CONESTOGA-ROVERS & ASSOCIATES

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

TRANSMITTAL

DATE: April 23, 2012

REFERENCE NO.: 240669

PROJECT NAME: 5251 Hopyard Road, Pleasanton

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

RECEIVED
5:39 pm, Apr 24, 2012
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 content of this document, please contact Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US (electronic copy)
Carl Cox, C and J Cox Corporation, 4431 Stoneridge Drive, Pleasanton, CA 94588

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
5251 Hopyard Road
Pleasanton, California
SAP Code 135785
Incident No. 98995843
ACEH Case No. RO0000194

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
Senior Program Manager

WELL DESTRUCTION WORK PLAN

SHELL-BRANDED SERVICE STATION
5251 HOPYARD ROAD
PLEASANTON, CALIFORNIA

SAP CODE	135785
INCIDENT NO.	98995843
AGENCY NO.	RO0000194

Prepared by:
Conestoga-Rovers & Associates

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

Office: (510) 420-0700
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web: http://www.CRAworld.com

APRIL 23, 2012
REF. NO. 240669 (3)
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TABLE OF CONTENTS

LIST OF FIGURES
(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) April 16, 2012 letter.

The site is an operating Shell-branded service station located on the eastern corner of the Hopyard Road and Owens Drive intersection in Pleasanton, California (Figure 1). The service station layout includes a station building, four dispenser islands, four fuel underground storage tanks, and a carwash (Figure 2).

2.0 WORK TASKS

2.1 PERMIT

CRA will obtain an appropriate drilling permit from Zone 7 Water 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 proposed drilling locations, and the locations will be cleared through Underground Service Alert and a private line locator prior to drilling.

2.4 MONITORING WELL DESTRUCTION

CRA proposes to properly destroy 14 monitoring wells (S-1 through S-12, EW-1, and EW-2) and 3 soil vapor extraction wells (V-1 through V-3). 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 available 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

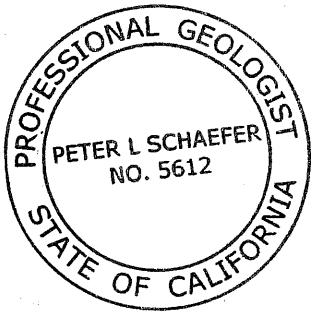
Following completion of the well destructions, CRA will submit a brief report documenting the activities.

3.0 SCHEDULE

CRA will implement the well destructions upon approval of this work plan by ACEH and receipt of appropriate permits.

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

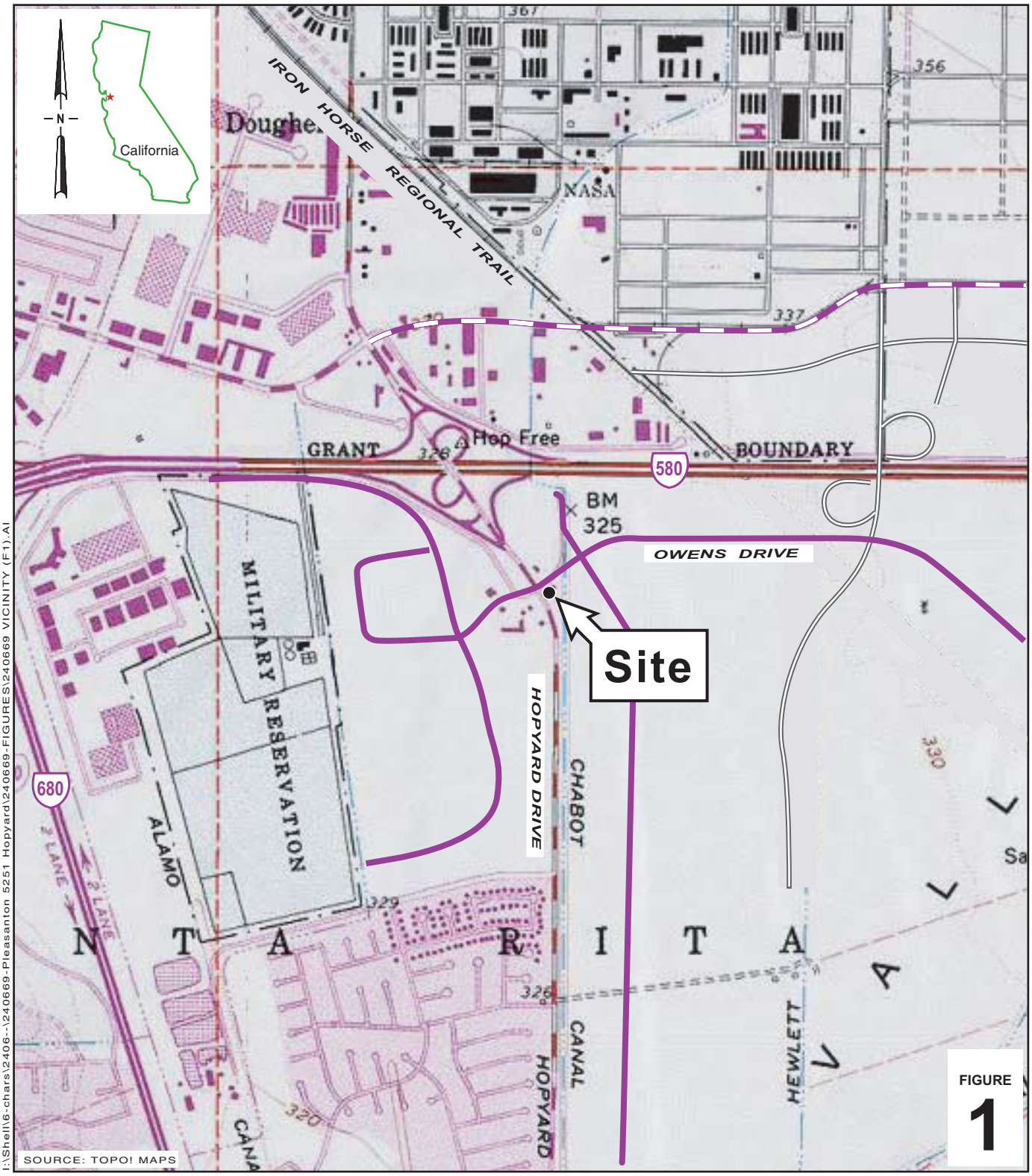
Peter Schaefer, CEG, CHG



Eric Syrstad, PG

FIGURES

05/05/2011



I:\Shell\6-chars\2406-\240669-Pleasanton 5251 Hopyard\240669-FIGURES\240669 VICINITY (F1).AI

FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Shell-branded Service Station

5251 Hopyard Road

Pleasanton, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

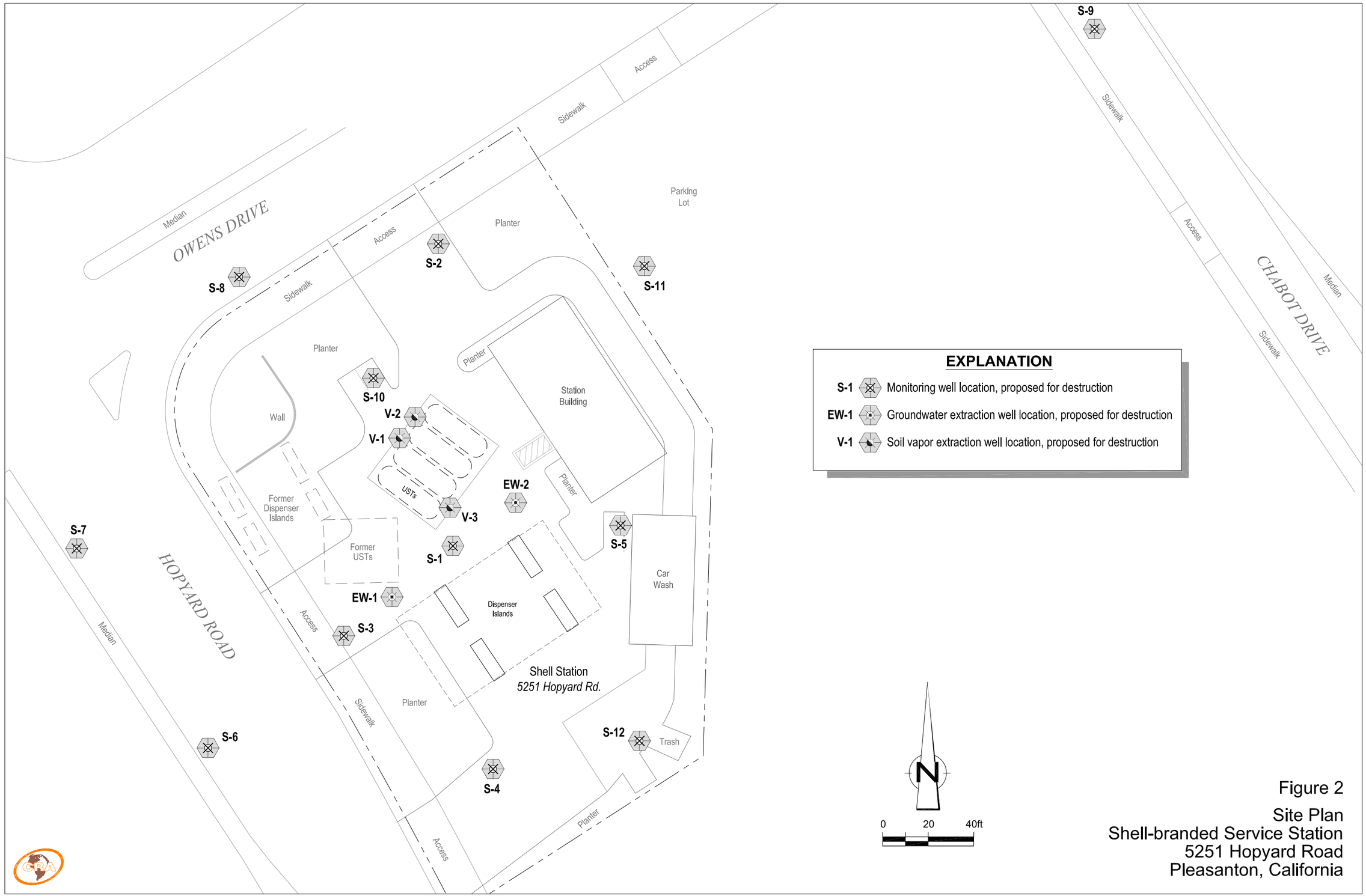


Figure 2

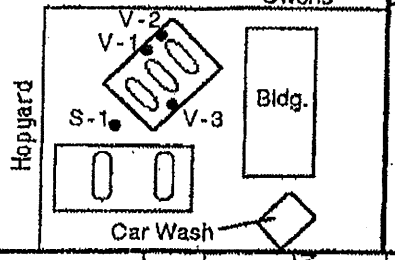
Site Plan
Shell-branded Service Station
5251 Hopyard Road
Pleasanton, California

I:\Shell\6-chars\2406--\240669-Pleasanton 5251 Hopyard\240669-FIGURES\240669 SITE PLAN.DWG (04/19/2012)

APPENDIX A

WELL LOGS

LOCATION MAP



PACIFIC ENVIRONMENTAL GROUP, INC.

WELL / S-1
BORING NO.
PAGE 1 OF 1

PROJECT NO. 101-09.01
LOGGED BY: MD
DRILLING METHOD: HSA
SAMPLING METHOD: CAL MOD
CASING TYPE: Sch 40 PVC
SLOT SIZE: 0.020
GRAVEL PACK: 12 X 20 SAND

CLIENT: G.R. Shell
DATE DRILLED: 1-5-88
LOCATION: Hopyard & Owens
HOLE DIAMETER: 8"
HOLE DEPTH: 30.5'
WELL DEPTH: 29'
WELL DIAMETER: 3"

WELL COMPLETION	MOISTURE CONTENT	H-NU READING	PENETRATION RESISTANCE (BLOWS/FT)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
				0				ASPHALT & GRAVEL - FILL.
CONCRETE	Dp	1.0	PUSH 400	2			CL	CLAY; dark gray; moderate plasticity; silty; trace iron oxide stains. @3'; no product odor.
BENTONITE	Mst	0.0	11	4				@9'; as above; tan mottled gray; gray around rootholes; abundant rootholes; trace-5% fine sand; stiff; no product odor.
12 X 20 SAND	Wt	5.5	11	14				@14'; as above; water in rootholes; stiff; no product odor.
	Wt	0.0	17	20				@19'; as above; no sand; very stiff; no product odor.
	Wt	0.8	16	24				@24'; as above; trace-5% fine to medium sand; stiff; no product odor.
BENTONITE AND NATURAL CLAY	Wt	0.0	34	30			SC	CLAYEY SAND; light to medium brown; 10-15% low plasticity fines; very fine grained; poorly graded; dense. @30'; no product odor.
				44				BOTTOM OF BORING AT 30.5'

Field location of boring: (See Plate 2)	Project No.: 7633	Date: 10/30/89	Boring No: S-6
	Client: Shell Oil Company		
	Location: 5251 Hopyard Road		
	City: Pleasanton, California		Sheet 1 of 2
	Logged by: R.S.Y.	Driller: Bayland	
Drilling method: Hollow-Stem Auger	Casing installation data:		
Hole diameter: 8-Inch	Top of Box Elevation: 326.56	Datum: MSL	

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Water Level / Time / Date	Description
									PAVEMENT SECTION - 2.5 feet
				1					
				2					
				3					
0	4	S&H							CLAY (CH) - black (7.5YR 2/0), very stiff, damp, trace fine
	12		S-6	4					sand, high plasticity; rootlets; no chemical odor.
	13		4.5						
				5					
				6					
				7					
				8					
									soft drilling at 8.0 feet.
				9					
									SANDY CLAY (CL) - dark grayish brown (10YR 4/2), very
0	350	S&H		10					stiff, damp, low plasticity; 35% very fine sand; trace
	350	push	S-6						gravels; no chemical odor.
	350		11.0	11					
				12					
0	4	S&H		13					
	7		S-6						same as above; rootholes; voids.
	7		14.0	14					
	3								
	4		S-6	15					sand lense at 15.0 feet - 2.0 inches thick; no chemical
	5		15.5						odor.
				16					
				17					
				18					
						▽			Sample rods wet at 18.5 feet
				19					

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. S-6

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CWP CEG 1262	11/89		

Field location of boring: (See Plate 2)	Project No.: 7633	Date: 10/30/89	Boring No: S-6
	Client: Shell Oil Company		
	Location: 5251 Hopyard Road		
	City: Pleasanton, California		Sheet 2 of 2
	Logged by: R.S.Y.	Driller: Bayland	
Drilling method: Hollow-Stem Auger	Casing installation data:		
Hole diameter: 8-Inch	Top of Box Elevation:	Datum:	

Water Level								
Time								
Date								

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
0	4	S&H		20				
	5		S-6					same as above; trace well rounded gravel.
	6		21.0	21				
				22				
				23				
				24				
								CLAY (CH) - black (7.5YR 2/0), medium stiff, saturated,
0	4	S&H		25				high plasticity; trace fine gravel; no chemical odor.
	3		S-6					
	2		26.0	26				
								Bottom of boring at 26.0 feet.
				27				Bottom of sample at 26.0 feet.
				28				
				29				
				30				
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

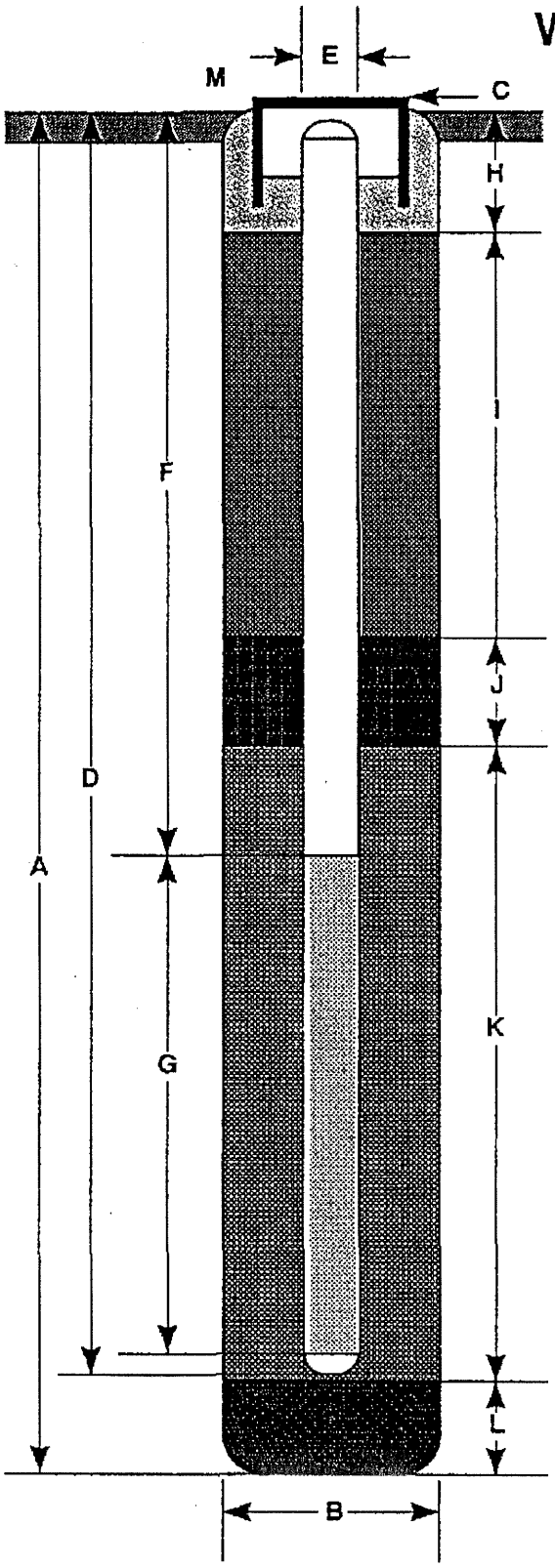
GeoStrategies Inc.

Log of Boring

BORING NO. S-6

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CEG 1262	11/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 26.0 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow-Stem Auger

C Top of Box Elevation 326.56 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 25.5 ft.
Material Schedule 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 6.0 ft.

G Perforated Length 20 ft.
Perforated Interval from 6 to 26 ft.
Perforation Type Schedule 40 PVC
Perforation Size 0.020 in.

H Surface Seal from 0 to 1.5 ft.
Seal Material concrete grout

I Backfill from 1.5 to 4.0 ft.
Backfill Material cement grout

J Seal from 4.0 to 5.0 ft.
Seal Material Bentonite Pellets

K Gravel Pack from 5.0 to 26.0 ft.
Pack Material Lonestar #2/12 sand

L Bottom Seal ft.
Seal Material

M

GeoStrategies Inc.

Well Construction Detail

WELL NO. S-6

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CMP CEG 1262	11/89		

Field location of boring: (See Plate 2)	Project No.: 7633	Date: 10/30/89	Boring No: S-7
	Client: Shell Oil Company		
	Location: 5251 Hopyard Road		
	City: Pleasanton, California		Sheet 1 of 2
	Logged by: R.S.Y.	Driller: Bayland	
	Casing installation data:		
Drilling method: Hollow-Stem Auger			
Hole diameter: 8-Inch	Top of Box Elevation: 326.49		Datum: MSL

Water Level								
Time								
Date								

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								PAVEMENT SECTION - 2.5 feet
				1				
				2				
				3				
				4				CLAY with SAND (CH) - black (2.5Y 2/0), very stiff, moist, high plasticity; 20% very fine sand; trace well rounded
0	450	S&H		5				fine gravel; 30% peat from 4.5 to 6.0 feet; no chemical
	450	push	S-7					odor.
	450		6.0	6				
				7				
				8				
				9				soft at 8.5 feet
0	200	S&H		10				
	200	push	S-7					SANDY CLAY (CL) - very dark grayish brown (7.5YR
	200		11.0	11				3/2), stiff, mosit, low plasticity; 35% very fine sand; no chemical odor.
				12				
				13				
				14				
0	4	S&H		15				
	5		S-7					CLAY (CH) - very dark gray (7.5YR 3/0), medium stiff,
	6		16.0	16				very moist, open voids, high plasticity; calcareous stringers; no chemical odor.
				17				
				18				
				19		▽		Sample rods wet at 18.5 feet

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. S-7

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CMP CEG 12/92	11/89		

Field location of boring: (See Plate 2)	Project No.: 7633	Date: 10/30/89	Boring No.: S-7
	Client: Shell Oil Company		
	Location: 5251 Hopyard Road		
	City: Pleasanton, California		Sheet 2 of 2
	Logged by: R.S.Y.	Driller: Bayland	
Drilling method: Hollow-Stem Auger	Casing installation data:		
Hole diameter: 8-Inch	Top of Box Elevation:	Datum:	
	Water Level / Time / Date		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
0	4	S&H		20				
	5		S-7					COLOR CHANGE to gray (2.5Y 5/0); 10% very fine sand;
	6		21.0	21				no chemical odor.
				22				
				23				
				24				
0	3	S&H		25				
	4		S-7					
	5		26.0	26				CLAYEY SAND (SC) - olive gray (5Y 4/2), loose,
	2	S&H						saturated; 70% very fine sand; 30% clay; no chemical
	3			27				odor.
	4							CLAY (CL) - dark gray (2.5Y 4/0), medium stiff, moist, low
				28				plasticity; no chemical odor.
				29				
								Bottom of boring at 27.5 feet.
				30				Bottom of sample at 27.5 feet.
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

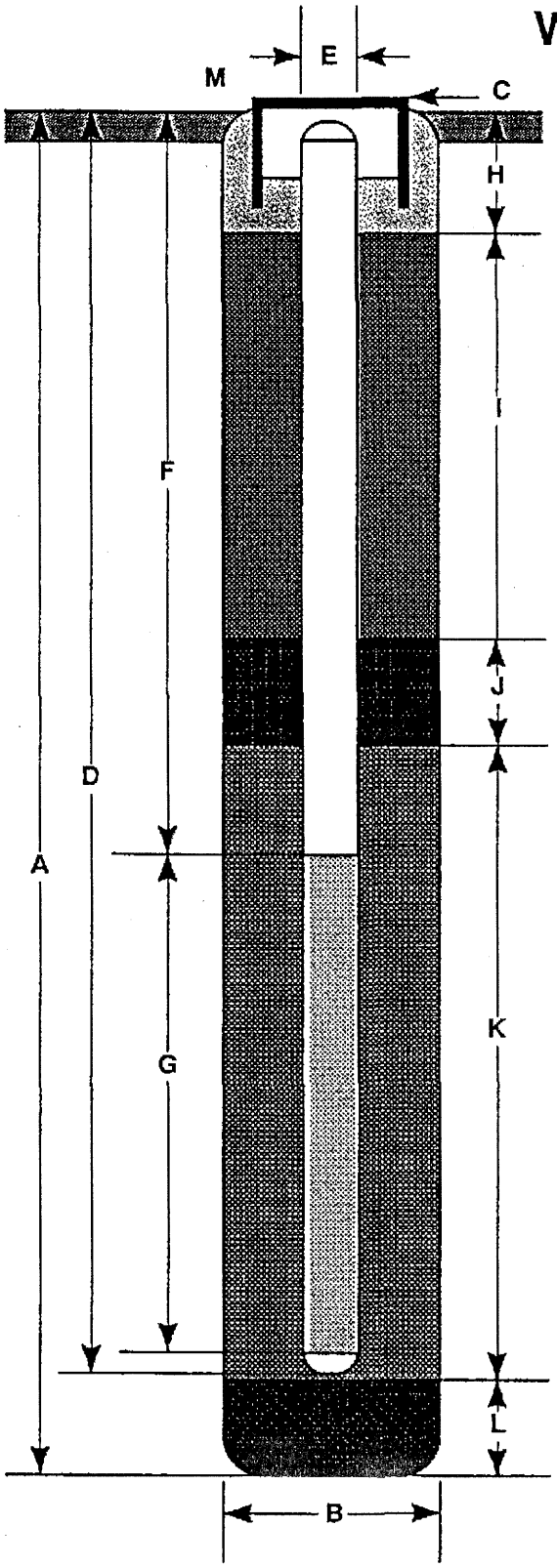
GeoStrategies Inc.

Log of Boring

BORING NO. S-7

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CEG 1262	11/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 27.5 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow-Stem Auger

C Top of Box Elevation 326.49 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 25.5 ft.
Material Schedule 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 4.5 ft.

G Perforated Length 20 ft.
Perforated Interval from 5.5 to 25.5 ft.
Perforation Type Schdule 40 PVC
Perforation Size 0.020 in.

H Surface Seal from 0 to 1.5 ft.
Seal Material concrete grout

I Backfill from 1.5 to 3.5 ft.
Backfill Material cement grout

J Seal from 3.5 to 4.5 ft.
Seal Material Bentonite Pellets

K Gravel Pack from 4.5 to 27.5 ft.
Pack Material Lonestar #2/12 sand

L Bottom Seal ft.
Seal Material

M

GeoStrategies Inc.

Well Construction Detail

WELL NO.
S-7

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CEG 1262	11/89		

Field location of boring: (See Plate 2)	Project No.: 7633	Date: 11/06/89	Boring No: S-8
	Client: Shell Oil Company		
	Location: 5251 Hopyard Road		
	City: Pleasanton, California		Sheet 1 of 2
	Logged by: R.S.Y.	Driller: Bayland	
Drilling method: Hollow-Stem Auger	Casing installation data:		
Hole diameter: 8-Inch	Top of Box Elevation: 325.32	Datum: MSL	

	Water Level	Time	Date

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
								PAVEMENT SECTION - 2.5 feet
				1				
				2				
				3				
				4				CLAY (CL) - black (2.5YR 5/6), medium stiff, damp, medium plasticity; trace coarse sand; no chemical odor.
0	100	S&H						
	100	push	S-8	5				
	100		5.5					
				6				SILT (ML) - dark gray (7.5YR 4/0), medium stiff, moist; 20% very fine sand; voids; no chemical odor.
				7				
				8				
				9				
0	100	S&H						
	100	push	S-8	10				SILTY SAND (SM) - brown (10YR 5/3), loose, very damp; 70% very fine sand; 30% silt; no chemical odor.
	100		10.5					
				11				
				12				
				13				
				14				
0	2	S&H						SILTY CLAY (CL) - dark brownish gray (2.5Y 4/2), medium stiff, moist; 60% clay; 40% silt; no chemical odor.
	2		S-8	15				
	5		15.5					
				16				
				17				
				18				
				19		▽		Sample rods wet at 18.5 feet

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. S-8

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CMP CEG 1262	11/89		

Field location of boring: (See Plate 2)	Project No.: 7633	Date: 11/06/89	Boring No: S-8
	Client: Shell Oil Company		
	Location: 5251 Hopyard Road		
	City: Pleasanton, California		Sheet 1 of 2
	Logged by: R.S.Y.	Driller: Bayland	
	Casing installation data:		
Drilling method: Hollow-Stem Auger			
Hole diameter: 8-Inch	Top of Box Elevation: 325.32		Datum: MSL

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Water Level / Time / Date	Description
									PAVEMENT SECTION - 2.5 feet
				1					
				2					
				3					
				4					CLAY (CL) - black (2.5YR 5/6), medium stiff, damp, medium plasticity; trace coarse sand; no chemical odor.
0	100	S&H							
	100	push	S-8	5					
	100		5.5						
				6					SILT (ML) - dark gray (7.5YR 4/0), medium stiff, moist; 20% very fine sand; voids; no chemical odor.
				7					
				8					
				9					
0	100	S&H							
	100	push	S-8	10					SILTY SAND (SM) - brown (10YR 5/3), loose, very damp; 70% very fine sand; 30% silt; no chemical odor.
	100		10.5						
				11					
				12					
				13					
				14					
0	2	S&H							SILTY CLAY (CL) - dark brownish gray (2.5Y 4/2), medium stiff, moist; 60% clay; 40% silt; no chemical odor.
	2		S-8	15					
	5		15.5						
				16					
				17					
				18					
				19		▽			Sample rods wet at 18.5 feet

Remarks:

GeoStrategies Inc.

Log of Boring

BORING NO. S-8

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CMP CEG 1262	11/89		

Field location of boring:	Project No.: 7633	Date: 11/06/89	Boring No:
(See Plate 2)	Client: Shell Oil Company		S-8
	Location: 5251 Hopyard Road		Sheet 2
	City: Pleasanton, California		of 2
	Logged by: R.S.Y.	Driller: Bayland	
Drilling method: Hollow-Stem Auger	Casing installation date:		
Hole diameter: 8-Inch	Top of Box Elevation:	Datum:	

	Water Level			
	Time			
	Date			

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
0	2	S&H		20				
	2		S-8					
	5		20.5					same as above; caliche nodules.
				21				
				22				
				23				
				24				
				25				COLOR CHANGE to olive gray (5Y 4/2), increasing density.
	4	S&H						
	5		S-8					
	6		26.0	26				
				27				Bottom of boring at 26.0 feet.
								Bottom of sample at 26.0 feet.
				28				
				29				
				30				
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

GeoStrategies Inc.

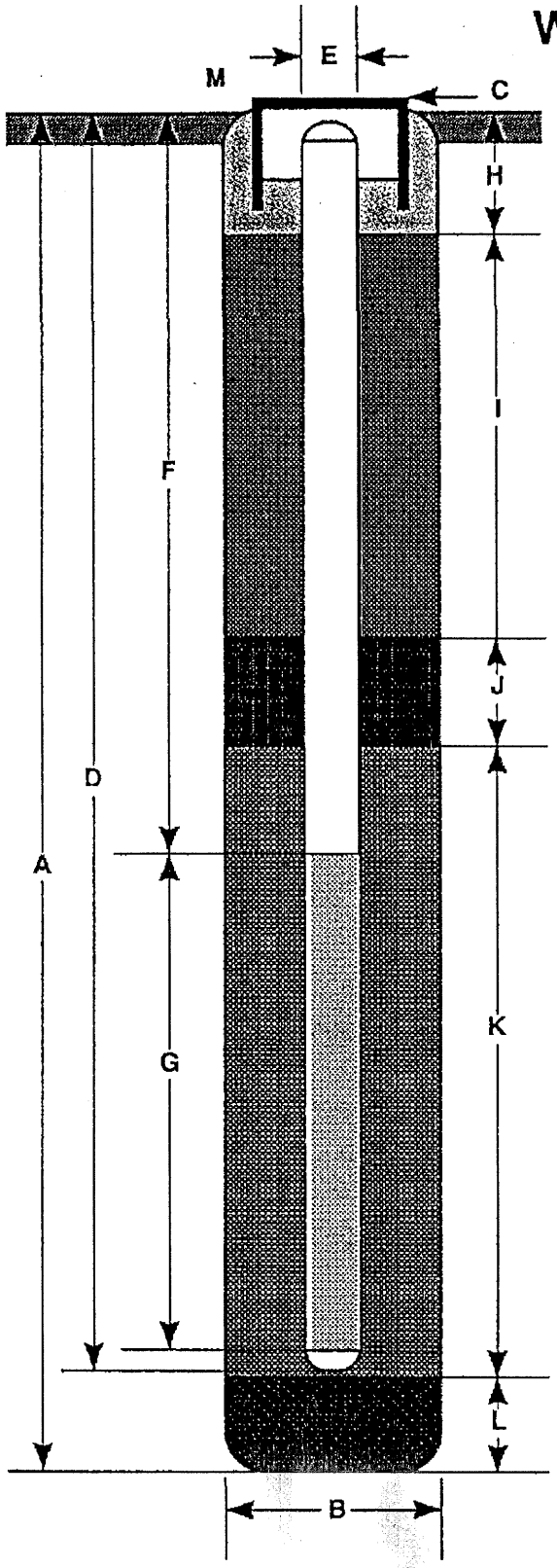
Log of Boring

BORING NO.

S-8

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	CWP CEG 1262	11/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 26 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow-Stem Auger

C Top of Box Elevation 325.32 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

D Casing Length 25 ft.
Material Schedule 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 5 ft.

G Perforated Length 20 ft.
Perforated Interval from 5 to 25 ft.
Perforation Type Schedule 40 PVC
Perforation Size 0.020 in.

H Surface Seal from 0.0 to 1.5 ft.
Seal Material concrete grout

I Backfill from 1.5 to 3.0 ft.
Backfill Material cement grout

J Seal from 3 to 4 ft.
Seal Material Bentonite Pellets

K Gravel Pack from 4 to 26 ft.
Pack Material Lonestar #2/12 sand

L Bottom Seal ft.
Seal Material

M

GeoStrategies Inc.

Well Construction Detail

WELL NO.
S-8

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7633	Camp CEG 1262	11/89		

BORING LOG

DELTA / Inogen

Client: Shell Oil Products US

Project Number: SJ52-51H-1

Boring No. S-9

Address:	Drilling Date(s): 11/10/06	Boring diameter (in.): 8	Caing Material: Sch 40 PVC
4780 Chabot	Drilling Company: Gregg	Sampling Method: HA / SS	Screen Interval: 10 to 20 feet bgs
Pleasanton, California	Drilling Method: AK / HSA	Well Depth (ft.): 20	Screen slot size: 0.010 inch
Logged By: Andrew Persio	Boring Depth (ft): 20	Casing Diameter (in.): 2	Sand Pack: 2/12

Depth (ft.)	Soil/Rock Graphic	Sampled Interval	Blow Counts (blows/ft)	Recovery (%)	Soil/Rock Visual Description	PID Reading (ppm)	Well Completion	Depth (ft.)
0					AF: ~3 inches thick.			0
				100%	CL: Gravelly LEAN CLAY with sand, light brown, 15-25% fine to medium sand, 20-30% gravel up to 0.5 inches in diameter, low to medium plasticity.	0.1		
					LEAN CLAY, dark brown, medium stuff, low to medium plasticity.			
5				100%	(as above, 5-15% fine sand)	0.1		5
				100%	LEAN CLAY with sand, medium brown, 15-25% fine sand, medium stuff, medium to high plasticity, moist.	0.1		
10								10
				100%	LEAN CLAY, dark brown, 5-15% fine sand, trace gravels up to 0.5 inches in diameter, stiff, medium plasticity, moist.	0.1		
15								15
				100%	(as above, medium brown to gray, less than 10% fine sand, no gravels, moist)	0.1		
20					Bottom of boring/well = 20 feet bgs.			20
					Note: sampled to 20 feet bgs.			
25								25

Delta Consultants

Project No:	SCA5251H1A	Client:	Shell	Well No: S-10	
Logged By:	Cora Olson	Location:	5251 Hopyard Rd.; Pleasanton	Page 1 of 1	
Driller:	RSI	Date Drilled:	6/19/2009	Location Map	
Drilling Method:	Hollow Stem Auger	Boring Diameter:	8"	Please see site map	
Sampling Method:	Direct Push	Boring Depth:	20'	▽ = First Water	
Casing Type:	Sch 40 PVC	Well Diameter:	4"	▼ = Static Groundwater	
Slot Size:	0.02"	Well Depth:	20'		
Sand Pack:	# 2/12	Screened Interval:	6' - 20 '		
Elevation		Latitude		Longitude	

Well Completion: Backfill	Well Completion: Casing	Well Completion: Backfill	Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Interval	Sample: Recovery (%)	Soil Type	LITHOLOGY / DESCRIPTION
							1.0				No Recovery - Airknife to 8'
							2.0				
							3.0				
							4.0				
							5.0				
							6.0				
							7.0				
							8.0				
			▽	wet	0.7			X	100		**CL** - Clay, grey/brown, medium to high plasticity, wet,
							9.0	X			
							10.0				
							11.0	X			
							12.0	X			
							13.0	X	100		
							14.0	X			
							15.0	X			
				wet	0.9		16.0				**CL** - Clay, grey/brown, medium to high plasticity, wet
							17.0	X	100		
							18.0	X			
							19.0	X			
				damp	0.6		**20.0**				**CL** - Clay, grey/brown, medium to high plasticity, damp

Legend

- Sand Pack
- Bentonite
- Cement Grout
- Screen
- SP - Poorly Graded Sand
- CL - Clay
- ML - Silt

Delta Consultants

Project No:	SCA5251H1A	Client:	Shell	Well No: S-11	
Logged By:	Cora Olson	Location:	5251 Hopyard Rd.; Pleasanton	Page 1 of 1	
Driller:	RSI	Date Drilled:	6/18/2009	Location Map	
Drilling Method:	Hollow Stem Auger	Boring Diameter:	8"	Please see site map	
Sampling Method:	Direct Push	Boring Depth:	20'	▽ = First Water	
Casing Type:	Sch 40 PVC	Well Diameter:	4"	▼ = Static Groundwater	
Slot Size:	0.02"	Well Depth:	20'		
Sand Pack:	# 2/12	Screened Interval:	6' - 20 '		
Elevation		Latitude		Longitude	

Well Completion: Backfill	Well Completion: Casing	Well Completion: Backfill	Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Interval	Sample: Recovery (%)	Soil Type	LITHOLOGY / DESCRIPTION
							0				No Recovery - Airknife to 8'
							1.0				
							2.0				
							3.0				
							4.0				
							5.0				
							6.0				
							7.0				
							8.0				
				damp	0.0			X	100		**CL** - Clay,/brown, grey staining,
							9.0	X			medium to high plasticity, damp
							10.0				
								X			
							11.0	X			
								X			
							12.0				
								X	100		
							13.0	X			
								X			
							14.0	X			
								X			
							15.0				
				damp	0.0						(same as above) , damp
							16.0	X	100		
								X			
							17.0	X			
								X			
							18.0	X			
								X			
							19.0				
				damp	0.1		**20.0**				(same as above) , damp

Legend

- Sand Pack
- Bentonite
- Cement Grout
- Screen
- SP - Poorly Graded Sand
- CL - Clay
- ML - Silt

Delta Consultants

Project No:	SCA5251H1A	Client:	Shell	Well No: S-12
Logged By:	Cora Olson	Location:	5251 Hopyard Rd.; Pleasanton	Page 1 of 1
Driller:	RSI	Date Drilled:	6/18/2009	
Drilling Method:	Hollow Stem Auger	Boring Diameter:	8"	
Sampling Method:	Direct Push	Boring Depth:	20'	
Casing Type:	Sch 40 PVC	Well Diameter:	4"	
Slot Size:	0.02"	Well Depth:	20'	
Sand Pack:	# 2/12	Screened Interval:	6' - 20 '	
Elevation		Latitude	Longitude	

Location Map

Please see site map

▽ = First Water

▼ = Static Groundwater

Well Completion: Backfill	Well Completion: Casing	Well Completion: Backfill	Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Interval	Sample: Recovery (%)	Soil Type	LITHOLOGY / DESCRIPTION
							1.0				No Recovery - Airknife to 8'
							2.0				
							3.0				
							4.0				
							5.0				
							6.0				
							7.0				
							8.0				
				damp	1.1			X	100		**CL -** Clay, grey/brown, medium to high plasticity, damp
							9.0	X			
							10.0				
								X			
							11.0	X			
								X			
							12.0	X			
								X	100		
							13.0	X			
								X			
							14.0	X			
								X			
								X			
							15.0				
				damp	0.2						**CL -** Clay, grey/brown, medium to high plasticity, grey streaking, damp
							16.0				
								X	100		
							17.0	X			
								X			
								X			
							18.0	X			
								X			
							19.0	X			
				damp	0.1		**20.0**				(same as above)

Legend

- Sand Pack
- Bentonite
- Cement Grout
- Screen
- SP - Poorly Graded Sand
- CL - Clay
- ML - Silt

Delta

Environmental Consultants, Inc.

Project No:	SJ52-51H-1	Client:	Shell Oil Products US	Well No: EW-1	
Logged By:	Heather Buckingham	Location:	5251 Hopyard Rd, Pleasanton	Page 1 of 1	
Driller:	Gregg	Date Drilled:	3/6/2006	Location Map	
Drilling Method:	HSA	Hole Diameter:	10"	Please see site map	
Sampling Method:	CA mod. SS	Hole Depth:	20'		
Casing Type:	Sch 40 PVC	Well Diameter:	4"		
Slot Size:	0.01	Well Depth:	20'		
Gravel Pack:	#2/12	Casing Stickup:	0		
Elevation		Northing		Easting	

Well Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill / Casing								AF	~8" of asphalt
Cement		damp		Air Knifed	1			CL	**Sandy Lean CLAY**: med. Grey, medium to high plasticity, 40% fine grained sand
					2				
					3				
					4				
					5			CL	**Lean CLAY with Sand**: grey, medium to high plasticity, 10-20% fine grained sand
Bentonite					6				
					7				
					8				
		damp		6	9				(mottled with dark grey)
			891	10					
				10	10				
					11				
					12				
#2/12 Sand	▼				13				
		wet		8	14			SP	**Poorly Graded SAND**: medulm grey, fine grained sand, 10-15% gravels 1 cm long, <10% fines
			670	10					
				12	15				
		wet			16			CL	**Sandy Lean CLAY**: medium grey, 35-45% fine grained sand, medium plasticity
					17				
					18				
		wet		6	19				
				10					**Lean CLAY**: medium brown mottled with orange, 5-10%
		damp	75	12	20			CL	coarse grained sand, medium plasticity