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10:23 am, Jun 13, 2008

Alameda County
Environmental Health

June 9, 2008
Project SCA8999S1
SAP: 135244

Mr. Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

**Subject: Monitoring Well Destruction Report
Former Shell Service Station
8999 San Ramon Rd
Dublin, California**



Dear Mr. Wickham:

Delta Consultants, Inc. (DELTA), on behalf of Shell Oil Products US (SHELL), has prepared this letter documenting the destruction of six monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-6, MW-10) associated with the above referenced site. Locations of the destroyed wells are shown on the site map, Figure 1.

WELL DESTRUCTIONS

The Alameda County Health Care Services Agency (ACHCSA) has directed SHELL to destroy monitoring wells MW-1, MW-2, MW-3, MW-4, MW-6, and MW-10. The station plans to demolish the existing buildings and remodel the station; future activities include re-grading the property surface. In order to destroy wells, DELTA obtained well destruction permits from the Zone 7 Water Agency (ZONE 7). Copies of the permits are provided as Attachment A. The monitoring wells were destroyed on May 21 and 22, 2008, utilizing methods authorized by ZONE 7. Gregg Drilling (GREGG), License C57-485165, provided the field equipment and materials. A Delta geologist oversaw and directed the well destruction activities.

A tremie pipe with attached hose was placed down each well and 15-sack neat cement grout was pumped into the well-casing to approximately 0.5-foot below grade (bg). The tremie pipe and hose was then pulled from the well and an airtight steel fitting with hose connector was attached to the wellhead. The grout hose was connected to the fitting and grout was pumped into the well under 50 pounds per square inch (psi) of pressure for approximately 15 minutes. The vault boxes were removed and the upper casing of each well was then drilled out to a depth of five feet bg. The remaining borehole was then grouted to within 1.5 feet of the ground surface, and capped with concrete to match the surrounding grade. Delta prepared State of California Department of Water Resources (DWR) *Well Completion Reports* for

a member of:



312 PIERCY ROAD SAN JOSE, CALIFORNIA 95138 USA
PHONE +1 408.224.4724 / USA TOLL FREE 800.477.7411
FAX +1 408.225.8506 WWW.DELTAENV.COM

the well and submitted them to GREGG for signatures, prior to submittal to the appropriate agency. Copies of these forms are included as Attachment B.

REMARKS

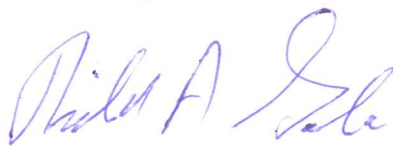
The information contained in this report represent DELTA's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between DELTA and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of DELTA's Client and anyone else specifically listed on this report. DELTA will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, DELTA makes no express or implied warranty as to the contents of this report.

Please call Richard Garlow (DELTA) at (408) 826-1880 or Denis Brown (SHELL)at (707) 865-0251 if you have any questions regarding the contents of this letter.

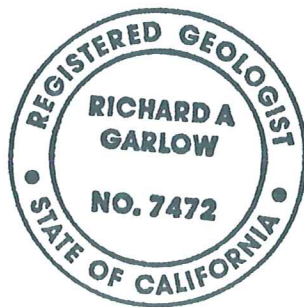
Sincerely,
Delta Consultants, Inc.



Abhik Dutta
Staff Geologist



Richard A. Garlow, M.S., P.G.
Project Manager



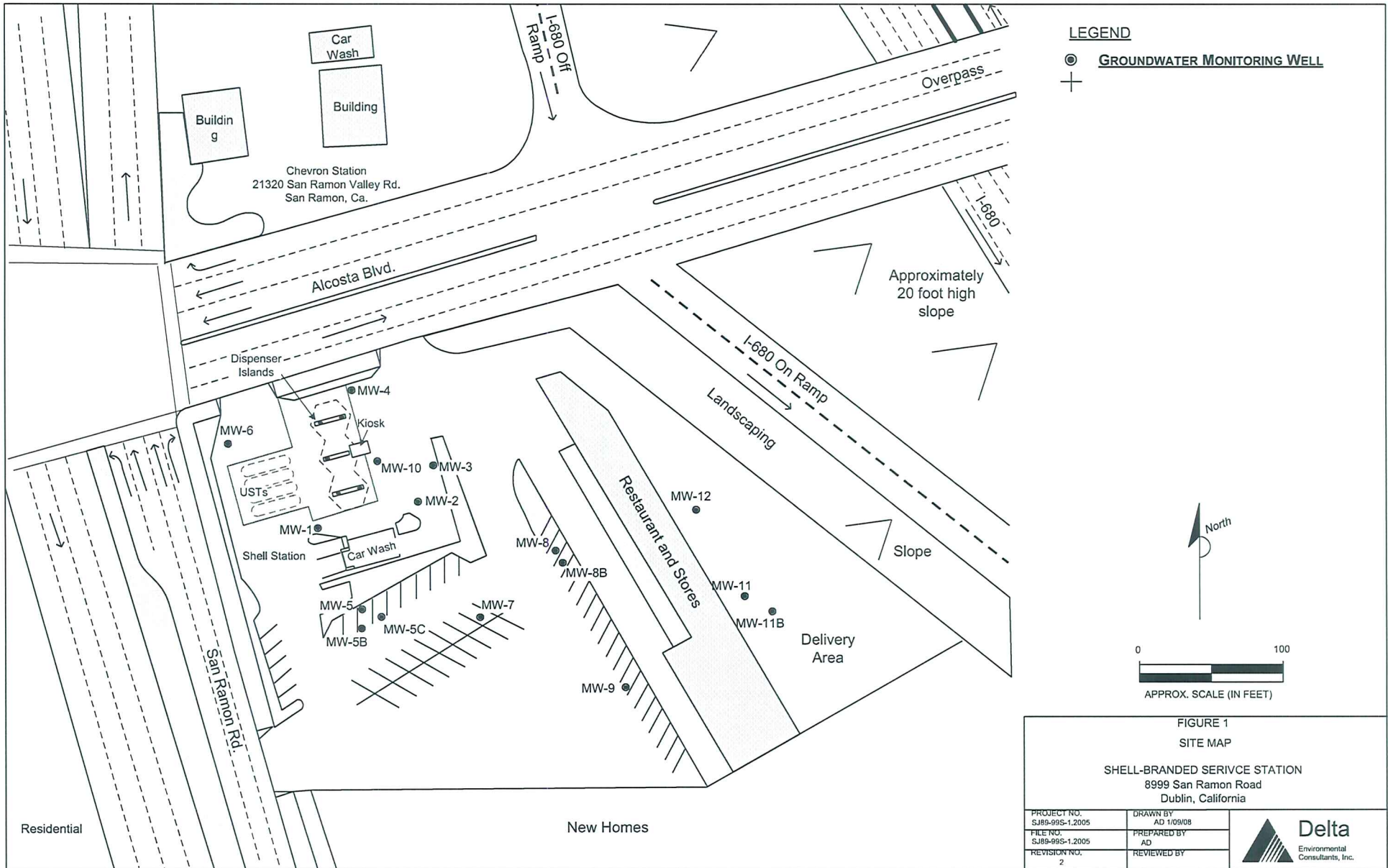
Attachments:

Figure 1 – Site Location Map

Attachment A – Zone 7 Water Agency, Drilling Permit Application

Attachment B - Department of Water Resources form 188, Well Completion Reports

cc: Denis Brown, Shell Oil Products US, Carson
Carl Cox, C and J Cox Corporation, Pleasanton
Colleen Winey, Zone 7 Water Agency, Livermore



LEGEND

- **GROUNDWATER MONITORING WELL**
- +



FIGURE 1
SITE MAP

SHELL-BRANDED SERVICE STATION
8999 San Ramon Road
Dublin, California

PROJECT NO. SJ89-995-1.2005	DRAWN BY AD 1/09/08
FILE NO. SJ89-995-1.2005	PREPARED BY AD
REVISION NO. 2	REVIEWED BY

Delta
Environmental
Consultants, Inc.

ATTACHMENT A

Zone 7 Water Agency

Drilling Permit Application



ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306

E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 8999 San Ramon Rd.
Dublin, CA. 94568

PERMIT NUMBER 28063
WELL NUMBER 2S/1W-35C5 to 35C9 & 35C10
APN 941-0164-001-07 (MW-1 to MW-4, MW-6 & MW-10)

California Coordinates Source _____ ft. Accuracy • _____ ft.
CCN _____ ft. CCE _____ ft.
APN 941-164-1-7

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

CLIENT
Name Shell Oil Products U.S. – Denis Brown
Address 20945 S. Wilmington Ave. Phone 707-865-0251
City Carson, CA Zip 90810

- A. GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
 2. Submit to Zone 7 within 60 days after completion of permitted work the original **Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.**
 3. Permit is void if project not begun within 90 days of approval date.

APPLICANT
Name Delta Consultants – Abhik Dutta
Email adutta@deltaenv.com Fax 408-225-8506
Address 312 Piercy Rd. Phone 408-826-1869
City San Jose Zip 95138

- B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
 3. Grout placed by tremie.
 4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
 5. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT:
Well Construction •• Geotechnical Investigation ••
Well Destruction ✓ Contamination Investigation ••
Cathodic Protection •• Other _____ ••

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
 3. Grout placed by tremie.

PROPOSED WELL USE:
Domestic •• Irrigation ••
Municipal •• Remediation ••
Industrial •• Groundwater Monitoring ••
Dewatering •• Other _____ ••

- D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:
Mud Rotary •• Air Rotary •• Hollow Stem Auger ••
Cable Tool •• Direct Push •• Other _____ ••

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

DRILLING COMPANY Gregg Drilling

- F. WELL DESTRUCTION. See attached.

DRILLER'S LICENSE NO. C57-485165

WELL SPECIFICATIONS
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4 in. Depth 26-27 ft.
Surface Seal Depth 20-21 ft. Number MW-1, 2, 3, 4

- G. SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

SOIL BORINGS:
Number of Borings _____ Maximum
Hole Diameter _____ in. Depth _____ ft.

ESTIMATED STARTING DATE 5/21
ESTIMATED COMPLETION DATE 5/22

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

APPLICANT'S SIGNATURE [Signature] Date 5/22/08

Approved [Signature] Date 5/20/08
Wyman Hong

ATTACH SITE PLAN OR SKETCH

ATTACHMENT B

Department of Water Resources Form 188

Well Completion Reports

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Delta

Environmental Consultants, Inc.

Project No: SJ89-99S-1	Client: Shell Oil Products US	Boring No: MW-4	
Logged By: Heather Buckingham	Location: 8999 San Ramon Rd., Dublin	Page 2 of 2	
Driller: Gregg	Date Drilled: 5/6/2005	Location Map Please see site map	
Drilling Method: HSA	Hole Diameter: 10 inch		
Sampling Method: CA Mod. Split Shoe	Hole Depth: 27 ft		
Casing Type: PVC	Well Diameter: 4 inch		
Slot Size: 0.01	Well Depth: 27 ft		
Gravel Pack: #2/12	Casing Stickup: NA		
Elevation		Northing	Easting

Well Completion		Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill	Casing								
Sand			wet dry	0.4	9 16 27	23 24 25 26		CL	Sandy Lean CLAY: continued
								CL	Lean CLAY with Sand: medium brown with grey mottling; grey; 85-90% fines; 10-15% sand; moderate plasticity; stiff Boring terminated at 27 feet below ground surface
						27			
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			
						41			
						42			
						43			
						44			

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STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

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Delta

Environmental Consultants, Inc.

Project No: SJ89-99S-1	Client: Shell Oil Products US	Boring No: MW-1
Logged By: Heather Buckingham	Location: 8999 San Ramon Rd., Dublin	Page 2 of 2
Driller: Gregg	Date Drilled: 5/5/2005	Location Map Please see site map
Drilling Method: HSA	Hole Diameter: 10 inch	
Sampling Method: CA Mod. Split Shoe	Hole Depth: 27 ft	
Casing Type: PVC	Well Diameter: 4 inch	
Slot Size: 0.01	Well Depth: 27 ft	
Gravel Pack: #2/12	Casing Stickup: NA	
Elevation	Northing	Easting

Well Completion		Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill	Casing								
Sand						23		CL	Sandy Lean CLAY: continued
						24			
			damp	9.4		25		CL	Lean CLAY with Sand: same as above, stiff
						26			
						27			Boring terminated at 27 feet below ground surface
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			
						40			
						41			
						42			
						43			
						44			

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STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

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Delta

Environmental Consultants, Inc.

Project No:	SJ89-99S-1	Client:	Shell Oil Products US	Boring No:	MW-2
Logged By:	Heather Buckingham	Location:	8999 San Ramon Rd., Dublin	Page 2 of 2	
Driller:	Gregg	Date Drilled:	5/5/2005	Location Map	
Drilling Method:	HSA	Hole Diameter:	10 inch	Please see site map	
Sampling Method:	CA Mod. Split Shoe	Hole Depth:	27 ft		
Casing Type:	PVC	Well Diameter:	4 inch		
Slot Size:	0.01	Well Depth:	27 ft		
Gravel Pack:	#2/12	Casing Stickup:	NA		

Elevation	Northing	Easting
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Well Completion		Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill	Casing								
Sand						23		CL	Sandy Lean CLAY: continued
			damp	9.4		24			
						25		CL	Lean CLAY with Sand: same as above, stiff
						26			
						27			Boring terminated at 27 feet below ground surface
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
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						43			
						44			

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STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

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Delta

Environmental Consultants, Inc.

Project No:	SJ89-99S-1	Client:	Shell Oil Products US	Well No:	MW-3
Logged By:	Heather Buckingham	Location:	8999 San Ramon Rd., Dublin	Page 1 of 2	
Driller:	Gregg	Date Drilled:	5/6/2005	Location Map	
Drilling Method:	HSA	Hole Diameter:	10 inch	Please see site map	
Sampling Method:	CA Mod. Split Shoe	Hole Depth:	26 ft		
Casing Type:	PVC	Well Diameter:	4 inch		
Slot Size:	0.01	Well Depth:	26 feet		
Gravel Pack:	#2/12	Casing Stickup:	NA		

Elevation	Northing	Easting
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Well Completion		Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION				
Backfill	Casing												
GROUT		▼	wet	1.8	↑ air knifed & hand augered ↓	1		AF	Asphalt 6", Base rock 4"				
							SM	Silty SAND: light brown; 20-30% silt; fine to coarse grained sand, well graded					
							damp			4		CL	Sandy Lean CLAY: medium brown mottled with orange; 70-80% fines; 20-30% fine grained sand in tan sand pockets; trace gravels up to 0.5" in diameter; moderate to high plasticity; soft
							dry			7			
							dry			8			
							dry	0.5		10			
										11		CL	Lean CLAY with Sand: medium brown with orange mottling; 85-90% fines; 10-15% fine grained sand in tan sand pockets; moderate plasticity; soft
										12			
										13			
										14			
							dry	0.6		15		CL	Sandy Lean CLAY: medium brown; 70-80% fines; 20-30% fine grained poorly graded sand in tan sand pockets; slight product odor; moderate to high plasticity; stiff
										16			
										17			
										18			
										19			
							dry	0.2		20		CL	Lean CLAY with Sand: same as above; medium brown with dark brown mottling; stiff
										21			
										22			

Bentonite

Delta

Environmental Consultants, Inc.

Project No:	SJ89-99S-1	Client:	Shell Oil Products US	Boring No:	MW-3
Logged By:	Heather Buckingham	Location:	8999 San Ramon Rd., Dublin	Page 2 of 2	
Driller:	Gregg	Date Drilled:	5/6/2005	Location Map	
Drilling Method:	HSA	Hole Diameter:	10 inch	Please see site map	
Sampling Method:	CA Mod. Split Shoe	Hole Depth:	25 ft		
Casing Type:	PVC	Well Diameter:	4 inch		
Slot Size:	0.01	Well Depth:	26 ft		
Gravel Pack:	#2/12	Casing Stickup:	NA		

Elevation	Northing	Easting
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Well Completion Backfill Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Sand		dry	0.7	9 16 27	23		CL	Lean CLAY with Sand: continued
					24			
					25		CL	Sandy Lean CLAY: grey; 60-70% fines; 30-40% sand; low to moderate plasticity; stiff
					26			Boring terminated at 26 feet below ground surface
					27			
					28			
					29			
					30			
					31			
					32			
					33			
					34			
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					42			
					43			
					44			

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STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

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Delta

Environmental Consultants, Inc.

Project No: SJ89-99-1
 Logged By: Andy Perso
 Driller: Gregg
 Drilling Method: WK to 7/HSA
 Sampling Method: HA/SS
 Casing Type: SCh 40 PVC
 Slot Size: 0.01
 Gravel Pack: 2/12/ sand

Client: Shell Oil Products US
 Location: 8999 San Ramon, Dublin, CA
 Date Drilled: 2/21/2006
 Hole Diameter: 12" - 10"
 Hole Depth: 7/30'
 Well Diameter: 4"
 Well Depth: 30'
 Casing Stickup: 0

Well No: MW-6
 Page 1 of 2

Location Map

Please see site map

Elevation

Northing

Easting

Well Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill Casing							AF	~6" asphalt and baserock
		damp	32.5	↑ air knifed & hand augered ↓	1		CL	sandy lean CLAY: dark grey, 40-50% fine to med. grained sands, med. plasticity
		damp	18.5		2			
		damp	18.5		3			
		damp	18.5		4			dark brown, 35-45% fine to med. grained sands
		damp	50.6		5			
		damp	50.6		6			orangish brown, 40-50% fine to med. grained sands
					7			
					8			
		damp	86.1		9		CL	lean CLAY w/sand: dark brown, 10-20% fine grained sands, trace gravels up to 1" dia., trace caliche, med. Plasticity
					10			
					11			
					12			
		damp	11.8		13			
					14		CL	lean CLAY: dark brown, 5-15% fine grained sands, med. plasticity
					15			
					16			
					17			
					18		SC	clayey SAND: greenish brown to grey (discoloration), 40-50% fines, med. to fine grained sands, low plasticity
		damp	6.2		19			
					20			

Grout

Bentonite

Delta

Environmental Consultants, Inc.

Project No: SJ89-99-1
 Logged By: Andy Persio
 Driller: Gregg
 Drilling Method: WK to 7/HSA
 Sampling Method: HA/SS
 Casing Type: SCh 40 PVC
 Slot Size: 0.01
 Gravel Pack: 2/12/ sand

Client: Shell Oil Products US
 Location: 8999 San Ramon, Dublin, CA
 Date Drilled: 2/21/2006
 Hole Diameter: 12" - 10"
 Hole Depth: 7'30"
 Well Diameter: 4"
 Well Depth: 30'
 Casing Stickup: 0

Well No: MW-6
 Page 2 of 2

Location Map
 Please see site map

Well Completion		Static Water Level	Elevation			Northing		Easting		LITHOLOGY / DESCRIPTION					
Backfill	Casing		Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Recovery Interval	Soil Type							
		damp	11.3		21		SC	clayey SAND (cont.)							
					22										
					23				CL	lean CLAY w/sand: brown w/orange mottling, med. stiff, 15-25% fine grained sands, trace gravels up to 1/4" dia.					
					24										
					25				SC	clayey SAND w/gravel: greyish brown w/orange mottling, med. Dense, 30-40% fines, 5-15% gravels up to 1/2" dia., no plasticity					
					26										
					27										
					28										
					29				moist	1.9		29		SC	clayey SAND w/gravel: greyish brown w/orange mottling, med. Dense, 30-40% fines, 5-15% gravels up to 1/2" dia., no plasticity
					30										
					31										
					32										
					33										
					34										
					35										
					36										
					37										
					38										
					39										
					40										

Bottom of boring terminated at 30' bg

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STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Delta

Environmental Consultants, Inc.

Project No:	SJ89-99S-1	Client:	Shell Oil Products US	Well No:	MW-10
Logged By:	Andy Persio	Location:	8999 San Ramon	Page 1 of 2	
Driller:	Gregg	Date Drilled:	7/25-26/06	Location Map	
Drilling Method:	HSA / AK (7')	Hole Diameter:	12"/10"	Please see site map	
Sampling Method:	SS	Hole Depth:	29'		
Casing Type:	Sch 40 PVC	Well Diameter:	4"		
Slot Size:	0.01	Well Depth:	29'		
Gravel Pack:	#2/12 sand	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill Casing Grout Bentonite Sand		moist	3.6	air knifed & hand augered	1		AF	~9" asphalt and ~3" baserock
					2		SC	clayey SAND: light grey, medium dense, 10-20% fines, fine to medium grained sands, no plasticity
					3			
					4			
					5		CL	sandy lean CLAY: dark brown, stiff, 30-40% fine grained sands, trace gravels and cobbles up to 3" b-axis diameter, low plasticity
					6			
					7			
					8			
					9		CL	lean CLAY w/sand: dark brown, 20-30% fine to medium grained sands, very stiff, trace gravels up to 2" b-axis diameter, low plasticity
					10			
					11			
					12			
					13			
					14			
					15			
					16			
					17			
					18			
					19		CL	sandy lean CLAY: dark grwy w/greenish discoloration, hard, 30-40% fine to medium grained sands, low plasticity
					20			

Delta

Environmental Consultants, Inc.

Project No: SJ89-99S-1
 Logged By: Andy Persio
 Driller: Gregg
 Drilling Method: HAS/ AK (7)
 Sampling Method: SS
 Casing Type: Sch 40 PVC
 Slot Size: 0.01
 Gravel Pack: #2/12 sand

Client: Shell Oil Products US
 Location: 8999 San Ramon
 Date Drilled: 7/25-26/06
 Hole Diameter: 12" / 10"
 Hole Depth: 29'
 Well Diameter: 4"
 Well Depth: 29'
 Casing Stickup: NA

Well No: MW- 10
 Page 2 of 2

Location Map
 Please see site map

Elevation Northing Easting

Well Completion	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Backfill Casing	22.85' 4:00p	moist	1.3	4 8 12	21 22 23 24 25	[Sample Recovery Interval]	CL	sandy lean CLAY (cont.): dark brown, same as above, no discoloration
							CL	lean CLAY w/sand: dark brown, very stiff, 15-25% fine grained sands, low plasticity
		moist	1.2	7 10 14	26 27 28	[Sample Recovery Interval]		same as above
					29			29'bg = bottom of boring/well
					30			
					31			
					32			
					33			
					34			
					35			
					36			
					37			
					38			
					39			
					40			

