CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

TRANSMITTAL

DATE: May 10, 2010

REFERENCE NO.: 240735

PROJECT NAME: 9750 Golf Links Road, Oakland

TO: Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RECEIVED
9:42 am, May 14, 2010
Alameda County
Environmental Health

Please find enclosed:
- ☐ Draft
- ☐ Originals
- ☐ Prints
- ☒ Final
- ☐ Other

Sent via:
- ☐ Mail
- ☐ Overnight Courier
- ☐ Same Day Courier
- ☒ Other GeoTracker and Alameda County FTP

QUANTITY	DESCRIPTION
1	Well Destruction Work Plan

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

COMMENTS:
If you have any questions regarding the contents of this document, please call Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US, 20945 S Wilmington Avenue, Carson, CA 90810
SF Data Room *(electronic copy)*

Completed by: Peter Schaefer Signed: Peter Schaefer

Filing: **Correspondence File**

Denis L. Brown
Shell Oil Products US
HSE – Environmental Services
20945 S. Wilmington Ave.
Carson, CA 90810-1039
Tel (707) 865 0251
Fax (707) 865 2542
Email denis.l.brown@shell.com

Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Shell-branded Service Station
9750 Golf Links Road
Oakland, California
SAP Code 135683
Incident No. 98995744
ACEH Case No. RO0002441

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

Denis L. Brown
Project Manager

WELL DESTRUCTION WORK PLAN

SHELL-BRANDED SERVICE STATION
9750 GOLF LINKS ROAD
OAKLAND, CALIFORNIA

SAP CODE	135683
INCIDENT NO.	98995744
AGENCY NO.	RO0002441

Prepared by:
Conestoga-Rovers & Associates

5900 Hollis Street, Suite A
Emeryville, California
U.S.A. 94608

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web: http:\\www.CRAworld.com

MAY 10, 2010
REF. NO. 240735 (7)
This report is printed on recycled paper.

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(Following Text)

LIST OF APPENDICES

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this work plan on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell). The proposed well destructions are required for final case closure per Alameda County Environmental Health's (ACEH's) March 24, 2010 letter.

The subject site is an active Shell-branded service station located on the northwest corner of the Golf Links Road and Mountain Boulevard intersection in a mixed commercial and residential area of Oakland, California (Figure 1). The site layout (Figure 2) includes one station building with three automobile service bays, two dispenser islands, and three underground storage tanks.

2.0 WORK TASKS

2.1 PERMIT

CRA will obtain an appropriate permit from Alameda County Public Works Agency.

2.2 HEALTH AND SITE SAFETY PLAN (HASP)

CRA will prepare a HASP to protect site workers. The plan will be kept on site during field activities and will be reviewed and signed by each site worker.

2.3 UTILITY CLEARANCE

CRA will mark the well locations, and the locations will be cleared through Underground Service Alert and a private line locator prior to removing the well boxes.

2.4 MONITORING WELL DESTRUCTION

CRA proposes to properly destroy four monitoring wells (S-1, S-2, S-4, and S-5). The wells will be destroyed by backfilling with neat cement under pressure (pressure grouting). The well vaults will be removed, and the surface pavement patched with concrete to match the surrounding grade. CRA includes the well logs in Appendix A. The proposed scope of work will be performed under the supervision of a professional geologist or engineer.

2.5 REPORT PREPARATION

Following completion of the well destructions, CRA will submit a brief report documenting the activities.

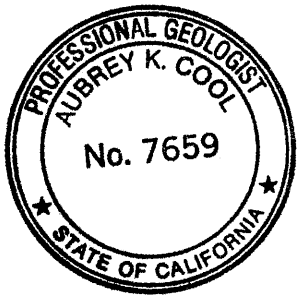
3.0 SCHEDULE

CRA will implement the well destructions upon receipt of appropriate permits and will provide ACEH a report detailing the well destructions by June 28, 2010.

All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES

Peter Schaefer, CEG, CHG

Aubrey K. Cool, PG



FIGURES

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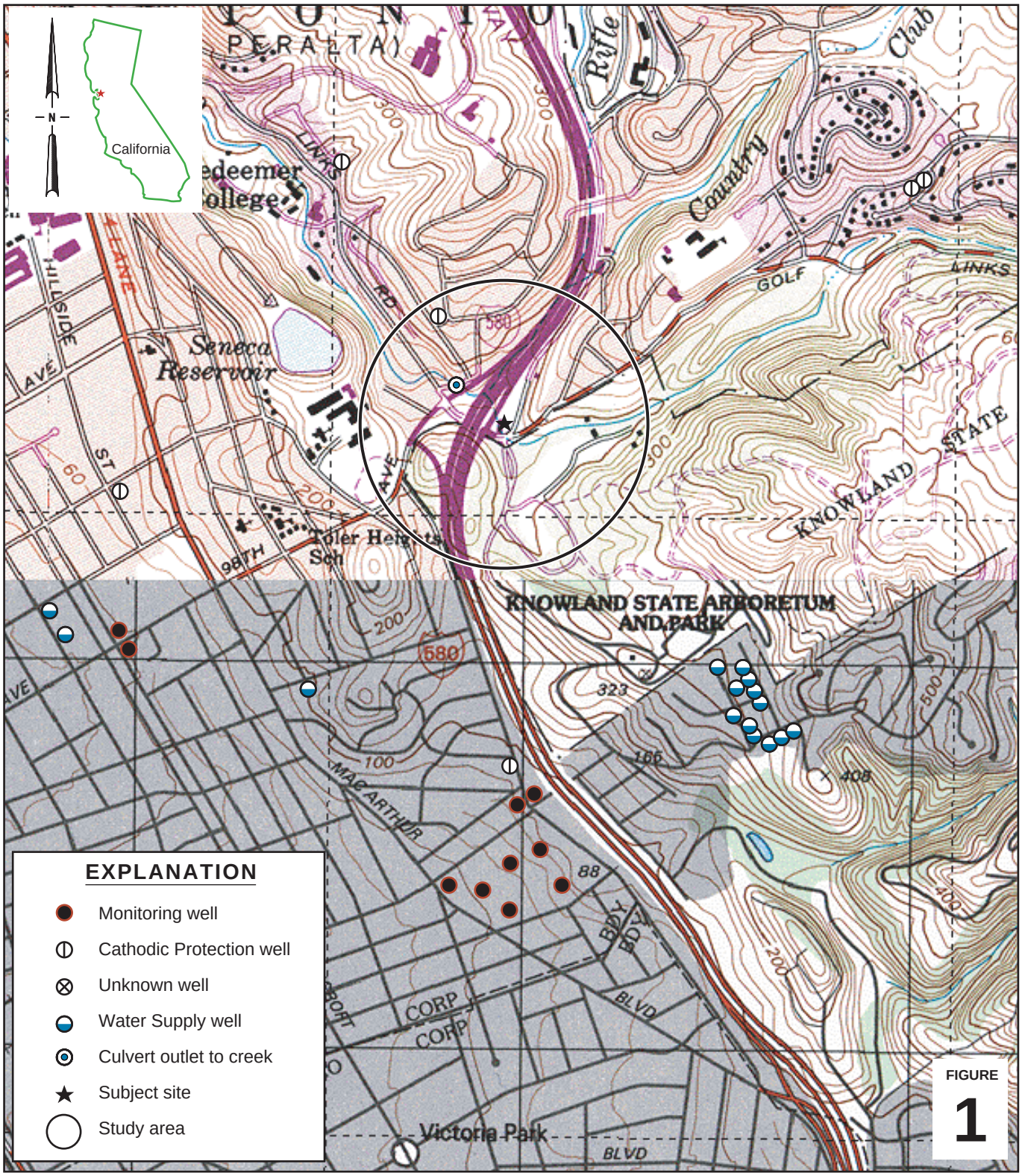

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SCALE (MILES)

Shell-branded Service Station

9750 Golf Links Road

Oakland, California

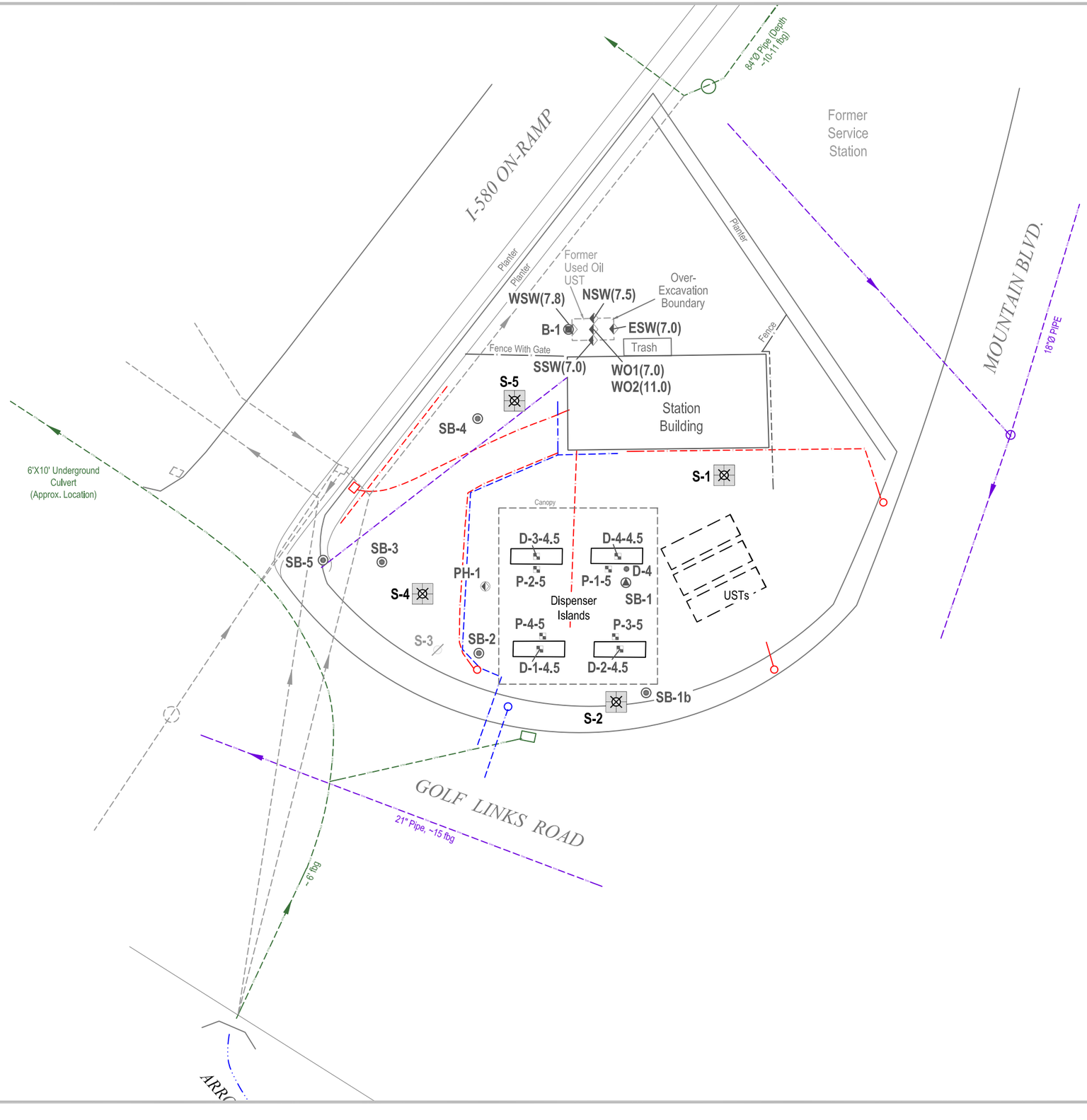
CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

03/25/10

EXPLANATION

- S-1 — Monitoring well location; proposed for destruction
- S-3 — Attempted monitoring well location
- PH-1 — Soil boring location (Cambria, 2004)
- D-1 — Soil sample location (Cambria, 2004)
- SB-1b — Soil boring location (Cambria, 1999)
- SB-1 — Soil boring location (Cambria, 1998)
- D4 — Soil sample location (Cambria, 1998)
- B-1 — Soil boring location (Weiss, 1995)
- ESW — Soil sample location (Weiss, 1995)
- Vent line (V)
- Storm drain line (STM)
- Former storm drain line
- Sanitary sewer line (SAN)
- Electrical line (E)
- Water line (W)
- Flow direction
- fbg — Feet below grade



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0 15 30 60

Scale (ft)

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Site Plan

CONESTOGA-ROVERS & ASSOCIATES

Shell-branded Service Station

9750 Golf Links Road
Oakland, California

FIGURE

2

APPENDIX A

WELL LOGS

Cambria Environmental Technology, Inc.
270 Perkins Street
Sonoma, California 95476
Telephone: (707) 935-4850
Fax: (707) 935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-1
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	23-Feb-05
LOCATION	9750 Golf Links Road, Oakland, California	**DRILLING COMPLETED**	23-Feb-05
PROJECT NUMBER	0735	**WELL DEVELOPMENT DATE (YIELD)**	09-Mar-05 (64 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	161.01 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	160.54 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	7 to 18 fbg
LOGGED BY	J. Gerbrandt	**DEPTH TO WATER (First Encountered)**	8.0 ft (23-Feb-05)
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	7.7 ft (09-Mar-05)
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					GW		**ASPHALT**	0.5	
					GW		**GRAVEL with Sand (GW)**; dark brown (7.5YR 3/2); moist; 5% silt, 25% fine to medium sand, 70% fine to coarse gravel.	1.0	Portland Type I/II
					SP		**SAND (SP)** ; brown (10YR 4/3); dry; 100% fine sand.		Bentonite Seal
0.0		S-1-5 .5'		5	SP				Monterey Sand #2/12
0.2					SP		@ 8' - dark yellowish brown (10YR 4/4); wet; 95% fine sand, 5% fine gravel.		
14.2		S-1-1 0.0'		10	SP		@ 9' - very dark greenish gray (10Y 3/1); 100% fine sand.	10.0	
0.0					SM		**Silty SAND (SM)** ; brown (7.5YR 4/3); wet; 10% clay, 25% silt, 55% fine to coarse sand; 10% fine gravel.	12.0	
0.0					SP		**SAND (SP)** ; dark yellowish brown (10YR 4/4); wet; 100% fine sand.	13.0	4"-diam., 0.020" Slotted Schedule 40 PVC
123.8					SM		**Silty SAND (SM)** ; very dark greenish gray (10Y 3/1); wet; 10% clay, 25% silt, 55% fine to coarse sand; 10% fine gravel.		
10.1				15	SM		@ 14' - brown (7.5YR 4/3)		
0.8		S-1-1 5.0'			SP		**SAND (SP)** ; dark yellowish brown (10YR 4/3); wet; 100% fine sand.	16.0	
54.2					ML		**Sandy SILT (ML)** ; dark yellowish brown (10YR 4/3); wet; 30% clay, 30% silt, 30% fine to coarse sand, 10% fine gravel.	18.0	
5.6		S-1-1 9.0'						19.0	Bentonite Seal Bottom of Boring @ 19 ft

WELL LOG (PID) I:\OADE75~1\GINT\OAK9750.GPJ DEFAULT.GDT 4/6/05

Cambria Environmental Technology, Inc.
270 Perkins Street
Sonoma, California 95476
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Fax: (707) 935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-2
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	18-Jan-05
LOCATION	9750 Golf Links Road, Oakland, California	**DRILLING COMPLETED**	18-Jan-05
PROJECT NUMBER	0735	**WELL DEVELOPMENT DATE (YIELD)**	09-Mar-05 (41 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	160.52 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	160.23 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	5 to 12 fbg
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	6.0 ft (19-Jan-05) ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	5.6 ft (09-Mar-05) ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.4	Portland Type I/II
							SAND (SP) ; brown (10YR 4/3); dry 100% fine sand.		Bentonite Seal
				5					Monterey Sand #2/12
0.0	2 2 2	S-2-6 .5'			SP		@ 5.5' - moist. ▼ @ 6' - very loose, wet.		
	3 3 3						@ 7.5' - loose.		4"-diam., 0.020" Slotted Schedule 40 PVC
0.0	4 5 5	S-2-1 0'		10			@ 10.5' - medium dense.		
	2 6 8							12.0	Bottom of Boring @ 12 ft

WELL LOG (PID) I:\OADE75-1\GINT\OAK9750.GPJ DEFAULT.GDT 4/6/05

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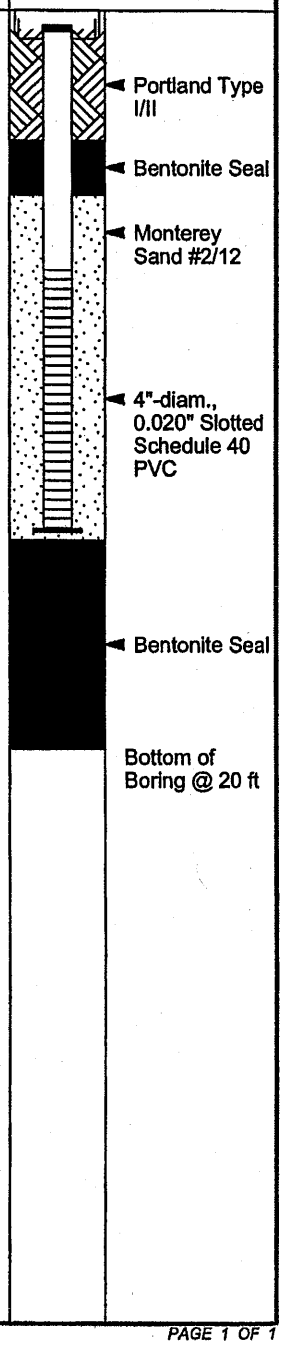
BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-4
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	23-Feb-05
LOCATION	9750 Golf Links Road, Oakland, California	**DRILLING COMPLETED**	23-Feb-05
PROJECT NUMBER	0735	**WELL DEVELOPMENT DATE (YIELD)**	09-Mar-05 (13 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	158.90 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	158.23 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	7 to 14 fbg
LOGGED BY	J. Gerbrandt	**DEPTH TO WATER (First Encountered)**	10.0 ft (23-Feb-05)
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	9.8 ft (09-Mar-05)
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)
					GW		**ASPHALT**	0.5
							GRAVEL with Sand (GW); dark brown (7.5YR 3/2); moist; 5% silt, 25% fine to medium sand; 70% fine to coarse gravel.	1.0
					SM		**Silty SAND (SM)**; dark brown (10YR 3/3); moist; 20% clay, 20% silt, 55% fine to medium sand, 5% fine to coarse gravel.	3.5
				5	GM		**Silty GRAVEL with Sand (GM)**; dark brown (10YR 3/3); moist; 5% clay, 20% silt, 35% fine to medium sand, 40% fine to coarse gravel and cobbles.	5.5
0.0		S-4-5 .5'			SM		**Silty SAND with Gravel (SM)**; dark brown (10YR 3/3); dry; 10% clay, 15% silt, 55% fine to coarse sand, 20% fine to coarse gravel.	8.5
					SW SM		**SAND with Silt and Gravel (SW-SM)**; dark yellowish brown (10YR 4/3); dry; 5% clay, 5% silt, 70% fine to coarse sand, 20% fine gravel.	10.0
0.0		S-4-1 0.0'		10	SM		**Silty SAND (SM)**; dark yellowish brown (10YR 4/3); wet; 10% clay, 20% silt, 65% fine to coarse sand, 5% fine sand.	13.0
0.0		S-4-1 5.0'		15	ML		**Sandy SILT (ML)**; dark yellowish brown (10YR 4/3); moist; 25% clay, 30% silt, 40% fine to coarse sand, 5% fine gravel; dark greenish gray (5GY 4/1) mottling.	
6.2		S-4-2 0.0'		20			@ 19' - brown (7.5YR 4/4); 35% clay, 40% silt, 20% fine to coarse sand, 5% fine gravel; greenish gray (5GY 5/1) mottling.	20.0

WELL DIAGRAM



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Cambria Environmental Technology, Inc.
270 Perkins Street
Sonoma, California 95476
Telephone: (707) 935-4850
Fax: (707) 935-6649

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	S-5
JOB/SITE NAME	Shell-branded Service Station	**DRILLING STARTED**	18-Jan-05
LOCATION	9750 Golf Links Road, Oakland, California	**DRILLING COMPLETED**	18-Jan-05
PROJECT NUMBER	0735	**WELL DEVELOPMENT DATE (YIELD)**	09-Mar-05 (5.2 gallons)
DRILLER	Gregg Drilling	**GROUND SURFACE ELEVATION**	160.17 ft above msl
DRILLING METHOD	Hollow-stem auger	**TOP OF CASING ELEVATION**	159.69 ft above msl
BORING DIAMETER	10"	**SCREENED INTERVAL**	7 to 14 fbg
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	11.0 ft (19-Jan-05) ▽
REVIEWED BY	A. Friel, PG 6452	**DEPTH TO WATER (Static)**	10.6 ft (09-Mar-05) ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.4	Portland Type I/II
					SM		**Silty SAND with Gravel (SM)**; brown (10YR 4/3); 30% silt, 55% fine to coarse sand; 15% fine to coarse gravel.	2.5	
							SILT (ML) ; very dark grayish brown (10YR 3/2); moist; 30% clay, 65% silt, 5% fine to coarse sand; medium plasticity.		Bentonite Seal
				5	ML		@ 5' - **SILT with Gravel (ML)**; very dark grayish brown (10YR 3/2); moist; 25% clay, 60% silt, 15% fine gravel; low plasticity.		
0.0	12 12 10	S-5-5 .5'					@ 6' - very stiff.	7.5	Monterey Sand #2/12
	13 14 5						**Silty SAND (SM)**; brown (10YR 4/3); medium dense; moist; 15% clay, 25% silt, 60% fine to coarse sand; 5% fine gravel.		
	8 8 5			10	SM		@ 9.5' - dark greenish gray (5GY 4/1). ▼		4"-diam., 0.020" Slotted Schedule 40 PVC
70.6	13 23 24	S-5-1 1.5'					@ 11' - moist to wet.		
	15 25 26						@ 12' - **Silty SAND with GRAVEL (SM)**; dark greenish gray (5GY 4/1); dense; moist to wet; 20% silt, 50% fine to coarse sand, 30% fine to coarse gravel.	13.5	
8.2	19 26 30	S-5-1 5'		15			**SILT (ML)** ; dark greenish gray (5GY 4/1); hard; moist; 30% clay, 70% silt; low plasticity. (decomposed rock)		
	24 27 37								
	25 50				ML		@ 18' - **SILT with Sand (ML)**; dark greenish gray (5GY 4/1); hard; moist; 30% clay, 45% silt, 25% fine to medium sand; low plasticity. (decomposed rock)		Bentonite Seal
	21 27 31			20					
3.0	9 15 7	S-5-2 0.5'							
	10 15 16						**SILT with Sand (ML)**; dark greenish gray (5GY 4/1); dense; moist; 20% clay, 30% silt, 50% fine sand.		
3.3		S-5-2 4.5'		25				25.0	Bottom of Boring @ 25 ft

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