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

July 30, 1992

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 (RESNA, 7/13/92)

Dear Ms. Chu:

Attached is a report dated July 13, 1992, which was prepared by Chevron's consultant, RESNA, to describe groundwater monitoring performed at the subject site on June 5, 1992.

Mark Fry - (415) 382 7400

Chevron's consultant, Geraghty & Miller (GM), has been performing repairs to the vapor extraction and treatment system at the site. It will resume operation as soon as the repairs are completed.

If you have any questions or comments, I can be reached at (510) 842-8658.

Sincerely,

Clint B. Rogers

Clint B. Rogers
Environmental Engineer
Site Assessment and Remediation

Attachment

cc: San Francisco Bay RWQCB, Oakland, CA
Janet Clinton (for Parkway Three), 2425 Webb Avenue, Suite 200, Alameda, CA 94501

JUL 14 '92 JST

RESNA
Working to Restore Nature

73 Digital Drive
Novato, California 94949-5704
Phone: (415) 382-7400
FAX: (415) 382-7415

July 13, 1992

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

Re: Quarterly Groundwater Monitoring
Sampled June 1992
Chevron Service Station # 92582
Dublin, California
RESNA Project # 17012.01

Dear Mr. Rogers:

This letter report presents the results of the groundwater monitoring performed on June 5, 1992 by RESNA Industries Inc. at the subject site (Figure 1).

On June 5, 1992, RESNA staff measured depth to water, purged, and sampled monitor wells EA-1, EA-2, and EA-3 The standard operating procedure for groundwater sampling, SOP-4, and the standard operating procedure for taking liquid levels, SOP-8, are attached; the field sampling monitoring forms are also attached.

All purged water was transported to Chevron's Richmond Refinery for disposal.

The groundwater-elevation measurements are shown in Table 1, along with the measurements from past site monitorings. Figure 2 shows the potentiometric surface of shallow groundwater on June 5, 1992. Table 2 presents a compilation of the laboratory analyses performed this quarter by Superior Precision Analytical, as well as past analytical results.

The next sampling event is scheduled for September 1992.

RESNA

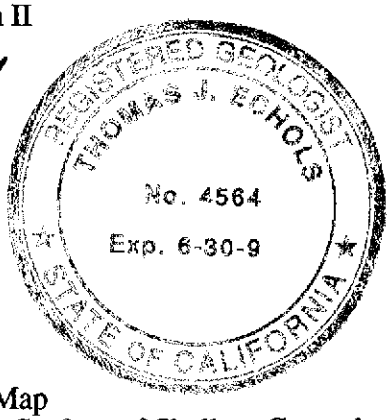
RESNA is pleased to provide geologic and environmental consulting services for Chevron and trusts that this report meets your needs. Please call us at (415) 382-7400 if you have any questions.

Sincerely,
RESNA Industries Inc.

Dean K. Osaki (415) 346-5267

Dean K. Osaki
Environmental Technician II

Thomas J. Echols
Senior Geologist
CRG No. 4564



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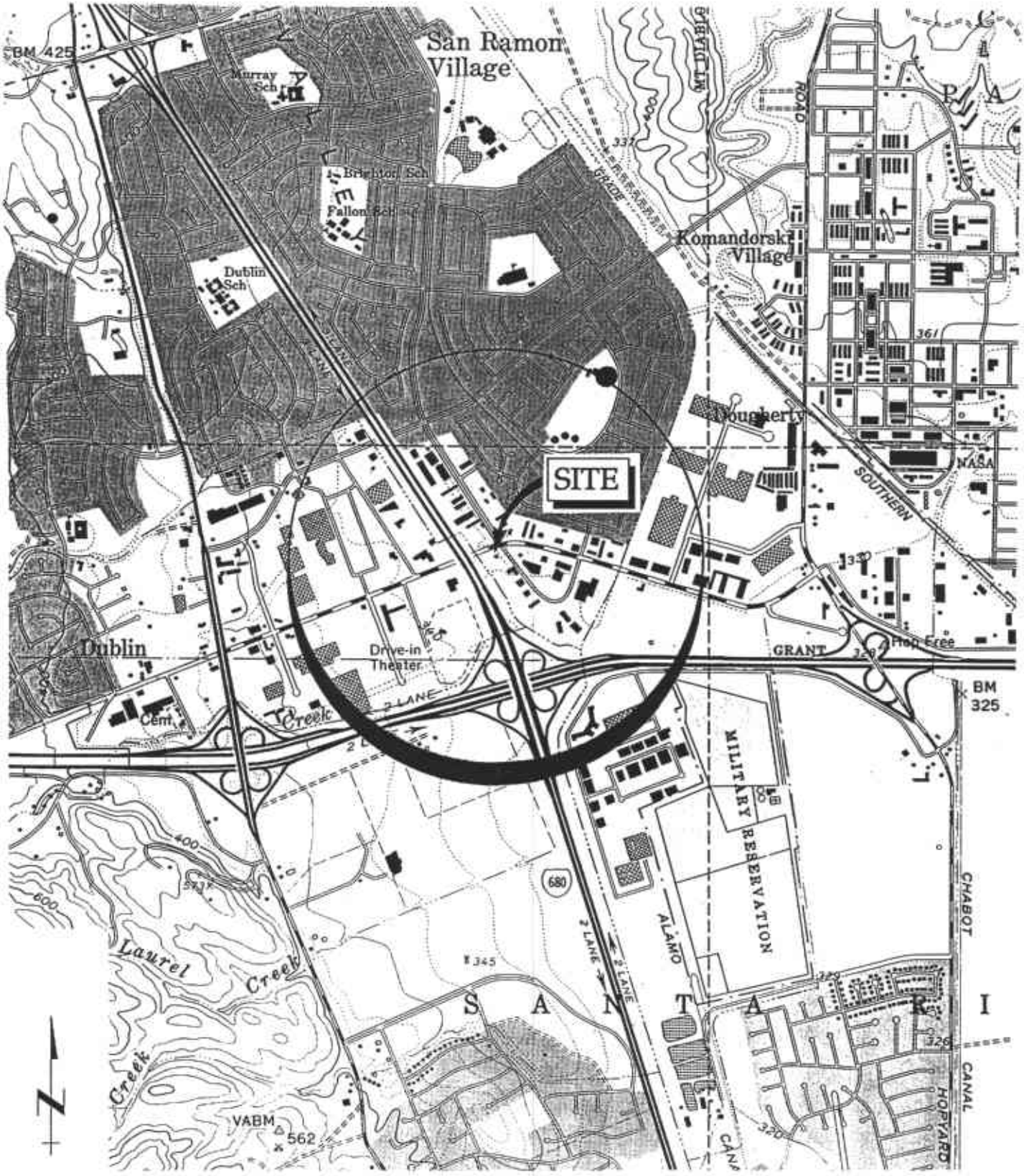
ENCLOSURES

Figure 1: Site Location Map
Figure 2: Potentiometric Surface of Shallow Groundwater, June 5, 1992
Table 1: Groundwater-Elevation Data
Table 2: Analytic Results: Groundwater Samples
SOP-4: Groundwater Purging and Sampling
SOP-8: Gauging Liquid Levels Using Water Level Probe or Interface Probe
Field Sampling and Monitoring Forms
Chain-of-Custody
Laboratory Analytic Reports



10/91

EXPLANATION

Site Location Map

Chevron Service Station #92582
Dublin, California

FIGURE

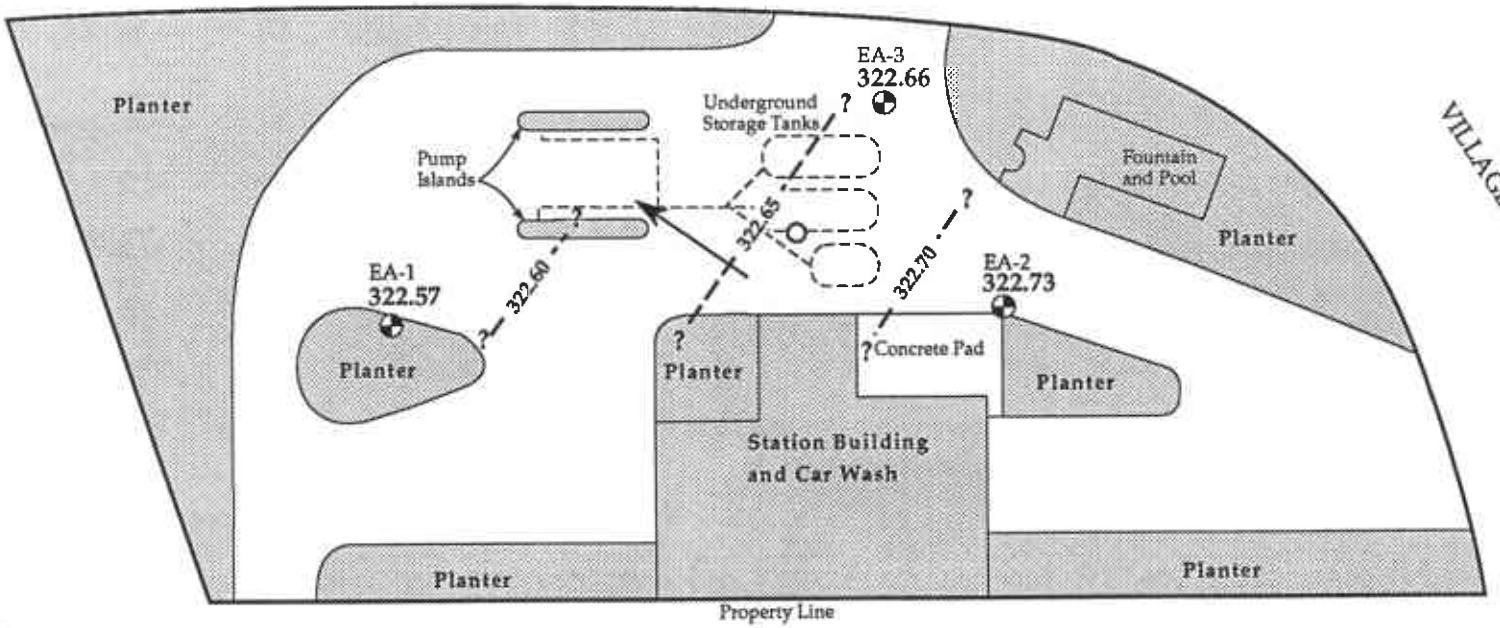
1

Map Reference: USGS topographic, 7.5 min. series, Dublin quadrangle

RESNA

17012.01

DUBLIN ROAD



7/92

EXPLANATION

EA-1 322.57	Monitor Well location and groundwater elevation, feet above mean sea level
	10" diameter PVC casing
322.70	Groundwater elevation contour, feet above mean sea level dashed where inferred, queried where uncertain
	Estimated direction of groundwater flow

Potentiometric Surface of Shallow Groundwater
June 5, 1992

Chevron Service Station #92582
Dublin, California

FIGURE
2

RESNA

17012.01

RESNA

TABLE 1. Groundwater-Elevation Data
Chevron Service Station #92582
Dublin, California

Well ID #	Date	TOC	DTW	Elev-W
		<----------ft---------->		
EA-1*	Oct 24, 1988	333.41	10.64	322.77
EA-1*	Nov 2, 1988	333.41	10.69	322.72
EA-1*	Dec 20, 1988	333.41	10.51	322.90
EA-1*	Mar 28, 1989	333.41	9.87	323.54
EA-1	Aug 2, 1989	333.41	10.34	323.07
EA-1	Nov 6, 1989	333.41	10.65	322.76
EA-1	Jan 25, 1990	333.41	10.60	322.81
EA-1	Apr 23, 1990	333.41	10.58	322.83
EA-1	Aug 1, 1990	333.41	10.88	322.53
EA-1	Oct 24, 1990	333.41	11.12	322.29
EA-1	Jan 31, 1991	333.41	11.16	322.25
EA-1	Aug 21, 1991	333.41	10.80	322.61
EA-1	Oct 7, 1991	333.41	10.79	322.62
EA-1	Jan 28, 1992	333.41	10.79	322.62
EA-1	Jun 5, 1992	333.41	10.84	322.57
EA-2*	Oct 24, 1988	332.59	9.70	322.89
EA-2*	Nov 2, 1988	332.59	10.03	322.56
EA-2*	Dec 20, 1988	332.59	9.98	322.61
EA-2*	Mar 28, 1989	332.59	8.80	323.79
EA-2	Aug 2, 1989	332.59	9.44	323.15
EA-2	Nov 6, 1989	332.59	9.53	323.06
EA-2	Jan 25, 1990	332.59	9.27	323.32
EA-2	Apr 23, 1990	332.59	9.35	323.24
EA-2	Aug 1, 1990	332.59	9.71	322.88
EA-2	Oct 24, 1990	332.59	10.08	322.51
EA-2	Jan 31, 1991	332.59	10.21	322.38
EA-2	Aug 21, 1991	332.59	9.80	322.79
EA-2	Oct 7, 1991	332.59	9.98	322.61
EA-2	Jan 28, 1992	332.59	9.81	322.78
EA-2	Jun 5, 1992	332.59	9.86	322.73
EA-3*	Oct 24, 1988	333.64	11.03	322.61
EA-3*	Nov 2, 1988	333.64	11.03	322.61
EA-3*	Dec 20, 1988	333.64	10.96	322.68
EA-3*	Mar 28, 1989	333.64	9.77	322.87
EA-3	Aug 2, 1989	333.64	10.65	322.99
EA-3	Nov 6, 1989	333.64	10.78	322.86
EA-3	Jan 25, 1990	333.64	10.66	322.98

TABLE 1. Groundwater-Elevation Data (continued)
Chevron Service Station #92582
Dublin, California

Well ID #	Date	TOC	DTW	Elev-W
		<----------ft---------->		
EA-3	Apr 23, 1990	333.64	10.68	322.96
EA-3	Aug 1, 1990	333.64	11.03	322.61
EA-3	Oct 24, 1990	333.64	11.35	322.29
EA-3	Jan 31, 1991	333.64	11.52	322.12
EA-3	Aug 21, 1991	333.64	---	---
EA-3	Oct 7, 1991	333.64	11.15	322.49
EA-3	Jan 28, 1992	333.64	11.08	322.56
EA-3	Jun 5, 1992	333.64	10.98	322.66
PVC	Aug 2, 1989	---	9.83	---
PVC	Nov 6, 1989	---	---	---
PVC	Jan 25, 1990	---	---	---
PVC	Apr 23, 1990	---	---	---
PVC	Aug 1, 1990	---	---	---
PVC	Oct 24, 1990	---	---	---
PVC	Jan 31, 1991	---	---	---
PVC	Aug 21, 1991	---	---	---
PVC	Oct 7, 1991	---	---	---
PVC	Jan 28, 1992	---	---	---
PVC	Jun 5, 1992	---	---	---

NOTES:

TOC = Top-of-Casing Elevation
DTW = Depth to Water
Elev-W = Elevation of Water
ft = feet
PVC = 10" PVC Casing
* = Data obtained by EA Engineering, Science and Technology, Inc.
--- = Not Measured

TABLE 2. Analytic Results: Groundwater Samples
Chevron Station #92582
Dublin, California

Well ID #	Date	Lab	EPA Method	TPPH/TPH	B	T	E	X	1,2-DCA
				<----------ppb---------->					
EA-1*	Oct 17, 1988	NA	NA	<50.0	<0.5	<0.5	<0.5	<0.5	---
EA-1*	Dec 20, 1988	PACE	8015/8020	<50.0	<0.5	<0.5	<0.5	<0.5	---
EA-1*	Mar 28, 1989	PACE	8015/8020	<250	<0.5	<0.5	<0.5	<0.5	---
EA-1	Aug 2, 1989	CCAS	8260	<50.0	<0.1	<0.1	<0.1	<0.1	<0.1
EA-1	Nov 6, 1989	SAL	8015/8240	<500	<3.0	<5.0	<5.0	<5.0	<5.0
EA-1	Jan 25, 1990	SAL	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	<0.5
EA-1	Apr 23, 1990	SAL	8015/8020/8010	71	2	5	3	8	<0.5
EA-1	Aug 1, 1990	SAL	8015/8020	300	86	21	10	33	---
EA-1	Oct 24, 1990	SAL	8015/8020	280	69	13	11	16	---
EA-1	Jan 31, 1991	SAL	8015/8020	460	160	11	17	17	---
EA-1	Aug 21, 1991	SAL	8015/8020	2,400	400	220	44	120	---
EA-1D	Aug 21, 1991	SAL	8015/8020	2,300	390	210	42	120	---
EA-1	Oct 7, 1991		Well Not Sampled						
EA-1	Jan 28, 1992	SAL	8015/8020	3,600	320	360	110	310	---
EA-1D	Jan 28, 1992	SAL	8015/8020	3,000	290	320	99	270	---
EA-1	Jun 5, 1992	SAL	8015/8020	1,700	290	89	61	130	---
EA-2*	Oct 17, 1988	NA	NA	<50.0	<0.5	<0.5	<0.5	1.2	---
EA-2*	Dec 20, 1988	PACE	8015/8020	<50.0	<0.5	<0.5	<0.5	<0.5	---
EA-2*	Mar 28, 1989	PACE	8015/8020	<250	<2.0	<0.5	<0.5	<0.5	---
EA-2	Aug 2, 1989	CCAS	8260	<50.0	<0.1	<0.1	<0.1	<0.1	<0.1
EA-2	Nov 6, 1989	SAL	8015/8240	<500	<3.0	<5.0	<5.0	<5.0	<5.0
EA-2	Jan 25, 1990	SAL	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	<0.5
EA-2	Apr 23, 1990	SAL	8015/8020/8010	50	0.6	0.8	<0.5	2	<0.5
EA-2	Aug 1, 1990	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-2	Oct 24, 1990	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-2	Jan 31, 1991	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-2D	Jan 31, 1991	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-2	Aug 21, 1991	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-2	Oct 7, 1991		Well Not Sampled						
EA-2	Jan 28, 1992	SAL	8015/8020	<50	0.8	<0.5	<0.5	<0.5	---
EA-2	Jun 5, 1992	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---

TABLE 2. Analytic Results: Groundwater Samples (continued)
Chevron Station #92582
Dublin, California

Well ID #	Date	Lab	EPA Method	TPPH/TPH	B	T	E	X	1,2-DCA
				<----------ppb---------->					
EA-3*	Oct 17, 1988	NA	NA	<50.0	1.8	<0.5	<0.5	3.0	---
EA-3*	Dec 20, 1988	PACE	8015/8020	240	90.0	1.2	13.0	3.3	---
EA-3*	Mar 28, 1989	PACE	8015/8020	2,300	380.0	130.0	240.0	910.0	---
EA-3	Aug 2, 1989	CCAS	8260	<50.0	<0.1	<0.1	<0.1	<0.1	<0.1
EA-3	Nov 6, 1989	SAL	8015/8240	<500	<3.0	<5.0	<5.0	<5.0	<5.0
EA-3	Jan 25, 1990	SAL	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	<0.5
EA-3	Apr 23, 1990	SAL	8015/8020/8010	<50	0.8	<0.5	0.9	<0.5	<0.5
EA-3	Aug 1, 1990	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-3	Oct 24, 1990	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-3	Jan 31, 1991	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
EA-3	Aug 21, 1991		Well not sampled						
EA-3	Oct 7,1991	SAL	8015/8020	180	40	20	4.7	8.4	---
EA-3D	Oct 7, 1991	SAL	8015/8020	200	43	17	4.1	6.7	---
EA-3	Jan 28, 1992	SAL	8015/8020	640	69	85	13	46	---
EA-3	Jun 5, 1992	SAL	8015/8020	250	83	8.3	3.0	9.5	---
PVC	Aug 2, 1989	CCAS	8260	100,000	8,700	14,000	1,700	17,000	50
PVC-D	Aug 2, 1989	CCAS	8260	110,000	9,200	14,000	1,800	13,000	50
PVC	Nov 6, 1989	---	---	---	---	---	---	---	---
PVC	Jan 25, 1990	---	---	---	---	---	---	---	---
PVC	Apr 23, 1990	---	---	---	---	---	---	---	---
PVC	Aug 1, 1990	---	---	---	---	---	---	---	---
PVC	Oct 24, 1990	---	---	---	---	---	---	---	---
EB*	Mar 28, 1989	PACE	8015/8020	<250.0	<0.5	<0.5	<0.5	<0.5	---
TB	Jul 28, 1989	CCAS	8260	<50.0	<0.1	<0.1	<0.1	<0.1	<0.1
TB	Nov 6, 1989	SAL	8015/8240	<500	<3.0	<5.0	<5.0	<5.0	<5.0
TB	Jan 25, 1990	SAL	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	NA
TB	Apr 23, 1990	SAL	8015/8020/8010	<50	<0.5	<0.5	<0.5	<0.5	<0.5
TB	Aug 1, 1990	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
TB	Oct 24, 1990	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
TB	Jan 31, 1991	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
TB	Aug 21, 1991	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
TB	Oct 7, 1991	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
TB	Jan 28, 1992	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
TB	Jun 5, 1992	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---

TABLE 2. Analytic Results: Groundwater Samples (continued)
Chevron Station #92582
Dublin, California

NOTES:

TPPH	= Total Purgeable Petroleum Hydrocarbons as gasoline
TPH	= Total Petroleum Hydrocarbons as gasoline
B	= Benzene
T	= Toluene
E	= Ethylbenzene
X	= Total Xylenes
1,2-DCA	= 1,2-Dichloroethane
ppb	= parts-per-billion
D	= Duplicate analysis
PVC	= 10" PVC casing
EB	= Equipment Blank
TB	= Travel Blank
*	= Sample collected by EA Engineering, Science and Technology, Inc.
NA	= Not Available
---	= Not analyzed/Not applicable
<	= Less than the detection limit
Gas	= Gasoline
PACE	= Pace Laboratories, Inc.
CCAS	= Central Coast Analytical Laboratories, Inc.
SAL	= Superior Precision Analytical

RESNA

STANDARD OPERATING PROCEDURES
RE: GROUNDWATER PURGING AND SAMPLING
SOP-4

Prior to water sampling, each well is purged by evacuating a minimum of three well-casing volumes of groundwater or until the temperature, conductivity, and pH of the discharge water stabilize. If a well is purged dry before three casing volumes have been removed, the sample will be taken after the well has recovered to within 80 percent of the static water level.

The sampling equipment consists of either a teflon or steam-cleaned PVC bailer, a stainless steel bladder pump with a teflon bladder, or submersible stainless steel pump. If the sampling system is dedicated to the well, then the bailer is made of teflon, and the bladder pump is PVC with a polypropylene bladder. A submersible stainless steel and teflon electric pump will be used for purging larger volume wells. Forty milliliter (ml) glass volatile-organic-analysis (VOA) vials, with teflon septa, are used as sample containers. For other analyses the appropriate EPA approved sampling container is used.

The groundwater sample is decanted into each VOA vial in such a manner that there is a meniscus at the top of the vial. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information should include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

For quality control purposes, a duplicate water sample is collected from each well. This sample is put on hold at the laboratory. A trip blank is prepared at the laboratory and placed in the transport cooler. It remains with the cooler and is analyzed by the laboratory along with the groundwater samples. A field blank is prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a pump or bailer has been steam-cleaned, prior to use in a second well, and is analyzed along with the other samples. The field blank demonstrates the quality of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all the well-development and water sampling equipment that is not dedicated to a well is steam-cleaned between each well. As a second precautionary measure, wells will be sampled in order of least to highest concentrations as established by previous analyses.

RESNA

STANDARD OPERATING PROCEDURES
RE: GAUGING LIQUID LEVELS USING WATER LEVEL PROBE OR INTERFACE PROBE
SOP-8

The complete list of field equipment for liquid level gauging is assembled in the Technical office prior to departure to the field. This includes the probe(s), light filter(s), and product bailer(s) to be used for liquid levels (tested in test well before departure). The field kit also includes cleaning supplies (buckets, TSP, spray bottles, and deionized water) to clean the equipment between gauging wells.

When using the water level probe to gauge liquid levels, the probe tip is lowered into the well until the unit sounds. The top-of-casing (TOC) point is determined. This point is marked with a dot or a groove, or is an obvious high point on the casing, or is the north end of the casing. The place on the probe-cord that corresponds with this TOC point is marked and an engineer's tape is used to measure the distance between the probe end and marking on the cord. This measurement is then recorded on the liquid level data sheet as depth to water (DTW).

When using the interface probe to gauge liquid levels, the probe is first grounded by clamping it to the metal stove pipe or another metal object nearby. When no ground is available, reproduceable measurements can be obtained by clipping the ground lead to the handle of the interface probe case. After grounding the probe, the top of the well casing is fitted with a light filter to insure that sunlight does not interfere with the operation of the probe's optical mechanisms. The probe tip is then lowered into the well and submerged in the groundwater. An oscillating (beeping) tone indicates that the probe is in water. The probe is slowly raised until either the oscillating tone ceases or becomes a solid tone. In either case, this is the depth-to-groundwater (DTW) measurement. The solid tone indicates that liquid hydrocarbon is present on top of the groundwater. To determine the thickness of the liquid hydrocarbon, the probe is slowly raised until the solid tone ceases. This is the depth-to-liquid hydrocarbon (DTLH) measurement. The process of lowering and raising the probe must be repeated several times to insure accurate measurements. DTW and DTLH measurements are recorded in hundredths of feet on the liquid level data sheet. When liquid hydrocarbon is found in a well, a product bailer must be lowered partially through the water/liquid hydrocarbon interface to confirm the thickness of liquid hydrocarbon on the water surface. This measurement is recorded on the data sheet as liquid hydrocarbon thickness (PT).

In order to avoid cross contamination of wells during the liquid level gauging process, wells are gauged in a clean to dirty order (where this information is available). In addition, any gauging equipment is cleaned with TSP and water and thoroughly rinsed with deionized water before daily use, before gauging another well on a site, and at the completion of daily use.

LIQUID-LEVEL DATA SHEET

Project No.	Project Name	Date	Initials
17012.01	DOBLIN	6.5.92	DKO

Well No.	HISTORIC DATA/DATE: DTLH	DTW	LHT	Sounded Depth	CURRENT DATA: DTLH	DTW	LHT	Sounded Depth	Method WLP / PB / IP *	Time	Comments
EA1						10.84				12:30	
EA2						9.86				12:25	
EA3						10.98				12:28	MICD DOOR

* WLP = Water-Level Probe
PB = Product Bailer
IP = Interface Probe

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
17012.01	PUBLIX	EA-1	6.5.92		DKO

WELL DATA

Well Depth (ft.) 37.7	Sounded Depth (ft.)	Well Type ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 10.84	Date/Time	
Well Diam. (in.) 4	LHC Present? ☐ Yes ☐ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft): 26.86

Volume (gal): 17.54

Volume to be Evacuated ☑ x3 ☐ x4: 52.61

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

- V_2 " casing = 0.163 gal / ft.
- V_3 " casing = 0.367 gal / ft.
- V_4 " casing = 0.653 gal / ft.
- $V_{4.5}$ " casing = 0.826 gal / ft.
- V_6 " casing = 1.470 gal / ft.
- V_8 " casing = 2.610 gal / ft.
- V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System ☐ Bladder Pump ☐ Bailer

PVC Bailer ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) / Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	14:50			
Start Time	14:05			
Minutes	45			
Amt Evac'd	53 gal	gal	gal	gal

Total Evac'd: _____ gal

Total Minutes: _____ min

Evac Rate: 1.18 gpm

Pumped Dry? ☐ Yes ☑ No — After (gal)

Depth to Water During Pumping (ft): 14.10 @ Time: 14:39

Depth to Water for 80% Recovery

Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours

% Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection

☑ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken: 14:50 — Date: 6-5-92

Depth to Water (ft): 13.50 — Refrigerated? ☑ Yes ☐ No

Sample Color: Clear — Odor: MILD

Sediment / Foreign Matter: none

Sampling Sequence

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
06052.01	40	V	HCl	8015/8020	SAL
01	〃	〃	〃	〃	〃
01	〃	〃	〃	〃	〃

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

1

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
17012.01	DUBLIN	EA-2	6.5.92	13:10	DKO

WELL DATA

Well Depth (ft.) 38.3	Sounded Depth (ft.) / Date/Time	Well Type: ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 9.86		
Well Diam. (in.) A	LHC Present? ☐ Yes ☑ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.	
1					umhos
2					
3					

EVACUATION

Initial Height of Water in Casing (ft): 28.44

Volume (gal): 18.57

Volume to be Evacuated: ☑ x3 ☐ x4 — 55.71

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

- V_2 " casing = 0.163 gal / ft.
- V_3 " casing = 0.367 gal / ft.
- V_4 " casing = 0.653 gal / ft.
- $V_{4.5}$ " casing = 0.826 gal / ft.
- V_6 " casing = 1.470 gal / ft.
- V_8 " casing = 2.610 gal / ft.
- V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System: ☑ Bladder Pump ☐ Bailer

PVC Bailer: ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) / Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	14:05			
Start Time	13:15			
Minutes	50			
Amt Evac'd	56 gal	gal	gal	gal

Total Evac'd: 56 gal

Total Minutes: 50 min

Evac Rate: 1.12 gpm

Pumped Dry? ☐ Yes ☑ No — After (gal)

Depth to Water During Pumping (ft): 12.90 @ 14.00 — Time

Depth to Water for 80% Recovery — Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours — % Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection: ☑ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken: 14.05 — Date: 6.5.92

Depth to Water (ft): 12.97 — Refrigerated? ☑ Yes ☐ No

Sample Color: clear — Odor: none

Sediment / Foreign Matter: none.

Sampling Sequence

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
050 02.02	40	V	HCl	8015/8020	SAL
.02	"	↓	↓	↓	↓
.02	"	↓	↓	↓	↓

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
17012.01	DOBLIN	EA-3	6-5-92	11:30	DKO

WELL DATA

Well Depth (ft.) 33.8	Sounded Depth (ft.) / Date/Time	Well Type: ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 10.98		
Well Diam. (in.) 4	LHC Present? ☐ Yes ☑ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft): 22.82

Volume (gal): 14.90

Volume to be Evacuated: ☑ x3 ☐ x4 — 44.70

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

- $V_{.5}$ " casing = 0.163 gal / ft.
- $V_{.75}$ " casing = 0.367 gal / ft.
- V_1 " casing = 0.653 gal / ft.
- $V_{1.25}$ " casing = 0.826 gal / ft.
- V_2 " casing = 1.470 gal / ft.
- V_3 " casing = 2.610 gal / ft.
- V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System: ☑ Bladder Pump ☐ Bailer

PVC Bailer: ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) / Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	13:15			
Start Time	12:30			
Minutes	45			
Amt Evac'd	45 gal	gal	gal	gal
Total Evac'd	gal			
Total Minutes	min			
Evac Rate	1.0 gpm			

Pumped Dry? ☐ Yes ☑ No — After (gal)

Depth to Water During Pumping (ft): 14.40 @ Time: 11:55

Depth to Water for 80% Recovery

Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours

% Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection: ☑ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken: 13:15 — Date: 6-5-92

Depth to Water (ft): 13.80 — Refrigerated? ☑ Yes ☐ No

Sample Color: none — Odor: ~~none~~ mild

Sediment / Foreign Matter: none

Sampling Sequence:

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
060592.003	40	V	HCl	8015/8020	SAL
.004	↓	↓	↓	↓	↓
.005	↓	↓	↓	↓	↓

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
17012.01	DUBLIN	TB-LB	6-5-92	—	DKO

WELL DATA

Well Depth (ft.)	Sounded Depth (ft.)	Well Type ☐ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.)	Date/Time	
Well Diam. (in.)	LHC Present? ☐ Yes ☐ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft)

Volume (gal)

Volume to be Evacuated ☐ x3 ☐ x4

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

V_2 " casing = 0.163 gal / ft.
V_3 " casing = 0.367 gal / ft.
V_4 " casing = 0.653 gal / ft.
$V_{4.5}$ " casing = 0.826 gal / ft.
V_6 " casing = 1.470 gal / ft.
V_8 " casing = 2.610 gal / ft.
V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System ☐ Bladder Pump ☐ Bailer

PVC Bailer ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) | Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time				
Start Time				
Minutes				
Amt Evac'd	gal	gal	gal	gal

Total Evac'd ____ gal

Total Minutes ____ min

Evac Rate ____ gpm

Pumped Dry? ☐ Yes ☐ No

After (gal)

Depth to Water During Pumping (ft)

Time

Depth to Water for 80% Recovery

Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours

% Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection ☐ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken: —

Date: 6-5-92

Depth to Water (ft): —

Refrigerated? ☒ Yes ☐ No

Sample Color: clear

Odor: none

Sediment / Foreign Matter: none

Sampling Sequence

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
TB-LB	40	V	HCl	602/8015	WAL
"	"	"	"	"	"

Container Codes: P = Plastic Bottle; V = VOA; B = Brown Glass; C = Clear Glass; Other: Describe

COMMENTS

Arrowhead D.I. water used for Tripblanks

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☑ No 13178

Chain-of-Custody-Record

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

Chevron Facility Number 92582
Facility Address DUBLIN
Consultant Project Number 17012.01
Consultant Name RESNA
Address NOVATO
Project Contact (Name) MARK FRYE / TOM ECHOLS
(Phone) 415 382 7400 (Fax Number) 415 382 7415

Chevron Contact (Name) CLINT ROOGER
(Phone) 510-842-8658
Laboratory Name SAL
Laboratory Release Number 261800
Samples Collected by (Name) D. OSAKI, M. FRYE
Collection Date 6-5-92
Signature

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: 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
06052-01		3	W	D	1450	HCl	YES	X												NO CHARGE
06052-02		3	W	D	1405	HCl	YES	X												TB-LB
06052-03		3	W	D	1815	HCl	YES	X												
TB-LB		2	W	D	—	HCl	YES	X												

Please initial:
Samples Stored in ice.
~~Appropriate containers.~~
Samples preserved.
VOA's without headspace.
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	RESNA	6/10 5:45		Ex-It	
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	Ex-It	15:49 6-10			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Cecilia Y. Joaquin		6/10/92 4:55 pm

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

COC-3.DWG/03 91/HCH

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Resna/Western Geologic Resources
Attn: Tom Echols

Project 17012.01
Reported 06/16/92

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
13178- 1	06052-01	06/05/92	06/15/92	Water
13178- 2	06052-02	06/05/92	06/12/92	Water
13178- 3	06052-03	06/05/92	06/15/92	Water
13178- 4	TB-LB	06/05/92	06/15/92	Water

RESULTS OF ANALYSIS

Laboratory Number:	13178- 1	13178- 2	13178- 3	13178- 4
Gasoline:	1700	ND<50	250	ND<50
Benzene:	290	ND<0.5	63	ND<0.5
Toluene:	89	ND<0.5	8.3	ND<0.5
Ethyl Benzene:	61	ND<0.5	3.0	ND<0.5
Xylenes:	130	ND<0.5	9.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L

RECEIVED
JUN 18 1992
Approved
Job #
Copy To

Certified Laboratories

Superior Precision Analytical, Inc.
1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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: 13178

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	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	200 ng	94/96	1.8	76-111
Benzene:	200 ng	97/102	4.5	78-110
Toluene:	200 ng	97/102	5.0	78-111
Ethyl Benzene:	200 ng	103/108	4.7	78-118
Xylenes:	600 ng	99/103	4.5	73-113

Richard Srna, Ph.D.
Laboratory Director