



**CONESTOGA-ROVERS
& ASSOCIATES**

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Telephone: (510) 420-0700 Fax: (510) 420-9170
www.CRAworld.com

TRANSMITTAL

DATE: July 12, 2012 REFERENCE NO.: 240472
 PROJECT NAME: 105 Fifth Street, Oakland
 To: Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RECEIVED

10:55 am, Jul 16, 2012

 Alameda County
 Environmental Health

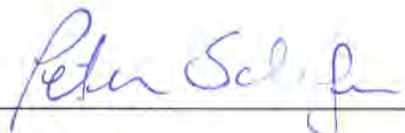
Please find enclosed: Draft Final
 Originals Other
 Prints
 Sent via: Mail Same Day Courier
 Overnight Courier Other GeoTracker and Alameda County FTP

QUANTITY	DESCRIPTION
1	Well Destruction Work Plan

As Requested For Review and Comment
 For Your Use _____

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

Copy to: Denis Brown, Shell Oil Products US (electronic copy)
 Arthur R. & Mary A. Hansen (property owner), Trustees et al, 820 Loyola Drive, Los Altos, CA 94024

Completed by: Peter Schaefer Signed: 

Filing: Correspondence File



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

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

Re: Shell-branded Service Station
105 Fifth Street
Oakland, California
SAP Code 135700
Incident No. 98995757
ACEH Case No. RO0000487

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,

A handwritten signature in black ink, appearing to read "Denis L. Brown", is located below the "Sincerely," text.

Denis L. Brown
Senior Program Manager



WELL DESTRUCTION WORK PLAN

SHELL-BRANDED SERVICE STATION
105 FIFTH STREET
OAKLAND, CALIFORNIA

SAP CODE 135700
INCIDENT NO. 98995757
AGENCY NO. RO0000487

JULY 12, 2012

REF. NO. 240472 (14)

This report is printed on recycled paper.

**Prepared by:
Conestoga-Rovers
& Associates**

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Emeryville, California
U.S.A. 94608

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TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION.....	1
2.0 WORK TASKS.....	1
2.1 PERMITS.....	1
2.2 HEALTH AND SITE SAFETY PLAN (HASP).....	1
2.3 UTILITY CLEARANCE	1
2.4 MONITORING WELL AND VAPOR PROBE DESTRUCTION.....	1
2.5 REPORT PREPARATION.....	2
3.0 SCHEDULE.....	2

LIST OF FIGURES
(Following Text)

- FIGURE 1 VICINITY MAP
FIGURE 2 SITE PLAN

LIST OF APPENDICES

- APPENDIX A WELL AND VAPOR PROBE LOGS

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) July 3, 2012 letter.

The site is an active Shell-branded Service Station located on the western corner of Fifth Street and Oak Street in Oakland, California (Figure 1). Currently, the site layout consists of a kiosk, four underground storage tanks, and two dispenser islands (Figure 2). The area surrounding the site is of mixed commercial and residential use.

2.0 WORK TASKS

2.1 PERMITS

CRA will obtain an appropriate permit from Alameda County Public Works Agency and an encroachment permit from the City of Oakland.

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 AND VAPOR PROBE DESTRUCTION

CRA proposes to properly destroy six monitoring wells (MW-1 through MW-6), nine soil vapor probes (SVP-1 through SVP-6, SVP-8, SVP-9, and SVP-10), and one near sub-slab soil vapor probe (SVP-7). The monitoring wells will be destroyed by backfilling with neat cement under pressure (pressure grouting). The soil vapor probes will be destroyed by drilling out the probe boring with an air-knife. The near sub-slab soil

vapor probe will be destroyed by drilling out the probe tubing with a hammer drill. The well and soil vapor probe vaults will be removed, and the surface pavement will be patched with concrete to match the surrounding grade. CRA includes the well and probe 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

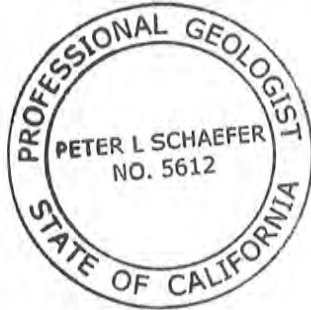
Following completion of the well destructions, CRA will submit a brief report documenting the activities.


3.0 SCHEDULE

CRA will implement the well destructions upon receipt of the appropriate permits.

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


Peter Schaefer, CEG, CHG




Eric A. Syrstad, PG

FIGURES



Shell-branded Service Station
 105 Fifth Street
 Oakland, California



**CONESTOGA-ROVERS
 & ASSOCIATES**

Vicinity Map

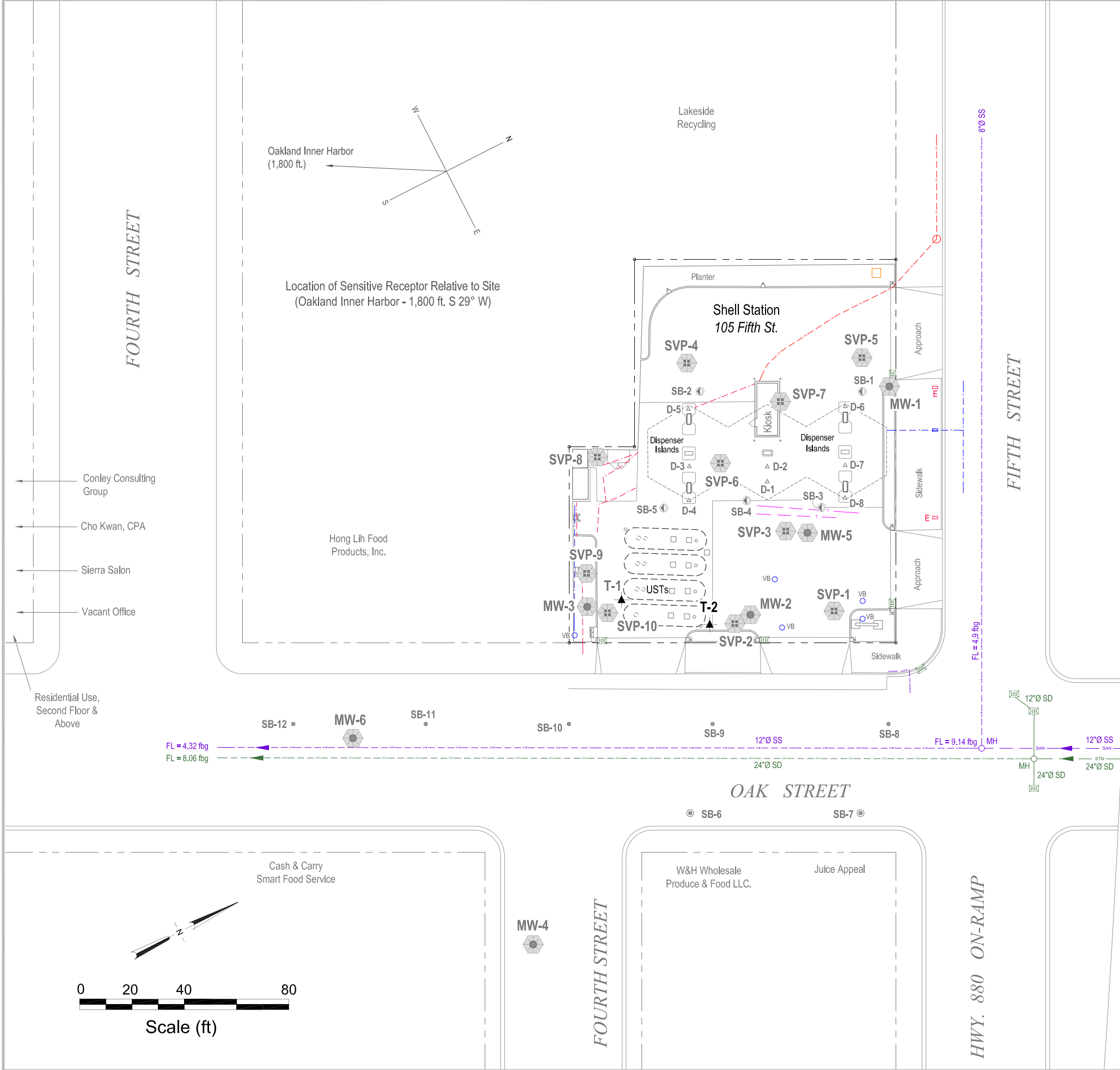
EXPLANATION

- SVP-1** Soil vapor probe location (2009-2012); proposed for destruction
- MW-1** Monitoring well location; proposed for destruction
- T-1** Tank backfill well location
- SB-8** Soil boring location (2002)
- SB-6** Soil boring location (2001)
- SB-1** Soil boring location (1998)
- D-1** Soil sample location

- Overhead electrical line (OE)
- Electrical line (E)
- Telecommunication line (T)
- Unknown utility line
- Water line (W)
- Storm drain line (STM)
- Sanitary sewer line (SAN)

- Flow direction
- MH Manhole
- VB Vault Box
- Storm drain inlet
- fbg Feet below grade

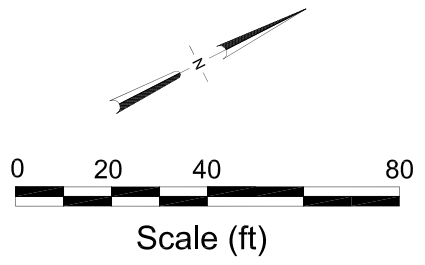
Note: All utility locations are approximate



I:\Shell\6-chars\2404-1240472-Oakland 105 Fifth\2404-72-FIGURES\240472 SITE PLAN.DWG

FIGURE

2



APPENDIX A

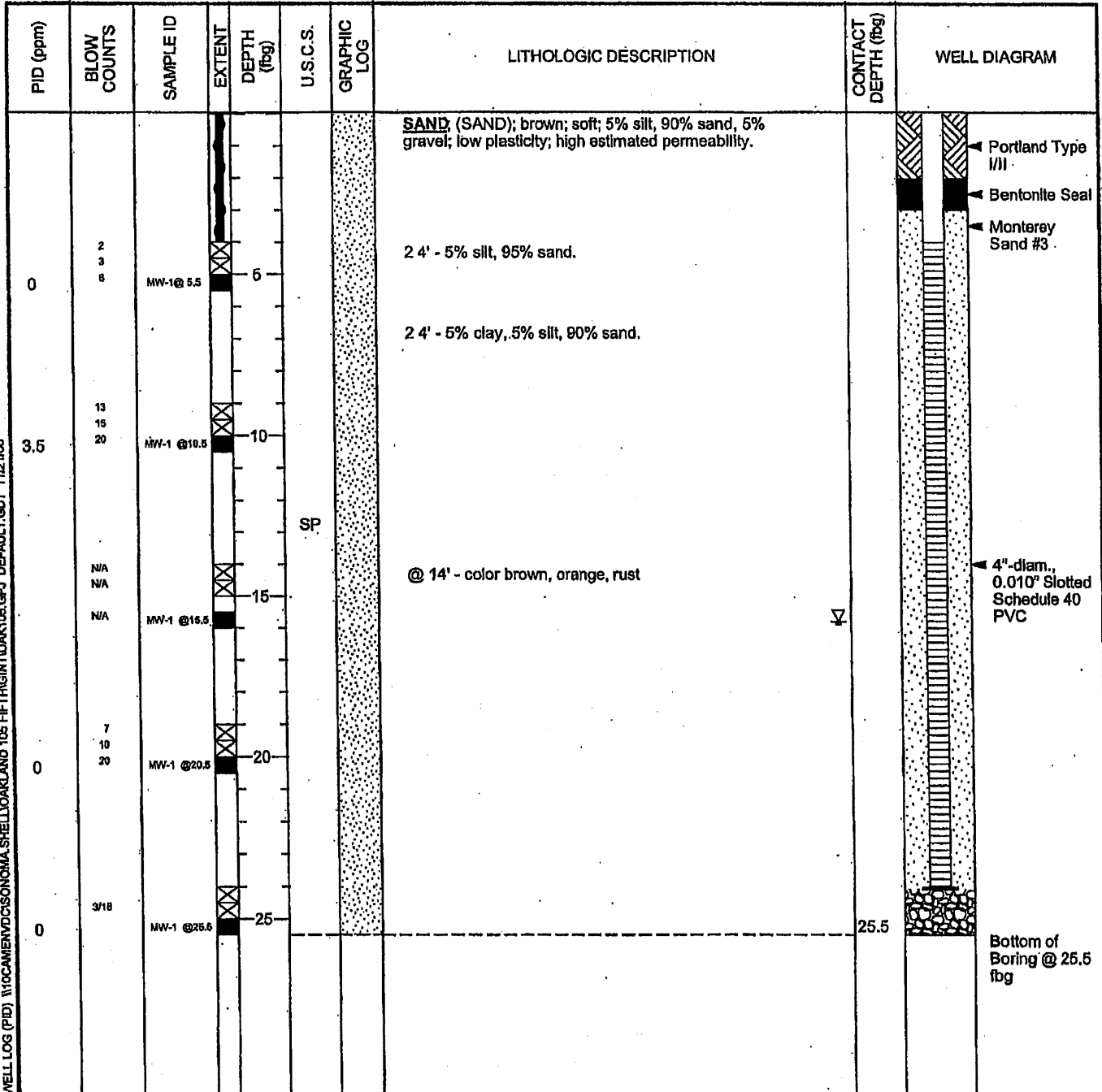
WELL AND VAPOR PROBE LOGS



Cambria Environmental Technology, Inc.
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BORING/WELL LOG

CLIENT NAME Equiva Services LLC BORING/WELL NAME MW-1
 JOB/SITE NAME oak105 DRILLING STARTED 14-May-99
 LOCATION 105 Fifth Street, Oakland, California DRILLING COMPLETED 14-May-99
 PROJECT NUMBER 244-0472 WELL DEVELOPMENT DATE (YIELD) NA
 DRILLER Gregg Drilling GROUND SURFACE ELEVATION 15.49' ft above msl
 DRILLING METHOD Hollow-stem auger
 BORING DIAMETER 10" SCREENED INTERVALS 4 to 24 fbg
 LOGGED BY T. Buggle DEPTH TO WATER (First Encountered) 15.8 fbgNA ▽
 REVIEWED BY Darryk Atalde DEPTH TO WATER (Static) NA ▽
 REMARKS Hand augered to 5' bgs.



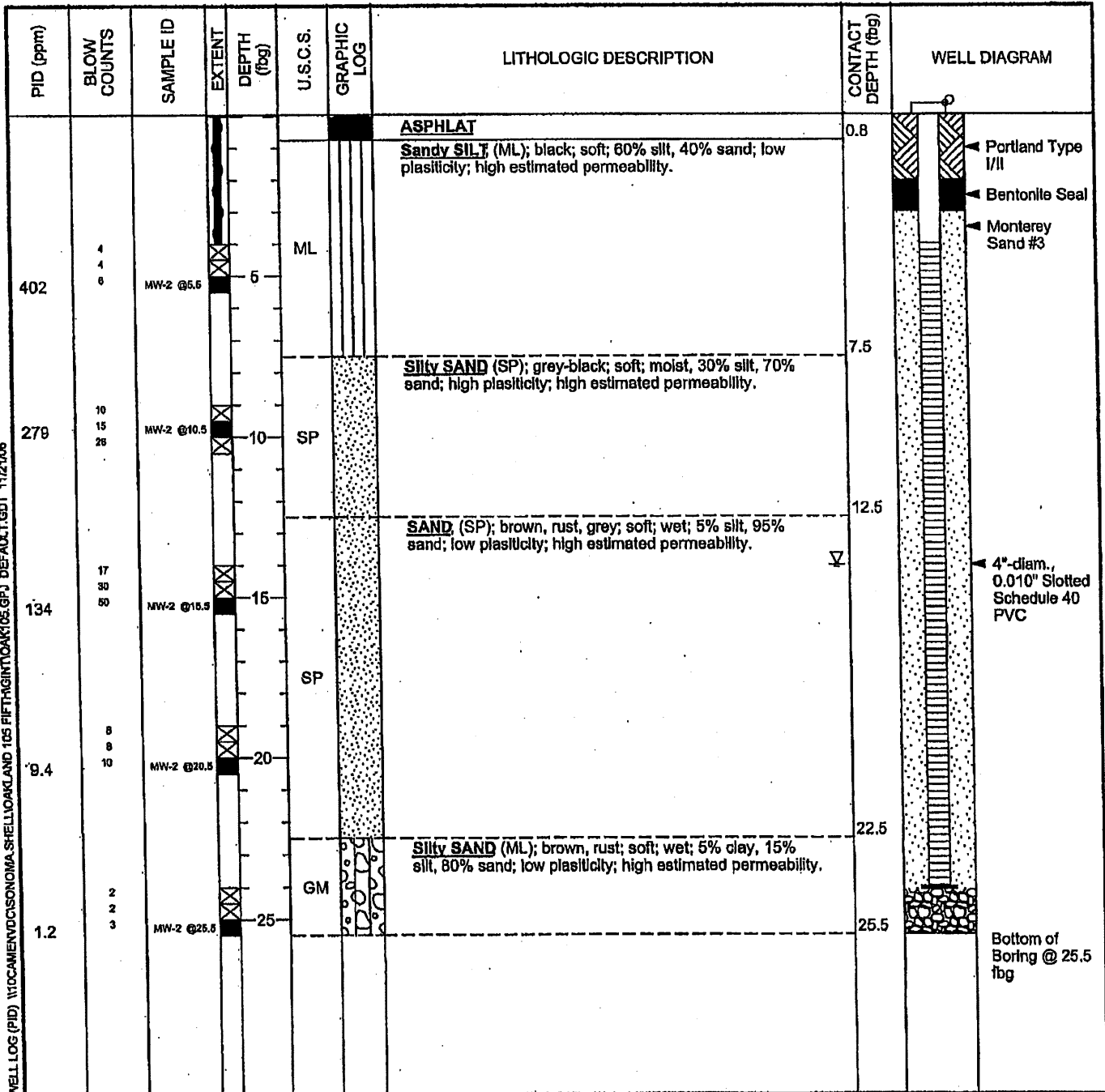
WELL LOG (PID) \\00CAMEN\DC\SONOMA_SHELL\OAKLAND_105_FIFTH\INT\OAK105.GPJ DEFAULT.GDT 11/21/05



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BORING/WELL LOG

CLIENT NAME Equiva Services LLC BORING/WELL NAME MW-2
 JOB/SITE NAME oak105 DRILLING STARTED 14-May-99
 LOCATION 105 Fifth Street, Oakland, California DRILLING COMPLETED 14-May-99
 PROJECT NUMBER 244-0472 WELL DEVELOPMENT DATE (YIELD) NA
 DRILLER Gregg Drilling GROUND SURFACE ELEVATION 13.92' ft above msl
 DRILLING METHOD Hollow-stem auger
 BORING DIAMETER 10" SCREENED INTERVALS 4 to 24 fbg
 LOGGED BY T. Buggle DEPTH TO WATER (First Encountered) 14.0 fbgNA
 REVIEWED BY Darryk Alaide DEPTH TO WATER (Static) NA
 REMARKS Hand augered to 5' bgs.





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BORING/WELL LOG

CLIENT NAME	Equiva Servlces LLC	BORING/WELL NAME	MW-3
JOB/SITE NAME	oak105	DRILLING STARTED	14-May-99
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	14-May-99
PROJECT NUMBER	244-0472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	14.46' ft above msl
DRILLING METHOD	Hollow-stem auger (Limited Access Rig)	SCREENED INTERVALS	5 to 25 fbg
BORING DIAMETER	10"	DEPTH TO WATER (First Encountered)	12.5 fbg NA
LOGGED BY	T. Buggle	DEPTH TO WATER (Static)	NA
REVIEWED BY	Darryk Atalde		
REMARKS	Hand augered to 5' bgs.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
28.7	N/A	MW-3 @ 6.5	5	SP		ASPHALT Silty SAND (SM); black; soft; moist; 30% silt, 70% sand; low plasticity; high estimated permeability.	0.8	<p>Portland Type I/II Bentonite Seal Monterey Sand #3 4"-diam., 0.010" Slotted Schedule 40 PVC Bottom of Boring @ 25 fbg</p>
71.1	N/A	MW-3 @ 11.5	10			SAND (SP); brown rust; soft; moist; 5% silt, 95% sand; low plasticity; high estimated permeability.	7.5	
	N/A	MW-3 @ 15.5	15	SP		@ 15' - brown, grey, rust; soft-medium; wet.		
57.1	N/A	MW-3 @ 21.5	20			@ 17.5 - brown, grey, rust; medium; wet; 10% clay, 10% silt, 80% sand; medium-high estimated permeability.		
21.1	N/A	MW-3 @ 25.0	25				25.0	

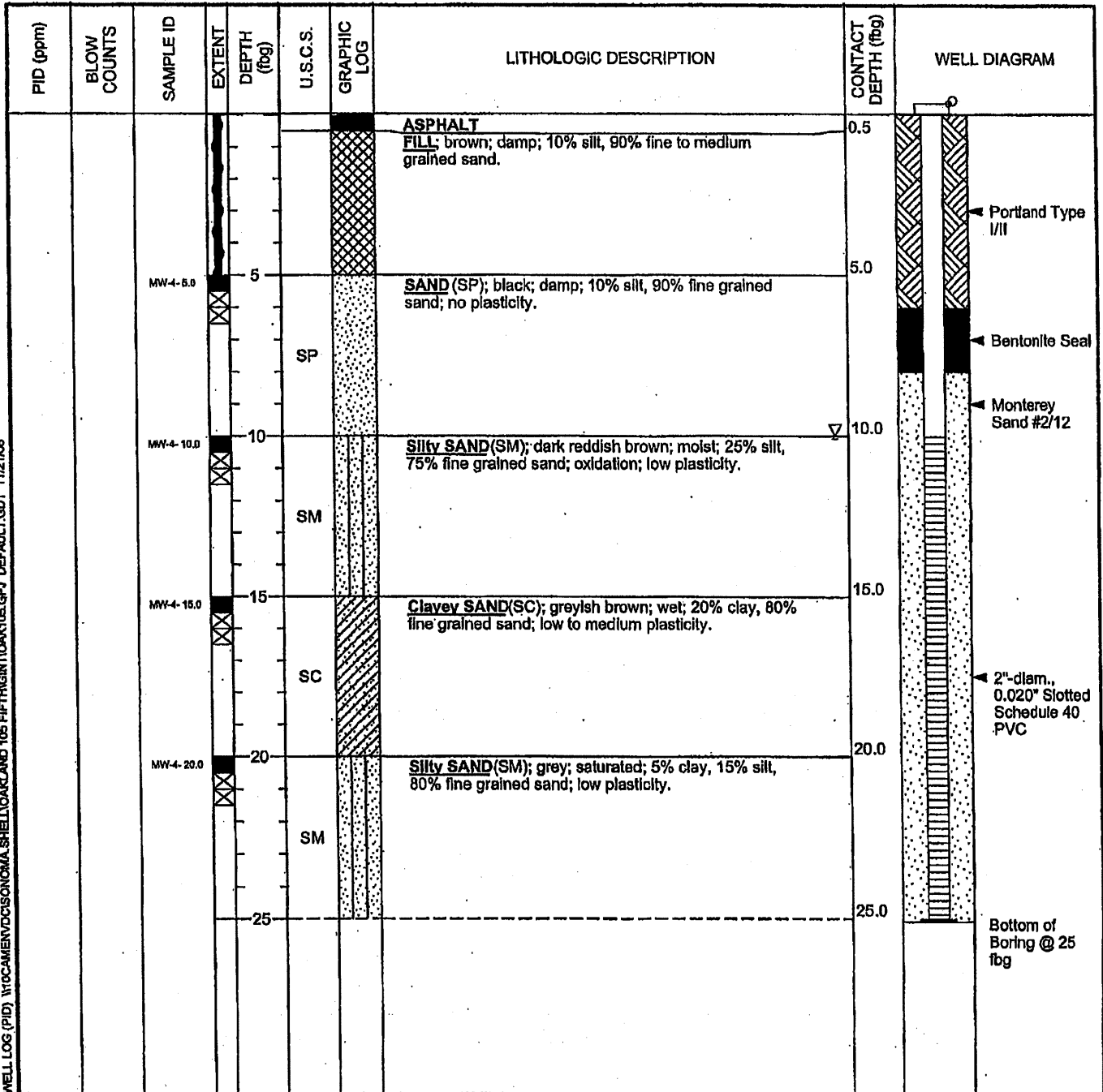
WELL LOG (PID) \YOCAMENVGCSOHOMA-SHELL\OAKLAND 105 FIFTH\INT\OAK105.GPJ DEFAULT.GDT 11/21/08



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BORING/WELL LOG

CLIENT NAME	<u>Equiva Services LLC</u>	BORING/WELL NAME	<u>MW-4</u>
JOB/SITE NAME	<u>oak105</u>	DRILLING STARTED	<u>12-Feb-01</u>
LOCATION	<u>105 Fifth Street, Oakland, California</u>	DRILLING COMPLETED	<u>12-Feb-01</u>
PROJECT NUMBER	<u>244-0472</u>	WELL DEVELOPMENT DATE (YIELD)	<u>NA</u>
DRILLER	<u>Gregg Drilling</u>	GROUND SURFACE ELEVATION	<u>12.31' ft above msl</u>
DRILLING METHOD	<u>Hollow-stem auger</u>		
BORING DIAMETER	<u>8"</u>	SCREENED INTERVALS	<u>10 to 25 fbg</u>
LOGGED BY	<u>S. Couch</u>	DEPTH TO WATER (First Encountered)	<u>10.0 fbg (12-Feb-01)</u> ▼
REVIEWED BY	<u>S. Bork, RG# 5626</u>	DEPTH TO WATER (Static)	<u>NA</u> ▼
REMARKS	<u>Hand augered to 5'.</u>		



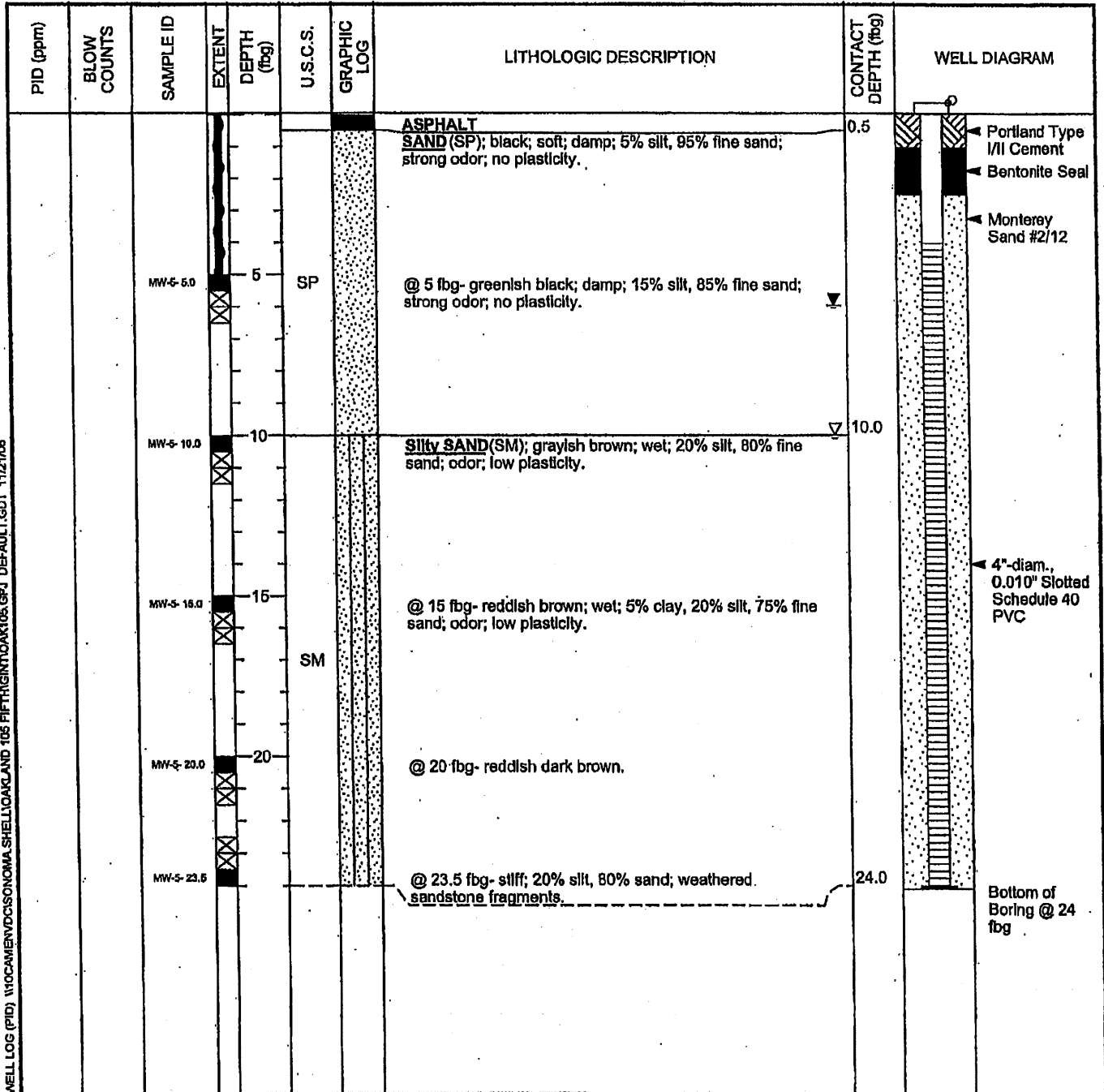
WELL LOG (PID) \\F0CAMENV\DC\SONOMA-SHELL\OAKLAND 105 FIFTH\GINTO\OAK105.GPJ DEFAULT.GDT 11/21/06



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BORING/WELL LOG

CLIENT NAME	<u>Equiva Services LLC</u>	BORING/WELL NAME	<u>MW-5</u>
JOB/SITE NAME	<u>oak105</u>	DRILLING STARTED	<u>08-Mar-02</u>
LOCATION	<u>105 Fifth Street, Oakland, California</u>	DRILLING COMPLETED	<u>08-Mar-02</u>
PROJECT NUMBER	<u>244-0472</u>	WELL DEVELOPMENT DATE (YIELD)	<u>29-Mar-02</u>
DRILLER	<u>Gregg Drilling</u>	GROUND SURFACE ELEVATION	<u>16.05 ft above msl</u>
DRILLING METHOD	<u>Hollow-stem auger</u>	SCREENED INTERVALS	<u>4 to 24 fbg</u>
BORING DIAMETER	<u>4"</u>	DEPTH TO WATER (First Encountered)	<u>10.0 fbg (08-Mar-02)</u> ▼
LOGGED BY	<u>S. Couch</u>	DEPTH TO WATER (Static)	<u>5.96 fbg (12-Apr-02)</u> ▼
REVIEWED BY	<u>D. Lundquist, PE</u>		
REMARKS	<u>Hand augered to 5 fbg. Located approximately 50' north of the UST complex.</u>		



WELL LOG (PID) W:\CAMENV\DC\SONOMA-SHELL\OAK-105 FIFTH\INT\OAK105.GPJ DEFAULT.GDT 11/21/08

PROJECT NAME: SHELL SERVICE STATION		SITE LOCATION: 106 8TH STREET, OAKLAND, CALIFORNIA	
DRILLING COMPANY: OREGG DRILLING	DRILL LOG:	DRILL CREW: BOBBY JOSE	DATE DRILLED: AUGUST 1, 2002
DRILLING METHOD: HOLLOW-STEM AUGER		BORING DIAMETER (IN): 8	TOTAL DEPTH OF BORING (FT): 24.0
LOGGED BY: JAMES LOETTERLE		REVIEWED BY: H. BAUER	
SAMPLING METHOD: SPLIT-SPOON		HAMMER WEIGHT (LBS): 140	HAMMER DROP (IN): 18

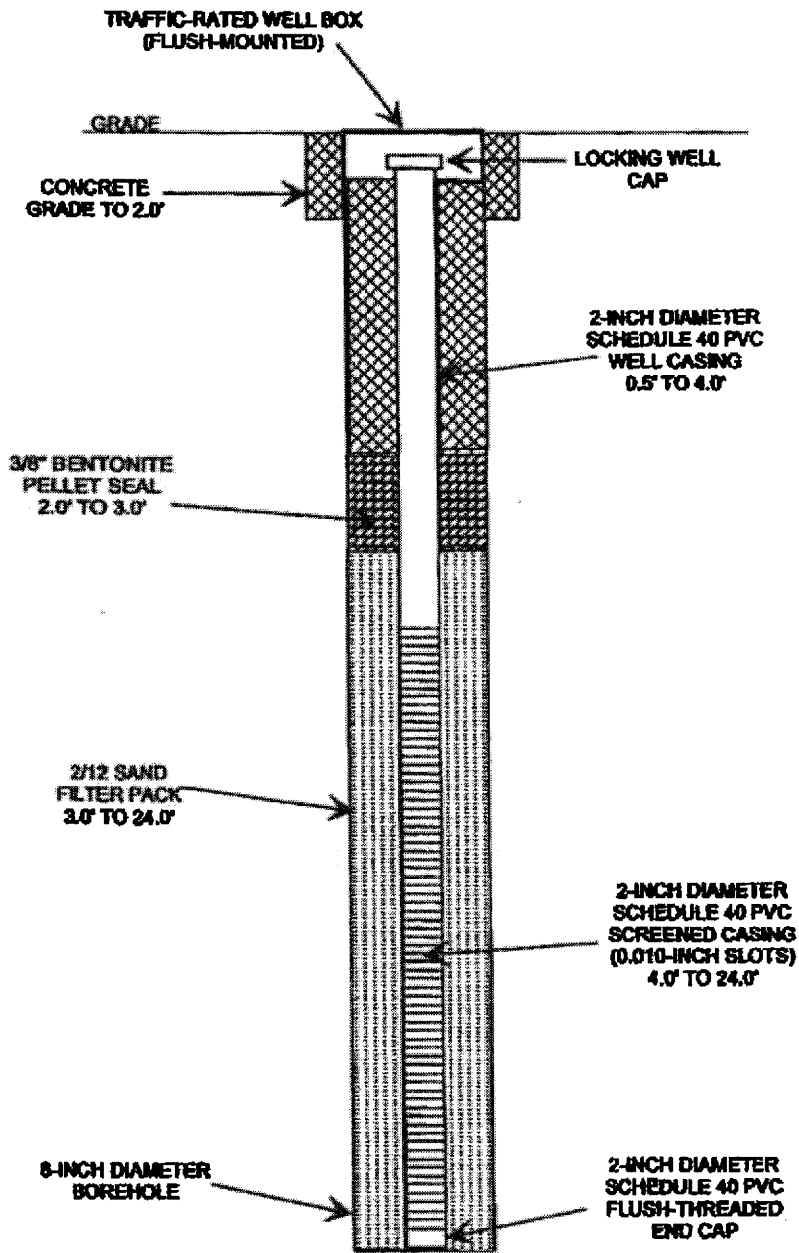
DEPTH (FT)	SAMPLE LOCATION	SAMPLE ID	BLOWS PER 8 IN	PHD (ppm)	GRAPHIC LOG	USCS SOIL GROUP	DESCRIPTION OF SUBSURFACE MATERIALS
0						SM	5-inch asphalt surface; hand-sugared to 5 feet below ground surface.
5		MW-6-5.5	NM	NM		SM	WELL-GRADED SAND with SILT: black-brown, moist, fine- to coarse-grained, (8% clay, 16% silt, 76% sand, 6% gravel), with angular fragments of rock and wood.
10		MW-6-10.5	NM	NM		SM	SILTY SAND: light brown, wet, fine-grained, (5% clay, 20% silt, 75% sand).
15		MW-6-15.5	NM	NM			Brown, (6% clay, 35% silt, 60% sand).
20		MW-6-20.5	NM	NM			SILTY SAND with CLAY: brown, wet, fine-grained, (15% clay, 40% silt, 45% sand).
24		MW-6-24	NM	NM			Light brown.
24							Boring terminated at 24 feet below ground surface.

LOG OF BORING MW-6, SHELL SERVICE STATION, 106 8TH STREET, OAKLAND, CA 94612

NOTES:
 = sample interval
 = laboratory sample
 = groundwater observed
 PID = photoluminescence detector
 NM = not measured
 NA = not applicable
 ppm = parts per million

Max Shklyar R.G. #6769

LOG OF BORING MW-6	
PROJECT NUMBER 01-155-0305-01	PAGE 1 OF 1



NOTE: INSTALLED 8/1/02.

SHELL SERVICE STATION
105 5th STREET
OAKLAND, CALIFORNIA

MONITORING WELL MW-6
CONSTRUCTION DETAIL

PROJECT NUMBER 01-155-0305-01



Conestoga-Rovers & Associates
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 Emeryville, CA 94608
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 Fax: 510-420-9170

BORING / WELL LOG

CLIENT NAME	Equiva Services LLC	BORING/WELL NAME	SVP-1
JOB/SITE NAME	Shell Branded Service Station	DRILLING STARTED	05-Aug-09
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	05-Aug-09
PROJECT NUMBER	240472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Airknife	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3"	SCREENED INTERVALS	4.66 to 4.75 fbg
LOGGED BY	E. Reinhart	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
						[REDACTED]	ASPHALT	0.5	<p>Flush-grade 5" well box 1/4" teflon sample tubing Portland Type III Bentonite Seal Monterey Sand #2/12 1" Polyethylene vapor screen Bottom of Boring @ 5 fbg</p>
				5	SM	[REDACTED]	Silty SAND(SM) ; very dark brown (10YR 2/2); dry; 40% silt, 60% sand.	5.0	

WELL LOG (PID) I:\SHELL16-CHARS\2404-1240472-112437FE-1\OAK105.GPJ DEFAULT.GDT 8/28/09



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BORING / WELL LOG

CLIENT NAME	<u>Equiva Services LLC</u>	BORING/WELL NAME	<u>SVP-2</u>
JOB/SITE NAME	<u>Shell Branded Service Station</u>	DRILLING STARTED	<u>05-Aug-09</u>
LOCATION	<u>105 Fifth Street, Oakland, California</u>	DRILLING COMPLETED	<u>05-Aug-09</u>
PROJECT NUMBER	<u>240472</u>	WELL DEVELOPMENT DATE (YIELD)	<u>NA</u>
DRILLER	<u>Gregg Drilling, C-57 #485165</u>	GROUND SURFACE ELEVATION	<u>NA</u>
DRILLING METHOD	<u>Airknife</u>	TOP OF CASING ELEVATION	<u>NA</u>
BORING DIAMETER	<u>3"</u>	SCREENED INTERVALS	<u>4.66 to 4.75 fbg</u>
LOGGED BY	<u>E. Reinhart</u>	DEPTH TO WATER (First Encountered)	<u>NA</u> ▼
REVIEWED BY	<u>P. Schaefer</u>	DEPTH TO WATER (Static)	<u>NA</u> ▼
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.5	<ul style="list-style-type: none"> Flush-grade 5" well box 1/4" teflon sample tubing Portland Type I/II Bentonite Seal Monterey Sand #2/12 1" Polyethylene vapor screen
				5	ML		Clayey Silt (ML); very dark brown (10YR 2/2); dry; 40% clay, 60% silt.	5.0	
									Bottom of Boring @ 5 fbg

WELL LOG (PID) I:\SHELL\6-CHARS\2404-1240472-12437FE-110AK105.GPJ DEFAULT.GDT 8/28/09



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BORING / WELL LOG

CLIENT NAME	<u>Equiva Services LLC</u>	BORING/WELL NAME	<u>SVP-3</u>
JOB/SITE NAME	<u>Shell Branded Service Station</u>	DRILLING STARTED	<u>05-Aug-09</u>
LOCATION	<u>105 Fifth Street, Oakland, California</u>	DRILLING COMPLETED	<u>05-Aug-09</u>
PROJECT NUMBER	<u>240472</u>	WELL DEVELOPMENT DATE (YIELD)	<u>NA</u>
DRILLER	<u>Gregg Drilling</u>	GROUND SURFACE ELEVATION	<u>NA</u>
DRILLING METHOD	<u>Airknife</u>	TOP OF CASING ELEVATION	<u>NA</u>
BORING DIAMETER	<u>3"</u>	SCREENED INTERVALS	<u>4.66 to 4.75 fbg</u>
LOGGED BY	<u>E. Reinhart</u>	DEPTH TO WATER (First Encountered)	<u>NA</u>
REVIEWED BY	<u>P. Schaefer</u>	DEPTH TO WATER (Static)	<u>NA</u>
REMARKS	<u></u>		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.5	<ul style="list-style-type: none"> Flush-grade 5" well box 1/4" teflon sample tubing Portland Type I/II Bentonite Seal Monterey Sand #2/12 1" Polyethylene vapor screen Bottom of Boring @ 5 fbg
				5	SM		Silty SAND(SM) ; very dark brown (10YR 2/2); dry; 40% silt, 60% sand.	5.0	

WELL LOG (PID) I:\SHELL16-CHARS\2404-1240472-110AK105.GPJ DEFAULT.GDT 8/28/09



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BORING / WELL LOG

CLIENT NAME	Equiva Services LLC	BORING/WELL NAME	SVP-4
JOB/SITE NAME	Shell Branded Service Station	DRILLING STARTED	07-Aug-09
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	07-Aug-09
PROJECT NUMBER	240472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Airknife	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3"	SCREENED INTERVALS	4.66 to 4.75 fbg
LOGGED BY	E. Reinhart	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				0.5			ASPHALT	0.5	<ul style="list-style-type: none"> Flush-grade 5" well box 1/4" teflon sample tubing Portland Type III Bentonite Seal Monterey Sand #2/12 1" Polyethylene vapor screen
				5	SM		Silty SAND(SM) ; very dark brown (10YR 2/2); dry; 40% silt, 60% sand.	5.0	
									Bottom of Boring @ 5 fbg

WELL LOG (PID) I:\SHELL16-CHARS\2404-1240472-12437FE-10AK105.GPJ DEFAULT.GDT 8/28/09



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BORING / WELL LOG

CLIENT NAME	Equiva Services LLC	BORING/WELL NAME	SVP-5
JOB/SITE NAME	Shell Branded Service Station	DRILLING STARTED	07-Aug-09
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	07-Aug-09
PROJECT NUMBER	240472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Airknife	TOP OF CASING ELEVATION	NA
BORING DIAMETER	3"	SCREENED INTERVALS	4.66 to 4.75 fbg
LOGGED BY	E. Reinhart	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.5	<ul style="list-style-type: none"> Flush-grade 5" well box 1/4" teflon sample tubing Portland Type I/II Bentonite Seal Monterey Sand #2/12 1" Polyethylene vapor screen
				5	SM		Silty SAND(SM) ; very dark brown (10YR 2/2); dry; 40% silt, 60% sand.	5.0	
									Bottom of Boring @ 5 fbg

WELL LOG (PID) I:\SHELL16-CHARS\2404-240472-12437FE-110AK105.GPJ DEFAULT.GDT 8/28/09



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BORING / WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-6
JOB/SITE NAME	Shell-Branded Service Station	DRILLING STARTED	26-Jul-10
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	26-Jul-10
PROJECT NUMBER	240472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Airknife	TOP OF CASING ELEVATION	NA
BORING DIAMETER	6"	SCREENED INTERVALS	NA
LOGGED BY	E. Swan	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							CONCRETE	0.6	
				5	SM		Silty SAND (SM) ; very dark brown (10YR 2/2); dry; 45% silt, 55% fine to medium grained sand.	5.0	
									Bottom of Boring @ 5 fbg

WELL LOG (PID) I:\SHELL\6-CHARS\2404-240472-12437FE-1240472-GINT.GPJ DEFAULT.GDT 8/26/10



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BORING / WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-8
JOB/SITE NAME	Shell-branded Service Station	DRILLING STARTED	16-Nov-11
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	16-Nov-11
PROJECT NUMBER	240472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Airknife	TOP OF CASING ELEVATION	NA
BORING DIAMETER	4"	SCREENED INTERVALS	NA
LOGGED BY	W. Martinez	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS	Airknifed to total depth.		

WELL LOG (PID) I:\SHELL\6-CHARS\2404-1240472-OAKLAND 105 FIFTH\240472-GINT\240472-2011 SV PROBES\240472-1.GPJ_DEFAULT.GDT 1/20/12

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.0				0.0			ASPHALT	0.5	<p>Concrete</p> <p>Bentonite Seal</p> <p>1/4" -inner diameter Teflon Tubing</p> <p>1" Porous plastic probe</p> <p>Monterey Sand #2/12</p> <p>Bentonite Seal</p> <p>1/4" -inner diameter Teflon tubing</p> <p>Monterey Sand #2/12</p> <p>1" Porous Plastic probe</p> <p>Bottom of Boring @ 5.5 fbg</p>
				1.6	GW GM		GRAVEL with silt and sand (GW-GM) ; very dark brown (10YR 2/2); moist; 10% silt, 20% fine sand, 70% fine gravel; fill. @ 1.5 fbg; cobble sized concrete, wood, and glass fragments present.		
				3.5	SM		Silty SAND (SM) ; very dark brown (10YR 2/2) ; moist; 20% silt, 80% fine sand; wood and glass fragments present; fill. @ 3.5 fbg; 6" layer of sea shells.		
5.0				5.0				5.5	



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BORING / WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-9
JOB/SITE NAME	Shell-branded Service Station	DRILLING STARTED	16-Nov-11
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	16-Nov-11
PROJECT NUMBER	240472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Airknife	TOP OF CASING ELEVATION	NA
BORING DIAMETER	4"	SCREENED INTERVALS	NA
LOGGED BY	W. Martinez	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS	Airknifed to total depth.		

WELL LOG (PID) I:\SHELL\6-CHARS\2404-1240472-OAKLAND 105 FIFTH STREET-OAKLAND 105 FIFTH STREET-GINT\240472-2011 SV PROBES\240472-1.GPJ DEFAULT.GDT 1/20/12

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
						Planter soil and roots	0.5	<p>Concrete</p> <p>Bentonite Seal</p> <p>1/4" -inner diameter Teflon Tubing</p> <p>1" Porous plastic probe</p> <p>Monterey Sand #2/12</p> <p>Bentonite Seal 1/4" -inner diameter Teflon tubing</p> <p>Monterey Sand #2/12</p> <p>1" Porous Plastic probe</p> <p>Bottom of Boring @ 5.5 fbg</p>
				CL		CLAY with sand (CL) ; weak red (2.5YR 4/2) ; moist; 50% clay, 30% silt, 20% fine sand; medium plasticity; fill.	1.5	
7.1				SC		Clayey SAND (SC) ; very dark brown (10YR 2/2); moist; 20% clay, 80% fine sand; wood and shell fragments present; fill.	5.5	
67			5					



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BORING / WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-10
JOB/SITE NAME	Shell-branded Service Station	DRILLING STARTED	16-Nov-11
LOCATION	105 Fifth Street, Oakland, California	DRILLING COMPLETED	16-Nov-11
PROJECT NUMBER	240472	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Airknife	TOP OF CASING ELEVATION	NA
BORING DIAMETER	4"	SCREENED INTERVALS	NA
LOGGED BY	W. Martinez	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS	Airknifed to total depth.		

WELL LOG (PID) I:\SHELL\6-CHARS\2404-1240472-OAKLAND 105 FIFTH\240472-GINT\240472-2011 SV PROBES\240472-1.GPJ DEFAULT.GDT 1/20/12

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT		
					GW GM		GRAVEL with silt and sand (GW-GM) ; very dark brown (10YR 2/2); moist; 10% silt, 20% fine sand, 70% fine gravel; fill.	0.5	Concrete
					ML		Gravelly SILT (ML) ; very dark brown (10YR 2/2); moist; 5% clay, 60% silt, 10% fine sand, 25% fine gravel; low plasticity; trace wood fragments present; fill.	1.0	Bentonite Seal
					SP SM		SAND with silt (SP-SM) ; very dark brown (10YR 2/2); moist; 10% silt, 80% fine sand, 10% fine gravel; fill.	3.0	1/4" -inner diameter Teflon tubing 1" Porous Plastic probe Monterey Sand #2/12
1.4					SM		Silty SAND (SM) ; very dark brown (10YR 2/2); 15% silt, 85% fine sand; fill.	5.0	Bentonite Seal 1/4" -inner diameter Teflon tubing Monterey Sand #2/12 1" Porous Plastic probe
1.6				5				5.8	Bottom of Boring @ 5.8 fbg