RESNA INDUSTRIES

WATERWORK CORP.

July 30, 1991

Mr. Paul Smith
Alameda County Health Department
Hazardous Waste Division
80 Swan Way, Room 200
Oakland, CA 94621

Re: Desert Petroleum Incorporated, Former Station No. 793
4035 Park Boulevard, Oakland, CA

Dear Mr. Smith:

Enclosed is a copy of our report for the above referenced site.

If you have any questions or comments regarding this project, please contact our Escalon office at 209/838-3507.

Respectfully,
WaterWork

Joseph Knight

Joseph Knight
Staff Geologist

JK/gk

Enclosure

pc: Desert Petroleum, Inc.
RWQCB-San Francisco Bay Region

91 AUG -1 AM 11:53

DPOR0701.WP

RESNA INDUSTRIES

WATERWORK CORP.

Noted E. P. SO. AUG 5 1991

COPY

July 30, 1991

Mr. Paul Smith
Alameda County Health Department
Hazardous Waste Division
80 Swan Way, Room 200
Oakland, CA 94621

Site Name = Beacon

Re: Desert Petroleum Incorporated, Former Station No. 793
4035 Park Boulevard, Oakland, CA

Dear Mr. Smith:

Enclosed is a copy of our report for the above referenced site.

If you have any questions or comments regarding this project, please contact our Escalon office at 209/838-3507.

Respectfully,
WaterWork

Joseph Knight
Staff Geologist

JK/gk

Enclosure

pc: Desert Petroleum, Inc.
RWQCB-San Francisco Bay Region

DPOR0701.WP

1710 MAIN STREET • ESCALON, CA 95320 • (209) 838-3507
2350-A WALSH AVENUE • SANTA CLARA, CA 95051 • (408) 496-1249

PROGRESS REPORT

Desert Petroleum Incorporated
Former Station No. 793
4035 Park Boulevard
Oakland, CA 94602

prepared for:

Desert Petroleum Incorporated
2060 Knoll Drive
Ventura, CA 93003

for submittal to:

Alameda County Health Department
Hazardous Waste Division
80 Swan Way, Room 200
Oakland, CA 94621

prepared by:

Joseph Knight
Staff Geologist

Gregory P. Stahl
Project Manager
CA Registered Geologist No. 5023

July 23, 1991

DPOR0701.WP

Table of Contents

1.0 INTRODUCTION

The former Desert Petroleum Station No. 793 is located at 4035 Park Boulevard in the City of Oakland, Alameda County, California (Figures 1 and 2). The station, which has been leased to Mr. Jason Golpad, most recently operated under the name of J & M's Beacon Service Station. No gasoline is being dispensed from the station at present. This report presents a summary of work performed during the second quarter of 1991 and the planned activities during the coming quarter.

1.1 Site Description

Site Location: Former Beacon Gas/Desert Petroleum
Station 793
4035 Park Boulevard
Oakland, CA 94602

Site Owner: Desert Petroleum Incorporated
2060 Knoll Dr., Suite 100
Ventura, CA 93003

Contact Person: John Rutherford
2060 Knoll Drive, Suite 100
Ventura, CA 93003
(805) 644-6784

The station is located at the intersection of Park Boulevard and Hampel Road in a predominantly residential neighborhood (Figure 2). It is on the flank of a hill which slopes approximately 10 degrees to the west. The ground surface of the station itself is fairly level due to grading and a deck which is located at the western corner of the station (Figure 2). Based on the U.S.G.S. topographic map of the area, the surface elevation of the station is approximately 240 feet above mean sea level (MSL).

Improvements at the station consist of a building, two pump islands, a waste oil tank, and three underground fuel storage tanks (Figure 2). The underground fuel storage tanks consist of an 8,000 gallon tank for regular leaded gasoline, a 10,000 gallon tank for regular unleaded gasoline and an 8,000 gallon tank for super unleaded gasoline. The age of the tanks is unknown, but is thought to be approximately 20 years. They are steel and were relined approximately four years ago. When the tanks were relined, the associated piping was also replaced.

1.2 Previous Work

Mr. Ariu Levi of the Alameda County Health Department notified Desert Petroleum that gasoline was detected in a sewerline on Brighton Avenue on November 30, 1989. Figure 2 shows the location of sewer lines both on-site and off-site.

On December 6, 7, and 8, 1989, the underground storage tanks were tested. The results of these tests were inconclusive. Further testing was not considered worthwhile and the tanks were emptied to prevent any possible further release of product. The supply lines were pressure tested by Walton Engineering. The regular leaded and super unleaded lines passed but the regular unleaded supply line did not. Further investigation on this date verified a 1/2 inch hole in the unleaded supply line beneath the eastern pump island. In addition, an on-site soil gas investigation was conducted. The results of the soil gas investigation indicate the site to be largely unimpacted by petroleum hydrocarbons. There was one hot spot associated with the pump islands and some contamination associated with the sewer line located in the western corner of the property. Desert Petroleum filed an Unauthorized Release Report.

The drilling and sampling of six soil borings was initiated in order to assess possible contamination beneath the site on December 11, 12, and 13, 1989. The sample results from each boring showed low levels of petroleum hydrocarbons beneath the site. Details of this work was presented in the Remediation Service International (RSI) January 1990 report.

RSI's S.A.V.E. system was installed on the site on December 13, 14 and 15. This unit is a four cylinder industrial internal combustion engine which uses gasoline vapors as fuel. Vapors are supplied to the extent possible by extraction from soil gas. In the event that insufficient vapors are available from the soil and groundwater, the gasoline vapor influent from extraction wells may be combined with propane or natural gas to achieve necessary fuel levels for engine operation. Vapors and water are extracted from the soil by placing a partial vacuum on extraction wells RS-1, RS-5 and RS-6.

On July 24, 1990, WaterWork Corporation advanced two soil borings along the sewer line behind the station (Figure 2). These borings were installed to investigate the possibility that hydrocarbons were being preferentially transported along the route of the municipal sewer line. Soil samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and total purgeable hydrocarbon (TPHG). Trace levels of aromatic hydrocarbons were detected.

WaterWork conducted a pump test of well RS-5 on July 25, 1990, at a rate of 1.1 gpm for 495 min. The results of this pump test were discussed in section 5.0 of our Groundwater Remediation Alternatives report (January 1990).

WaterWork Corporation sampled two additional soil borings downgradient of the sewerline behind the station on August 21, 1990. The soil boring locations are shown on Figure 2. The soil samples were analyzed for oil and grease and BTEX/TPHG. Moderate concentrations of TPHG and BTEX were found to be present. Water was encountered at approximately 10 feet below grade in boring SB1. Although not collected in a manner which would yield a sample characteristic of the formation water, a grab sample of water which flowed into the boring was taken. The water sample results are shown on Table 2.

One additional boring, DP-SB3, was drilled on September 19, 1990, behind the apartment complex to determine the lateral extent of the hydrocarbon contamination (Figure 2). This boring was sampled at 15 feet below grade. The sample was analyzed for BTEX/TPH as gasoline. Laboratory results from DP-SB3 indicated levels of xylenes slightly above the detection limit. No other hydrocarbon constituents were detected.

2.0 QUARTERLY ACTIVITIES

2.1 Vapor Extraction System

The RSI S.A.V.E. vapor extraction/treatment system has been idle during the second quarter of 1991. Operations were terminated on January 24, 1991, for several reasons: (1) the product vapor recovery rate declined significantly, (2) treatment system operations were restricted to day light hours only, (3) complaints by residents of excessive noise, (4) the necessity of maintaining on-site security. It's expected that vapor extraction will resume when these problems are resolved.

2.2 Groundwater Monitoring/Sampling

Groundwater monitoring/sampling for the second quarter of 1991 was conducted on June 12, 1991. Monitoring data (Table 1) indicate the groundwater gradient is toward the west at a magnitude of 0.087 foot per feet or 459 feet per mile (Figure 3). This gradient is consistent with those observed previously at the site. The monitoring data also show free product in wells RS-5 and RS-7. The appearance of free product in these two wells may be due to the discontinuation of vapor extrac-

tion and suggests the formation is only yielding product slowly. Free product was removed by bailing approximately 15-20 gallons of product and water from RS-5 and RS-7. Monitoring wells RS-1 and RS-6 were purged by extracting approximately four well volumes (casing/sand pack). The purged groundwater was placed in 55 gallon drums (DHS Approved) and remains on site.

Subsequent to purging, RS-1 and RS-6 were sampled using a bailer with a bottom emptying device. The water samples were transported to Applied Analytical to be analyzed for BTEX/TPHG by EPA methods 8020/8015.

Laboratory results from RS-1 indicate moderately high levels of gasoline constituents, benzene (56 ppb), toluene (180 ppb), ethylbenzene (12 ppb), xylenes (26 ppb) and total petroleum hydrocarbons as gasoline (1600 ppb). The water sample from RS-6 was found to contain high concentrations of these analytes. A summary of the laboratory results are shown on Table 2. The laboratory report and chain-of-custody documentation are shown in Appendix I. The next quarterly sampling round will be conducted in September 1991 and a report will be submitted to your office in October 1991.

3.0 ANTICIPATED ACTIVITIES DURING COMING QUARTER

Desert Petroleum and RESNA/WaterWork are currently engaged in cost analysis and feasibility study regarding groundwater treatment system configuration. As originally conceived, groundwater extracted from RS-5 and RS-6 (and ultimately from additional wells) would be pre-treated by the RSI S.A.V.E. unit followed by a granulated activated carbon (GAC) polish. Based on client experience at other sites, the efficacy of this design is now open to question. Consideration is being given to alternative methods such as the use of an oil/water separator followed by GAC adsorption. Upon completion of cost analysis, the adopted system will be installed and groundwater treatment will begin.
Vapor extraction is expected to resume pending resolution of the problems noted in section 2.1.

Quarterly groundwater monitoring and sampling will be conducted during September, 1991.

Table 1
Groundwater Monitoring Data
Desert Petroleum - Oakland

DATE	WELL ID	ELEVATION*	DEPTH TO WATER	WATER ELEVATION
07/25/90	RS1	100.18	14.0	86.18
	RS5	99.44	19.415	80.025
	RS7	67.88	4.16	63.72
12/20/90	RS1	100.18	17.17	83.01
	RS5	99.44	21.0	78.44
	RS7	67.88	4.12	63.7
02/15/91	RS1	100.18	8.95	91.23
	RS5	99.44	20.69	78.75
	RS6	99.25	16.87	82.38
	RS7	67.88	4.05	63.83
06/12/91	RS1	100.18	12.15	88.03
	RS5	99.44	19.84	79.60
	RS6	99.25	17.45	81.80
	RS7	67.88	4.02	63.86

* Elevation is based on arbitrary datum of 100 feet above MSL.

Table 2
Laboratory Analysis - Water
Desert Petroleum - Oakland
(ppb)

DATE	SAMPLE ID	B	T	E	X	TPHG
12/14/89	RS-1	2600	2700	200	1200	19,000
	RS-5	3100	4300	670	3400	57,000
	RS-6	1400	1700	160	860	11,000
07/18/90	RS-7	24,000	210,000	50,000	740,000	5,600,000
08/21/90	DP-SB1-W	110,000	130,000	13,000	73,000	740,000
12/20/90	RS-1	3500	330	170	760	15,000
02/15/91	RS-1	910	200	39	540	6900
	RS-5	- - - - FREE PRODUCT PRESENT - - - -				
	RS-6	- - - - FREE PRODUCT PRESENT - - - -				
	RS-7	- - - - FREE PRODUCT PRESENT - - - -				
06/12/91	RS-1 ✓	56 ✓	180 ✓	12 ✓	26 ✓	1600 ✓
	RS-5	- - - - FREE PRODUCT PRESENT ✓ - - - -				
	RS-6 ✓	4200 ✓	4200 ✓	650 ✓	3700 ✓	95,000 ✓
	RS-7	- - - - FREE PRODUCT PRESENT ✓ - - - -				

NOTE: ppb = parts per billion = µg/ℓ = micrograms per liter
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
TPHG = Total Petroleum Hydrocarbons as Gasoline

Legend

Site Location

Figure 1
Site Location Map
Desert Petroleum SS#793
4035 Park Boulevard
Oakland, CA

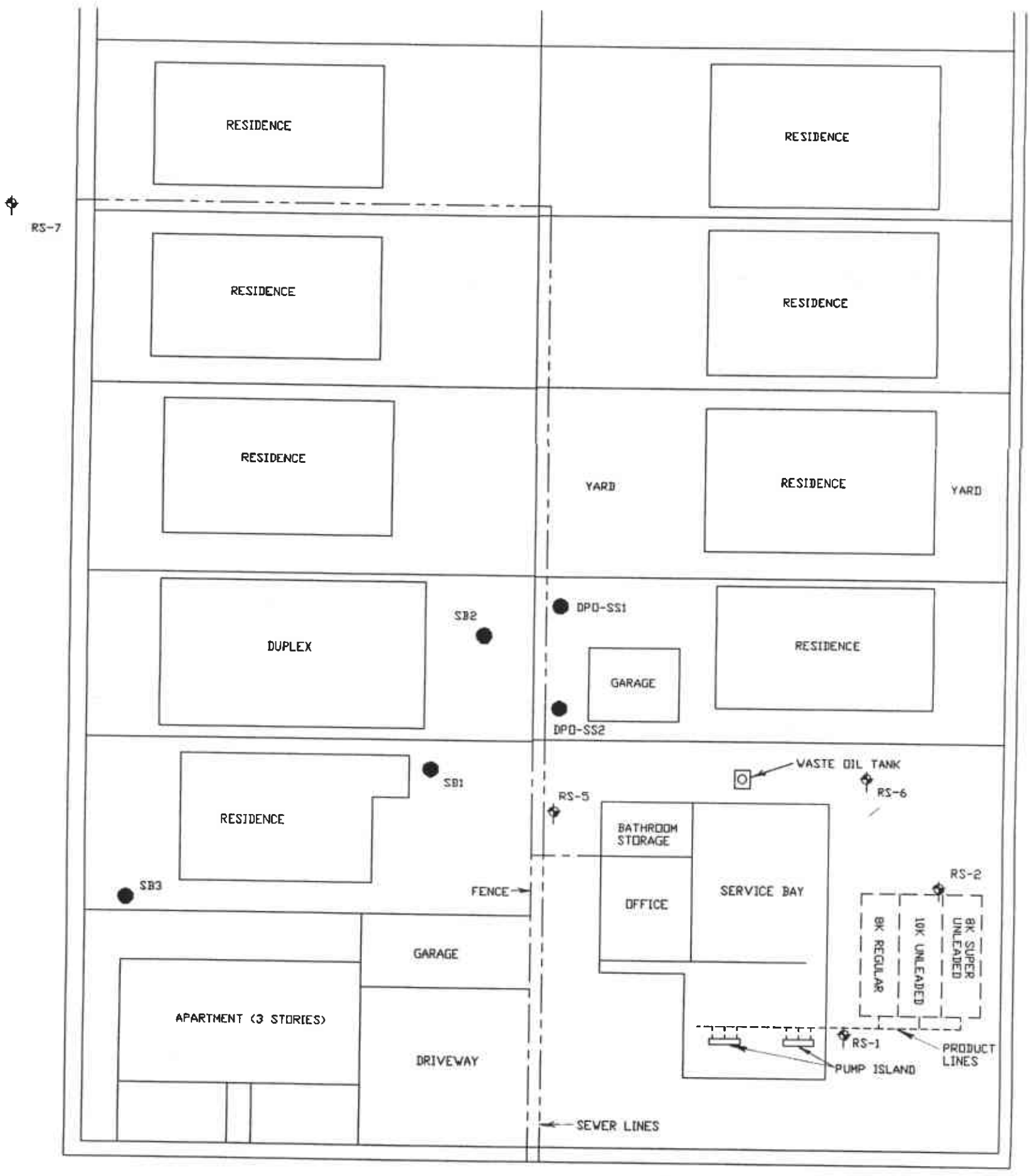
NORTH

Scale in Feet

0 2640

WATERWORK

BRIGHTON AVENUE



LEGEND

SB2 WATERWORK SOIL BORING

RS-7 MONITORING WELL

SCALE IN FEET

0

30

NORTH

SITE PLAN
DESERT PETROLEUM SS#793
4035 PARK BOULEVARD
OAKLAND, CA

FIGURE 2

WATERWORK

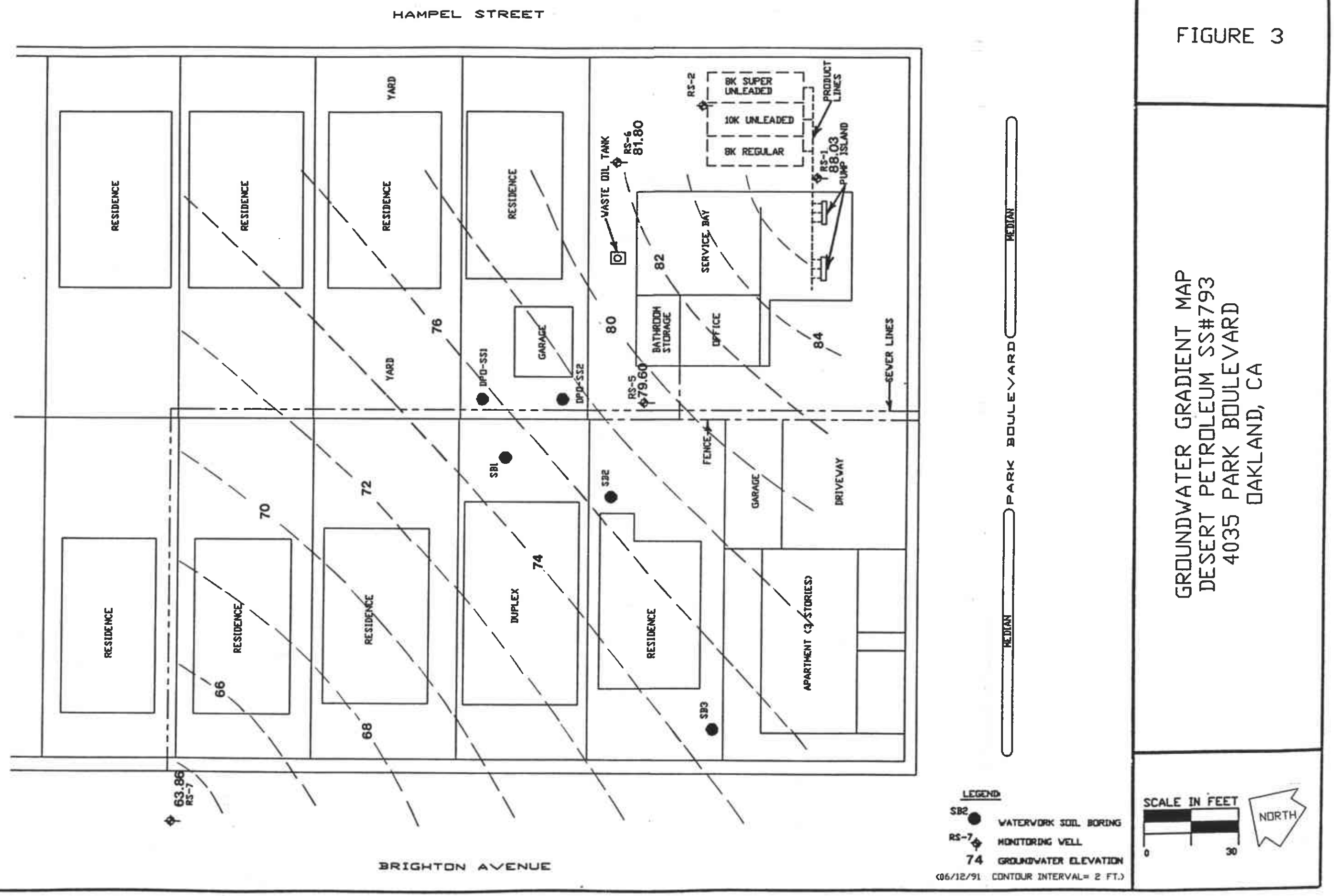


FIGURE 3

GROUNDWATER GRADIENT MAP
DESERT PETROLEUM SS#793
4035 PARK BOULEVARD
OAKLAND, CA

APPLIED ANALYTICAL

Environmental Laboratories

42501 Albrae St., Suite 100
Fremont, CA 94538
Bus: (415) 623-0775
Fax: (415) 651-8647

RECEIVED JUN 28 1991

ANALYSIS REPORT

1020lab.frm

Attention:	Mr. Greg Stahl	Date Sampled:	06-12-91
	Water Work	Date Received:	06-14-91
	1710 Main Street	BTEX Analyzed:	06-20-91
	Escalon, CA 95320	TPHg Analyzed:	06-20-91
Project:	AGS 19509-L, Project #330	TPHd Analyzed:	NR
	Desert Petroleum, Oakland	Matrix:	Water

	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg	TPHd
	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit:	0.5	0.5	0.5	0.5	50	100
SAMPLE Laboratory Identification						
RS-6 ✓ W1106246	4200	4200	650	3700	95000	NR
RS-1 ✓ W1106247	56	180	12	26	1600	NR

ppb = parts per billion = ug/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

ANALYTICAL PROCEDURES

BTEX– Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

TPHg–Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

TPHd–Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

June 24, 1991
Date Reported

APPLIED ANALYTICAL LABORATORY IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 1211)

WATERWORK

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

091657

PROJ. NO.	PROJECT NAME
330	Desert Petroleum/Oakland

SAMPLERS: (Signature) E. Cardona -

I.D. NO.	DATE	TIME	COMP	GRAB	STATION & LOCATION	# CONTAINERS	SAMPLE TYPE	ANALYSIS TYPE REQUESTED: BTEX / TPH-G	REMARKS
RS 6	6-12	15:25	✓		Monitoring well	2	W	X	Please send Results
RS 1	6/12	15:30	✓		" "	2	W	X	to bellow Address
									T. Y.

PLEASE RETURN ICE CHESTS AND BLUE ICE TO WATERWORK.

LAB. A. A. WW PROJ. MGR. STAHL

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
E. Cardona	6/14/91	11:05	M. Robbins / Express-It	Mary Robbins	6/14/91	12:25	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:	Date	Time	REMARKS (Shipping Related):	
			Anthony Guerra	6/14/91	1630	Standard TURN Around.	