2nd 2nd - 0.3

Chevron

Chevron U.S.A. Products Company
6001 Bollinger Canyon Rd., Bldg. L
P.O. Box 5004
San Ramon, CA 94583-0804

Site Assessment & Remediation Group
Phone (510) 842-9500

December 13, 1994

Ms. Eva Chu
Alameda County Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

check to see GW results in Oct 19, 1994 report from BlaineTech
Need for off site investigation to delineate plume.
What's happening w/ VE system?

Re: Former Chevron Station # 9-2582, 7240 Dublin Blvd., Dublin, CA
Attached Environmental Assessment Report (GTI, 11/28/94)

Dear Ms. Chu:

Attached you will find a report dated November 28, 1994, which was prepared by Chevron's consultant, Groundwater Technology Incorporated (GTI), to describe results of additional site assessment performed on September 13, 1994.

The objective of the additional site assessment was to further define the extent of groundwater contamination beneath the subject site. GTI drilled three soil borings, collected soil samples, and installed groundwater monitoring wells in each boring. TPHGas and BTEX constituents were detected in soil at each well location. The residual hydrocarbon contamination detected at each well is indicative of a "smeared" zone within the capillary fringe.

Groundwater samples were collected from the new wells on October 4, 1994 and results were reported in Blaine Tech's quarterly monitoring report dated, October 19, 1994. Detectable concentrations of dissolved hydrocarbons were measured at each new well. The non-detect limits of the plume were not defined. Subsequent monitoring results should help to define consistent trends of the contaminant plume and should also provide additional information pertaining to the effectiveness of the onsite remediation system. still in use? No not since Dec 1993

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

Sincerely,

Brett L. Hunter

Brett L. Hunter
Environmental Engineer
Site Assessment and Remediation

Attachment

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

GROUNDWATER TECHNOLOGY, INC.
1401 Halyard Drive, Suite 140, West Sacramento, CA 95691, (916) 372-4700
FAX (916) 372-8781

ENVIRONMENTAL ASSESSMENT REPORT
FORMER CHEVRON SERVICE STATION NO. 9-2582
7240 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

GTI Project 02070 0027

November 28, 1994

Prepared for:

Mr. Brett Hunter
Chevron U.S.A. Products Company
6001 Bollinger Canyon Road, Bldg L
San Ramon, CA 94583

Groundwater Technology, Inc.
Submitted by:

BRIAN MCALOON
Associate Geologist
Project Manager

Groundwater Technology, Inc.
Approved by:

JASON M. FEDOTA
Staff Geologist

E. K. SIMONIS, R.G.
Senior Environmental Geologist

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

92582EAR.RPT (CHV-97)

CONTENTS

FIGURES

TABLES

APPENDIXES

1.0 INTRODUCTION

This report is submitted by Groundwater Technology, Inc. to summarize the methods and results of additional environmental assessment work conducted on September 13 and 23, 1994 at the former Chevron service station Number 9-2582 located at 7240 Dublin Boulevard, Dublin, California (Figure 1). All work was conducted in accordance with Groundwater Technology's *Work Plan for Additional Soil and Groundwater Assessment*, dated June 28, 1994, approved by the Alameda County Environmental Health Department. This work included conducting a background review of the site and immediate vicinity, collecting necessary permits, developing a health and safety plan for field activities, drilling three soil borings, obtaining soil samples for submittal to a California state-certified analytical laboratory, installing and developing a groundwater monitoring well in each of the borings, and preparation of this report.

2.0 ADDITIONAL ASSESSMENT WORK

2.1 Background Review/Permitting/Site-Specific Health and Safety Plan

Groundwater Technology conducted a technical review of all relevant information available prior to proceeding with site assessment work. Drilling/monitoring well installation permits were obtained from the Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7), and encroachment permits from the City of Dublin Public Works Department (City of Dublin) and Zone 7. Copies of permits are included in Appendix A.

Following a complete review of site condition, Groundwater Technology prepared a site-specific *Health and Safety Plan* as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The document was reviewed and signed by all Groundwater Technology personnel and subcontractors prior to commencement of work at the site.

2.2 Soil Borings

On September 13, 1994, Groundwater Technology supervised the drilling of three soil borings to a depth of 21.5 to 26.5 feet below grade utilizing a truck-mounted drill rig equipped with 8-inch outside-diameter hollow-stem augers. All drilling equipment was steam-cleaned prior to drilling each boring, and sampling equipment was washed in an Alconox (detergent) solution and rinsed with tap water between sampling intervals. All soil generated from the borings was placed on plastic

sheeting. Soil was removed from the site on September 16, 1994 by Integrated Wastestream Management and transported to Browning-Ferris Industries landfill in Livermore, California.

2.3 Soil Sampling

Soil samples were collected from each borehole at 5-foot intervals during drilling, beginning at approximately 5 feet below ground surface (BGS). Samples were collected using a 2.5-inch O.D. split-spoon sampler, lined with three 2-inch-diameter by 6-inch-long brass sample tubes. The sampler was driven 18 inches ahead of the augers at each sample point. Soil samples were field screened for hydrocarbon vapors using a photo-ionization detector (PID). Soil encountered was logged using the Unified Soil Classification System by a Groundwater Technology field geologist working under the supervision of a California registered geologist (Appendix B). One sample tube from each 5-foot interval was sealed, labeled and placed on ice containing an insulated container for transport under chain-of-custody to Sequoia Analytical (Sequoia), a California state-certified analytical lab in Sacramento.

Soil samples from the 10- and 15-foot depths BGS from each boring were selected for laboratory analysis. Samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), and total purgeable petroleum hydrocarbons as gasoline (TPH-G), using U.S. Environmental Protection Agency (EPA) method 5030/8020/modified 8015.

2.4 Groundwater Monitoring Well Installation and Development

A groundwater monitoring well was installed in each of the three borings. Monitoring wells were constructed of 2-inch diameter schedule 40 PVC blank casing and 0.020-inch slot well screen with flush threads. Well screen was installed in MW-2 at a depth of 5 to 20 feet BGS, and MW-1 and MW-3 at a depth of 5 to 25 feet BGS. A #3-sand filter pack was installed from the bottom of each borehole to 1 foot above the top of the sell screen. A well seal consisting of a bentonite layer of 1 to 1.5 feet thick overlain by neat cement (grout) to ground surface was installed in each well. Each well was secured by a locking expandable well cap and fitted with a traffic-rated well box set in concrete. Details of well construction are presented on the drilling logs (Appendix B). Locations of the three new monitoring wells, as well as previously installed wells on site, are shown on Figure 1.

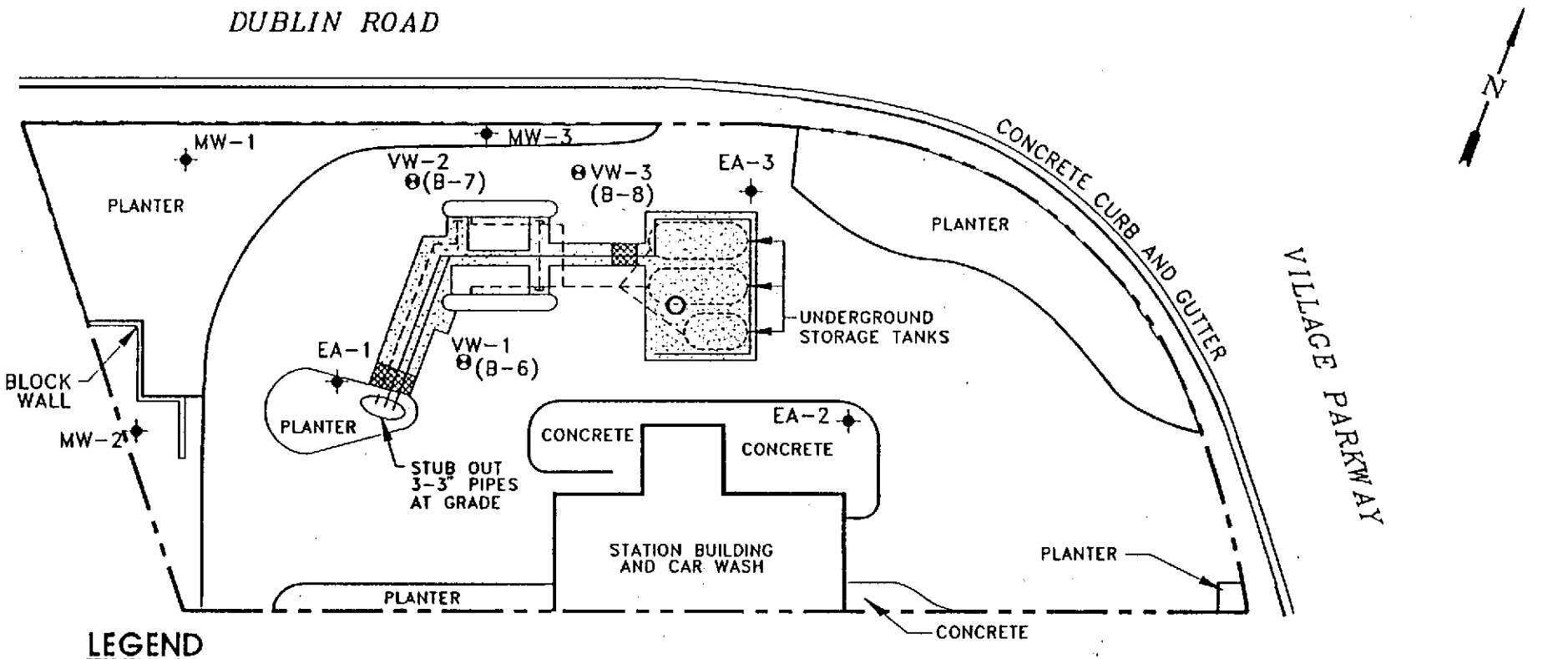
Completed wells were surveyed relative to mean sea level by Morrow Surveying for horizontal position and mean sea level elevation using an established City of Dublin bench mark (Appendix C). Elevations were obtained for tops-of-well-casing and rims of well boxes.

On September 23, 1994, MWs 1, 2, and 3 were developed by Groundwater Technology using a PVC bailer. Prior to development activities, depth to water was measured in each well relative to top-of-

well-casing to determine the static water level (Table 1). During well development approximately 10 well volumes of water was extracted from each well to remove fine-grained sediment and insure an even sand filter pack. Groundwater was manually purged from each well by bailer until well water became visibly clear. Temperature, pH and conductivity measurements of purged well water were recorded during development of each well (Appendix D). All water generated during development was pumped into a U.S. Department of Transportation-approved purge water trailer and transported to the Chevron Richmond, California refinery for recycling.

3.0 RESULTS OF SOIL SAMPLE ANALYSES

Table 2 summarizes the laboratory analytical results for soil samples collected on September 13, 1994. Hydrocarbons were detected in soil samples collected from all three borings, with highest benzene concentrations reported at 2.7 milligrams per kilogram (mg/kg) in sample collected 10 feet bgs in MW-2, and highest TPH-G concentration at 2,500 mg/kg in the 10 feet bgs sample in MW-3. Copies of laboratory analyses reports and chain-of-custody manifests for the soil samples collected September 13, 1994 are included in Appendix E.



LEGEND

- PROPERTY LINE
- NON-PERFORATED 3" PIPE, BURIED
- PERFORATED 3" PIPE, BURIED
- PROPOSED GROUNDWATER MONITORING WELL
- VADOSE MONITORING WELL
- GROUNDWATER MONITORING WELL
- BENTONITE GROUT
- PEA-GRAVEL BACKFILL
- 10" DIAMETER PVC CASING

GROUNDWATER TECHNOLOGY	0 FEET 40 SCALE APPROXIMATE	CLIENT: CHEVRON U.S.A. PRODUCTS CO. FORMER S.S. No. 9-2582	SITE PLAN WITH VADOSE MONITORING WELL LOCATIONS
FILE: 2582-VWL (1:40)	PROJECT NO.: 02070-0027	LOCATION: 7240 DUBLIN ROAD DUBLIN, CALIFORNIA	PM: / PE/RG: / FIGURE: 1
REV.:	DES.: JF / DET.: SP / DATE: 11-02-94		

Table 1
GROUNDWATER MONITORING WELL DATA
SEPTEMBER 23, 1994

FORMER CHEVRON SERVICE STATION #9–2582
7240 DUBLIN BLVD., DUBLIN CALIFORNIA

WELL NUMBER	TOC ELEVATION (feet, MSL)	DTB (feet)	DTW (feet)	WTE (feet)
MW–1	333.56	25.10	12.81	320.75
MW–2	329.18	20.05	8.56	320.62
MW–3	332.73	25.40	12.07	320.66

Explanation
All elevations are in feet relative to an arbitrary datum.
MSL = Mean sea level datum
TOC = Top of casing
DTB = Depth to bottom, measured from TOC
DTW = Depth to water, measured from TOC prior to well development 9/23/94
WTE = Water table elevation

WELLDATA.WK1 (CHV–97)

GROUNDWATER TECHNOLOGY

Table 2
SOIL SAMPLE ANALYTICAL RESULTS
SEPTEMBER 13, 1994

FORMER CHEVRON SERVICE STATION #9-2582
7240 DUBLIN BLVD., DUBLIN CALIFORNIA

SAMPLE NUMBER	DEPTH (feet BGS)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	XYLENES (mg/kg)	TPH-G (mg/kg)
MW-1-10	10	ND	0.0099	ND	ND	ND
MW-1-15	15	0.14	0.47	0.37	1.5	23
MW-2-10	10	2.7	19	15	78	980
MW-2-15	15	ND	ND	ND	ND	ND
MW-3-10	10	0.80	4.8	5.1	120	2,500
MW-3-15	15	0.21	0.48	0.32	1.5	37

Explanation
BGS = Below ground surface
mg/kg = Milligrams per kilograms, equivalent to parts per million (ppm)
ND = Not detected at or above the minimum detection limit (MDL)
See laboratory analytical reports for MDLs

SOILTAB1.WK1 (CHV-97)

GROUNDWATER TECHNOLOGY

APPENDIX A

WELL INSTALLATION AND ENCROACHMENT PERMITS

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 7240 Dublin Blvd.
Dublin, CA

CLIENT
Name Chevron USA Products Co.
Address 6001 Bollinger Canyon Rd Voice 510-842-8695
City San Ramon Zip 94583

APPLICANT
Name Groundwater Technology, Inc.
Address 1401 Halyard Dr., Ste 140 Fax 916-372-8781
City West Sacramento, CA Voice 916-372-4900 x 129
Zip 95691

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	X	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. C57 582696

WELL PROJECTS

Drill Hole Diameter	8	in.	Maximum Depth	25	ft.
Casing Diameter	2	in.	Number	3	
Surface Seal Depth	5	ft.			

GEOTECHNICAL PROJECTS

Number of Borings	___		Maximum Depth	___	ft.
Hole Diameter	___	in.			

ESTIMATED STARTING DATE 9-14-94
ESTIMATED COMPLETION DATE 9-14-94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S

FOR OFFICE USE

PERMIT NUMBER 94521
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Craig A. Mayfield Date 7 Sep 94

ENCROACHMENT PERMIT

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

PERMITTEE Chevron USA Products Co.

ADDRESS 6001 Bollinger Canyon Road

San Ramon, CA 94583 PHONE 842-8695

CONTRACTOR Groundwater Technology Co.

ADDRESS 1401 Halyard Drive #140

West Sacramento 95691 PHONE (916)372-4700 x129

FACILITY J-1 PERMIT NO. 95-002

LOCATION:

Line J1 @ 7240 Dublin Blvd.

DATE ISSUED 9/12/94 EXPIRATION DATE 2/11/95

PURPOSE OF PERMIT:

To conduct groundwater monitoring at an ex-gas station site.

FEES:	PERMIT	$ 10
	INSPECTION (EST).	$ 490
SURETY:	CASH	$ ---
	BOND $ ---	
	TOTAL	$ 500

PLAN REEFERENCE:

ANY REFUNDS OR CHARGES DUE WILL BE MADE UPON COMPLETION.

THIS PERMIT IS ISSUED PURSUANT TO ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ORDINANCE NO. 34 AND IS SUBJECT TO ALL THE GENERAL PROVISIONS SHOWN ON THE REVERSE SIDE HEREOF EXCEPT AS EXPRESSLY MODIFIED IN THE ADDITIONAL SPECIAL PROVISIONS LISTED BELOW. VIOLATION OF ANY PROVISION SHALL BE CAUSE FOR IMMEDIATE REVOCATION OF PERMIT.

SPECIAL PROVISIONS

SEE ATTACHED

NOTICE OF START OF WORK SHALL BE GIVEN TO THE ZONE 7 OFFICE, 5997 PARKSIDE DRIVE, PLEASANTON, CALIFORNIA 94566, PHONE (415) 484-2600, AT LEAST TWO WORKING DAYS BEFORE STARTING ANY WORK UNDER THIS PERMIT. FAILURE TO NOTIFY IS CAUSE FOR REVOCATION OF PERMIT AND REMOVAL OF WORK.

By _____, Applicant

APPROVED: GENERAL MANAGER, ZONE 7

By _____

APPLICANT'S COPY

94-74

CITY OF DUBLIN
PUBLIC WORKS DEPARTMENT
100 Civic Plaza
Dublin, California 94568
(510) 833-6630

ENCROACHMENT PERMIT

PERMIT TO DO WORK IN ACCORDANCE WITH CITY OF DUBLIN MUNICIPAL CODE CHAPTER 7.04 AND ANY SPECIAL REQUIREMENTS SHOWN OR LISTED HEREIN.

Applicant/Permittee:		
Name: Groundwater Technology	Permit Fee:	$ 10.00
Address: 1401 Halyard Dr. St. 140	Plancheck Fee:	$
West Sacramento, CA 95691	Resurfacing Surcharge:	$
Telephone 916 372-4700	Inspection Fees: PCC	$ 80.00
		$
		$
	Total Fees:	$
	Bond: Surety: $ 500.00 Cash:	$ 90.00
	Total Paid:	$
	Receipt No.	2907

PLEASE READ THIS PERMIT CAREFULLY. KEEP IT AT THE WORK SITE. TO ARRANGE FOR INSPECTION, PHONE 833-6630 AT LEAST 48 HOURS *BEFORE YOU START WORK.*

JOB LOCATION: Service Station sidewalk – Dublin Blvd & Village Parkway

DESCRIPTION OF WORK: (Attach 2 copies of plans. Attach additional pages if needed.)

Drill and Install Groundwater Monitoring wells. Have to block sidewalk for access.

Length of Excavation 0.75 l.f. Width NA l.f. Depth 30 ft.

U. S. A. IDENTIFICATION NUMBER (if applicable) 291522

ATTENTION IS DIRECTED TO THE GENERAL PROVISIONS PRINTED ON THE REVERSE SIDE OF THIS PERMIT AND TO THE FOLLOWING SPECIAL REQUIREMENTS:

1. Permittee shall provide and keep current a certificate of Public Liability and Workers Compensation Insurance which names the City of Dublin and its employees and agents as additional insureds.
2. Worksites left in an unsafe condition will be secured by the City Maintenance Department and the cost charged to the permittee.

Prosecution of Work: All work authorized by the permit shall be performed in a workmanlike, diligent, and expeditious manner, and must be complete to the satisfaction of the City Engineer.

Liability and Damages: The permittee shall be responsible for all liability imposed by law for personal injury or property damage which may arise out of the work permitted and done by permittee under this permit, or which may arise out of failure on the part of the permittee to perform his obligations under said permit in respect to maintenance and encroachment. The permittee shall protect and indemnify the City of Dublin, its officers and employees, and save them harmless in every way from all action by law for damage or injury to persons or property that may arise out of or be occasioned in any way because of his operations as provided in this permit.

Signature of Permittee:
By: [signature]
Date: 9/9/94

City Engineer
By: [signature]
Date of Issue: _____

Inspection Record (Note date, type of inspection, and comments.)

Completion Date: _____ Inspector: _____

APPENDIX B

DRILL LOGS AND WELL CONSTRUCTION SPECIFICATIONS

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-1

Project Chevron-Dublin — Owner Chevron USA Products Company
Location 7240 Dublin Boulevard, Dublin, CA — Proj. No. 02070 0027
Surface Elev. 333.8 ft. — Total Hole Depth 26.5 ft. — Diameter 8 in.
Top of Casing 333.56 ft. — Water Level Initial 18 ft. — Static 12.81 ft.
Screen: Dia 2 in. — Length 20 ft. — Type/Size 0.020 in.
Casing: Dia 2 in. — Length 5 ft. — Type Sch 40 PVC
Fill Material #3 Sand — Rig/Core CME-55/Split Spoon
Drill Co. SES, Inc. — Method Hollow Stem Auger/PID
Driller Morris Peterson — Log By Bruce Beale — Date 09/13/94 — Permit #
Checked By Ed Simonis — License No. RG#4422

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							Grass over dark brown silty CLAY (moist, no hydrocarbon odor)
2						CL	
4							Grayish brown silty CLAY (40, 60) with roots from nearby redwood tree (moist, no hydrocarbon odor)
6		1.0	MW-1 -5'	5 8 10		CL	
8							(grades dark gray with white chalky patches, very stiff)
10		1.0	MW-1 -10'	5 9 10		CL	
12							▼ Static 09/23/94
14							(grades very plastic, hydrocarbon odor)
16		80	MW-1 -15'			CL	
18							▽ Encountered Water, 09/13/94, 10:30am.
20		3.0	MW-1 -20'	3 5 8			Mottled gray, greenish gray, and brown silty CLAY (moist to wet, no hydrocarbon odor)
22						CL	
24						CL	

GROUNDWATER TECHNOLOGY

Drilling Log

Monitoring Well MW-1

Project Chevron-Dublin Owner Chevron USA Products Company
Location 7240 Dublin Boulevard, Dublin, CA Proj. No. 02070 0027

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							
26		2	MW-1 -25'	3 4 6		CL	Tan and light gray CLAY (wet, no hydrocarbon odor) End of boring. Installed monitoring well.
28							
30							
32							
34							
36							
38							
40							
42							
44							
46							
48							
50							
52							
54							
56							

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-2

Project Chevron-Dublin — Owner Chevron USA Products Company
Location 7240 Dublin Boulevard, Dublin, CA — Proj. No. 02070 0027
Surface Elev. 329.4 ft. — Total Hole Depth 21.5 ft. — Diameter 8 in.
Top of Casing 329.18 ft. — Water Level Initial 16.5 ft. — Static 8.5 ft.
Screen: Dia 2 in. — Length 15 ft. — Type/Size 0.020 in.
Casing: Dia 2 in. — Length 5 ft. — Type Sch 40 PVC
Fill Material #3 Sand — Rig/Core CME-55/Split Spoon
Drill Co. SES, Inc. — Method Hollow Stem Auger/PID
Driller Morris Peterson — Log By Bruce Beale — Date 09/13/94 — Permit #
Checked By Ed Simonis — License No. RG#4422

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						GC	Brown gravelly SAND SILT CLAY mixture (dry, no hydrocarbon odor)
6		1	MW-2 -5'	7 8 9		CL	Dark brown-gray mottled with tan and brown-orange silty CLAY (30, 70) (dry to moist, plastic, no hydrocarbon odor)
8							Static 09/23/94
10		25	MW-2 -10'	3 5 8		CL	Dark gray with brown mottling, sandy silty CLAY (5, 10, 85) with white calc areous specks (moist, moderate hydrocarbon odor)
14							Dark brown, silty CLAY (10, 90) (moist to wet, plastic, increasing hydrocarbon odor)
16		18	MW-2 -15'	3 5 8		CL	Encountered Water, 09/13/94, 10:30am.
20		2	MW-2 -20'	2 4 8		CL	Mottled green-gray and brown gray CLAY (moist to wet, no hydrocarbon odor)
							End of boring. Installed monitoring well.

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-3

Project Chevron-Dublin Owner Chevron USA Products Company
Location 7240 Dublin Boulevard, Dublin, CA Proj. No. 02070 0027
Surface Elev. 333.1 ft. Total Hole Depth 26.5 ft. Diameter 8 in.
Top of Casing 332.73 ft. Water Level Initial 18 ft. Static 12.07 ft.
Screen: Dia 2 in. Length 20 ft. Type/Size 0.020 in.
Casing: Dia 2 in. Length 5 ft. Type Sch 40 PVC
Fill Material #3 Sand Rig/Core CME-55/Split Spoon
Drill Co. SES, Inc. Method Hollow Stem Auger/PID
Driller Morris Peterson Log By Bruce Beale Date 09/13/94 Permit #
Checked By Ed Simonis License No. RG#4422

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							Grass over gray brown silty CLAY with pieces of glass
2						CL	(grades with chunks of concrete)
4							Mottled brown and tan silty CLAY (30, 70) with white calcareous specks (moist, no hydrocarbon odor)
6		0	MW-3 -5'	4 8 5			
8						CL	
10		160	MW-3 -10'	2 3 7			Dark gray-brown silty CLAY (40, 60) (stiff, moist/dry, non plastic, moderate to strong hydrocarbon odor)
12						CL	Static 09/23/94
14							Mottled gray/brown-gray CLAY (30, 70) with pale gray chalky patches (moist, plastic, moderate hydrocarbon odor)
16		30	MW-3 -15'	2 3 6		CL	
18							Encountered Water, 09/13/94, 17:10pm.
20		3	MW-3 -20'	2 3 8			Mottled gray and brown silty sandy CLAY (10, 40, 50) (moist, very slight hydrocarbon odor)
22						CL	
24						CL	

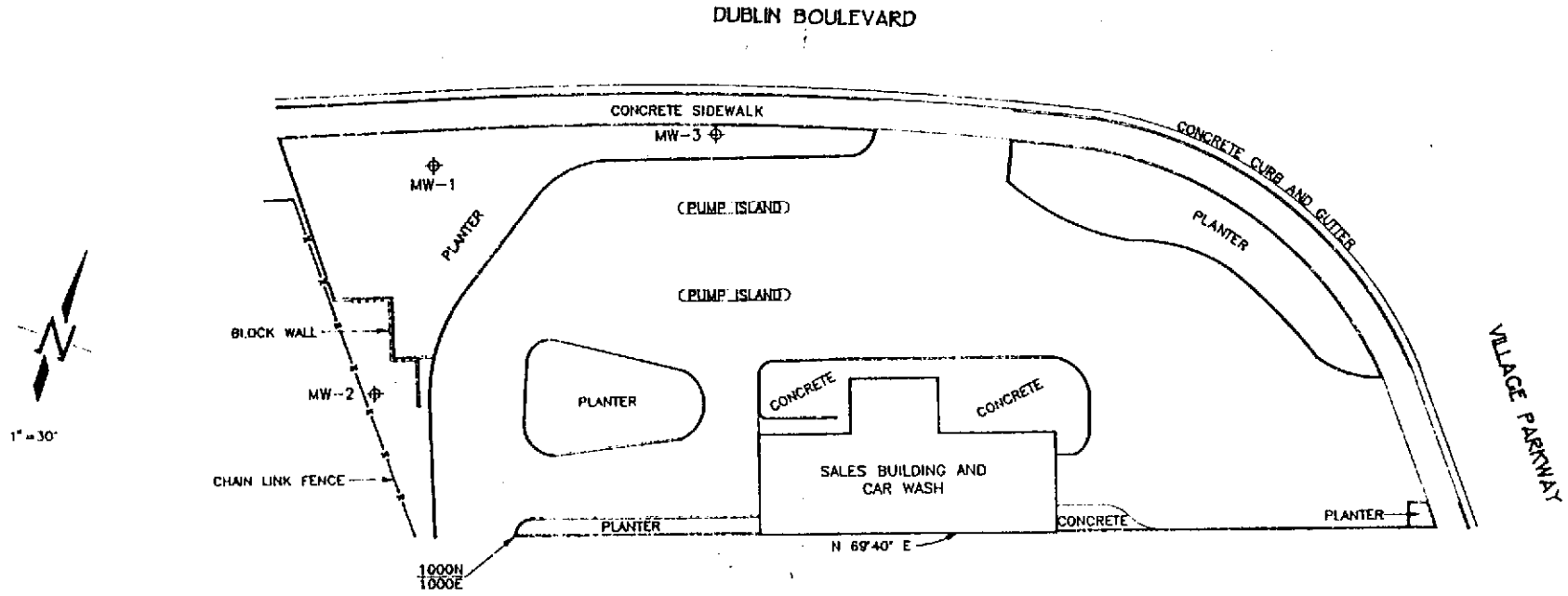
GROUNDWATER TECHNOLOGY

Drilling Log

Monitoring Well MW-3

Project Chevron-Dublin Owner Chevron USA Products Company
Location 7240 Dublin Boulevard, Dublin, CA Proj. No. 02070 0027

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							(grades silty clay (20, 80) with light gray irregular-shaped hard calcareous concentrations to 1"long, no hydrocarbon odor)
26		0	MW-3 -25'	3 5 7		CL	End of boring. Installed monitoring well.
28							
30							
32							
34							
36							
38							
40							
42							
44							
46							
48							
50							
52							
54							
56							



DESCRIPTION	NORTHING	EASTING	ELEV (PVC)	ELEV (RIM)
MW-1	1084.6	947.8	333.56	333.8
MW-2	1023.3	953.5	329.18	329.4
MW-3	1117.1	1013.9	332.73	333.1

BASIS OF ELEVATION: CITY OF DUBLIN BENCH MARK DUBVIL 1979 ELEV. 333.692. BRASS DISK AT NOSE OF DUBLIN BOULEVARD MEDIAN ISLAND ON EAST SIDE OF VILLAGE PARKWAY.

BASIS OF BEARING: ASSUMED SOUTHERLY SIDE OF BUILDING AS N 69° 40' E AS SCALED FROM THOMAS BROTHERS MAP.

0 15 30 60 90
SCALE IN FEET

LICENSED LAND SURVEYOR
TOM O. MORROW
No. 5961
STATE OF CALIFORNIA

LICENSE EXPIRES JUNE 30, 1995.

MONITOR WELL EXHIBIT
PREPARED FOR:
GROUNDWATER TECHNOLOGY

FORMER CHEVRON S.S. NO. 9-2582
7240 DUBLIN BLVD.
DUBLIN, CALIFORNIA

Date: September, 1994 | Scale: 1"=30'

Morrow Surveying
1450 Harbor Boulevard
Suite D
West Sacramento
California 95691
Tel. (916) 372-8124
FAX (916) 372-8538

Revisions:

Sheet 1 Of 1

FB 396 2730-018

APPENDIX D

WELL DEVELOPMENT DATA

WORK REQUEST FORM

JOB NAME:	Chevron/Dublin	JOB NUMBER:	02070-0027-030598
SITE ADDRESS:	7240 Dublin Blvd. Dublin, California	START DATE:	September 23, 1994
		DATE PREPARED:	9/15/94
PREPARED FOR:	Christine Larsen	PREPARED BY:	Bruce Beale

WORK DESCRIPTION:

Develop 3 monitoring wells

Call with questions

1) Check in with Beacon (formerly Chevron) station manager.

2) Develop two 25-foot, and one 20-foot groundwater monitoring wells.

3) Surge and bail the wells until water is clear, or until dry. Take pH, conductivity, and temperature readings. WHY IS THIS NESASSARY FOR DEVELOPING WELLS? NO ONE IN OUR OFFICE COULD FIGURE IT OUT. (PLEASE LET US KNOW)

- Record all pertinent information (i.e. DTW, gallons purged, recharge time, etc.).

4) Replace items found to be broken.

5) Secure sight

EQUIPMENT NEEDED:

Site Safety Plan and Safety Equipment

Purge water tank/trailer

Standard 2", 25-foot well development equipment (screen interval is 5' to 25' below grade).

GENERAL INFORMATION:

Chevron contact: Brett Hunter (510) 842-8685

GTI PM: Jason Fedota (916) 372-4700

Send copies to GTI, West Sac. office.

AUTHORIZATION _____

GROUNDWATER GAUGING FORM

JOB NAME: Chevron/Dublin
JOB NUMBER: 02070-0027-030598
IP#: 1-7
DATE: 9/23/94
MEASURED TO TOC OR GRADE? TOC

WELL I.D.	DTB	WELL DIAM.	WELL ELEV. GRADE	DTW	DTP	PT	80% RECHG.	ELEV. WATER	COMMENTS Please note if well needs locking cap or street box repai
MW-1	25'.10	2"		12.81					
MW-2	20'.05	2"		8.56					
MW-3	25'.40	2"		12.07					

SITE VISITATION REPORT

Project: Chevron/Dublin Date: 9/23/94 Project No.: 02070-0027-030598

Name(s) Hector Marino Did you call in? Yes (No)

Arrival Time: 10:00 Departure Time: 12:00 Who did you call? ____

Weather Notations: SUN (CLOUDY) (RAIN) SNOW Temperature: 70 °F

PURPOSE OF VISIT

X	GAUGE WELLS		SURVEY		INSTALL EQUIPMENT
	BAIL SEPARATE-PHASE		MONITOR VAPORS		INSTALL SYSTEM
	SAMPLE A/S INF EFF		SAMPLE CARBON	X	Develop three wells
	SYSTEM CHECK		BATCH FEED		
	SAMPLE WELLS		EQUIPMENT REPAIR		

DRUM INVENTORY

0	WATER		CARBON	TOTAL OPEN TOP	
	SOIL		EMPTY	TOTAL BUNG TOP	

SAMPLE INFORMATION

SAMPLED: ____ YES X NO

PARAMETERS: ____

STATION NO: ____

____ WATER ____ SOIL LABORATORY: ____

____ AIR ____ OTHER LAB RELEASE NO: ____

REMEDIATION SYSTEM

FLOW TOTALIZER: ____ AIR VELOCITY: ____

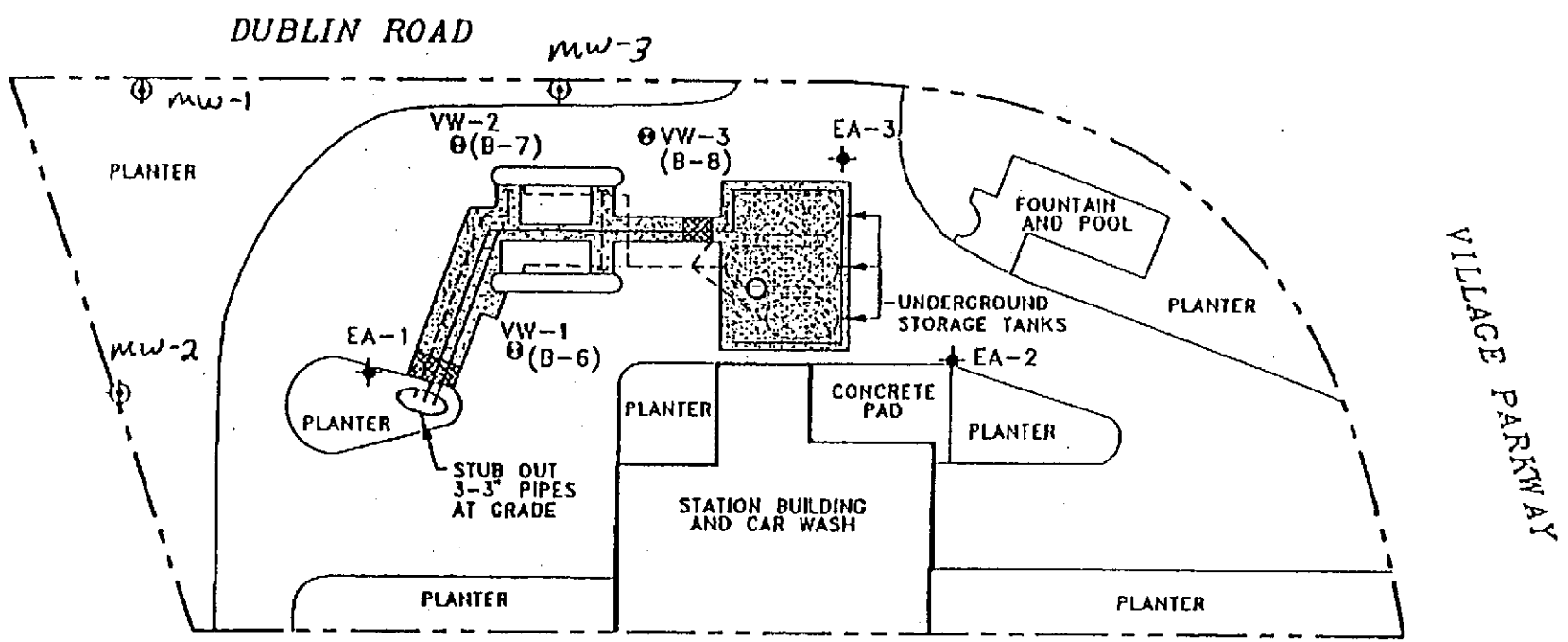
FLOW RATE: ____ PID INF: ____

% LEL: ____ PID EFF: ____

DESCRIPTION OF ACTIVITIES ON SITE AND NOTES

SURGED EACH WELL APROX 15-20 MIN, BAILD and ~~RE~~ TOOK READINGS BETWEEN BAILS WELLS CLEARED UP GOOD. CAPT AND LOCKS IN GOOD WORKING ORDER.

DESCRIPTION OF ACTIVITIES ON SITE AND NOTES (cont)



LEGEND

- PROPERTY LINE
- NON-PERFORATED 3" PIPE, BURIED
- PERFORATED 3" PIPE, BURIED
- PROPOSED GROUNDWATER MONITORING WELL
- VADOSE MONITORING WELL
- GROUNDWATER MONITORING WELL
- BENTONITE GROUT
- PEA-GRAVEL BACKFILL
- 10" DIAMETER PVC CASING

GROUNDWATER TECHNOLOGY

0 FEET 40
SCALE
APPROXIMATE

FILE: 2582-VWL (1:40)
PROJECT NO.: 02070-
REV.:

CLIENT: CHEVRON U.S.A. PRODUCTS CO.
FORMER S.S. No. 9-2582
LOCATION: 7240 DUBLIN ROAD
DUBLIN, CALIFORNIA
DES.: JF
DET.: SP
DATE: 6/23/94

SITE PLAN WITH VADOSE MONITORING WELL LOCATIONS

PM:
PE/RG: 2ei
FIGURE: 1

Project Name: Chevron - Dublin Date: 9/23/94

Site Address: 7240 Dublin Blvd Page 1 of 3

Project Number: 020900027 ~~.0610~~ 030598 Project Manager: Ken Johnson

Well ID: MW-2

Well Diameter: 2

DTW Measurements:
Initial: 8.56 Calc Well Volume: ____ gal
Recharge: ____ Well Volume: ~~X~~ 10 18 gal

Purge Method
Peristaltic ____
Gear Drive ____
Submersible ____

Pump Depth ____ ft.
Hand Bailed X
Air Lift ____
Other ____

Instruments Used
YSI: X
Hydac: ____
Omega: ____
Other: ____

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	~~Turbidity~~ DTW	~~Comments~~ DTB
10:12 AM	20.9	1.80	6.47	5	8.56	HARD BOTTOM 20.05
10:40	20.9	1.82	6.48	10	12.92	HARD BOTTOM 20.05
10:46	20.0	1.80	6.48	15	19.30	HARD BOTTOM 20.05
10:49	20.0	1.77	6.52	20	16.33	HARD BOTTOM 20.05
10:57	20.3	1.76	6.54	25	17.35	HARD BOTTOM 20.05
11:00	20.6	1.75	6.57	30	13.35	HARD BOTTOM 20.05
Water	WAS	SILTY	Brown,	Around	15 gallon	Water
became	cloudy	at	30	water	was almost	clear.

Project Name: Chevron - DUBLIN Date: 4/23/94

Site Address: 7240 DUBLIN BLVD Page 2 of 3

Project Number: ~~02010~~ 02070027 ~~.0510~~ 030598 Project Manager: Ken Johnson

Well ID: MW-2

Well Diameter: 2

DTW Measurements:
Initial: 12.81 Calc Well Volume: _____ gal
Recharge: _____ Well Volume: x10 15 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

Instruments Used
YSI: X
Hydac: _____
Omega: _____
Other: _____

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	~~Turbidity~~ DTW	~~Comments~~ DTB
10:15 AM	18.8	19.9	6.92	5	12.81	24.00
11:00	18.9	19.9	6.92	10	15.30	25.10
11:21	18.9	19.8	6.93	15	15.29	25.10
11:27	19.0	20.1	6.96	20	14.05	25.10
11:30	19.1	20.0	6.99	25	14.09	25.10
11:35	18.8	2.03	7.03	30	15.08	25.10
Water cloudy, silty, almost clear at 30 gallons.						

Project Name: Chevron - DUBLIN Date: 4/23/94

Site Address: 7240 DUBLIN BLVD Page 3 of 3

Project Number: ~~98010~~ 0207000027 ~~.0598~~ 030598 Project Manager: Ken Johnson

Well ID: MW-3

Well Diameter: 2

DTW Measurements:
Initial: 12.07 Calc Well Volume: _____ gal
Recharge: _____ Well Volume x (6) 24 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

Instruments Used
YSI: X
Hydac: _____
Omega: _____
Other: _____

Time	Temp ~~X~~ C F	Conductivity	pH	Purge Volume Gallons	~~Turbidity~~ DTW	~~Comments~~ DTB
10:18am	20.3	3.19	7.03	5	12.07	SOFT BOTTOM 25.15
11:33	20.4	3.10	7.00	10	12.92	HARD BOTTOM 25.40
11:57	20.5	3.21	7.09	15	14.66	HARD BOTTOM 25.40
12:00	20.3	3.09	7.11	20	14.75	HARD BOTTOM 25.40
12:15	20.8	3.01	7.15	25	16.00	HARD BOTTOM 25.40
12:20	21.2	3.33	7.22	30	16.70	HARD BOTTOM 25.40
Water was tan and SILTY. Water became cloudy @ 10 gallons. Cleaned up at 20 gallons.						

APPENDIX E

LABORATORY REPORTS AND CHAIN-OF-CUSTODY MANIFESTS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Groundwater Technology	Client Project ID:	Chevron, 9-2582	Sampled: Sep 13, 1994
1401 Halyard Drive, Suite 140	Sample Matrix:	Soil	Received: Sep 14, 1994
West Sacramento, CA 95691	Analysis Method:	EPA 5030/8015/8020	Reported: Sep 29, 1994
Attention: Jason Fedota	First Sample #:	409-0651	Amended: Oct 6, 1994

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 409-0651 MW-1-10	Sample I.D. 409-0652 MW-1-15	Sample I.D. 409-0653 MW-2-10	Sample I.D. 409-0654 MW-2-15	Sample I.D. 409-0655 MW-3-10	Sample I.D. 409-0656 MW-3-15
Purgeable Hydrocarbons	1.0	N.D.	23	980	N.D.	2,500	37
Benzene	0.0050	N.D.	0.14	2.7	N.D.	0.80	0.21
Toluene	0.0050	0.0099	0.47	19	N.D.	4.8	0.48
Ethyl Benzene	0.0050	N.D.	0.37	15	N.D.	5.1	0.32
Total Xylenes	0.0050	N.D.	1.5	78	N.D.	120	1.5
Chromatogram Pattern:		--	Gasoline C6-C12	Gasoline C6-C12	--	Gasoline C6-C12	Gasoline C6-C12

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	50	1.0	100	1.0
Date Analyzed:	9/26/94	9/26/94	9/27/94	9/27/94	9/27/94	9/27/94
Instrument Identification:	GCHP-1	GCHP-1	GCHP-1	GCHP-1	GCHP-1	GCHP-1
Surrogate Recovery, %: (QC Limits = 70-130%)	91	*	85	86	96	*

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected at or above the reporting limit.

SEQUOIA ANALYTICAL
ELAP #1624
Wendy Amundsen for
Linda C. Schneider
Project Manager

Please Note:
*Matrix interference.

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Groundwater Technology
1401 Halyard Drive, Suite 140
West Sacramento, CA 95691
Attention: Jason Fedota

Client Project ID: Chevron, 9-2582
Matrix: Soil
QC Sample Goup: 4090651-656

Reported: Oct 6, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	K. Pocan	K. Pocan	K. Pocan	K. Pocan
Concentration Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
LCS Batch#:	LCS092794	LCS092794	LCS092794	LCS092794
Date Prepared:	9/27/94	9/27/94	9/27/94	9/27/94
Date Analyzed:	9/27/94	9/27/94	9/27/94	9/27/94
Instrument I.D.#:	GCHP-1	GCHP-1	GCHP-1	GCHP-1
LCS % Recovery:	87	86	87	87
Control Limits:	75-125	75-125	75-125	75-125
MS/MSD Batch #:	4091121A	4091121A	4091121A	4091121A
Date Prepared:	9/27/94	9/27/94	9/27/94	9/27/94
Date Analyzed:	9/27/94	9/27/94	9/27/94	9/27/94
Instrument I.D.#:	GCHP-1	GCHP-1	GCHP-1	GCHP-1
Matrix Spike % Recovery:	95	95	100	98
Matrix Spike Duplicate % Recovery:	90	85	90	88
Relative % Difference:	5.4	11	11	11

SEQUOIA ANALYTICAL

Wendy Amundsen

Linda C. Schneider for
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

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

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., Dublin, CA
Consultant Project Number 02070 0027
Consultant Name Groundwater Technology, Inc.
Address 1401 Harbor Bay Dr., W. Sacramento, CA 95691
Project Contact (Name) Jason Fedota
(Phone) (916) 372-4700 (Fax Number) (916) 372-8781

Chevron Contact (Name) Brett Hunter
(Phone) (510) 842-8695
Laboratory Name Sequoia Analytical
Laboratory Release Number 153997
Samples Collected by (Name) Bruce Beale
Collection Date 9/13/94
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)	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
MW-1-5		1	S	G	1015		yes								S4090657	HOLD
-10					1025			X		S4090658						
-15					1035			X				658				
-20					1045										S4090658	HOLD
-25					1055										659	HOLD
MW-2-5					1330										660	HOLD
-10					1340			X		S4090653						
-15					1345			X		↓ 654						
-20					1355										S4090661	HOLD
MW-3-5					1630										662	HOLD
-10					1635			X		S4090655						
-15					1650			X		↓ 656						
-20					1705										S4090663	HOLD
-25		↓	↓	↓	1715		↓								↓ 664	HOLD

NOTE: DO NOT BILL TB-LB SAMPLES

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GTI	9/14/94 1515	John Powell	SEQUOIA	9/14/94 1615
Relinquished By (Signature) John Powell	Organization SEQUOIA	Date/Time 9/14/94 1630	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time 9/14/94 1630

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