EXCELTECH

JUNE QUARTERLY REPORT GROUNDWATER SAMPLING AND ANALYSIS

FOR

SHELL SERVICE STATION
230 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

94611

Project No. 3-31000-F
August 1991

EXCELTECH A RESNA Company

RESNA
Environmental Solutions
Through Applied Science,
Engineering & Construction

41674 Christy Street
Fremont, CA 94538
Phone: (415) 659-0404
Fax: (415) 651-4677

July 30, 1991

Shell Oil Company
1390 Willow Pass Road, Suite 900
Concord, CA 94520

Attention: Mr. Jack Brastad

Subject: June Quarterly Report
Groundwater Sampling and Analysis
Shell Service Station, 230 MacArthur Boulevard, Oakland, California
Exceltech Project No. 3-31000-F

Dear Mr. Brastad:

At the request of Shell Oil Company, Exceltech, Inc., has prepared this letter report containing the results of the June 3, 1991, groundwater sampling at the subject site in the City of Oakland, Alameda County, California (Figure 1). This report also contains a groundwater surface contour map for June 1991 (Figure 2).

Groundwater Sampling

Groundwater samples were collected from four groundwater monitoring wells on the site in accordance with Exceltech's groundwater sampling protocol (Appendix A). The groundwater purged from the wells and equipment rinse water were placed in drums approved for this purpose by the Department of Transportation. The drums were left on-site pending authorization to have the water pumped for disposal.

Laboratory Analysis

National Environmental Testing, Inc. (NET) of Santa Rosa, California, a state-certified laboratory, analyzed the groundwater samples for the presence of total petroleum hydrocarbons as gasoline (TPHG) and benzene, toluene, ethyl benzene, and total xylenes (BTEX).

Summary of Laboratory Results

Groundwater analyses are summarized in Table 1. Copies of the analytical reports from NET and chain-of-custody documents are attached in Appendix B. Of the four samples, only MW-4 contained detectable levels of TPHG and/or BTEX.

Discussion

The groundwater surface contour map developed from the June 3, 1991, water level measurements is presented as Figure 2. The map yields a hydraulic gradient of approximately 0.012 directed slightly

north of west. Groundwater rose between 0.18 and 1.30 feet in three of the wells, and dropped 0.03 feet in one of the wells. The abrupt rise in groundwater elevation and change in gradient is probably related to the heavier than normal March rains.

Petroleum hydrocarbons were detected in MW-4 at levels consistent with those reported in March 1991. Hydrocarbons were not present above laboratory detection limits in MW-1, MW-2, or MW-3.

Reporting Requirements

A copy of this report will be forwarded to the following agencies in a timely manner.

Alameda County Flood Control
and Water Conservation District
5997 Parkside Drive
Pleasanton, California 94566
Attention: Mr. Craig Mayfield

Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Suite 700
Oakland, California 94512-3429
Attention: Ms. Lisa McCann

Alameda County Health Department
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621
Attention: Mr. Gil Wistar

Disclaimer

This report has been prepared solely for the use of Shell and any reliance on this report by third parties shall be as such party's sole risk.

Limitations

The discussion and recommendations presented in this report are based on the following:

1. Exploratory test borings drilled at the site.
2. Observations by field personnel.
3. Results of laboratory analyses performed by a state-certified laboratory.
4. Our understanding of the regulations of the State of California, Alameda County, and the City of Oakland.

It is possible that variations in the soil or groundwater conditions could exist beyond the points explored in this investigation. Also, changes in the groundwater conditions could occur at some time in the future because of variations in rainfall, temperature, regional water usage, or other factors.

The service performed by Exceltech has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the Oakland area. Please note that contamination of soil and groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

Exceltech includes in this report chemical analytical data from a state-certified laboratory. The analyses are performed according to procedures suggested by the U.S. EPA and State of California. Exceltech is not responsible for laboratory errors in procedure or reporting.

If you have any questions or require additional information, please call.

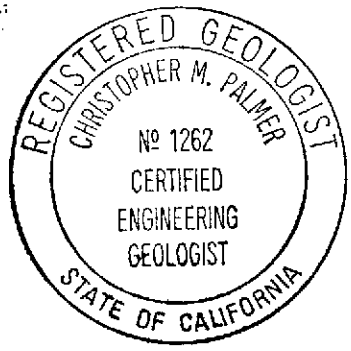
Sincerely,
Exceltech, Inc.

Nissa L. Nack
Staff Geologist

Christopher M. Palmer, C.E.G. 1262
Senior Program Geologist

NLN/CMP/sw
Enclosure

Appendix A: Groundwater Sampling Protocol
Appendix B: Laboratory Report and Chain-of-custody



Exceltech, Inc.
Project No. 3-31000-F

Shell Oil Company
Oakland, California

TABLE 1

GROUNDWATER ANALYSES DATA

Well	Date Sampled	TPHG (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl Benzene (ppm)	Total Xylenes (ppm)	TDS (ppm)	Well Elevation (ft.)	Depth To Water (ft.)
MW-1	7/14/88	ND	ND	ND	ND	ND	NA	73.89	13.30
	10/4/88	BRL	0.008	0.0043	B R L	0.009	NA		13.65
	11/10/88	BRL	BRL	BRL	BRL	BRL	NA		13.55
	12/9/88	ND	ND	ND	ND	ND	NA		13.22
	1/10/89	ND	ND	ND	ND	ND	NA		12.86
	1/20/89	NA	NA	NA	NA	NA	NA		12.91
	2/6/89	ND	ND	ND	ND	ND	NA		12.94
	3/10/89	ND	ND	ND	ND	ND	NA		12.59
	6/6/89	ND	ND	ND	ND	ND	NA		14.05
	9/7/89	ND	ND	ND	ND	ND	NA		14.92
	12/18/89	ND	ND	ND	ND	ND	NA		14.88
	3/8/90	ND	ND	ND	ND	ND	420		14.08
	6/7/90	ND	ND	ND	ND	ND	430		13.89
	9/5/90	ND	ND	ND	ND	ND	500		14.83
	12/3/90	ND	ND	ND	ND	ND	NA		15.05
	3/1/91	ND	ND	ND	ND	ND	NA		14.34
	6/3/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA		14.16
MW-2	7/14/88	ND	0.0079	0.0026	0.0011	0.004	NA	75.24	15.18
	10/4/88	0.09	BRL	0.0013	0.0025	0.012	NA		15.30
	11/10/88	BRL	BRL	BRL	BRL	0.002	NA		15.17
	12/9/88	ND	ND	0.0006	ND	0.003	NA		14.82
	1/20/89	ND	ND	ND	ND	ND	456		14.54
	2/6/89	ND	ND	ND	ND	ND	400		14.59
	3/10/89	ND	ND	ND	ND	ND	407		14.88
	6/6/89	ND	ND	ND	ND	ND	NA		15.30
	9/7/89	ND	ND	ND	ND	ND	NA		16.76
	12/18/89	ND	ND	0.0005	ND	ND	NA		16.65
	3/8/90	ND	ND	ND	ND	ND	380		15.92
	6/7/90	ND	ND	ND	ND	ND	380		16.10
	9/5/90	ND	ND	ND	ND	ND	400		16.61
	12/3/90	ND	ND	ND	ND	ND	NA		17.06
	3/1/91	ND	ND	ND	ND	ND	NA		16.62
	6/3/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA		16.65

TABLE 1

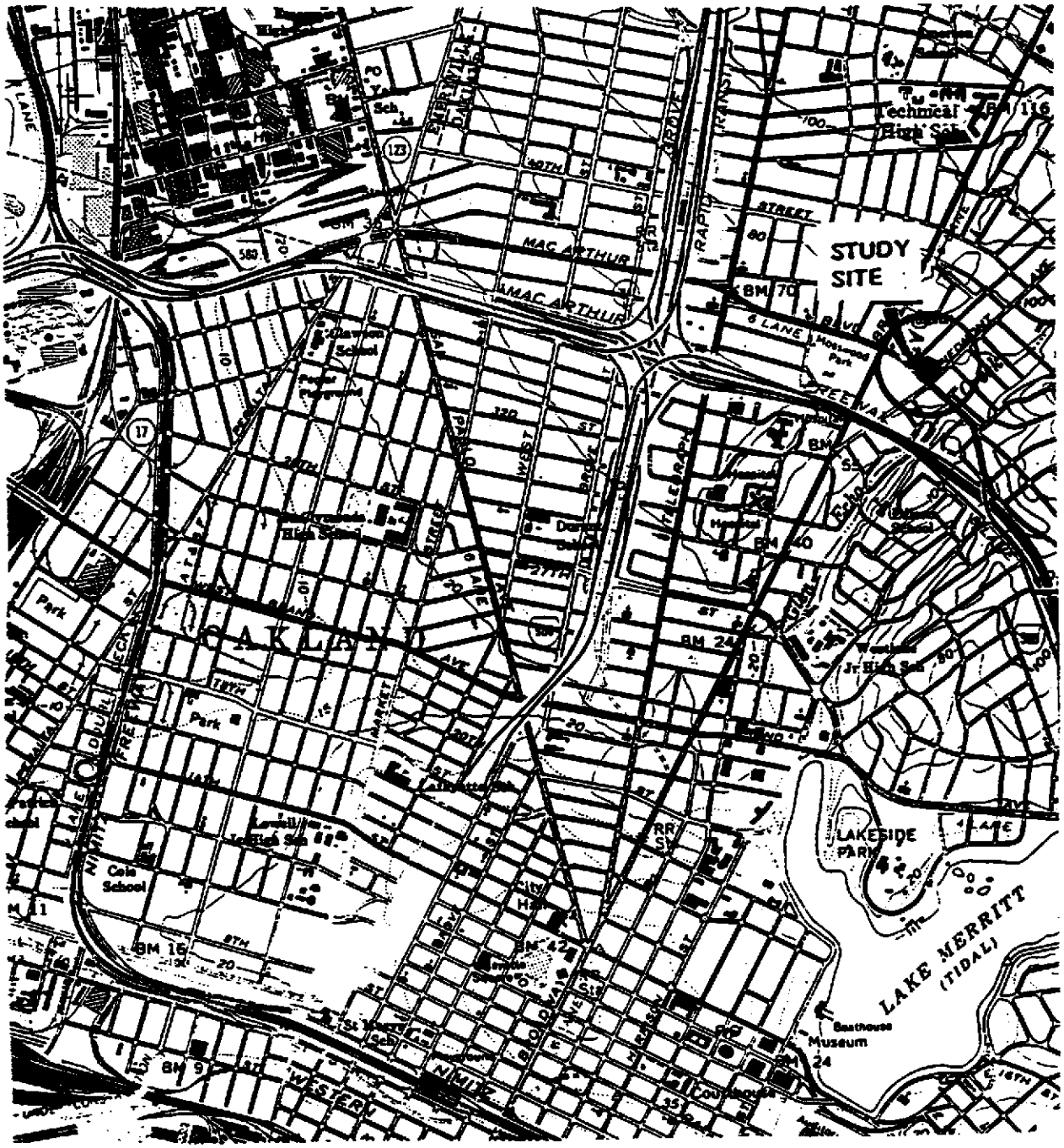
GROUNDWATER ANALYSES DATA

Well	Date Sampled	TPHG (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl Benzene (ppm)	Total Xylenes (ppm)	TDS (ppm)	Well Elevation (ft.)	Depth To Water (ft.)
MW-3	7/14/88	ND	ND	ND	ND	ND	NA	74.68	14.05
	10/4/88	BRL	BRL	BRL	BRL	0.005	NA		14.60
	11/10/88	BRL	BRL	BRL	BRL	BRL	NA		14.35
	12/9/88	ND	ND	ND	ND	ND	NA		14.04
	1/10/89	ND	ND	ND	ND	ND	NA		13.70
	1/20/89	NA	NA	NA	NA	NA	NA		13.72
	2/6/89	0.07	ND	ND	ND	ND	NA		13.75
	3/10/89	0.15	ND	ND	ND	ND	NA		13.42
	6/6/89	ND	ND	ND	ND	ND	NA		14.52
	9/7/89	ND	0.00065	ND	ND	ND	NA		15.52
	12/6/89	0.04	0.0013	ND	0.00044	0.00066	NA		19.59
	3/8/90	ND	ND	ND	ND	ND	440		14.72
	6/7/90	ND	ND	ND	ND	ND	490		14.65
	9/5/90	ND	ND	ND	ND	ND	500		15.51
	12/3/90	ND	ND	ND	ND	ND	NA		14.85
	3/1/91	1.9	0.059	ND	0.022	ND	NA		14.92
	6/3/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA		14.75
MW-4	1/23/90	1.6	0.1	0.01	0.03	0.02	NA	73.83	14.68
	3/8/90	4.2	0.26	0.018	0.088	0.039	480		14.38
	6/7/90	2.0	0.15	0.0069	0.014	0.017	460		14.27
	9/5/90	1.7	0.13	0.01	0.0072	0.018	440		15.40
	12/3/90	2.6	0.1	0.041	0.017	0.059	NA		15.90
	6/3/91	2.8	0.16	0.015	0.088	0.032	NA		14.60

Legend

TPHG	Total petroleum hydrocarbons as gasoline
ppm	parts per million
ND	None detected at or above detection limit method
BRL	Below reporting limit
N A	Not Analyzed
TDS	Total dissolved solids
<0.0005	Less than detection limits

Note: See laboratory reports for detection and reporting limits



BASE: USGS 7.5 MINUTE TOPOGRAPHIC SHEET

LEGEND:

SITE LOCATION

SCALE IN MILES

EXCELTECH

SITE LOCATION MAP

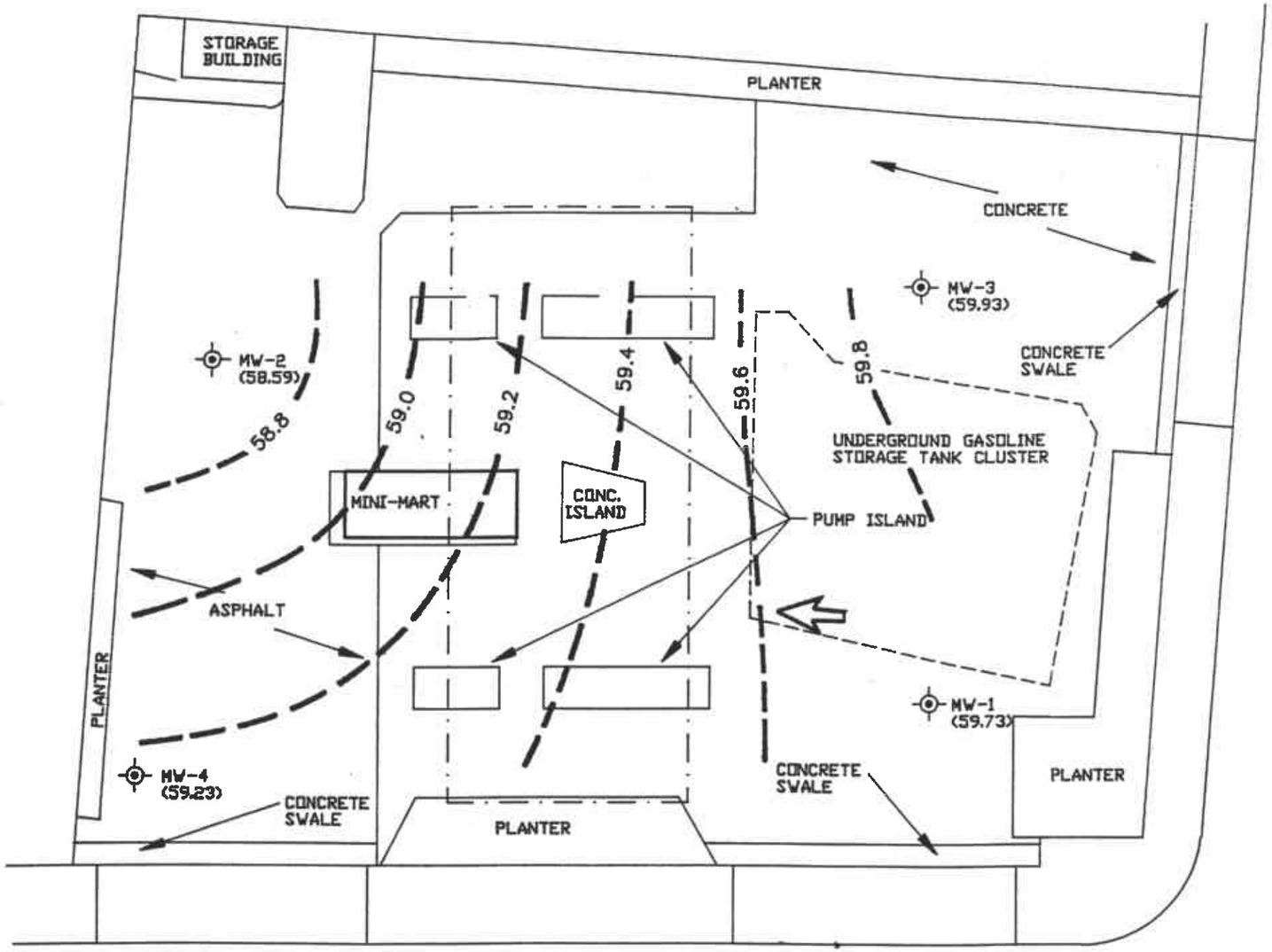
SHELL SERVICE STATION

230 MacARTHUR BOULEVARD

OAKLAND, CALIFORNIA

REVIEWED BY:	APPROVED BY:
JOB #: 3-31001-F	DRAWN BY: SLS
DATE: 7/8/91	DRAWING #: FIG: 1

1847



LEGEND

MW-4	GROUNDWATER MONITORING WELL
(59.93)	GROUNDWATER SURFACE ELEVATION IN FEET (DATUM: M.S.L.)
59.8	GROUNDWATER SURFACE ELEVATION CONTOUR LINE IN FEET (DATUM: M.S.L.)
	CANOPY
	APPROXIMATE GROUNDWATER FLOW DIRECTION

0 10 20
SCALE IN FEET

N

31001FIG

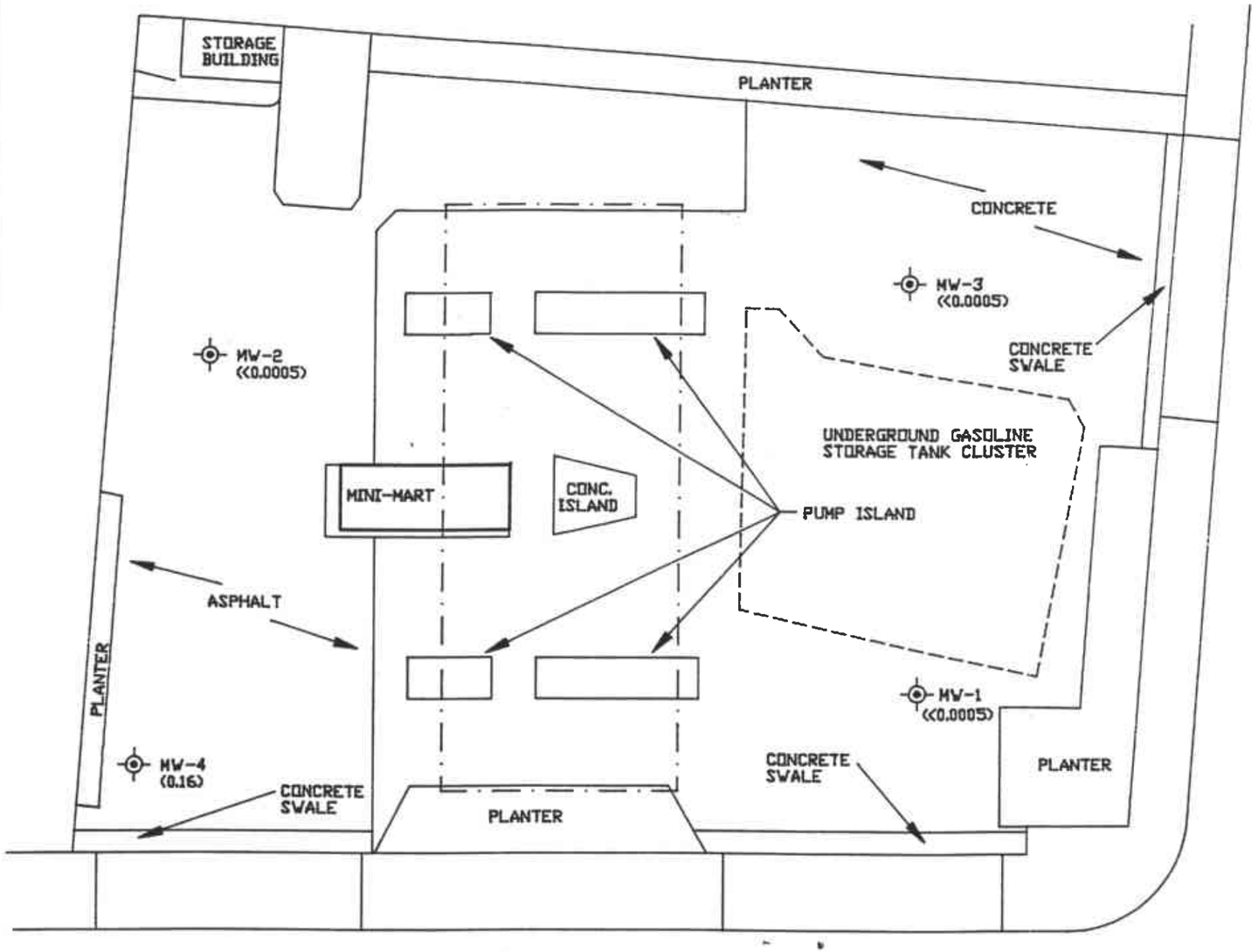
GROUNDWATER ELEVATION CONTOUR MAP (6/3/91)

SHELL SERVICE STATION

230 Mac ARTHUR BOULEVARD

OAKLAND, CALIFORNIA

REVIEWED BY:	APPROVED BY:
JOB #: 3-31001-F	DRAWN BY: J.D.S.
DATE: 7/8/91	DRAWING #: FIG. 2



LEGEND

MW-4 — GROUNDWATER MONITORING WELL

(0.16) — BENZENE CONCENTRATION IN PARTS PER MILLION

CANOPY

0 10 20
SCALE IN FEET

N

31001F88

BENZENE CONCENTRATION MAP (6/3/91)

SHELL SERVICE STATION

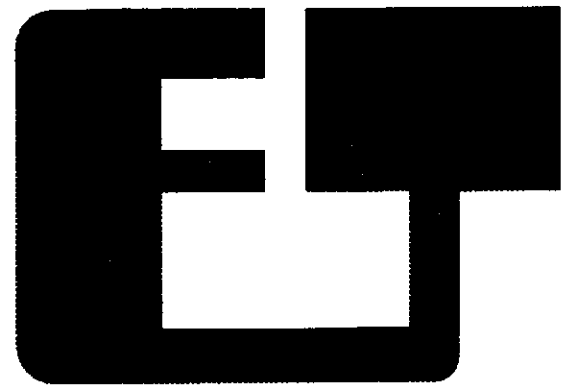
230 Mac ARTHUR BOULEVARD

OAKLAND, CALIFORNIA

REVIEWED BY:	APPROVED BY:
JOB #: 3-31001-F	DRAWN BY: J.D.S.
DATE: 7/8/91	DRAWING #: FIG. 3

APPENDIX A

GROUNDWATER SAMPLING PROTOCOLS



EXCELTECH

Groundwater Sampling Protocol

GROUNDWATER SAMPLING PROTOCOL

Sampling of groundwater is performed by Exceltech, Inc. sampling technicians. Summarized field sampling procedures are as follows:

1. Proceed to first well with clean and decontaminated equipment.

2. Measurements of liquid surface(s) in the well, and total depth of monitoring well. Note presence of silt accumulation.

3. Field check for presence of floating product; measure apparent thickness.

4. Purge well prior to collecting samples; purge volume (casing volumes) calculated prior to removal.

5. Monitor groundwater for temperature, pH, and specific conductance during purging.

6. Collect samples using Environmental Protection Agency (EPA) approved sample collection devices, i.e., teflon or stainless steel bailers or pumps.

7. Transfer samples into laboratory-supplied EPA-approved containers.

8. Label samples and log onto chain-of-custody form.

9. Store samples in a chilled ice chest for shipment to a state-certified analytical laboratory.

10. Decontaminate equipment prior to sampling next well.

Equipment Cleaning and Decontamination

All water samples are placed in precleaned laboratory-supplied bottles. Sample bottles and caps remain sealed until actual usage at the site. All equipment which comes in contact with the well or groundwater is thoroughly cleaned with a trisodium phosphate (TSP) solution and rinsed with deionized or distilled water before use at the site. This cleaning procedure is followed between each well sampled. Wells are sampled in approximate order of increasing contamination. If a teflon cord is used, the cord is cleaned. If a nylon or cotton cord is used, a new cord is used in each well. All equipment blanks are collected prior to sampling. The blanks are analyzed periodically to ensure proper cleaning procedures are used.

Water Level Measurements

Depth to groundwater is measured in each well using a sealed sampling tape or scaled electric sounder prior to purging or sampling. If the well is known or suspected of containing free-phase petroleum hydrocarbons, an optical interface probe is used to measure the hydrocarbon thickness and groundwater level. Measurements are collected and recorded to the nearest 0.01 foot. Each monitoring well's total depth will be measured; this will allow a judgement of well siltation to be made.

Bailer Sheen Check

If no measurable free-phase petroleum hydrocarbons are detected, a clear acrylic bailer is used to determine the presence of a sheen. Any observed film as well as odor and color of the water is recorded.

Groundwater Sampling

Prior to groundwater sampling, each well is purged of "standing" groundwater. Either a bailer, hand pump, or submersible pump is used to purge the well. The amount of purging is dependent on the well yield. In a high yield formation, samples will be collected when normal field measurement, including temperature, pH, and specific conductance stabilize, provided a minimum of three well-casing volumes of water have been removed. Field measurements will be taken after purging each well volume. Physical parameter measurements (temperature, pH, and specific conductance) are closely monitored throughout the well purging process and are used as indicators for assessing sufficient purging. Purging is continued until all three physical parameters have stabilized. Specific conductance (conductivity) meters are read to the nearest ±10

umhos/cm and are calibrated daily. pH meters are read to the nearest ±0.1 pH units and are calibrated daily. Temperature is read to the nearest 0.1 °F. Calibration of physical parameter meters will follow manufacturer's specifications. Collected field data during purging activities will be entered on the Well Sampling Field Data Sheet.

In low yield formations, the well is purged such that the "standing" water is removed and the well is allowed to recharge. (Normal field measurements will be periodically recorded during the purging process.) In situations where recovery to 80% of static water level is estimated, or observed to exceed a two hour duration, a sample will be collected when sufficient volume is available for a sample for each parameter. Attempts will be made so the well is not purged dry such that the recharge rate causes the formation water to cascade into the well.

In wells where free-phase hydrocarbons are detected, the free-phase portion will be bailed from the well and the estimated volume removed recorded. A groundwater sample will be collected if bailing reduces the amount of free-phase hydrocarbons to the point where they are not present in the well. Well sampling will be conducted using one of the aforementioned methods depending on the formation yield. However, if free-phase hydrocarbons persist throughout bailing, then a groundwater sample will not be collected.

Volatile organic groundwater samples are collected so that air passage through the sample does not occur or is minimal (to prevent volatiles from being stripped from the samples): sample bottles are filled by slowly running the sample down the side of the bottle until there is a positive convex meniscus over the neck of the bottle; the teflon side of the septum (in cap) is positioned against the meniscus, and the cap screwed on tightly; the sample is inverted and the bottle lightly tapped. The absence of an air bubble indicates a successful seal; if a bubble is evident, the cap is removed, more sample is added, and the bottle is resealed.

Chain-of-Custody

Groundwater sample containers are labeled with a unique sample number, location, and date of collection. All samples are logged into a chain-of-custody form and placed in a chilled ice chest for shipment to a laboratory certified by the State of California Department of Health Services.

Quality Assurance/Quality Control Objectives

The sampling and analysis procedures employed by Exceltech for groundwater sampling and monitoring follow quality assurance/quality control (QA/QC) guidelines.

Quality assurance objectives have been established to develop and implement procedures for obtaining and evaluating water quality and field data in an accurate, precise, and complete manner. In this way, sampling procedures and field measurements provide information that is comparable and representative of actual field conditions. Quality control (QC) is maintained by site-specific field protocols and requiring the analytical laboratory to perform internal and external QC checks. The goal is to provide data that are accurate, precise, complete, comparable, and representative. The definitions as developed by overseeing federal, state, and local agency guidance documents for accuracy, precision, completeness, comparability, and representativeness are:

- **Accuracy** — the degree of agreement of a measurement with an accepted reference or true value.

- **Precision** — a measure of agreement among individual measurements under similar conditions. Usually expressed in terms of the standard deviation.

- **Completeness** — the amount of valid data obtained from a measurement system compared to the amount that was expected to meet the project data goals.

- **Comparability** — express the confidence with which one data set can be compared to another.

- **Representativeness** — a sample or group of samples that reflect the characteristics of the media at the sampling point. It also includes how well the sampling point represents the actual parameter variations which are under study.

Laboratory and field handling procedures of samples are monitored by including QC samples for analysis with every submitted sample lot from a project site. QC samples may include any combination of the following:

- **Trip Blanks:** Used for purgeable organic compounds only; QC samples are collected in 40 milliliter (ml) sample vials filled in the analytical laboratory with organic-free water. Trip blanks are sent to the project site, and travel with project site samples. Trip blanks are **not** opened, and are returned from a project site with the project site samples for analysis.

- **Field Blank:** Prepared in the field using organic-free water. These QC samples accompany project site samples to the laboratory and are analyzed for specific chemical parameters unique to the project site where they were prepared.

- **Duplicates:** Duplicated samples are collected "second samples" from a selected well and project site. They are collected as either split samples or second-run samples collected from the same well.

- **Equipment Blank:** Periodic QC samples collected from field equipment rinseate to verify decontamination procedures.

The number and types of QC samples are determined and analyzed on a project-specific basis.

Shallow Groundwater Survey

A shallow groundwater survey employs reconnaissance field sampling and chemical analysis for rapid plume mapping. Occasionally, a state-certified laboratory subcontractor may be used. The subcontractor would sample for analysis at locations marked by the Exceltech field geologist. The thin-diameter probes from which groundwater is collected are advanced to the water bearing stratum, sample is withdrawn to the surface, and analyzed immediately thereafter. Probe holes are backfilled with a grout slurry or as the local permitting agency requires. The vapor survey contractor will supply sampling, purging, and field chemical analysis to Exceltech in their report. Exceltech considers the vapor probe mapping (together with shallow groundwater sampling) to be a reconnaissance technique only.

APPENDIX B

LABORATORY REPORT
AND
CHAIN-OF-CUSTODY

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Nissa Nack
Exceltech
41674 Christy St.
Fremont, CA 94538

Date: 06-11-91
NET Client Acct No: 18.06
NET Pacific Log No: 7833
Received: 06-05-91 0800

Client Reference Information

SHELL-MacArthur Blvd, Oakland, Project: 1847-26 WATER

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

JS:rct
Enclosure(s)

NET Pacific, Inc.

Client No: 18.06 Date: 06-11-91
Client Name: Exceltech
NET Log No: 7833 Page: 2

Ref: SHELL-MacArthur Blvd, Oakland, Project: 1847-26 WATER

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results BB1 06-03-91 1200 87237	MW-1 06-03-91 1300 87238	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			06-07-91	06-07-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	ND	ND	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			06-07-91	06-07-91	
Benzene		0.0005	ND	ND	mg/L
Ethylbenzene		0.0005	ND	ND	mg/L
Toluene		0.0005	ND	ND	mg/L
Xylenes, total		0.0005	ND	ND	mg/L

NET Pacific, Inc.

Client No: 18.06 Date: 06-11-91
Client Name: Exceltech
NET Log No: 7833 Page: 3

Ref: SHELL-MacArthur Blvd, Oakland, Project: 1847-26 WATER

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results MW-2 06-03-91 1340 87239	MW-3 06-03-91 1420 87240	Units
PETROLEUM HYDROCARBONS			--	--	
VOLATILE (WATER)			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			06-07-91	06-07-91	
METHOD GC FID/5030			--	--	
as Gasoline		0.05	ND	ND	mg/L
METHOD 602			--	--	
DILUTION FACTOR *			1	1	
DATE ANALYZED			06-07-91	06-07-91	
Benzene		0.0005	ND	ND	mg/L
Ethylbenzene		0.0005	ND	ND	mg/L
Toluene		0.0005	ND	ND	mg/L
Xylenes, total		0.0005	ND	ND	mg/L

NET Pacific, Inc.

Client No: 18.06 Date: 06-11-91
Client Name: Exceltech
NET Log No: 7833 Page: 4

Ref: SHELL-MacArthur Blvd, Oakland, Project: 1847-26 WATER

Parameter	Method	Reporting Limit	Descriptor, Lab No. and Results MW-4 06-03-91 1500 87241	Units
PETROLEUM HYDROCARBONS			--	
VOLATILE (WATER)			--	
DILUTION FACTOR *			10	
DATE ANALYZED			06-07-91	
METHOD GC FID/5030			--	
as Gasoline		0.05	2.8	mg/L
METHOD 602			--	
DILUTION FACTOR *			10	
DATE ANALYZED			06-07-91	
Benzene		0.0005	0.16	mg/L
Ethylbenzene		0.0005	0.088	mg/L
Toluene		0.0005	0.015	mg/L
Xylenes, total		0.0005	0.032	mg/L

Ref: SHELL-MacArthur Blvd, Oakland, Project: 1847-26 WATER

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	0.05	mg/L	115	ND	102	109	6.4
Benzene	0.0005	mg/L	95	ND	93	103	11
Toluene	0.0005	mg/L	97	ND	95	102	6.8

COMMENT: Blank Results were ND on other analytes tested.

NET Pacific, Inc.

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 16th Edition, APHA, 1985.

CHAIN OF CUSTODY RECORD

7833

PROJECT NO.	PROJECT NAME
1847-26	SHELL - MAC ARTHUR BLVD (OAKLAND)

SAMPLERS (Signature) DENNIS MENTOR

NO.	DATE	TIME	SAMPLE DESCRIPTION	Type	TEST REQUESTED: TPHG BTEX
BB1	6-3-91	12:00	PRES VOAS	(3)	X
MW-1	"	1:02	PRES VOAS	(3)	X
MW-2	"	1:40	PRES VOAS	(3)	X
MW3	"	2:20	PRES VOAS	(3)	X
MW4	"	3:00	PRES VOAS	(3)	X

P.O. # WIC#204-5508-0705 AFE#988645 SUB# 3050

LAB NET

TURN AROUND TIME 5-DAY

REMARKS

CUSTODY SEALED 6/4/91 @ 19:00 J.W. seal intact

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
[signature]	6/5/91	0803	[signature]
[signature]	6/4/91	19:00	[signature]

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:
[signature]	6/4/91	1510	[signature]
	6/5/91	0800	[signature]

REMARKS:

REPORT TO: NISSA NOEL

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