

R0415



**Shell Oil Products US**

March 1, 2005

Roseanna Garcia-La Grille  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Alameda County  
MAR 09 2005  
Environmental Health

**Subject: Former Shell Service Station**  
4411 Foothill Boulevard  
Oakland, California

Dear Ms. Garcia-La Grille:

Attached for your review and comment is a copy of the *Monitoring Well Destruction Work Plan* for the above referenced site. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

As always, please feel free to contact me directly at (559) 645-9306 with any questions or concerns.

Sincerely,

**Shell Oil Products US**

A handwritten signature in cursive script that reads "Karen Petryna".

Karen Petryna  
Sr. Environmental Engineer

March 1, 2005

Roseanna Garcia-La Grille  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Re: **Monitoring Well Destruction Work Plan**  
Former Shell Service Station  
4411 Foothill Boulevard  
Oakland, California  
Incident # 98995746  
Cambria Project # 247-0897-006

Alameda County  
MAR 09 2005  
Environmental Health



Dear Ms. Garcia-La Grille:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), Cambria Environmental Technology, Inc. (Cambria) is submitting this *Monitoring Well Destruction Work Plan*. This work plan is being submitted in anticipation of the upcoming proposed redevelopment of the subject property (Figures 1 and 2). Presented below are a summary of site characteristics, a summary of monitoring well destruction activities, and the proposed scope of work.

## SITE CHARACTERISTICS

**Site Description:** The site is a former Shell-branded service station located on the southwest corner of the Foothill Boulevard and High Street intersection in Oakland, California (Figures 1 and 2). Land use in the site vicinity is mixed commercial and residential, with gasoline service stations occupying the northeastern and northwestern corners of the intersection. Fremont High School is located on the southeastern intersection corner.


**Sediment Lithology:** Sandy clay underlies the site from approximately 6 to 10 feet below grade (fbg). Clayey sand with lenses of gravel underlies the sandy clay from approximately 10 to 13 fbg. Sandy clay underlies the clayey sand to the maximum on-site explored depth of 26 fbg.

**Groundwater Characteristics and Monitoring Results:** Groundwater has been monitored at the site since December 1992. During that time, groundwater depth has ranged from approximately 6 to 12 fbg. The calculated groundwater gradient typically trends to the south-southwest at 0.12 ft/ft. The fourth

Cambria  
Environmental  
Technology, Inc.

5900 Hollis Street  
Suite A  
Emeryville, CA 94608  
Tel (510) 420-0700  
Fax (510) 420-9170

quarter 2004 maximum groundwater concentration of total petroleum hydrocarbons as gasoline was 4,700 parts per billion (ppb) in well S-5. During the fourth quarter 2004, the maximum concentrations of benzene and methyl tertiary butyl ether in groundwater were 520 ppb and 290 ppb, respectively, in S-4.



**Property Development:** The site is currently a vacant lot. According to the property owner, redevelopment construction will begin in late May to early June of 2005. The five on-site wells (S-1 through S-5) are located in areas where new buildings and a parking lot are proposed. Since the proposed buildings will cover three wells (S-2, S-4 and S-5), and grading for the proposed parking lot could damage wells S-1 and S-3, Cambria believes it is appropriate to properly destroy the wells prior to their being damaged or lost during construction to protect groundwater quality. Once the property owner obtains construction permits and provides Shell with a construction start date, Cambria will implement the well destruction activities. Cambria proposes to destroy the wells by pressure grouting with neat Portland Type I/II cement grout. Upon redevelopment completion, Cambria will submit a well installation work plan to the Alameda County Health Care Services Agency discussing potential replacement well locations.

## PROPOSED SCOPE OF WORK

**Well Destruction Activities:** Five wells (S-1 through S-5) are proposed for destruction by pressure grouting with neat Portland Type I/II cement. Construction details for wells S-2 through S-5 are included in Attachment A. (No construction details were available for on-site well S-1.) Cambria's Standard Field Procedures for Monitoring Well Destruction is included as Attachment B. All well vaults will be removed during well destructions.

**Utility Location:** Cambria will notify Underground Services Alert (USA) of our pressure grouting activities, and USA will identify utilities in the site vicinity. Also, a private line locator may be used to identify on-site utility locations.

**Site Health and Safety Plan:** Cambria will prepare a comprehensive site safety plan to protect site workers. The plan will be reviewed and signed by each site worker and kept onsite during field activities.

**Permits:** Cambria has obtained the necessary permits from the Alameda County Public Works Department (ACPWD) (Attachment C).

**Suspension of Groundwater Monitoring:** Groundwater monitoring will be temporarily suspended during the construction period. Joint groundwater monitoring is currently conducted with the Chevron

station located at Chevron Service Station #9-0076 at 4265 Foothill Boulevard and the adjacent former BP Service Station #11109 at 4280 Foothill Boulevard. Upon well destruction, the other parties will be informed of the temporary suspension of joint groundwater monitoring.

**Reporting:** Upon completion of the well destructions, Cambria will prepare a report that, at a minimum, will contain:

- A summary of the site background and history,
- Descriptions of the destruction activities,
- Destroyed monitoring well construction details, and
- California Department of Water Resources well driller's completion reports.



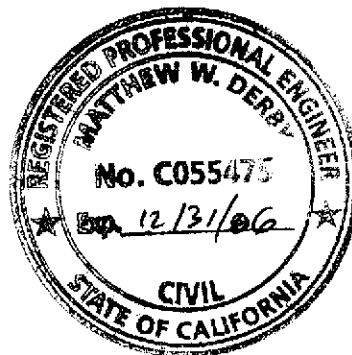
**CLOSING**

We appreciate the opportunity to work with you on this project. Please call David Gibbs at (510) 420-3363 if you have any questions or comments.

Sincerely,  
**Cambria Environmental Technology, Inc.**

David Gibbs  
Project Geologist

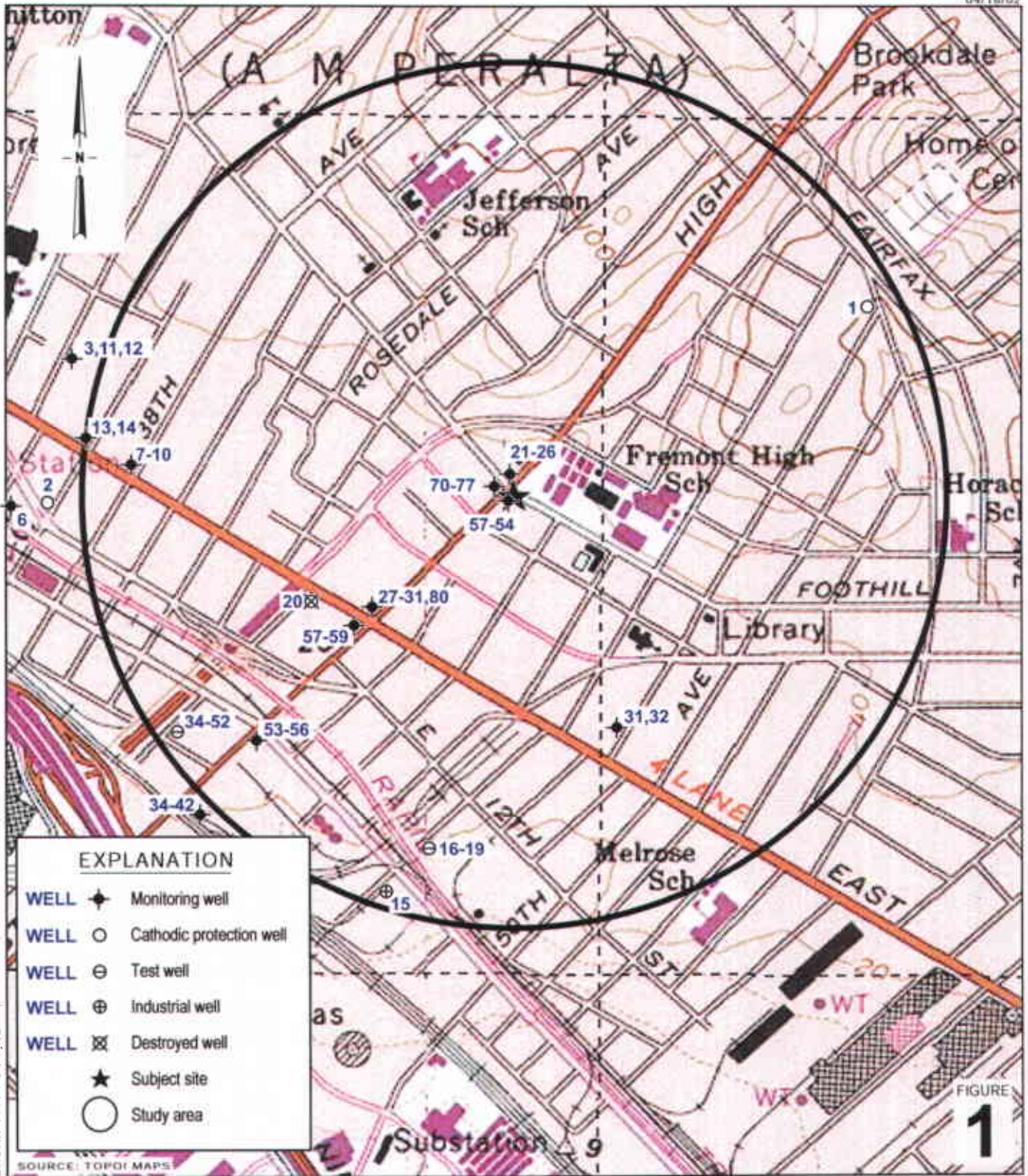
Matthew W. Derby, P.E.  
Senior Project Engineer



Figures:           1 - Vicinity/Area Well Survey Map  
                      2 - Proposed Well Destruction Locations with Proposed Building Foundations

Attachments:    A - Well Construction Details  
                      B - Standard Field Procedures for Monitoring Well Destruction  
                      C - ACPWD Permits

cc:           Karen Petryna, Shell Oil Products US, 20945 Wilmington Ave, Carson, CA 90810  
              Bill Phua c/o Jay-Phares, 10700 MacArthur Boulevard, Suite 200, Oakland, CA  
              94605-5260, Attention: H.K. Phares



G:\OAK 4411 FOOTHILL\FIGURES\VIC-WELL-SURVEY.A1

SOURCE: TOPOI MAPS

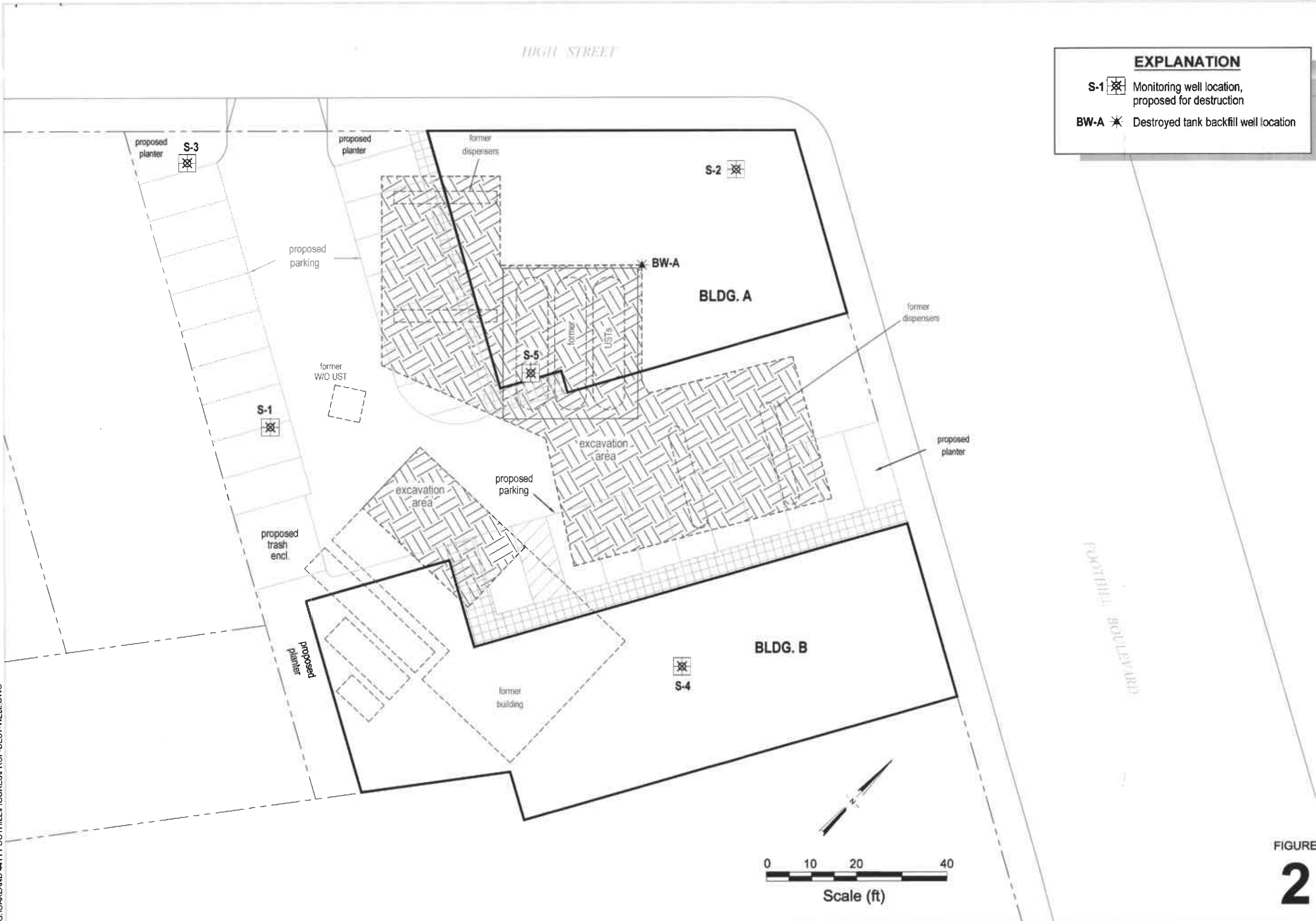


**Former Shell Service Station**  
 4411 Foothill Boulevard  
 Oakland, California  
 Incident #98995746



**Vicinity/Area Well Survey Map**  
 (1/2-Mile Radius)

FIGURE 1



**EXPLANATION**

S-1 Monitoring well location, proposed for destruction

BW-A Destroyed tank backfill well location

**Proposed Well Destruction Locations  
with Proposed Building Foundations**



C A M B R I A

FIGURE  
**2**

**Former Shell Service Station**  
4411 Foothill Boulevard  
Oakland, California  
Incident #98995746

**ATTACHMENT A**  
**Well Construction Details**

SITE/LOCATION 4411 Foothill Boulevard, Oakland, CA		BEGUN 5/21/93	BORING DIAMETER 10 Inches	ANGLE/BEARING 90 Degrees	BORING NO S-2
DRILLING CONTRACTOR Gregg Drilling		COMPLETED 5/21/93	FIRST ENCOUNTERED WATER DEPTH 14 Feet		BOTTOM OF BORING 22 Feet
OPERATOR Moe Ruud		LOGGED BY Tony Ramirez	STATIC WATER DEPTH/DATE 9 Feet		
DRILL MAKE & MODEL Mobile B-53		SAMPLING METHOD Continuous sample			WELL NO. S-2
WELL MATERIAL 4" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/12	WELL SEAL Neat cement over hydrated pellets		BOTTOM OF WELL 22 Feet

BLOWS/ FOOT	FIELD HEAD- SPACE*	DEPTH	SAMPLE WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1				ASPHALT
		2				BASEROCK
		3				Sandy Lean CLAY (CL); black; moderate plasticity; 30% fine to coarse, angular to sub-rounded sand; dry.
		4				
38	6.5	5				
		6				
33		7				Same as above, but moist.
		8				Clayey SAND (SC); brown-grey; poorly graded; fine to coarse, angular to sub-rounded sand; 40% clay; moist.
37	68.8	9				
52		10				Clayey GRAVEL (GC); brown; poorly graded; fine, sub-angular gravel; 30% clay; 10% fine to coarse sand; moist.
		11				Clayey SAND (SC); brown-grey; poorly graded; fine to coarse, angular to sub-rounded sand; 40% clay; moist.
31	*PID (ppm)	12				

**HYDR -  
ENVIRONMENTAL  
TECHNOLOGIES, INC.**

DATE: June 7, 1993

APPROVED BY: John H. Turney, P.E.

**SOIL BORING LOG S-2  
AND  
WELL CONSTRUCTION S-2**

Shell Service Station  
4411 Foothill Boulevard  
Oakland, CA  
WIC #204-5508-3400

**PLATE  
C-2  
SHEET 1 OF 2**

**JOB NO.  
12-010**



SITE/LOCATION 4411 Foothill Boulevard, Oakland, CA		BEGUN 5/21/93	BORING DIAMETER 10 Inches	ANGLE/BEARING 90 Degrees	BORING NO S-2
DRILLING CONTRACTOR Gregg Drilling		COMPLETED 5/21/93	FIRST ENCOUNTERED WATER DEPTH 14 Feet		BOTTOM OF BORING 22 Feet
OPERATOR Moe Ruud		LOGGED BY Tony Ramirez	STATIC WATER DEPTH/DATE 9 Feet		
DRILL MAKE & MODEL Mobile B-53		SAMPLING METHOD Continuous sample			WELL NO. S-2
WELL MATERIAL 4" SCH 40 PVC	SLOT SIZE 0.020"	FILTER PACK #2/12	WELL SEAL Neat cement over hydrated pellets		BOTTOM OF WELL 22 Feet

BLOWS/ FOOT	FIELD HEAD- SPACE *	DEPTH	SAMPLE WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
26	10.8	13				Clayey SAND (SC); continued from sheet 1.
						Clayey GRAVEL (GC); same as 10' to 11'.
						Clayey SAND (SC); same as 11' to 12.5'.
31		14				Silty SAND (SM); light brown; poorly graded; fine to medium, angular to sub-rounded sand; 20% silt; wet.
		15				Clayey SAND (SC); brown-grey; poorly graded; fine to coarse, angular to sub-rounded sand; 40% clay; wet.
21		16				
		17				
18		18				Fat CLAY (CH); light brown; high plasticity; 10% fine to medium, angular to sub-rounded sand; wet.
26		19				Fat CLAY (CH); light brown; high plasticity; moist.
27		20				
	21					
43	22	Same as above.				
	23					
	24					

**HYDRO -  
ENVIRONMENTAL  
TECHNOLOGIES, INC.**

**SOIL BORING LOG S-2  
AND  
WELL CONSTRUCTION S-2**

**PLATE  
C-2  
SHEET 2 OF 2**

DATE: June 7, 1993

APPROVED BY: John H. Turney, P.E.

Shell Service Station  
4411 Foothill Boulevard  
Oakland, CA  
WIC #204-5508-3400

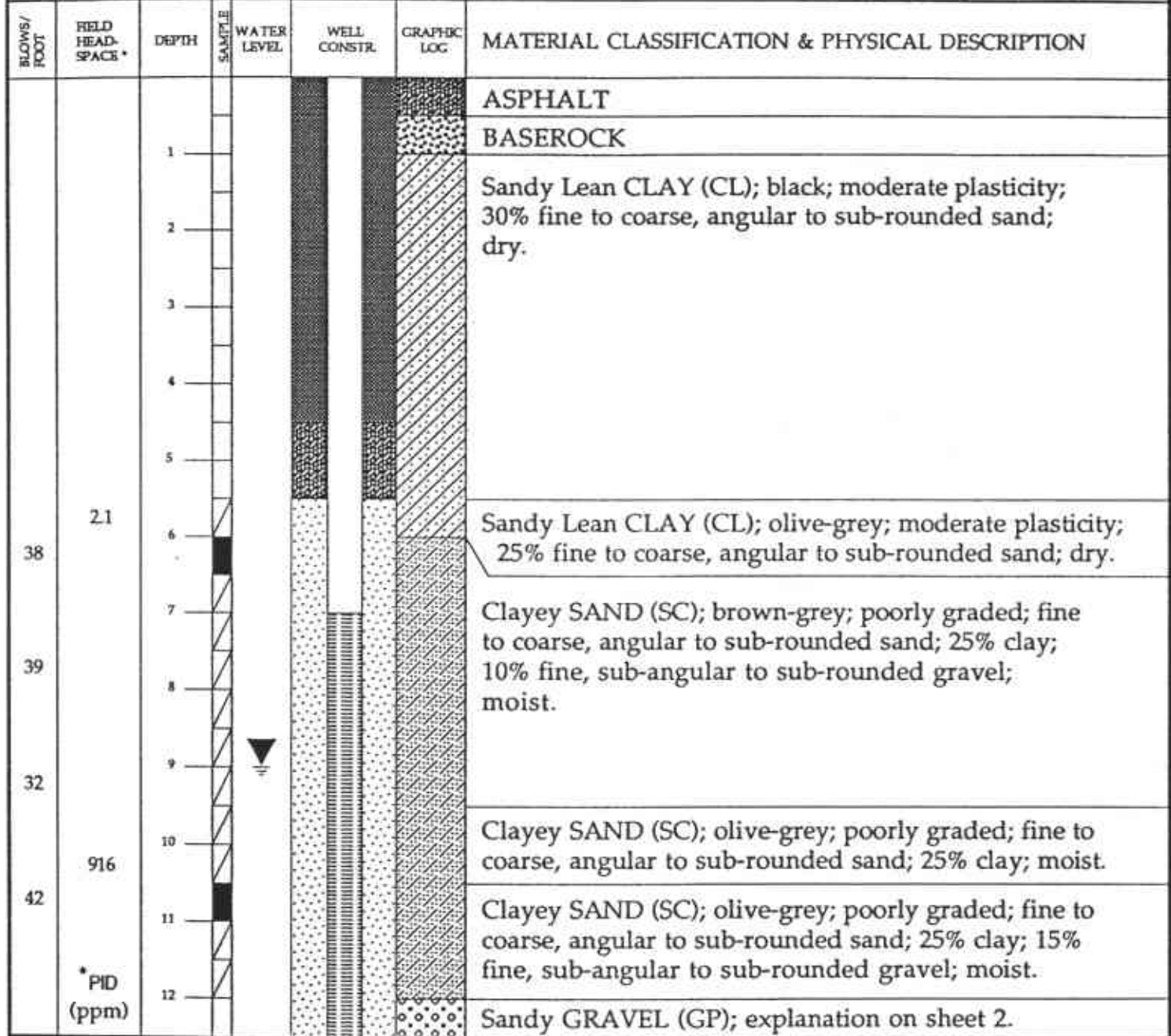
**JOB NO.  
12-010**

**CONFIDENTIAL**

STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)

**REMOVED**

SITE/LOCATION 4411 Foothill Boulevard, Oakland, CA		BEGIN 5/21/93	BORING DIAMETER 10 Inches	ANGLE/BEARING 90 Degrees	BORING NO S-3
DRILLING CONTRACTOR Gregg Drilling		COMPLETED 5/21/93	FIRST ENCOUNTERED WATER DEPTH 14 Feet		BOTTOM OF BORING 20 Feet
OPERATOR Ted Hogan		LOGGED BY Tony Ramirez	STATIC WATER DEPTH/DATE 9 Feet		
DRILL MAKE & MODEL Mobile B-53		SAMPLING METHOD Continuous sample			WELL NO. S-3
WELL MATERIAL 4" SCH 40 PVC		SLOT SIZE 0.020"	FILTER PACK #2/12	WELL SEAL Neat cement over hydrated pellets	
				BOTTOM OF WELL 20 Feet	



HYDRO-  
ENVIRONMENTAL  
TECHNOLOGIES, INC.

DATE: June 7, 1993

APPROVED BY: John H. Turney, P.E.

SOIL BORING LOG S-3  
AND  
WELL CONSTRUCTION S-3

Shell Service Station  
4411 Foothill Boulevard  
Oakland, CA  
WIC #204-5508-3400

PLATE  
C-3  
SHEET 1 OF 2

JOB NO.  
12-010

SITE/LOCATION 4411 Foothill Boulevard, Oakland, CA		BEGUN 5/21/93	BORING DIAMETER 10 Inches	ANGLE/BEARING 90 Degrees	BORING NO S-3
DRILLING CONTRACTOR Gregg Drilling		COMPLETED 5/21/93	FIRST ENCOUNTERED WATER DEPTH 14 Feet		BOTTOM OF BORING 20 Feet
OPERATOR Ted Hogan		LOGGED BY Tony Ramirez	STATIC WATER DEPTH/DATE 9 Feet		
DRILL MAKE & MODEL Mobile B-53		SAMPLING METHOD Continuous sample			WELL NO. S-3
WELL MATERIAL 4" SCH 40 PVC		SLOT SIZE 0.020"	FILTER PACK #2/12	WELL SEAL Neat cement over hydrated pellets	
				BOTTOM OF WELL 20 Feet	

BLOWS/ FOOT	FIELD HEAD- SPACE*	DEPTH	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
90		13				Sandy GRAVEL (GP); brown; poorly graded; fine sub-angular gravel; 35% fine to coarse sand; 10% clay; moist.
32		14				Clayey GRAVEL (GC); brown; poorly graded; fine sub-angular gravel; 30% clay; 10% fine to coarse sand; wet.
29	244	15				Fat CLAY (CH); light brown with grey mottling; high plasticity; 10% fine to medium, angular to sub-rounded sand; wet.
33		16				Clayey SAND (SC); brown; poorly graded; fine to coarse, angular to rounded sand; 20% clay; 10% fine gravel; wet.
26		17				Fat CLAY (CH); light brown; high plasticity; moist.
22		18				Same as above.
		19				
		20				
		21				
		22				
		23				
		24				

**HYDRO-  
ENVIRONMENTAL  
TECHNOLOGIES, INC.**

DATE: June 7, 1993

APPROVED BY: John H. Turney, P.E.

**SOIL BORING LOG S-3  
AND  
WELL CONSTRUCTION S-3**

Shell Service Station  
4411 Foothill Boulevard  
Oakland, CA  
WIC #204-5508-3400

**PLATE  
C-3**

SHEET 2 OF 2

JOB NO.  
**12-010**

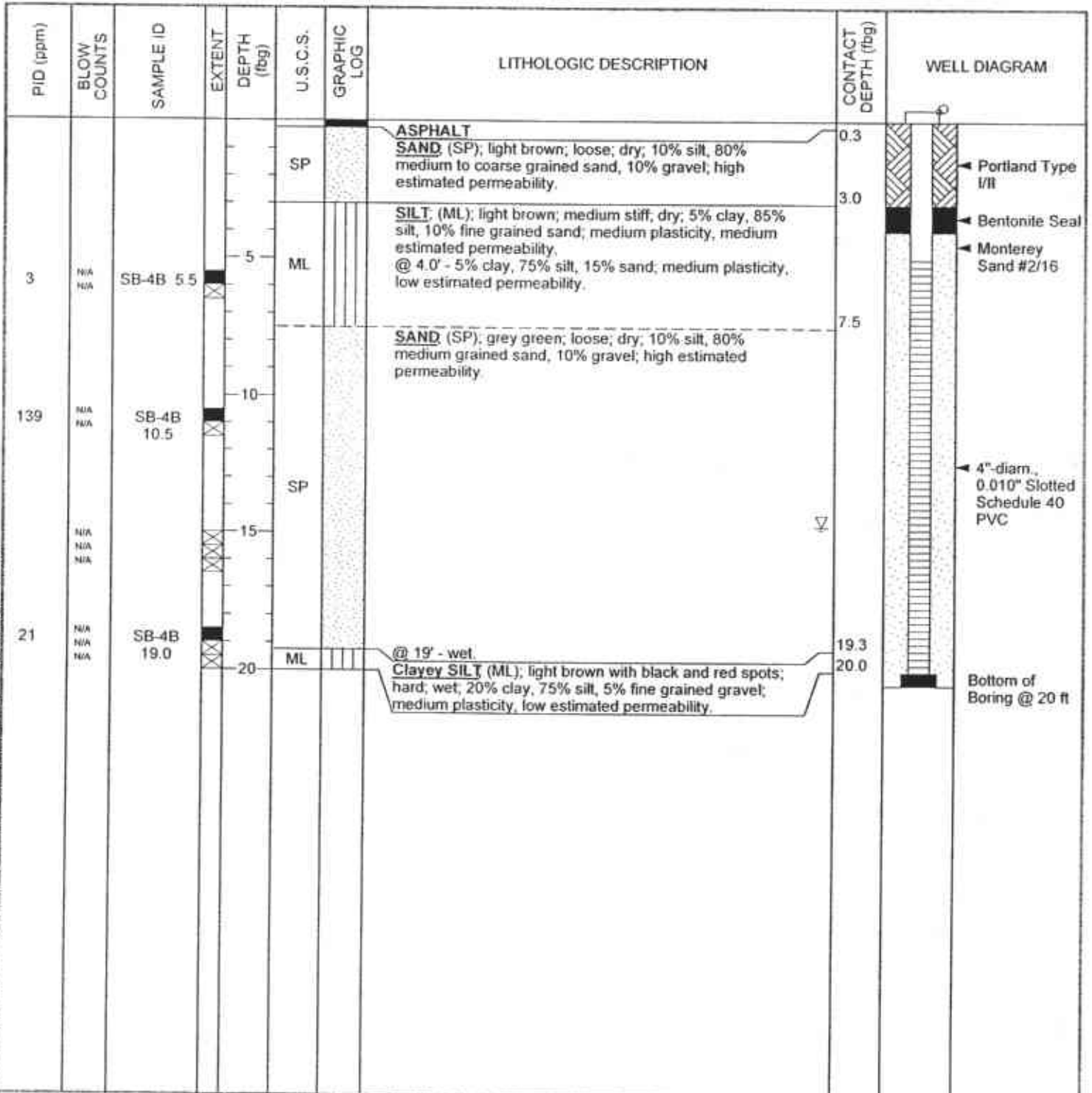
**CONFIDENTIAL**

STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)

**REMOVED**



CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	S-4 (SB-4B)
JOB/SITE NAME	Shell-branded Service Station	DRILLING STARTED	07-Jan-00
LOCATION	4411 Foothill Blvd, Oakland	DRILLING COMPLETED	07-Jan-00
PROJECT NUMBER	244-0897	WELL DEVELOPMENT DATE (YIELD)	29-Mar-00
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	39.06
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	38.70 ft
BORING DIAMETER	10"	SCREENED INTERVAL	5 to 20 fbg
LOGGED BY	M. Gaffney	DEPTH TO WATER (First Encountered)	14.8 ft (07-Jan-00) ▽
REVIEWED BY	S. Bork, RG# 5620	DEPTH TO WATER (Static)	NA ▼
REMARKS	Hand Augered to 5 fbg		

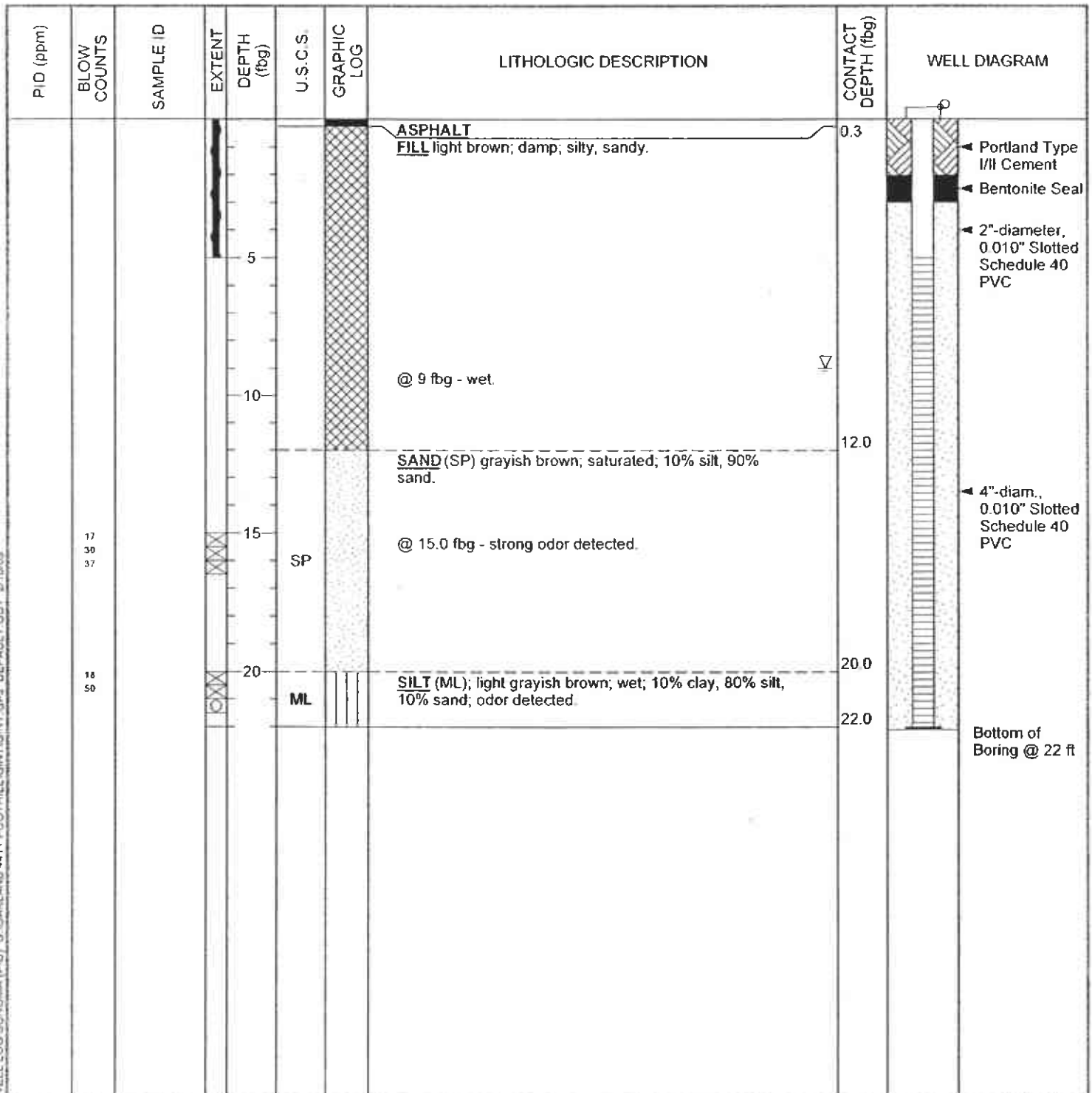


WELL LOG SONOMA (PID) G:\OAKLAND\44111 FOOHILL\LGINT\GINT.GPJ\_DEFAULT.GDT 2/10/05



CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	S-5
JOB/SITE NAME	Shell-branded Service Station	DRILLING STARTED	09-May-02
LOCATION	4411 Foothill Blvd, Oakland	DRILLING COMPLETED	09-May-02
PROJECT NUMBER	244-0897	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	10"	SCREENED INTERVAL	5 to 22 fbg
LOGGED BY	S. Couch	DEPTH TO WATER (First Encountered)	9.0 ft (09-May-02)
REVIEWED BY	M. Derby, PE# 55475	DEPTH TO WATER (Static)	NA

REMARKS Hand Augered to 5 fbg. Well located 50' southeast of the middle of northwest driveway.



WELL LOG SONOMA (PID) G:\OAKLAND 4411 FOOHILL\GINTGINT.GPJ DEFAULT.GDT 2/1/05

**ATTACHMENT B**

**Standard Field Procedures for Monitoring Well Destruction**



# CAMBRIA

## STANDARD FIELD PROCEDURES FOR MONITORING WELL DESTRUCTION

This document presents standard field methods for destroying groundwater monitoring wells. The objective of well destruction is to destroy wells in a manner that is protective of potential water resources. The two procedures most commonly used are pressure grouting and drilling out the well. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

### **Pressure Grouting**

Pressure grouting consists of injecting neat Portland cement through a tremie pipe under pressure to the bottom of the well. The cement is composed of about five gallons of water to a 94 lb. sack of Portland I/II Cement. Once the well casing is full of grout, it remains pressurized for five minutes by applying a pressure of 25 (pounds per square inch) psi with a grout pump. The well casing can also be pressurized by extending the well casing to the appropriate height and filling it with grout. In either case, the additional pressure allows the grout to be forced into the sand pack. After grouting the sand pack and casing, the well vault is removed and the area resurfaced or backfilled as required.

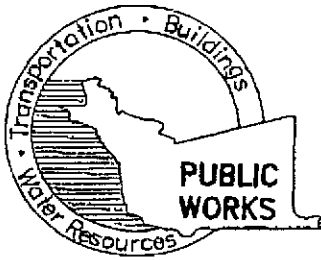
### **Well Drill Out**

When well drill out is required, the well location is cleared for subsurface utilities and a hollow-stem auger drilling rig is used to drill out the well casing and filter pack materials. First, drill rods are dropped down the well and used to guide the augers as they drill out the well. Once the well is drilled out, the boring is filled with Portland cement injected through the augers or a tremie pipe under pressure to the bottom of the boring. The well vault is removed and the area resurfaced or backfilled as required.

F:\TEMPLATE\SOPS\Well Destruction SOP.doc

**ATTACHMENT C**

**ACPWD Permits**



**COUNTY OF ALAMEDA  
PUBLIC WORKS AGENCY  
WATER RESOURCES SECTION**  
399 Elmhurst Street, Hayward, CA 94544-1395  
James Yoo PH: (510) 670-6633 FAX: (510) 782-1939  
FOR GENERAL DRILLING PERMIT INFO:  
[www.acgov.org/pwa/wells](http://www.acgov.org/pwa/wells)

## FAX TRANSMITTAL

**TO:** Cambria Ent

**DATE:** 2-16-05

Attn: Stewart Dalie

**FAX NO.:** (510) 420-9170

**TRANSMITTING THE FOLLOWING:**

**SHEETS DATED TITLE/DESCRIPTION**

6 - DPA-WOS-0195-0199 of conditions

**TOTAL PAGES INCLUDING THIS SHEET.**

**FROM WATER RESOURCES SECTION**

**NAME:** JAMES YOO

**TEL:** (510) 670-6633

**FAX:** (510) 782-1939

**E-MAIL:** [jamesy@acpwa.org](mailto:jamesy@acpwa.org)

**IF YOU EXPERIENCE PROBLEMS WITH THIS TRANSMISSION, PLEASE CALL ME.**

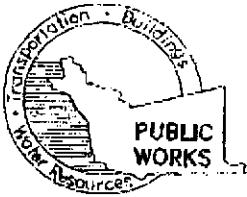
**REMARKS:** FYI: EFFECTIVE NOVEMBER 1, 2004

### SCHEDULING WORK/INSPECTIONS

Alameda County Public Works Agency (ACPWA), Water Resources Section requires scheduling and inspection of permitted work. All drilling activities must be scheduled in advance. Availability of inspections will vary from week to week and will come on a first come, first served bases. To ensure inspection availability on your desired or driller scheduled date, the following procedures are required:

- Please contact George Bolton at 510-670-5594 to schedule the inspection date and time (You must have drilling permit approved prior to scheduling).
- Schedule the work as far in advance as possible (at least 5 days in advance); and confirm the scheduled drilling date(s) at least 24 hours prior to drilling.

Once the work has been scheduled, an ACPWA Inspector will coordinate the inspection requirements as well as how the Inspector can be reached if they are not at the site when inspection is required. Expect for special circumstances given, all work will require the inspection to be conducted during the working hours of 8:30am to 2:30pm. Monday to Friday, excluding holidays.



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

**WATER RESOURCES SECTION**  
399 ELMHURST ST. HAYWARD CA. 94544-1395  
PHONE (510) 670-6633 James Yon  
FAX (510) 782-1939

www.acfwed.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS  
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 4411 Foothill Blvd.  
Oakland, CA.

PERMIT NUMBER W05-0195  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

### PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT  
Name Shell Oil Products Co. (U.S.)  
Address 20445 S. Wilshire Phone (562) 645-9306  
City Carson, CA Zip 90810

- A. GENERAL**
  1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
  3. Permit is void if project not begun within 90 days of approval date.

APPLICANT  
Name Cambrina Sewi Technology  
- Stu Dalie - Fax 510 420 9170  
Address 5100 Hollis St. Ste A Phone 510 420 3339  
City Emeryville, CA Zip 94608

### 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.

### TYPE OF PROJECT

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Monitoring	<input type="checkbox"/>	Well Destruction	<input checked="" type="checkbox"/>

### 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.

### PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

### D. GEOTECHNICAL/CONTAMINATION

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

### DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>	- pressure grout	

### E. CATHODIC

Fill hole anode zone with concrete placed by tremie.

DRILLER'S NAME Gregg Drilling

- F. WELL DESTRUCTION - P6A2**  
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

DRILLER'S LICENSE NO. 485-1658

### G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

### WELL PROJECTS

Drill Hole Diameter	_____ in.	Maximum	_____
Casing Diameter	_____ in.	Depth	_____ ft.
Surface Seal Depth	_____ ft.	Owner's Well Number	<u>(S-1)</u>

### GEOTECHNICAL/CONTAMINATION PROJECTS

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

STARTING DATE between May 1st 05

COMPLETION DATE to July 1st 05

*providing construction schedule.*

APPROVED

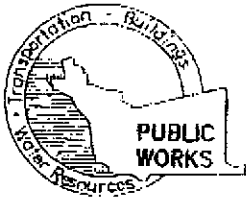
DATE

2-10-05

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

APPLICANT'S SIGNATURE \_\_\_\_\_ DATE 2/10/05

PLEASE PRINT NAME Stewart A. Dalie III



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION  
399 ELMHURST ST. HAYWARD CA. 94544-1395  
PHONE (510) 670-6633 James You  
FAX (510) 782-1939

www.acfewed.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS  
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 4411 Foothill Blvd.  
OAKLAND, CA

PERMIT NUMBER W05-0196  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

### PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT  
Name Shell Oil Products Co. (U.S.)  
Address 20945 S. Union Way Phone (510) 645-9306  
City Carson, CA Zip 90810

- A. GENERAL**
  1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
  3. Permit is void if project not begun within 90 days of approval date.
- 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 70 feet for domestic and irrigation wells unless a lesser depth is specially approved.
- 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.
- D. GEOTECHNICAL/CONTAMINATION**  
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.
- E. CATHODIC**  
Fill hole anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION - PG#2**  
Send a map of work site. A separate permit is required for wells deeper than 45 feet.
- G. SPECIAL CONDITIONS**

APPLICANT  
Name Cambria Sewi Technology  
- Stu Dalie - Fax 510 420 9170  
Address 5100 Hellis St Ste A Phone 510 420 3339  
City Emeryville, CA Zip 94608

### TYPE OF PROJECT

<u>Well Construction</u>		<u>Geotechnical Investigation</u>	
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input checked="" type="checkbox"/>	Contamination	<input checked="" type="checkbox"/>
Monitoring	<input type="checkbox"/>	Well Destruction	<input checked="" type="checkbox"/>

### PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input checked="" type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

### DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input checked="" type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<u>X - pressure grout</u>		

DRILLER'S NAME George Drilling

DRILLER'S LICENSE NO. 485-165

### WELL PROJECTS

Drill Hole Diameter	<u>10 1/2</u> in.	Maximum	
Casing Diameter	<u>4 1/2</u> in.	Depth	<u>22</u> ft.
Surface Seal Depth	<u>45</u> ft.	Owner's Well Number	<u>(5-2)</u>

### GEOTECHNICAL/CONTAMINATION PROJECTS

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

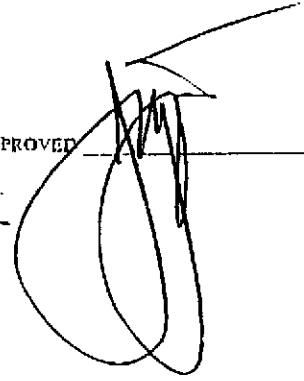
STARTING DATE between May 1<sup>st</sup> 05  
COMPLETION DATE to July 1<sup>st</sup> 05 *pending construction schedule.*

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

APPLICANT'S SIGNATURE [Signature] DATE 2/10/05

PLEASE PRINT NAME Stewart A. Dalie IV Rev. 5-11-04

APPROVED \_\_\_\_\_ DATE 2-10-05





### ALAMEDA COUNTY PUBLIC WORKS AGENCY

**WATER RESOURCES SECTION**  
399 ELMHURST ST. HAYWARD CA. 94544-1395  
PHONE (510) 670-6637 James Yoo  
FAX (510) 783-1939

www.acfwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS  
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 4411 Foothill Blvd.  
Oakland, CA

PERMIT NUMBER W05-0198  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

CLIENT  
Name Shell Oil Products Co. (U.S.)  
Address 20945 S. Wilshire Phone (510) 645-9306  
City Carson, CA Zip 90810

APPLICANT  
Name Cambria Env. Technology  
- Stu Dulie - Fax 510 420 1970  
Address 5100 Hillside St Phone 510 420 3339  
City Emeryville, CA Zip 94608

#### TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Monitoring	<input type="checkbox"/>	Well Destruction	<input checked="" type="checkbox"/>

#### PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other _____	<input type="checkbox"/>

#### DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>	- pressure grout	

DRILLER'S NAME Gregg Drilling

DRILLER'S LICENSE NO. 485-165

#### WELL PROJECTS

Well S-4 (SB-4B)

Drill Hole Diameter	<u>10"</u> in.	Maximum Depth	<u>20</u> ft.
Casing Diameter	<u>4"</u> in.	Owner's Well Number	<u>S-4(SB-4B)</u>
Surface Seal Depth	<u>4</u> ft.		<u>log attached.</u>

#### GEOTECHNICAL/CONTAMINATION PROJECTS

Number of Borings	_____	Maximum Hole Diameter	_____ in.	Depth	_____ ft.
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STARTING DATE between May 1st 05'  
COMPLETION DATE to July 1st 05 } pending construction schedule.

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

APPLICANT'S SIGNATURE [Signature] DATE 2/10/05

PLEASE PRINT NAME Stewart A. Dulie II Rev. 5-11-04

#### PERMIT CONDITIONS

Circled Permit Requirements Apply

##### A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

##### 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.

##### 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.

##### D. GEOTECHNICAL/CONTAMINATION

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

##### E. CATHODIC

Fill hole anode zone with concrete placed by tremie.

##### F. WELL DESTRUCTION - PG # 2

Send a map of work site. A separate permit is required for wells deeper than 45 feet.

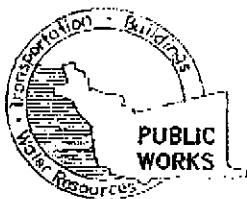
##### G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are not acceptable for geotechnical and contamination investigations.

APPROVED

DATE

[Signature] 2-10-05



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

**WATER RESOURCES SECTION**  
399 ELMHURST ST. HAYWARD CA. 94544-1395  
PHONE (510) 670-6633 James You  
FAX (510) 782-1939

www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS  
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 4411 Foothill Blvd.  
Oakland, CA

PERMIT NUMBER WAS-0199  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

### PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT  
Name Shell Oil Products Co. (US)  
Address 20945 S. W. Mills Phone (510) 445-9306  
City Carson, CA Zip 90810

- A. GENERAL**
  1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
  3. Permit is void if project not begun within 90 days of approval date.

APPLICANT  
Name Cambria Sewer Technology  
- Stu Decker - Fax 510 420 9170  
Address 5900 Hellis St Phone 510 420 3339  
City Emeryville, CA Zip 94608

- 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.
- 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.
- D. GEOTECHNICAL/CONTAMINATION**  
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.
- E. CATHODIC**  
Fill hole anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION - PG#1**  
Send a map of work site. A separate permit is required for wells deeper than 45 feet.
- G. SPECIAL CONDITIONS**

### TYPE OF PROJECT

<u>Well Construction</u>		<u>Geotechnical Investigation</u>	
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Monitoring	<input type="checkbox"/>	Well Destruction	<input checked="" type="checkbox"/>

### PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

### DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>	<u>pressure grout</u>	

DRILLER'S NAME Gregg Drilling

DRILLER'S LICENSE NO. 485-1658

### WELL PROJECTS

Drill Hole Diameter	<u>10"</u> in.	Maximum	
Casing Diameter	<u>4"</u> in.	Depth	<u>22</u> ft.
Surface Seal Depth	<u>3</u> ft.	Owner's Well Number	<u>(S-5)</u>

### GEOTECHNICAL/CONTAMINATION PROJECTS

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

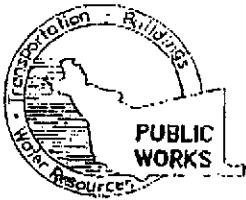
STARTING DATE between May 1st 05  
COMPLETION DATE to July 1st 05  
*pending construction schedule*

APPROVED \_\_\_\_\_ DATE 2-10-05

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-6R.

APPLICANT'S SIGNATURE [Signature] DATE 2/10/05

PLEASE PRINT NAME Stewart A. Dulic IV Rev 5/11/04



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION  
399 ELMHURST ST. HAYWARD CA. 94544-1195  
PHONE (510) 670-6633 James Yon  
FAX (510) 782-1939

www.acfwd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS  
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 4411 Foothill Blvd.  
Oakland, CA

PERMIT NUMBER W05-0197  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

CLIENT  
Name Shell Oil Products Co. (U.S.)  
Address 20445 S. Wilshire Phone (310) 645-9306  
City Los Angeles, CA Zip 90024

APPLICANT  
Name Cambria EMI Technology  
- Stu Dalie - Fax 510 420 9170  
Address 5700 Hillcrest St Phone 510 420 3339  
City Emeryville, CA Zip 94608

#### TYPE OF PROJECT

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

#### PROPOSED WATER SUPPLY WELL USE

New Domestic  
 Municipal  
 Industrial  
 Replacement Domestic  
 Irrigation  
 Other

#### DRILLING METHOD:

Mud Rotary  
 Cable  
 Air Rotary  
 Other X - pressure grout  
 Auger

DRILLER'S NAME Grey Drilling

DRILLER'S LICENSE NO. 985-1658

well 5-3

#### WELL PROJECTS

Drill Hole Diameter 10" in. Maximum  
Casing Diameter 4" in. Depth 20ft  
Surface Seal Depth 5.5 ft. Owner's Well Number (5-3)

#### GEOTECHNICAL/CONTAMINATION PROJECTS

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

STARTING DATE between May 1st 05  
COMPLETION DATE to July 1st 05  
pending construction schedule.

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

APPLICANT'S SIGNATURE [Signature] DATE 2/10/05

PLEASE PRINT NAME Stewart A. Dalie IV Rev 5-11-04

#### PERMIT CONDITIONS

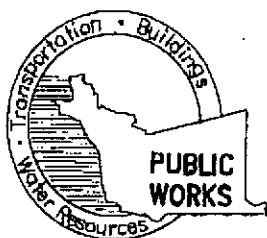
Circled Permit Requirements Apply

- A. GENERAL**
  1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
  3. Permit is void if project not begun within 90 days of approval date.
- 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.
- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
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- D. GEOTECHNICAL/CONTAMINATION**  
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- E. CATHODIC**  
Fill hole anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION - PG#2**  
Send a map of work site. A separate permit is required for wells deeper than 45 feet.
- G. SPECIAL CONDITIONS**

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [Signature] DATE 2-10-05





## ALAMEDA COUNTY PUBLIC WORKS AGENCY

### WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD, CA. 94544-1395

PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

PERMIT NO. W05-0195-0199

WATER RESOURCES SECTION  
GROUNDWATER PROTECTION ORDINANCE  
Destruction of Wells (Less than 45 feet in depth)

**Destruction Requirements: PRESSURE GROUTING # 1**

1. Remove any casing(s) and annular seal to 3-5 feet below finished grade of original ground, whichever is the lower elevation. If well(s) are obstructed, then drill out to original depth.
2. Destroy well by grouting neat cement with a tremie pipe or pressure grouting (25 psi for 5min.) to the bottom of the well and by filling with neat cement to three (3-5) feet below surface grade. Allow the sealing material to spill over the top of the casing to fill any annular space between casing and soil.
3. After the seal has set, backfill the remaining hole with concrete or compacted material to match existing conditions.
4. Drilling permits are valid from the start date to the completion date. Permits can be extended by a phone call, but drilling permit applications will not be extended beyond 90 days from the approved start date. **Permit is valid from May 1 to July 1, 2005.**
5. Permittee, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. This permit may be voided if it contains incorrect information.
7. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
8. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). **Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including: permit number and site map.**
9. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.
10. Applicant shall contact George Bolton for a inspection time at 510-670-5594 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.