



Ro-477

3164 Gold Camp Drive  
Suite 200  
Rancho Cordova, CA 95670-6021  
U.S.A.  
916.638-2085  
FAX: 916.638-8385

JAN 28 2002

January 23, 2002

Ms. Eva Chu  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

Soil generated from well destruction contained 2,200ppm TPAH, 3.9ppm benzene and 7.2ppm nitrate, why so high?

Subject: *Monitoring Well Destruction Results Report*  
Chevron Station No. 9-1924  
4904 Southfront Road, Livermore, California  
Delta Project No. DG91-924

Ms. Chu:

Delta Environmental Consultants, Inc. (Delta) has been authorized by Chevron Products Company (Chevron) to prepare a report summarizing well destruction activities at the subject site. The location of the site is presented in Figure 1 and a site map illustrating on site features is shown in Figure 2. This report summarizes the activities conducted on November 28 and November 29, 2001. The work was conducted in accordance with Delta's *Workplan For Monitoring Well Destruction* dated April 19, 2001, and addendum to the workplan, dated July 13, 2001. The workplan and addendum were approved by Alameda County Health Care Services (ACHCS) in a letter dated April 12, 2001, and a subsequent email dated August 1, 2001. Copies of the approval letter and email are included in Enclosure A. A copy of the drilling permit to destroy the monitoring wells is included in Enclosure B.

**Well Destruction**

On November 28 and 29, 2001, Delta supervised the destruction of six monitoring wells by Cascade Drilling, Inc. (Cascade) of Rancho Cordova, California. Wells C-5, C-10, C-14, C-17, and C-19 were destroyed by drilling out each well using a 10.25-inch, hollow-stem auger to one foot below the installed well depth to remove the well casing, annular seal, and sand filter pack. The borings were then backfilled to 0.5 feet below surface grade (bsg) with neat cement containing approximately five percent bentonite powder using a tremmie pipe and pump. The upper 0.5 foot of borehole was backfilled with concrete to match existing grade.

Due to its inaccessible location, monitoring well C-8 was abandoned by pressure grouting. On November 29, 2001, Mr. Wyman Hong, of Zone 7 Water District granted Delta a variance to abandon the well by pressure grouting. The well was backfilled to ground surface with neat cement containing approximately 5 percent bentonite powder using a tremmie pipe and pump. Approximately 30 pounds per square inch of pressure was used to force the slurry into the surrounding formation. To complete the well abandonment, the upper 0.5 feet of borehole was backfilled with native material.

Monitoring wells C-16 and C-18 could not be located during well destruction activities. As discussed with ACHCS, wells C-16 and C-18 are believed to have been destroyed during reconstruction of Southfront Road. Delta was also unable to locate wells C-1 and RW-1. Well C-1 is believed to have been destroyed during station upgrade activities in April 2000, and well RW-1 is thought to have been destroyed during demolition of the former groundwater treatment system at the former Union 76 station.

On December 7, 2001, Gettler Ryan Inc. repaired the street section that overlies destroyed well C-14. A three foot by three foot section of asphalt was removed to 10 inches bsg, backfilled with five inches of compacted Class II AB, and completed to surface grade with a six inch hot asphalt patch (in accordance with the City of Livermore Standard Details). A summary of well destruction activities is presented in Table 1. Monitoring well construction details are included in Enclosure C.

#### **Soil Stockpile**

Well destruction activities generated approximately 3 cubic yards of non-hazardous soil. The cuttings were temporarily covered and stored on site pending evaluation of disposal options. Four samples were collected from the stockpile and submitted to Lancaster Laboratories (Lancaster) of Lancaster, Pennsylvania. The laboratory composited the four samples into one for analysis of total petroleum hydrocarbons as gasoline (TPHg) and BTEX by DHS LUFT, and total lead by EPA Method 7420. Soil stockpile analytical results are presented in Table 2. A copy of the laboratory analytical report is included in Enclosure D. The stockpile was removed on December 14, 2001, by Intergrated Waste Management and transported to Republic Services VRL in Livermore, California for disposal. A copy of the certificate of disposal is included in Enclosure E.

#### **Conclusions/Recommendations**

According to ACHCS, closure of the site will be considered if Chevron can demonstrate that MTBE concentrations detected in groundwater have continued to decline over four consecutive quarters. To further evaluate the site for closure, Delta recommends continued quarterly groundwater monitoring of wells C-7, C-9, C-11, C-12, C-13, C-20, and C-21.

#### **Remarks/Signatures**

The interpretations contained in this document represent our professional opinions and are based, in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeological and engineering practices at this time and location. Other than this, no warranty is implied or intended.

Stella

Ms. Eva Chu  
Alameda County Health Care Services  
January 14, 2002  
Page 3

If you have any questions regarding this project, please contact Todd Del Frate at (916) 536-2612.

Sincerely,

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**

*Brett Bardsley*

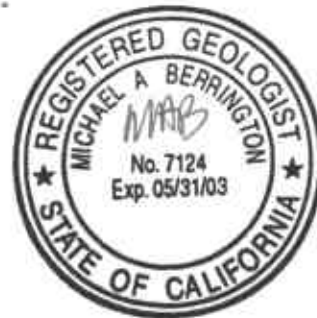
Brett A. Bardsley  
Staff Geologist

*T.C. Del Frate*

Todd Del Frate  
Project Manager

*Michael A. Berrington*

Mike Berrington, R.G.  
California Registered Geologist No. 7124  
Project Manager



BAB (Lrp003.9-1924)  
Enclosures

cc: Mr. Tom Bauhs – Chevron Products Company  
Ms. Danielle Stefani – Livermore-Pleasanton Fire Department

TABLE 1

SUMMARY OF WELL DESTRUCTION

ChevronTexeco Station No. 9-1924  
 4904 Southfront Road  
 Livermore, California

Well ID	Date Destroyed	Installed Depth	Well Diameter	Tagged Depth <sup>b</sup> (ft)	Drilled Depth (ft)	Depth to Water (ft)
C-5	11/29/01	21.0	3	---- <sup>c</sup>	22.0	---- <sup>c</sup>
C-8 <sup>a</sup>	11/29/01	22.5	3	12.0	----	11.44
C-10	11/28/01	34.09	3	34.02	35.09	14.04
C-14	11/29/01	20.0	3	---- <sup>c</sup>	21	---- <sup>c</sup>
C-17	11/28/01	30.0	3	20.0	31	13.38
C-19	11/28/01	25.0	2	25.0	26	14.13

<sup>a</sup> = Well C-8 was abandoned by pressure grouting.

<sup>b</sup> = Field checked on 11/08/01

<sup>c</sup> = Obstruction in well

ft = feet

in = inches

--- = Not available/Not applicable

TABLE 2

STOCKPILE SAMPLE ANALYTICAL RESULTS

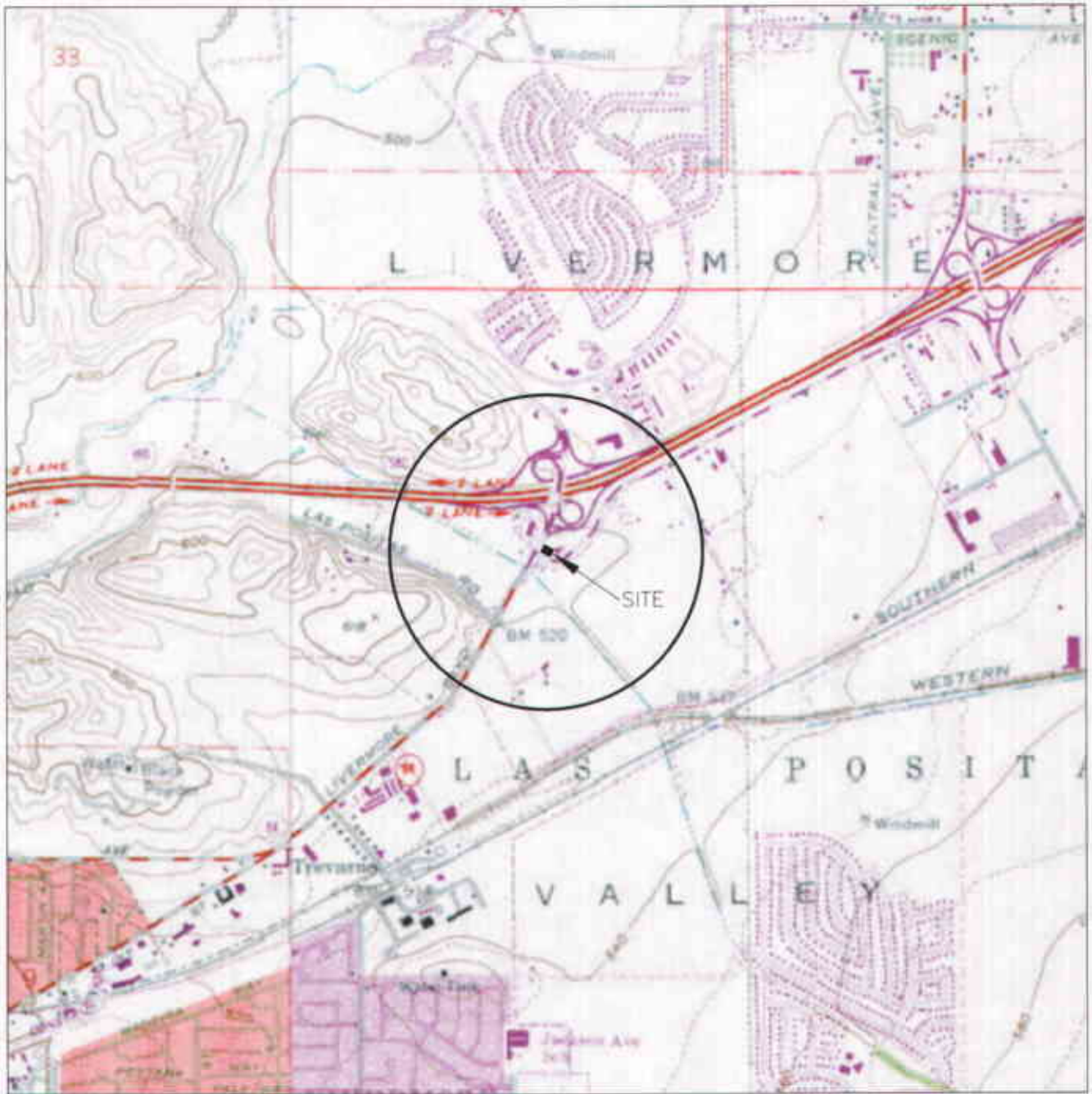
ChevronTexico Station No. 9-1924  
4904 Southfront Road  
Livermore, California

Sample ID	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TPHg (mg/kg)	MTBE (mg/kg)	Total Lead (mg/kg)
SP1-4	11/29/01	3.9	41	24	120	2,200	7.2	3.2

TPHg = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary butyl ether.

mg/kg = milligrams per kilogram.



R.2 E.

GENERAL NOTES:  
 BASE MAP FROM U.S.G.S.  
 ALTAMONT, CA.  
 7.5 MINUTE TOPOGRAPHIC  
 PHOTOREVISED 1980



QUADRANGLE LOCATION



SCALE 1:24,000

FIGURE 1  
 SITE TOPOGRAPHIC MAP  
 CHEVRON STATION NO. 9-1924  
 4904 SOUTHFRONT ROAD  
 LIVERMORE, CA.

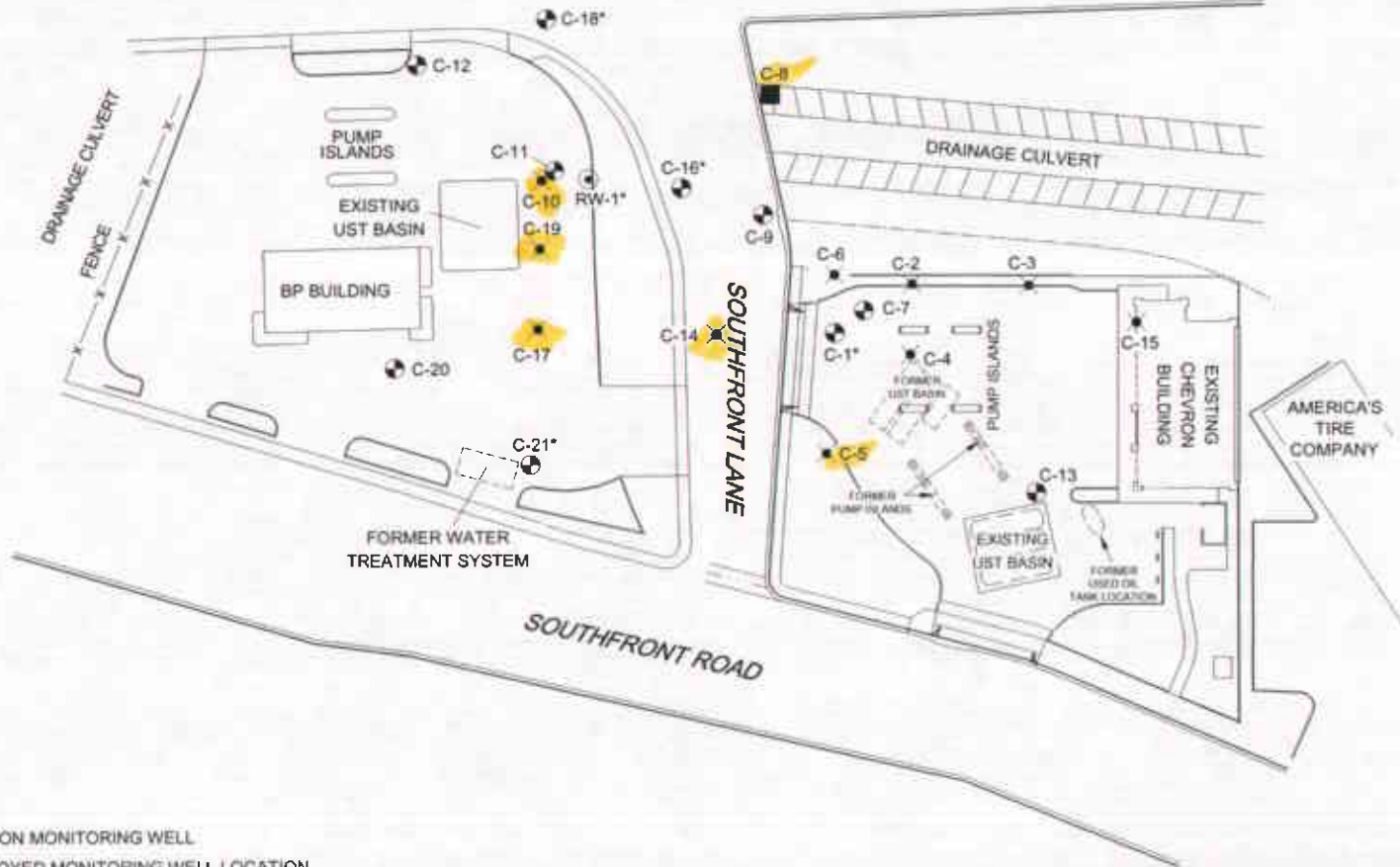
PROJECT NO. DG91-924	DRAWN BY M.L. 8/11/00
FILE NO. DG91924C	PREPARED BY JWS
REVISION NO. 1	REVIEWED BY



FIRST STREET  
(HIGHWAY 84)



North



LEGEND

- C-1 CHEVRON MONITORING WELL
- ✕ C-2 DESTROYED MONITORING WELL LOCATION
- C-8 ABANDONED MONITORING WELL LOCATION
- ⊙ RW-1 RECOVERY WELL LOCATION
- UNABLE TO LOCATE WELL

NOTE: SITE MAP ADAPTED FROM GROUNDWATER TECHNOLOGY FIGURES  
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

FIGURE 2

SITE MAP

CHEVRON STATION NO. 9-1924

4904 SOUTHFRONT ROAD

LIVERMORE, CALIFORNIA

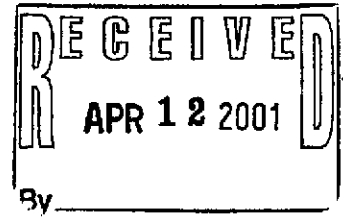
PROJECT NO DG91-924	DRAWN BY M.L. 1/7/02
FILE NO DG91924B	PREPARED BY B.B.
REVISION NO 4	REVIEWED BY



**ENCLOSURE A**

Alameda County Health Care Services Letter Dated April 12, 2001  
and Email dated August 1, 2001





RO-0000477

April 12, 2001

Mr. Tom Bauhs  
Chevron Products  
P.O. Box 6004  
San Ramon, CA 94583-0904

**RE: Well Decommission at Chevron Station No. 9-1924 at 4904 Southfront Rd.,  
Livermore, CA**

Dear Mr. Bauhs:

I have completed review of Delta Environmental Consultants, Inc's April 2001 *Workplan for Monitoring Well Destruction* prepared for the above referenced site. The proposal to decommission groundwater monitoring wells C-1, C-10 and C-14 is acceptable. In addition, well C-5, believed to be paved over, will be located and also properly destroyed.

Once these wells are destroyed, semi-annual monitoring of wells C-7, C-9, C-11, and C-18 should be conducted in the first and third quarters of each year. If you have any questions, I can be reached at (510) 567-6762.

eva chu  
Hazardous Materials Specialist

email: James Brownell  
Will Speth

chevron1924-5

## Todd Del Frate

---

**From:** Chu, Eva, Env. Health [EChu@co.alameda.ca.us]  
**Sent:** August 01, 2001 2:28 PM  
**To:** 'Del Frate, Todd'; 'Bauhs, Tom'; 'Brownell, James'  
**Subject:** RE: Chevron 9-1924 at 4904 SouthFront, Livermore

The additional well destruction (C-8, C--16 through C-19, and RW-1) proposal, in your July 13, 2001 letter, is acceptable. A report documenting destruction of wells is due 60 days after completion of field work. Well destruction permits are available through Zone 7.

evachu

Alameda County Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502  
(510) 567-6762  
(510) 337-9335 fax

> -----

> From: tdelfrate@deltaenv.com[SMTP:tdelfrate@deltaenv.com]  
> Sent: July 26, 2001 10:41 AM  
> To: EChu@co.alameda.ca.us  
> Cc: deanna@grinc.com  
> Subject: RE: Chevron 9-1924 at 4904 SouthFront, Livermore

>  
> Eva, well RW-1 is located northeast of the existing UST basin in the  
> vicinity of wells C-10 and C-11 (Former BP station). I have a note that  
> RW-1 had been destroyed in January 1985. I will touch base with Deanna  
> Harding of GR to confirm this.

> -----Original Message-----

> From: Chu, Eva, Env. Health [mailto:EChu@co.alameda.ca.us]  
> Sent: July 26, 2001 9:53 AM  
> To: 'Del Frate, Todd'  
> Subject: Chevron 9-1924 at 4904 SouthFront, Livermore

>

> Hi Todd,  
> Got your letter requesting additional well destruction and monitoring  
> frequency change. Included for destruction is well RW-1. I don't know  
> where that well is located. I didn't see it on any of the site plans from  
> previous reports.

>

>

> evachu

>

> Alameda County Environmental Health  
> 1131 Harbor Bay Parkway  
> Alameda, CA 94502  
> (510) 567-6762  
> (510) 337-9335 fax

>

# CITY OF LIVERMORE Community Development Department

## STREET ENCROACHMENT PERMIT APPLICATION

PERMIT TO DO WORK IN ACCORDANCE WITH CHAPTER 12.08 OF THE LIVERMORE MUNICIPAL CODE AND SPECIFICATIONS AS ADOPTED BY THE CITY OF LIVERMORE AND ANY SPECIAL REQUIREMENTS SHOWN OR LISTED HEREIN.

Applicant/Permittee: Permit No.: EN010612

Name: DELTA ENVIRONMENTAL Receipt No.: \_\_\_\_\_

Address: 3164 GOLD CAMP DRIVE #200 Fee: \$ 27<sup>00</sup> PERM + \$38<sup>00</sup> INSP = \$65<sup>00</sup> TO

RANCHO CORDOVA, CA 95670 Bond: \$ \_\_\_\_\_

Phone: (916) 536-2612

PLEASE READ THIS PERMIT CAREFULLY. KEEP IT AT THE WORK SITE. TO ARRANGE FOR INSPECTION, PHONE 373-5240 AT LEAST 24 HOURS BEFORE YOU START WORK.

\* JOB LOCATION CHEVRON S.S. #9-1924 4904 SOUTHFRONT ROAD, LIVERMORE, CA

\* DESCRIPTION OF WORK: DESTROY GROUNDWATER MONITORING WELL C-14 BY OVERDRINKING WELL CASING 1-FOOT PAST TOTAL DEPTH OF 31 FEET BSG. THE WELL CASING WILL BE OVERDRUNK USING 10-INCH DIAMETER HOLLOW-STEM AUGER. THE BOREHOLE WILL BE BACKFILLED TO APPROXIMATELY 1-FOOT BSG WITH NEAT CEMENT CEMENTING APPROXIMATELY 5% BENTONITE POWDER. THE UPPER 1-FOOT OF BOREHOLE WILL BE COMPLETED AS SPECIFIED BY CITY OF LIVERMORE ENCROACHMENT PERMIT

\* Length of Excavation \_\_\_\_\_ I.I. Width 10" I.I. Depth 35 ft.

ATTENTION IS DIRECTED TO THE GENERAL PROVISIONS PRINTED ON THE REVERSE SIDE OF THIS PERMIT AND TO THE FOLLOWING SPECIAL REQUIREMENTS (to be filled in by Engineering Division):

- ① Work to be completed during the hours of 9 AM & 3 PM,
- ② Traffic control to be per CAL TRANS.
- ③ PAVEMENT REPAIR TO BE PER CITY OF LIVERMORE STD DETAILS ST-11 & G-1D

Prosecution of Work: All work authorized by the permit shall be performed in a workmanlike, diligent, and expeditious manner, and must be completed to the satisfaction of the Director of Public Works.

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 the 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 Livermore, its officers and employees, and save them harmless in every way from all action at 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: \_\_\_\_\_

City Engineer

By: [Signature]

Date of Issue: 11/27/01

Work Completed: \_\_\_\_\_

Inspector: \_\_\_\_\_



# ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588-5127 VOICE (925) 484-2600 X235  
FAX (925) 462-3914

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE

LOCATION OF PROJECT CHEURON #9-1924  
11904 SOUTHEAST ROAD  
LIVERMORE, Ca

PERMIT NUMBER 21205  
WELL NUMBER 3S/2E 3K4, 3K7-3K10, 3K13, 3K16,  
APN 3K19, 3K21 & 3K22

CLIENT  
Name CHEURON  
Address PO Box 6004 Voice \_\_\_\_\_  
City SAN RAMON, Zip 94583

### PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT  
Name DELTA ENVIRONMENTAL  
TORD DEL FRATE Fax \_\_\_\_\_  
Address 3164 GOLD CAMP DR #200 Voice (916) 523-2612  
City PANAMA CITY Zip 95670

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.

TYPE OF PROJECT  
Well Construction \_\_\_\_\_ Geotechnical Investigation \_\_\_\_\_  
Cathodic Protection \_\_\_\_\_ General \_\_\_\_\_  
Water Supply \_\_\_\_\_ Contamination \_\_\_\_\_  
Monitoring \_\_\_\_\_ Well Destruction ✓

B.

### WATER SUPPLY WELLS

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.
3. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
4. A sample port is required on the discharge pipe near the wellhead.

PROPOSED WATER SUPPLY WELL USE  
Domestic \_\_\_\_\_ Industrial \_\_\_\_\_ Other \_\_\_\_\_  
Municipal \_\_\_\_\_ Irrigation \_\_\_\_\_

C.

### GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

DRILLING METHOD:  
Mud Rotary \_\_\_\_\_ Air Rotary \_\_\_\_\_ Auger ✓  
Cable \_\_\_\_\_ Other \_\_\_\_\_

D.

### 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.

DRILLER'S LICENSE NO. C57-717510

E.

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

WELL PROJECTS  
Drill Hole Diameter \_\_\_\_\_ in. Maximum \_\_\_\_\_  
Casing Diameter \_\_\_\_\_ in. Depth 35 ft.  
Surface Seal Depth \_\_\_\_\_ ft. Number 10

F.

### WELL DESTRUCTION. See attached.

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

G.

### SPECIAL CONDITIONS

ESTIMATED STARTING DATE 11/28/01  
ESTIMATED COMPLETION DATE 11/30/01

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-5B.

Approved Wyman Hong Date 11/26/01  
Wyman Hong

8/6/99

APPLICANT'S SIGNATURE J. G. Delgado Date 8-8-01



# LOG OF EXPLORATORY BORING

PROJECT No. 438 DATE 1-3-85  
 CLIENT GR Chemon  
 LOCATION LEWISBORO  
 LOGGED BY GR DRILLER X D

BORING I  
 C-  
 Sheet 1  
 of 1

Field location of boring:

Drilling method 7 1/2" HS Hole dia. 7 1/2"

Casing Installation data 3" PVC SLOT 1 1/2" 7, DL TO SURF, SAND T1 6, BC TO SURF

Ground Elev. Datum

Pocket Torr vane TSF	Pocket Penetrometer TSF	Blows/ft. or Pressure PSI	Type of Sample	Sample Number	Depth	Sample	Soil Group Symbol (U.S.C.S.)	DESCRIPTION
					2		CL	CLAY (silt) Grayish brown (2.54 4/2) 5-10% fine to coarse sand, 10% silts - damp
					4		GW	GRAVEL (silt) Grayish brown (2.54 4/2) 25-30% medium to coarse sand, 70-75% fine to medium gravel - dry
					6		CL	CLAY (silt) Dark brown (7.54 4/2) ~5% fine to medium sand, 5-10% silts, 85% clay, trace gravel - damp use
					8			
					10	X	CL	CLAY Olive (5.45/3) 0-5% fine sand, 5% silts, 90% clay, caliche & Fe oxide rattle - damp use
1.75		5 1/2	STD		12			
					14			
					16	X		44.5' - 23' : clay becomes heavily leached & oxidized, stiff - damp w/ root frags, trace coarse sand
					18			
					20	X		
4.5		9 1/4	STD		22			
					24			
					26			
					28			
					30			
					32			
					34			
					36			

Water level				
Time				
Date				

3' top part 1.0' etc gravel layer  
 CLAY (silt) Grayish brown (2.54 4/2) 5-10% fine to coarse sand, 10% silts - damp  
 GRAVEL (silt) Grayish brown (2.54 4/2) 25-30% medium to coarse sand, 70-75% fine to medium gravel - dry  
 CLAY (silt) Dark brown (7.54 4/2) ~5% fine to medium sand, 5-10% silts, 85% clay, trace gravel - damp use  
 CLAY Olive (5.45/3) 0-5% fine sand, 5% silts, 90% clay, caliche & Fe oxide rattle - damp use  
 44.5' - 23' : clay becomes heavily leached & oxidized, stiff - damp w/ root frags, trace coarse sand

T.H: 510

**DRAFT**

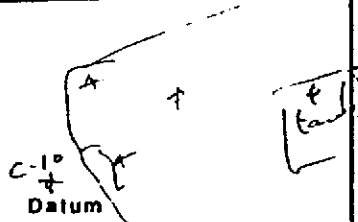
**PRELIMINARY**



# LOG OF EXPLORATORY BORING

PROJECT No. 436-554 TE 1-3-85 BORING N  
 CLIENT GA Chemcon  
 LOCATION LIVERMORE Sheet 11  
 LOGGED BY DA DRILLER XD of     

Field location of boring:



Ground Elev. Datum

Drilling method 7/2" HS Hole dia. 7 3/4"

Casing installation data 3" PVC SLOT  
BLANK TO SURF. SAND TO, PC  
TO SURF.

Pocket Torr vane TSF	Pocket Penetrometer TSF	Blows/ft. or Pressure PSI	Type of Sample	Sample Number	Depth	Sample	Soil Group Symbol (U.S.C.S.)
					2		CL
					4		GW
					6		
					8		
					10		
					12		
					14		
					16		
					18		
					20		
					22		
					24		
					26		
					28		
					30		

Water level	Time	Date

DESCRIPTION

3' riprap & 6' cgs gravel layer  
 CLAY (fill) Grayish brown (2.54 4/2), 5-10%  
 fine to coarse sand, 10% silt, sandstone  
 GRAVEL  
 BORING TERMINATED - HIT CONCRETE  
 BUT DID NOT PENETRATE

9 - 23' 16/7  
 8 - 22 1/2 16/6 1/2  
 7 - 22 16/6  
 6 - 22 16/6  
 4 - 23' 16/7

**DRAFT**  
**PRELIMINARY**





HOLE NO. C-17	PROJECT NO.	PROJECT Chevron	SHEET OF 1/2
MFG. DESIGNATION OF DRILL CME-75		LOCATION 4707 First St Livermore, CA	
TYPE OF BIT	HAMMER DATA: WT. 140 LBS. DROP 30 INCHES		ELEV.
DATE	STARTED 2:23 - 1-9-83	DRILLING AGENCY Kleinfelder	TOTAL DEPTH OF HOLE 30
COMPLETED 6:00 1-9-83	INSPECTOR E Finley	GROUNDWATER DEPTH 17.5'	TIME
BACKFILLED	CREW Ron + Penny Oakley	<b>DRAFT</b>	
SURFACE CONDITIONS			

DIST. FROM SURF.	LEGEND	SAMPLE TYPE	SAMPLE NO.	RECOVERY	BLOWS PER 6 IN.	USCS	LOG OF MATERIAL
1						3"	Asphalt 1' - In Street S. Front
2						Grout	
3						Beet	
4						Sand	
5	SS			12	2 5 6	sand screen	SILTY CLAY Black Trace Root Fragments stiff, High Plasticity, NO SC Moist.
6							
7							
8	SS			10	5 6 8		CLAY - Tan - Little Silt Light grey or white mottling Rust staining - Black organics Very stiff, High Plasticity, Moist NO SC
9							
10	SS			16"	5 7 11 13		SILTY CLAY - Tan - light grey mottling Trace fine gravel & rounded Rust staining Very stiff, Mod Ph NO SC Moist
11							
12							
13	SS			18	7 10 13		CLAY - TAN + Rust Little Silt - Trace black organics Rust staining - Very stiff - Mod Plasticity Moist - Slight Gas
14							
15	SS				4 5 6		CLAY - TAN - Black org in fissure cracks stiff - Mod Plasticity Moist - Slight Gas Odor
16							
17							
18				18	5 8 10	first	CLAY - Tan w White Mottling Trace Rust staining Very stiff Low to Medium Plasticity Mod Wet NO SC - Trace Black organics
19							
20							
21							

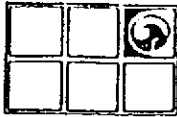




HOLE NO. <b>C-17</b>		PROJECT NO.	PROJECT	SHEET OF <b>2/2</b>
MFG. DESIGNATION OF DRILL			LOCATION	
TYPE OF BIT		HAMMER DATA: WT.	LBS. DROP	INCHES
ELEV.		TOTAL DEPTH OF HOLE		
DATE	STARTED	DRILLING AGENCY		
	COMPLETED	INSPECTOR	GROUNDWATER DEPTH	TIME
	BACKFILLED	CREW		
SURFACE CONDITIONS				

**DRAFT**

DIST. FROM SURF.	LEGEND	SAMPLE TYPE	SAMPLE NO.	RECOVERY	BLOWS PER 6 IN.	USCS	LOG OF MATERIAL
20							Gas Odor coming out Hole during
1							
2							
3	SS			14	5 10 11		CLAY - TAN with white blotting Trace Rust staining, Hard, Medium Plasticity, Wet, NOS
4							
5							
6							
27							CLAY As Above
8	SS			12	7 12 14	same screen	SAND - Grey - Fine to Med. Grained - Medium Dense, NOS No Wet
9							
310							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							



# GROUNDWATER TECHNOLOGY

Division of Oil Recovery Systems, Inc.

Well Number 19

Drilling Lo

Project Chevron/Livermore Owner Chevron U.S.A.

Location 1st St. & S. Front Rd. Project Number 20-3229

Date Drilled 3-29-85 Total Depth of Hole 25 ft. Diameter 8 inch

Surface Elevation \_\_\_\_\_ Water Level, Initial 14.5 ft @ 4-hrs. 14.84 ft.

Screen: Dia. 2 inch Length 17 ft. Slot Size .020

Casing: Dia. 2 inch Length 8 ft. Type PVC

Drilling Company Sierra Pacific Drilling Method 8" H.S. Auger

Driller Gary Taggart Log by R. Juncal

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
0					4" asphalt
2					Road base to 3', sand and gravel
4					Dark brown silty clay, 5% small pebbles
6					
8					Dark brown silty clay, creamy
10					Dark brown clay, 5% sand, slight odor
12					
14		Depth to water 14.5 ft.			Light brown silty clay
16					
18					Light brown clay
20					Light brown clay
22					
24					Same
26					
					Screen 25 to 9 ft. Blank 9 to 0 ft. Sand 25 to 7 ft. Bentonite 7 to 6 ft. Cement 6 to 0 ft.

**ENCLOSURE D**

Soil Sample Laboratory Analytical Report



## ANALYTICAL RESULTS

Prepared for:

Chevron Products Company  
6001 Bollinger Canyon Rd  
Building L P.O. Box 6004  
San Ramon CA 94583-0904  
916-536-2623

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

## SAMPLE GROUP

The sample group for this submittal is 788446. Samples arrived at the laboratory on Saturday, December 01, 2001. The PO# for this group is 99011184 and the release number is BAUHS.

### Client Description

SP-1-4-S-011129      NA      Soil

### Lancaster Labs Number

3736583

## METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO      Delta Environmental

Attn: Mr. Todd Del Frate

Questions? Contact your Client Services Representative  
Teresa M. Lis at (717) 656-2300.

Respectfully Submitted,

**Victoria M. Martell**  
Chemist



Lancaster Laboratories, Inc.  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. SW 3736583

Collected: 11/29/2001 14:30 by BB

Account Number: 10900

Submitted: 12/01/2001 10:50  
 Reported: 12/11/2001 at 16:21  
 Discard: 01/11/2002  
 SP-1-4-S-011129 NA Soil

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

Facility# 91924 DECR  
 4904 Southfront-Livermore T0600100341 NA

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00155	Lead	7439-92-1	3.2	2.5	mg/kg	1
01726	TPH-GRO - Soils					
01727	TPH-GRO - Soils	n.a.	2,200.	200.	mg/kg	5000
The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time. The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.  A poor surrogate recovery was observed due to the dilution needed to perform the analysis.						
02160	BTEX/MTBE					
02174	Benzene	71-43-2	3.9	0.20	mg/kg	1000
02177	Toluene	108-88-3	41.	0.20	mg/kg	1000
02178	Ethylbenzene	100-41-4	24.	0.20	mg/kg	1000
02182	Total Xylenes	1330-20-7	120.	0.60	mg/kg	1000
02199	MTBE	1634-04-4	7.2	2.0	mg/kg	1000
The analysis for volatiles was performed on a sample which was preserved in methanol. The reporting limits were adjusted appropriately.						

State of California Lab Certification No. 2116

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00155	Lead	SW-846 7420	1	12/04/2001 07:16	Deborah A. Krady	1
01726	TPH-GRO - Soils	N. Calif. LUFT Gasoline Method	1	12/03/2001 20:59	Steven A. Skiles	5000

MEMBER  
  
 Lancaster Laboratories, Inc.  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. SW 3736583

Collected: 11/29/2001 14:30 by BB

Account Number: 10900

Submitted: 12/01/2001 10:50  
Reported: 12/11/2001 at 16:21  
Discard: 01/11/2002  
SP-1-4-S-011129 NA Soil

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

Facility# 91924  
4904 Southfront-Livermore T0600100341 NA

DECR

02160	BTEX/MTBE	SW-846 8021B	1	12/03/2001 22:50	Martha L. Seidel	1000
01150	GC VOA Soil Prep	SW-846 5035	1	12/03/2001 05:01	Stephanie A. Selis	n.a.
05709	SW SW846 FAA	SW-846 3050B	1	12/03/2001 15:30	Megan L. Ross	1



Lancaster Laboratories, Inc.  
2425 New Holland Pike  
PO Box 12425  
Lancaster, PA 17605-2425  
717-656-2300 Fax: 717-656-2681



### Quality Control Summary

Client Name: Chevron Products Company  
 Reported: 12/11/01 at 04:21 PM

Group Number: 788446

#### Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 013375709002	Sample number(s): 3736583							
Lead	N.D.	2.6	mg/kg	109		76-124		
Batch number: 01337A33	Sample number(s): 3736583							
TPH-GRO - Soils	N.D.	1.	mg/kg	87		72-112		
Benzene	N.D.	.005	mg/kg	119		73-133		
Toluene	N.D.	.005	mg/kg	108		88-116		
Ethylbenzene	N.D.	.005	mg/kg	118		87-127		
Total Xylenes	N.D.	.015	mg/kg	109		88-120		
MTBE	N.D.	.05	mg/kg	121		54-164		

#### Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	BKG MAX	DUP CONC	DUP RPD	Dup RPD Max
Batch number: 013375709002	Sample number(s): 3736583							
Lead	108	106	80-120	2	20	3.8	3.8	1 (1) 20
Batch number: 01337A33	Sample number(s): 3736583							
TPH-GRO - Soils	78	84	54-100	7	20			
Benzene	97	108	48-140	10	30			
Toluene	88	99	66-120	11	30			
Ethylbenzene	99	108	66-131	9	30			
Total Xylenes	91	100	67-122	9	30			
MTBE	95	103	42-163	8	30			

#### Surrogate Quality Control

Analysis Name: TPH-GRO - Soils  
 Batch number: 01337A33

	Trifluorotoluene-F	Trifluorotoluene-P
3736583	0*	109
Blank	99	110
LCS	92	109
MS	90	98
MSD	96	101
Limits:	48-132	68-122

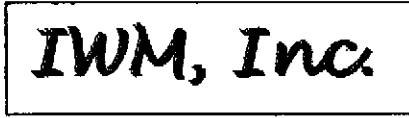
\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.









INTEGRATED WASTESTREAM MANAGEMENT, INC.  
650 AMES AVENUE, MILPITAS, CA 95035  
PHONE: 408.942.8955 FAX: 408.942.1498

# CERTIFICATE OF DISPOSAL

Generator Name: Chevron Products Company  
Address: 6001 Bollinger Canyon Road  
San Ramon, CA 94583  
Contact: Bob Cochran  
Phone: 925-842-9500

Facility Name: C-9-1924  
Address: 4904 Southfront Road  
Livermore, CA  
Facility Contact: Brett Bardsley  
Phone: 916-638-2164

IWM Job #:	<u>91861-SS</u>
Description of Waste:	<u>3 CY of</u> <u>Non-Hazardous</u> <u>Soil</u>
Removal Date:	<u>12-14-01-01</u>
Ticket #:	<u>RSVRL141201-MISC</u>

### Transporter Information

Name: IWM, Inc.  
Address: 950 Ames Avenue  
Milpitas, CA 95035  
Phone: (408) 942-8955

### Disposal Facility Information

Name: Republic Services Vasco Road Landfill  
Address: 4001 N. Vasco Road  
Livermore, CA 94550  
Phone: (925) 447-0491

**IWM, INC. CERTIFIES THAT THE ABOVE LISTED NON-HAZARDOUS WASTE WILL BE TREATED AND DISPOSED AT THE DESIGNATED FACILITY IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.**

William T. DeLon *William T. DeLon*  
Authorized Representative (Print Name and Signature)

12-14-01  
Date