Chevron

93 SEP 10 AM 11:42

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

September 8, 1993

Ms. Eva Chu
Alameda County Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Station # 9-2582, 7240 Dublin Blvd., Dublin, CA
Attached groundwater monitoring report (Blaine, 5/18/93)
Attached groundwater monitoring report (Blaine, 7/12/93)

Dear Ms. Chu:

Attached are reports dated May 18, 1993 and July 12, 1993, which were prepared by Chevron's consultant, Blaine Tech Services (Blaine), to describe groundwater monitoring performed at the subject site on March 29, 1993 and June 25, 1993.

The direction of groundwater flow measured in March was to the west. This is consistent with previous measurements made at the subject site. The concentrations of dissolved hydrocarbons measured in EA-1 and EA-3 were slightly above those measured during previous site monitoring events. There were no detectable concentrations of dissolved hydrocarbons measured at EA-2. The increased concentrations measured at EA-1 and EA-3 were coincident with a significant rise in groundwater level beneath the site.

During the June groundwater monitoring event the measured direction of groundwater flow was again toward the west. The levels of dissolved hydrocarbons in EA-1 decreased. No dissolved hydrocarbons were detected in EA-2 or EA-3. The present levels of dissolved hydrocarbons in EA-1 and EA-3 are the lowest they have been in two years.

The vapor extraction and treatment system (VETS) has been operating successfully since March, 1992. Chevron's consultant, Geraghty & Miller, modified the system's control scheme in December, 1992. As a result of these modifications, the daily rate of VOC removal has increased by 79 percent. As of August 1, 1993, 7,585 pounds of VOC's have been extracted. The total mass of hydrocarbons removed from the subsurface is likely greater than the measured 7,585 pounds of VOC's due to the system's enhancement of natural biodegradation.

A review of all site environmental data has indicated that there were apparently two probable hydrocarbon source areas which contributed to the contamination of groundwater beneath the site. One source area was the former underground fuel tank location. In February, 1989 the underground storage tanks and the hydrocarbon-impacted backfill material were removed. Residual hydrocarbon concentrations in soil samples taken from the tankpit sidewalls indicated that the hydrocarbon source material of the former tankpit has been successfully removed. The other

Chevron U.S.A. Products Company
2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

probable source area was the western end of the former southern pump island. In March, 1989 hydrocarbon-impacted soils associated with this probable source area were overexcavated down to the groundwater surface. Residual hydrocarbon concentrations (1100.0 - 1700.0 ppm TPHG) measured at the limits of the overexcavation indicated that a potential source of groundwater contamination remains.

A further review of all boring log data has revealed that the subsurface lithology is primarily clay. The surface of the shallow groundwater aquifer beneath the site is within this clay unit; as is all apparent residual hydrocarbon contamination. The consistently low groundwater gradient (.004 ft/ft) and low estimated hydraulic conductivity suggest that groundwater velocity and contaminant transport are minimal.

In evaluating the VETS influent vapor streams, it has been determined that the highest hydrocarbon vapor concentrations are from the separately screened intervals extracting from the former fuel tank pit area and the western portion of the former southern pump island. The hydrocarbon mass removed from these areas represents a further reduction of possible contamination source material. Evidence of this appears to be the decrease in dissolved benzene concentrations observed at groundwater monitoring wells EA-1 and EA-3.

Chevron plans to continue soil vapor extraction as a means of further hydrocarbon source removal. In addition, groundwater monitoring will continue in wells EA-1, -2, and EA-3 on a quarterly basis. The decline and eventual stabilization of the dissolved benzene concentration in wells EA-1 and EA-3 will be used to evaluate the VETS' effectiveness and to determine the appropriate time to discontinue operation.

If you have any questions or comments, I can be reached at (510) 842-8695.

Sincerely,

Brett L. Hunter
Environmental Engineer
Site Assessment and Remediation

Attachments

cc: Lester Feldman, San Francisco Bay RWQCB, Oakland, CA
Janet Clinton (for Parkway Three), 2425 Webb Avenue, Suite 200, Alameda, CA 94501
Bette Owen, Chevron USA, Products Company, San Ramon, CA (w/o attachments)
David Thomas, Geraghty & Miller, 1050 Marina Way South, Richmond, CA 94804
(w/o attachments)

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

May 18, 1993

Clint Rogers
Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583-0804

1st Quarter 1993 monitoring at 9-2582

First Quarter 1993 Groundwater Monitoring at
Chevron Service Station number 9-2582
7240 Dublin Boulevard
Dublin, California

Monitoring performed March 29, 1993

Groundwater Sampling Report **930329-D-1**

This report covers the routine quarterly monitoring of groundwater wells at this former Chevron facility. Blaine Tech Services, Inc. work at the site includes inspection, gauging, evacuation, purgewater containment, sample collection and sample handling in accordance with standard procedures that conform to Regional Water Quality Control Board requirements.

Routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated volume of a three case volume purge, elapsed evacuation time, total volume of water removed, and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater is, likewise, collected and transported to Chevron's Richmond Refinery for disposal.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL DATA AND ANALYTICAL RESULTS**. The full analytical report for the most recent samples is located in the **Analytical Appendix**. The table also contains new groundwater elevation calculations taken from the computer plotted gradient map which is located in the **Professional Engineering Appendix**.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. concentrates on objective data collection and does not participate in the interpretation of analytical results, the definition of geological or hydrological conditions, the formulation of recommendations, or the marketing of remedial systems.

Blaine Tech Services, Inc. employs the services of outside professional firms to conduct independent reviews of our methodologies. Independent Professional Reviews by a certified engineering geologist are directed to the evaluating the efficacy of procedures and equipment employed by Blaine Tech Services, Inc. personnel in the conduct of our technical assignments. Independent Professional Reviews are intentionally limited in scope and do not extend to characterizing environmental conditions at the site or making recommendations.

Yours truly,

James Keller
for the Board of Directors

Independent Professional Review

John K. Hofer
engineering geologist 1065

JPK/kkl

attachments: Cumulative Table of Field Data and Analytical Results
Analytical Appendix
Professional Engineering Appendix

Cumulative Table of Well Data and Analytical Results

Vertical measurements are in feet. Analytical values are in µg/l (ppb) unless otherwise annotated.

EA-1

Date	Depth To Water	Water Elevation	Field Obser-vations	TPH-G	benzene	toluene	ethyl-benzene	xylenes	1,2-DCA
10-17-1988	--	--	--	<50.	<0.5	<0.5	<0.5	<0.5	--
10-24-1988	10.64	322.77	(gauging)	--	--	--	--	--	--
11-02-1988	10.69	322.72	(gauging)	--	--	--	--	--	--
12-20-1988	10.51	322.90	--	<50.	<0.5	<0.5	<0.5	<0.5	--
03-28-1989	9.87	323.54	--	<250.	<0.5	<0.5	<0.5	<0.5	--
08-02-1989	10.34	323.07	--	<50.	<0.1	<0.1	<0.1	<0.1	<0.1
11-06-1989	10.65	322.76	--	<500.	<3.	<5.	<5.	<5.	<5.
01-25-1990	10.60	322.81	--	<50.	<0.5	<0.5	<0.5	<0.5	<0.5
04-23-1990	10.58	322.83	--	71.	2.	5.	3.	8.	<0.5
08-01-1990	10.88	322.53	--	300.	86.	21.	10.	33.	--
10-24-1991	11.12	322.29	--	280.	69.	13.	11.	16.	--
01-31-1991	11.16	322.25	--	460.	160.	11.	17.	17.	--
08-21-1991	10.80	322.61	--	2,400.	400.	220.	44.	120.	--
08-21-1991	--	--	EA-1D duplicate	2,300	390.	210.	42.	120.	--
10-07-1991	10.79	322.62	not sampled	--	--	--	--	--	--
01-28-1992	10.79	322.62	--	3,600.	320.	360.	110.	310.	--
01-28-1992	--	--	EA-1D duplicate	3,000.	290..	320.	99.	270	--
06-05-1992	10.84	322.57	--	1,700.	290.	89.	61.	130.	--
09-30-1992	11.06	322.35	--	2,100.	160.	260.	80.	350.	--
12-30-1992	10.15	323.26	Sheen, odor	3200.	240.	180.	110.	310.	--
03-29-1993	9.42	323.99	Odor	23,000.	700.	3,000.	610.	3,000.	--

EA-2

Date	DTW	Elevation	Observ.	TPH-G	benzene	toluene	ethyl-benz	xylenes	1,2-DCA
10-17-1988	--	--	--	<50.	<0.5	<0.5	<0.5	1.2	--
10-24-1988	9.70	322.89	(gauging)	--	--	--	--	--	--
11-02-1988	10.03	322.56	(gauging)	--	--	--	--	--	--
12-20-1988	9.98	322.61	--	<50.	<0.5	<0.5	<0.5	<0.5	--
03-28-1989	8.80	323.79	--	<250.	<2.	<0.5	<0.5	<0.5	<0.5
08-02-1989	9.44	323.15	--	<50.	<0.1	<0.1	<0.1	<0.1	<0.1
11-06-1989	9.53	323.06	--	<500.	<3.	<5.	<5.	<5.	<5.
01-25-1990	9.27	323.32	--	<50.	<0.5	<0.5	<0.5	<0.5	<0.5
04-23-1990	9.35	323.24	--	50.	0.6	0.8	<0.5	2.	<0.5

Continues

Cumulative Table of Well Data and Analytical Results

Continued

EA-2	DTW	Elevation	Observ.	TPH-G	benzene	toluene	ethyl-benz	xylenes	1,2-DCA	
08-01-1990	9.71	322.88	--	<50	<0.5	<0.5	<0.5	<0.5	--	
10-24-1990	10.08	322.51	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
01-31-1991	10.21	322.38	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
01-31-1991	--	--	EA-2D duplicate	<50.	<0.5	<0.5	<0.5	<0.5	--	
08-21-1991	9.80	322.79	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
10-07-1991	9.98	322.61	not sampled	--	--	--	--	--	--	
01-28-1992	9.81	322.78	--	<50.	0.8	<0.5	<0.5	<0.5	--	
06-05-1992	9.86	322.73	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
09-30-1992	10.60	321.99	--	66.	1.	3.2	1.3	7.4	--	
12-30-1992	9.11	323.48	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
03-29-1993	7.73	324.86	--	<50.	<0.5	<0.5	<0.5	<1.5	--	

EA-3	DTW	Elevation	Observ.	TPH-G	benzene	toluene	ethyl-benz	xylenes	1,2-DCA	
10-17-1988	--	--	--	<50.	1.8	<0.5	<0.5	3.	--	
10-24-1988	11.03	322.61	(gauging)	--	--	--	--	--	--	
11-02-1988	11.03	322.61	(gauging)	--	--	--	--	--	--	
12-20-1988	10.96	322.68	--	240.	90.	1.2	13.	3.3	--	
03-28-1989	9.77	322.87	--	2,300.	380.	130.	240.	910.	--	
08-02-1989	10.65	322.99	--	<50.	<0.1	<0.1	<0.1	<0.1	<0.1	
11-06-1989	10.78	322.86	--	<500.	<3.	<5.	<5.	<5.	<5.	
01-25-1990	10.66	322.98	--	<50.	<0.5	<0.5	<0.5	<0.5	<0.5	
04-23-1990	10.68	322.96	--	<50.	0.8	<0.5	0.9	<0.5	<0.5	
08-01-1990	11.03	322.61	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
10-24-1990	11.35	322.29	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
01-31-1991	11.52	322.12	--	<50.	<0.5	<0.5	<0.5	<0.5	--	
08-21-1991	--	--	not sampled	--	--	--	--	--	--	
10-07-1991	11.15	322.49	--	180.	40.	20.	4.7	8.4	--	
10-07-1991	--	--	EA-3D duplicate	200.	43.	17.	4.1	6.7	--	
01-28-1992	11.08	322.12	--	640.	69.	85.	13.	46.	--	
06-05-1992	10.98	322.66	--	250.	63.	8.3	3.	9.5	--	
09-30-1992	11.38	322.26	--	330.	120.	33.	6.3	22.	--	
12-30-1992	10.48	323.16	--	58.	7.6	1.3	2.5	5.4	--	
03-29-1993	9.30	324.34	--	120.	11.	4.5	6.2	13.	--	

Cumulative Table of Well Data and Analytical Results

PVC	DTW	Elevation	Observ.	TPH-G	benzene	toluene	ethyl-benz	xylenes	1,2-DCA
08-02-1989	11.52	--	--	100,000.	8,700.	14,000.	1,700.	17,000.	50.
08-02-1989	--	--	duplicate	110,000.	9,200.	14,000.	1,800.	13,000.	50.
11-06-1989	--	--	--	--	--	--	--	--	--
01-25-1990	--	--	--	--	--	--	--	--	--
04-23-1990	--	--	--	--	--	--	--	--	--
08-01-1990	--	--	--	--	--	--	--	--	--
10-24-1990	--	--	--	--	--	--	--	--	--
01-31-1991	--	--	--	--	--	--	--	--	--
08-21-1991	--	--	--	--	--	--	--	--	--
10-07-1991	--	--	--	--	--	--	--	--	--
01-28-1992	--	--	--	--	--	--	--	--	--
06-05-1992	--	--	--	--	--	--	--	--	--
09-30-1992	--	--	--	--	--	--	--	--	--
12-30-1992	--	--	--	--	--	--	--	--	--
03-29-1993	--	--	--	--	--	--	--	--	--

QC samples

Date	QC Blank Type	TPH-G	benzene	toluene	ethyl-benz	xylenes	1,2-DCA
03-28-1989	equipment blank	<250.	<0.5	<0.5	<0.5	<0.5	--
07-28-1989	trip blank	<50.	<0.1	<0.1	<0.1	<0.1	<0.1
11-06-1989	trip blank	<500.	<3.0	<0.5	<0.5	<0.5	<0.5
01-25-1990	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	na
08-01-1990	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	<0.5
10-24-1990	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	--
01-31-1991	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	--
08-21-1991	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	--
10-07-1991	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	--
01-28-1992	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	--
06-05-1992	trip blank	<50.	<0.5	<0.5	<0.5	<0.5	--
09-30-1992	trip blank TB-LB	<50.	<0.5	<0.5	<0.5	<0.5	--
12-30-1992	trip blank TB-LB	<50.	<0.5	<0.5	<0.5	<0.5	--
03-29-1993	trip blank TB-LB	<50.	<0.5	<0.5	<0.5	<1.5	

Cumulative Table of Well Data and Analytical Results

Note: Blaine Tech Services, Inc. began routine monitoring of the groundwater wells at this site on September 30, 1992. Earlier field data and analytical results are drawn from the tables contained in the Western Gelogic Resources/RESNA report (WGR Project #1-124.08) of February 13, 1992 to Chevron U.S.A. Products Company. Wellhead elevation data contained in that source document are reproduced as follows:

Well I.D.	Wellhead Elevation
EA-1	333.41
EA-2	332.59
EA-3	333.64
PVC	not given

Analytical
Appendix

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

Blaine Tech Services, Inc.
Attn: GLEN BENNETT

Project 93032901
Reported 04/07/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
88220- 1	EA-1	03/30/93	04/06/93	Water
88220- 2	EA-2	03/30/93	04/06/93	Water
88220- 3	EA-3	03/30/93	04/05/93	Water
88220- 4	TB-LB	03/30/93	04/04/93	Water

RESULTS OF ANALYSIS

Laboratory Number:	88220- 1	88220- 2	88220- 3	88220- 4
Gasoline:	23000	ND<50	120	ND<50
Benzene:	700	ND<0.5	11	ND<0.5
Toluene:	3000	ND<0.5	4.5	ND<0.5
Ethyl Benzene:	610	ND<0.5	6.2	ND<0.5
Xylenes:	3000	ND<1.5	13	ND<1.5
Concentration:	ug/L	ug/L	ug/L	ug/L

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 ▪ Martinez, California 94553 ▪ (510) 229-1512 / fax (510) 229-1526

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

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 88220

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	100/97	3%	70-130
Benzene:	100/93	7%	70-130
Toluene:	94/88	7%	70-130
Ethyl Benzene:	95/90	5%	70-130
Xylenes:	97/91	6%	70-130

Richard Srna, Ph.D.
Laboratory Director

Fax copy of Lab Report and COC to Chevron Contact: ☒ Yes ☐ No 84220

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number: 9-2582
Facility Address: 7240 DUBLIN BLVD.
Consultant Project Number: 930329D1
Consultant Name: BLAINE TECH SERVICES
Address: 985 TIMOTHY DR. SAN JOSE
Project Contact (Name): GLEN BENNETT
(Phone): 408 995-5535 (Fax Number):

Chevron Contact (Name): CLINT ROGERS
(Phone): 510 842 8655
Laboratory Name: SUPERIOR
Laboratory Release Number: 711800
Samples Collected by (Name): 3-30-93
Collection Date:
Signature:

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					Remarks
EA-1		3	W		1410	HCl	Y	/												
EA-2		3	W		1235	HCl	Y	/												
EA-3		3	W		1356	HCl	Y	/												
DUP		3	W		-	HCl	Y	/	DISCARD	DUP										
T.B.		1	W		-	HCl	Y	/												

DO NOT CHARGE CUSA FOR TB/LB

Please Initial: VH
Samples Stored in ice: yes 10°C
Appropriate containers: yes
Samples preserved: yes
VOA's without headspace: yes
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Scott Sandford	B.T.S.	3-30-93 17:00	BTS RELAY		3-30-93 1700
[signature]	BTS	4-1-93 0905	Sheri Ridgely 766	Aero	4-1-93 0905
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Valentine Ramirez		04/1/93 1234

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

COC-3.DWG/03 91/HCH

Professional Engineering Appendix

MAY 21 '93 PWM

GEOCONSULTANTS, INC.
Geotechnical Consultants
Geology • Ground Water
1450 Koll Circle, Suite 114
San Jose, California 95112
Telephone: (408) 453-2541
Fax: (408) 453-2543

May 7, 1993
Project No. G758-09

Mr. Richard Blaine
Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133

RE: GROUND-WATER ELEVATION CONTOUR MAP
CHEVRON SERVICE STATION NO. 9-2582
7240 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

Dear Mr. Blaine:

In accordance with your request, please find attached the March 29, 1993 ground-water elevation contour map for the subject site. The depth to the water table was measured in each of three monitoring wells by your staff. The ground-water elevation contours were extrapolated from the three wells, and are to be considered only approximate in nature. The general direction of the ground-water gradient is indicated on the contour map.

If you have any questions regarding the map, please call.

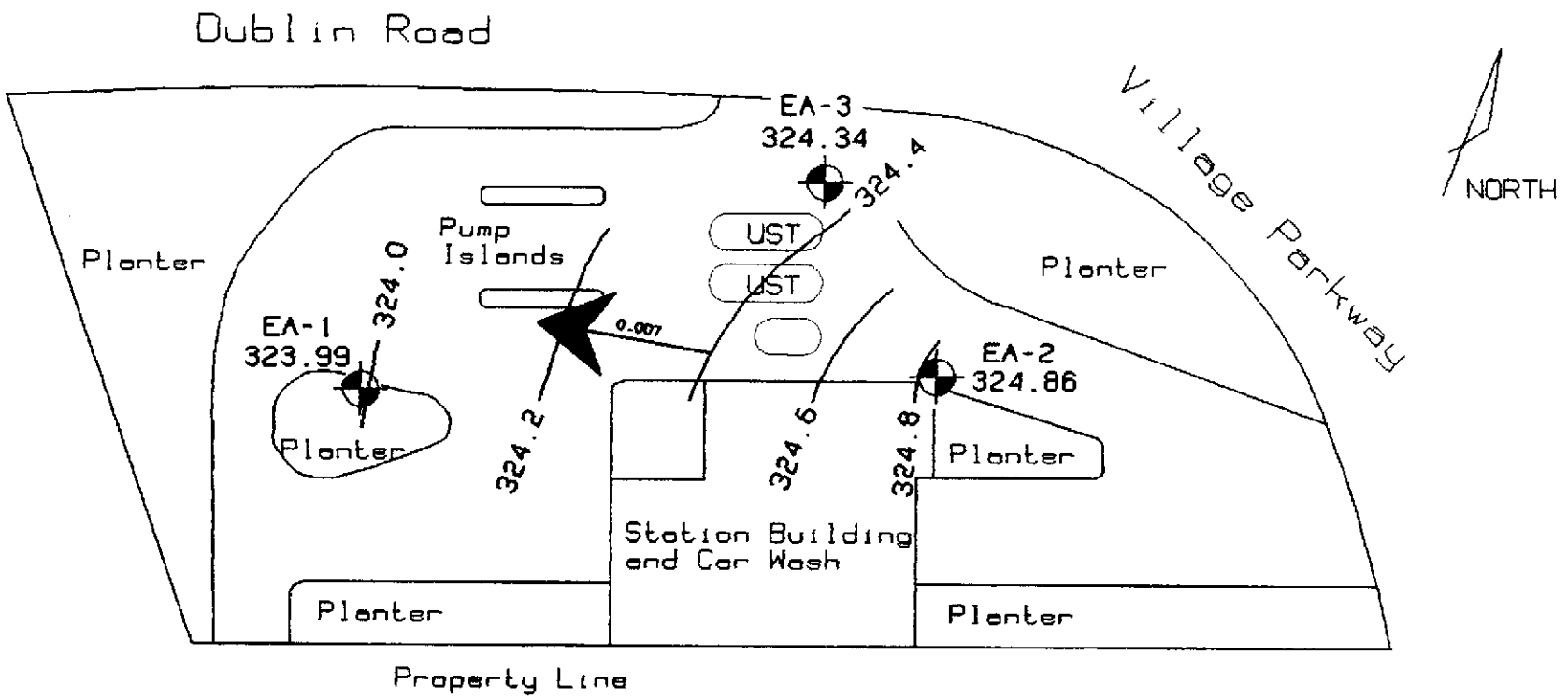
Very truly yours,

GEOCONSULTANTS, INC.

David J. Welch
Project Geologist

John K. Hofer
Engineering Geologist, EG-1065

JKH/DJW:rls
(92582FWL.393)



Potentiometric Surface of Shallow Ground Water March 29, 1993

0 40 80

scale in feet

Former Chevron Service Station #9-2582
7240 Dublin Boulevard Dublin, California

LEGEND

EA-3 324.34 — Monitor Well Location and ground-water elevation, ft-MSL

324.6 — Approximate ground-water elevation contour, ft-MSL

Estimated direction of ground-water flow: gradient indicated in FT/FT

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

GEOCONSULTANTS, INC.
Project No. G758-09
5/93