/89	Boring No: C-2
Client:	Chevron Service Station #0338		
Location:	5500 Telegraph Avenue		
City:	Oakland, California		Sheet 1 of 2
Logged by:	R.S.Y.	Driller: Bayland	

Casing installation data:

Drilling method: Hollow-Stem Auger

Hole diameter: 8-Inch

Top of Box Elevation: 124.92 Datum: MSL

Water Level	23.0	10.75		
Time	14:10	10:35		
Date	11-13-89	11-21-89		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								PAVEMENT SECTION - 0.5 feet
				1				
				2				
				3				
				4				
0	100	S&H						SILT (ML) - very dark grayish brown (10 YR 3/0), medium
	150	push	C-2	5				stiff, dry; trace very fine sand; rootlets; open voids; no
	250		5.5					chemical odor.
				6				
				7				
				8				
				9				
0	500	S&H						GRAVELLY CLAY (CL) - dark yellow brown (10YR 4/6),
	20		C-2	10				hard, moist; 35% angular gravel; 10% fine sand; no
	24		10.5					chemical odor.
				11				
				12				
				13				
				14				
0	9	S&H						same as above; no chemical odor.
	18		C-2	15				
	20		15.5					
				16				
				17				
				18				
				19				

Remarks:

Log of Boring

BORING NO. C-2

GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	CMP CEG 1262	11/89		

Field location of boring: (See Plate 2)	Project No.: 7263	Date: 11/13/89	Boring No: C-2
	Client: Chevron Service Station #0338		
	Location: 5500 Telegraph Avenue		
	City: Oakland, California		Sheet 2 of 2
	Logged by: R.S.Y.	Driller: Bayland	
Drilling method: Hollow-Stem Auger	Casing installation data:		
Hole diameter: 8-Inch	Top of Box Elevation:	Datum:	

	Water Level			
	Time			
	Date			

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
0	4	S&H		20				
	7		C-2					CLAYEY GRAVEL (GC) - dark yellow brown (10YR 4/4),
	18		20.5					medium dense, moist; 70% angular to subround gravel;
				21				30% clay; pockets of calcareous nodules; no chemical
								odor.
				22				
				23				
				24		▽		
0	3	S&H						SILTY SAND (SM) - dark yellow brown (10YR 4/6),
	3		C-2	25				medium dense, saturated; 75-80% very fine sand; gray
	10		25.5					staining around organic fragments; no chemical odor.
				26				
				27				
				28				
				29				GRAVELLY CLAY with SAND (CL) - dark yellow brown
0	7	S&H						(10YR 4/6), very stiff, moist; 20% angular to subround
	10		C-2	30				gravel; 15% medium sand; no chemical odor.
	14		30.5					
				31				
	7	S&H						
	10			32				
	15							Bottom of sample at 32.5 feet.
				33				Bottom of boring at 32.5 feet.
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

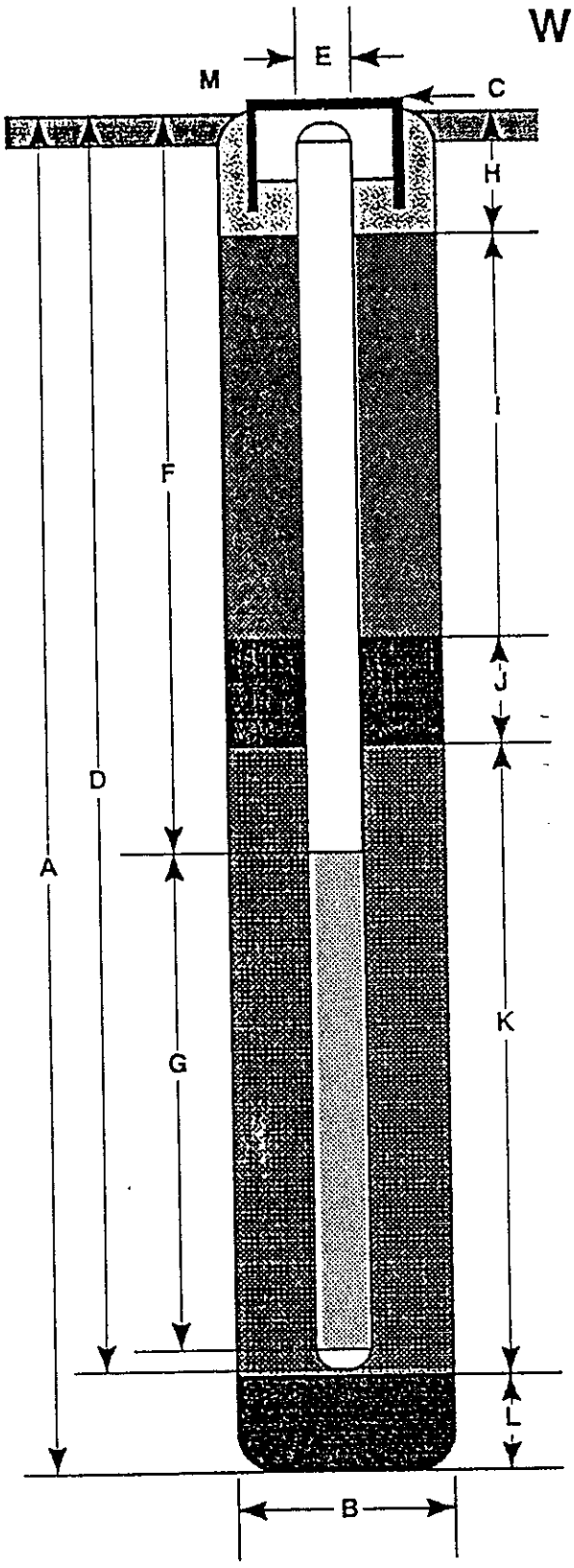
GeoStrategies Inc.

Log of Boring

BORING NO. C-2

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	CEG 1262	11/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 32.5 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow-Stem Auger

C Top of Box Elevation 124.92 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 28.5 ft.
Material PVC Schedule 40

E Casing Diameter 2 in.

F Depth to Top Perforations 10 ft.

G Perforated Length 18.5 ft.
Perforated Interval from 10 to 28.5 ft.
Perforation Type Machine Slot
Perforation Size 0.020 in.

H Surface Seal from 0.0 to 1.5 ft.
Seal Material Concrete

I Backfill from 1.5 to 6 ft.
Backfill Material Cement Grout

J Seal from 6 to 8 ft.
Seal Material Bentonite Pellets

K Gravel Pack from 8 to 28.5 ft.
Pack Material Lonestar #2/12 Sand

L Bottom Seal 4 ft.
Seal Material Native Material

M

Well Construction Detail

WELL NO. C-2

GSI GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263		11/89		

Field location of boring: (See Plate 2)	Project No.: 7263	Date: 11/13/89	Boring No: C-3
	Client: Chevron Service Station #0338		
	Location: 5500 Telegraph Avenue		
	City: Oakland, California		Sheet 1 of 2
	Logged by: R.S.Y.	Driller: Bayland	
	Casing installation data:		
Drilling method: Hollow-Stem Auger			
Hole diameter: 8-Inch	Top of Box Elevation: 125.64		Datum: MSL

Water Level	23.5	11.28
Time	16:00	09:57
Date	11-13-89	11-21-89

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								PAVEMENT SECTION - 2.5 feet
				1				
				2				
				3				
				4				
0	100	S&H						SILT (ML) - dark brown (10YR 3/3), stiff, damp; trace fine sand; rootlets; no chemical odor.
	100	push	C-3	5				
	150		5.5					
				6				
				7				
				8				
				9				
0	6	S&H						GRAVELLY CLAY (CL) - dark yellow brown (10YR 4/6), very stiff, moist; 20-30% fine angular gravel; oxidation stains; no chemical odor.
	12		C-3	10				
	18		10.5					
				11				
				12				
				13				
				14				
0	4	S&H						CLAYEY GRAVEL (GC) - dark yellow brown (10YR 3/4), medium dense, saturated; 75% angular to subround gravel; 25% clay; oxidation stains; no chemical odor.
	6		C-3	15				
	10		15.5					
				16				
				17				
				18				
				19				

Remarks:

Log of Boring

BORING NO. C-3

GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	CEG 1262	11/89		

Field location of boring:

(See Plate 2)

Project No.:	7263	Date: 11/13/89	Boring No: C-3
Client:	Chevron Service Station #0338		
Location:	5500 Telegraph Avenue		
City:	Oakland, California		Sheet 2 of 2
Logged by:	R.S.Y.	Driller: Bayland	

Casing installation data:

Drilling method: Hollow-Stem Auger

Hole diameter: 8-Inch

Top of Box Elevation: Datum:

Water Level				
Time				
Date				

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
0	3	S&H		20				
	6		C-3					CLAYEY SAND (SC) - dark yellow brown (10YR 4/6),
	13		20.5					medium dense, very moist; 70% very fine to fine sand;
				21				30% clay; gray staining around black organic fragments;
								trace rounded gravel; no chemical odor.
				22				
				23				
				24		▽		
0	7	S&H						
	9		C-3	25				GRAVELLY SAND (SP) - dark yellow brown (10YR 3/4),
	9		25.5					medium dense, saturated; 70% medium to coarse sand;
				26				25-30% well rounded gravel; 5% fines; no chemical odor.
				27				
				28				stiffer at 27.5 feet
				29				SANDY CLAY with GRAVEL (CL) - dark yellow brown
0	7	S&H						(10YR 4/6), very stiff, moist; 35-40% medium to coarse
	13		C-3	30				sand; 15% gravel; no chemical odor.
	17		30.5					
				31				
	7	S&H						
	10			32				
	15							
				33				Bottom of sample at 32.5 feet.
								Bottom of boring at 32.5 feet.
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

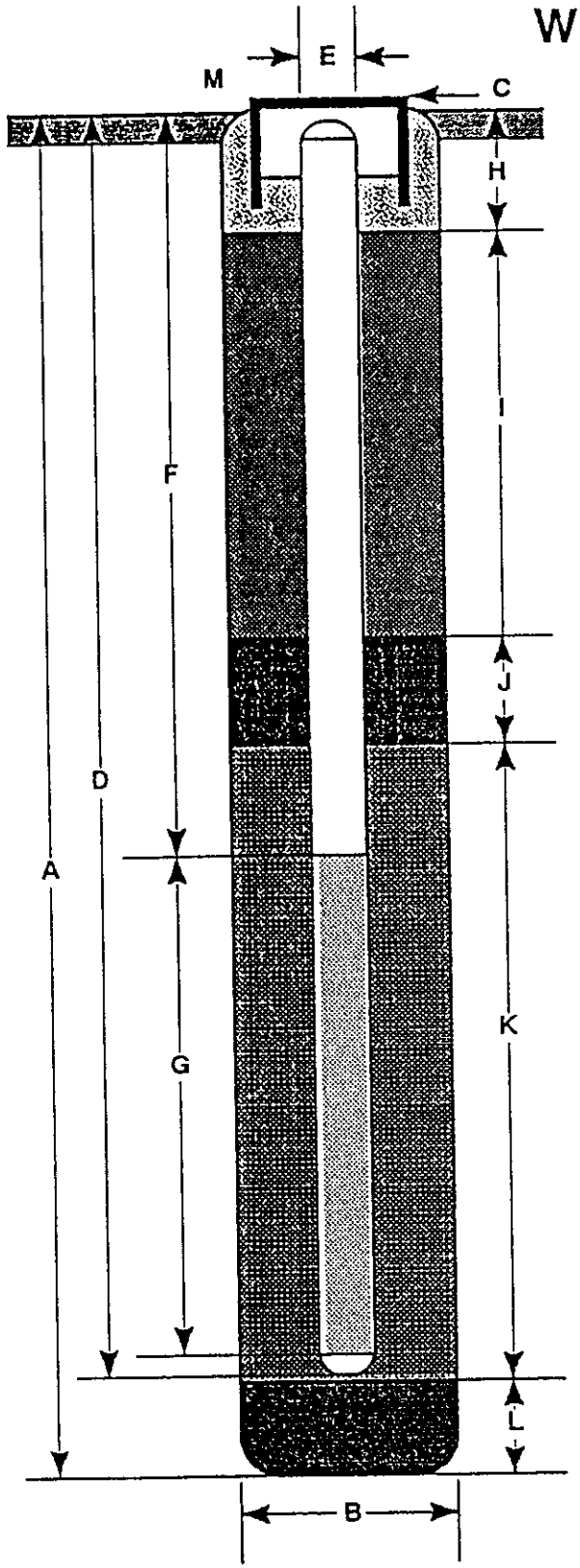
Log of Boring

BORING NO. C-3

GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263	DMP CEG 1262	11/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 32.5 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow-Stem Auger

C Top of Box Elevation 125.64 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 28.5 ft.
Material PVC Schedule 40

E Casing Diameter 2 in.

F Depth to Top Perforations 10 ft.

G Perforated Length 18.5 ft.
Perforated Interval from 10 to 28.5 ft.
Perforation Type Machine Slot
Perforation Size 0.020 in.

H Surface Seal from 0.0 to 1.5 ft.
Seal Material Concrete

I Backfill from 1.5 to 6 ft.
Backfill Material Cement Grout

J Seal from 6 to 8 ft.
Seal Material Bentonite Pellets

K Gravel Pack from 8 to 28.5 ft.
Pack Material Lonestar #2/12 Sand

L Bottom Seal 4 ft.
Seal Material Native Material

M

GeoStrategies Inc.

Well Construction Detail

WELL NO. C-3

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7263		11/89		

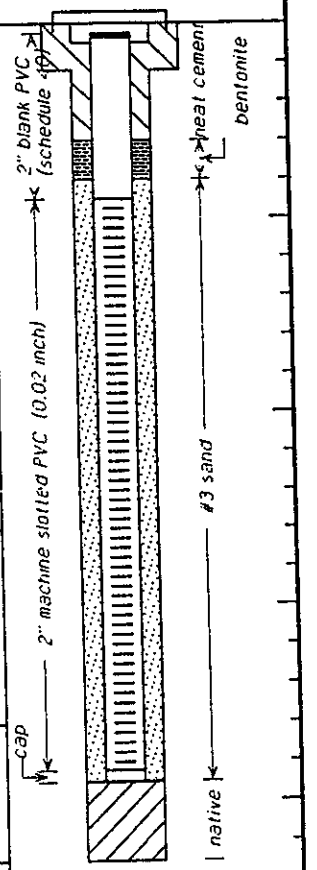
Gettler-Ryan, Inc.

Log of Boring C-4

PROJECT: *Chevron SS #9-0338*	LOCATION: *5500 Telegraph Avenue, Oakland, CA.*
GR PROJECT NO.: *346456.02*	SURFACE ELEVATION: *125.40ft. MSL*
DATE STARTED: *05/12/99*	WL (ft. bgs): *13.0* DATE: *05/12/99* TIME: *10:20*
DATE FINISHED: *05/12/99*	WL (ft. bgs): *12.8* DATE: *05/12/99* TIME: *17:15*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *21.5 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							PAVEMENT – Concrete over baserock
5	0	6	C4-6			CL	SANDY CLAY (CL) – very dark brown (10YR 2/2), moist, medium stiff, low plasticity; 40% clay, 30% silt, 30% fine to coarse sand, trace fine gravel.
10	0	19	C4-11			GC/CL	CLAYEY GRAVEL (GC/CL) – brownish yellow (10YR 6/6), moist, medium dense, 50% subrounded fine to coarse gravel, 40% clay, 10% fine to coarse sand.
15	0	14	C4-16			GC/SC	CLAYEY GRAVEL WITH SAND (GC/SC) – yellowish brown (10YR 5/4), saturated, medium dense; 40% subrounded fine to coarse gravel, 30% clay, 30% fine to coarse sand.
20	0	16	C4-21			CL-ML	SILTY CLAY (CL-ML) – pale olive (5Y 6/3) mottled brownish yellow (10YR 6/6), moist, very stiff, low plasticity; 50% clay, 40% silt, 10% fine sand.
25							Bottom of boring at 21.5 feet.
30							(* = converted to equivalent standard penetration blows/ft.)
35							

WELL DIAGRAM



JOB NUMBER: *346456.02*

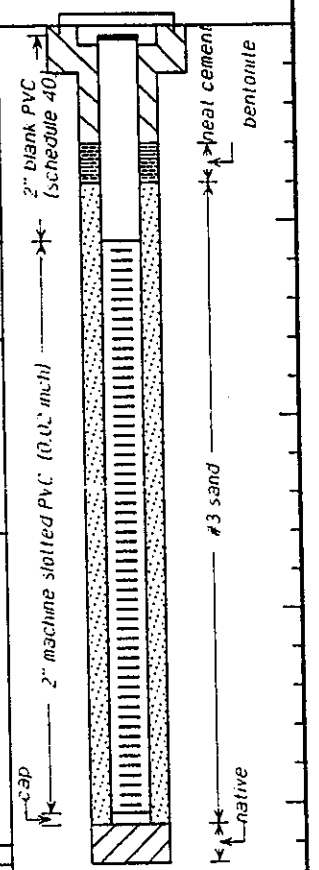
Gettler-Ryan, Inc.

Log of Boring C-5

PROJECT: *Chevron SS #9-0338*	LOCATION: *5500 Telegraph Avenue, Oakland, CA.*
GR PROJECT NO.: *346456.02*	SURFACE ELEVATION: *124.15ft. MSL*
DATE STARTED: *05/12/99*	WL (ft. bgs): *13.0* DATE: *05/12/99* TIME: *11:20*
DATE FINISHED: *05/12/99*	WL (ft. bgs): *8.6* DATE: *05/12/99* TIME: *17:15*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *21.5 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							PAVEMENT – Concrete over baserock
						CL	CLAY (CL) – black (10YR 2/1), moist, medium stiff, low to medium plasticity; 90% clay, 10% fine sand.
5	0	7	C5-8			CL	SANDY CLAY (CL) – brown (10YR 5/3), moist, medium stiff, low plasticity; 60% clay, 40% fine to coarse sand, trace fine gravel.
						CL/GC	GRAVELLY CLAY (CL/GC) – yellowish brown (10YR 5/4) mottled greenish gray (5GY 5/1), damp, stiff, low plasticity; 45% clay, 40% subrounded fine to coarse gravel, 15% fine to coarse sand.
10	11	11	C5-11				
						GC/SC	CLAYEY GRAVEL WITH SAND (GC/SC) – yellowish brown (10YR 5/6), saturated, medium dense; 30–50% subrounded fine to coarse gravel, 30–40% fine to coarse sand, 30% clay.
15	0	18	C5-16				
20	0	21	C5-21			CL-ML	SILTY CLAY (CL-ML) – pale olive (5Y 6/3) mottled brownish yellow (10YR 6/6), moist, very stiff, low plasticity; 50% clay, 40% silt, 10% fine sand.
							Bottom of boring at 21.5 feet.
25							(* = converted to equivalent standard penetration blows/ft.)
30							
35							

WELL DIAGRAM



JOB NUMBER: *346456.02*

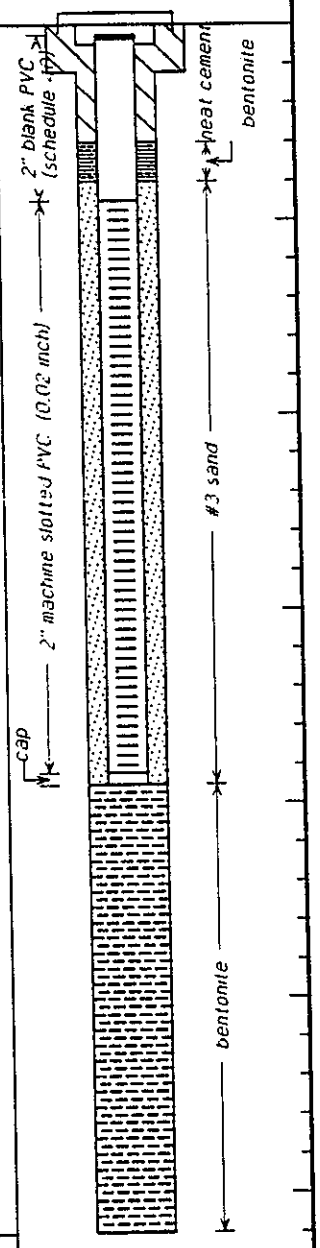
Gettler-Ryan, Inc.

Log of Boring C-1A

PROJECT: *Chevron SS #9-0338*	LOCATION: *5500 Telegraph Avenue, Oakland, CA.*
GR PROJECT NO.: *346456.02*	SURFACE ELEVATION: *123.27ft. MSL*
DATE STARTED: *05/12/99*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *05/12/99*	WL (ft. bgs): *8.2* DATE: *05/12/99* TIME: *17:20*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *19.5 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							Not sampled. Well C-1A replaced well C-1. Well C-1 was drilled out to 31 feet. The boring was backfilled with bentonite to 19.5 feet bgs, then well C-1A was installed in the hole.
							Bottom of boring at 31.0 feet.

WELL DIAGRAM



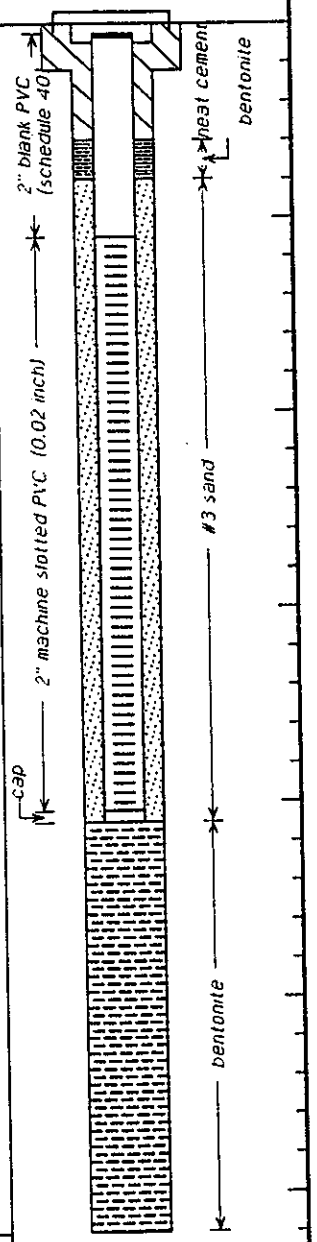
Gettler-Ryan, Inc.

Log of Boring C-2A

PROJECT: *Chevron SS #9-0338*	LOCATION: *5500 Telegraph Avenue, Oakland, CA.*
GR PROJECT NO.: *346456.02*	SURFACE ELEVATION: *125.89ft. MSL*
DATE STARTED: *05/12/99*	WL (ft. bgs): DATE: TIME:
DATE FINISHED: *05/12/99*	WL (ft. bgs): *9.4* DATE: *05/12/99* TIME: *17:20*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *20.0 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							Not sampled. Well C-2A replaced well C-2. Well C-2 was drilled out to 31 feet. The boring was backfilled with bentonite to 20 feet bgs, then well C-2A was installed in the hole.
							Bottom of boring at 31.0 feet.

WELL DIAGRAM



JOB NUMBER: *346456.02*

Table 1. Summary of Well Destruction Activities - Chevron Service Station #9-0338, 5500 Telegraph Avenue, Oakland, California.

Well ID	Well Destruction Date	Well Diameter (inches)	Installed Well Depth (feet)	Well Depth on 05/12/99 (feet)	Depth to Water on 05/12/99 (feet)	Drilled-out Depth (feet)
C-1	05/12/99	2	30.0	29.2	8.22	31.0[1]
C-2	05/12/99	2	28.5	29.5	9.42	31.0[2]

EXPLANATION:

[1] = Well was drilled out with 8-inch diameter hollow stem augers then the boring was backfilled with bentonite to 19.5 feet bgs and groundwater monitoring well C-1A was installed in the boring.

[2] = Well was drilled out with 8-inch diameter hollow stem augers then the boring was backfilled with bentonite to 20.5 feet bgs and groundwater monitoring well C-2A was installed in the boring.