Chevron

Chevron Products Company
6001 Bollinger Canyon Road
Building L
San Ramon, CA 94583
P.O. Box 6004
San Ramon, CA 94583-0904

Marketing – Sales West
Phone 510 842-9500

December 30, 1996

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

Re: Chevron Station # 9-1924, 4904 Southfront Rd., Livermore, CA
Attached Environmental Assessment Report (GTI, 11/9/95)

Dear Ms. Chu:

Please find attached a report dated November 9, 1995 that was prepared by Chevron's consultant, Groundwater Technology, Inc. (GTI), to describe the field procedures and results of an environmental assessment performed southwest of the subject site during October, 1995.

During October, GTI drilled two soil borings southwest of the subject site and converted both to groundwater monitoring wells. Soil samples at ten feet below grade from both borings were submitted for analyses. Soil samples were analyzed for the presence of TPHGas and BTEX constituents. Petroleum hydrocarbons were not present above detection limits in both samples.

Both wells were developed and surveyed to mean sea level. Subsequent sampling of groundwater will be performed to delineate the extent of Chevron's dissolved hydrocarbon plume to the southwest.

I apologize for the late transmittal of this report. 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: Robert Merriken, Mobil Oil, 3225 Gallows Rd., Rm. 2M111, Fairfax, Virginia 22037
Scott Hooten, BP Oil, Northwest Division, 295 Southwest 41st Street, Renton, WA 98055
Larry Silva, Tosco NW, 601 Union Street, Suite 2500, Seattle, WA 98101
San Francisco Bay RWQCB, Oakland, 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
CHEVRON SERVICE STATION NO. 9-1924
4904 SOUTH FRONT ROAD
LIVERMORE, CALIFORNIA

GTI Project 02070 0004

November 9, 1995

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

Groundwater Technology, Inc.
Approved by:

Jason M. Fedota
Lead Geologist
Project Manager

Ed K. Simonis, R.G.
Senior Geologist

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

0004EAR.RPT(Chv647)

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1.0 INTRODUCTION

This report is submitted by Groundwater Technology, Inc. to summarize the methods and results of additional environmental assessment work conducted on October 2, 1995, at Chevron Service Station Number 9-1924 located at 4904 South Front Road, Livermore, California (Figure 1). All work was conducted in accordance with Groundwater Technology's *Work Plan for Additional Assessment*, dated May 4, 1994, which was approved by the County of Alameda Department of Environmental Health (DEH), Hazardous Materials Division. This work included conducting a background review of the site and immediate vicinity, contacting Underground Service Alert (USA) for marking of underground utilities, obtaining necessary permits, developing a health and safety plan for field activities, drilling and sampling two soil borings, 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.

A Drilling Permit was obtained from the Alameda County Flood Control and Water Conservation District Zone 7 agency. A copy of the permit is included in Appendix A.

Following a complete review of site conditions, Groundwater Technology prepared a site-specific *Health and Safety Plan* as required by the Occupational Safety and Health 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 October 2, 1995, Groundwater Technology supervised the drilling of off-site soil borings C-20 and C-21 to a depth of approximately 25 feet below ground surface (BGS) utilizing a truck-mounted drill rig equipped with 8-inch outside-diameter (O.D.) hollow-stem augers. All drilling equipment was steam-cleaned prior to drilling, and sampling equipment was washed in an Alconox (detergent) solution and rinsed with water between sampling intervals. All rinsate water was removed from the site by Groundwater Technology on October 12, 1995, and transported to the Chevron Richmond refinery for recycling. All soil generated from the borings was placed on and covered with plastic sheeting and temporarily stored on site pending removal and disposal by Integrated Wastestream Management, Inc., of Milpitas, California.

2.3 Soil Sampling

Soil samples were collected from boreholes C-20 and C-21 at 5-foot intervals during drilling, beginning at approximately 5 feet 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. Soil 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 in an insulated container for transport under chain-of-custody manifest to GTEL Environmental Laboratories, Inc., of Concord, California.

Soil samples collected at 10 feet BGS from borings C-20 and C-21, as well as a soil stockpile composite sample, were submitted for laboratory analysis. Samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), and total petroleum hydrocarbons-as-gasoline (TPH-G) using U.S. Environmental Protection Agency (EPA) methods 5030/8020/8015 modified, and total petroleum hydrocarbons-as-diesel (TPH-D) via EPA method 3550/8015 modified.

2.4 Groundwater Monitoring Well Installation and Development

A groundwater monitoring well was installed in each of borings C-20 and C-21 on October 2, 1995. The 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 at a depth of 10 to 25 feet BGS in each well. A #3-sand filter pack was installed in the annulus from the bottom of each borehole to 2 feet above the top of the well screen, followed by a well seal consisting of a 2-foot-thick bentonite layer overlain by neat cement (grout) to ground surface. 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 log (Appendix B). Figure 1 shows the location of C-20 and C-21 relative to previously installed monitoring wells at the site.

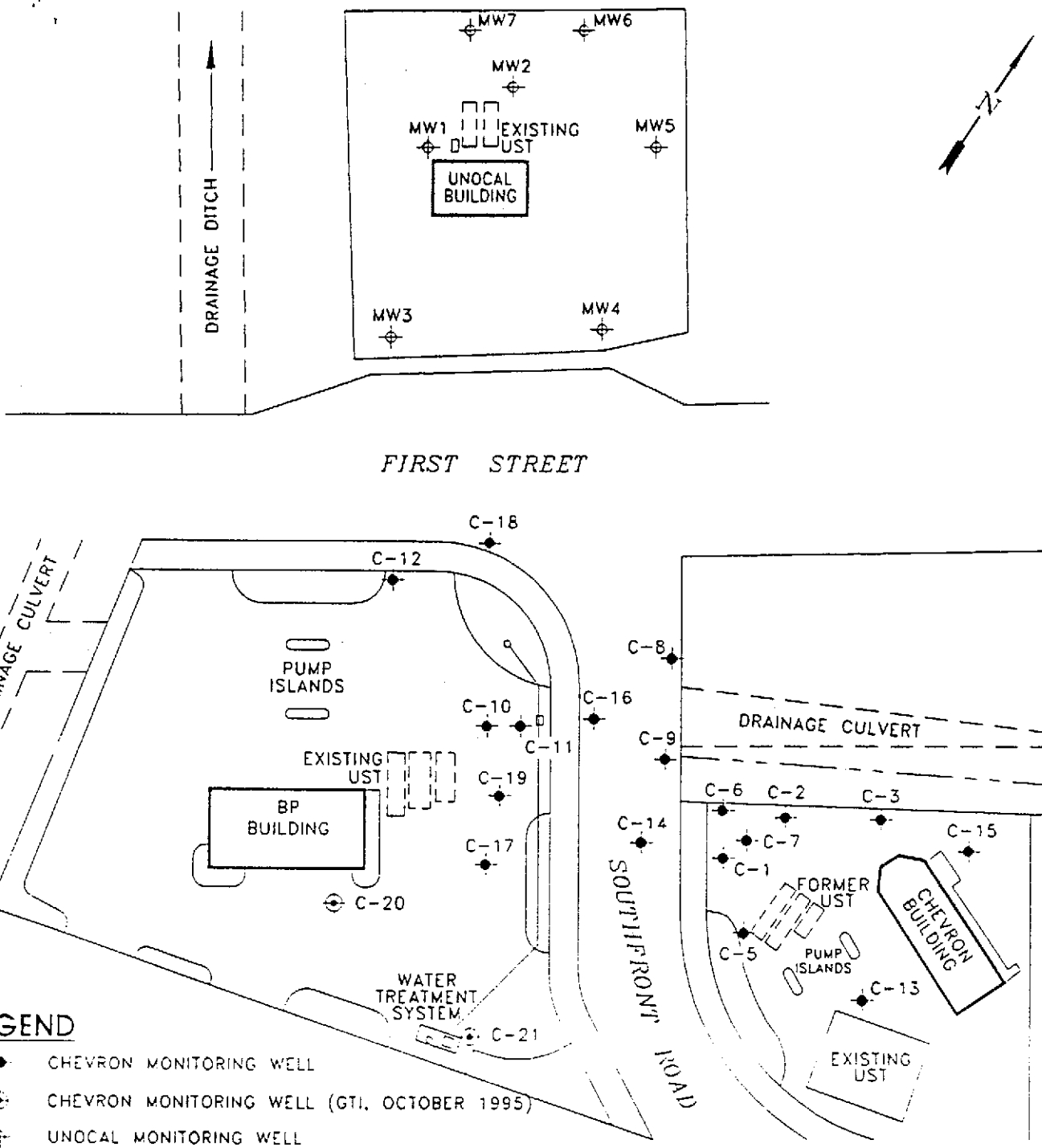
Completed wells were surveyed by Morrow Surveying for horizontal position and elevation relative to mean sea level datum using previously surveyed monitoring wells on site as a reference (Appendix C). Elevations were obtained for tops-of-well-casing and the well box rims.

On October 12, 1995, C-20 and C-21 were developed by Groundwater Technology using a PVC bailer. Prior to development activities, depth to water was measured in each new well relative to top-of-well-casing to determine the static water level (Table 1). The new wells were manually developed using a surge block and bailer in order to remove fine-grained sediment. Approximately 11 well volumes of water was extracted from each well. All water generated during development was pumped into a purge trailer and transported to the Chevron refinery in Richmond for recycling.

3.0 RESULTS OF SOIL SAMPLE ANALYSES

Table 2 summarizes the laboratory analytical results for soil samples collected on October 2, 1995. TPH-G and BTEX were not detected in any of the analyzed soil boring samples or stockpile samples.

Copies of laboratory analyses reports and chain-of-custody manifests for the soil samples are included in Appendix D.



GROUNDWATER TECHNOLOGY

0 FEET 80
SCALE

SITE PLAN

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION NO. 9-1924	FILE: 4233SMA (1:80)	PROJECT NO.: 02070-0004	PM	PE/RG
	REV. 1			
LOCATION: 4904 SOUTHFRONT ROAD LIVERMORE, CALIFORNIA	DES. BMcA	DET. SP	DATE: 10-31-95	FIGURE: 1

Table 1
GROUNDWATER MONITORING WELL DATA
October 12, 1995

CHEVRON SERVICE STATION #9-1924
4904 SOUTH FRONT ROAD, LIVERMORE, CALIFORNIA

WELL NUMBER	TOC ELEVATION (feet, MSL)	DTB (feet)	DTW (feet)	WTE (feet)
C-20	520.67	24.20	13.50	507.17
C-21	519.69	23.65	12.15	507.54

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 10/12/95
WTE = Water table elevation

0004WTA.WK1

GROUNDWATER TECHNOLOGY

Table 2
SOIL SAMPLE ANALYTICAL RESULTS

OCTOBER 2, 1995

CHEVRON SERVICE STATION #9-1924
4904 SOUTH FRONT ROAD, LIVERMORE, CALIFORNIA

SAMPLE NUMBER		BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	TPH-G
BORING	DEPTH (feet BGS)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)	(µg/kg)
C-20	5	--	--	--	--	--
	10	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<1000
	15	--	--	--	--	--
	20	--	--	--	--	--
	25					
C-21	5	--	--	--	--	--
	10	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<1000
	15	--	--	--	--	--
	20	--	--	--	--	--
	25	--	--	--	--	--
Comp *	NA	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<1000

EXPLANATION
BGS = Below ground surface
TPH-G = Total petroleum hydrocarbons-as-gasoline
TPH-D = Total petroleum hydrocarbons-as-diesel
mg/kg = milligrams per kilogram, equivalent to parts per million (ppm)
NA = Not applicable
ND = Not detected at or above the minimum detection limit shown
-- = Not analyzed
* = Soil stockpile composite

0004ST1.WK4

GROUNDWATER TECHNOLOGY

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 FORMER CHEVRON STN #9-1924
4904 SOUTH FRONT ROAD
LIVERMORE, CALIF.

CLIENT
Name CHEVRON U.S.A. PRODUCTS COMPANY
Address P.O. Box 5004 Voice 510-842-9500
City San Ramon Zip 94583

APPLICANT
Name BRIAN MCALOON, for, GROUNDWATER TECHNOLOGY
Fax 916-372-8781
Address 1401 HALYARD DR. #140 Voice 916-372-4700
City WEST SACRAMENTO Zip 95691

TYPE OF PROJECT
Well Construction
Cathodic Protection ___
Water Supply ___
Monitoring X
Geotechnical Investigation
General ___
Contamination ___
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. 582696 (C-57)

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 20-25 ft.
Surface Seal Depth 6 ft. Number 2

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

ESTIMATED STARTING DATE OCT. 2, 1995
ESTIMATED COMPLETION DATE OCT. 2, 1995

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

APPLICANT'S SIGNATURE [signature]

FOR OFFICE USE

PERMIT NUMBER 95648
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 Wyman Hong Date 2 Oct 95
Wyman Hong

APPENDIX B

DRILL LOGS AND WELL CONSTRUCTION SPECIFICATIONS

Drilling Log

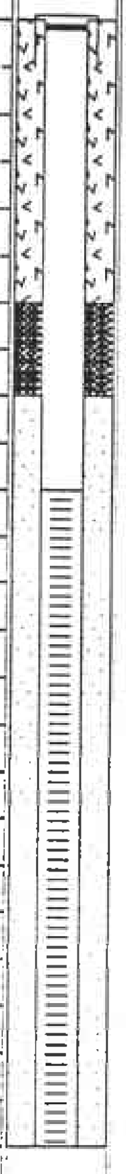
GROUNDWATER TECHNOLOGY

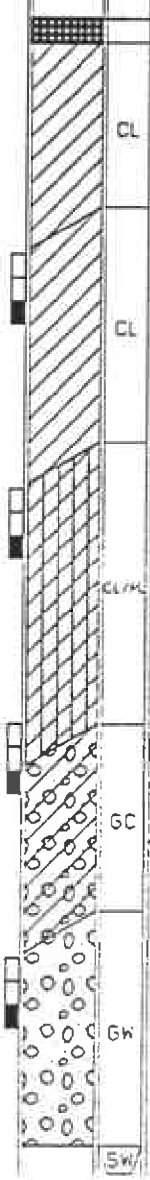
Monitoring Well C-20

Project: Chevron – Livermore	Owner: Chevron USA Products Company
Location: 4904 South Front Street, Livermore, CA	Proj. No. 02070 0004
Surface Elev. ______	Total Hole Depth: 26.5 ft.
Diameter: 8.25 in.	Top of Casing ______
Water Level Initial: 15.5 ft.	Static ______
Screen: Dia 2 in.	Length 15 ft.
Type/Size: 0.020 in.	Casing: Dia 2 in.
Length 10 ft.	Type: Sch 40 PVC
Fill Material: #3 Monterey Sand/Neat Cement	Rig/Core: CME-55/Split Spoon
Drill Co. SES, Inc.	Method: Hollow Stem Auger/PID
Driller: John C.	Log By: Terry James
Date: 10/02/95	Permit # ______
Checked By: Ed Simonis	License No. RG#4422

See Site Map For Boring Location

COMMENTS:





Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0					6" asphalt.
0.5–4				CL	Silty CLAY (30,70): dark gray, damp, soft, plastic, no hydrocarbon odor.
4–9	0	C-20 -6.5'	3, 3, 3	CL	Silty CLAY (20,80): dark gray, damp, soft, plastic, no hydrocarbon odor.
9–15	0	C-20 -11.5'	4, 4, 5	CL/ML	(grades silty CLAY (40,60): light olive, trace red and black mottling)
15.5					*Encountered water, 10/02/95, 1115 hrs.*
15–19	0	C-20 -16.5'	9, 11, 15	GC	Sandy silty clayey GRAVEL (10,10,30,50): light brown, gravel up to 1.5", angular to subrounded, wet, no hydrocarbon odor. (gravel clasts: graywacke, red chert, volcanics,quartz) (grades saturated)
19–24	11	C-20 -21.5'	10, 23, 23	GW	Clayey sandy GRAVEL (10,30,60): gravel up to 1", angular to round, no hydrocarbon odor.
24				SW	

GROUNDWATER TECHNOLOGY

Drilling Log

Monitoring Well C-20

Project Chevron - Livermore Owner Chevron USA Products Company

Location 4904 South Front Street, Livermore, CA Proj. No. 02070 0004

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						SW	Medium to coarse SAND: brown-gray, wet, loose, litharenite, subangular, moderately sorted, no hydrocarbon odor.
				15			
				30			
26		8	C-20 -26.5'	29		CL	Clay in sample shoe, wet, no hydrocarbon odor.
							End of boring. Installed groundwater monitoring well.
28							
30							
32							
34							
36							
38							
40							
42							
44							
46							
48							
50							
52							
54							
56							

GROUNDWATER TECHNOLOGY

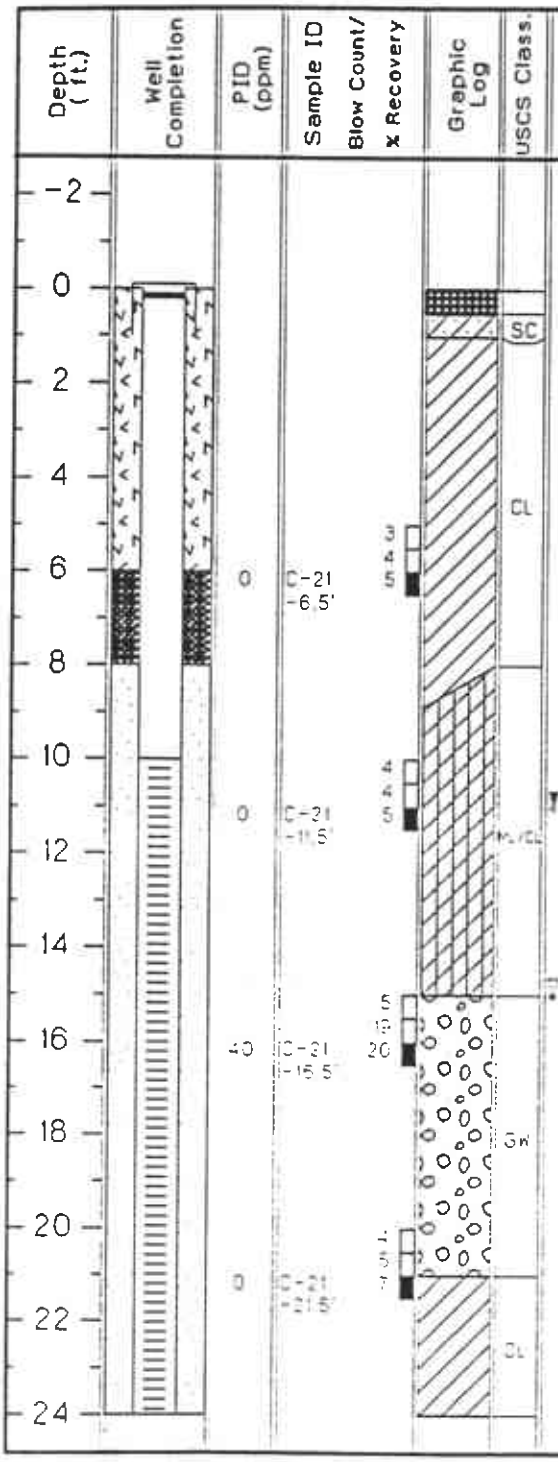
Drilling Log

Monitoring Well C-21

Project Chevron - Livermore Owner Chevron USA Products Company
Location 4904 South Front Street, Livermore, CA Proj. No. 02070 0004
Surface Elev. ____ Total Hole Depth 26.5 ft. Diameter 8.25 in.
Top of Casing ____ Water Level Initial 15 ft. Static 11 ft.
Screen: Dia 2 in. Length 15 ft. Type/Size 0.020 in.
Casing: Dia 2 in. Length 10 ft. Type Sch 40 PVC
Fill Material #3 Monterey Sand/Neat Cement Rig/Core CME-55/Split Spoon
Drill Co. SES, Inc. Method Hollow Stem Auger/PID
Driller John C. Log By Terry James Date 10/02/95 Permit # ____
Checked By Ed Simonis License No. RG#4422 Exp

See Site Map For Boring Location

COMMENTS:



Description

(Color, Texture, Structure)
Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%

6" asphalt over base course.

Silty CLAY (15,85): black, very plastic, soft, damp, no hydrocarbon odor.

Clayey SILT (40,60): olive, damp, soft, no hydrocarbon odor.

Static water, 10/02/95

(some yellow mottling)

Encountered water, 10/02/95, 1335 hrs.

Sandy GRAVEL (30,70): gravel up to 2", subangular, saturated, loose, no hydrocarbon odor.

Sandy silty CLAY (20,20,60): light olive, damp, stiff, plastic, no hydrocarbon odor.

GROUNDWATER TECHNOLOGY

Drilling Log

Monitoring Well C-21

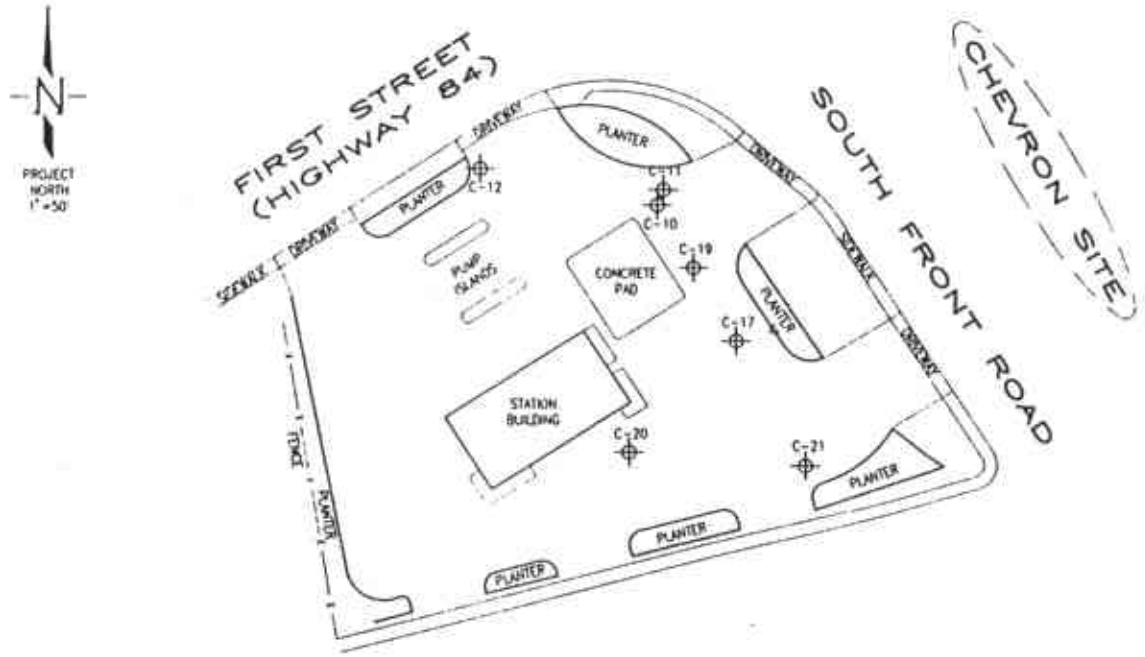
Project Chevron - Livermore Owner Chevron USA Products Company
Location 4904 South Front Street, Livermore, CA Proj. No. 02070 0004

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							Sandy silty CLAY (20,30,50): yellow brown, damp, soft, slight plastic, no hydrocarbon odor.
26		0	C-21 -26.5'	6 7 7		CL	End of boring. Installed groundwater monitoring well.
28							
30							
32							
34							
36							
38							
40							
42							
44							
46							
48							
50							
52							
54							
56							

Monitoring Well Exhibit

Prepared for:

Groundwater Technology, Inc.



DESCRIPTION	NORTHING	EASTING	ELEV (PVC)	ELEV (BOX)
C-10	1050.1	953.6	520.41	520.64
C-11	1056.4	958.1	519.95	520.47
C-12	1065.0	883.3	519.82	520.03
C-17	995.3	984.9	520.53	521.37
C-19	1024.9	968.0	520.96	521.18
C-20	950.0	941.6	520.67	521.37
C-21	944.4	1012.0	519.69	520.18

GRID IS ARBITRARY

ELEVATIONS BASED ON DATA PROVIDED BY GROUNDWATER TECHNOLOGY, INC

0 25 50 100 150

SCALE IN FEET

Chevron Station No. 9-1924
4904 South Front Road
Livermore
Alameda County
California

Morrow Surveying
1450 Harbor Boulevard
Suite D
West Sacramento, CA 95691
(916) 372-6124

Date: October, 1995
Scale: 1"=50'
Sheet 1 of 1
Revisions:
Book: 402/22
Drawing No. 2730-041

APPENDIX D

LABORATORY REPORTS AND CHAIN-OF-CUSTODY MANIFESTS

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Midwest Region
4211 May Avenue
Wichita, KS 67209
(316) 945-2624
(800) 633-7936
(316) 945-0506 (FAX)

October 16, 1995

Jason Fedota
GROUNDWATER TECHNOLOGY, INC
4057 Port Chicago Highway
Concord, CA 94520

RE: GTEL Client ID: 020700004
Login Number: W5100074
Project ID (number): 020700004
Project ID (name): CHEVRON/9-1924/4904 SOUTHFRONT RD/LIVERMORE/CA

Dear Jason Fedota:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 10/05/95 under Chain-of-Custody Number(s) 33026.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the Department of Health Service under Certification Number 1845.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Justin Wilson, Project Coordinator for

Terry R. Loucks
Laboratory Director

ANALYTICAL RESULTS
Volatile Organics

GTEL Client ID: 020700004
Login Number: W5100074
Project ID (number): 020700004
Project ID (name): CHEVRON/9-1924/4904 SOUTHFRONT RD/LIVERMORE/CA

Method: EPA 8020
Matrix: Low Soil

	GTEL Sample Number	W5100074-02	W5100074-07	W5100074-11	--
	Client ID	C-20-10	C-21-10	COMP	--
	Date Sampled	10/02/95	10/02/95	10/02/95	--
	Date Analyzed	10/12/95	10/12/95	10/12/95	--
	Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Toluene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
BTEX (total)	--	ug/kg	--	--	--	--
TPH as Gasoline	1000	ug/kg	< 1000	< 1000	< 1000	--
Percent Solids	--	%	84.6	87.1	87.3	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

Gasoline range hydrocarbons (TPH) quantitated by GC/FID with purge and trap and modified EPA Method 8015. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846. Third Edition including Update 1.

GTEL Client ID: 020700004 QUALITY CONTROL RESULTS

Login Number: W5100074 Volatile Organics

Project ID (number): 020700004 Method: EPA 8020

Project ID (name): CHEVRON/9-1924/4904 SOUTHFRONT RD/LIVERMORE/CA Matrix: Low Soil

Conformance/Non-Conformance Summary

(X = Requirements Met * = See Comments -- = Not Required NA = Not Applicable)

Conformance Item	Volatile Organics	Semi-Volatile Organics	Inorganics (MT, WC)
GC/MS Tune	--	--	NA
Initial Calibration	--	--	--
Continuing Calibration	X	--	--
Surrogate Recovery	X	--	NA
Holding Time	X	--	--
Method Accuracy	X	--	--
Method Precision	X	--	--
Blank Contamination	X	--	--

Comments:

GTEL Client ID: 020700004 QUALITY CONTROL RESULTS
Login Number: W5100074 Volatile Organics
Project ID (number): 020700004 Method: EPA 8020
Project ID (name): CHEVRON/9-1924/4904 SOUTHFRONT RD/LIVERMORE/CA Matrix: Low Soil

Surrogate Results

QC Batch No.	Reference	Sample ID	TFT
Method: EPA 8020		Acceptability Limits:	43-136%
101295GC4-1	CV101295204	Calibration Verifi	67.9
101295GC4-3	BL1012954	Method blanks low	64.7
101295GC4-4	MS10013303	Matrix Spike	68.8
101295GC4-5	MD10013303	Matrix Spike Dupli	68.5
--	10007402	C-20-10	62.2
--	10007407	C-21-10	64.4
--	10007411	COMP	64.8

Notes:
*: Indicates values outside of acceptability limits. See Nonconformance Summary.

GTEL Client ID: 020700004 QUALITY CONTROL RESULTS
Login Number: W5100074 Volatile Organics
Project ID (number): 020700004 Method: EPA 8020
Project ID (name): CHEVRON/9-1924/4904 SOUTHFRONT RD/LIVERMORE/CA Matrix: Low Soil

Method Blank Results

QC Batch No: 101295GC4-3
Date Analyzed: 12-OCT-95

Analyte	Method: EPA 8020 Concentration: ug/kg
Benzene	< 1.00
Toluene	< 2.00
Ethylbenzene	< 2.00
Xylenes (Total)	< 4.00
TPH as Gasoline	< 100.

Notes:

GTEL Client ID: 020700004 QUALITY CONTROL RESULTS

Login Number: W5100074 Volatile Organics

Project ID (number): 020700004 Method: EPA 8020

Project ID (name): CHEVRON/9-1924/4904 SOUTHFRONT RD/LIVERMORE/CA Matrix: Low Soil

Calibration Verification Sample Summary

Analyte	Spike Amount	Check Sample Concentration	QC Percent Recovery	Acceptability Limits Recovery
EPA 8020 Units:ug/L	QC Batch:101295GC4-1			
Benzene	20.0	18.9	94.5	77-123%
Toluene	20.0	18.6	93.0	77.5-122.5%
Ethylbenzene	20.0	19.9	99.5	63-137%
Xylenes (Total)	60.0	59.9	99.8	85-115%
TPH as Gasoline	500.	526.	105.	80-120%

Notes:

QC check source: Supelco #LA12389

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Login Number: W5100074 Volatile Organics

Project ID (number): 020700004 Method: EPA 8020

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Matrix Spike(MS) and Matrix Spike Duplicate(MSD) Results

GTEL Sample ID:W5100133-03 MS ID:MS10013303 MSD ID:MD10013303

Analysis Date: 12-OCT-95 12-OCT-95 12-OCT-95

Units: mg/kg	Sample	Spikes Added		MS	MS	MSD	MSD		Acceptability Limits	
Analyte	Conc.	MS	MSD	Conc.	% Rec.	Conc.	% Rec.	RPD	RPD	%Rec.
Benzene	5.0 (0.162)	76.5	78.7	67.3	87.8	70.4	89.2	1.60	22.6	61.1-125.9
Toluene	5.0 (0.0970)	76.5	78.7	62.5	81.6	65.5	83.1	1.80	27.5	59.8-124.6
Ethylbenzene	5.0 (0.0370)	76.5	78.7	64.1	83.7	67.2	85.3	1.90	26.4	57.5-138
Xylenes (Total)	5.0 (0.363)	229.	236.	194.	84.6	203.	85.9	1.50	26.7	54.3-137

Notes:

Values in parentheses in the sample concentration column are used for % recovery calculations.

GTEL Environmental Laboratories, Inc.

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CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

33026

Company Name: Groundwater Tech.
Phone #: (510) 671-2287
FAX #: (510) 685-9148
Company Address: 41057 Post Canyon Pkwy
Site Location: 4904 Southfront Rd Livermore CA
Project Manager: Jason Foote
Client Project ID: (#) 020700004
(NAME) Chu/Livermore
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): TERRY JONES

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRESERVED	OTHER (Specify)	Sampling: DATE	TIME
C-20-5	01	1		X								X	X		10/2	10:35
C-20-10	02	1		X								X	X		10/2	11:00
C-20-15	03	1		X								X	X		10/2	11:10
C-20-20	04															11:20
C-20-25	05															11:35
C-21-5	06															13:25
C-21-10	07															13:30
C-21-15	08															13:35
C-21-20	09															13:45
C-21-25	10															13:51
COMP	11											X	X			14:30

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/Gas Hydrocarbons PID/FID ☒ with MTBE ☐	Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐	Hydrocarbon Profile (SIMDIS) ☐	Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐	TPH/IR 418.1 ☐ SM 503 ☐	EDB by 504 ☐ DBCP by 504 ☐	EPA 503.1 ☐ EPA 502.2 ☐	EPA 601 ☐ EPA 8010 ☐	EPA 602 ☐ EPA 8020 ☐	EPA 608 ☐ 8080 ☐ PCB only ☐	EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	EPA 610 ☐ 8310 ☐	EP TOX Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐	EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐	CAM Metals TTLC ☐ STLC ☐	Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐	Organic Lead ☐	Corrosivity ☐ Flash Point ☐ Reactivity ☐	OTHER
	X																			X	Hold
	X																			X	
	X																			X	
																				X	
																				X	
																				X	
																				X	
																				X	
																				X	
																				X	

TAT
Priority (24 hr)
Expedited (48 hr)
7 Business Days
Other
Business Days

Special Handling
GTEL Contact
Quote/Contract #
Confirmation #
P.O #

QA/QC Level
Blue CLP Other

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: Analyze all 10' samples ie C-20-10, & C-21-10, & comp sample Hold the others

Lab Use Only Lot #: 20
Storage Location: Seal intact
Work Order #:

CUSTODY RECORD

Relinquished by Sampler:	Date	Time	Received by:
Terry Jones	10/3/95	15:00	Susan M Huerta
Relinquished by: Susan M Huerta	10/3/95	11:00am	Received by: Jason Webb
Relinquished by: Jason Webb	10/4/95	12:15	Received by Laboratory: Waybill #

Cooled 5°C w/ ice/ice