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GETTLER-RYAN INC.

TRANSMITTAL

TO: Mr. Tom Bauhs
Chevron Product Company
P.O. Box 6004
San Ramon, California 94583

DATE: October 15, 2001
PROJ. #: DGDG90121G.4C01
SUBJECT: Chevron #9-0121
3026 Lakeshore Avenue
Oakland, California

FROM:
David W. Herzog, R.G.
Senior Geologist
Gettler-Ryan Inc.
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COMMENTS:

Please call Gettler-Ryan at 916.631.1300 if you have questions.

cc: Ms. Eva Chu, ACHCS-DEH, 1131 Harbor Bay Parkway. Suite 250, Alameda, CA 94502
Mr. Jim Brownell, Delta Environmental Consultants, Inc.

Delta
Environmental
Consultants, Inc.

3164 Gold Camp Drive
Suite 200
Rancho Cordova, California 95670-6021
916/638-2085
FAX: 916/638-8385

SITE CONCEPTUAL MODEL

for
Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

Report No. DG90121C.4C01
Delta Project No. DG90-121

Prepared for:

Mr. Thomas Bauhs
Chevron Products Company
P.O. Box 6004
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Prepared by:

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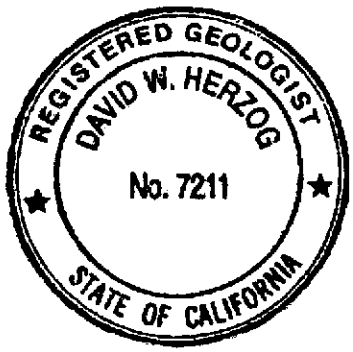

Greg A. Gurss
Senior Project Manager

October 15, 2001

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Delta
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Consultants, Inc.

3164 Gold Camp Drive
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SITE CONCEPTUAL MODEL

for
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3026 Lakeshore Avenue
Oakland, California

Report No. DG90121C.4C01
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INTRODUCTION

At the request of Chevron Products Company (Chevron), Delta Environmental Consultants, Inc. network associate Gettler-Ryan Inc. (GR) is submitting this report presenting the site conceptual model (SCM) for Chevron Service Station #9-0121 located at 3026 Lakeshore Avenue in Oakland, California. The purpose of this work is 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 supplied by Chevron, and describes site hydrogeological conditions and distribution of contaminants in space and time, identifies potential current and future receptors, and recommends an appropriate action plan for the site.

SITE DESCRIPTION

The subject site is an active service station located on the southern corner of the intersection of Lakeshore Avenue and MacArthur Boulevard. Aboveground facilities consist of an island marketer, six dispenser islands located in the central portion of the site, and a storage/restroom building located in the southern corner of the site. Three gasoline underground storage tanks (USTs) and one diesel UST share a common pit near the northern corner of the site. A 7-foot diameter storm drain is located along the southeastern property line.

The site is located at the western edge of Piedmont Hills, approximately 800 feet northeast of Lake Merritt. The topography of the site and its northern and western vicinity is relatively flat, however, the surface southeast and east of the site slopes steeply toward the site.

The site vicinity is used for transportation, commercial, residential, and recreational purposes. The site is bounded by Lakeshore Avenue to the northwest, MacArthur Boulevard to the northeast, Excelsior Court to the southeast, and commercial properties to the southwest. The nearest commercial building (3014 Lakeshore) is located along the southwestern border of the subject site. Residential apartment complexes are present south and southeast of the site across Excelsior Court. The nearest residential buildings are located approximately 10 feet south and 40 feet southeast of the subject site boundary. First floors of these buildings are used for garages. Lake Merritt Park is

located approximately 90 feet northwest of the subject site across Lakeshore Avenue. Interstate 580 is located north and northeast of the site parallel to MacArthur Boulevard.

PREVIOUS ENVIRONMENTAL WORK

Hydrocarbon Release and UST Replacement

Chevron began service station operations at the site in the 1950s. In 1967, a 2,000-gallon inventory loss was discovered. The adjacent property owner (presumably at 3014 Lakeshore) complained about gasoline odors in the basement. The steel USTs were replaced with new USTs double wrapped in asphalt. A 32" long gash was observed in one of the removed tanks.

Leak Detection, UST Replacement, and Installation of Recovery System

In 1980, a tenant in the adjacent building complained of a gasoline odor most likely from the air conditioning system that obtained air from the basement, which created negative pressure in the basement that drew vapor from the subject site. A tank tightness test showed that the USTs at the Chevron site might have had a slight leak. The USTs were replaced with new fiberglass USTs and lines. The removed tanks were found to be tight, but some old product was found in the excavation. An unknown quantity of hydrocarbon impacted soil (reportedly several dozen truckloads) was removed from the site.

A recovery system consisting of a plastic barrier 14 to 16 feet deep was installed along the southwestern property line, against the basement wall of the adjacent building. Six wells were installed to recover any remaining product beneath the site, however, product and water infiltration problems continued in the adjacent building's basement.

Discovery of Free Product in Soil and Installation of Extraction Well

In May 1981, a large pocket of free product was discovered while checking on the remediation system. In July 1981, four additional observation wells were installed. A 24-inch diameter extraction well was installed near the UST pit area, but it appears that the recovery system was not turned on for any significant length of time. A pumping test performed in February 1982, indicated that groundwater depression could not be achieved even at 200 gallons per minute (heavy rains contributed to inflow of groundwater).

UST Abandonment and Station Remodel

In 1984, aboveground station facilities were renovated, but the USTs were not replaced. Two old USTs were discovered beneath the sidewalk and abandoned in place by filling with grout. Approximately 741 cubic yards of soil were removed during station reconstruction activities. It is not clear whether that soil was removed because of hydrocarbon impact. Tenants in the building at 3014 Lakeshore Avenue again complained of a gasoline odor in their building. No odor or sheen was noted in the basement sump during site inspection. In a letter sent to the property owner from

Chevron stated that during the two previous years that Chevron had been inspecting the basement of their building for odor or product in the sump, they did not find evidence of any hydrocarbons.

In March 1985, a water sample collected from the basement of the adjacent building (collected in response to an odor complaint) indicated a presence of aromatic compounds typical of gasoline products.

In December 1990, a gage stick hole was discovered in the unleaded gasoline UST. The hole was repaired and the UST went back into service.

In 1993, a drive off occurred and a small quantity of product was released into pea gravel beneath the dispenser.

Well Destruction and Installation of Monitoring Wells

In April 1991, the existing wells at the site were located and sampled, but it was observed that most of the wells were damaged beyond repair, most likely due to site reconstruction activities in 1984. All wells except the 24-inch extraction well were destroyed in July 1991. The extraction well was destroyed in September 1996.

Four 3/4-inch diameter on-site monitoring wells (MW-1 through MW-4) were installed in August 1991, and regular groundwater monitoring and sampling began. Four 2-inch diameter off-site monitoring wells (MW-5 through MW-8) were installed in July 1992.

Product Line and Dispenser Replacement

In September 1996, product lines and dispensers were replaced. Fifteen soil samples were collected from beneath the product lines and dispensers at depths ranging from 2.5 to 3 feet bgs). Soil sample chemical analytical data indicated that shallow soil beneath the site has been impacted by gasoline hydrocarbons.

Monitoring Well Installation and Replacement

In April 1999, groundwater monitoring well MW-9 was installed, and the 3/4-inch diameter wells MW-2 through MW-4 were abandoned and replaced with 2-inch diameter wells MW-2A through MW-4A, respectively.

All wells at the site except MW-5 are screened at various depths between 2 to 25 feet bgs. The screen interval in well MW-5 extends from 15 to 35 feet bgs. The top-of-casing of well MW-5 is at a higher elevation than the other wells at the site, and well MW-5 is in an area that appears to be semiconfined. Based on historical groundwater measurements (ranging from 9.74 to 13.75 feet bgs), the screened interval in the well is flooded, therefore, groundwater samples collected from well MW-5 may not detect gasoline hydrocarbons, which tend to concentrate near the groundwater surface.

Groundwater Monitoring and Sampling

Currently all on-site wells are sampled quarterly, and off-site wells are sampled biannually (MW-5 and MW-6) or annually (MW-7 and MW-8) for Total Petroleum Hydrocarbons as gasoline and diesel (TPHg and TPHd), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-butyl ether (MtBE). All wells are monitored quarterly. ORC was installed in well MW-1 in 1999 to enhance natural bioremediation. Historical groundwater monitoring and sampling data are in Appendix B, and historical potentiometric maps are in Appendix D.

During the most recent monitoring and sampling event on June 4, 2001, all wells were monitored, and only wells MW-1, MW-2A, MW-3A, MW-4A, and MW-9 were sampled. TPHg were detected in wells MW-1, MW-4A, and MW-9 at concentrations up to 3,200 ppb. Benzene and MtBE were detected in all wells ranging in concentrations from 2.0 to 310 ppb, and 37 to 7,800 ppb, respectively. TPHd were detected in all wells at concentrations up to 1,200 ppb. Figures 6 through 9 are isoconcentration maps for TPHg, benzene, MtBE, and TPHd, respectively, based on data collected during the March 1, 2001 event when all wells were sampled. Wells MW-5 through MW-8 are sampled semi-annually or annually, and were last sampled on March 1, 2001. At that time, these wells were non-detect for TPHg, TPHd, benzene, and MtBE, except for well MW-8 that had TPHd at a concentration of 51 ppb.

During the June 4, 2001 event, depth to water ranged from 1.52 to 11.31 feet below top of casing, with groundwater flow in the eastern corner of the site to the southeast, and flow to the southwest near the western corner of the site at gradients from 0.01 to 0.02.

Geology and Hydrogeology

The subject site is located approximately 1.75 miles northeast of the Oakland Inner Harbor, and approximately 3.75 miles northeast of San Francisco Bay. 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 estuarine deposits consisting of unconsolidated, water-saturated, dark, plastic clay and silty clay rich in organic material (Bay Mud) overlying Holocene age alluvial deposits of unconsolidated, moderately sorted, permeable sand and silt and Pleistocene alluvial deposits of weakly consolidated, poorly sorted, irregular interbedded clay, silt, sand, and gravel.

The boring logs indicate that the subject site is underlain by clays interbedded with silt, silty sand, and fine sand layers to the total depth explored of 35 feet bgs. Boring logs are included in Appendix E. Groundwater was encountered beneath the site at depths ranging from 4 to 10 feet bgs with the exception of well MW-5. Groundwater in well MW-5, which is located at the significantly higher elevation than the other wells, was encountered at a depth of 23 feet bgs and stabilized at a depth of 12.24 feet bgs. Groundwater in the area of well MW-5 appears to be in the semiconfined condition. Groundwater flow beneath the site is to the southwest in the northwestern part of the site and to the southeast under the eastern part of the site.

RECEPTOR SURVEY

Well Survey

Well data obtained by GR from the County of Alameda Public Works Agency (CAPWA) indicates that 33 monitoring wells and one cathode well are located within ½ mile of the Chevron site. Table 1 lists these wells and Figure 1 shows their locations. No water supply wells are located within ½ mile of the site according to the CAPWA.

Underground Utility Survey

GR obtained utility maps from the City of Oakland Public Works Department (sewer and storm drain), East Bay Municipal Utility District, or EBMUD (water), and Pacific Gas & Electric (gas and electric). Figure 2 shows the location of buried utility lines in the vicinity of the Chevron site.

Underground utility lines in Lakeshore Avenue include one 6'3"x10' storm drain, one 27-inch diameter sanitary sewer line, and water, gas, and electric lines. Underground utility lines in MacArthur Boulevard and Excelsior Court include sanitary sewer, gas, and water lines. Along the southeast property boundary of the Chevron site, adjacent to Excelsior Court, is a 7-foot diameter storm drain line located between approximately 6 to 13 feet below ground surface (bgs)

The specific depths of water, electric, or gas lines were not available, however these lines are usually buried shallower than 5 feet bgs. According to the EBMUD, water lines are usually buried between 3 and 5 feet bgs.

SITE CONCEPTUAL MODEL

The site conceptual model was prepared based on the site assessment and quarterly monitoring and sampling data collected at the site to date. A pictorial representation of the site conceptual model is presented on Figures 3 and 4.

Release Scenario and Plume Characterization

Shallow soil at the subject site has been impacted with fuel hydrocarbons at concentrations up to 4,100 parts per million (ppm) of TPHg, 100 ppm of TPHd, 40 ppm of benzene, and 31 ppm of MtBE. Impacted soil is present within a smear zone (2.5 to 11 feet bgs) over the area of the dissolved hydrocarbon plume. The highest hydrocarbon concentrations have been present in soil beneath the northern and middle dispenser islands. An unverified amount of soil has been removed from the site during UST replacement in 1980 and site reconstruction in 1984.

Groundwater beneath the site has been impacted by fuel hydrocarbons. Historically, floating product was present on groundwater beneath the site. A recovery system was installed which consisted of a 14 to 16 foot deep plastic barrier along the southwestern (downgradient) property boundary, and seven recovery wells.

Hydrocarbons have been detected in groundwater beneath the site at concentrations up 60,000 parts per billion (ppb) of TPHg, 7,100 ppb of benzene, and 160,000 ppb of TPHd. MtBE has been reported at concentrations up to 63,000 ppb by EPA Method 8020. The highest hydrocarbon concentrations have been present in wells MW-1 and MW-2. These two wells have also contained floating product or product sheen (up to 0.75 feet thick). Floating product was removed from well MW-2 between June 1995 and March 1999 by bailing (total of 0.364 gallons removed).

Currently, floating product is not present on groundwater beneath the site. Hydrocarbon concentrations have decreased significantly in on-site wells MW-1 and MW-2A through MW-4A, and have not changed significantly in on-site well MW-9, since well installation. TPHg, benzene, and MtBE concentrations in off-site wells MW-5 through MW-8 generally have remained non-detectable (low concentrations detected only on few occasions), and TPHd concentrations in these wells decreased. However, groundwater samples collected from well MW-5 may not be representative of shallow groundwater conditions because of a deeper screen interval. In December 1998, groundwater samples from wells MW-1 and MW-3 through MW-8 were analyzed for bioremediation indicator parameters (sulfate, nitrate, ferrous iron and total alkalinity) to evaluate the occurrence of intrinsic bioremediation. Results of the analysis were inconclusive.

The existence of the plastic barrier influences groundwater flow direction beneath the site, causing groundwater mounding in the western portion of the site. West of the barrier, the groundwater flow direction has been consistently toward the southwest. In the eastern portion of the site, the groundwater has been flowing generally toward the southeast. The groundwater flow direction in the eastern and southern portions of the site may be influenced by the presence of the 7-foot-diameter storm drain. The gradient has ranged from 0.01 to 0.03

TPHg, benzene, and MtBE have been delineated to the west, north and east in wells MW-6, MW-7, and MW-8. Unidentified hydrocarbons in the TPHd range are present in wells MW-6 and MW-8 at concentrations of 190 ppb and 51 ppb, respectively. The dissolved hydrocarbon plume appears to be shrinking. However, the groundwater condition beneath the commercial buildings immediately southwest of the subject site (downgradient side of the plastic barrier) is unknown. The plume has not been delineated downgradient (southeast) of well MW-3A, and plume delineation south of the site is not certain due to the deeper screen interval in well MW-5.

Potential Environmental Receptors

The hydrocarbon plume extends beneath the area, which currently is used for commercial purposes (gasoline sale) and transportation (Lakeshore Avenue and possibly MacArthur Boulevard and Excelsior Court). Most of this area is paved with asphalt or concrete. The Chevron island marketer building is present within the plume area. The edges of the plume may extend beneath the building located at 3014 Lakeshore Avenue, which is adjacent to the southwest property boundary of the Chevron site, however, the hydrocarbon concentrations in this area are expected to be low. The nearest residential buildings, located southeast of the site across Excelsior Court, are most likely

outside the plume area based on analytical data from wells MW-3A and MW-5. No water producing wells are located within ½ mile of the Chevron site.

Potential exposure receptors include current and future workers and customers of the Chevron station and building at 3014 Lakeshore Avenue, motorists, pedestrians, and utility maintenance workers. The potential exposure mediums are ambient air, indoor air in buildings, and soil and groundwater in potential future excavation areas. The major exposure pathway is hydrocarbon volatilization from smear zone soils and groundwater to ambient and indoor air. The potential exposure pathway for utility maintenance workers is dermal contact with hydrocarbon-impacted soil and groundwater.

Other Environmental Issues

The dissolved hydrocarbon plume has not been delineated southeast of MW-3A (downgradient, toward residential buildings). Delineation to the south by MW-5 is questionable due to a flooded screen interval in that well. Replacement of well MW-5 and installing an additional well or boring on the south side of Excelsior Court should be considered. Data from these wells/borings could be used for a Risk Based Correction Action (RBCA) evaluation (residential receptor).

Hydrocarbon concentrations in groundwater beneath the building at 3014 Lakeshore Avenue, adjacent to the southwestern Chevron site property line (downgradient of the plastic barrier) are unknown. Water samples should be collected from the pump sump in the basement of that building and analyzed. Data could be used for a RBCA evaluation (commercial receptor).

Several underground utility lines are present near the subject site, including a 7-foot diameter storm drain along the southeastern property line and a sewer line beneath the southern side of Lakeshore Avenue. Due to shallow groundwater conditions, utility trenches may be a factor in plume migration.

DISCUSSION AND RECOMMENDATION

Site conditions consist of petroleum-impacted soil and groundwater. Hydrocarbon impacted soil appears to be present within the smear zone between approximately 2 and 11 feet bgs. Concentrations of hydrocarbons in groundwater beneath the site have been decreasing. Natural attenuation processes appear to be facilitating concentration decreases and limiting hydrocarbon migration.

The dissolved hydrocarbon plume has been delineated to the west, north, and east, but not to the south. The northwestern edge of the plume may extend beneath Lakeshore Avenue, and the southeastern edge of the plume may extend beneath Excelsior Court, where underground utilities are present. Due to shallow groundwater conditions, the utility trenches may act as preferential pathways and conduits that could enhance contaminant migration.

Since the primary sources have been removed and the plume appears to be shrinking, natural attenuation may be the preferable approach to remediate the site. However, before this approach is considered, potential threats to human health and the environment must be evaluated. The existing

TABLE 1 - WELL SEARCH DATA

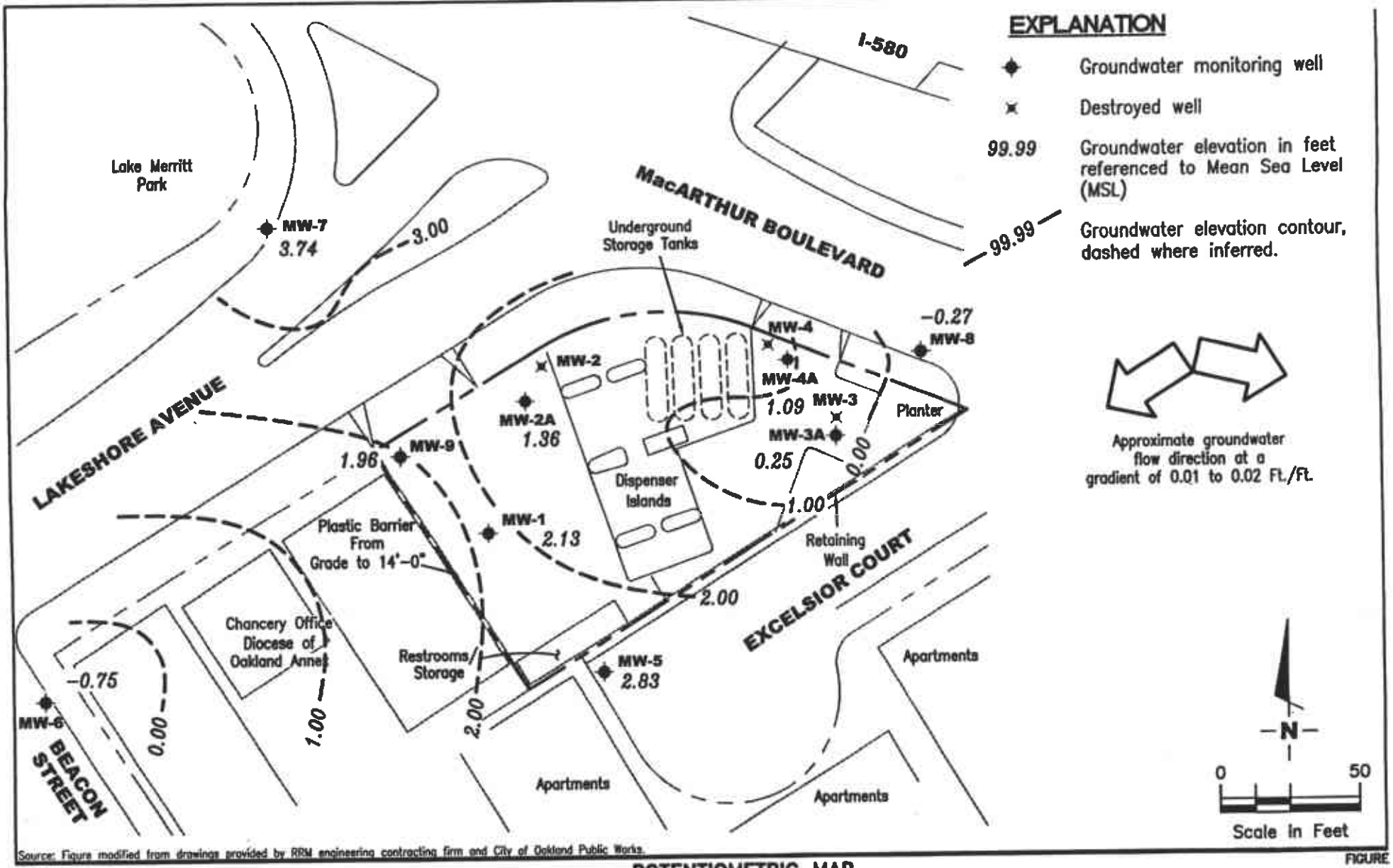
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

Map ID[1]	Well Owner	Well Location	Alameda County Well ID	Well Use	Year Installed
1	Chevron USA	460 Grand Avenue	1S/4W 25P16	Monitoring	1995
2	EBMUD	Athol Avenue & Macarthur Boulevard	1S/3W 31D1	Cathode	1998
3	Lamorinda Development	3329 Lakeshore Avenue	1S/4W 25J1	Monitoring	1994
4	Quik Stop Markets	363 Grand Avenue (3 Wells)	1S/4W 25P1-3	Monitoring	1988
4	Quik Stop Markets	363 Grand Avenue (5 Wells)	1S/4W 25P4-8	Monitoring	1990
4	Quik Stop Markets	363 Grand Avenue	1S/4W 25P12	Monitoring	1990
5	Ranger Pipeline	637 Beacon	1S/4W 25R1	Monitoring	1989
6	Shell Oil Company	350 Grand Avenue	1S/4W 25P9	Piezometer	1990
6	Shell Oil Company	350 Grand Avenue (2 Wells)	1S/4W 25P10-11	Monitoring	1991
7	Texaco Inc.	500 Grand Avenue (4 Wells)	1S/4W 25Q1-4	Monitoring	1988
7	Texaco Inc.	500 Grand Avenue (2 Wells)	1S/4W 25Q1-2	Monitoring	1989
7	Texaco Inc.	500 Grand Avenue (3 Wells)	1S/4W 25Q3-4	Monitoring	1990
7	Texaco Inc.	500 Grand Avenue (2 Wells)	1S/4W 25Q10-11	Monitoring	1993
8	Unocal Corporation	3220 Lakeshore Avenue	1S/4W 25R2	Monitoring	1990
8	Unocal Corporation	3220 Lakeshore Avenue (2 Wells)	1S/4W 25R3-4	Test	1990
8	Unocal Corporation	3220 Lakeshore Avenue (3 Wells)	1S/4W 25R22-24	Monitoring	1994
8	Unocal Corporation	3220 Lakeshore Avenue	1S/4W 25R25	Observation	1997

Notes

Well data in this table obtained from the County of Alameda Public Works Agency.

[1]Well location numbers correspond to Figure 1.



Source: Figure modified from drawings provided by RRM engineering contracting firm and City of Oakland Public Works.

FIGURE 1

GETTLER - RYAN INC.
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Dublin, CA 94568
(925) 551-7555

POTENTIOMETRIC MAP
Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
386462		June 4, 2001	

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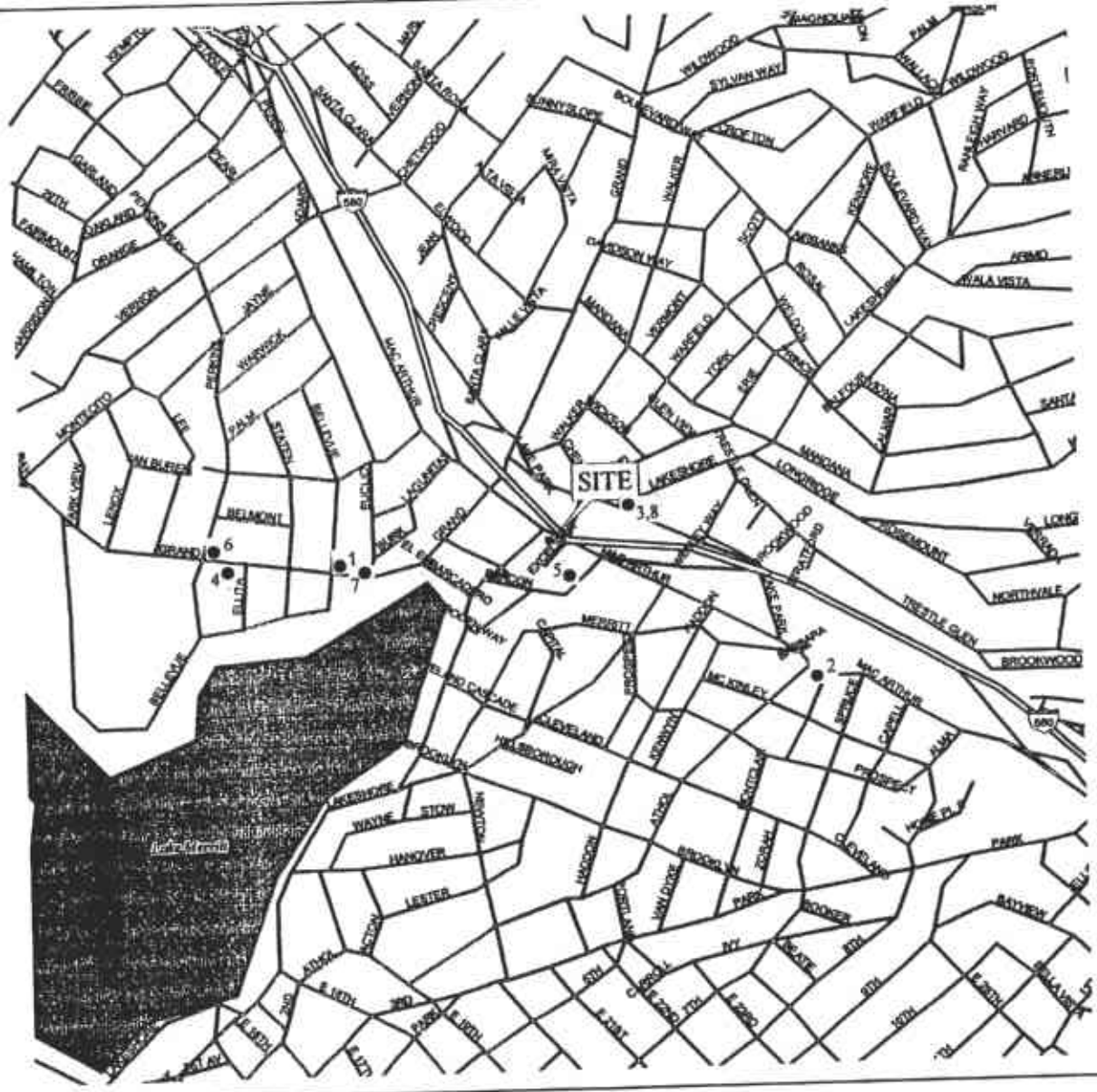

Source: Street Atlas USA, Delorme (1995).

FIGURE 1

VICINITY MAP
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

Gettler - Ryan Inc.
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JOB NUMBER 346462

REVIEWED BY

DATE 05/99

REVISED DATE

FIGURE 2

EXPLANATION

- Groundwater monitoring well
- Destroyed well
- Storm drain
- PG&E vault
- Power pole
- Manhole
- 8"ø Pipe diameter

UNDERGROUND UTILITIES

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

Lake Merritt Park
I-580
MacARTHUR BOULEVARD
LAKESHORE AVENUE
EXCELSIOR COURT
BEACON STREET
MW-1
MW-2
MW-2A
MW-3
MW-3A
MW-4
MW-4A
MW-5
MW-6
MW-7
MW-8
MW-9
A
A'
B
B'
Underground Storage Tanks
Dispenser Islands
Planter
Retaining Wall
Chancery Office Diocese of Oakland Annex
Plastic Barrier From Grade to 14'-0"
Restrooms/ Storage
Apartments
Apartments
Apartments
6'3"x10'
21"ø
27"ø
18"ø
12"ø
8"ø
7"ø

N

0 40
Scale in Feet

Source: Figure modified from drawing provided by RRM engineering contracting firm and utility maps provided by EBMUD and City of Oakland Public Works.

SITE PLAN/UTILITY MAP
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

REVISED DATE

GETTLER-RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568
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REVIEWED BY
DATE 3/01

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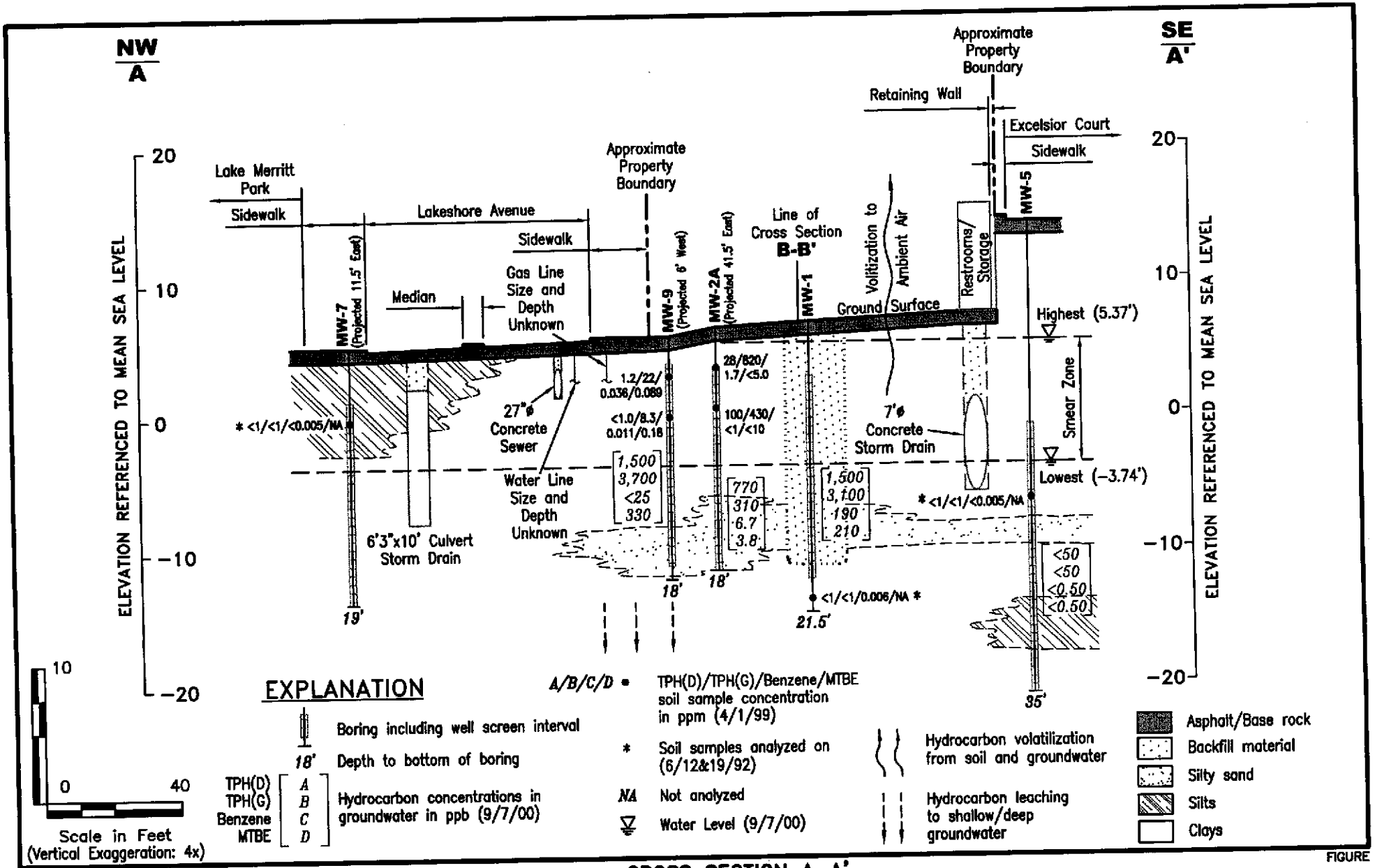

FIGURE 3

CROSS SECTION A–A'
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

GETTLER - RYAN INC.
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DATE 3/01
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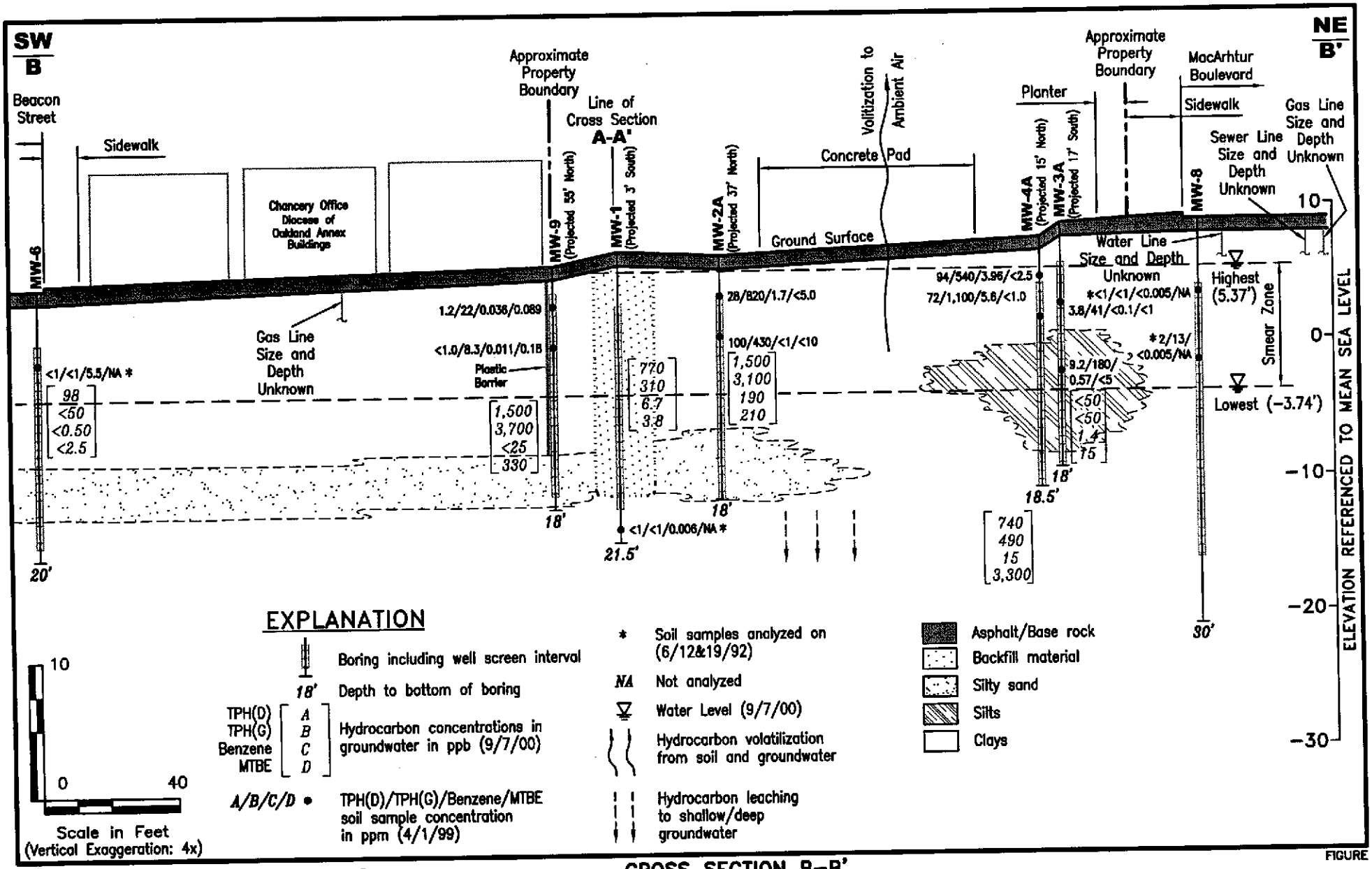

FIGURE 4

CROSS SECTION B–B'
Chevron Service Station No. 9–0121
3026 Lakeshore Avenue
Oakland, California

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DG90121C.4C01		3/01	

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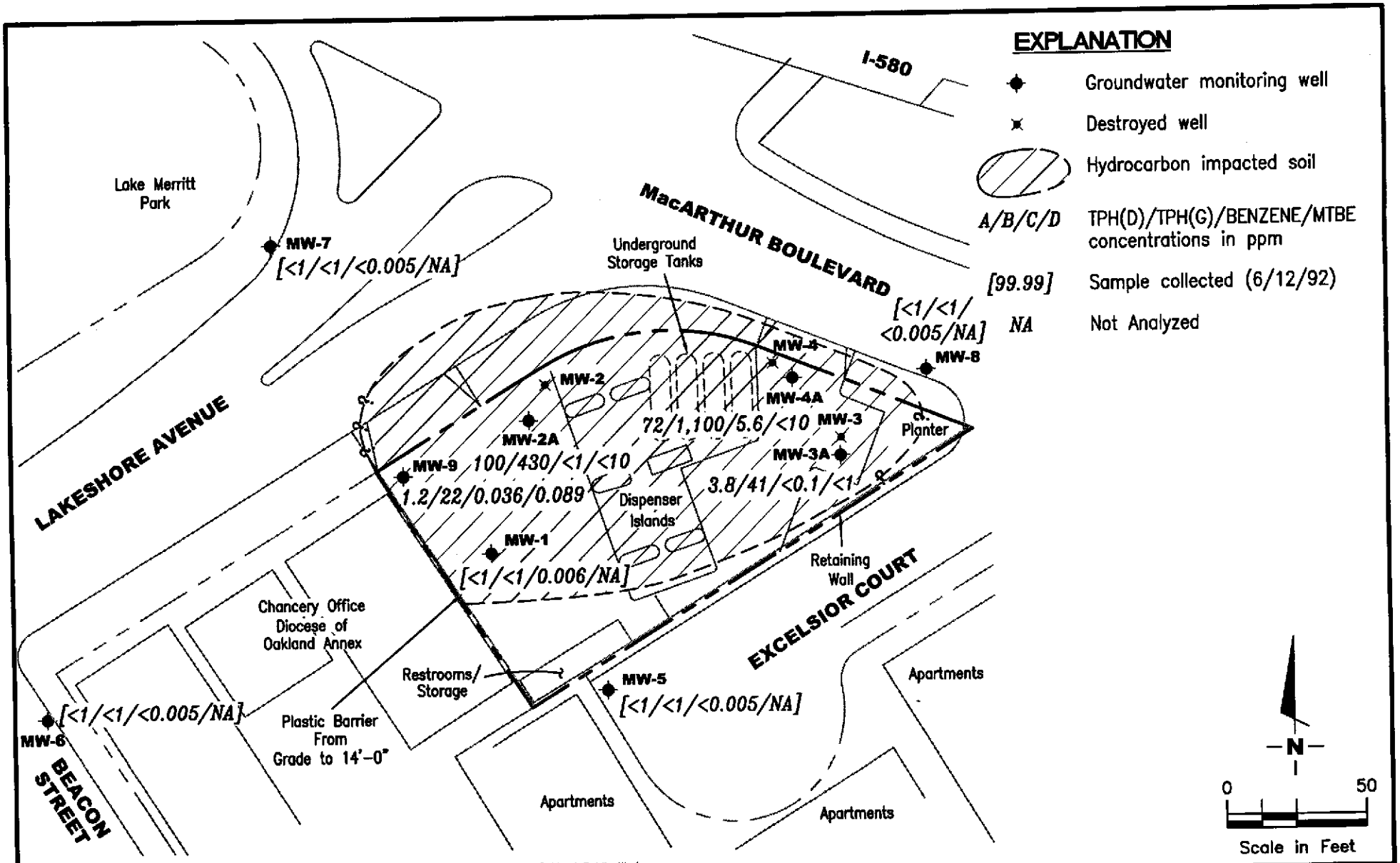

Source: Figure modified from drawings provided by RRM engineering contracting firm and City of Oakland Public Works.

FIGURE 5

HYDROCARBON CONCENTRATIONS IN SOIL IN SMEAR ZONE
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

GETTLER - RYAN INC.
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PROJECT NUMBER DG90121C.4C01
REVIEWED BY
DATE April 1 & 2, 1999
REVISED DATE

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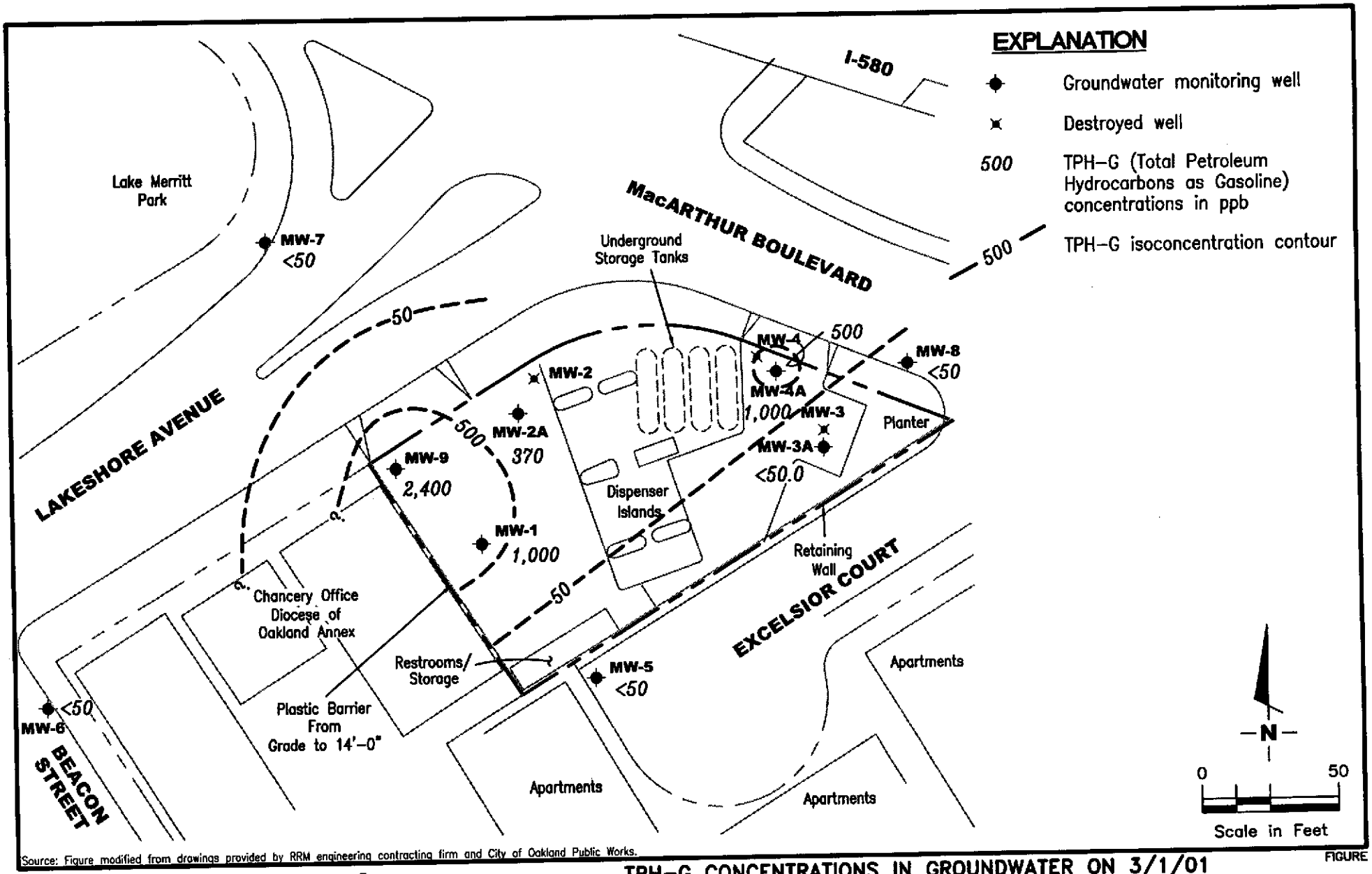

Source: Figure modified from drawings provided by RRM engineering contracting firm and City of Oakland Public Works.

FIGURE 6

TPH–G CONCENTRATIONS IN GROUNDWATER ON 3/1/01
Chevron Service Station No. 9–0121
3026 Lakeshore Avenue
Oakland, California

GETTLER - RYAN INC.
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(925) 551–7555

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90121C.4C01		March 1, 2001	

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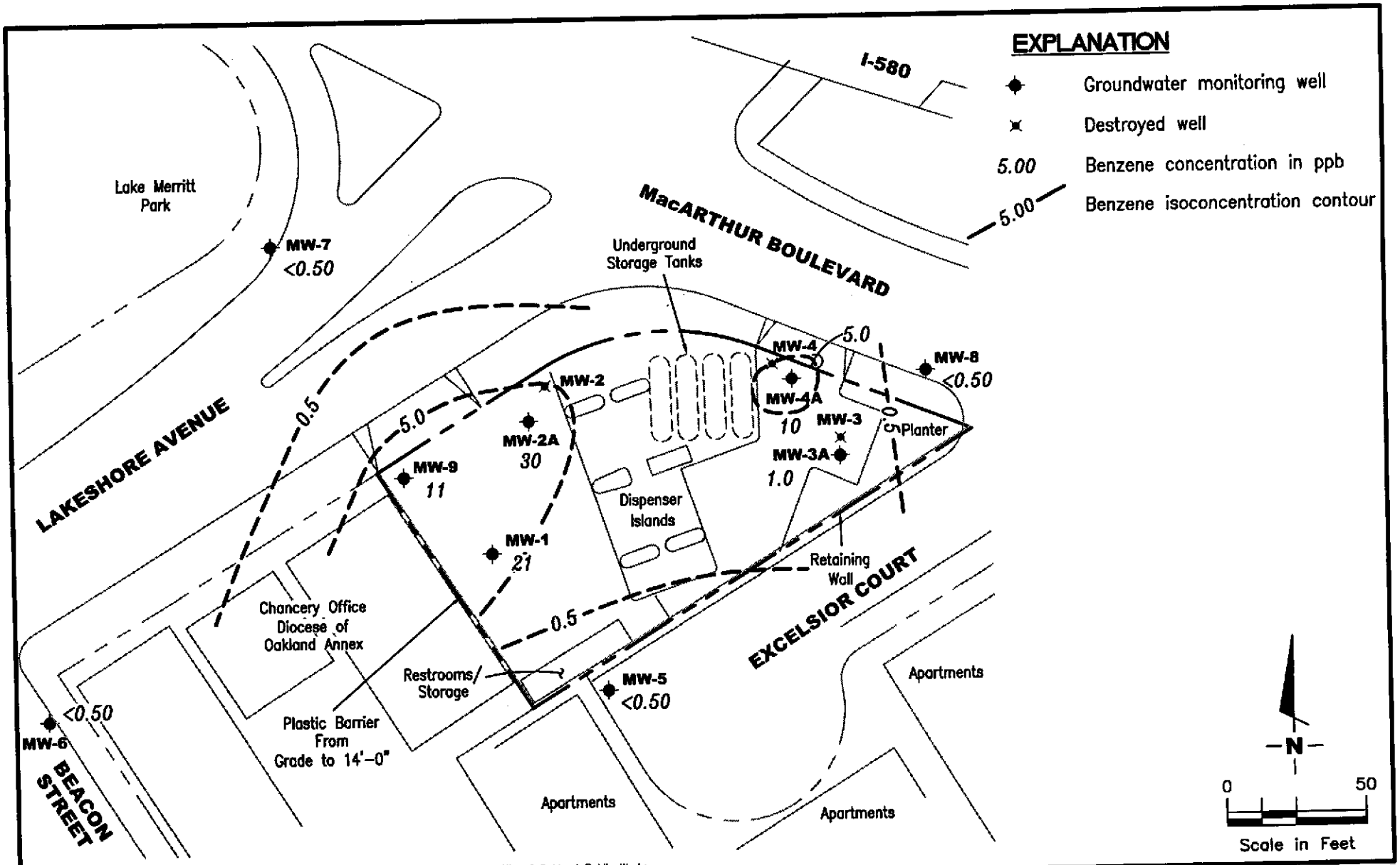


Source: Figure modified from drawings provided by RRM engineering contracting firm and City of Oakland Public Works.

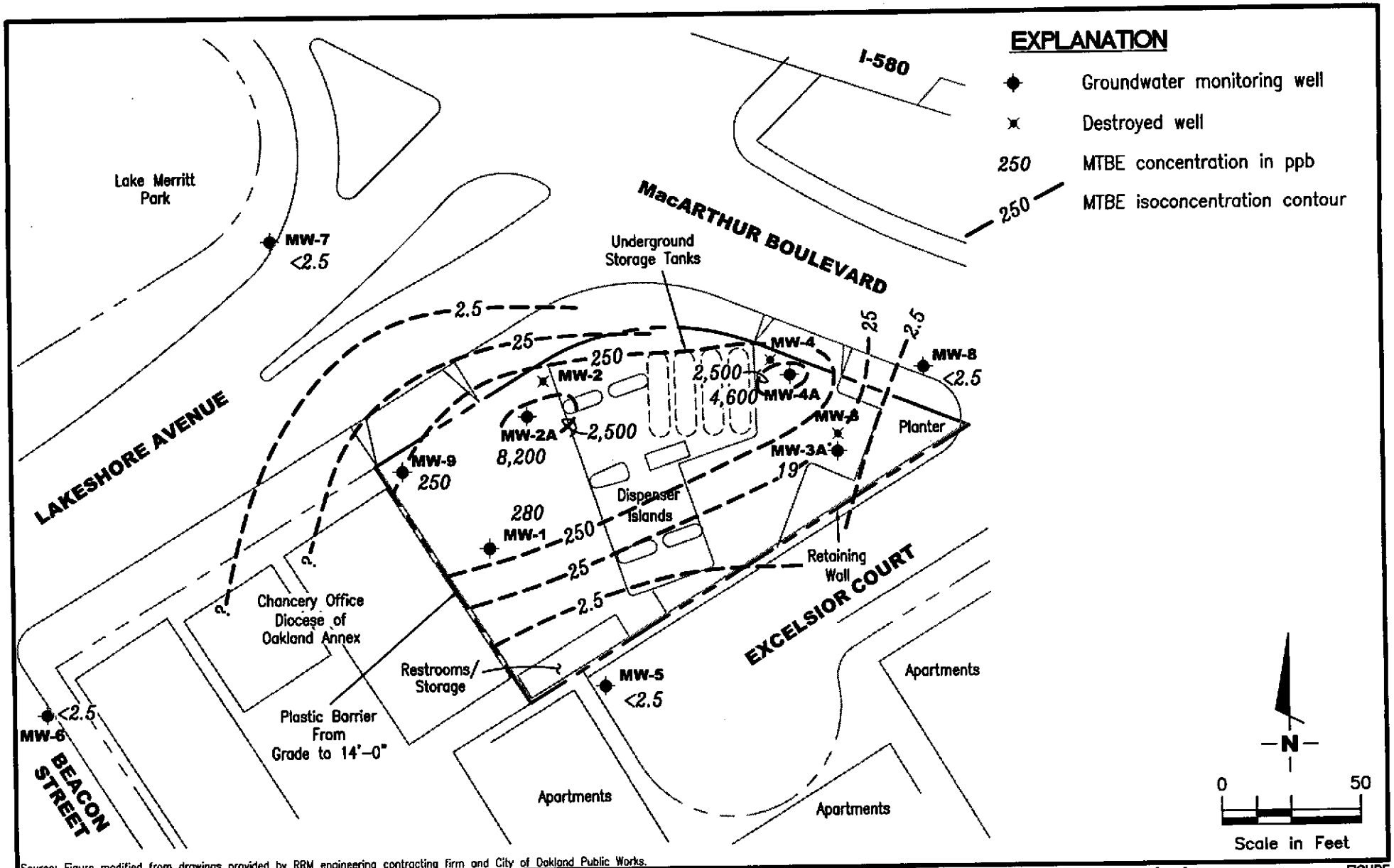
FIGURE 7

BENZENE CONCENTRATIONS IN GROUNDWATER ON 3/1/01
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

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

PROJECT NUMBER DG90121C.4C01
REVIEWED BY
DATE March 1, 2001
REVISED DATE

FILE NAME: P:\ENVIRO\CHEVRON\9-0121\A01-9-0121.DWG | Layout Tab: Benz1 9-01



Source: Figure modified from drawings provided by RRM engineering contracting firm and City of Oakland Public Works.

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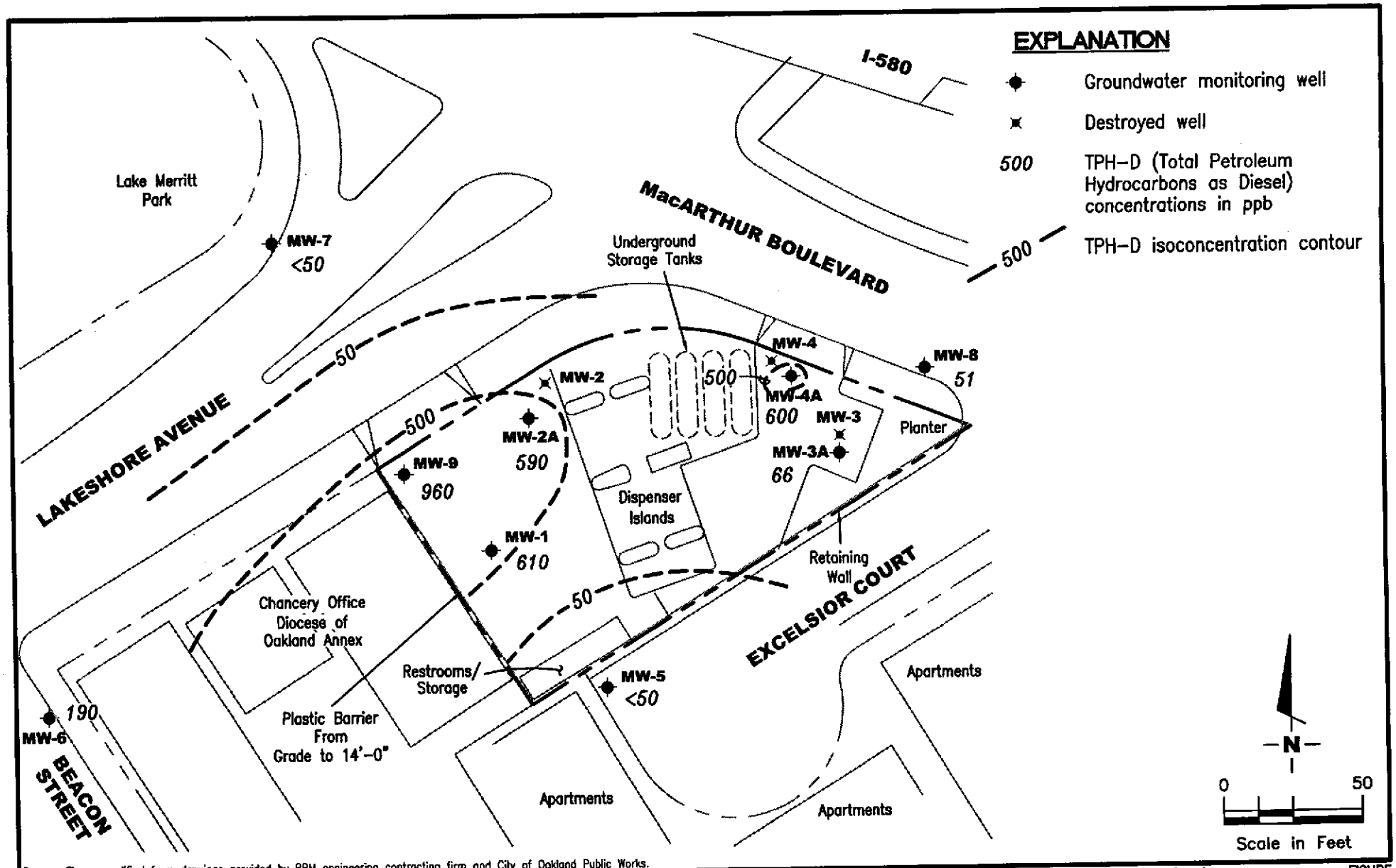
MTBE CONCENTRATIONS IN GROUNDWATER ON 3/1/01
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

FIGURE 8

PROJECT NUMBER DG90121C.4C01
REVIEWED BY
DATE March 1, 2001
REVISED DATE

FILE NAME: P:\ENVIRO\CHEVRON\9-0121\A01-9-0121.DWG | Layout Tab: Mtbe1 9-01



Source: Figure modified from drawings provided by RRM engineering contracting firm and City of Oakland Public Works.

FIGURE 9

TPH-D CONCENTRATIONS IN GROUNDWATER ON 3/1/01
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

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

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
DG90121C.4C01		March 1, 2001	

FILE NAME: P:\ENVIRO\CHEVRON\9-0121\A01-9-0121.DWG | Layout Tab: Tphd1 9-01

TABLE A
SAMPLING SUMMARY
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California
Results in mg/Kg - parts per million (ppm), unless otherwise noted

PIPING TRENCH AND DISPENSER SAMPLING RESULTS

SAMPLE ID	DEPTH (ft.)	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE	Lead
P1-3'	3	3-Sep-96	ND	ND	ND	ND	ND	ND	18
P2-2'	2	3-Sep-96	ND	ND	ND	ND	ND	ND	12
P3-2.5'	2.5	3-Sep-96	ND	0.0056	ND	ND	0.005	0.63	25
P4-2.5'	2.5	3-Sep-96	710	ND	19	7.8	78	15	28
P5-3'	3	3-Sep-96	110	ND	ND	ND	0.46	ND	14
P6-3'	3	3-Sep-96	1.3	0.021	0.15	0.033	0.18	2.5	6.6
P7-3'	3	3-Sep-96	ND	ND	0.0071	0.0063	0.024	0.49	8.0
P8-2.5'	2.5	3-Sep-96	4,100	33	19	51	30	31	20
P9-2'	2	3-Sep-96	1,400	ND	22	5.4	5.0	9.7	13
P10-2.5'	2.5	3-Sep-96	410	8.3	ND	4.8	2.4	ND	52
P11-3'	3	3-Sep-96	1,600	25	ND	25	26	ND	15
P12-2.5'	2.5	3-Sep-96	2,200	28	ND	23	12	ND	20
P13-3'	3	3-Sep-96	290	6.1	4.0	2.1	1.3	ND	36
P14-2.5'	2.5	3-Sep-96	2,500	40	20	27	76	ND	19
P15-2.5'	2.5	3-Sep-96	1,000	23	ND	13	3.0	ND	44

STOCKPILE SAMPLING RESULTS

SAMPLE ID	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	Lead	STLC Lead
PSP-1(A-D)	4-Sep-96	1,000	3.3	3.0	8.4	5	55	1.3

NOTES:

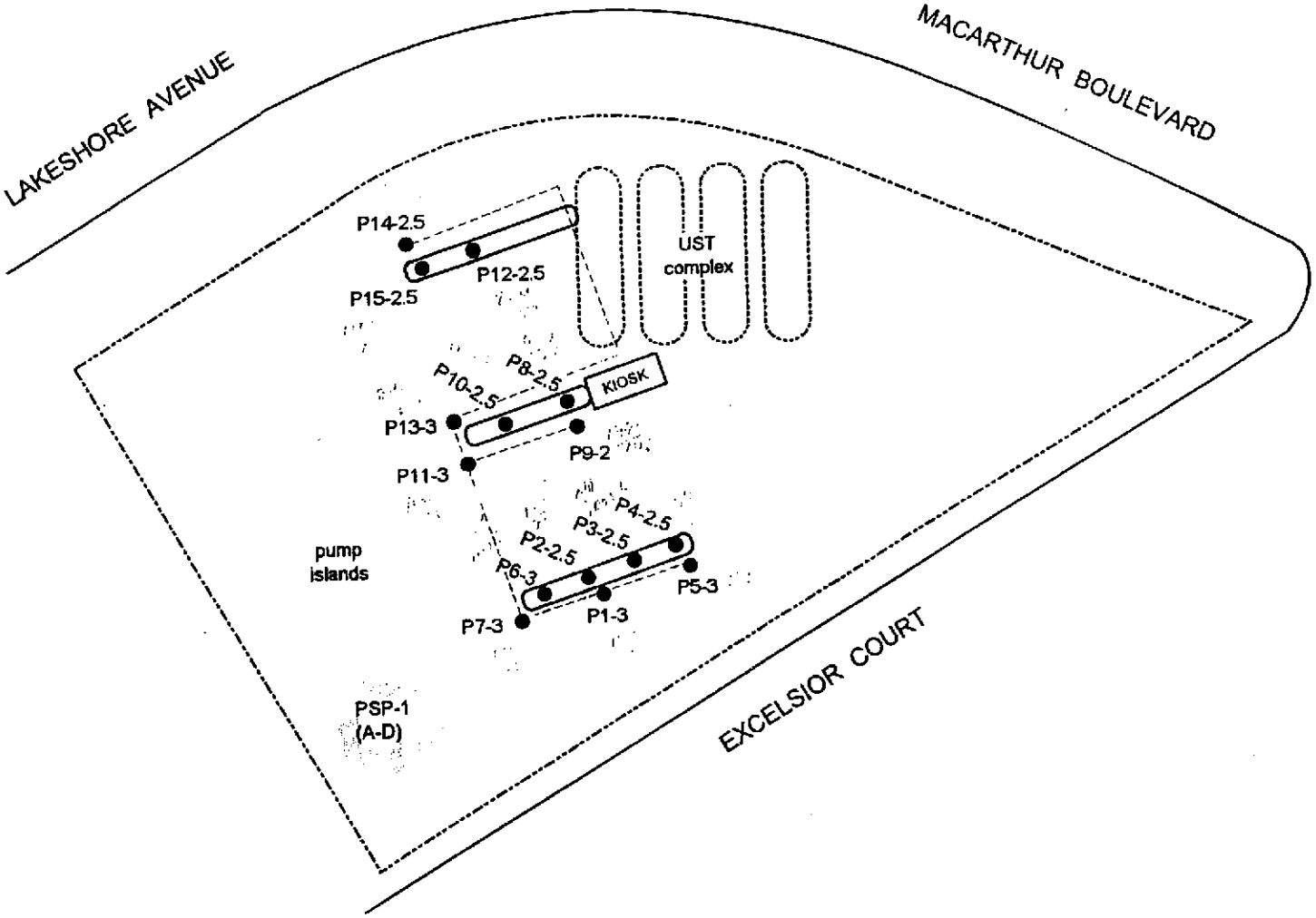
TPH-Gasoline = Total Petroleum Hydrocarbons calculated as gasoline.

MTBE = Methyl t-Butyl Ether

ND = Not detected at or above the laboratory detection limits.

ppm = Parts per Million, results reported in mg/Kg by the laboratory.

96-0121-1A



EXPLANATION

- UST — Underground Storage Tank
- Product Line
- P1-2.5 — Sample location and ID
- Soil stockpile location

N

0 15 30

approximate scale in feet

SITE PLAN AND SAMPLE LOCATION MAP

FIGURE 1

Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

Touchstone Developments
Environmental Management

PROJECT NO.	DATE:	DRAWN BY:	BASE MAP
9-0121	9/96	WTJ	Robert H. Lee Associates - Site Plan 8/96

Table 3. Soil Analytical Results - Chevron Service Station #9-0121, 3026 Lakeshore Avenue, Oakland, California.

Sample ID	Depth (ft)	Date	TPHd	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		------------------->						
MW2A-3	3	04/01/99	28[1]	820	1.7	2.8	13	29	<5.0	—	—	—	—	—	---
MW2A-6	6	04/01/99	100[1]	430	<1	1.7	5.0	2.6	<10	—	—	—	—	—	---
MW2A-17	17	04/01/99	—	—	—	—	—	—	—	—	1.47	1.92	2.66	44.9	—
MW3A-5.5	5.5	04/01/99	—	—	---	—	—	—	—	0.069	1.98	2.25	2.72	27.2	15
MW3A-6	6	04/01/99	3.8[2]	41	<0.1	<0.1	<0.1	0.28	<1	—	—	—	—	—	---
MW3A-11	11	04/01/99	9.2[3]	180[4]	0.57	0.52	<0.50	1.8	<5	—	—	—	—	—	---
MW3A-15	15	04/01/99	---	---	---	—	—	—	—	0.078	1.60	2.00	2.69	40.5	—
MW4A-3	3	04/01/99	94[3]	540[5]	0.96	1.6	4.6	1.3	<2.5	—	—	—	---	—	---
MW4A-6	6	04/02/99	72[3]	1,100[6]	5.6	13	2.4	18	<10	—	—	—	---	—	—
MW9-3	3	04/01/99	1.2[7]	22[5]	0.036	0.048	0.028	0.091	0.089	—	—	—	—	—	---
MW9-6	6	04/02/99	<1.0	8.3[6]	0.011	0.033	0.010	0.078	0.18	—	—	—	---	—	—
SP-(A-D)	—	04/02/99	<1.0	45	0.15	0.21	0.45	0.79	—	—	—	—	---	—	—

EXPLANATION:
TPHd - Total Petroleum Hydrocarbons as diesel
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
1 - Laboratory report indicates unidentified hydrocarbons >C9
2 - Laboratory report indicates unidentified hydrocarbons <C14
3 - Laboratory report indicates unidentified hydrocarbons C9-C24
4 - Laboratory report indicates gasoline and unidentified hydrocarbons <C8
5 - Laboratory report indicates gasoline and unidentified hydrocarbons C6-C12
6 - Laboratory report indicates gasoline and unidentified hydrocarbons <C7
7 - Laboratory report indicates unidentified hydrocarbons >C14

ANALYTICAL METHODS:
TPHg, benzene, toluene, ethylbenzene, xylenes, MtBE - EPA Methods 5030/8015Mod/8020
TPHd - EPA Method 3550/8015Mod
Porosity, densities - Method API RP-40

ANALYTICAL LABORATORY:
Sequoia Analytical (ELAP #1271)

TABLE 2
ANALYTICAL RESULTS FOR SOIL SAMPLES
COLLECTED ON JUNE 12 AND 19, 1992
(Concentration in parts per million)

BORING	SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH (ft)	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE	TPH-AS-DIESEL
MW-1	MW1A	6/19/92	20.5	0.006	0.019	<0.005	0.015	<1	<1
MW-5	MW5D	6/12/92	20.5	<0.005	<0.005	<0.005	<0.005	<1	<1
MW-6	MW6A	6/12/92	5.5	<0.005	<0.005	<0.005	<0.005	<1	<1
MW-7	MW7A	6/12/92	5.5	<0.005	<0.005	<0.005	<0.005	<1	<1
MW-8	MW8A MW8B	6/19/92	5.5 10.5	<0.005 <0.005	<0.005 0.006	<0.005 0.012	<0.005 0.078	<1 13	<1 2*

$\overline{\text{TPH}}$ = Total petroleum hydrocarbons

* = The analytical laboratory reported that the pattern observed in the chromatogram was not typical of diesel.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS
(Results in parts per million)

SAMPLE ID	SAMPLE DATE	DEPTH (ft)	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE	TPH-AS-DIESEL
MW-2A	08/07/91	2	1.5	1.2	2.3	4.6	660	4
MW-2B	08/07/91	7	2.8	1.3	11.0	4.3	540	17
MW-3A	08/13/91	2	0.021	<0.005	<0.005	<0.005	<1.0	2
MW-3B	08/13/91	9	3.0	3.7	5.0	8.0	660	34
MW-4A	08/13/91	3	<0.6	4.5	3.6	7.4	560	13
MW-4B	08/13/91	8	0.170	0.290	0.110	0.220	31	2

TABLE 3
WATER SAMPLE ANALYTICAL RESULTS
SAMPLES COLLECTED ON AUGUST 20, 1991
(Results in parts per billion)

WELL ID	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-AS-GASOLINE	TPH-AS-DIESEL *
MW-1	1,700	21	220	34	5,100	260
MW-2	3,700	55	530	75	9,300	600
MW-3	200	13	15	12	3,100	200
MW-4	870	4	3	9	1,800	160

* Gasoline pattern present in sample

SOIL RESULTS

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-1													
08/20/91	6.82	1.62	5.20	--	--	260	5,100	1,700	21	220	34	--	--
09/30/91	6.82	1.15	5.67	Sheen	--	--	--	--	--	--	--	--	--
10/28/91	6.82	1.50	5.30	0.03	--	--	--	--	--	--	--	--	--
01/08/92	6.82	1.67	5.15	Sheen	--	4,400	5,400	770	13	95	31	--	--
01/13/92	6.82	--	--	--	--	--	--	--	--	--	--	--	--
06/23/92	6.89	1.48	5.41	--	--	2,000	7,700	1,500	40	230	100	--	--
08/24/92	6.89	1.12	5.77	--	--	--	--	--	--	--	--	--	--
09/21/92	6.89	1.00	5.89	--	--	<50	3,500	1,700	28	190	78	--	--
10/26/92	6.89	0.95	5.94	--	--	--	--	--	--	--	--	--	--
12/23/92	6.89	2.18	4.71	--	--	5,500	60,000	7,100	240	2,000	1,300	--	--
01/08/93	6.89	--	--	--	--	--	--	--	--	--	--	--	--
03/25/93	6.89	2.17	4.72	--	--	<10	530	1,100	41	67	79	--	--
06/11/93	6.89	5.37	5.07	--	--	--	7,000	1,900	33	120	69	9,600	840
09/29/93	6.89	1.13	5.76	--	--	<10	6,600	1,600	28	43	74	--	--
12/20/93	6.89	1.74	5.15	--	--	<10	6,300	1,900	36	82	65	--	--
03/07/94	6.89	2.21	4.68	--	--	<10	7,700	1,100	55	66	38	12,000	--
06/17/94	6.89	1.83	5.06	--	--	2,200	4,300	710	12	90	38	--	--
09/12/94	6.89	1.24	5.65	--	--	2,500	6,400	1,500	<25	180	<25	12,000	--
11/30/94	6.89	2.32	4.57	--	--	2,300[1]	4,900	690	26	97	60	3,900	--
03/24/95	6.89	3.91	2.98	--	--	1,400[2]	1,800	160	7.3	11	14	1,300	--
06/27/95	6.89	1.87	5.02	--	--	2,300[2]	4,600	1,300	11	97	13	5,100	--
09/28/95	6.89	1.59	5.30	--	--	3,900[2]	6,600	1,500	<20	<20	<20	5,800	--
12/19/95	6.89	2.21	4.68	--	--	2,600[2]	3,800	930	<10	100	<10	6,300	--
02/28/96	6.89	3.27	3.62	--	--	1,800[2]	3,600	280	<5.0	18	5.5	2,200	--
06/25/96	6.89	1.87	5.02	--	--	3,000	4,700	1,600	36	150	31	3,000	--
12/17/96	6.89	2.23	4.66	--	--	2,700[3]	7,800	1,000	28	340	63	1,200	--
03/31/97	6.89	2.01	4.88	--	--	2,200[2]	5,300	590	55	210	53	950	--
06/30/97	6.89	1.32	5.57	--	--	2,200[2]	4,400	350	<10	<10	11	580	--
09/12/97	6.89	1.56	5.33	--	--	2,300[2]	3,400	220	9.5	15	11	460	--

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-1 (cont)													
12/05/97	6.89	2.44	4.45	--	--	1,900[2]	4,700	870	21	120	18	750	--
02/16/98	6.89	3.52	3.37	--	--	1,600[2]	4,400	120	12	11	7.7	270	--
06/17/98	6.89	2.24	4.65	--	--	1,300[2]	7,800	<25	50	34	650	650	--
08/31/98	6.89	1.70	5.19	--	--	2,400[2]	3,700	620	17	120	31	380	--
12/28/98	6.89	1.94	4.95	--	--	1,500[2]	3,800	250	14	28	15	330	--
03/04/99	6.89	3.24	3.65	--	--	1,070[2]	1,560	17.9	<0.5	4.17	1.05	70.4	--
06/14/99	6.89	1.89	5.00	--	--	2,500[2]	<10,000	820	240	320	640	<500	--
09/17/99	6.89	0.30	6.59	--	--	2,110[2]	3,300	141	12.3	<10	<10	238	--
12/20/99	6.89	1.92	4.97	--	--	1,840[2]	2,990	218	16.3	20	<10	232	--
03/20/00	6.89	3.11	3.78	--	--	938[2]	1,340	20	3.07	1.87	1.87	29.1	--
06/24/00[5]	6.89	2.45	4.44	0.00	--	1,680[9]	1,500[7]	12	5.3	<2.5	7.9	190	--
09/07/00[5]	6.89	1.74	5.15	0.00	--	1,500[9]	3,100[7]	190	13	14	<10	210	--
12/05/00	6.89	2.16	4.73	0.00	--	970[13]	2,140[14]	248	<5.00	20.5	<5.00	<25.0	--
03/01/01	**6.89**	**3.33**	**3.56**	**0.00**	**--**	**610[9]**	**1,000[7]**	**21**	**<10**	**<10**	**<10**	**280**	**--**
MW-2													
08/20/91	6.27	1.92	4.35	--	--	600	9,300	3,700	55	530	75	--	--
09/30/91	6.27	1.28	4.99	--	--	--	3,500	2,600	47	440	68	--	--
10/28/91	6.27	1.36	4.91	--	--	--	4,600	1,800	29	290	53	--	--
01/08/92	6.27	1.63	4.64	Sheen	--	--	14,000	4,300	70	<25	130	--	--
01/13/92	6.27	--	--	--	--	38,000	--	--	--	--	--	--	--
06/23/92	6.27	1.63	4.64	0.02	--	--	--	--	--	--	--	--	--
08/24/92	6.27	1.34	4.94	0.02	--	--	--	--	--	--	--	--	--
09/21/92	6.27	1.20	5.08	0.01	--	--	--	--	--	--	--	--	--
10/26/92	6.27	0.34	5.93	--	--	--	--	--	--	--	--	--	--
12/23/92	6.27	--	--	--	--	160,000	21,000	5,400	59	1,300	160	--	--
01/08/93	6.27	2.57	3.70	--	--	--	--	--	--	--	--	--	--
03/25/93	6.27	2.89	3.38	Sheen	--	--	--	--	--	--	--	--	--
06/11/93	6.27	2.09	4.18	--	--	--	5,900	1,100	23	240	51	--	2,300

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-2 (cont)													
09/29/93	6.27	0.07	6.20	--	--	--	--	--	--	--	--	--	--
12/20/93	6.27	1.94	4.35	0.02	--	--	--	--	--	--	--	--	--
03/07/94	6.27	2.60	3.67	--	--	<10	26,000	5,700	170	1,000	150	--	--
06/17/94	6.27	2.25	4.02	Sheen	--	--	--	--	--	--	--	--	--
09/12/94	6.27	1.45	4.83	0.01	--	--	--	--	--	--	--	--	--
11/30/94	6.27	2.27	4.00	--	--	INACCESSIBLE		--	--	--	--	--	--
03/24/95	6.27	2.73	4.01	0.59	--	--	--	--	--	--	--	--	--
06/27/95	6.27	1.71	4.96	0.50	0.013	--	--	--	--	--	--	--	--
09/28/95	6.27	2.62	4.25	0.75	0.013	--	--	--	--	--	--	--	--
12/19/95	6.27	1.99	4.76	0.60	0.010	--	--	--	--	--	--	--	--
02/28/96	6.27	1.99	4.58	0.38	0.008	--	--	--	--	--	--	--	--
06/25/96	6.27	2.36	4.29	0.47	0.030	--	--	--	--	--	--	--	--
12/17/96	6.27	2.22	4.16	0.14	--	--	--	--	--	--	--	--	--
03/31/97	6.27	2.34	4.07	0.18	0.030	--	--	--	--	--	--	--	--
06/30/97	6.27	2.06	4.32	0.14	0.030	--	--	--	--	--	--	--	--
09/12/97	6.27	2.00	4.38	0.14	--	--	--	--	--	--	--	--	--
12/05/97	6.27	2.51	3.78	0.02	--	--	--	--	--	--	--	--	--
02/16/98	6.27	3.08	3.29	0.12	0.007	--	--	--	--	--	--	--	--
06/17/98	6.27	2.35	4.00	0.10	0.010	--	--	--	--	--	--	--	--
08/31/98	6.27	0.65	5.71	0.11	0.008	--	--	--	--	--	--	--	--
12/28/98	6.27	1.75	4.60	0.10	0.005	--	--	--	--	--	--	--	--
03/04/99	6.27	2.58	3.73	0.05	0.200	--	--	--	--	--	--	--	--
DESTROYED													
MW-2A													
04/19/99	6.53	1.67	4.86	--	--	820[2]	<2000	<20	<20	<20	<20	9200	--
06/14/99	6.53	1.23	5.30	--	--	2,000[2]	<5000	89	<50	66	<50	10,000	--
09/17/99	6.53	0.69	5.84	--	--	1,050[2]	903	42	1.63	22.8	7.74	11,400	--
12/20/99	6.53	-0.07	6.60	--	--	2,820[2]	2,280	115	<10	87.2	27.2	14,000	--

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-2A (cont)													
03/20/00	6.53	1.74	4.79	--	--	1,220[2]	1,040	54.3	<5.0	33.8	12.1	10,900[2]	--
06/24/00	6.53	1.28	5.25	0.00	--	1,300[9]	690[7]	50	2.5	18	9.5	15,000[8]	--
09/07/00	6.53	1.09	5.44	0.00	--	770[9]	310[7]	6.7	1.4	1.6	3.8	16,000	--
12/05/00	6.53	1.16	5.37	0.00	--	810[13]	414[14]	32.4	<0.500	7.49	5.96	8,910[8]	--
03/01/01	**6.53**	**2.03**	**4.50**	**0.00**	**--**	**590[9]**	**370[7]**	**30**	**4.0**	**12**	**9.2**	**8,200**	**--**
MW-3													
08/20/91	8.71	0.26	8.45	--	--	200	3,100	200	13	15	12	--	--
09/30/91	8.71	-0.03	8.74	--	--	--	1,000	150	8.3	13	6.7	--	--
10/28/91	8.71	-0.05	8.76	--	--	--	1,200	120	6.7	11	7.5	--	--
01/08/92	8.71	-0.06	8.77	--	--	--	410	120	0.9	4.1	3.4	--	--
01/13/92	8.71	--	--	--	--	220	--	--	--	--	--	--	--
06/23/92	8.71	0.03	8.68	--	--	<50	630	43	0.8	8.2	3.4	--	--
08/24/92	8.71	-0.14	8.85	--	--	--	--	--	--	--	--	--	--
09/21/92	8.71	-0.23	8.94	--	--	<50	1,800	730	1.4	66	39	--	--
10/26/92	8.71	-0.36	9.07	--	--	--	--	--	--	--	--	--	--
12/23/92	8.71	--	--	--	--	850	840	270	3.4	15	4.2	--	--
01/08/93	8.71	1.02	7.69	--	--	--	--	--	--	--	--	--	--
03/25/93	8.71	0.97	7.74	--	--	<10	760	270	4.0	10	5.0	--	--
06/11/93	8.71	0.19	8.52	--	--	--	200	32	1.0	5.0	2.0	--	5,600
09/29/93	8.71	2.66	6.05	--	--	--	9,300	2,800	60	270	62	--	--
12/20/93	8.71	-0.12	8.83	--	--	<10	460	250	4.0	8.0	4.0	--	--
03/07/94	8.71	0.64	8.07	--	--	<10	2,400	260	13	35	18	--	--
06/17/94	8.71	0.19	8.52	--	--	<50	1,000	200	4.0	6.6	6.7	--	--
09/12/94	8.71	-0.21	8.92	--	--	<50	360	130	3.4	4.8	3.3	130	--
11/30/94	8.71	0.58	8.13	--	--	INACCESSIBLE		--	--	--	--	--	--
03/24/95	8.71	1.93	6.78	--	--	1,200[2]	4,100	920	<10	23	<10	70	--
06/27/95	8.71	0.49	8.22	--	--	1,000[2]	3,100	640	16	31	<10	<50	--
09/28/95	8.71	-0.14	8.85	--	--	460[2]	490	78	3.4	4.4	2.4	38	--

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-3 (cont)													
12/19/95	8.71	0.69	8.02	--	--	650[2]	2,600	580	<10	25	<10	<50	--
02/28/96	8.71	1.16	7.55	--	--	780[2]	1,500	510	<5.0	9.9	<5.0	<25	--
06/25/96	8.71	0.34	8.37	--	--	1,200[2]	1,300	390	7.8	14	6.5	31	--
12/17/96	8.71	0.41	8.30	--	--	1,100[2]	760	85	<1.2	5.9	5.1	<6.2	--
03/31/97	8.71	0.52	8.19	--	--	1,300[2]	2,000	380	12	24	12	<25	--
06/30/97	8.71	0.00	8.71	--	--	620[2]	1,900	340	9.9	23	6.1	<25	--
09/12/97	8.71	1.07	7.64	--	--	400[2]	1,200	200	4.6	14	4.8	3.9	--
12/05/97	8.71	0.46	8.25	--	--	190[2]	460	72	2.7	5.2	1.7	<5.0	--
02/16/98	8.71	1.71	7.00	--	--	1,000[2]	6,200	1,100	20	34	12	<50	--
06/17/98	8.71	0.71	8.00	--	--	1,100[2]	3,000	350	<10	<10	<10	120	--
08/31/98	8.71	0.08	8.63	--	--	790[2]	430	100	2.6	8.6	6.0	<12	--
12/28/98	8.71	-0.02	8.73	--	--	180[2]	1,400	220	<10	12	<10	<50	--
03/04/99	8.71	1.06	7.65	--	--	763[2]	2,880	355	9.15	19	<5.0	<20	--
DESTROYED													
MW-3A													
04/19/99	8.70	1.00	7.70	--	--	93[2]	<50	<0.5	<0.5	<0.5	<0.5	3.1	--
06/14/99	8.70	0.50	8.20	--	--	160[2]	148	4.55	0.82	0.53	1.1	3.7	--
09/17/99	8.70	-0.02	8.72	--	--	101[2]	169	6.02	0.806	0.515	0.786	4.68	--
12/20/99	8.70	-0.22	8.92	--	--	153[2]	<50	1.82	<0.5	<0.5	<0.5	11	--
03/20/00	8.70	1.06	7.64	--	--	223[2]	140	5.08	0.695	<0.5	<0.5	10.1	--
06/24/00	8.70	0.32	8.38	0.00	--	128[9]	<50	0.74	<0.50	<0.50	<0.50	34	--
09/07/00	8.70	-0.09	8.79	0.00	--	<50	<50	1.4	<0.50	<0.50	<0.50	15	--
12/05/00	8.70	0.02	8.68	0.00	--	<50	<50.0	1.39	<0.500	<0.500	<0.500	12.9	--
03/01/01	**8.70**	**0.88**	**7.82**	**0.00**	**--**	**66[11]**	**<50**	**1.0**	**<0.50**	**<0.50**	**<0.50**	**19**	**--**

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-4													
08/20/91	7.37	1.32	5.05	--	--	160	1,800	870	4.0	3.0	9.0	--	--
09/30/91	7.37	1.70	5.67	--	--	--	670	830	5.5	2.7	12	--	--
10/28/91	7.37	1.56	5.81	--	--	--	2,800	990	5.8	4.8	19	--	--
01/08/92	7.37	2.03	5.34	--	--	--	2,900	1,200	10	7.0	18	--	--
01/13/92	7.37	--	--	--	--	1,000	--	--	--	--	--	--	--
06/23/92	7.37	2.00	5.37	--	--	<50	1,600	380	6.5	3.0	12	--	--
08/24/92	7.37	1.62	5.75	--	--	--	--	--	--	--	--	--	--
09/21/92	7.37	1.42	5.95	--	--	<50	1,200	480	5.6	3.7	11	--	--
10/26/92	7.37	1.41	5.96	--	--	--	--	--	--	--	--	--	--
12/23/92	7.37	--	--	--	--	1,800	1,500	700	3.6	3.2	11	--	--
01/08/93	7.37	2.73	4.64	--	--	--	--	--	--	--	--	--	--
03/25/93	7.37	2.95	4.42	--	--	<10	520	160	3.0	1.0	4.0	--	--
06/11/93	7.37	2.25	5.12	--	--	--	1,200	430	5.0	6.0	11	--	2,600
09/29/93	7.37	1.57	5.80	--	--	--	1,300	210	8.0	2.0	14	--	--
12/20/93	7.37	2.27	5.10	--	--	3,900	570	230	5.0	4.0	8.0	--	--
03/07/94	7.37	2.36	5.01	--	--	2,600	2,200	290	18	2.5	11	22,000	--
06/17/94	7.37	1.55	5.82	--	--	2,800	2,100	480	11	4.3	9.5	--	--
09/12/94	7.37	1.73	5.64	--	--	3,000	1,700	340	6.1	2.7	9.7	63,000	--
11/30/94	7.37	1.79	5.58	--	--	INACCESSIBLE		--	--	--	--	--	--
03/24/95	7.37	2.42	4.95	--	--	3,000[2]	1,500	280	<5.0	<5.0	6.9	12,000	--
06/27/95	7.37	-1.42	8.79	--	--	3,100[2]	<10,000	310	<100	<100	<100	32,000	--
09/28/95	7.37	1.52	5.85	--	--	6,300[2]	330	64	1.1	<0.5	<0.5	630	--
12/19/95	7.37	1.87	5.50	--	--	3,400[2]	3,000	520	<25	<25	<25	44,000	--
02/28/96	7.37	2.27	5.10	--	--	4,700[2]	<10,000	230	<100	<100	<100	32,000	--
06/25/96	7.37	1.59	5.78	--	--	3,100	<10,000	160	<100	<100	<100	31,000	--
12/17/96	7.37	1.42	5.95	--	--	3,600[3]	<5000	110	<50	<50	<50	22,000	--
03/31/97	7.37	1.75	5.62	--	--	2,700[2]	<2500	130	<25	<25	<25	16,000	--
06/30/97	7.37	1.34	6.03	--	--	2,700[2]	<2500	130	<25	<25	<25	14,000	--
09/12/97	7.37	1.68	5.69	--	--	2,100[2]	<5000	63	<50	<50	<50	15,000	--
12/05/97	7.37	2.22	5.15	--	--	'2,600[2]	1,300	120	<5.0	<5.0	8.5	15,000	--

As of 03/01/01

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-4 (cont)													
02/16/98	7.37	1.11	6.26	--	--	1,300[2]	1,200	57	4.5	<2.5	7.0	12,000	--
06/17/98	7.37	2.41	4.96	--	--	530[2]	5,300	390	290	28	150	17,000	--
08/31/98	7.37	1.46	5.91	--	--	2,400[2]	<50	89	<0.5	<0.5	<0.5	14,000/16,000[4]	--
12/28/98	7.37	1.96	5.41	--	--	2,900[2]	1,000	52	5.6	4.6	9.1	8,400	--
03/04/99	7.37	2.17	5.20	--	--	4,490[2]	<2500	85.5	40.9	<25	<25	11,400	--
DESTROYED													
MW-4A													
04/19/99	7.69	2.78	4.91	--	--	370[2]	<500	<5.0	<5.0	<5.0	<5.0	1600	--
06/14/99	7.69	2.44	5.25	--	--	2,500[2]	5,360	312	<20	44	<20	2880	--
09/17/99	7.69	0.32	7.37	--	--	1,430[2]	1,290	38.6	<5.0	7.01	<5.0	1780	--
12/20/99	7.69	1.39	6.30	--	--	7,480[2]	852	43.5	4.63	9.18	4.36	1070	--
03/20/99	7.69	2.07	5.62	--	--	1,280[2]	1,370	129	8.6	18.3	7.3	2,110	--
06/24/00	7.69	1.57	6.12	0.00	--	1,190[9]	190[7]	1.4	1.7	1.7	3.3	3,900[7]	--
09/07/00	7.69	1.43	6.26	0.00	--	740[9]	490[7]	15	1.9	1.1	3.9	3,300	--
12/05/00	7.69	1.70	5.99	0.00	--	560[12]	<500	<5.00	<5.00	<5.00	<5.00	3,380[8]	--
03/01/01	**7.69**	**2.01**	**5.68**	**0.00**	--	**600[9]**	**<1,000**	**10**	**<10**	**<10**	**<10**	**4,600**	--
MW-5													
06/23/92	14.14	1.90	12.24	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/24/92	14.14	1.85	12.29	--	--	--	--	--	--	--	--	--	--
09/21/92	14.14	1.68	12.46	--	--	60	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/26/92	14.14	1.62	12.52	--	--	--	--	--	--	--	--	--	--
12/23/92	14.14	3.02	11.12	--	--	--	--	--	--	--	--	--	--
01/08/93	14.14	--	--	--	--	--	--	--	--	--	--	--	--
03/25/93	14.14	4.40	9.74	--	--	<10	<50	<0.5	<0.5	<0.5	0.9	--	--
06/11/93	14.14	3.70	10.44	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	770
09/29/93	14.14	2.22	11.92	--	--	<10	<50	<0.5	0.6	<0.5	0.6	--	--

As of 03/01/01

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-5 (cont)													
12/20/93	14.14	--	--	--	--	--	--	--	--	--	--	--	--
03/07/94	14.14	2.80	11.34	--	--	<10	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/17/94	14.14	2.87	11.27	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/12/94	14.14	1.28	12.86	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
11/30/94	14.14	2.23	11.91	--	--	99[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/24/95	14.14	4.38	9.76	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/27/95	14.14	2.74	11.40	--	--	55[3]	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/28/95	14.14	2.24	11.90	--	--	300[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/19/95	14.14	1.56	12.58	--	--	53[2]	<50	<0.5	<0.5	<0.5	<0.5	3.1	--
02/28/96	14.14	2.44	11.70	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/25/96	14.14	2.71	11.43	--	--	120[2]	<50	<0.5	<0.5	<0.5	<0.5	36	--
12/17/96	14.14	2.74	11.40	--	--	89[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/31/97	14.14	2.04	12.10	--	--	150[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/30/97	14.14	1.36	12.78	--	--	SAMPLED SEMI-ANNUALLY							
09/12/97	14.14	0.46	13.68	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/05/97	14.14	1.11	13.03	--	--	--	--	--	--	--	--	--	--
02/16/98	14.14	4.17	9.97	--	--	62[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/17/98	14.14	2.29	11.85	--	--	--	--	--	--	--	--	--	--
08/31/98	14.14	1.32	12.82	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/28/98	14.14	0.71	13.43	--	--	--	--	--	--	--	--	--	--
03/04/99	14.14	0.39	13.75	--	--	70.5	<50	<0.5	<0.5	<0.5	<0.5	3.34	--
06/14/99	14.14	0.04	14.10	--	--	--	--	--	--	--	--	--	--
09/17/99	14.14	-0.04	14.18	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/20/99	14.14	0.44	13.70	--	--	--	--	--	--	--	--	--	--
03/20/00	14.14	1.50	12.64	--	--	115[3]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/24/00	14.14	1.10	13.04	0.00	--	--	--	--	--	--	--	--	--
09/07/00	14.14	0.97	13.17	0.00	--	<50	<50	<0.50	<0.50	<0.50	<0.50	5.0	--
12/05/00	14.14	2.86	11.28	0.00	--	--	--	--	--	--	--	--	--
03/01/01	**14.14**	**3.84**	**10.30**	**0.00**	--	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**	--

As of 03/01/01

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-6													
06/23/92	4.46	-0.68	5.14	--	--	120	<50	4.3	<0.5	0.8	0.9	--	--
08/24/92	4.46	-0.49	4.95	--	--	--	--	--	--	--	--	--	--
09/21/92	4.46	-0.44	4.90	--	--	<50	<250	<2.5	<2.5	<2.5	<2.5	--	--
10/26/92	4.46	-1.06	5.52	--	--	--	--	--	--	--	--	--	--
12/23/92	4.46	-0.94	5.40	--	--	81	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/08/93	4.46	--	--	--	--	--	--	--	--	--	--	--	--
03/25/93	4.46	-1.64	6.10	--	--	<10	<50	<0.5	<0.5	<0.5	0.7	--	--
06/11/93	4.46	-2.10	6.56	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	15,000
09/29/93	4.46	-0.71	5.17	--	--	<10	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/93	4.46	-1.47	5.93	--	--	<10	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/07/94	4.46	-0.81	5.27	--	--	<10	54	<0.5	<0.5	<0.5	0.6	--	--
06/17/94	4.46	--	--	--	--	--	--	--	--	--	--	--	--
09/12/94	4.46	-0.64	5.10	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<50	--
11/30/94	4.46	-1.12	5.58	--	--	800[1]	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/24/95	4.46	-1.87	6.33	--	--	490[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/27/95	4.46	-3.74	8.20	--	--	300[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/28/95	4.46	-0.19	4.65	--	--	1,200[2]	120	1.1	<0.5	<0.5	<0.5	--	--
12/19/95	4.46	-1.58	6.04	--	--	820[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
02/28/96	4.46	-1.54	6.00	--	--	270[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/25/96	4.46	-1.71	6.17	--	--	750[2]	97	<0.5	<0.5	<0.5	0.71	<2.5	--
12/17/96	4.46	-1.67	6.13	--	--	540[2]	65	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/31/97	4.46	-2.23	6.69	--	--	780[2]	65	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/30/97	4.46	-2.62	7.08	--	--	SAMPLED SEMI-ANNUALLY							
09/12/97	4.46	-0.95	5.41	--	--	270[2]	65	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/05/97	4.46	-1.96	6.42	--	--	--	--	--	--	--	--	--	--
02/16/98	4.46	-0.30	4.76	--	--	330[2]	140	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/17/98	4.46	-1.54	6.00	--	--	--	--	--	--	--	--	--	--
08/31/98	4.46	-0.64	5.10	--	--	270[1]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/28/98	4.46	-2.04	6.50	--	--	--	--	--	--	--	--	--	--
03/04/99	4.46	-1.35	5.81	--	--	638[1]	95.5	<0.5	<0.5	<0.5	<0.5	<2.0	--

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-6 (cont)						--	--	--	--	--	--	--	--
06/14/99	4.46	-0.97	5.43	--	--	258[1]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/17/99	4.46	-1.74	6.20	--	--	--	--	--	--	--	--	--	--
12/20/99	4.46	-2.31	6.77	--	--	257[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/20/00	4.46	-2.12	6.58	--	--	SAMPLED SEMI-ANNUALLY						--	--
06/24/00	4.46	-2.52	6.98	0.00	--	98[11]	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
09/07/00	4.46	-0.46	4.92	0.00	--	--	--	--	--	--	--	--	--
12/05/00	4.46	-0.64	5.10	0.00	--	190[9]	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
03/01/01	**4.46**	**-0.43**	**4.89**	**0.00**	**--**								
MW-7						--	--	--	--	--	--	--	--
08/24/92	5.26	-0.29	5.55	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/21/92	5.26	-0.39	5.65	--	--	--	--	--	--	--	--	--	--
10/26/92	5.26	-0.25	5.51	--	--	60	<50	2.9	<0.5	<0.5	<0.5	--	--
12/23/92	5.26	1.31	3.95	--	--	--	--	--	--	--	--	--	--
01/08/93	5.26	--	--	--	--	<10	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/25/93	5.26	2.76	2.50	--	--	--	<50	0.6	<0.5	<0.5	<0.5	--	2200
06/11/93	5.26	1.80	3.46	--	--	<10	<50	2.0	1.0	1.0	7.0	--	--
09/29/93	5.26	-0.26	5.52	--	--	<10	<50	2.0	<0.5	<0.5	<0.5	--	--
12/20/93	5.26	0.85	4.41	--	--	<10	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/07/94	5.26	2.64	2.62	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/17/94	5.26	1.99	3.27	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--
09/12/94	5.26	1.15	4.11	--	--	92[1]	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/30/94	5.26	2.50	2.76	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/24/95	5.26	3.06	2.20	--	--	69[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/27/95	5.26	1.36	3.90	--	--	84[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/28/95	5.26	0.41	4.85	--	--	84[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/19/95	5.26	2.24	3.02	--	--	99[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
02/28/96	5.26	3.83	1.43	--	--	110[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/25/96	5.26	0.97	4.29	--	--								

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-7 (cont)													
12/17/96	5.26	3.08	2.18	--	--	54[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/31/97	5.26	2.32	2.94	--	--	100[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/30/97	5.26	1.68	3.58	--	--	SAMPLED ANNUALLY			--	--	--	--	--
09/12/97	5.26	1.85	3.41	--	--	--	--	--	--	--	--	--	--
12/05/97	5.26	3.37	1.89	--	--	--	--	--	--	--	--	--	--
02/16/98	5.26	3.43	1.83	--	--	77[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/17/98	5.26	3.32	1.94	--	--	--	--	--	--	--	--	--	--
08/31/98	5.26	1.07	4.19	--	--	--	--	--	--	--	--	--	--
12/28/98	5.26	0.79	4.47	--	--	--	--	--	--	--	--	--	--
03/04/99	5.26	3.51	1.75	--	--	73.4	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--
06/14/99	5.26	3.64	1.62	--	--	--	--	--	--	--	--	--	--
09/17/99	5.26	0.42	4.84	--	--	--	--	--	--	--	--	--	--
12/20/99	5.26	0.45	4.81	--	--	--	--	--	--	--	--	--	--
03/20/00	5.26	3.41	1.85	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/24/00	5.26	3.05	2.21	0.00	--	--	--	--	--	--	--	--	--
09/07/00	5.26	1.61	3.65	0.00	--	--	--	--	--	--	--	--	--
12/05/00	5.26	2.31	2.95	0.00	--	--	--	--	--	--	--	--	--
03/01/01	**5.26**	**4.61**	**0.65**	**0.00**	--	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**	--
MW-8													
06/23/92	8.94	-15.20	24.14	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
08/24/92	8.94	0.34	8.60	--	--	--	--	--	--	--	--	--	--
09/21/92	8.94	0.55	8.39	--	--	<50	94	<0.5	<0.5	<0.5	<0.5	--	--
10/26/92	8.94	-0.18	9.12	--	--	--	--	--	--	--	--	--	--
12/23/92	8.94	0.83	8.11	--	--	79	<50	0.7	5.0	0.7	2.9	--	--
01/08/93	8.94	--	--	--	--	--	--	--	--	--	--	--	--
03/25/93	8.94	--	--	--	--	--	--	--	--	--	--	--	--
06/11/93	8.94	0.55	8.39	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	3500
09/29/93	8.94	0.69	8.25	--	--	<10	<50	<0.5	<0.5	<0.5	<0.5	--	--

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-8 (cont)													
12/20/93	8.94	0.48	8.46	--	--	<10	<50	<0.5	0.6	<0.5	1.0	--	--
03/07/94	8.94	0.28	8.66	--	--	<10	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/17/94	8.94	0.12	8.82	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/12/94	8.94	0.11	8.83	--	--	<50	<50	<0.5	<0.5	<0.5	0.8	<5.0	--
11/30/94	8.94	0.31	8.63	--	--	120[1]	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/24/95	8.94	0.43	8.51	--	--	110[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/27/95	8.94	-0.03	8.97	--	--	67[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/28/95	8.94	0.04	8.90	--	--	91[2]	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/19/95	8.94	0.54	8.40	--	--	76[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
02/28/96	8.94	0.50	8.44	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/25/96	8.94	0.05	8.89	--	--	80[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/17/96	8.94	0.49	8.45	--	--	79[2]	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/31/97	8.94	0.18	8.76	--	--	72[2]	<50	<0.5	<0.5	<0.5	<0.5	3.6	--
06/30/97	8.94	-0.18	9.12	--	--	SAMPLED ANNUALLY			--	--	--	--	--
09/12/97	8.94	0.13	8.81	--	--	--	--	--	--	--	--	--	--
12/05/97	8.94	0.59	8.35	--	--	--	--	--	--	--	--	--	--
02/16/98	8.94	1.00	7.94	--	--	68[2]	<50	<0.5	<0.5	<0.5	<0.5	4.3	--
06/17/98	8.94	0.51	8.43	--	--	--	--	--	--	--	--	--	--
08/31/98	8.94	0.06	8.88	--	--	--	--	--	--	--	--	--	--
12/28/98	8.94	0.64	8.30	--	--	--	--	--	--	--	--	--	--
03/04/99	8.94	0.29	8.65	--	--	106	<50	<0.5	<0.5	<0.5	<0.5	3.83	--
06/14/99	8.94	0.52	8.42	--	--	--	--	--	--	--	--	--	--
09/17/99	8.94	-0.93	9.87	--	--	--	--	--	--	--	--	--	--
12/20/99	8.94	0.54	8.40	--	--	--	--	--	--	--	--	--	--
03/20/00	8.94	0.82	8.12	--	--	82.2[6]	<50	<0.5	<0.5	<0.5	<0.5	3.46	--
06/24/00	8.94	0.31	8.63	0.00	--	SAMPLED ANNUALLY			--	--	--	--	--
09/07/00	8.94	0.26	8.68	0.00	--	--	--	--	--	--	--	--	--
12/05/00	8.94	0.81	8.13	0.00	--	--	--	--	--	--	--	--	--
03/01/01	**8.94**	**1.04**	**7.90**	**0.00**	--	**51[11]**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**	--

As of 03/01/01

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
MW-9													
04/19/99	5.87	2.71	3.16	--	--	2,600[2]	3,900[6]	14	6.9	14	24	140	--
06/14/99	5.87	1.06	4.81	--	--	2,800[2]	2,880	12.6	<10	<10	<10	138	--
09/17/99	5.87	1.02	4.85	--	--	1,770[2]	3,370	33.1	14.4	<5.0	<5.0	202	--
12/20/99	5.87	1.87	4.00	--	--	996[2]	3,970	42.2	13.5	<10	<10	311	--
03/20/00	5.87	2.87	3.00	--	--	2,710[2]	5,920	22.1	<5.0	6.8	<5.0	106.0	--
06/24/00	5.87	1.96	3.91	0.00	--	1,940[9]	2,500[7]	12	<10	11	<10	120	--
09/07/00	5.87	1.59	4.28	0.00	--	1,500[9]	3,700[7]	<25	<25	<25	<25	330	--
12/05/00	5.87	2.07	3.80	0.00	--	1,300[12]	3,470[2]	<5.00	7.64	<5.00	<5.00	177	--
03/01/01	**5.87**	**3.19**	**2.68**	**0.00**	--	**960[9]**	**2,400[7]**	**11**	**18.0**	**<10**	**<10**	**250**	--
TRIP BLANK													
08/24/92	--	--	--	--	--	--	--	--	--	--	--	--	--
09/21/92	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
10/26/92	--	--	--	--	--	--	--	--	--	--	--	--	--
12/23/92	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
01/08/93	--	--	--	--	--	--	--	--	--	--	--	--	--
03/25/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/11/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/29/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/20/93	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/07/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/17/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	1.0	--	--
09/12/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
11/30/94	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
03/24/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
06/27/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
09/28/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/19/95	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
02/28/96	--	--	--	--	--	--							

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	TOC (ft.)	GWE (msl)	DTW (ft.)	SPH Thickness (ft.)	SPH Removed (gallons)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppb)
TRIP BLANK (cont)													
06/25/96	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	--
12/17/96	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/31/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/30/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/12/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/05/97	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
02/16/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/17/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
08/31/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/28/98	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.0	--
03/04/99	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
06/14/99	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
09/17/99	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
12/20/99	--	--	--	--	--	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--
03/20/00	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
06/24/00	--	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--
09/07/00	--	--	--	--	--	--	<50	<0.500	<0.500	<0.500	<0.500	<2.5	--
12/05/00	--	--	--	--	--	--	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**	--
03/01/01	--	--	--	--	--	--							

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to June 24, 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
SPH = Separate Phase Hydrocarbons
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether

(ppb) = Parts per billion
TDS = Total Dissolved Solids
-- = Not Measured/Not Analyzed

1 Chromatogram pattern indicates a non-diesel mix.
2 Chromatogram pattern indicates an unidentified hydrocarbon.
3 Chromatogram pattern indicates an unidentified hydrocarbon and weathered diesel.
4 Confirmation run.
5 ORC in well.
6 Laboratory report indicates gasoline and unidentified hydrocarbons >10.
7 Laboratory report indicates gasoline C6-C12.
8 Laboratory report indicates this sample was analyzed outside of the EPA recommended holding time.
9 Laboratory report indicates unidentified hydrocarbons C9-C24.
10 Laboratory report indicates unidentified hydrocarbons C10-C24.
11 Laboratory report indicates unidentified hydrocarbons >C16.
12 Laboratory report indicates unidentified hydrocarbons C9-C40.
13 Laboratory report indicates diesel C9-C24+ unidentified hydrocarbons <C16.
14 Laboratory report indicates weathered gasoline C6-C12.

Table 2

Groundwater Analytical Results

Chevron Service Station #9-0121

3026 Lakeshore Avenue

Oakland, California

WELL ID/ DATE	Total Alkalinity (ppb)	Ferrous Iron (ppb)	Sulfate (ppb)	Nitrate (ppb)
MW-1 12/28/98	390,000	4900	<1000	<1000
MW-3 12/28/98	980,000	4500	390,000	<1000
MW-4 12/28/98	670,000	3500	6800	<1000
MW-5 12/28/98	480,000	15	51,000	<1000
MW-6 12/28/98	2,400,000	810	110,000	<1000
MW-7 12/28/98	350,000	12,000	79,000	<1000
MW-8 12/28/98	1,100,000	45	87,000	<1000

EXPLANATIONS:

Groundwater laboratory analytical results were compiled from reports prepared by Blaine Tech Services, Inc.

(ppb) = Parts per billion

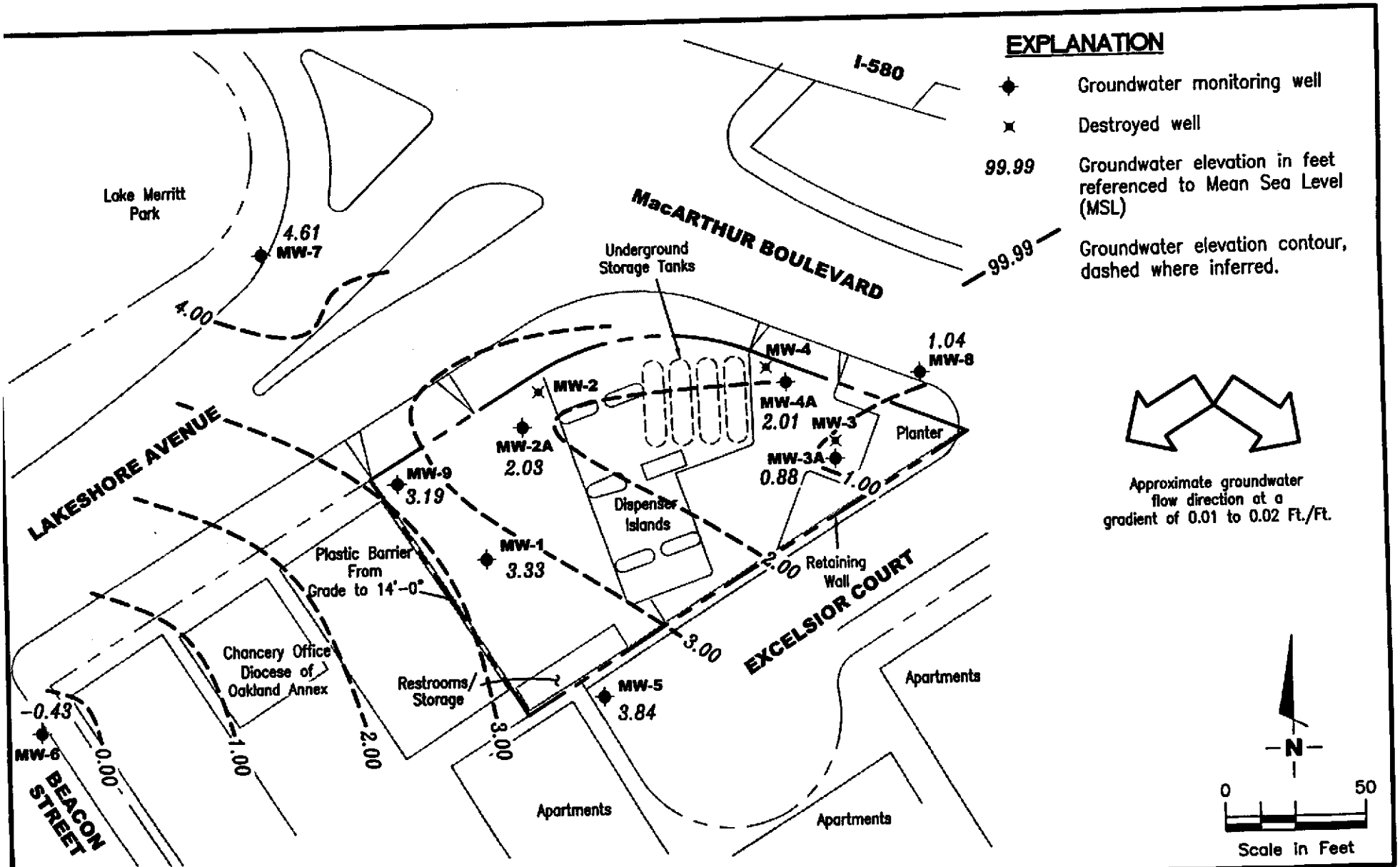
Table 3

Dissolved Oxygen Concentrations
Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

WELL ID	DATE	Before Purging *(mg/L)*	After Purging *(mg/L)*
MW-1	06/24/00	5.3	--
	09/07/00	4.02	--
	12/05/00	3.86	--
	03/01/01	**3.04**	--

EXPLANATIONS:

(mg/L) = Milligrams per liter
-- = Not Measured



Source: Figure modified from drawings provided by RRM engineering contracting firm and City of Oakland Public Works.

FIGURE

1

POTENTIOMETRIC MAP
Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

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

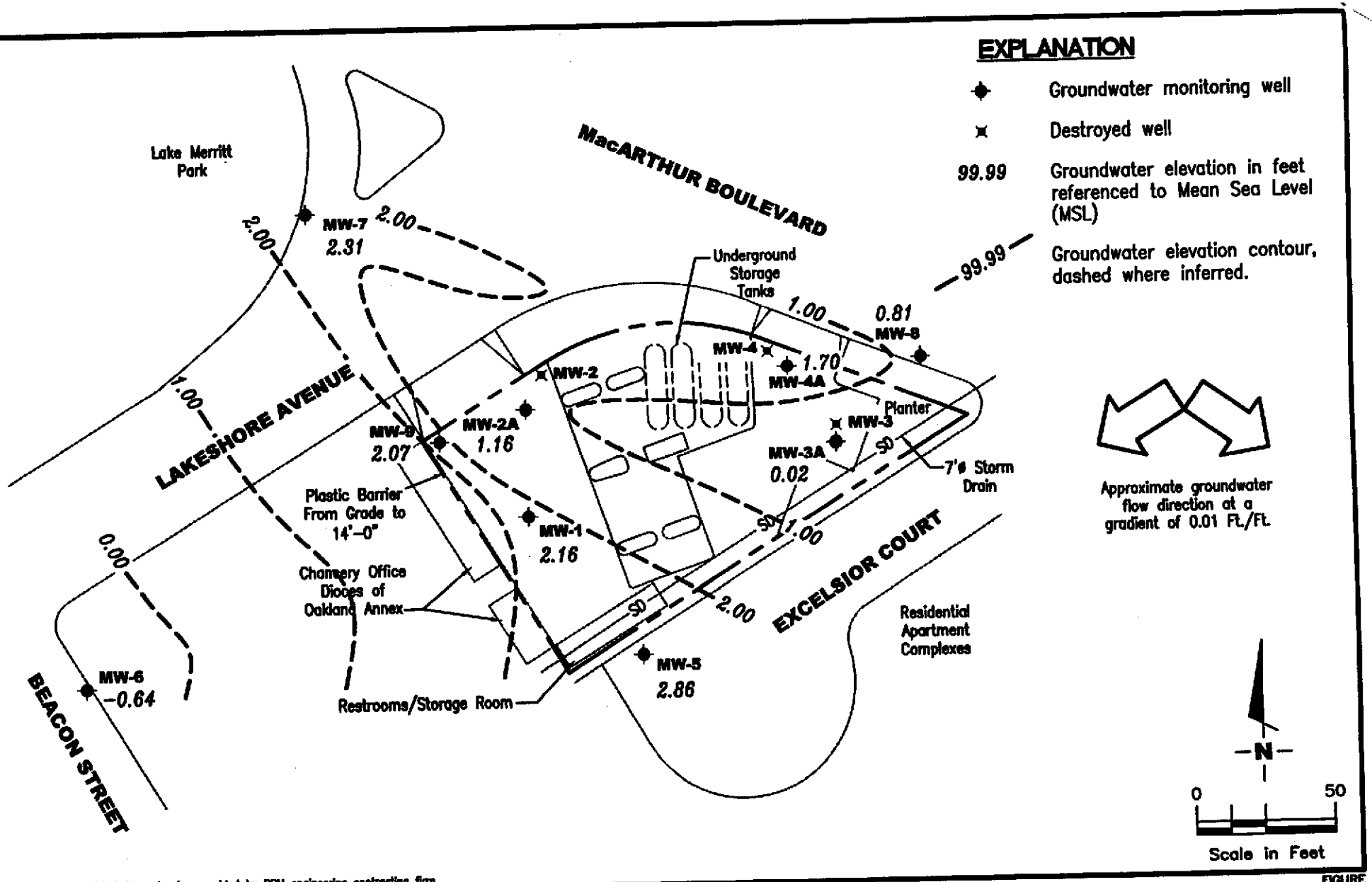
PROJECT NUMBER
386462

REVIEWED BY

DATE
March 1, 2001

REVISED DATE

FILE NAME: P:\ENVIRO\CHEVRON\9-0121\Q01-9-0121.DWG | Layout Tab: Pot1



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

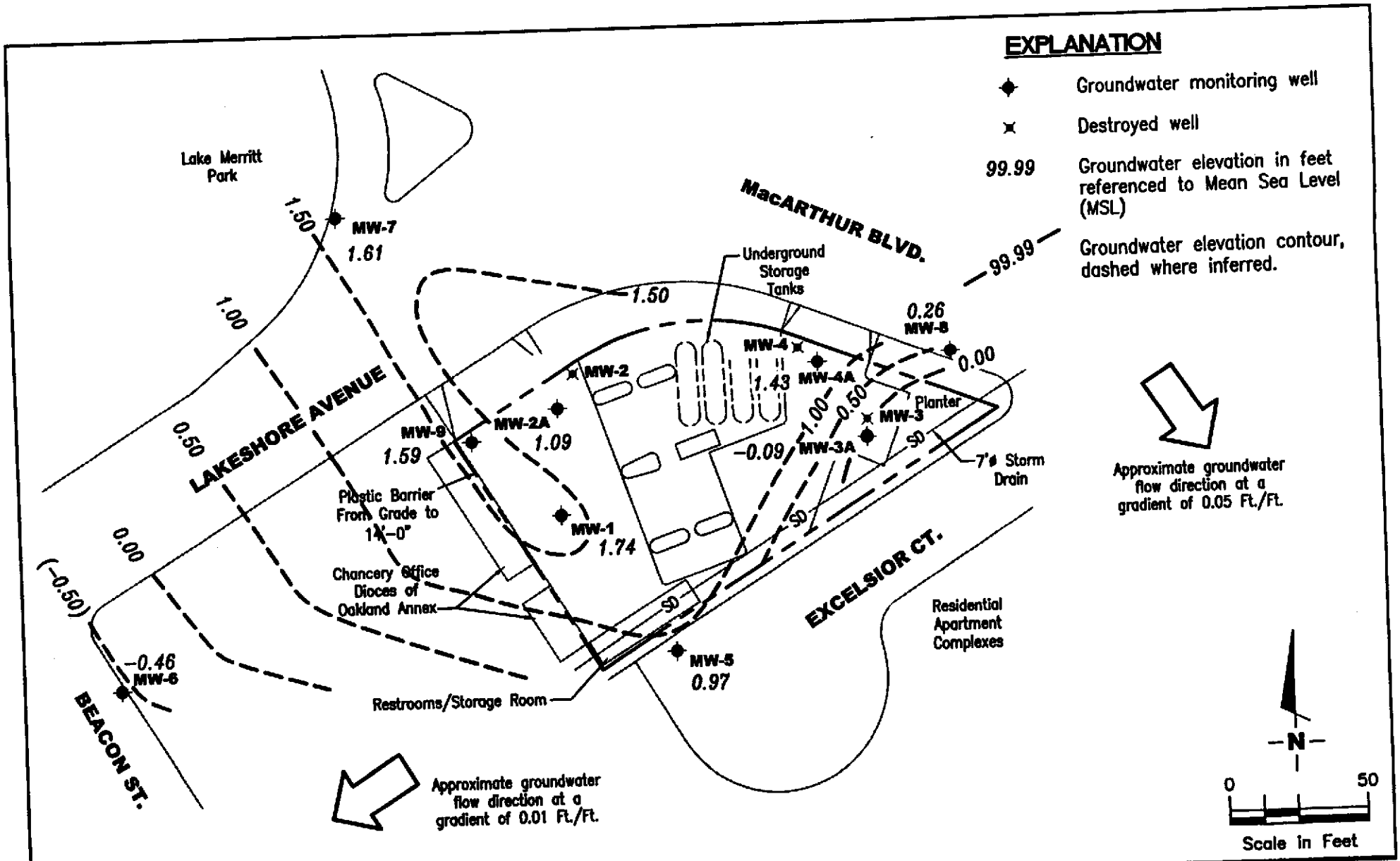
FIGURE 1

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

POTENTIOMETRIC MAP
Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

JOB NUMBER 386462
REVIEWED BY
DATE December 5, 2000
REVISED DATE

FILE NAME: P:\ENVIRO\CHEVRON\9-0121\QOO-9-0121.DWG | Layout Tab: Pot4



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

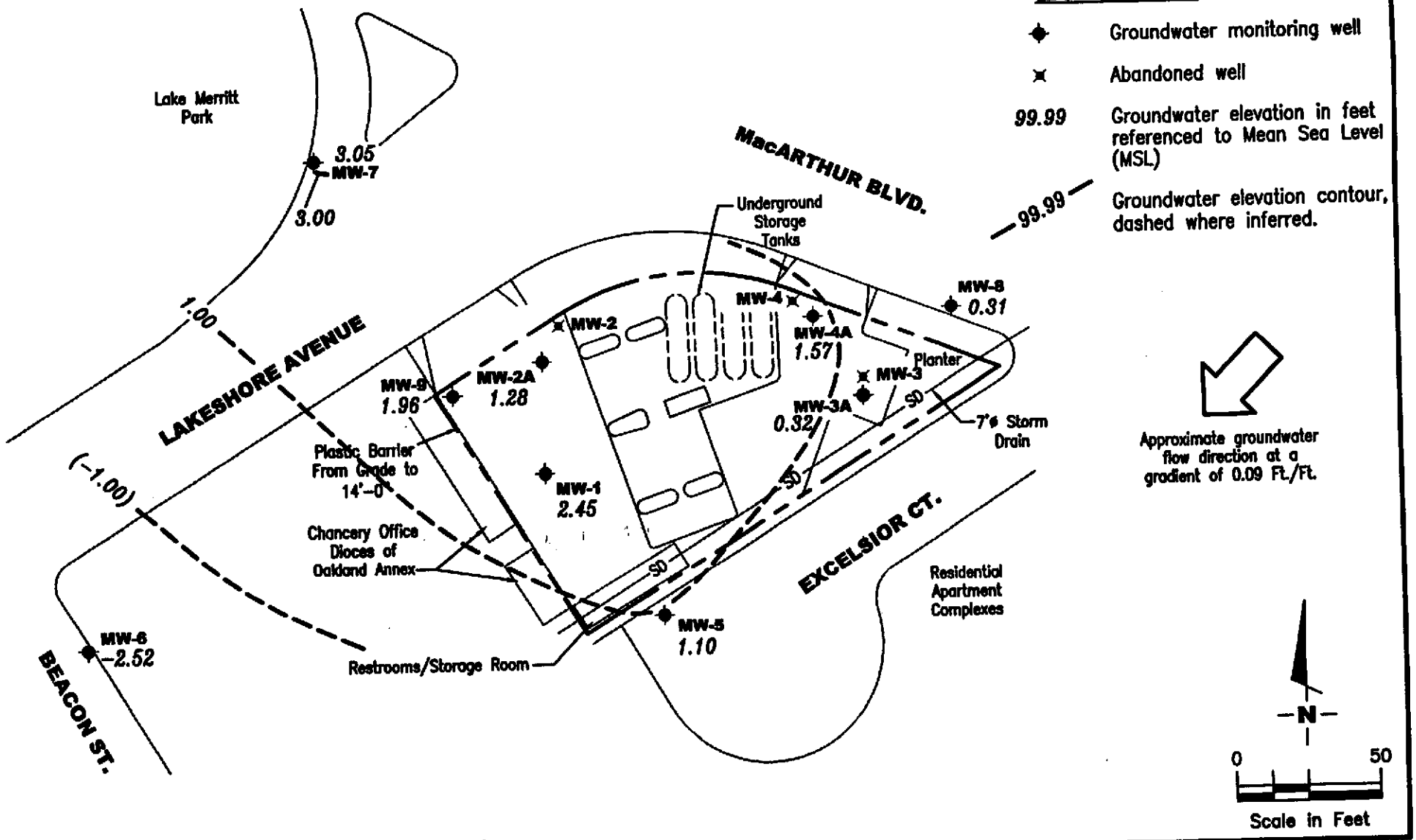
FIGURE 1

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

POTENTIOMETRIC MAP
Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

JOB NUMBER 386462
REVIEWED BY
DATE September 7, 2000
REVISED DATE

FILE NAME: P:\Enviro\Chevron\9-0121\000-9-0121.DWG | Layout Tab: Pot3



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

FIGURE 1

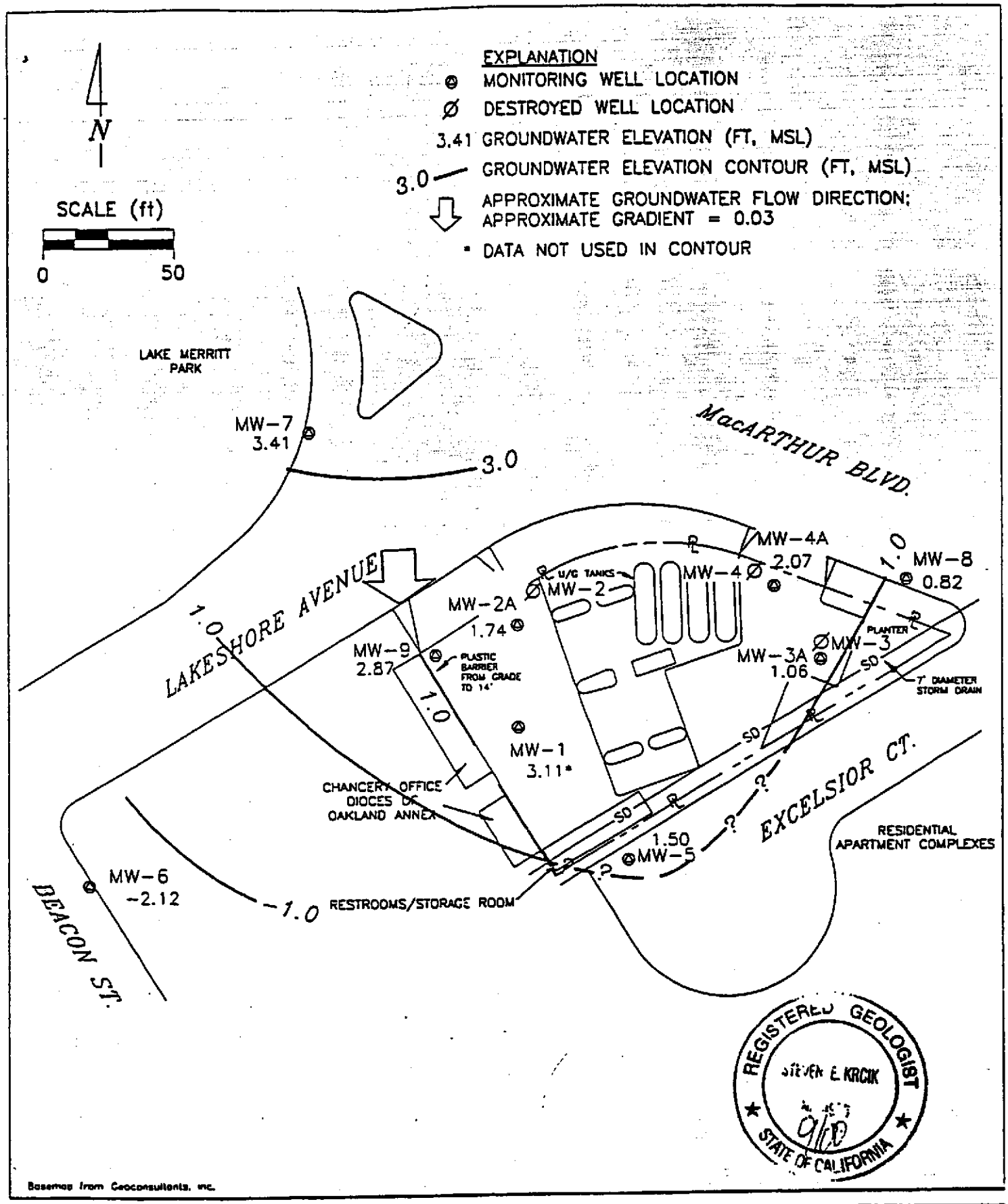
Gettler - Ryan Inc.

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

POTENTIOMETRIC MAP
Chevron Service Station #9-0121
3026 Lakeshore Avenue
Oakland, California

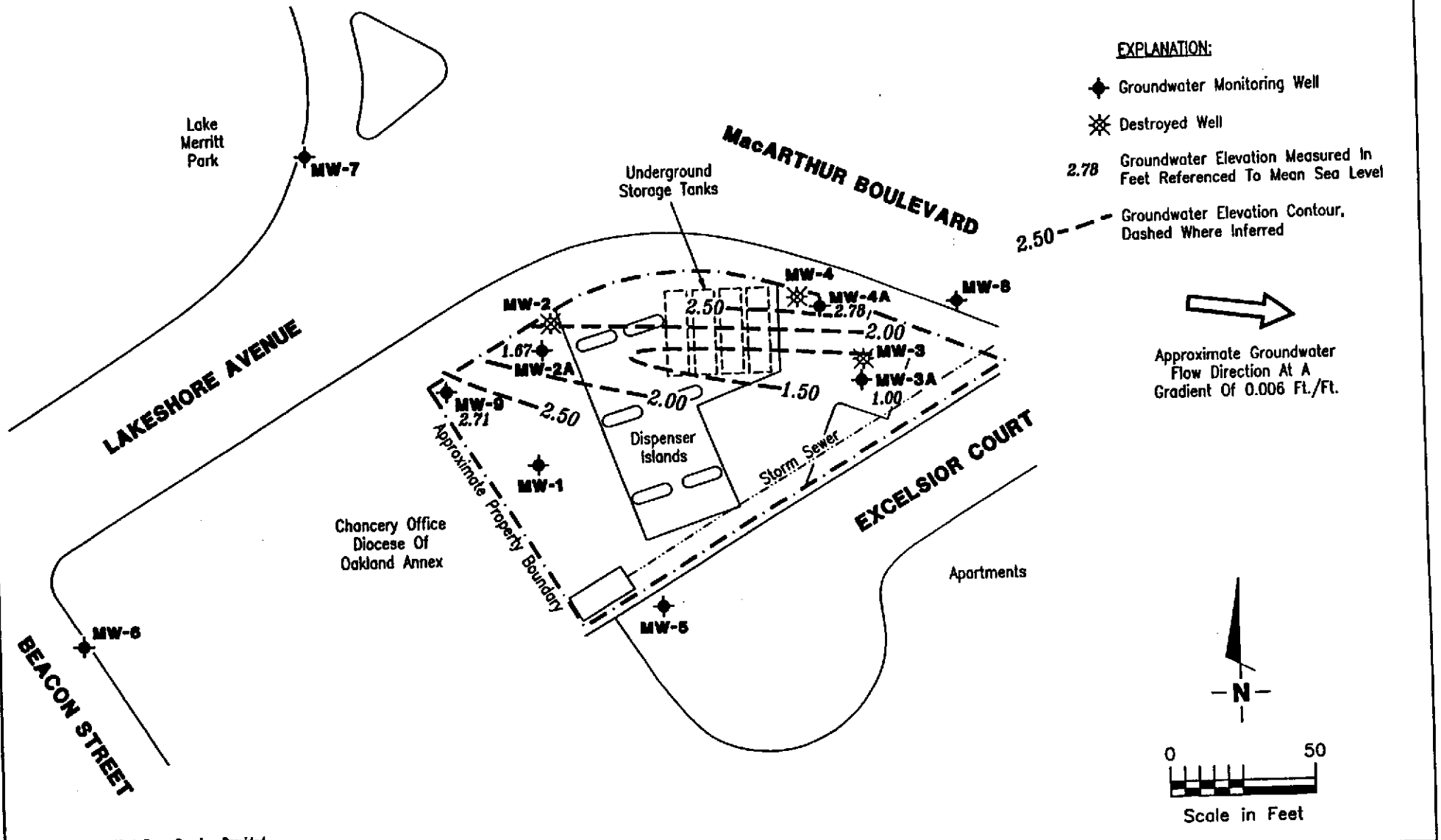
JOB NUMBER 386462 | REVIEWED BY | DATE June 24, 2000 | REVISED DATE

FILE NAME: P:\ENVIRO\CHEVRON\9-0121\Q00-9-0121.DWG | Layout Tab: POT2



Basemap from Geoconsultants, Inc.

PREPARED BY RRM engineering contracting firm	Chevron Station 9-0121 3026 Lakeshore Avenue Oakland, California GROUNDWATER ELEVATION CONTOUR MAP, MARCH 20, 2000	FIGURE: 1 PROJECT: DAC04



Source: Figure Modified From Drawing Provided By RRM Engineering.

FIGURE 2

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

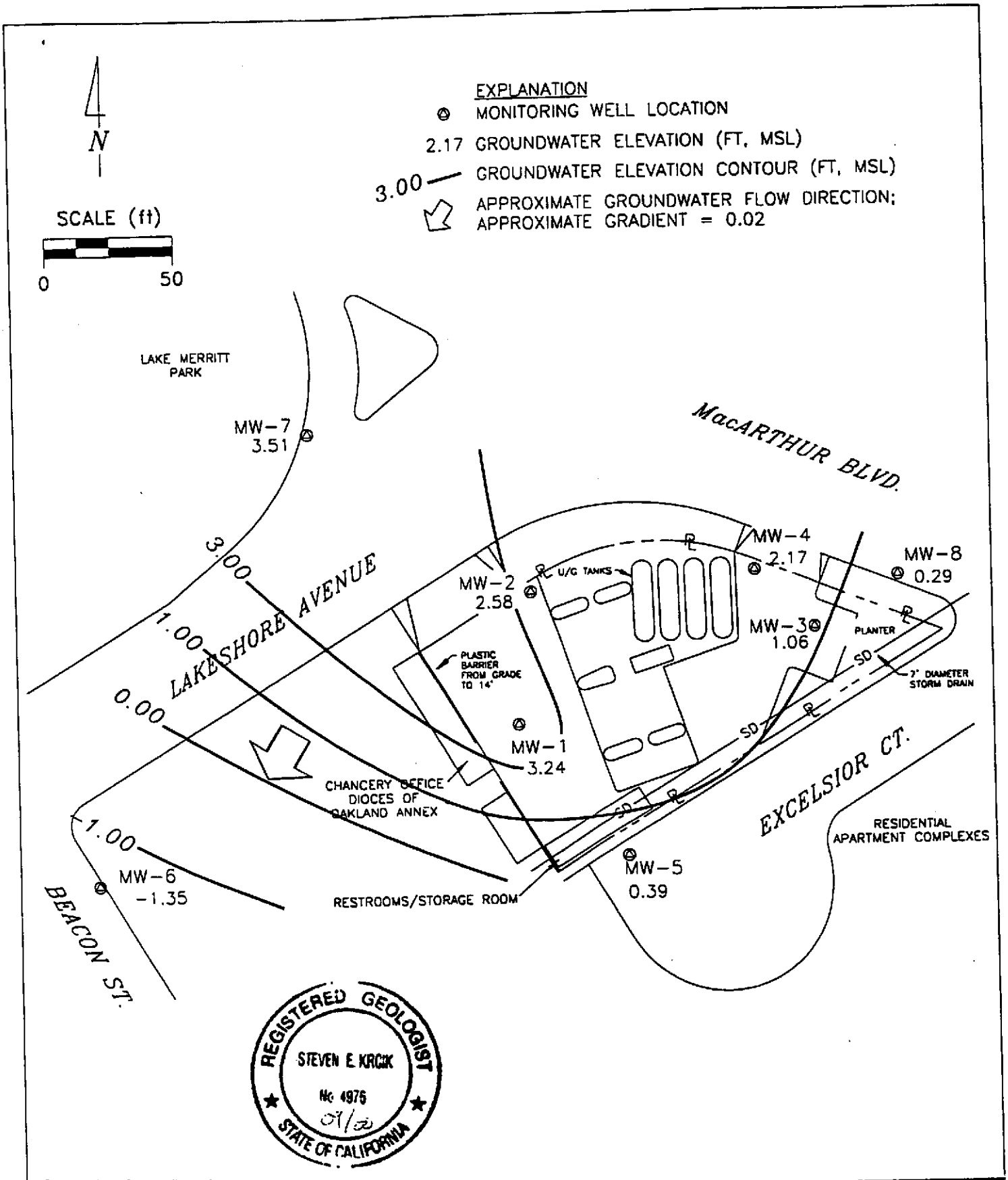
POTENTIOMETRIC MAP
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

JOB NUMBER 346462

REVIEWED BY

DATE April 19, 1999

REVISED DATE



Basemap from Geoconsultants, Inc.

PREPARED BY

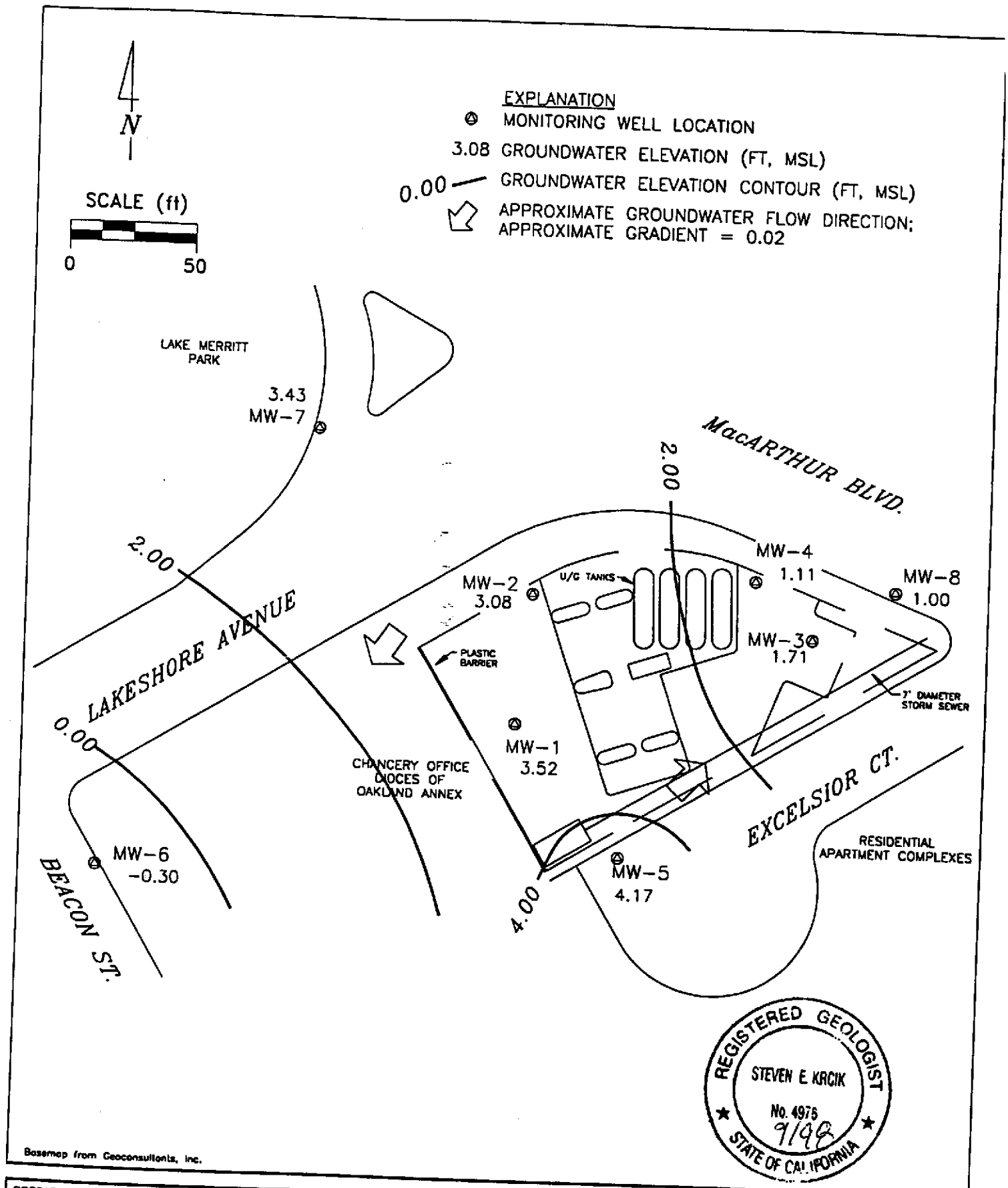
RRM
engineering contracting firm

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP,
MARCH 4, 1999

FIGURE:
1

PROJECT:
DAC04



Basemap from Geoconsultants, Inc.

PREPARED BY

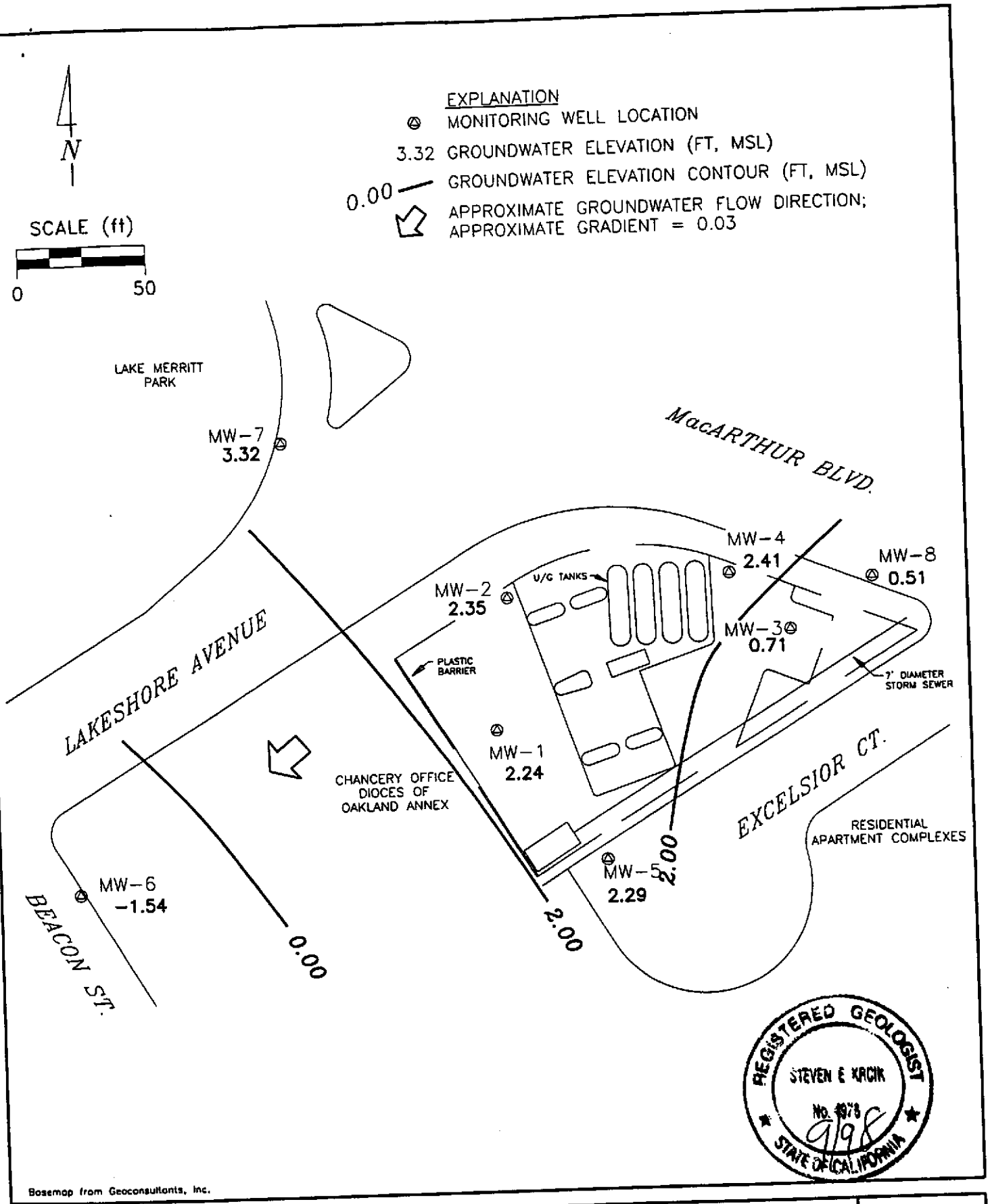
RRM engineering contracting firm

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP, FEBRUARY 16, 1998

FIGURE: 1

PROJECT: DAC04



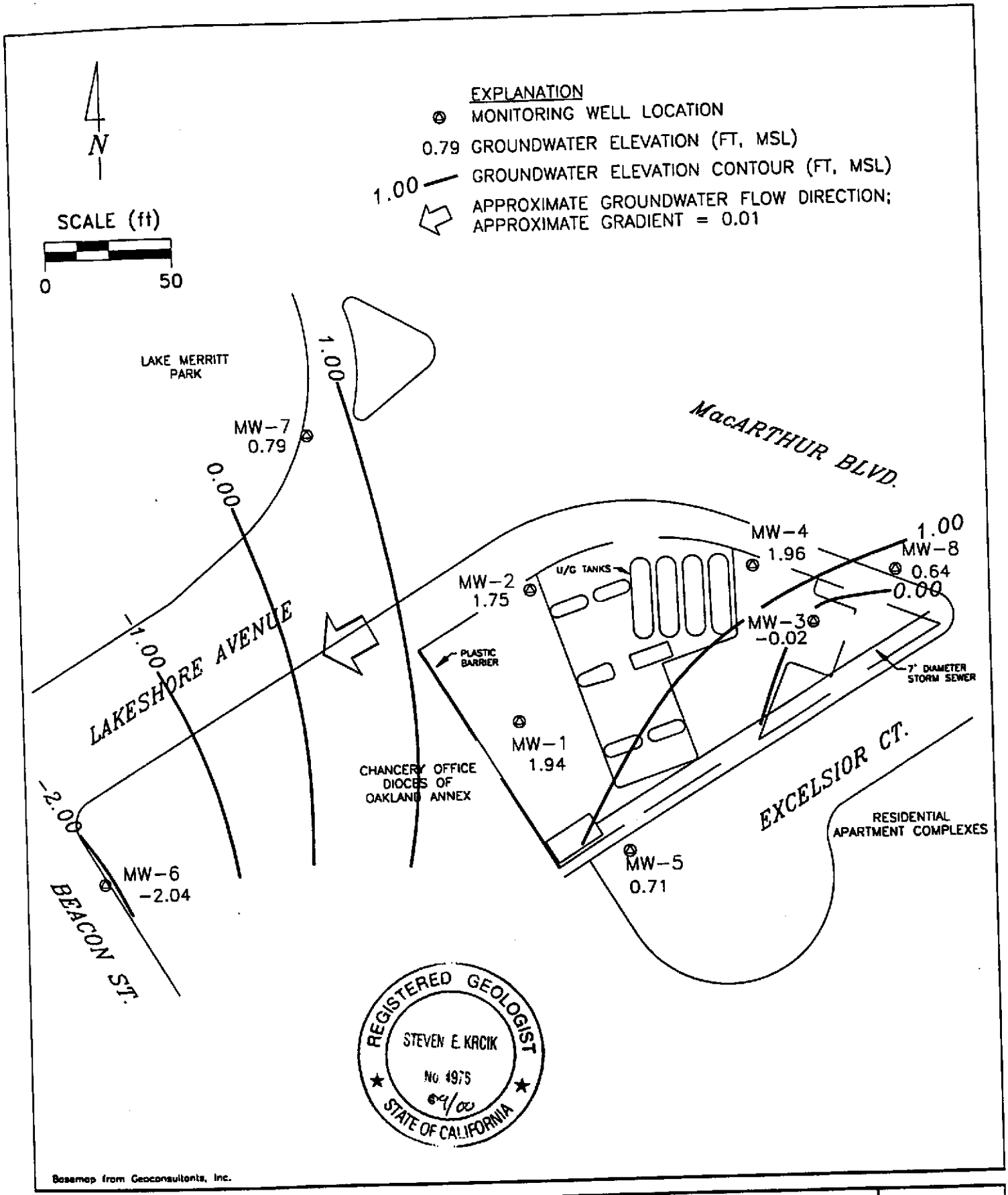
Basemap from Geoconsultants, Inc.

PREPARED BY
RRM
engineering contracting firm

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP,
JUNE 17, 1998

FIGURE:
1
PROJECT:
DAC04



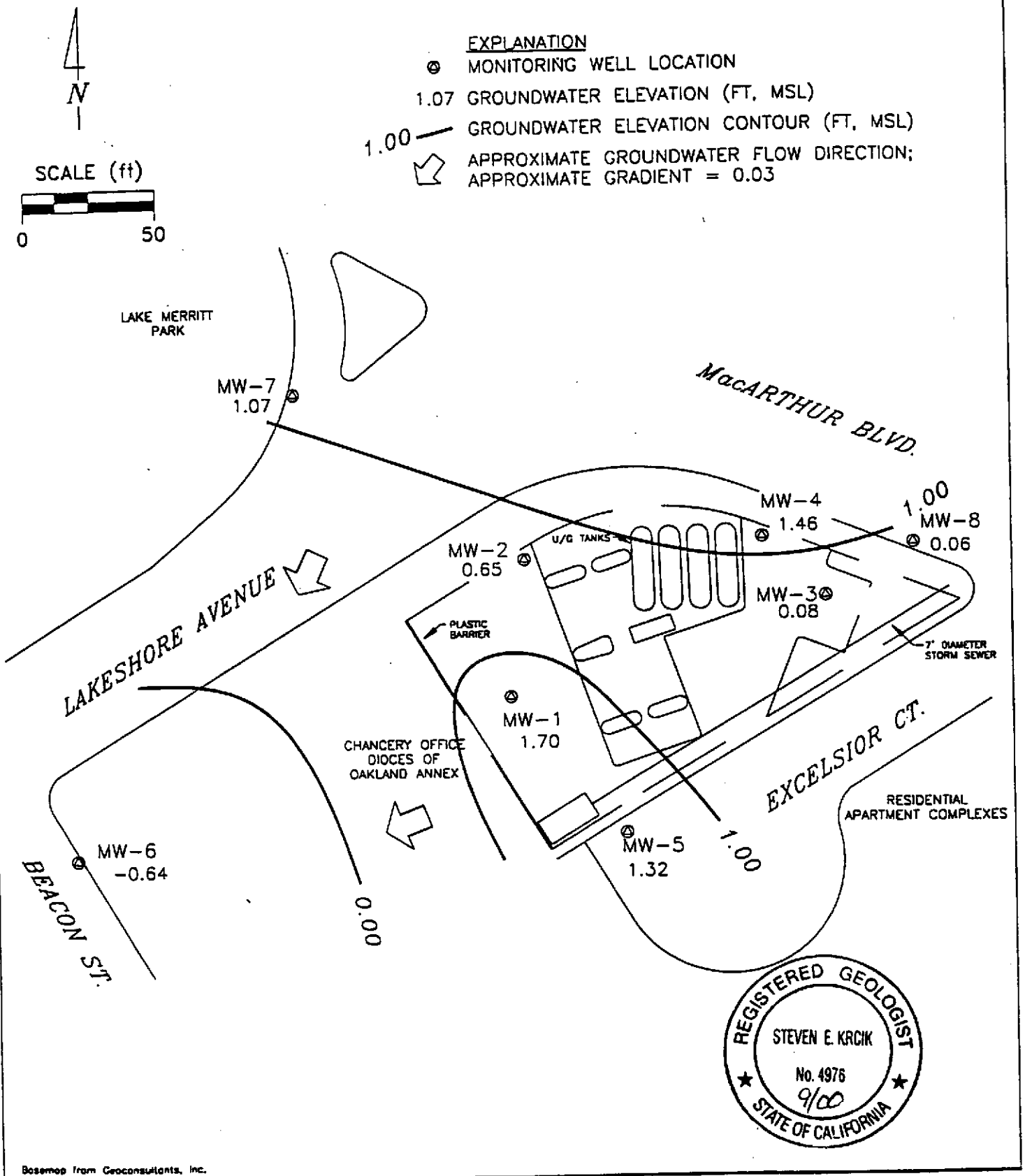
Basemap from Geoconsultants, Inc.

PREPARED BY
RRM
engineering contracting firm

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

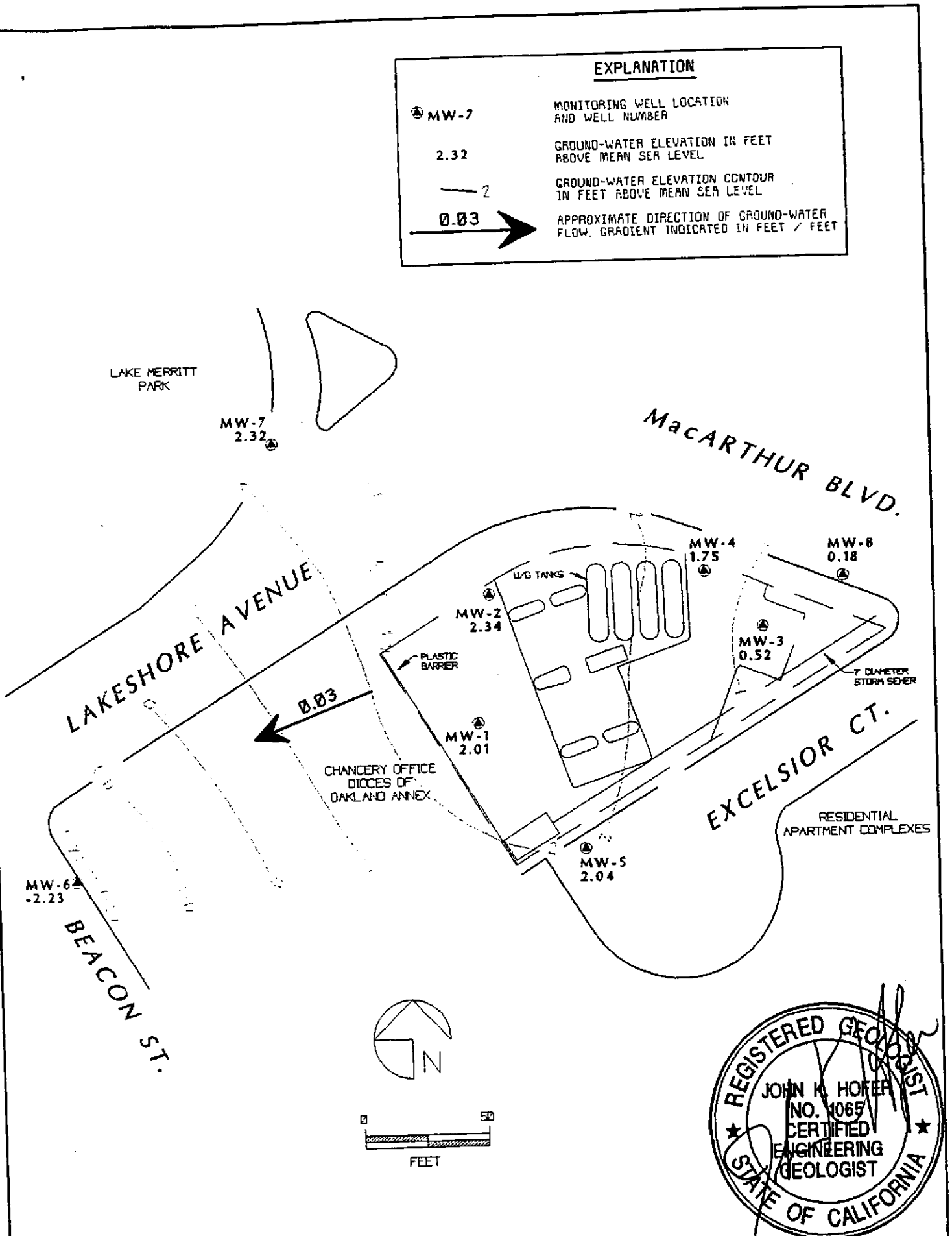
GROUNDWATER ELEVATION CONTOUR MAP, DECEMBER 28, 1998

FIGURE: 1
PROJECT: DAC04



Basemap from Geoconsultants, Inc.

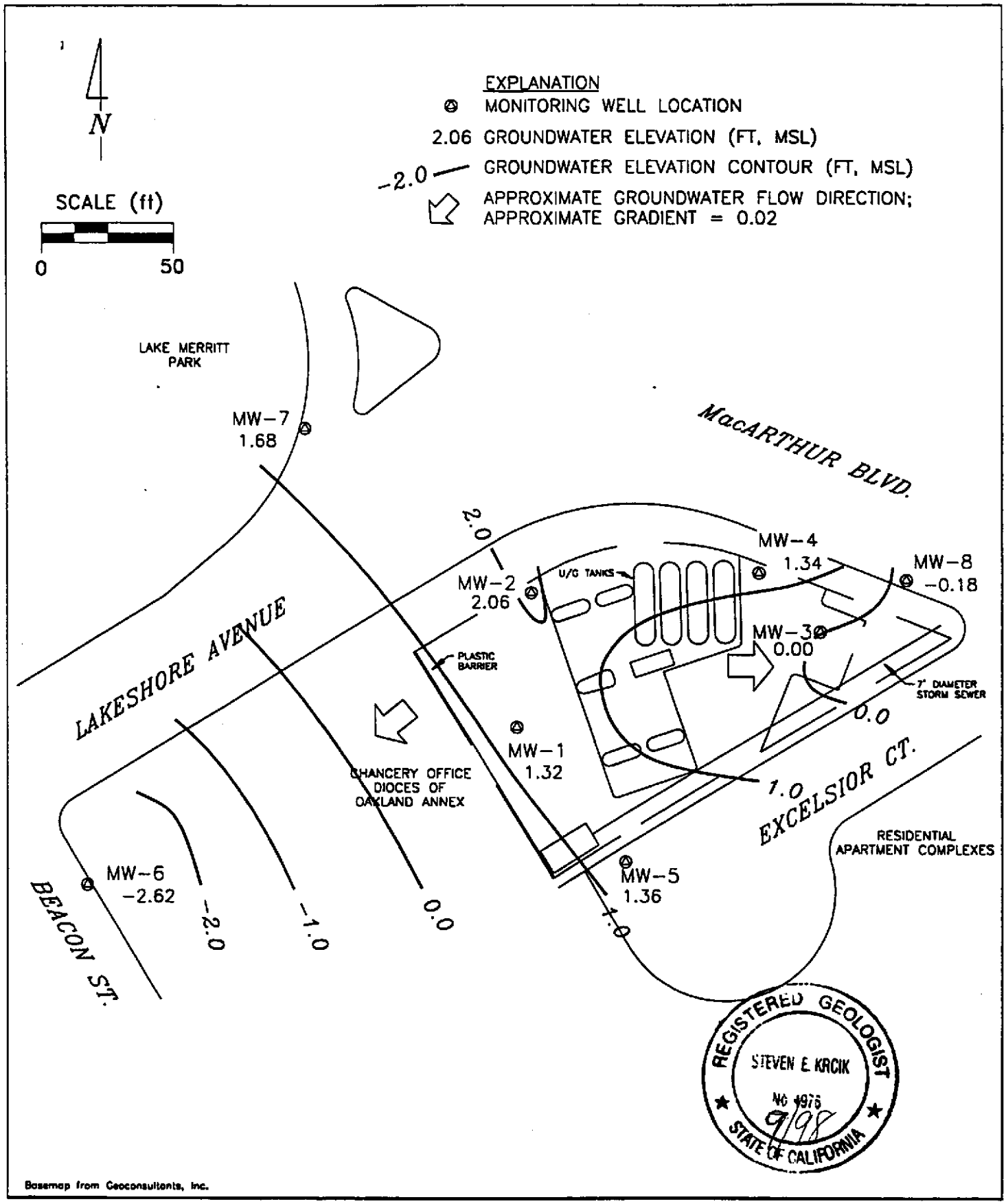
PREPARED BY RRM engineering contracting firm	**Chevron Station 9-0121** 3026 Lakeshore Avenue Oakland, California GROUNDWATER ELEVATION CONTOUR MAP, AUGUST 31, 1998	FIGURE: 1 PROJECT: DAC04



TITLE : GROUND-WATER ELEVATION CONTOUR MAP - MARCH 31, 1997

LOCATION : CHEVRON SERVICE STATION 9-0121
3026 LAKESHORE AVENUE, OAKLAND, CALIFORNIA

GEOCONSULTANTS, INC
SAN JOSE, CALIFORNIA
Project No. G756-09



Basemap from Geoconsultants, Inc.

PREPARED BY

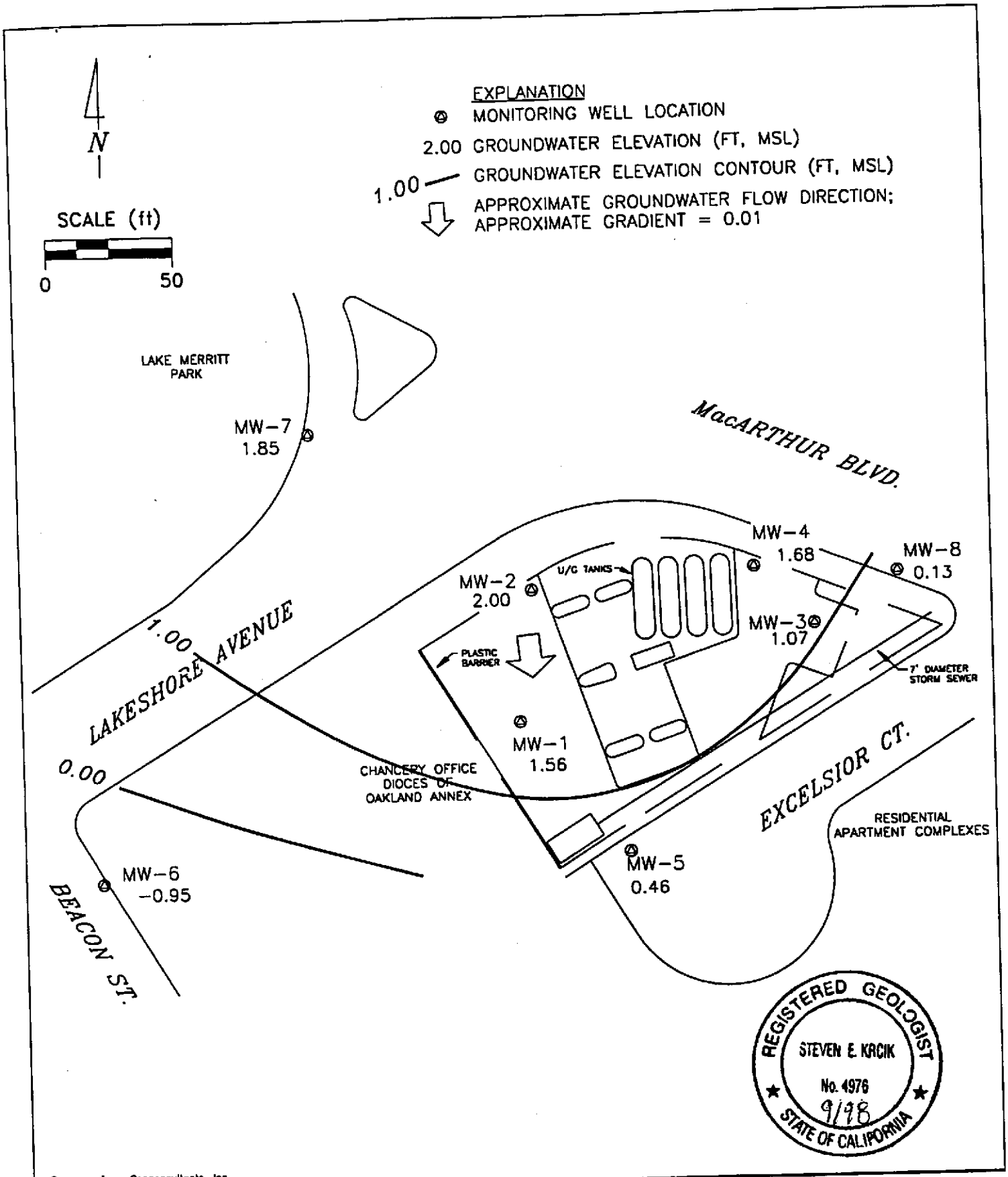
RRM engineering contracting firm

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP, JUNE 30, 1997

FIGURE: 1

PROJECT: DAC04



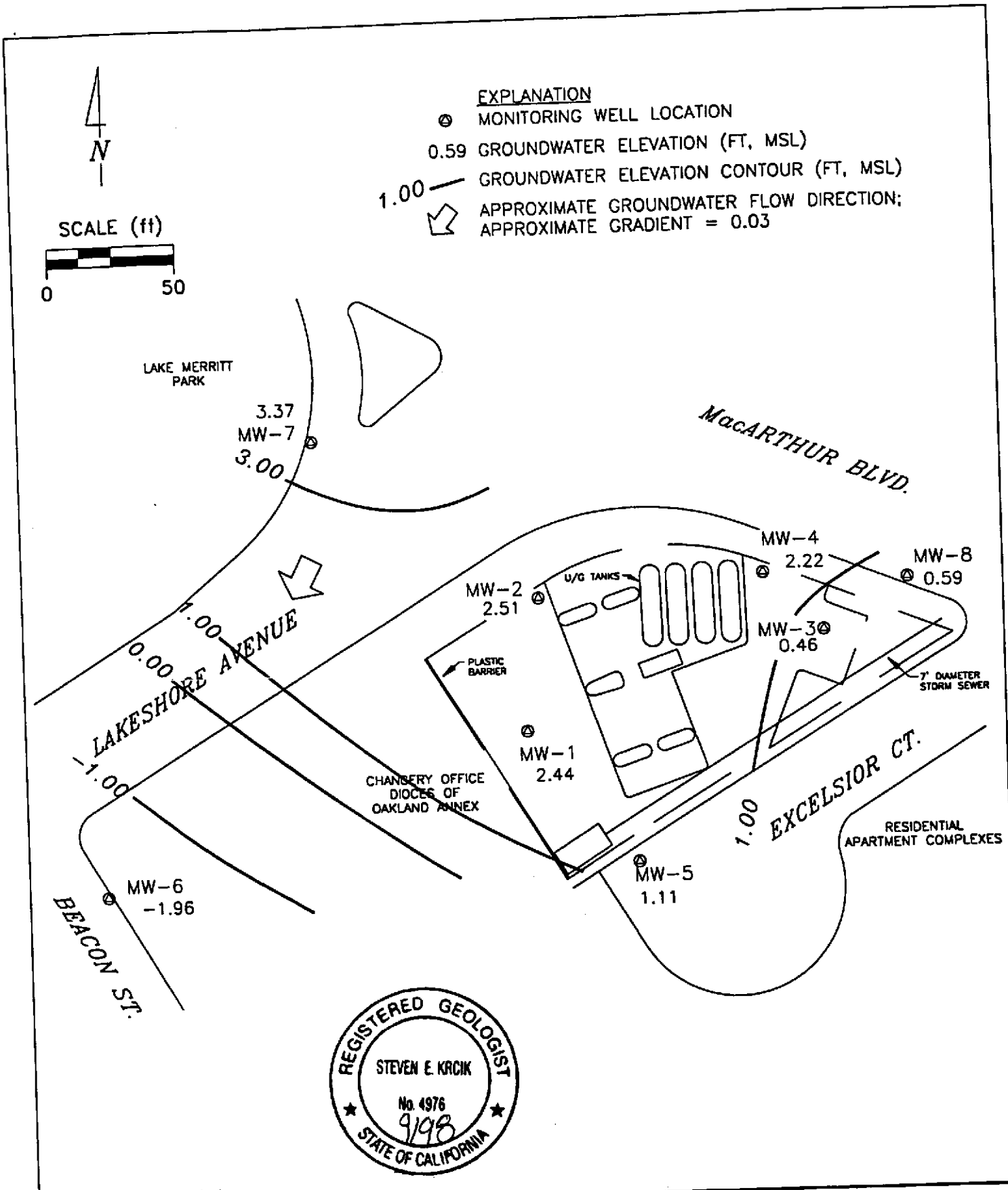
Basemap from Geoconsultants, Inc.

PREPARED BY
RRM
engineering contracting firm

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP, SEPTEMBER 12, 1997

FIGURE: 1
PROJECT: DAC04



Basemap from Geoconsultants, Inc.

PREPARED BY

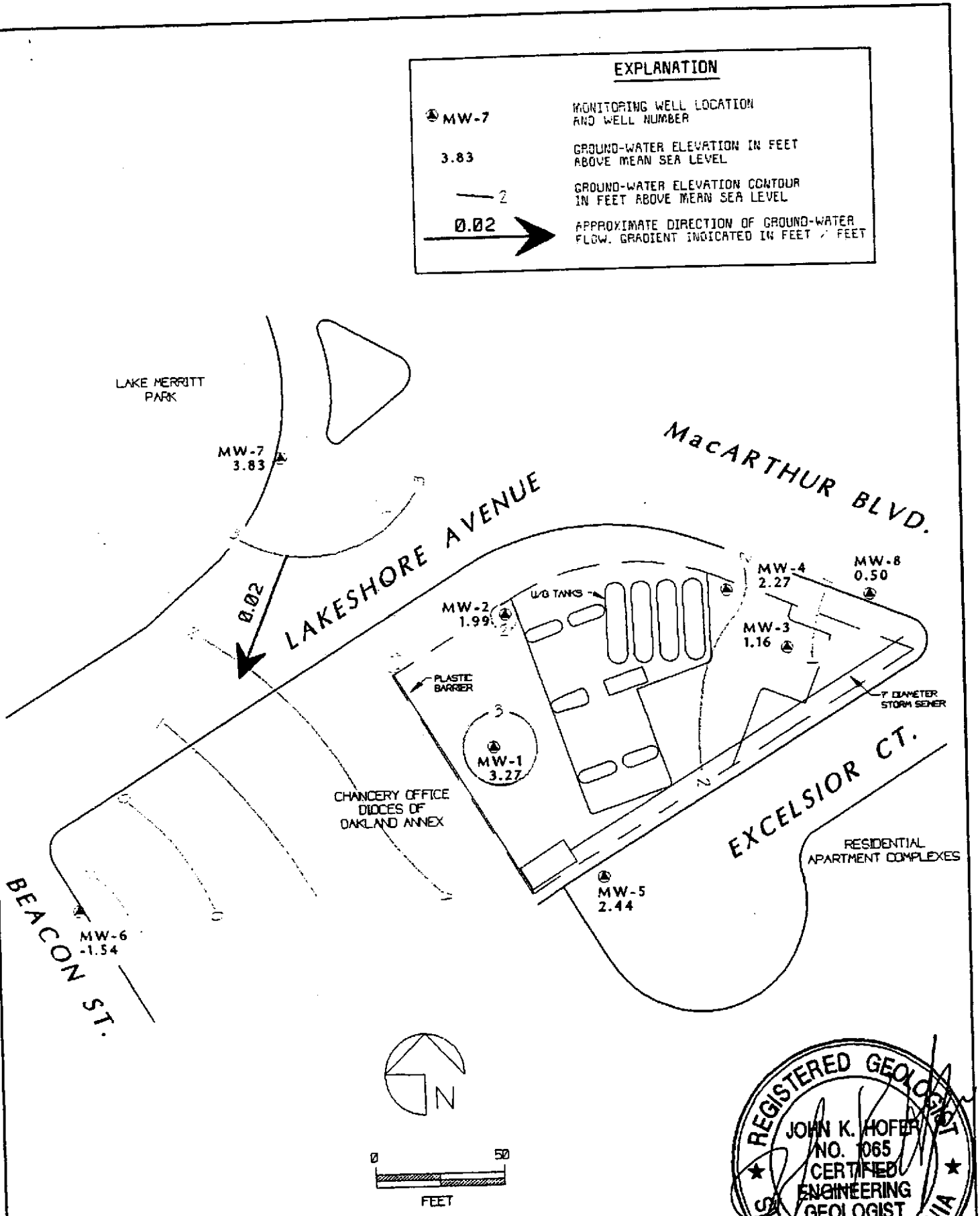
RRM engineering contracting firm

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

GROUNDWATER ELEVATION CONTOUR MAP, DECEMBER 5, 1997

FIGURE: 1

PROJECT: DAC04



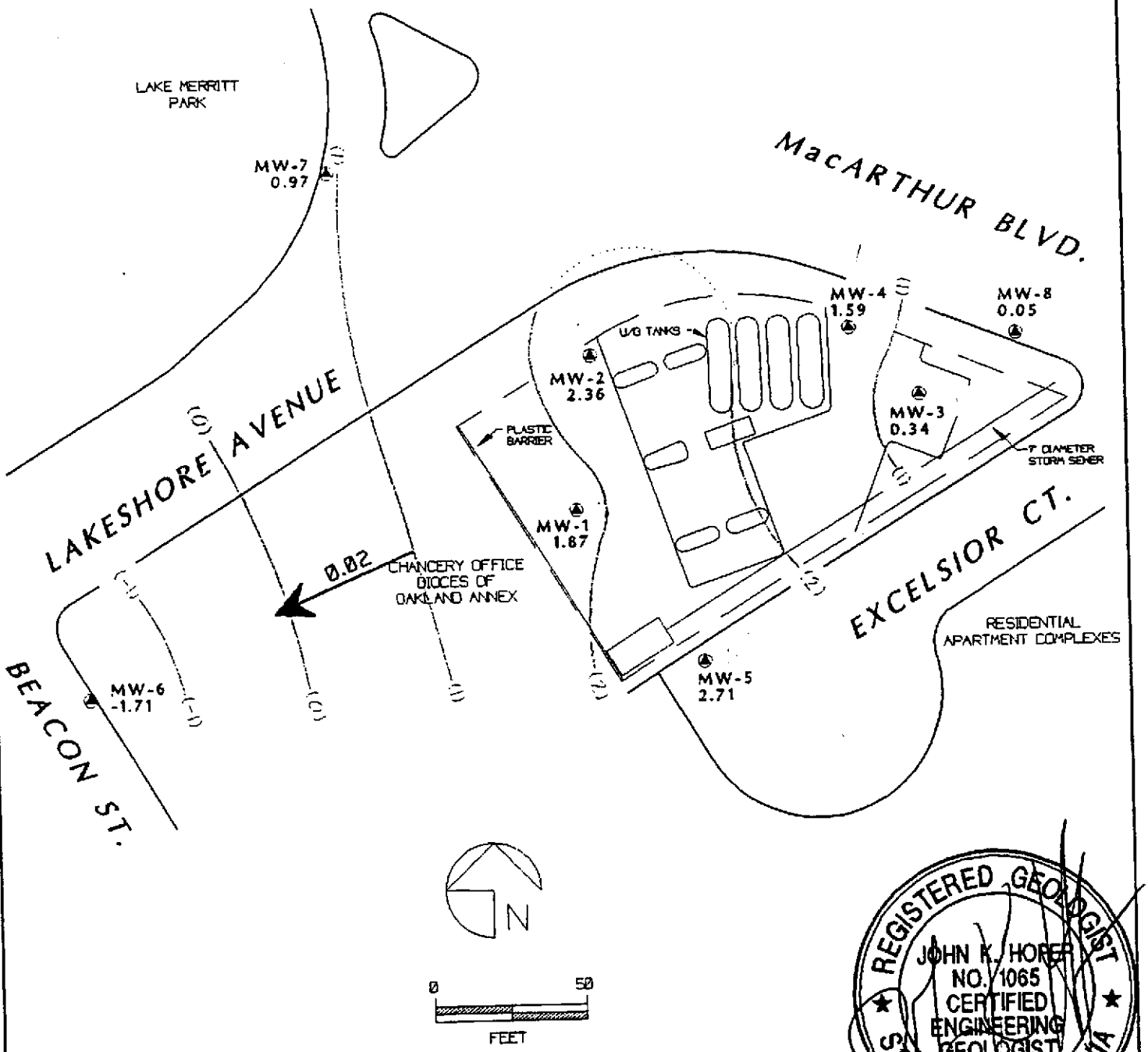
TITLE : GROUND-WATER ELEVATION CONTOUR MAP - FEBRUARY 28, 1996

LOCATION : CHEVRON SERVICE STATION 9-0121
3026 LAKESHORE AVENUE, OAKLAND, CALIFORNIA

GEOCONSULTANTS, INC
SAN JOSE, CALIFORNIA
Project No. G758-09

EXPLANATION

MW-7	MONITORING WELL LOCATION AND WELL NUMBER
0.97	GROUND-WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
(1)	GROUND-WATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL
0.02	APPROXIMATE DIRECTION OF GROUND-WATER FLOW. GRADIENT INDICATED IN FEET / FEET



REGISTERED GEOLOGIST
JOHN K. HORER
NO. 1065
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

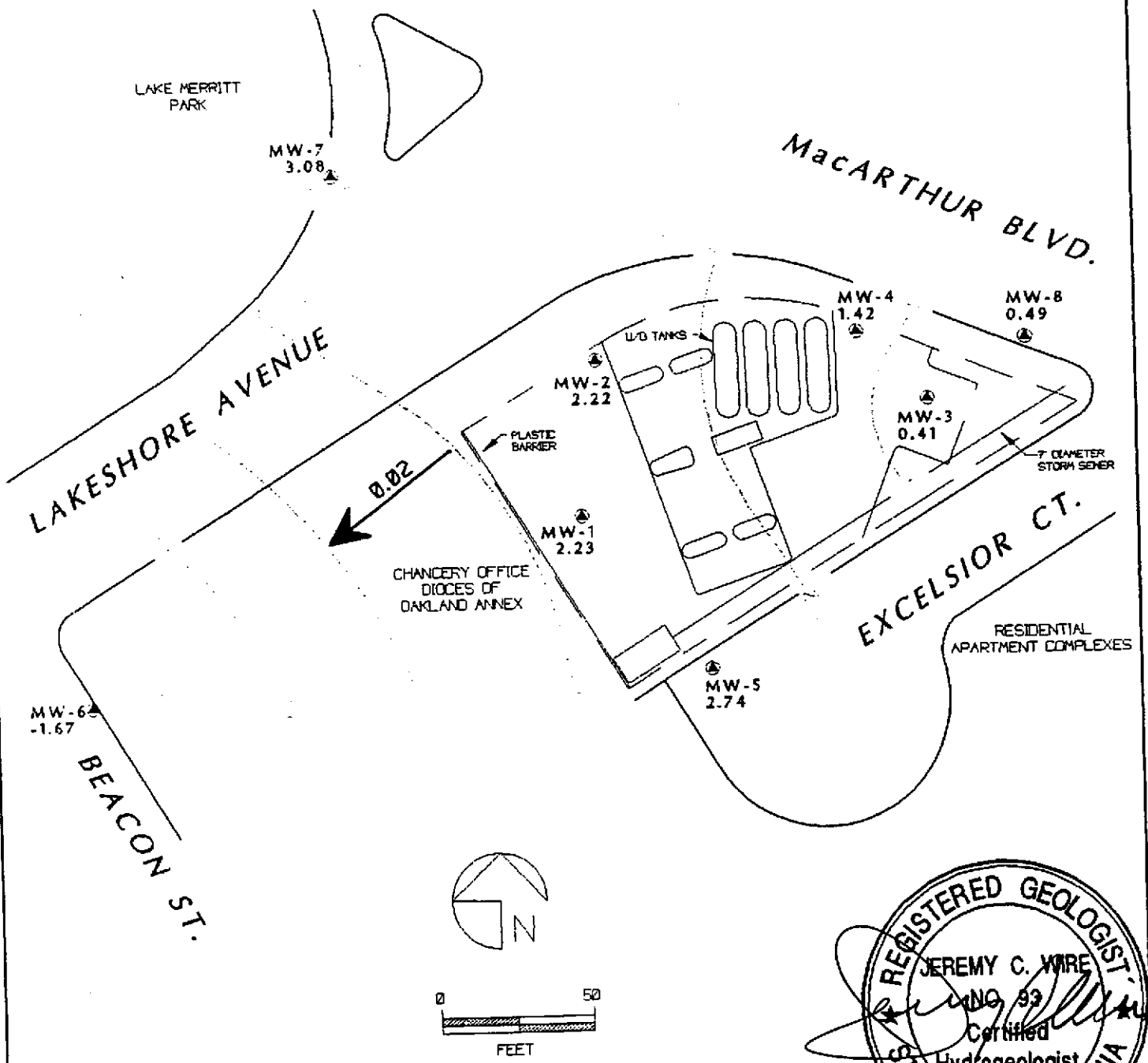
TITLE : GROUND-WATER ELEVATION CONTOUR MAP - JUNE 25, 1996

LOCATION : CHEVRON SERVICE STATION 9-0121
3026 LAKESHORE AVENUE, OAKLAND, CALIFORNIA

GEOCONSULTANTS, INC
SAN JOSE, CALIFORNIA
Project No. G758-09

EXPLANATION

MW-7	MONITORING WELL LOCATION AND WELL NUMBER
3.08	GROUND-WATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
2	GROUND-WATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL
0.02	APPROXIMATE DIRECTION OF GROUND-WATER FLOW. GRADIENT INDICATED IN FEET / FEET

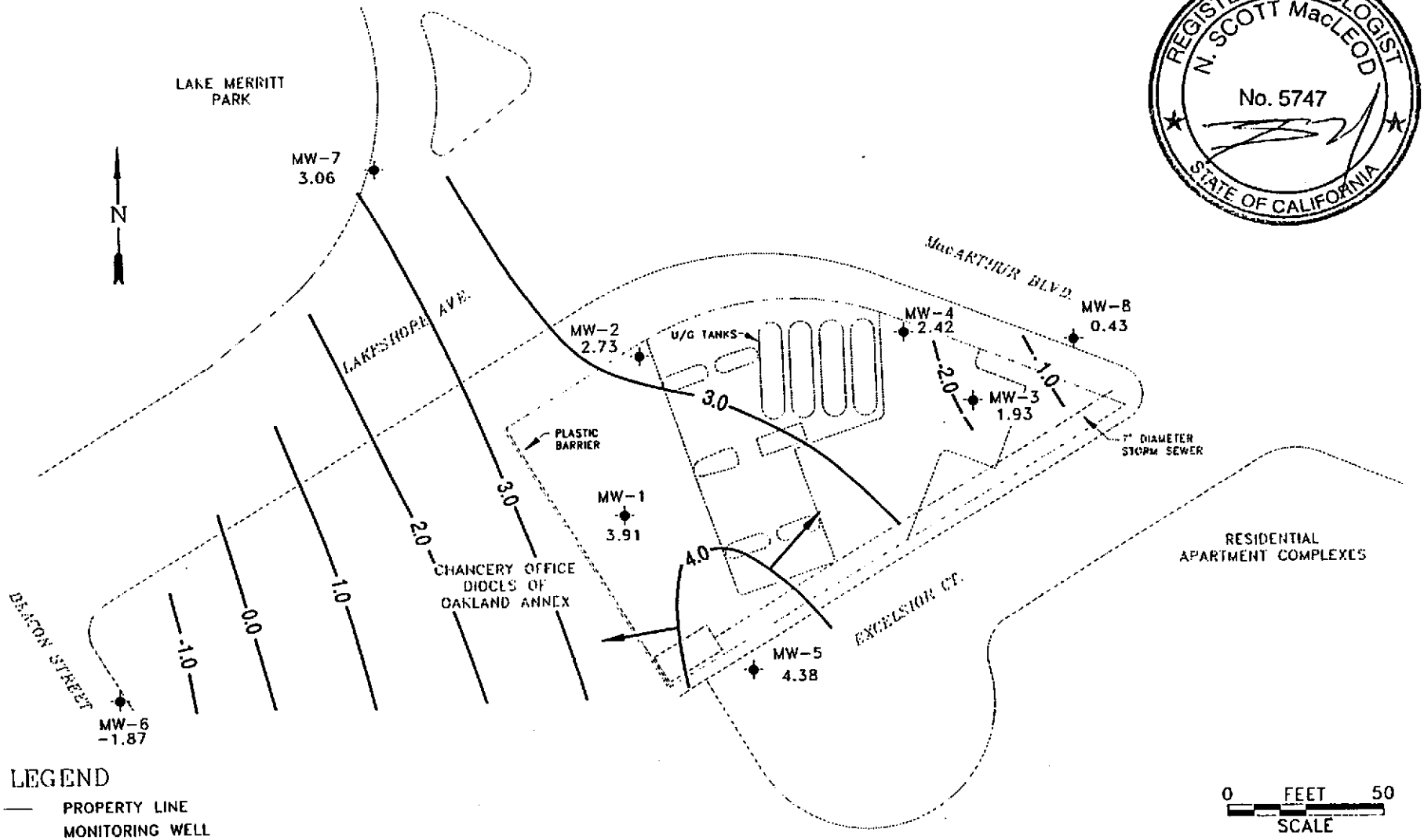


REGISTERED GEOLOGIST
JEREMY C. WARE
NO. 93
Certified Hydrogeologist
STATE OF CALIFORNIA

TITLE : GROUND-WATER ELEVATION CONTOUR MAP - DECEMBER 17, 1996

LOCATION : CHEVRON SERVICE STATION 9-0121
3026 LAKESHORE AVENUE, OAKLAND, CALIFORNIA

GEOCONSULTANTS, INC
SAN JOSE, CALIFORNIA
Project No. G758-09



REGISTERED GEOLOGIST
N. SCOTT MacLEOD
No. 5747
STATE OF CALIFORNIA

LEGEND

- PROPERTY LINE
- MONITORING WELL
- X.XX — POTENTIOMETRIC SURFACE ELEVATION (FT)
- NA — NOT AVAILABLE
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

0 FEET 50
SCALE

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.

Base map from Groundwater Technology, Inc.

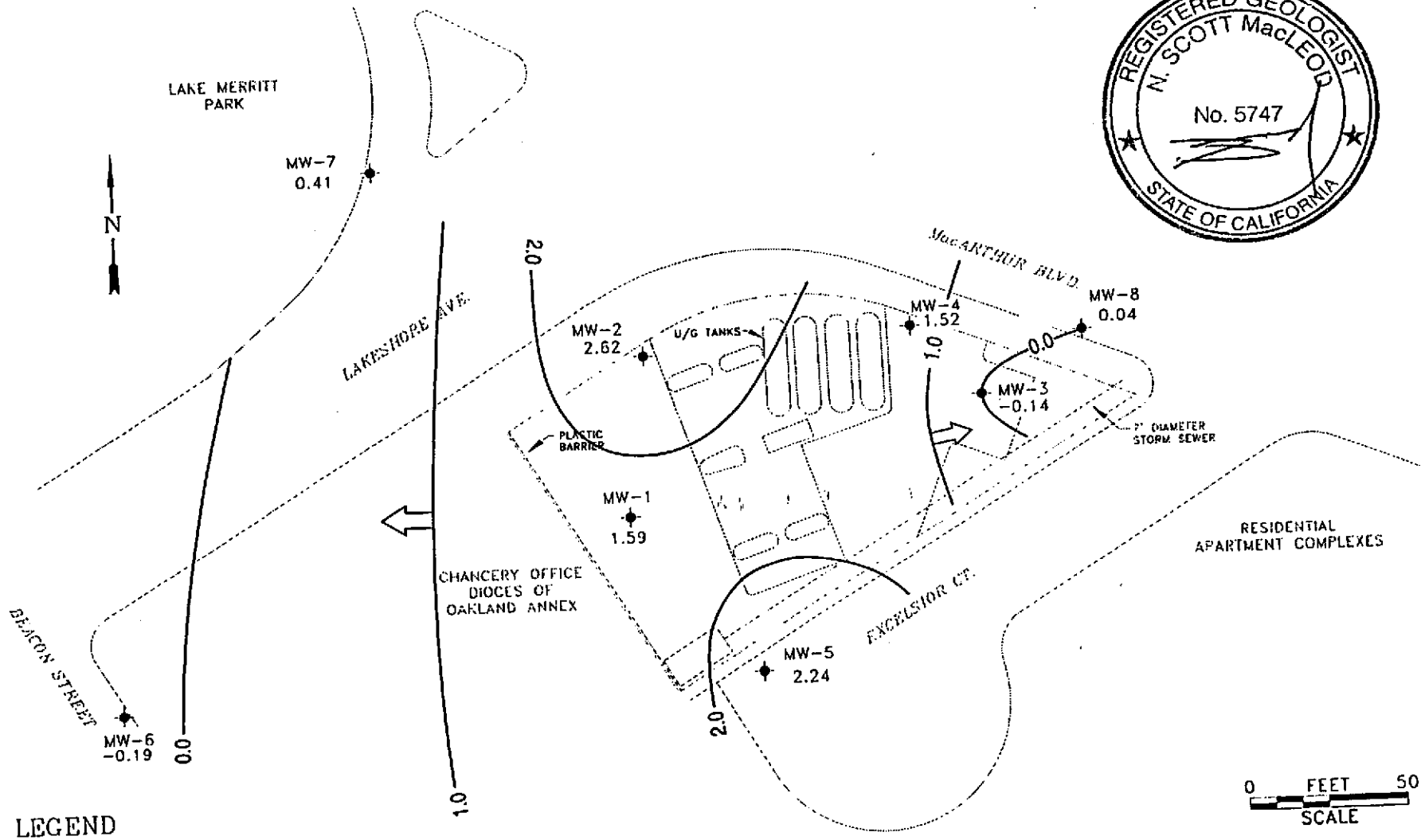
CAMBRIA
Environmental Technology, Inc.

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

\CHEVRON9-0121\0121-QM(1Q95).DWG

Ground Water Elevation
March 24, 1995

FIGURE
1



REGISTERED GEOLOGIST
N. SCOTT MacLEOD
No. 5747
STATE OF CALIFORNIA

LEGEND

- PROPERTY LINE
- MONITORING WELL
- X.XX — POTENTIOMETRIC SURFACE ELEVATION (FT)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.

Base map from Groundwater Technology, Inc.

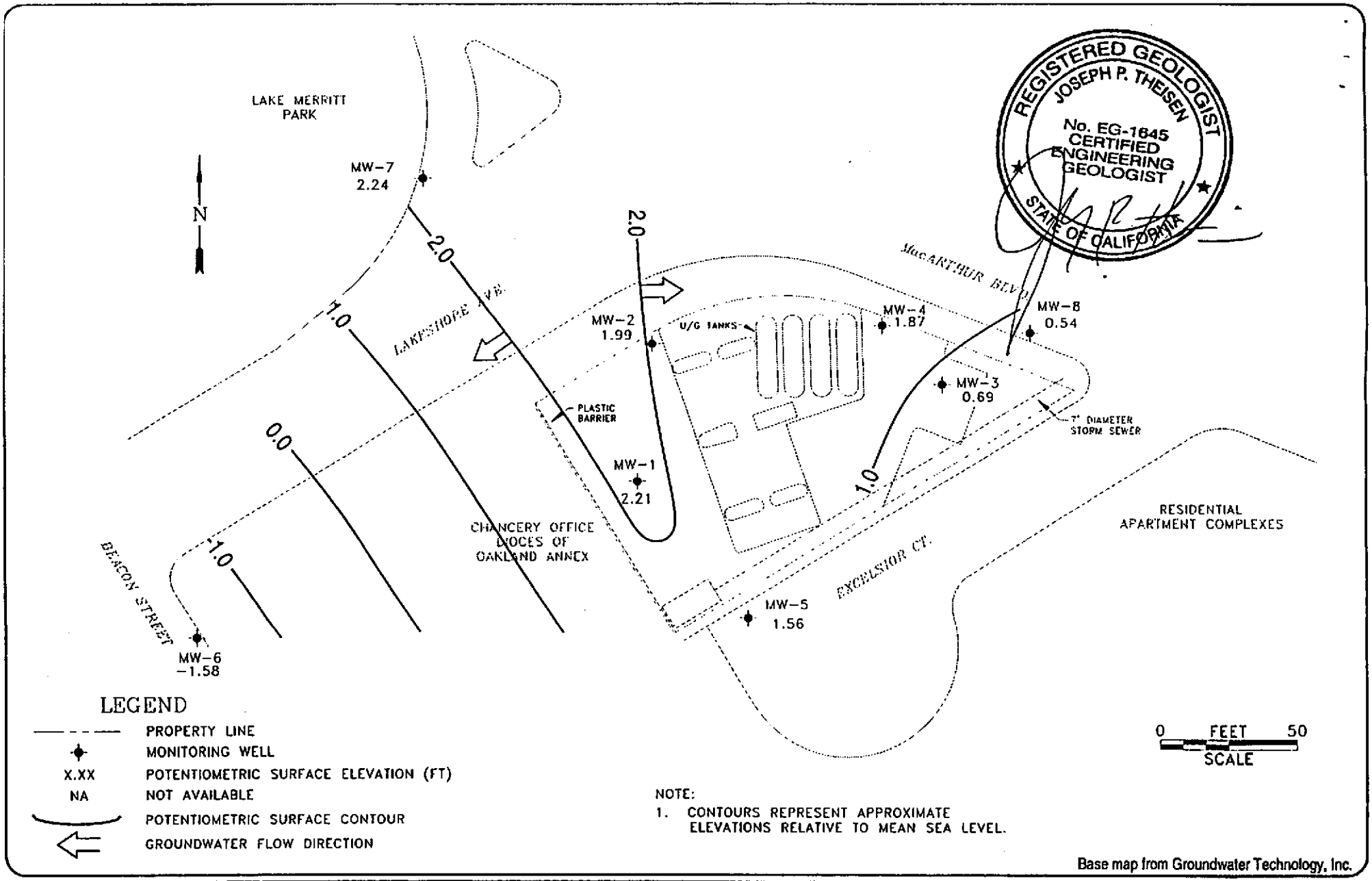
CAMBRIA
Environmental Technology, Inc.

Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

\CHEVRON\9-0121\0121-GM.DWG

Ground Water Elevation
September 28, 1995

FIGURE
1



Base map from Groundwater Technology, Inc.

CAMBRIA
Environmental Technology, Inc.

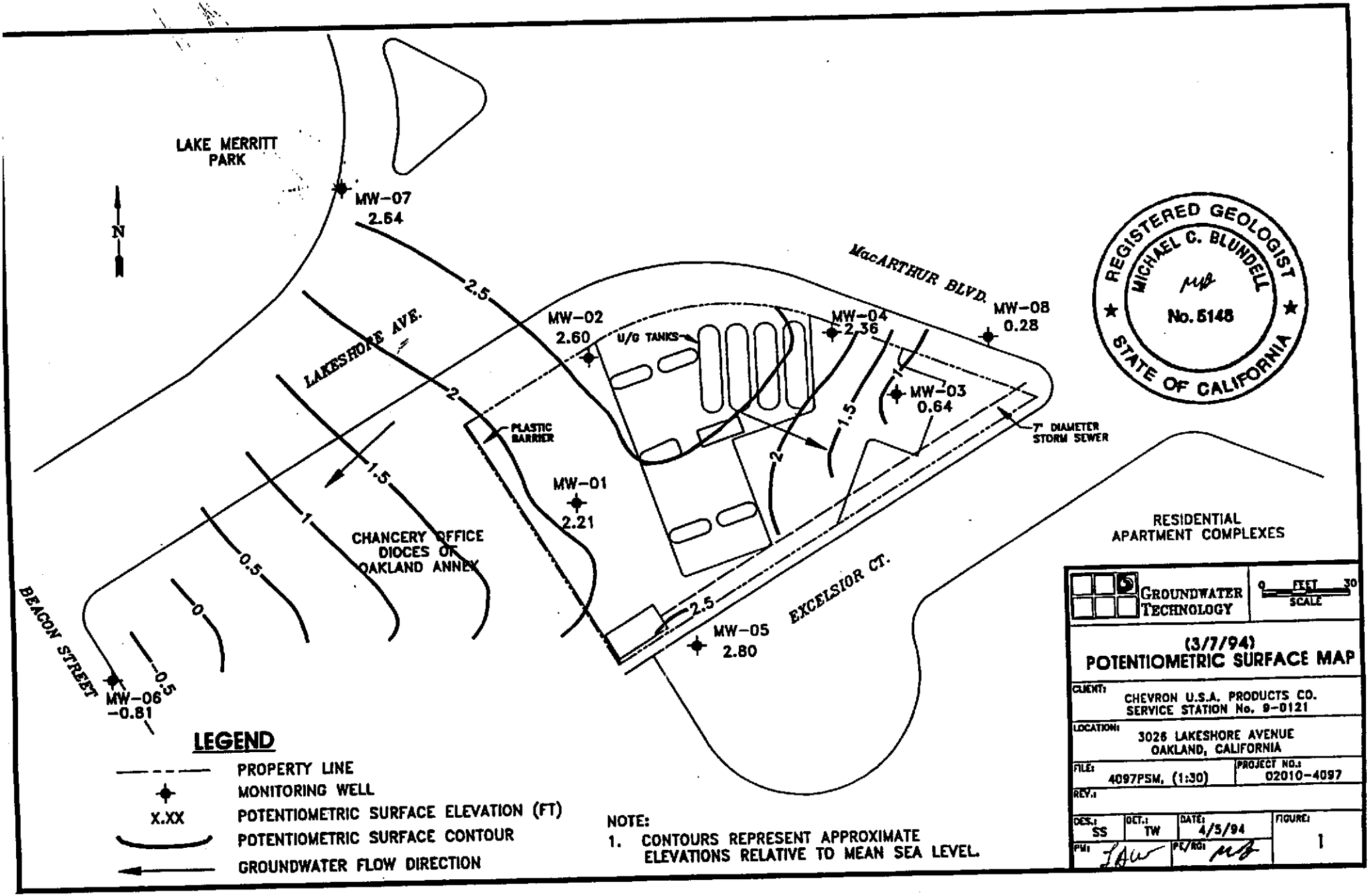
Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

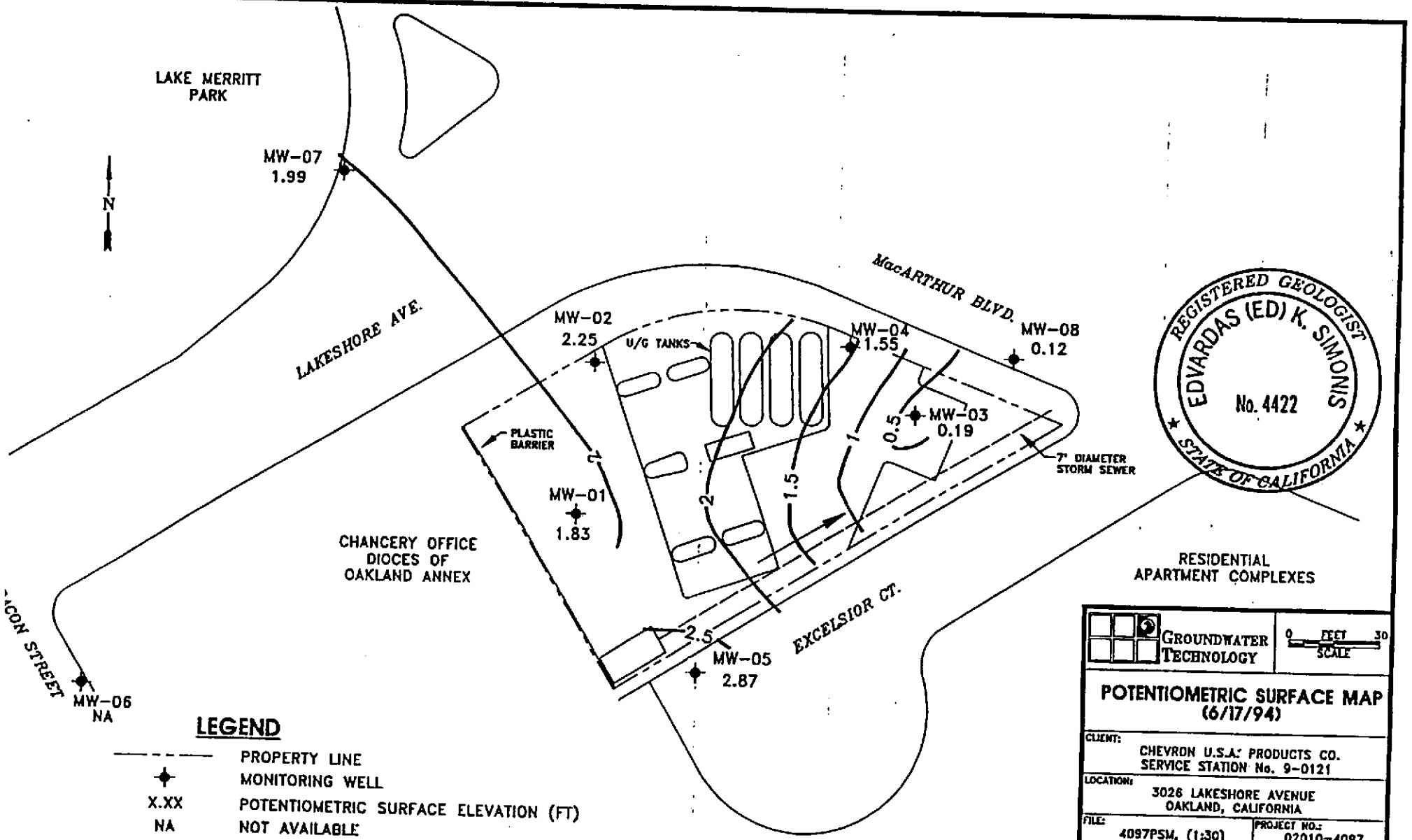
\CHEVRON\9-0121\0121-QM.DWG

Ground Water Elevation

December 19, 1995

FIGURE
1


LAKE MERRITT PARK
N
MW-07
2.64
MacARTHUR BLVD.
MW-08
0.28
MW-02
2.60
U/G TANKS
MW-04
2.36
LAKESHORE AVE.
MW-03
0.64
PLASTIC BARRIER
7" DIAMETER STORM SEWER
MW-01
2.21
CHANCERY OFFICE DIOCES OF OAKLAND ANNEX
RESIDENTIAL APARTMENT COMPLEXES
EXCELSIOR CT.
MW-05
2.80
BEACON STREET
MW-06
-0.81
2.5
2
1.5
1
0.5
0
-0.5
REGISTERED GEOLOGIST
MICHAEL C. BLUNDELL
No. 5148
STATE OF CALIFORNIA
LEGEND
PROPERTY LINE
MONITORING WELL
X.XX
POTENTIOMETRIC SURFACE ELEVATION (FT)
POTENTIOMETRIC SURFACE CONTOUR
GROUNDWATER FLOW DIRECTION
NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.
GROUNDWATER TECHNOLOGY
0 FEET 30
SCALE
(3/7/94)
POTENTIOMETRIC SURFACE MAP
CLIENT: CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-0121
LOCATION: 3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA
FILE: 4097PSM, (1:30)
PROJECT NO.: 02010-4097
REV.:
DES.: SS
DET.: TW
DATE: 4/5/94
FIGURE: 1
PM: TAW
PE/RG: MB



REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA

LEGEND

- PROPERTY LINE
- MONITORING WELL
- X.XX — POTENTIOMETRIC SURFACE ELEVATION (FT)
- NA — NOT AVAILABLE
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.

GROUNDWATER TECHNOLOGY

0 FEET 30 SCALE

POTENTIOMETRIC SURFACE MAP (6/17/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-0121

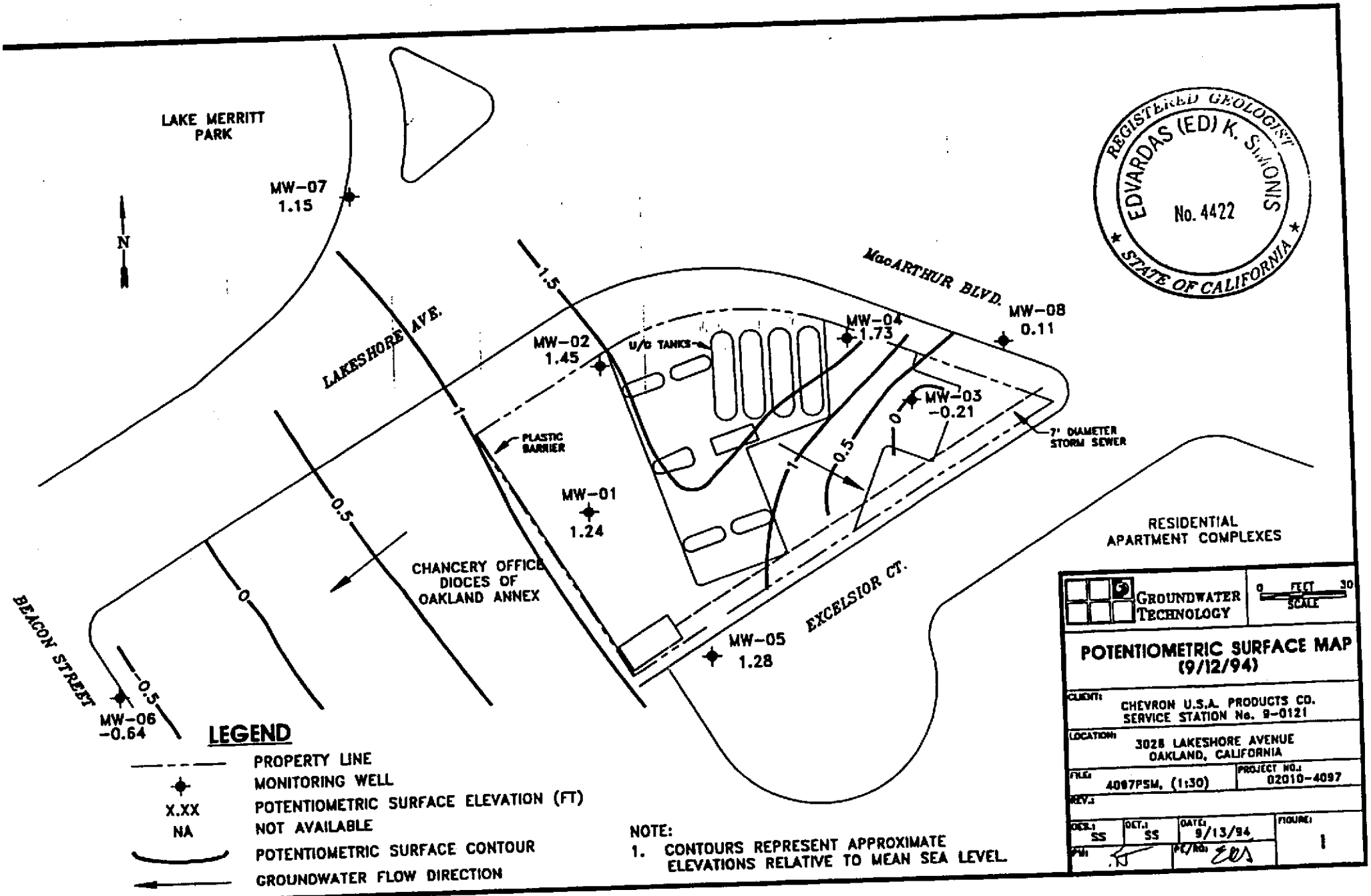
LOCATION: 3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

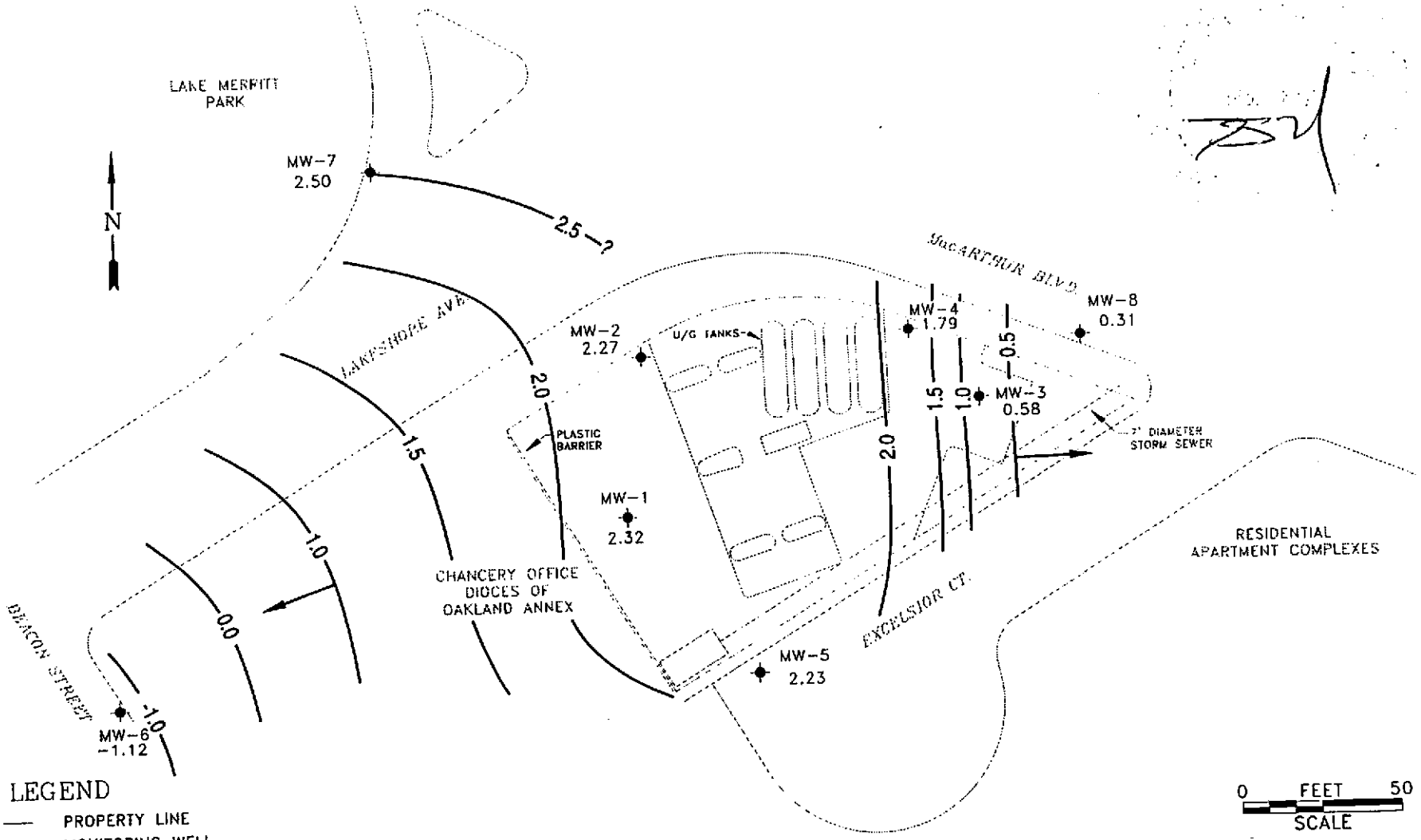
FILE: 4097PSM, (1:30) | PROJECT NO.: 02010-4097

REV.:

DES.:	DFT.:	DATE:	FIGURE:
SS	SS	6/24/94	1

PM: | PE/RG:


LAKE MERRITT PARK
MW-07
1.15
N
LAKESHORE AVE.
MacARTHUR BLVD.
MW-08
0.11
MW-04
-1.73
MW-02
1.45
U/G TANKS
MW-03
-0.21
PLASTIC BARRIER
7" DIAMETER STORM SEWER
MW-01
1.24
CHANCERY OFFICE DIOCES OF OAKLAND ANNEX
RESIDENTIAL APARTMENT COMPLEXES
EXCELSIOR CT.
MW-05
1.28
BEACON STREET
MW-06
-0.64
1.5
1
0.5
0
REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA
LEGEND
PROPERTY LINE
MONITORING WELL
X.XX
POTENTIOMETRIC SURFACE ELEVATION (FT)
NA
NOT AVAILABLE
POTENTIOMETRIC SURFACE CONTOUR
GROUNDWATER FLOW DIRECTION
NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.
GROUNDWATER TECHNOLOGY
0 FEET 30
SCALE
POTENTIOMETRIC SURFACE MAP (9/12/94)
CLIENT: CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-0121
LOCATION: 3028 LAKESHORE AVENUE
OAKLAND, CALIFORNIA
FILE: 4097PSM, (1:30)
PROJECT NO.: 02010-4097
REV.:
DES.: SS
DFT.: SS
DATE: 9/13/94
FIGURE: 1
APP: N
PE/RG: EKS



LEGEND

- PROPERTY LINE
- MONITORING WELL
- X.XX — POTENTIOMETRIC SURFACE ELEVATION (FT)
- NA — NOT AVAILABLE
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.

Base map from Groundwater Technology, Inc.

CAMBRIA
Environmental Technology, Inc.

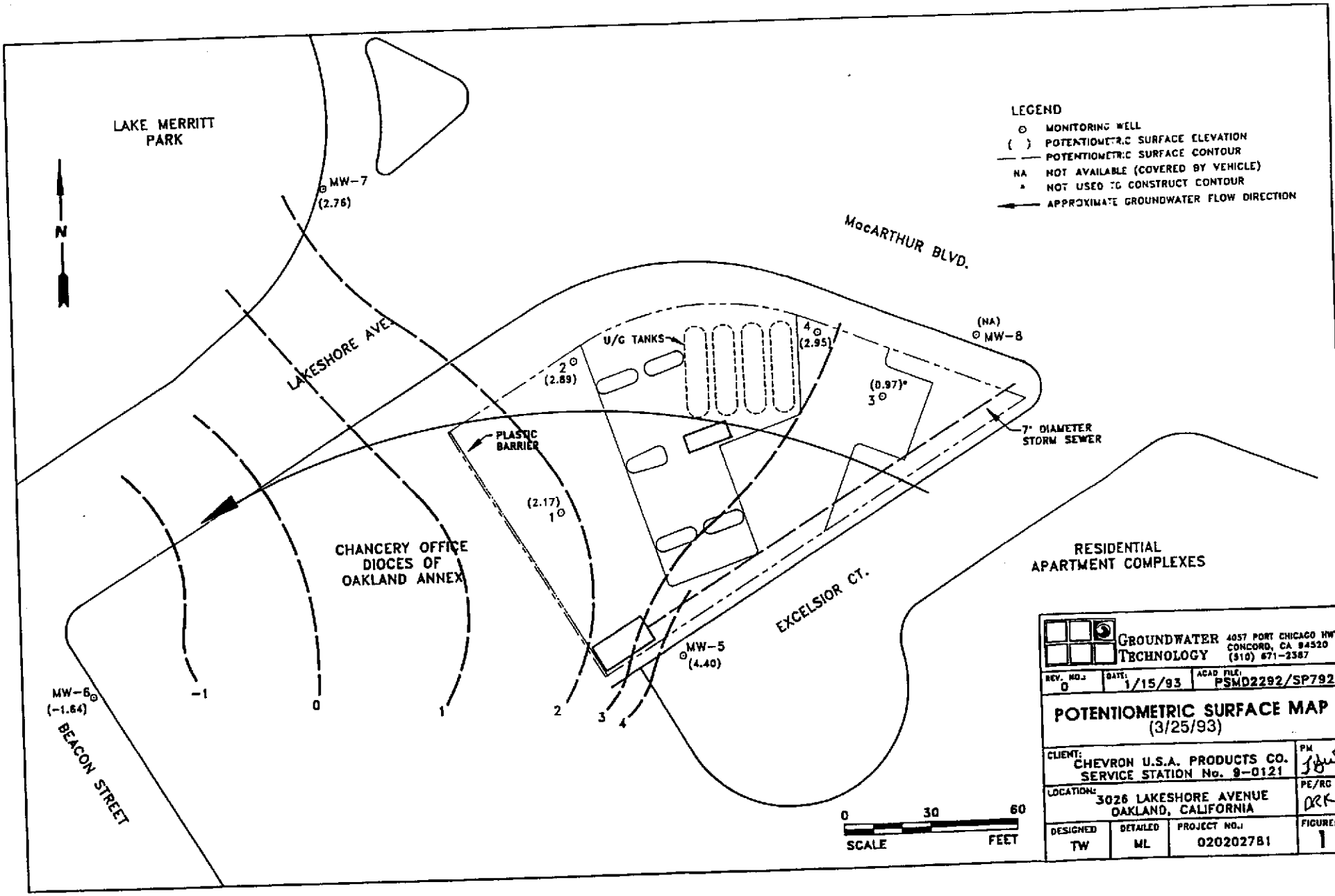
Chevron Station 9-0121
3026 Lakeshore Avenue
Oakland, California

\CHEVRON\9-0121\0121-QM(4Q94).DWG

Ground Water Elevation

November 30, 1994

FIGURE
1



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

REV. NO.:	DATE:	ACAD FILE:
0	1/15/93	PSMD2292/SP792

POTENTIOMETRIC SURFACE MAP
(3/25/93)

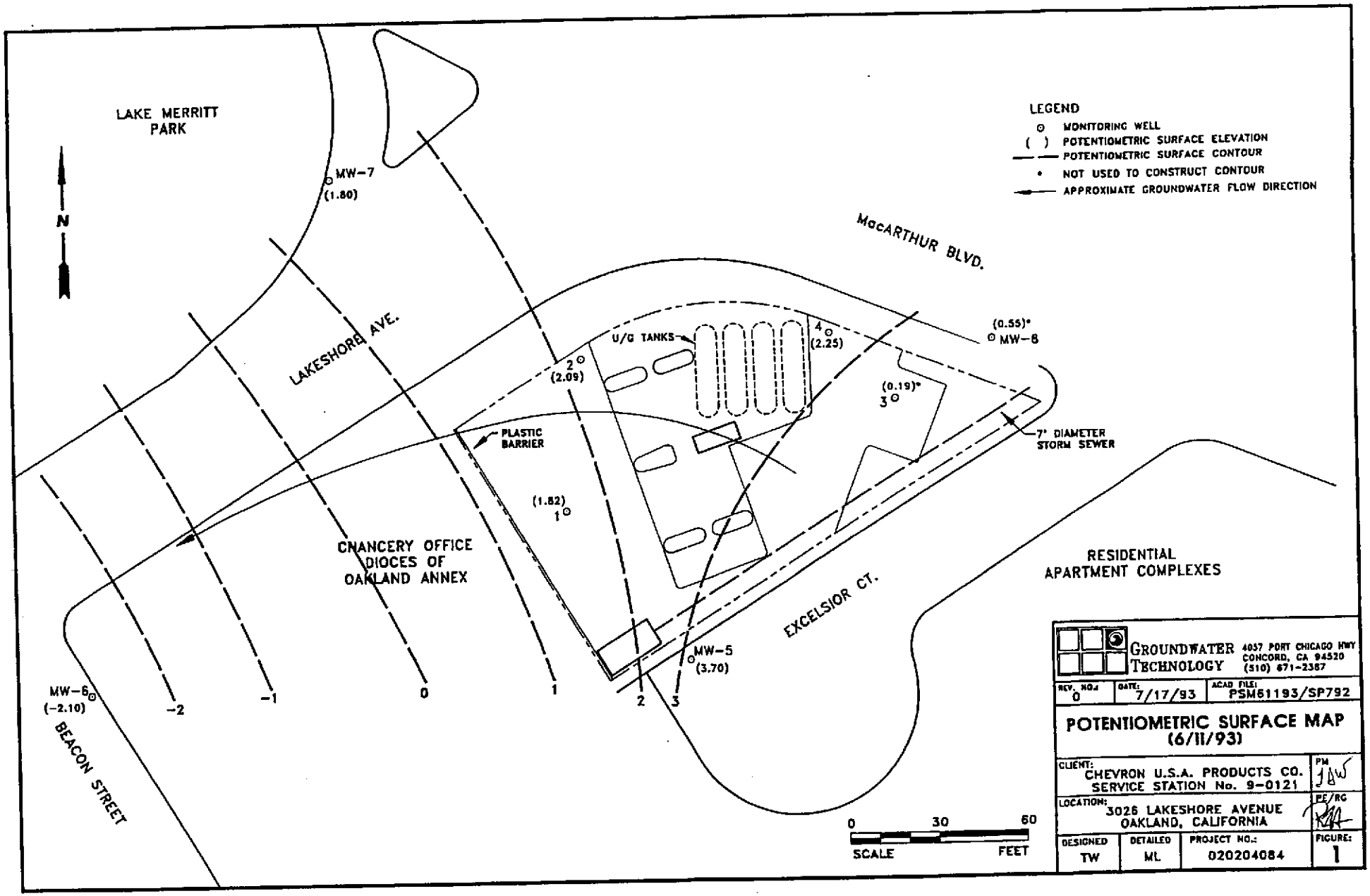
CLIENT: CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-0121

PM: JBS

LOCATION: 3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

PE/RG: DRK

DESIGNED	DETAILED	PROJECT NO.:	FIGURE:
TW	ML	020202781	1



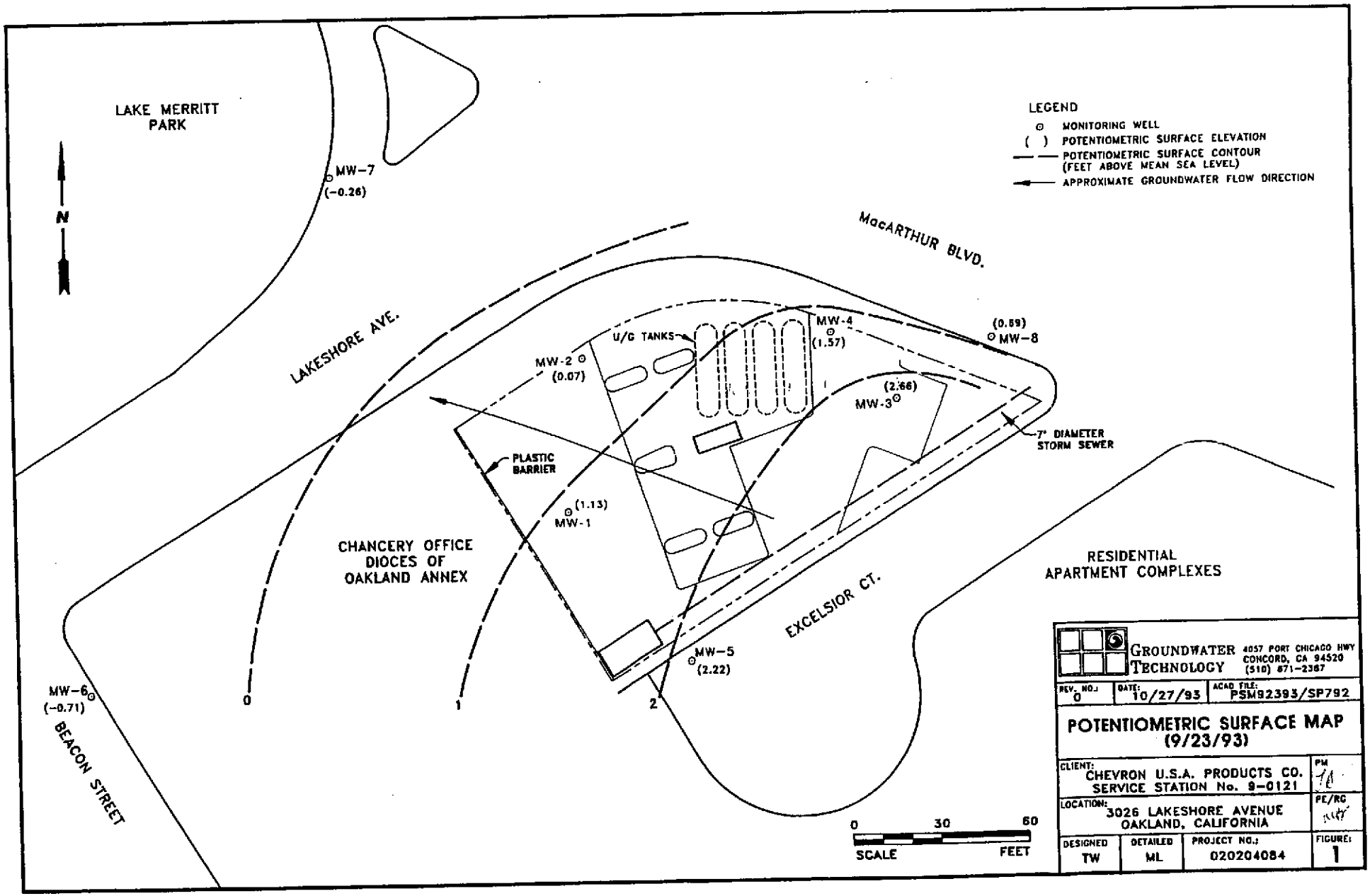
GROUNDWATER TECHNOLOGY
4057 PORT CHICAGO HWY
CONCORD, CA 94520
(510) 671-2367

REV. NO.	DATE:	ACAD FILE:
0	7/17/93	PSM61193/SP792

POTENTIOMETRIC SURFACE MAP (6/11/93)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0121		PM: JAW
LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA		PE/RG:
DESIGNED: TW	DETAILED: ML	PROJECT NO.: 020204084

FIGURE: 1



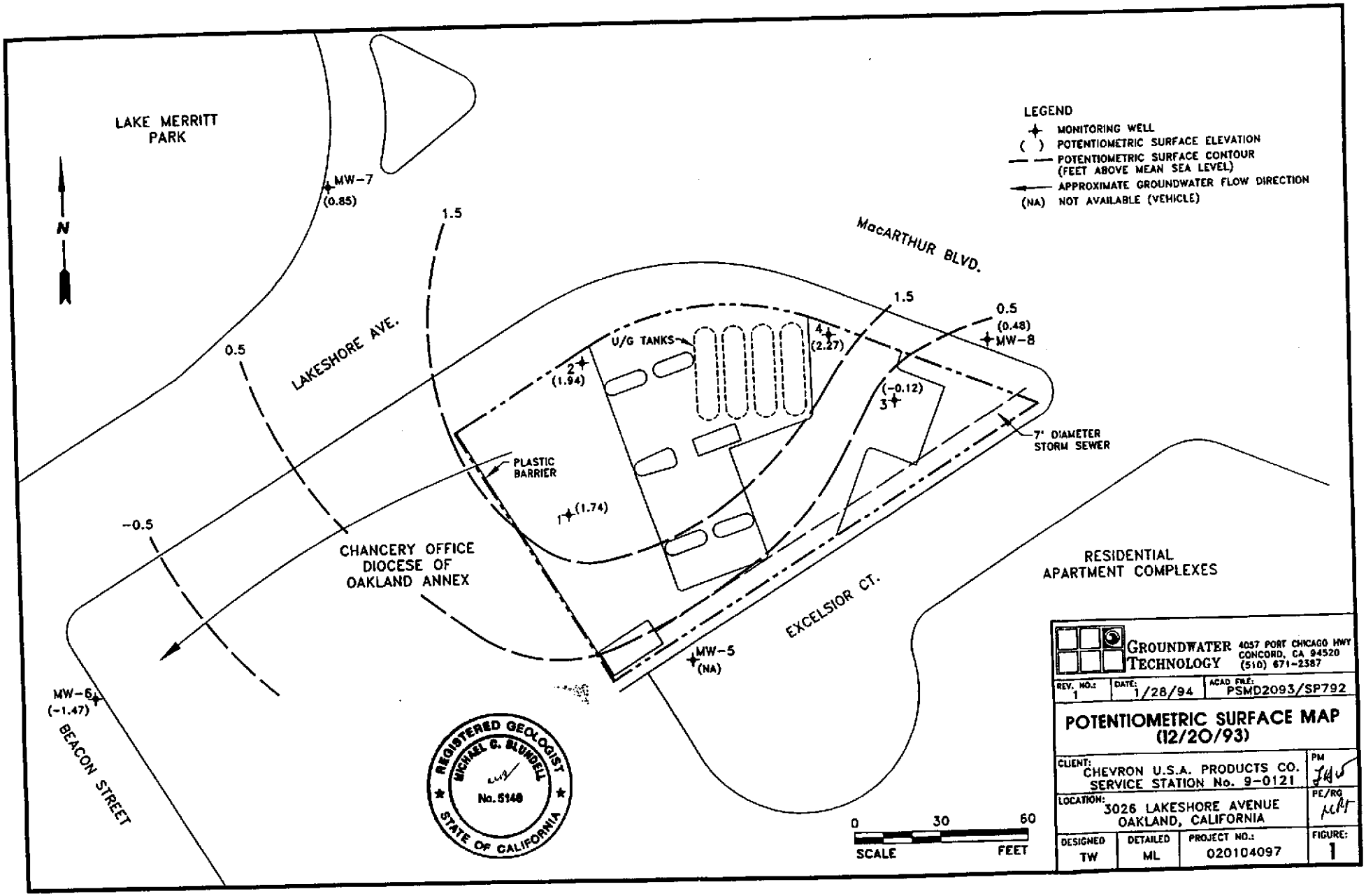
GROUNDWATER TECHNOLOGY
4057 PORT CHICAGO HWY
CONCORD, CA 94520
(510) 671-2387

REV. NO.:	DATE:	ACAD FILE:
0	10/27/93	PSM92393/SP792

POTENTIOMETRIC SURFACE MAP (9/23/93)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0121	PM: TH
LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA	PE/RG:

DESIGNED	DETAILED	PROJECT NO.:	FIGURE:
TW	ML	020204084	1

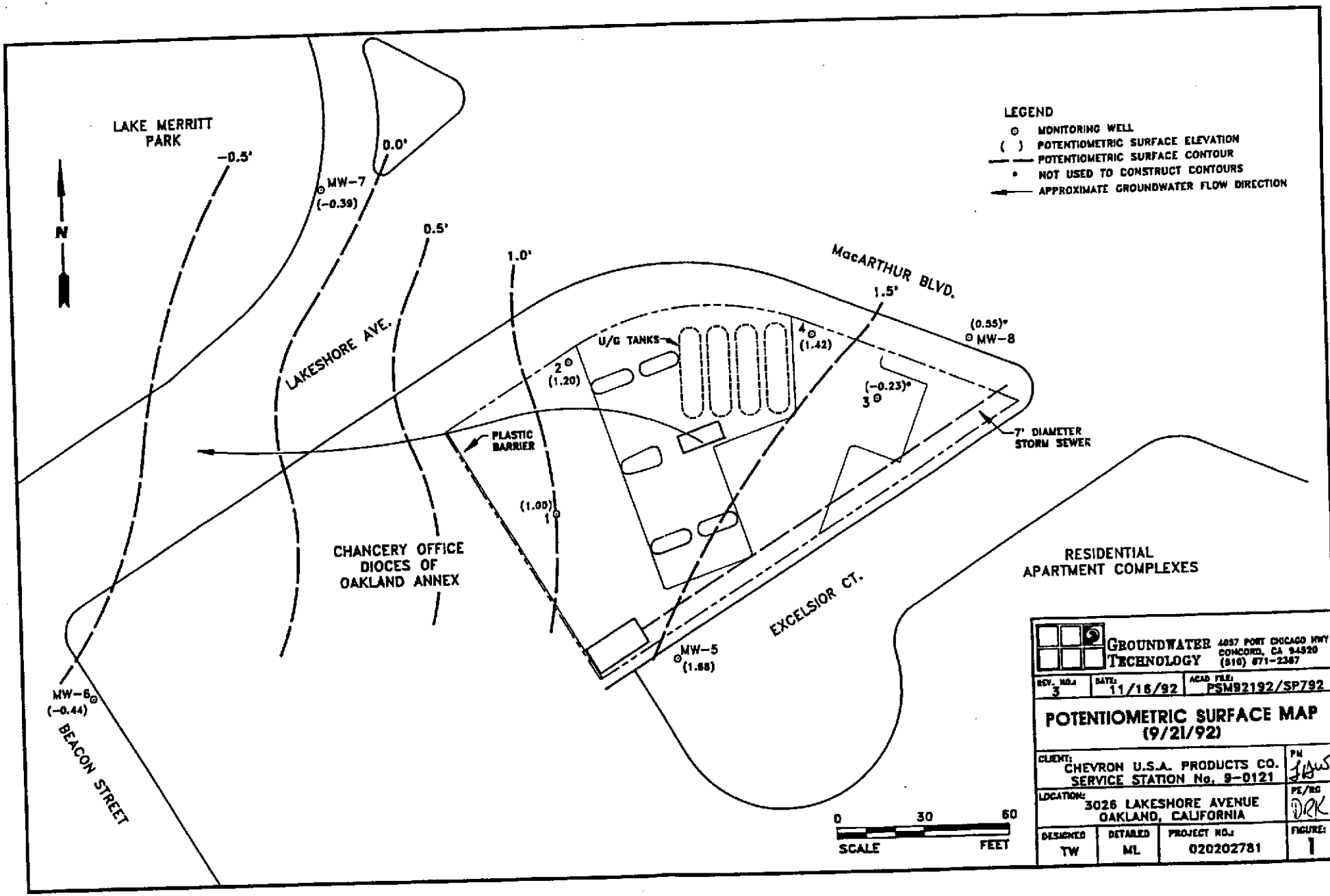


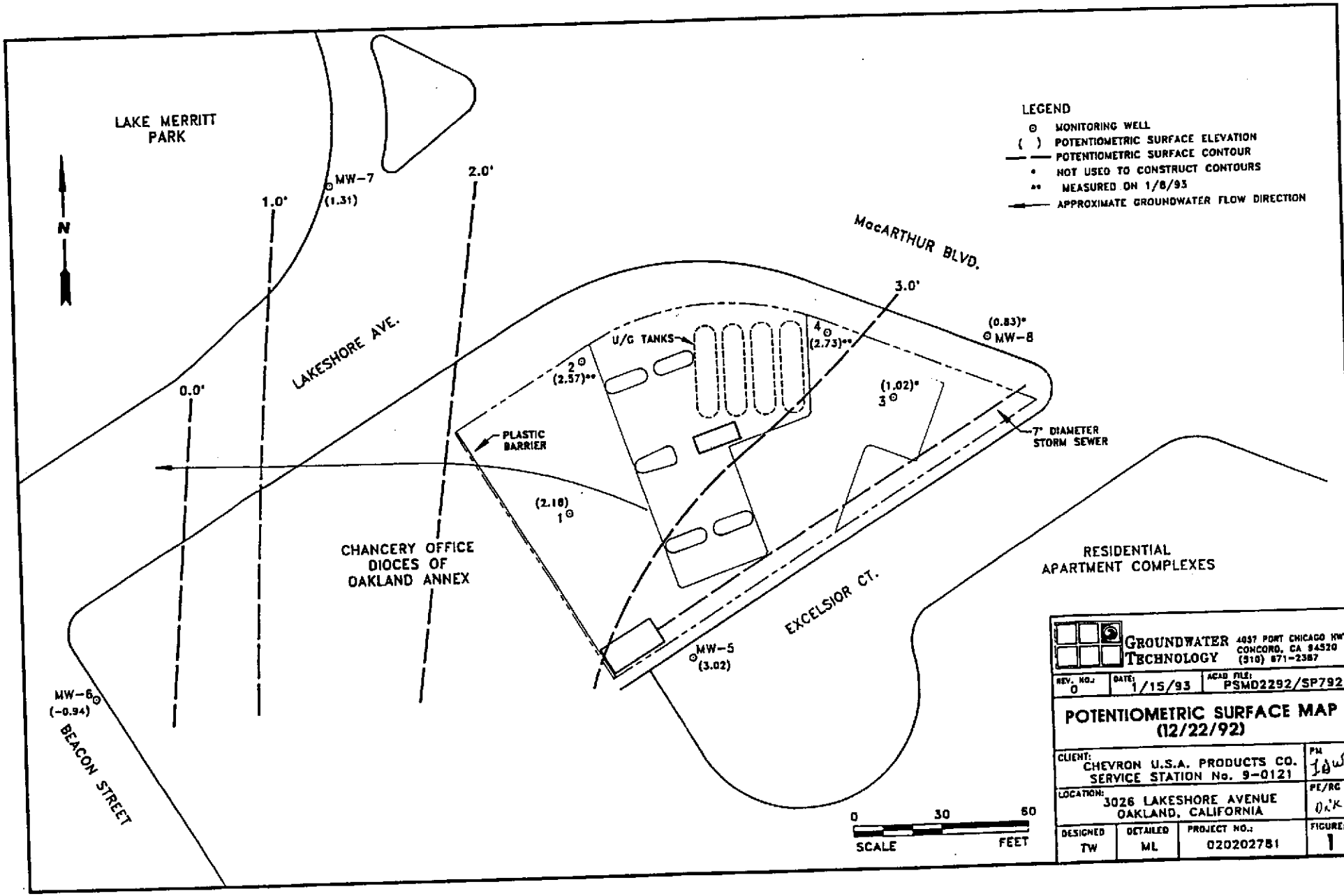
GROUNDWATER TECHNOLOGY
4057 PORT CHICAGO HWY
CONCORD, CA 94520
(510) 671-2387

REV. NO.:	DATE:	ACAD FILE:
1	1/28/94	PSMD2093/SP792

POTENTIOMETRIC SURFACE MAP (12/20/93)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0121		PM:
LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA		PE/RG:
DESIGNED: TW	DETAILED: ML	PROJECT NO.: 020104097
		FIGURE: 1


LAKE MERRITT PARK
-0.5'
0.0'
MW-7
(-0.39)
0.5'
1.0'
1.5'
MacARTHUR BLVD.
LAKESHORE AVE.
N
LEGEND
MONITORING WELL
( ) POTENTIOMETRIC SURFACE ELEVATION
POTENTIOMETRIC SURFACE CONTOUR
NOT USED TO CONSTRUCT CONTOURS
APPROXIMATE GROUNDWATER FLOW DIRECTION
U/G TANKS
(0.55)*
MW-8
(1.42)
2
(1.20)
(-0.23)*
3
PLASTIC BARRIER
7' DIAMETER STORM SEWER
(1.08)
1
CHANCERY OFFICE DIOCES OF OAKLAND ANNEX
RESIDENTIAL APARTMENT COMPLEXES
EXCELSIOR CT.
MW-5
(1.88)
MW-6
(-0.44)
BEACON STREET
0
30
60
SCALE
FEET
GROUNDWATER TECHNOLOGY
4057 PORT CHICAGO HWY
CONCORD, CA 94520
(510) 671-2387
REV. NO.: 3
DATE: 11/16/92
ACAD FILE: PSM92192/SP792
POTENTIOMETRIC SURFACE MAP (9/21/92)
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0121
PM
LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA
PE/RG
DESIGNED: TW
DETAILED: ML
PROJECT NO.: 020202781
FIGURE: 1

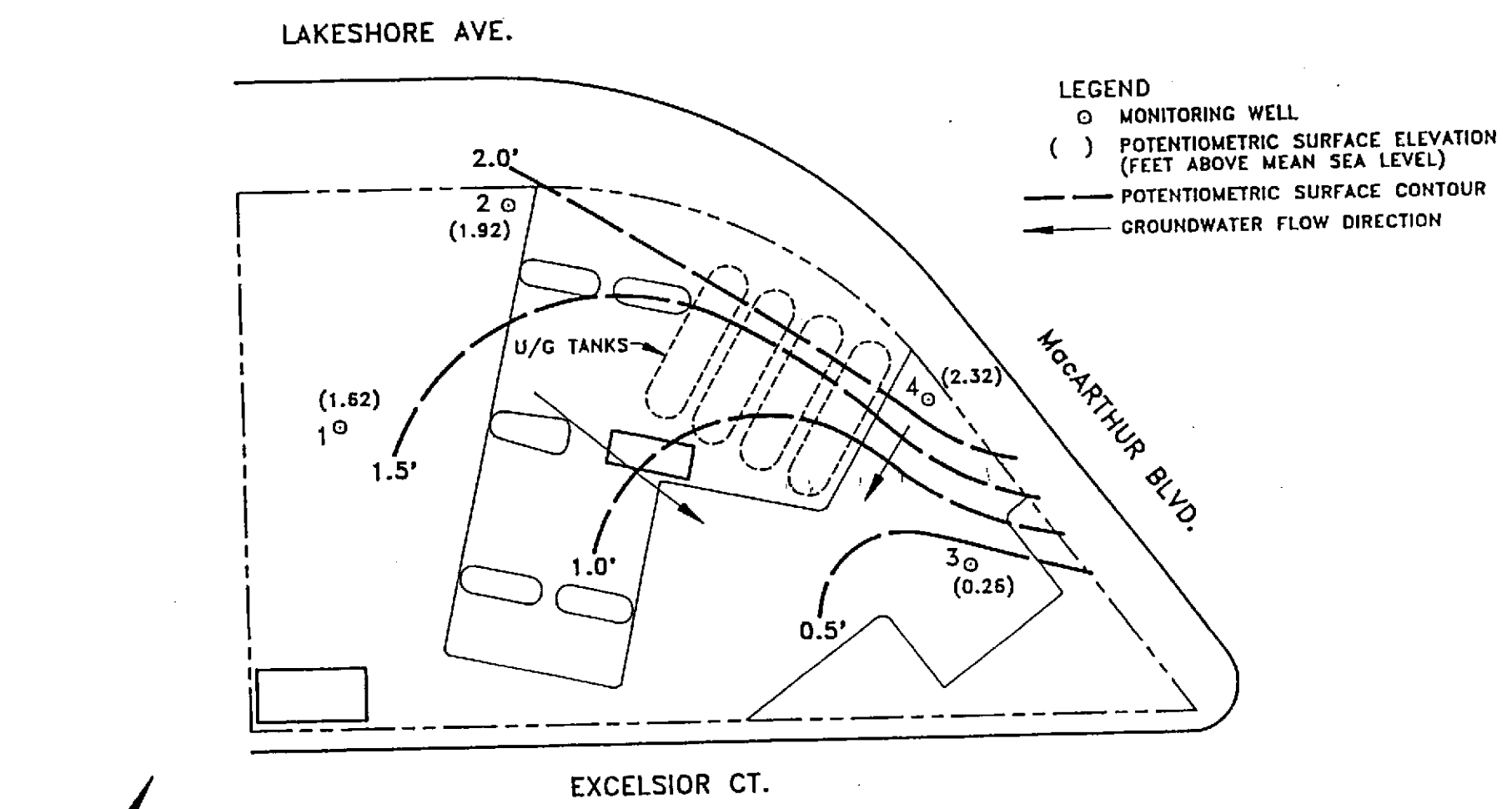


GROUNDWATER TECHNOLOGY
4097 PORT CHICAGO HWY
CONCORD, CA 94520
(510) 671-2387

REV. NO.:	DATE:	ACAD FILE:
0	1/15/93	PSMD2292/SP792

POTENTIOMETRIC SURFACE MAP (12/22/92)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0121		PM: TW
LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA		PE/RG: DK
DESIGNED: TW	DETAILED: ML	PROJECT NO.: 020202781
		FIGURE: 1



GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387				POTENTIOMETRIC SURFACE MAP (8/20/91)		
CLIENT: CHEVRON U.S.A. INC. SERVICE STATION #9-0121				LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA	REV. NO.: 0	DATE: 11/14/91
PM: SJ	PE/RG: DRK	DESIGNED: FH	DETAILED: ML	ACAD FILE: PSM82091/SP1191	PROJECT NO.: 020301500	FIGURE: 1

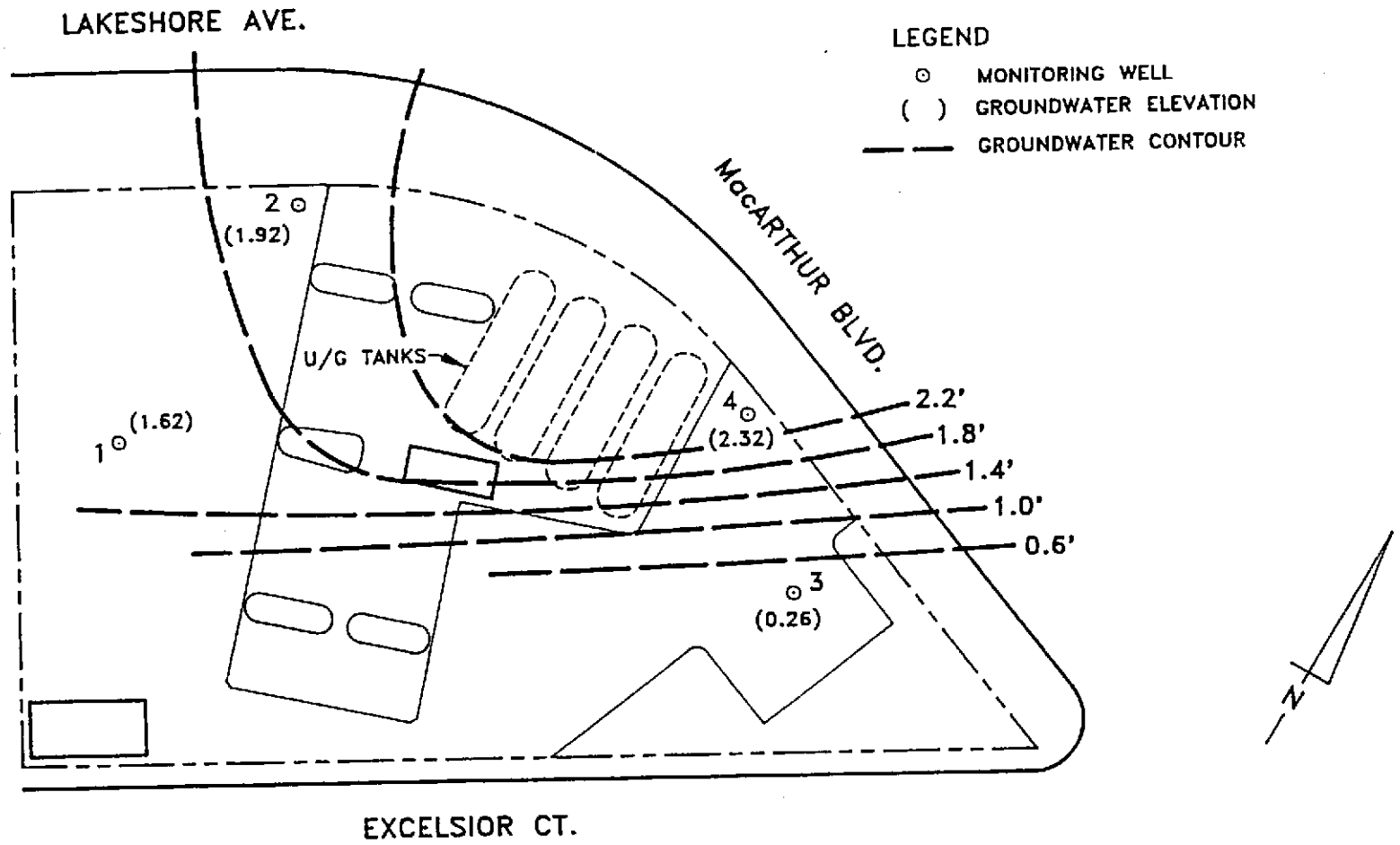
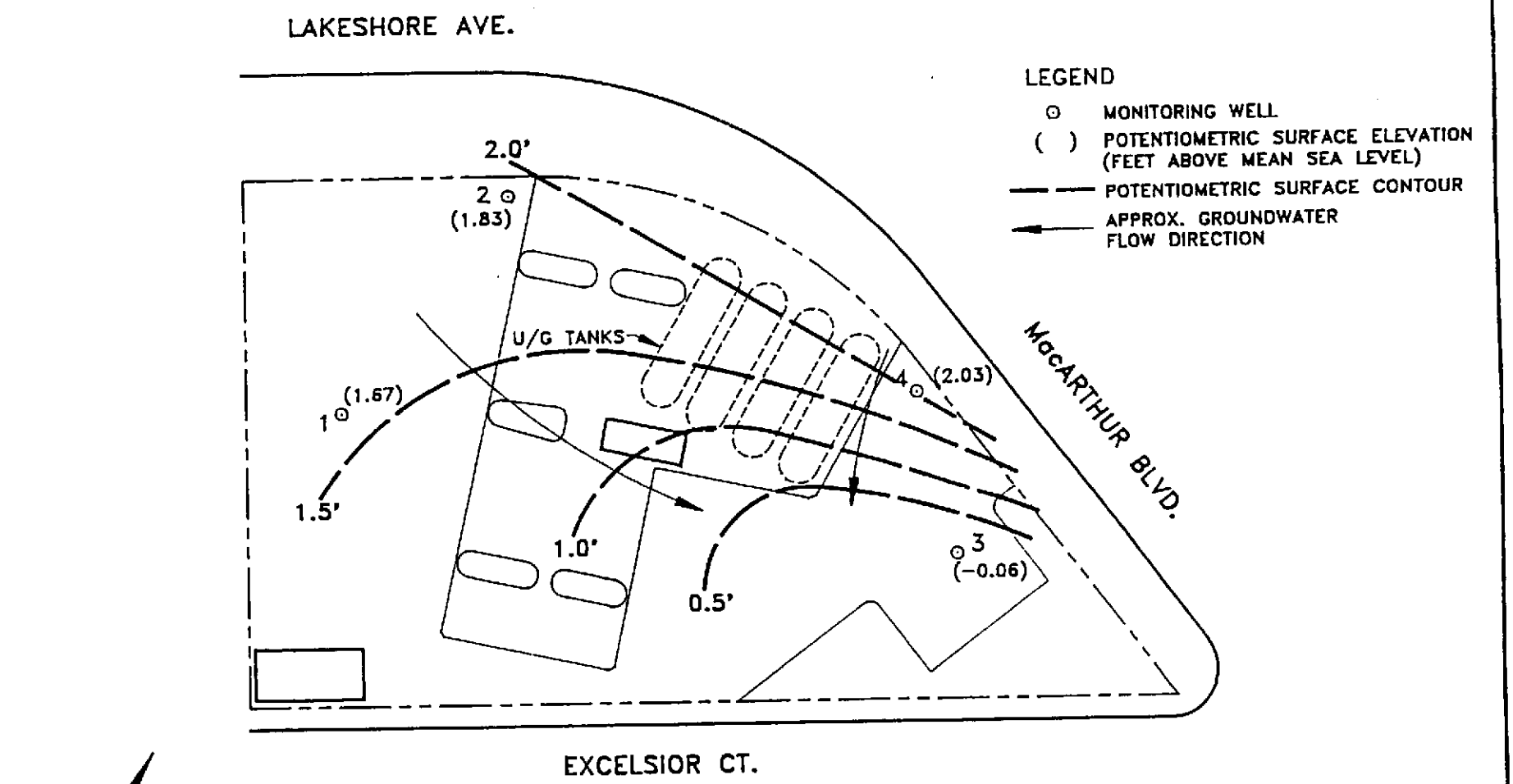


FIGURE 3
GROUNDWATER ELEVATION MAP
(8/20/91)

0 FEET 30
SCALE

CHEVRON U.S.A. INC.
SERVICE STATION #9-0121
3026 LAKESHORE AVENUE
OAKLAND, CALIFORNIA

DRAWN BY: ML 9/13/91

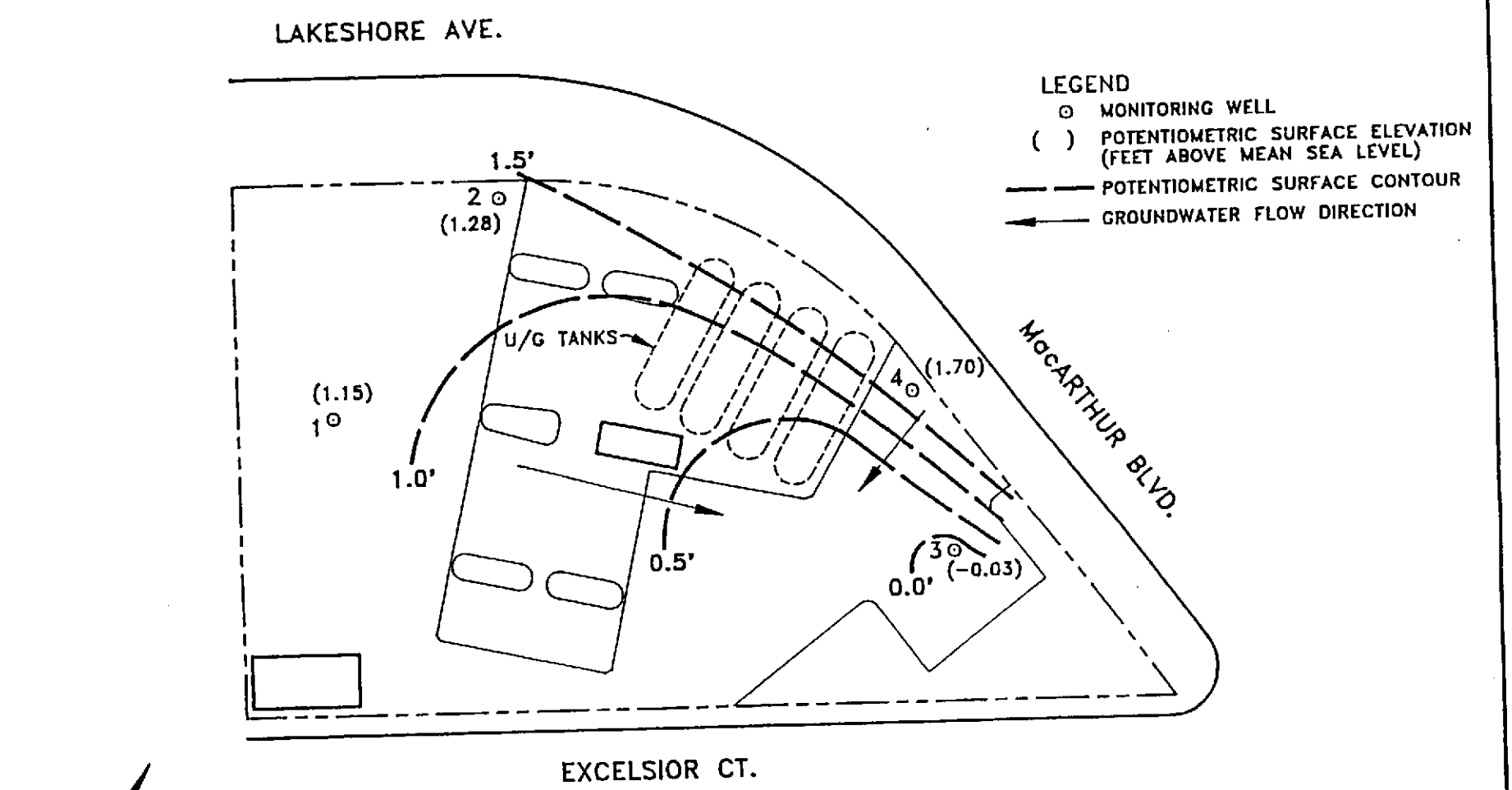


GROUNDWATER TECHNOLOGY
4057 PORT CHICAGO HWY
CONCORD, CA 94520
(510) 671-2387

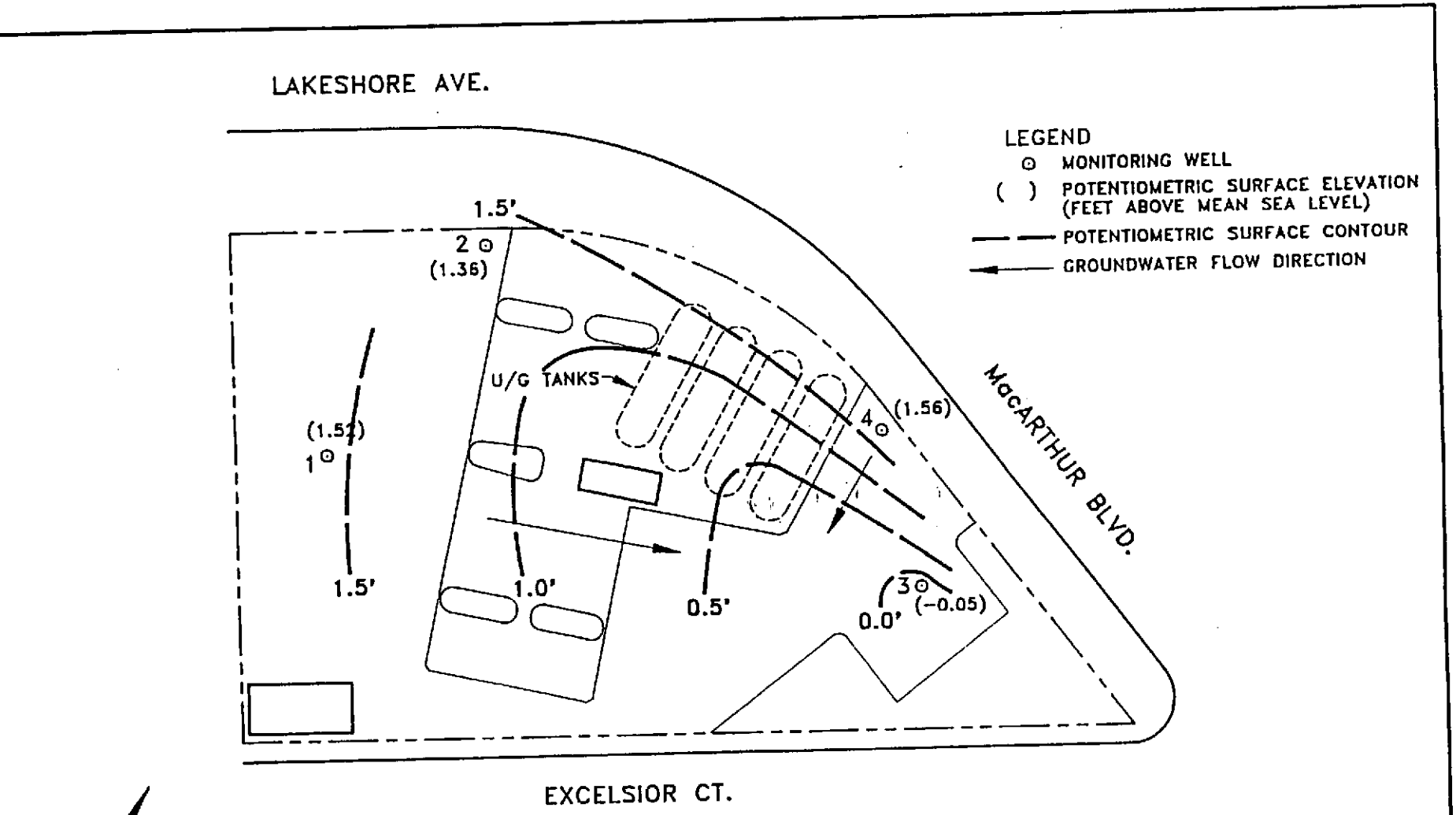
POTENTIOMETRIC SURFACE MAP (1/8/92)

CLIENT:	LOCATION:	REV. NO.:	DATE:
CHEVRON U.S.A. INC. SERVICE STATION #9-0121	3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA	0	1/17/92

PM	PE/RG	DESIGNED	DETAILED	ACAD FILE:	PROJECT NO.:	FIGURE:
SK	DRK	SL	ML	PSM1892/SP1191	020302090	1



GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387				POTENTIOMETRIC SURFACE MAP (9/30/91)		
CLIENT: CHEVRON U.S.A. INC. SERVICE STATION #9-0121				LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA	REV. NO.: 0	DATE: 11/14/91
PM	PE/RG DK	DESIGNED FH	DETAILED ML	ACAD FILE: PSM93091/SP1191	PROJECT NO.: 020301500	FIGURE: 2



GROUNDWATER TECHNOLOGY 4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387				POTENTIOMETRIC SURFACE MAP (10/28/91)		
CLIENT: CHEVRON U.S.A. INC. SERVICE STATION #9-0121				LOCATION: 3026 LAKESHORE AVENUE OAKLAND, CALIFORNIA	REV. NO.: 0	DATE: 11/14/91
PM	PE/RG	DESIGNED	DETAILED	ACAD FILE: PSM02891/SP1191	PROJECT NO.: 020301500	FIGURE: 3
SH	DK	FH	ML			

Virgil Chavez Land Surveying
312 Georgia Street, Suite 200
Vallejo, California 94590-5907
(707) 553-2476 • Fax (707) 553-8698

April 28, 1999
Project No. 1704-06

Barbara Sieminski
Gettler-Ryan, Inc.
6747 Sierra Ct., Suite J
Dublin, Ca. 94568

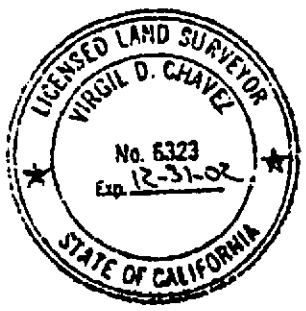
Subject: Monitoring Well Survey
Chevron SS # 9-0121
3026 Lakeshore Ave.
Oakland, Ca.

Dear Barbara:

This is to confirm that we have proceeded at your request to survey the monitoring wells at the above referenced location. Our findings for the are shown in the tables below. The survey was performed on April 12, 1999. Measurements were taken at notches on the top of casing. The benchmark for the survey was a City benchmark, being a cut square in the top of curb, at the northeasterly corner of Walker & Cheney Ave. The second table is for top of casing locations, using the back of sidewalk on Lakeshore as reference line, beginning near the westerly property corner and looking northeasterly. Benchmark Elev. = 9.055 feet, City Datum.

Well No.	Rim Elevation	TOC Elevation
MW - 2A	6.83'	6.53'
MW - 3A	9.01'	8.70'
MW - 4A	7.92'	7.69'
MW - 9	6.21'	5.87'

Well No.	Station	Offset
MW - 2A	0+41.87	11.76(Rt.)
MW - 3A	1+30.15	77.06(Rt.)
MW - 4A	1+30.22	47.78(Rt.)
MW - 9	0+06.82	5.62(Rt.)
BSW W'ly Prop Cor.	0+00.00	0.00
BSW Beg. Curve Lakeshore	0+54.20	0.00



Sincerely,

Virgil D. Chavez, PLS 6323

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-1

Project CHV/3026 Lakeshore Ave. Owner CHEVRON U.S.A. Products Company
Location Oakland, California Project No. 02020 2781 Date drilled 06/19/92
Surface Elev. ____ Total Hole Depth 21.5 ft. Diameter 10 inches ft.
Top of Casing 6.89 ft. Water Level Initial 6 ft. Static 5.41 ft.
Screen: Dia 4 in. Length 15 ft. Type/Size 0.020 in.
Casing: Dia 4 in. Length 4 ft. Type SCH 40 PVC
Filter Pack Material Lapis Lustre 2/12 Rig/Core Type Mobile B-53/split spoon
Drilling Company Kvilhaug Well Drilling Method Hollow stem auger Permit # 92281
Driller Mike Crocker Log By Greg Mischel
Checked By Dave Kleesattel License No. RG# 5136 Dave Kleesattel

See Site Map For Boring Location

COMMENTS:

The original MW-1 was destroyed using 10-inch augers. The 3/4-inch casing was removed and replaced with 4-inch casing.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						Concrete
2						CRUSHED ROCK about one-inch diameter (fill)
4						
6						*Static groundwater level at 5.41 feet.* *Encountered groundwater at 6 feet on 06/19/92 (1700 hours).*
8						
10						
12						
14						
16						
18						Brown CLAY with little silt (medium stiff, saturated)
20		15	A	4 6 11	CL	
22						End of boring at 21.5 feet. Slough up to 19 feet. Constructed groundwater monitoring well at 19.0 feet.
24						

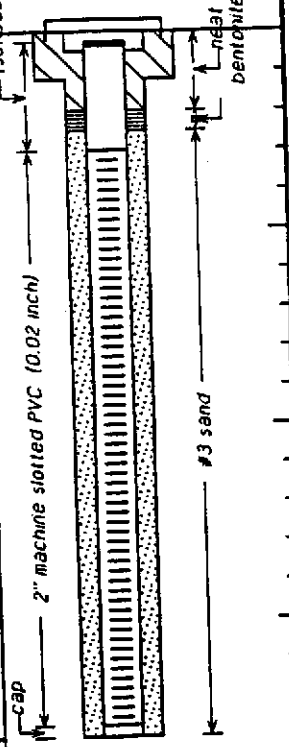
Gettler-Ryan, Inc.

Log of Boring MW-2A

PROJECT: *Chevron SS #9-0121*	LOCATION: *3026 Lakeshore Avenue, Oakland, CA.*
GR PROJECT NO.: *346462.01*	SURFACE ELEVATION: *6.53ft. MSL*
DATE STARTED: *04/01/99*	WL (ft. bgs): *5.0* DATE: *04/01/99* TIME: *15:05*
DATE FINISHED: *04/01/99*	WL (ft. bgs): *5.0* DATE: *04/02/99* TIME: *11:20*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *18.0 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
							PAVEMENT – Concrete over baserock
						Fill	COBBLES WITH CLAY – Fill.
						CL	
	152	5	MW2A-3				CLAY (CL) – dark greenish gray (5GY 4/1), moist, medium plasticity, medium stiff; 95% clay, 5% fine to coarse sand, trace fine gravel.
5							Becomes saturated at 5 feet bgs.
	149	6	MW2A-6				
							Becomes soft; 95-100% clay, 0-5% organic matter at 10 feet bgs.
10	13.6	2	MW2A-11				
						SM	SILTY SAND (SM) – very dark gray (5Y 3/1), saturated, very loose; 70% fine to coarse sand, 30% silt.
15		2					
	7.7	3	MW2A-17 MW2A-17.5				
							Bottom of boring at 18.0 feet.
20							(* = converted to equivalent standard penetration blows/ft.)
25							
30							
35							

WELL DIAGRAM



JOB NUMBER: *346462.01*

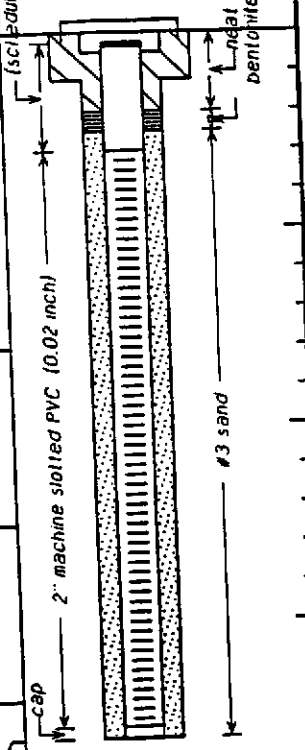
Gettler-Ryan, Inc.

Log of Boring MW-3A

PROJECT: *Chevron SS #9-0121*	LOCATION: *3026 Lakeshore Avenue, Oakland, CA.*
GR PROJECT NO.: *346462.01*	SURFACE ELEVATION: *8.70ft. MSL*
DATE STARTED: *04/01/99*	WL (ft. bgs): *8.0* DATE: *04/01/99* TIME: *12:20*
DATE FINISHED: *04/01/99*	WL (ft. bgs): *8.0* DATE: *04/02/99* TIME: *11:00*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *18.0 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
							PAVEMENT – Concrete over baserock
						CL	CLAY (CL) – gray (10YR 5/1), moist, medium plasticity, medium stiff; 100% clay, trace fine sand.
	0	NA	MW3A-4				
5	4.7	4	MW3A-5.5 MW3A-6				With olive mottling (5Y 5/3); 95% clay, 5% fine sand, trace fine gravel at 5 feet bgs.
						CL-ML	SILTY CLAY (CL-ML) – gray (5Y 5/1) mottled olive (5Y 5/3), saturated, low plasticity, medium stiff; 55% clay, 40% silt, 5% fine to coarse sand.
10	45	7	MW3A-11				
						ML	SILT (ML) – light olive brown (2.5Y 5/6) mottled gray (2.5Y 5/0), saturated, low plasticity, stiff; 70% silt, 30% clay.
15	11	10	MW3A-14.5 MW3A-15				
	0	18	MW3A-17.5			CL	CLAY (CL) – pale olive (5Y 6/3) mottled white (5Y 8/1), moist to damp, low to medium plasticity, very stiff; 70% clay, 30% silt.
20							Bottom of boring at 18.0 feet.
							(* = converted to equivalent standard penetration blows/ft., NA = not applicable, sample collected during hand augering.)
25							
30							
35							

WELL DIAGRAM



JOB NUMBER: *346462.01*

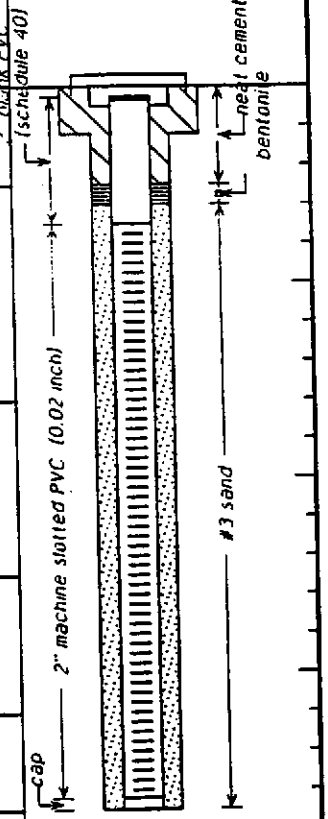
Gettler-Ryan, Inc.

Log of Boring MW-4A

PROJECT: *Chevron SS #9-0121*	LOCATION: *3026 Lakeshore Avenue, Oakland, CA.*
GR PROJECT NO.: *346462.01*	SURFACE ELEVATION: *7.69ft. MSL*
DATE STARTED: *04/01/99*	WL (ft. bgs): *4.5* DATE: *04/01/99* TIME: *13:55*
DATE FINISHED: *04/02/99*	WL (ft. bgs): *4.5* DATE: *04/02/99* TIME: *9:00*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *18.5 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
					PAVEMENT - Concrete over pea gravel and baserock.
	0	NA	MW4A-3	CL	CLAY (CL) - dark gray (10YR 4/1) mottled greenish gray (5GY 5/1), moist, low plasticity, medium stiff; 70% clay, 20% silt, 10% fine to coarse sand.
5	65	6	MW4A-6		Becomes saturated at 4.5 feet bgs.
				ML	SANDY SILT (ML) - dark gray (2.5Y 4/0), saturated, low plasticity, very soft; 60% silt, 30% fine sand, 10% clay.
10	1.6	1	MW4A-11		
				CL-ML	SILTY CLAY (CL) - dark greenish gray (5GY 4/1), saturated, low plasticity, medium stiff; 60% clay, 40% silt.
15	3.0	4	MW4A-15		
				CL	CLAY (CL) - olive (5Y 5/3) mottled dark yellowish brown (10YR 4/6), moist, low to medium plasticity, medium stiff; 80% clay, 20% silt.
	3.0	6	MW4A-17.5		
20					Bottom of boring at 18.5 feet.
25					(* = converted to equivalent standard penetration blows/ft., NA = not applicable, sample collected during hand augering.)
30					
35					

WELL DIAGRAM



JOB NUMBER: *346462.01*

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-6

Project CHV/3026 Lakeshore Ave. Owner CHEVRON U.S.A. Products Company
Location Oakland, California Project No. 02020 2781 Date drilled 06/12/92
Surface Elev. 5.32 ft. Total Hole Depth 20.0 ft. Diameter 8 inches ft.
Top of Casing 4.46 ft. Water Level Initial 7 ft. Static 5.14 ft.
Screen: Dia 2 in. Length 15 ft. Type/Size 0.020 in.
Casing: Dia 2 in. Length 4 ft. Type SCH 40 PVC
Filter Pack Material Lapis Lustre 2/12 Rig/Core Type Mobile B-53/split spoon
Drilling Company Kvilhaug Well Drilling Method Hollow stem auger Permit # 92281
Driller Mike Crocker Log By Steve Kranyak
Checked By Dave Kleesattel License No. RG# 5136

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						ASPHALT
						Coarse base aggregate
2						Gray brown silty CLAY with organic matter (soft, wet)
4						*Static groundwater level at 5.14 feet.*
6		0	A 3 3 4		CL	*Encountered groundwater at 7 feet on 06/12/92.*
8						Gray brown silty CLAY with sand and gravel (soft, wet)
10			B 1 1 1			Gray brown silty CLAY (soft, wet)
12		0				(grades with fine sand)
14						
16		0	C 1 2 3		SM	Gray silty fine SAND with clay (loose, wet)
18			D 4 7 9		ML	Tan brown clayey SILT with some very fine sand (medium stiff, wet)
20						End of boring at 20 feet. Installed groundwater monitoring well.
22						
24						

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-7

Project CHV/3026 Lakeshore Ave. Owner CHEVRON U.S.A. Products Company
Location Oakland, California Project No. 02020 2781 Date drilled 06/12/92
Surface Elev. 5.62 ft. Total Hole Depth 19.0 ft. Diameter 8 inches ft.
Top of Casing 5.26 ft. Water Level Initial 5 ft. Static 4.38 ft.
Screen: Dia 2 in. Length 15 ft. Type/Size 0.020 in.
Casing: Dia 2 in. Length 4 ft. Type SCH 40 PVC
Filter Pack Material Lapis Lustre 2/12 Rig/Core Type Mobile B-53/split spoon
Drilling Company Kvilhaug Well Drilling Method Hollow stem auger Permit # 92281
Driller Mike Crocker Log By Steve Kranyak
Checked By Dave Kleesattel License No. RG# 5136

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0						ASPHALT
						Coarse base aggregate
2						Brown gray clayey SILT with sand (soft, wet)
4					ML	*Static groundwater level at 4.38 feet.*
						Encountered groundwater at 5 feet on 06/12/92.
6			A			Dark gray silty CLAY with sand (soft, wet)
8						
10			B			Dark gray silty CLAY with sand (soft, wet)
12					CL	
14						Dark gray silty CLAY with sand (soft, wet)
16			C			
18			D			End of boring at 19 feet. Installed groundwater monitoring well.
20						
22						
24						

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-8

Project CHV/3026 Lakeshore Ave. Owner CHEVRON U.S.A. Products Company
Location Oakland, California Project No. 02020 2781 Date drilled 06/19/92
Surface Elev. 9.23 ft. Total Hole Depth 30.0 ft. Diameter 8 inches ft.
Top of Casing 8.94 ft. Water Level Initial 10 ft. Static 24.14 ft.
Screen: Dia 2 in. Length 20 ft. Type/Size 0.020 in.
Casing: Dia 2 in. Length 5 ft. Type SCH 40 PVC
Filter Pack Material Lapis Lustre 2/12 Rig/Core Type Mobile B-53/split spoon
Drilling Company Kvilhaug Well Drilling Method Hollow stem auger Permit # 92281
Driller Mike Crocker Log By Greg Mischel
Checked By Dave Kleesattel License No. RG# 5136 David Kleesattel

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2 to 0						CONCRETE
0 to 10						Gray CLAY with little silt (soft, moist)
4		6	A 4 4 6			
10		254	B 3 4 5			*Encountered groundwater at 10 feet on 06/19/92 (1300 hours).* Gray CLAY with little silt and trace sand and gravel (soft, moist)
12 to 14					CL	
16		0	C 5 7 11			Brown and gray CLAY with some silt and little sand and gravel (medium stiff)
20		0	D 7 11 13			Brown silty CLAY (stiff)
22 to 24						

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well **MW-8**

Project CHV/3026 Lakeshore Ave. Owner CHEVRON U.S.A. Products Company
Location Oakland, California Project No. 02020 2781 Date drilled 06/19/92

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24						*Static groundwater at 24.14 feet.*
		0	E		CL	Gray silty CLAY (stiff, moist)
26						
28						
30						End of boring at 30 feet. Backfilled with bentonite up to 25 feet. Installed groundwater monitoring well at 25 feet.
32						
34						
36						
38						
40						
42						
44						
46						
48						
50						
52						
54						
56						

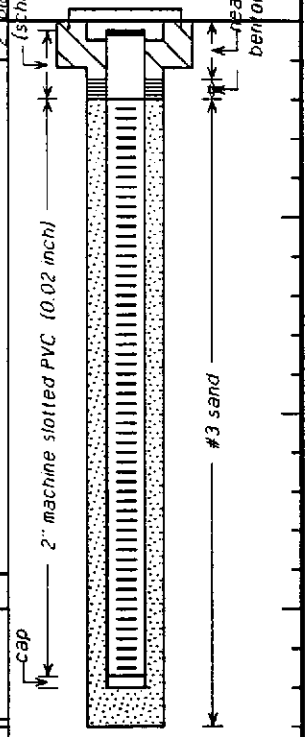
Gettler-Ryan, Inc.

Log of Boring MW-9

PROJECT: *Chevron SS #9-0121*	LOCATION: *3026 Lakeshore Avenue, Oakland, CA.*
GR PROJECT NO.: *346462.01*	SURFACE ELEVATION: *5.87ft. MSL*
DATE STARTED: *04/01/99*	WL (ft. bgs): *4.0* DATE: *04/01/99* TIME: *13:20*
DATE FINISHED: *04/02/99*	WL (ft. bgs): *4.0* DATE: *04/02/99* TIME: *10:15*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *18.0 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT.*	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
					PAVEMENT - Concrete over pea gravel.
				CL	CLAY (CL) - very dark brown (2.5Y 3/2) mottled dark greenish gray (5GY 4/1), moist, medium plasticity, medium stiff; 100% clay, trace fine sand.
	55	NA	MW9-3		Becomes saturated and soft at 4.0 feet bgs.
5	109	2	MW9-6		
10	4.0	2	MW9-11		95-100% clay, 0-5% oganic matter at 10.0 feet bgs.
15	10	3	MW9-15	ML SM	SANDY SILT (ML) - dark gray (5Y 4/1), saturated, low plasticity, soft; 50% silt, 40% fine sand, 10% clay.
	2.8	4	MW9-17.5		SILTY SAND WITH GRAVEL (SM) - dark gray (5Y 4/1), saturated, loose; 50% fine to medium sand, 20% fine to coarse gravel, 20% silt, 10% clay.
20				CL	CLAY (CL) - greenish gray (5GY 5/1), saturated, medium plasticity, soft; 100% clay.
					Bottom of boring at 18.0 feet.
25					(* = converted to equivalent standard penetration blows/ft., NA = not applicable, sample collected during hand augering).
30					
35					

WELL DIAGRAM



JOB NUMBER: *346462.01*

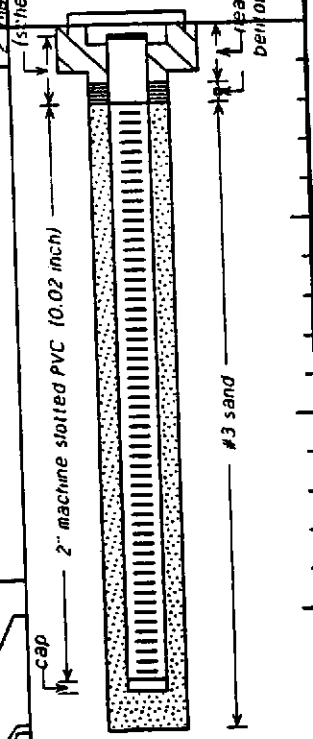
Gettler-Ryan, Inc.

Log of Boring MW-9

PROJECT: *Chevron SS #9-0121*	LOCATION: *3026 Lakeshore Avenue, Oakland, CA.*
GR PROJECT NO.: *346462.01*	SURFACE ELEVATION: *5.87ft. MSL*
DATE STARTED: *04/01/99*	WL (ft. bgs): *4.0* DATE: *04/01/99* TIME: *13:20*
DATE FINISHED: *04/02/99*	WL (ft. bgs): *4.0* DATE: *04/02/99* TIME: *10:15*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *18.0 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
							PAVEMENT – Concrete over pea gravel.
						CL	CLAY (CL) – very dark brown (2.5Y 3/2) mottled dark greenish gray (5GY 4/1), moist, medium plasticity, medium stiff; 100% clay, trace fine sand.
	55	NA	MW9-3				▽ Becomes saturated and soft at 4.0 feet bgs.
5	109	2	MW9-6				
							95–100% clay, 0–5% oganic matter at 10.0 feet bgs.
10	4.0	2	MW9-11				
						ML	SANDY SILT (ML) – dark gray (5Y 4/1), saturated, low plasticity, soft; 50% silt, 40% fine sand, 10% clay.
15	10	3	MW9-15			SM	SILTY SAND WITH GRAVEL (SM) – dark gray (5Y 4/1), saturated, loose; 50% fine to medium sand, 20% fine to coarse gravel, 20% silt, 10% clay.
	2.8	4	MW9-17.5			CL	CLAY (CL) – greenish gray (5GY 5/1), saturated, medium plasticity, soft; 100% clay.
20							Bottom of boring at 18.0 feet.
							(* = converted to equivalent standard penetration blows/ft., NA = not applicable, sample collected during hand augering).
25							
30							
35							

WELL DIAGRAM



JOB NUMBER: *346462.01*