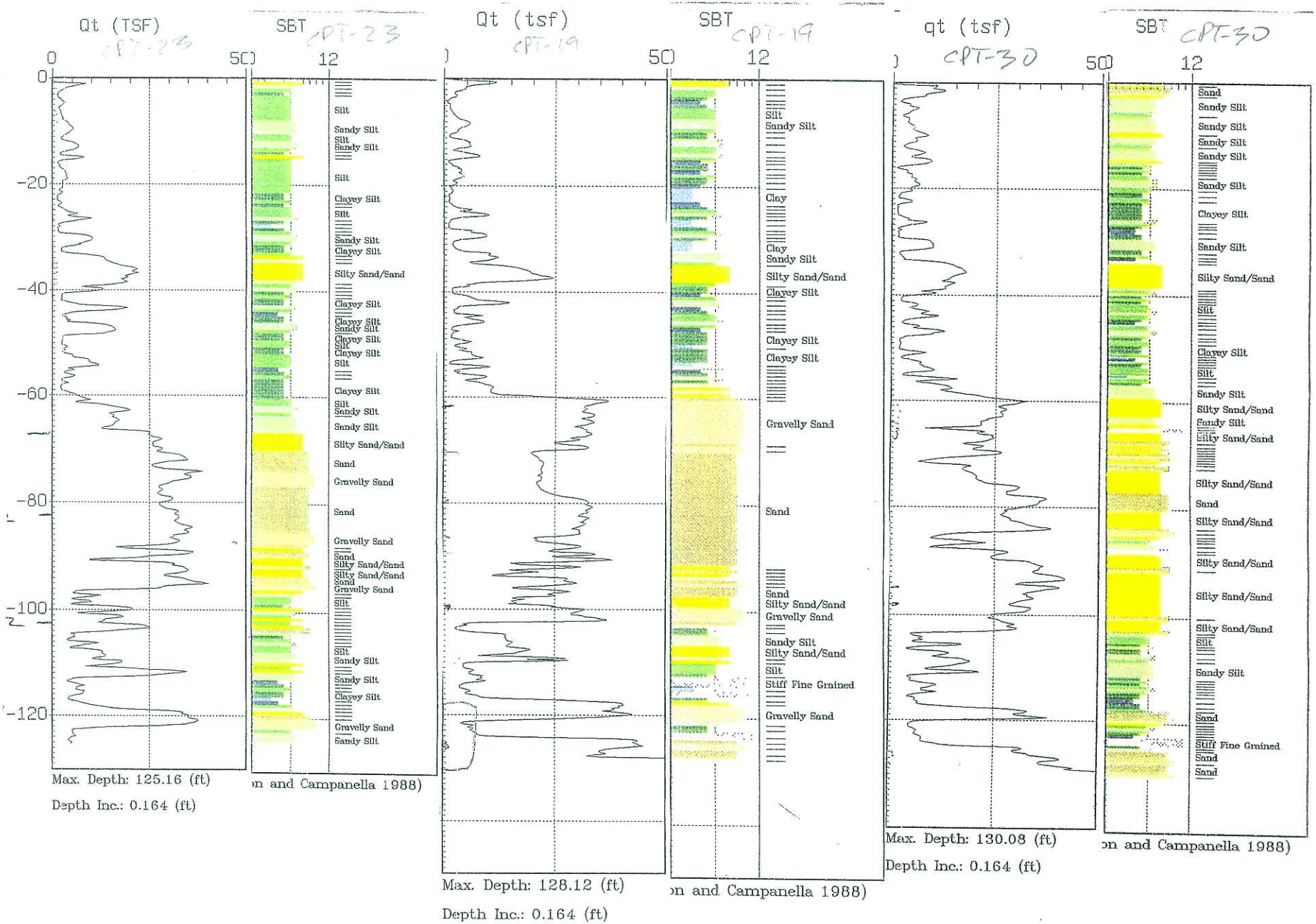
ATTACHMENT 1

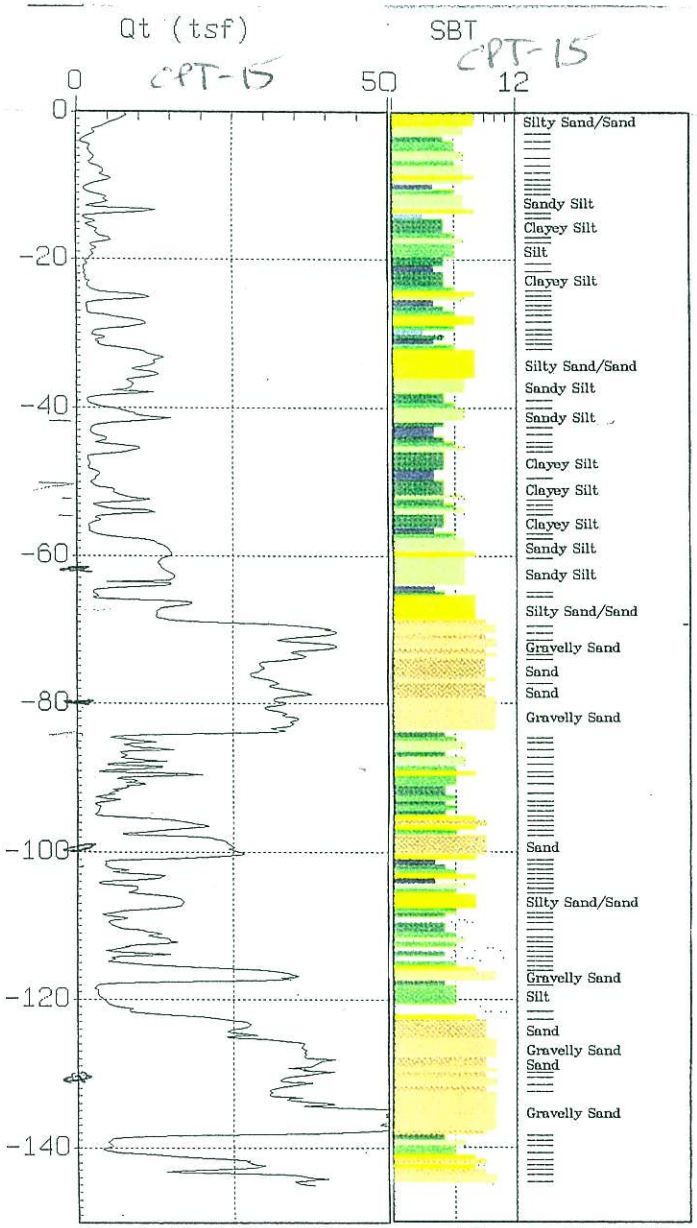
Selected CPT Boring Logs

West

East

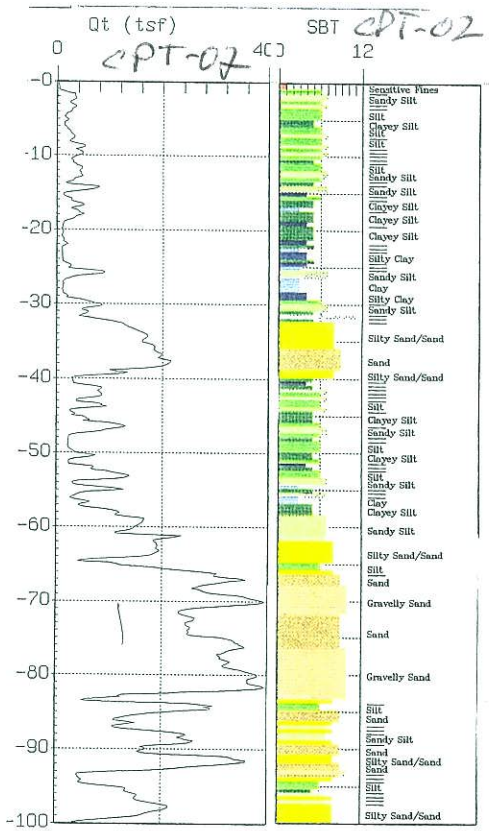


DRAFT



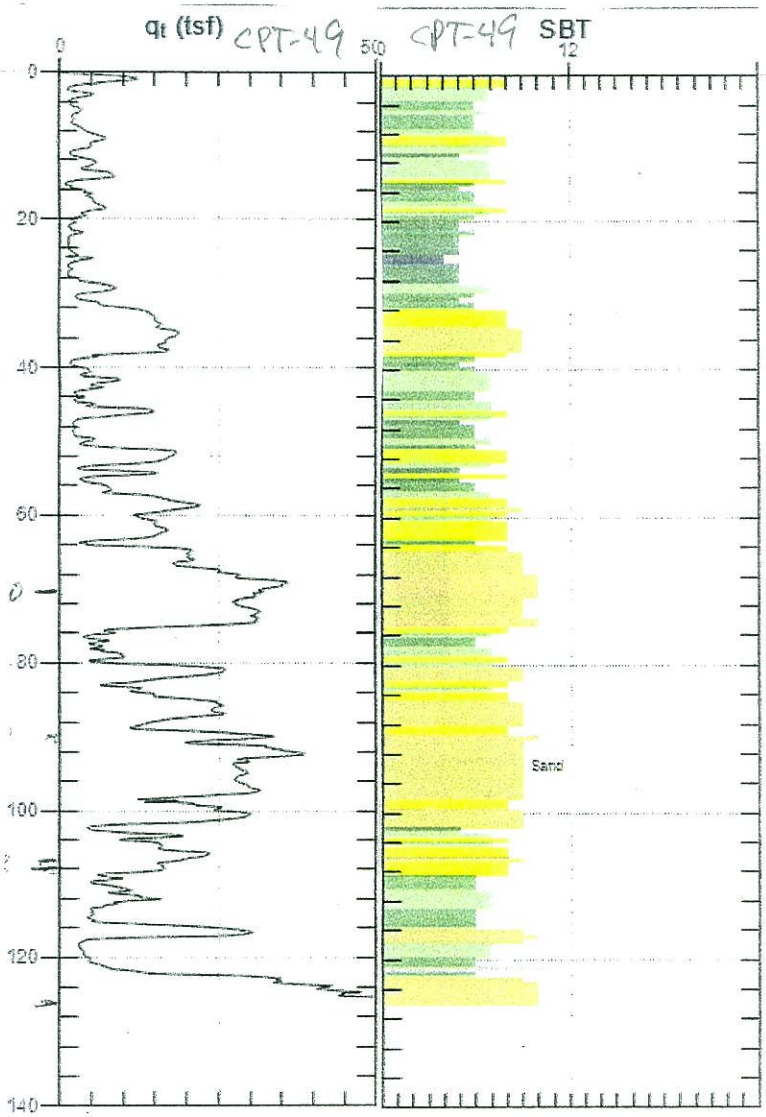
Max. Depth: 145.01 (ft)
Depth Inc.: 0.164 (ft)

on and Campanella 1988)



Max. Depth: 100.06 (ft)
Depth Inc.: 0.164 (ft)

on and Campanella 1988)



Max. Depth: 126.312 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

DRAFT

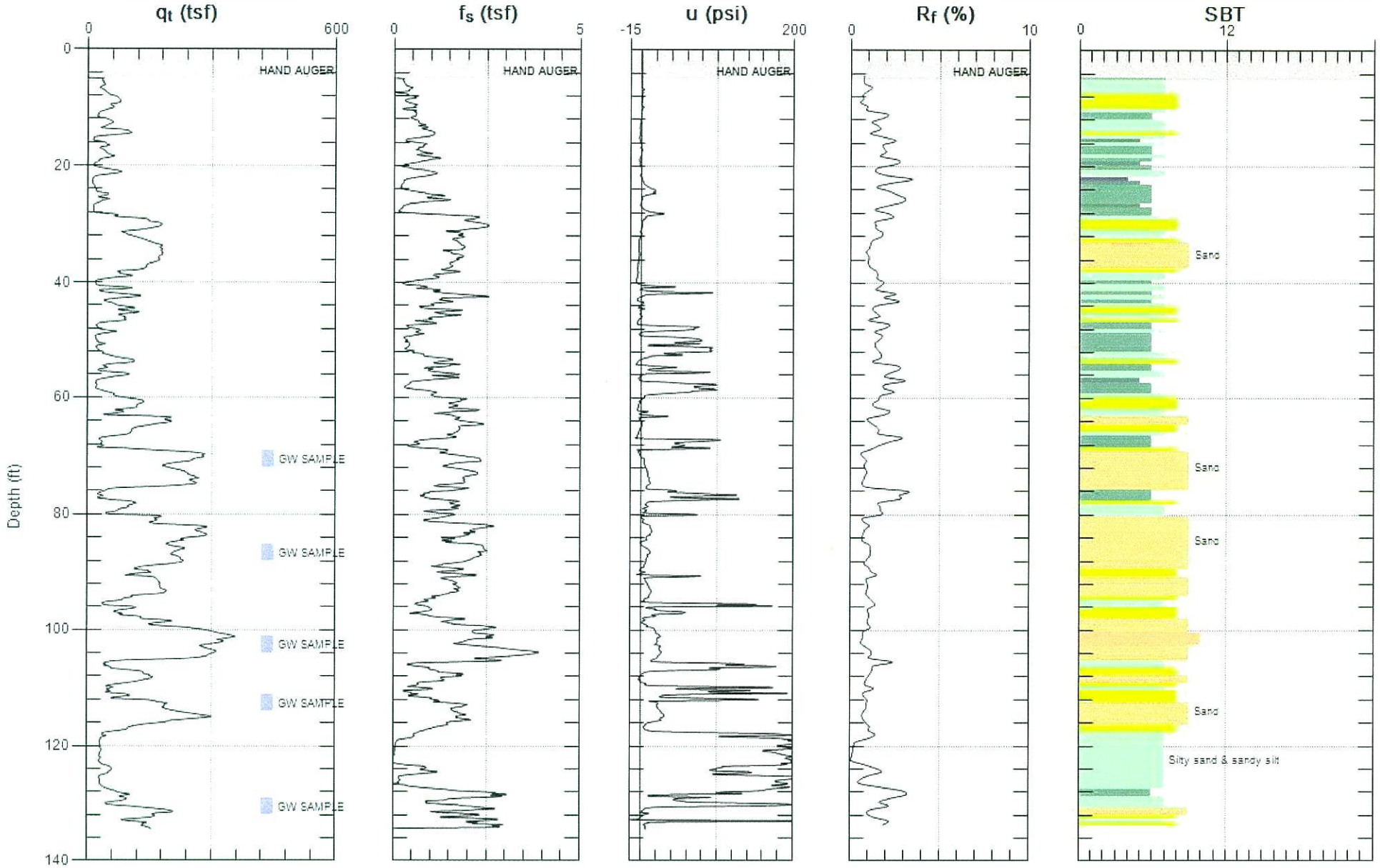
ATTACHMENT 2

New CPT and Monitor Well Boring Logs, Monitor Well Construction Logs, Monitor Well Development Sheets

GREGG URS

Site: COOPER DRUM
Sounding: CPT-46

Engineer: D.GRUBER
Date: 12/16/2008 11:58



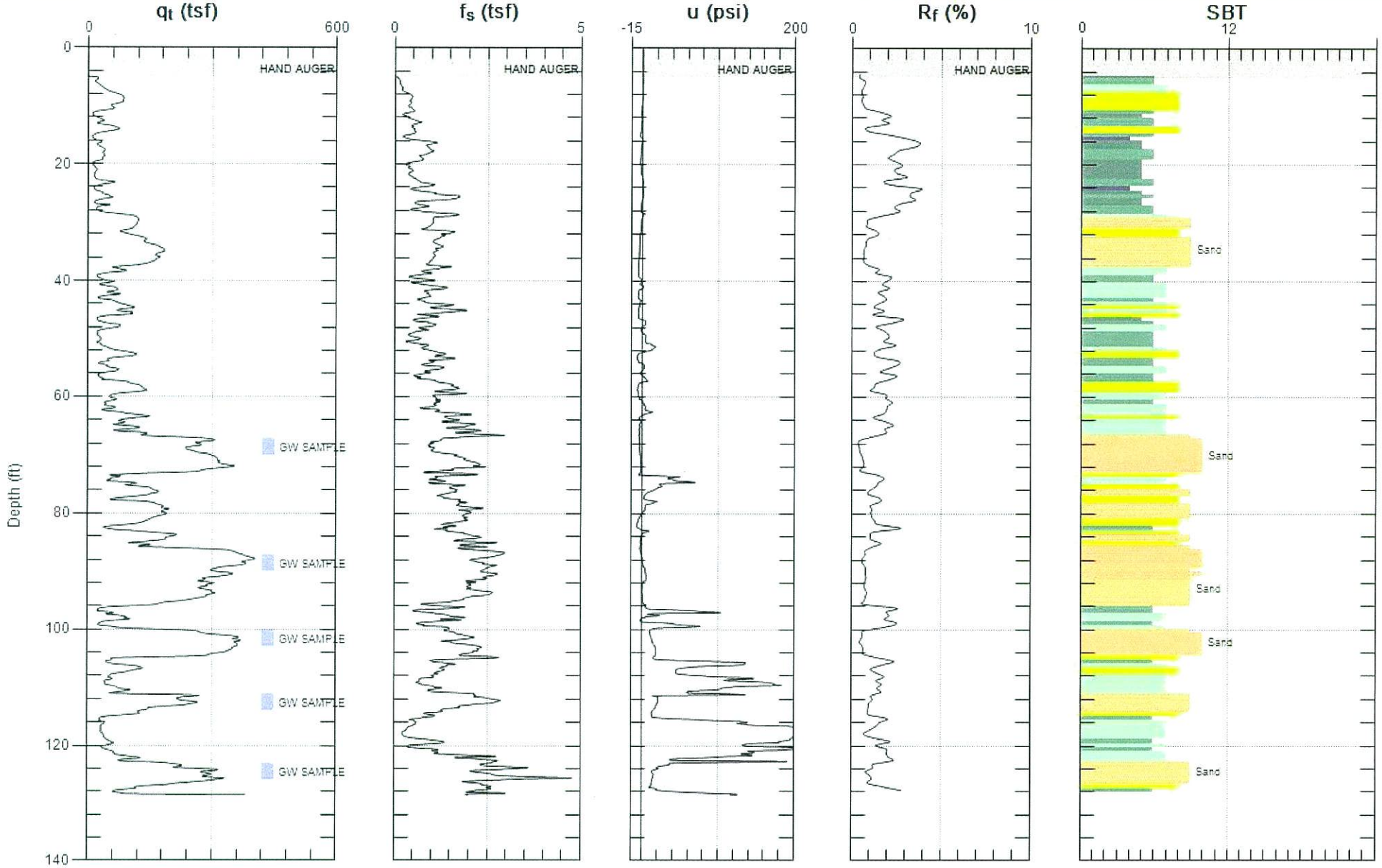
Max. Depth: 134.514 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG URS

Site: COOPER DRUM
Sounding: CPT-47

Engineer: D.GRUBER
Date: 12/15/2008 09:35



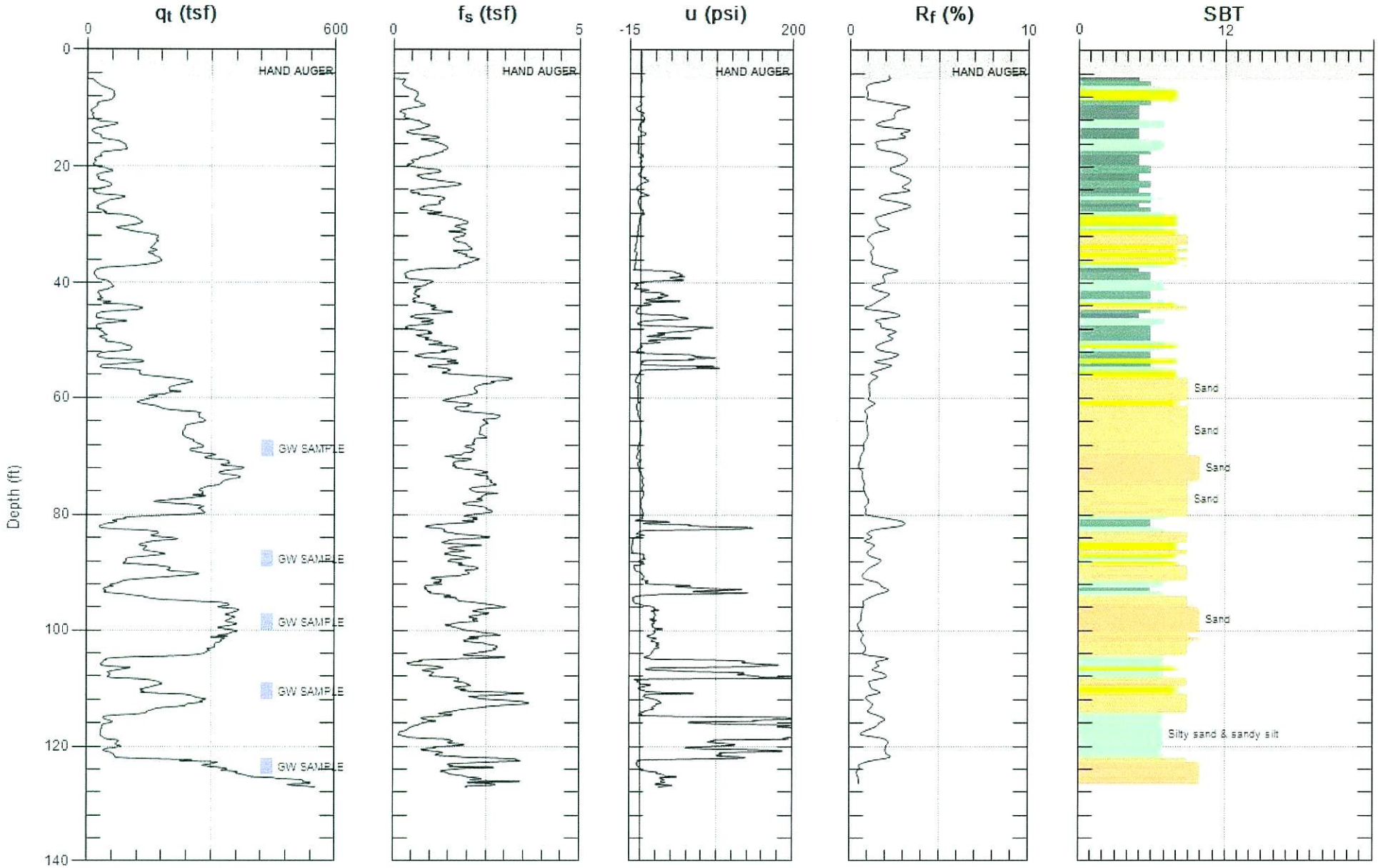
Max. Depth: 128.609 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG URS

Site: COOPER DRUM
Sounding: CPT-48

Engineer: D.GRUBER
Date: 12/16/2008 07:37



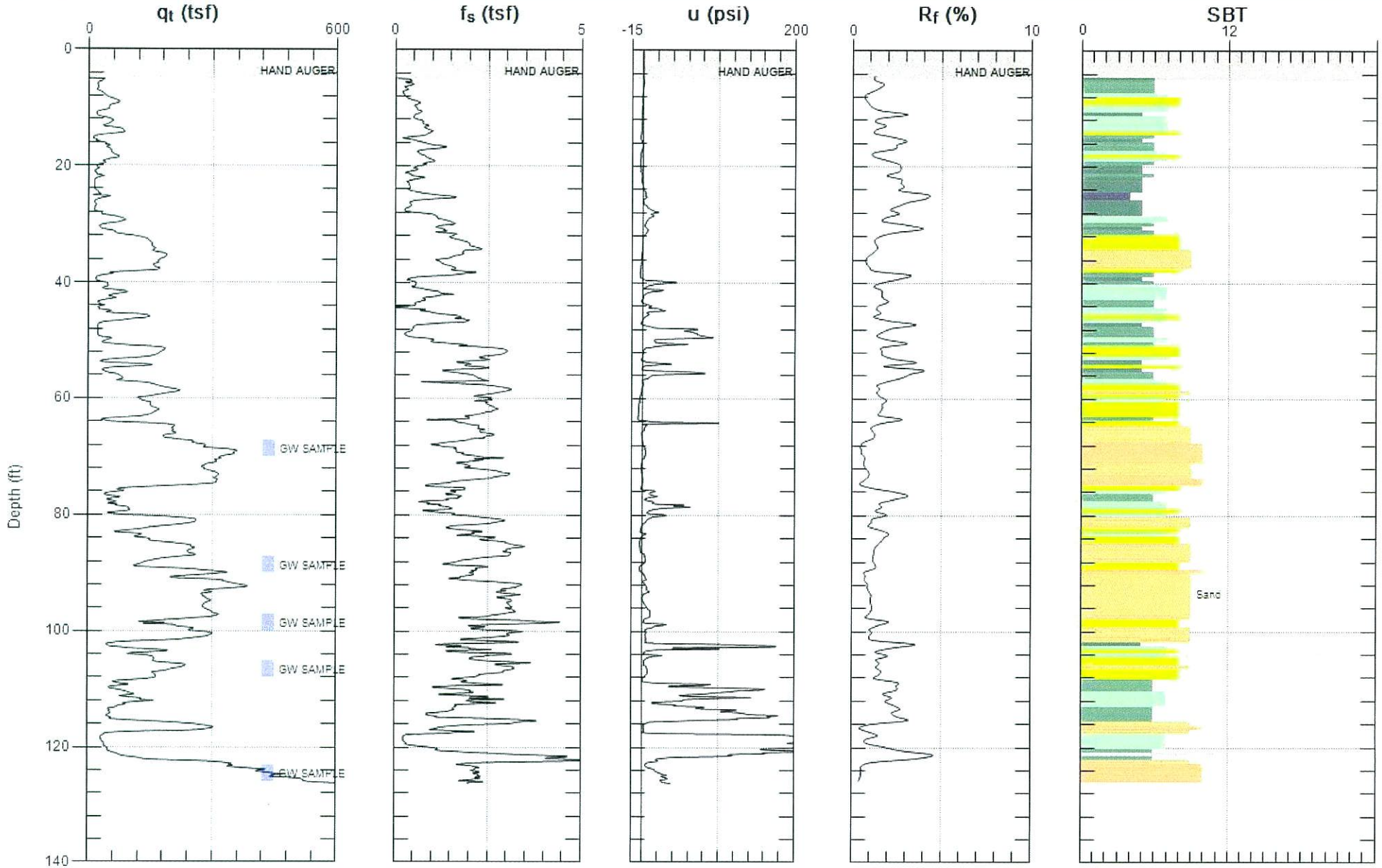
Max. Depth: 127.133 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GREGG URS

Site: COOPER DRUM
Sounding: CPT-49

Engineer: D.GRUBER
Date: 12/17/2008 08:43



Max. Depth: 126.312 (ft)
Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Well: MW-15B

Drilling Contractor: Gregg Drilling	Total Depth: 105 feet		Borehole Diameter: 8.25 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/13/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/13/09	Screen Interval: 93-103 feet	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-19

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
0					Asphalt	12-inch Flush mount traffic rated vault box
					Silty Sand (SM). Dark yellow brown (10YR 4/3), damp, poorly graded, very fine to fine grained sand, rounded.	2-inch SCH 40 PVC Blank near surface to 93' bgs.
5						Neat Cement Grout from near surface to 87' bgs.
10		0.0/ 0.0				
15					Sandy Silt (ML). Dark gray brown (10YR 4/2), with clay, moist, very fine grained sand, firm, low plasticity.	
20						
25		0.0/ 0.0	0942			
30						
35					Silty Sand (SM). Very dark gray (5Y 3/1), poorly graded, very fine to fine grained sand, round, medium dense, wet, no plasticity.	
40		0.0/ 0.0	0955			
45						
50						

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Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Well: MW-15B

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
50						
55			1003			
60						
65						
70			1018			
75						
80		0.0/ 0.0			Saturated Cuttings	
85						Bentonite Pellets 87-89' bgs.
90		0.0/ 0.0	1040		Silty Sand (SM). Dark gray (5Y 4/1), poorly graded, very fine to fine grained sand, saturated, no plasticity, medium dense.	#0/30 Transition Sand 89-90' bgs MW-15B 2-inch SCH 40 PVC, 0.020-inch Slot Screen 93-103', #3 Filter Pack Sand 90-105' bgs.
95						
100						
105						Total Depth 105 feet bgs

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Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Well: EW-3

Drilling Contractor: Gregg Drilling	Total Depth: 115 feet		Borehole Diameter: 12.5 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/21/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 6-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/21/09	Screen Interval: 59-109 feet	Slot Size: 0.020-inch v-slot, Stainless Steel	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-43 and CPT-44

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
0					Asphalt	12-inch Flush mount traffic rated vault box
5					Silty Sand (SM). Dark yellow brown (10YR 4/3), poorly graded, very fine to fine grained, no plasticity, damp.	2-inch SCH 40 PVC Blank near surface to 59' bgs.
						Neat Cement Grout from near surface to 50' bgs.
10		0.0/ 0.0	0840		Sandy Silt (ML), firm, low plasticity, damp.	
15					Silty Sand (SM). With clay, poorly graded, very fine to fine grained sand, round, no plasticity to low plasticity, moist.	
20						
25						
30		0.0/ 0.0	0930			
35						
40						
45					Sloppy Cuttings	
50						Bentonite Pellets 50-52' bgs.
						#0/30 Transition Sand 52-54' bgs.
55						

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Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Well: EW-3

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
60						
65		0.0/ 0.0	1155			EW-3 6-inch v-slot, Stainless Steel 0.020-inch Slot Screen 59-109', #3 Filter Pack Sand 54-115'
70						
75						Note: 1-inch PVC sounding tube installed in borehole, 50-feet of screen and 65-feest of blank casing.
80						
85						
90						
95						
100						
105		0.0/ 0.0	1250			
110						6-inch Stainless Steel Sump 109'-112' bgs.
115						Total Depth 115 feet bgs

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Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

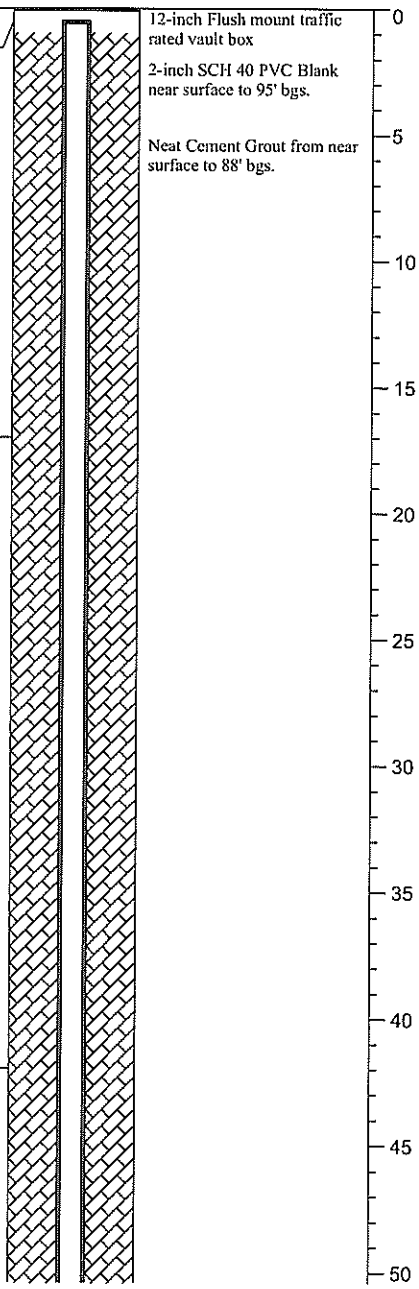
Log of Montoring Well: MW-23B

Drilling Contractor: Gregg Drilling	Total Depth: 108 feet		Borehole Diameter: 8.25 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/14/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/14/09	Screen Interval: 95-105 feet	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-27

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION
0					Asphalt
					Sand with Silt (SP). Dark yellow brown (10YR 4/3), poorly graded, very fine to fine grained sand, round, no plasticity, medium density, damp.
15		0.0/ 0.0	0735		
					Clayey Silt with Sand (ML). Very dark gray (5Y 3/1), low plasticity, firm to stiff, very fine grained sand, moist.
30		0.0/ 0.0	0743		
					Silty Sand (SM). Dark green gray (5GY 4/1), with clay, poorly graded, very fine to fine grained sand, round, no plasticity, wet.
45		0.9/ 2.1			
50					

WELL CONSTRUCTION



12-inch Flush mount traffic rated vault box

2-inch SCH 40 PVC Blank near surface to 95' bgs.

Neat Cement Grout from near surface to 88' bgs.

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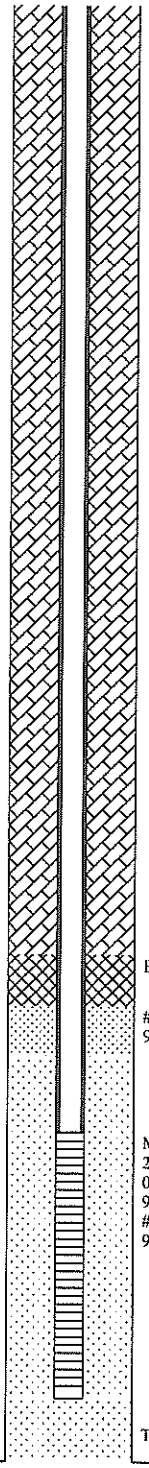
Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Well: MW-23B

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
50						
55						
60		1.0/ 2.5	755			
65						
70						
75			0805			
80						
85						
90						Bentonite Pellets 88-90' bgs.
95		0.5/ 0.9	0822		Soupy Cuttings	#30 Transition Sand 90-92' bgs.
100						MW-23B 2-inch SCH 40 PVC, 0.020-inch Slot Screen 95-105', #3 Filter Pack Sand 92-108' bgs.
105			0833			Total Depth 108 feet bgs



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Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Wells: MW-42, MW-43, MW-44

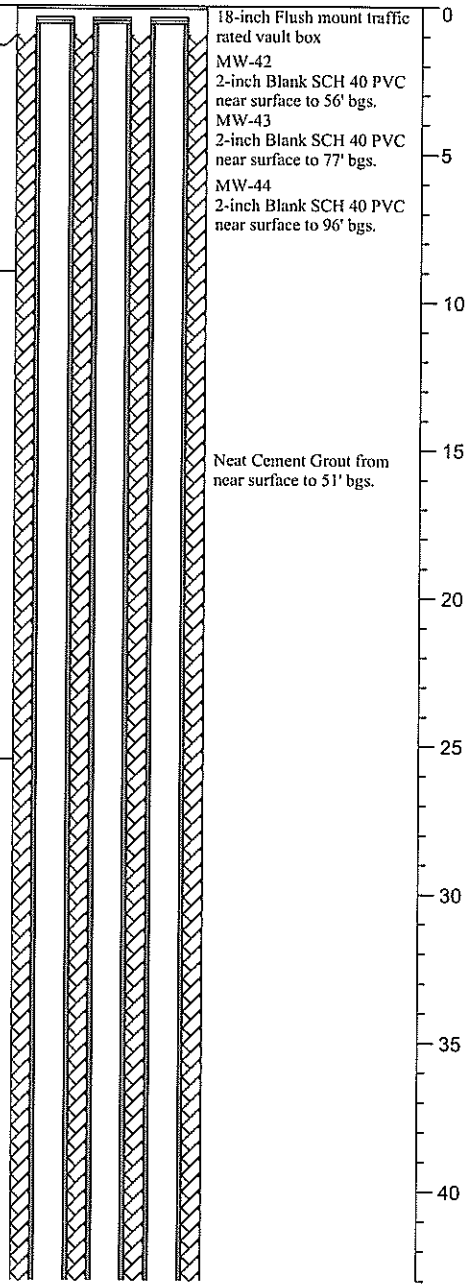
Drilling Contractor: Gregg Drilling	Total Depth: 108 feet		Borehole Diameter: 12.75 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/15/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/15/09	Screen Interval: 56-66', 77-87', 96-106'	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-8

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	LITHOLOGY DESCRIPTION
0				Asphalt
5				Silty Sand (SM). Dark gray-brown (10YR 4/3), poorly graded, very fine to fine grained sand, round, damp, medium dense, no plasticity.
10		0.0/ 0.0	0835	Sandy Silt (ML). Dark yellow brown (10YR 4/3), firm, low plasticity, damp.
15				
20				
25		0.0/ 0.0	0908	Sandy Silt (ML). Dark gray (5Y 4/3), with clay, stiff, low plasticity, very fine sand, moist.
30				
35		0.0/ 0.0	0918	
40				

Graphic Log

WELL CONSTRUCTION



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Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Wells: MW-42, MW-43, MW-44

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
45						
50		0.0/ 0.0	0945		Same as above.	Bentonite Pellets 51-52' bgs. #0/30 Transition Sand 52'-54' bgs.
55						MW-42 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 56-66' bgs. #3 Filter Pack Sand 54-67' bgs.
60			0952			
65						Bentonite Pellets 67-76' bgs.
70			1004		Same as above	
75					Soupy Cuttings	MW-43 2-inch SCH 40 PVC Screen 0.020-inch slot screen 77-87' bgs. #3 Filter Pack Sand 76-88' bgs.
80			1014			
85						
90		0.0/ 0.0			Silty Sand (SM). Very fine to course grained sand, round, medium dense, saturated. Soupy Cuttings	Bentonite Pellets 88-95' bgs.

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Project: Cooper Drum Location: South Gate, CA Project Number: 17326064	Log of Monitoring Wells: MW-42, MW-43, MW-44

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
95						MW-44 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 96-106' bgs. #3 Filter Pack Sand 95-108' bgs.
100			1105			
105						Total Depth 108 feet bgs

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Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Well: MW-45

Drilling Contractor: Gregg Drilling	Total Depth: 90 feet		Borehole Diameter: 8.25 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/14/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/14/09	Screen Interval: 79-89 ft.	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-41

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION
0					Ashpalt
					Silty Sand (SM). Dark yellow brown (10YR 4/3), poorly graded, very fine to fine grained sand, round, medium density, damp.
5					
10		0.0/ 0.0	1303		
15					Sandy Silt (ML). Dark yellow brown (10YR 4/3), with clay, firm, low plasticity, very fine grained sand, moist.
20		0.0	1308		
25					
30					
35					Color change to dark olive gray (5Y 3/2).
40		0.0/ 0.0	1317		

WELL CONSTRUCTION

12-inch Flush mount traffic rated vault box

2-inch SCH 40 PVC Blank near surface to 79' bgs.

Neat Cement Grout from near surface to 73' bgs.

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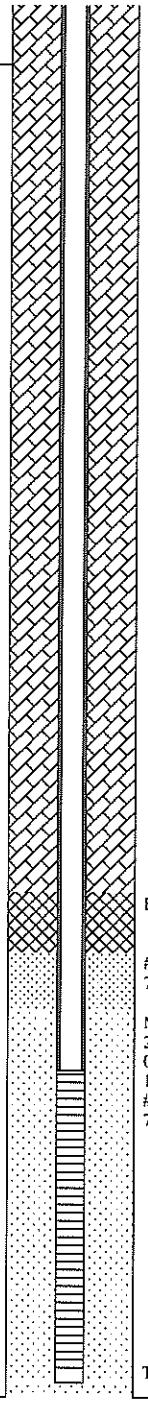
Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Well: MW-45

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
45					Silty Sand (SM). Dark olive gray (5Y 3/2), with clay, poorly graded, very fine to fine grained sand, round, medium dense, low to no plasticity, wet.	
50						
55		0.0/ 0.0	1325			
60						
65						
70		0.0/ 0.0	1332			Bentonite Pellets 73-75' bgs.
75						#30 Transition Sand 75-77' bgs.
80						MW-45 2-inch SCH 40 PVC, 0.020-inch Slot Screen 128-138', #3 Filter Pack Sand 77-90' bgs.
85						
90			1340			Total Depth 90 feet bgs



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Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Well: MW-46

Drilling Contractor: Gregg Drilling	Total Depth: 69 feet		Borehole Diameter: 8.25 inch
Drilling Method: Hollow Stem Auger	Well Construction Date: 5/1/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 5/1/09	Screen Interval: 57-67 feet	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-42

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
0					Asphalt	18-inch Flush mount traffic rated vault box MW-46 2-inch Blank SCH 40 PVC near surface to 57' bgs.
5					Silty Sand (SM). Very dark gray-brown (10YR 3/2), poorly graded, very fine to fine grained sand, silty, round, medium dense, no plasticity, damp.	
10		0.0/ 0.0	0955		Sandy Silt (ML). Very dark gray-brown (10YR 3/2), with clay, very fine grained sand, low plasticity, firm, damp.	
15						Neat Cement Grout from near surface to 51' bgs.
20			1000			
25						
30		0.0/ 0.0			Silty Sand (SM). Very dark gray (5Y 3/1), moderately graded, very fine to medium grained sand, round, medium dense, moist.	
35					Same as above except increasing moisture.	
40					Sloppy Cuttings	
45		0.0/ 0.0	1025			

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Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Well: MW-46

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
50						Bentonite Pellets 51-53' bgs.
						Transition Sand 53-55' bgs.
55						MW-46 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 57-67' bgs #3 Filter Pack Sand 55-68' bgs
60			1055			
65			1130			Total Depth 69 feet bgs

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Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Wells: MW-47, MW-48

Drilling Contractor: Gregg Drilling	Total Depth: 110 feet		Borehole Diameter: 12.52 inch
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/20/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/20/09	Screen Interval: 77-87', 98-108'	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-42

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION
0					Asphalt
5					Silty Sand (SM). Very dark gray-brown (10YR 3/2), poorly graded, very fine to fine grained sand, silty, round, medium dense, no plasticity, damp.
10		0.0/ 0.0	0955		Sandy Silt (ML). Very dark gray-brown (10YR 3/2), with clay, very fine grained sand, low plasticity, firm, damp.
15					
20			1000		
25					
30		0.0/ 0.0			Silty Sand (SM). Very dark gray (5Y 3/1), moderately graded, very fine to medium grained sand, round, medium dense, moist.
35					Same as above except increasing moisture.
40					Sloppy Cuttings

WELL CONSTRUCTION

18-inch Flush mount traffic rated vault box

MW-46
2-inch Blank SCH 40 PVC near surface to 57' bgs. Casing collapsed and then pressure grouted. MW-46 redrilled and constructed on 5/1/09.

MW-47
2-inch Blank SCH 40 PVC near surface to 77' bgs.

MW-48
2-inch Blank SCH 40 PVC near surface to 98' bgs.

Neat Cement Grout from near surface to 51' bgs.

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Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Wells: MW-47, MW-48

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
45		0.0/ 0.0	1025			
50						
55						Bentonite Pellets 51-53' bgs. Transition Sand 53-55' bgs.
60			1055			MW-46 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 57-67' bgs. #3 Filter Pack Sand 55-68' bgs.
65			1130			
70						Bentonite Pellets 68-76' bgs.
75						
80						MW-47 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 77-87' bgs. #3 Filter Pack Sand 76-88' bgs.
85						
90		0.0/ 0.0	1237			Bentonite Pellets 89-97' bgs.

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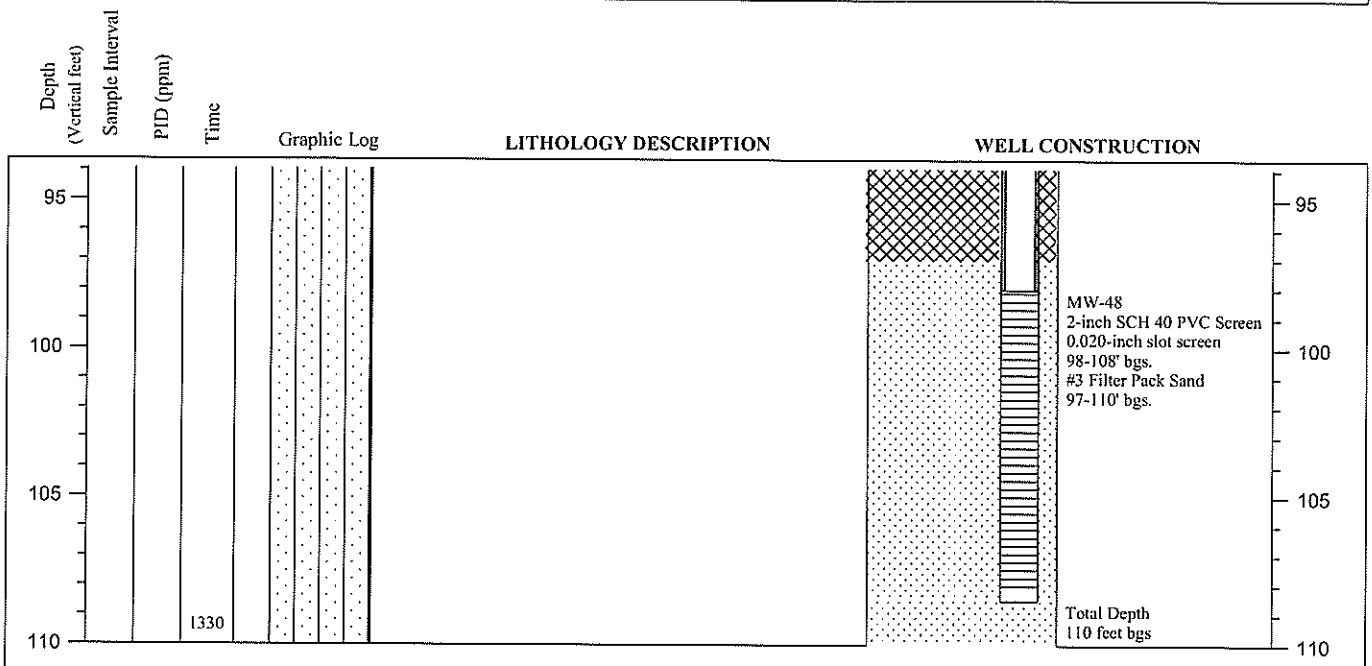
Project: Cooper Drum Location: South Gate, CA Project Number: 17326064	Log of Monitoring Wells: MW-47, MW-48



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916-679-2000

Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Wells: MW-49, MW-50, MW-51

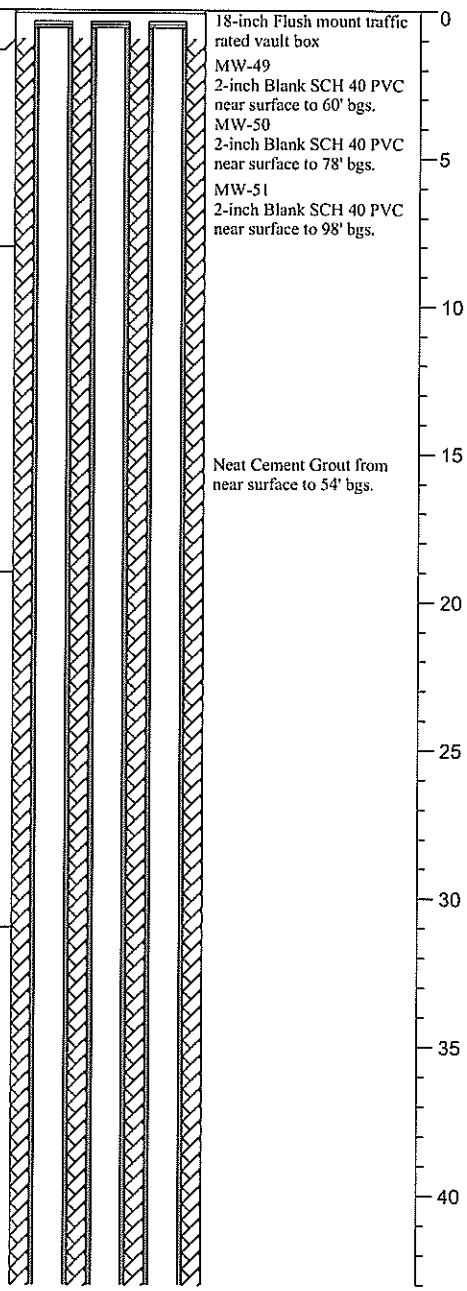
Drilling Contractor: Gregg Drilling	Total Depth: 110 Feet		Borehole Diameter: 12.50 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/23/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/23/09	Screen Interval: 60-70', 78-88', 98-108'	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-45

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	LITHOLOGY DESCRIPTION
0				Asphalt
				Silty Sand (SM). Yellow brown (10YR 5/4), poorly graded, very fine to fine grained sand, round, medium dense, damp.
		0.0/ 0.0	0840	
				Sandy Silt (ML). Yellow brown (10YR 4/3), firm, no plasticity, damp.
				Clayey Silt (ML). Yellow brown (10YR 4/3), firm, low plasticity, damp.
				Silty Sand (SM). Very dark gray (5Y 3/1), trace of clay, moderately graded, very fine to medium grained sand, round, medium dense, moist.
		0.0/ 0.0	0900	

Graphic Log

WELL CONSTRUCTION



URS 2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum

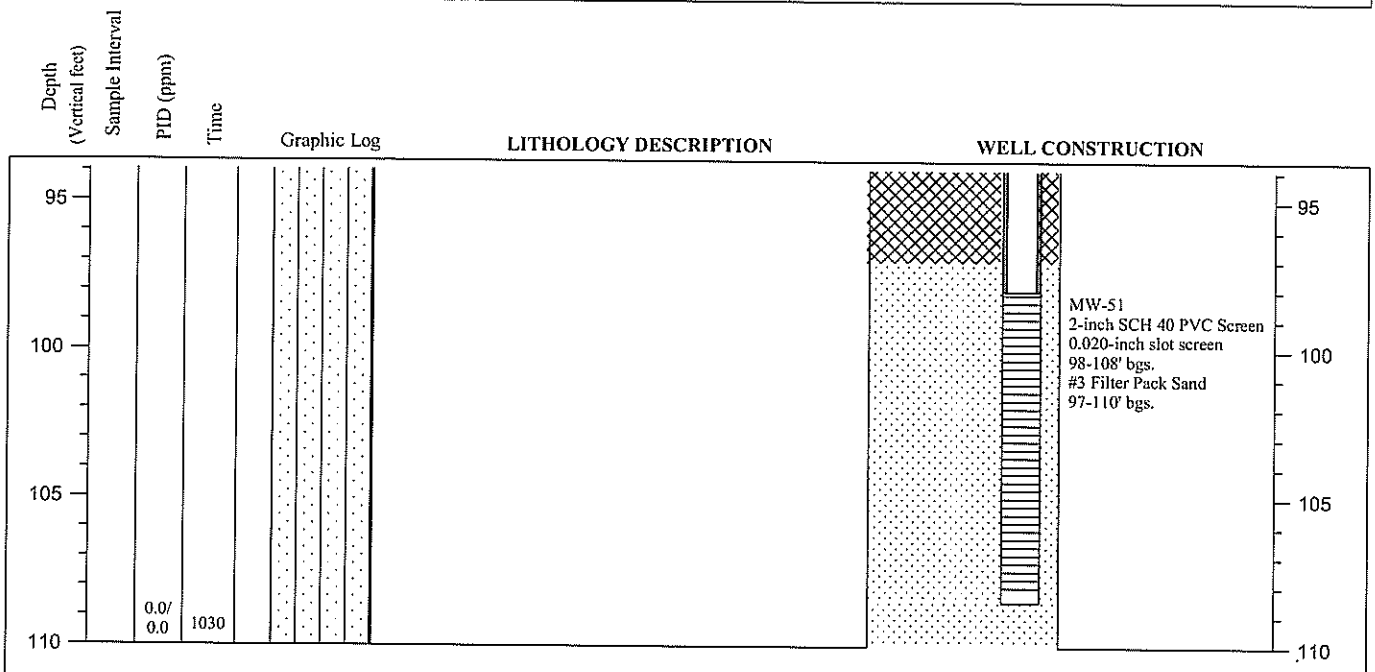
Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Wells: MW-49, MW-50, MW-51

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
45						
50						
55					Sloppy cuttings	Bentonite Pellets 54-56' bgs. #0/30 Transition Sand 56-58' bgs.
60						MW-49 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 60-70' bgs. #3 Filter Pack Sand 58-71' bgs.
65						
70						Bentonite Pellets 71-76' bgs.
75		0.0/ 0.0	1005		Increasing coarseness and grade to well graded.	
80						MW-50 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 78-88' bgs. #3 Filter Pack Sand 76-89' bgs.
85						
90						Bentonite Pellets 89-97' bgs.

URS
2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum Location: South Gate, CA Project Number: 17326064	Log of Monitoring Wells: MW-49, MW-50, MW-51



URS 2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Wells: MW-52, MW-53, MW-54

Drilling Contractor: Gregg Drilling	Total Depth: 115 feet		Borehole Diameter: 13 inch
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/22/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/22/09	Screen Interval: 66-76', 90-100', 108-113'	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-48

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
0		0.0/ 0.0	0930		Asphalt	18-inch Flush mount traffic rated vault box
					Silty Sand (SM).	MW-52 2-inch Blank SCH 40 PVC near surface to 66'
5						MW-53 2-inch Blank SCH 40 PVC near surface to 90'
						MW-54 2-inch Blank SCH 40 PVC near surface to 108'
					Sandy Silt (ML). Trace of clay.	
10						
15						Neat Cement Grout from near surface to 60'
20					Sandy Silt/Silty Sand (ML/SM). Poorly graded, very fine to fine grained sand, round, moist, medium dense.	
25						
30		0.0/ 0.0	1000			
35						
40						

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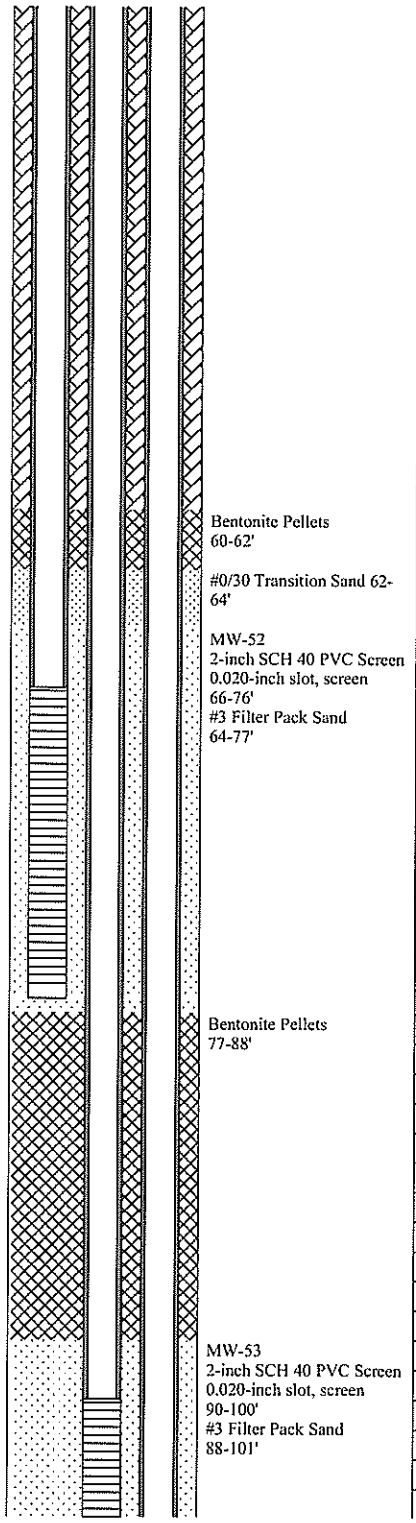
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Monitoring Wells: MW-52, MW-53, MW-54

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
45		0.0/ 0.0	1030			
50						
55					Sloppy Cuttings	
60						Bentonite Pellets 60-62' #0/30 Transition Sand 62-64'
65		0.0/ 0.0	1100			MW-52 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 66-76' #3 Filter Pack Sand 64-77'
70						
75					Increasing courseness, moderately graded, very fine to medium grained sand.	
80						Bentonite Pellets 77-88'
85						
90						MW-53 2-inch SCH 40 PVC Screen 0.020-inch slot, screen 90-100' #3 Filter Pack Sand 88-101'

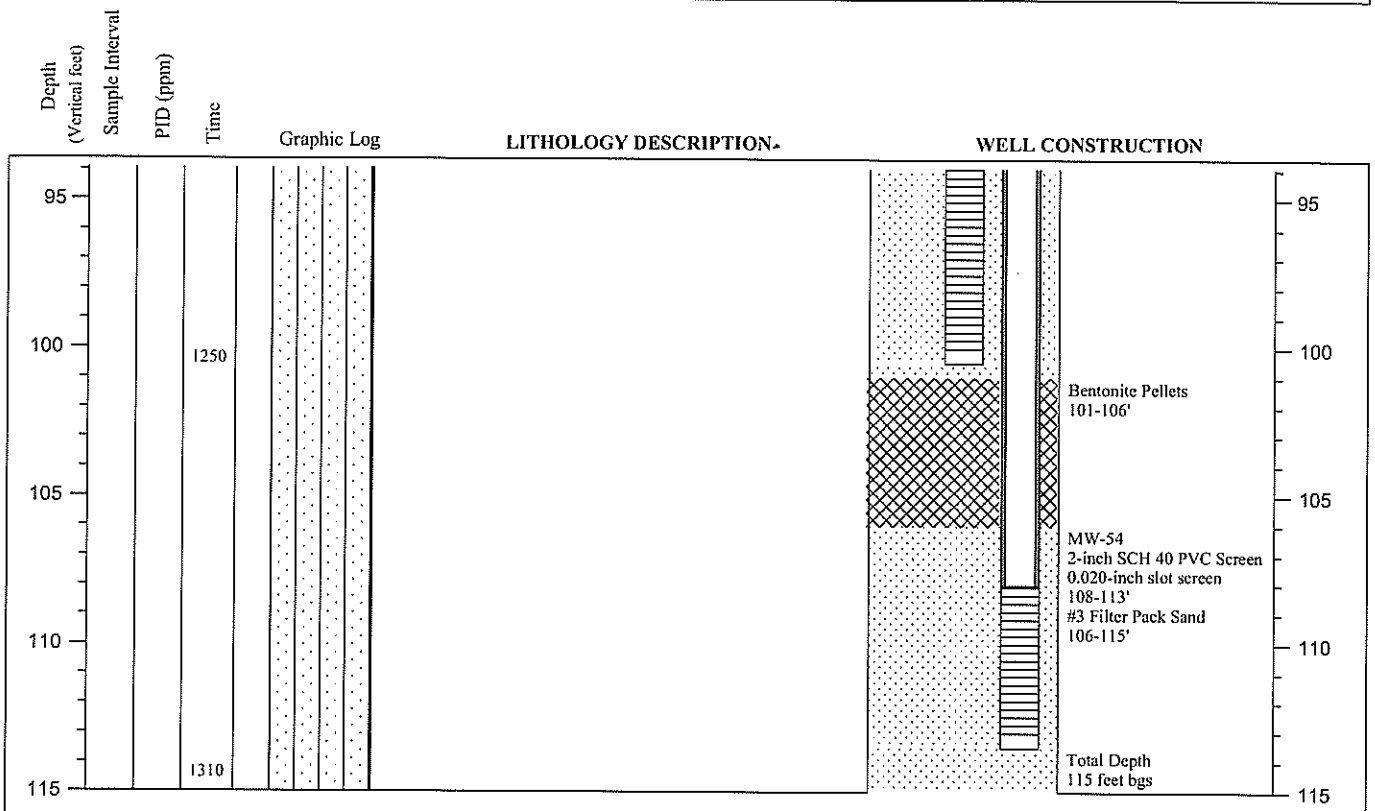


URS
2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Wells: MW-52, MW-53, MW-54



URS
2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Well: MW-55

Drilling Contractor: Gregg Drilling	Total Depth: 140 feet		Borehole Diameter: 8.25 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/16/09		Logged By: Peter Crispell
Drill Rig: CME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/16/2009	Screen Interval: 128-138 ft	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-43 and CPT-44.

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
0					Asphalt	12-inch Flush mount traffic rated vault box
					Silty Sand (SM). Light olive brown (2.5Y 5/4), poorly graded, very fine to fine grained sand, medium dense, damp.	2-inch SCH 40 PVC Blank near surface to 128' bgs.
5						Neat Cement Grout from near surface to 122' bgs.
10						
					Sandy silt (ML). Dark gray (5Y 4/3), with clay, firm, medium plasticity, damp.	
15						
20						
25						
30						
35						
					Silty Sand (SM). Dark gray (5Y 4/3), dense, poorly graded, very fine to fine grained sand, no plasticity, saturated.	
40						
45						
50			0840			

URS
2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum

Location: South Gate, CA **Project Number:** 17326064

Log of Monitoring Well: MW-55

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
55						
60						
65						
70					soupy cuttings Decreasing silt	
75						
80						
					Sand with silt (SP/SM). Dark gray (5Y 4/3), moderately graded, very fine to medium grained sands, no plasticity, saturated.	
85			0905			
90					Increasing coarseness	
95						
100			0925			
105						
110						
115						

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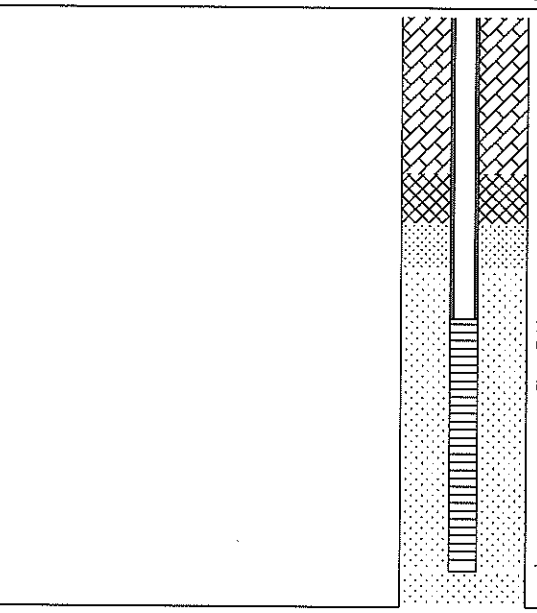
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum Location: South Gate, CA Project Number: 17326064	Log of Monitoring Well: MW-55

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
120						Bentonite Pellets 122-126' bgs. #0/30 Transition Sand 124-126' bgs.
125						
130						MW-55 2-inch SCH 40 PVC, 0.020-inch Slot Screen 128-138', #3 Filter Pack Sand 126-138'
135						
140			1030			Total Depth 140 feet bgs



URS 2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

Project: Cooper Drum

Location: South Gate, CA **Project Number: 17326064**

Log of Montoring Well: MW-56

Drilling Contractor: Gregg Drilling	Total Depth: 74 feet		Borehole Diameter: 8.25 inches
Drilling Method: Hollow Stem Auger	Well Construction Date: 4/17/09		Logged By: Peter Crispell
Drill Rig: SME-95	Casing Diameter: 2-inch	Casing Type: SCH 40 PVC	Checked By: Don Gruber
Date Drilled: 4/17/09	Screen Interval: 62-72 feet	Slot Size: 0.020-inch	Sampling Method: Cuttings

Comments: Asphalt surface, No sampling, soil description based on cuttings, well design based on lithology from CPT-47

Depth (Vertical Feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
0					Asphalt	12-inch Flush mount traffic rated vault box
					Silty Sand (SM). Yellow brown (10YR 4/3), poorly graded, very fine to fine grained, round, medium dense, damp.	2-inch SCH 40 PVC Blank near surface to 62' bgs.
5						Neat Cement Grout from near surface to 56' bgs.
10						
15		0.0/ 0.0	0805		Sandy Silt (ML). Yellow brown (10YR 4/3), minor clay, firm, low plasticity, damp.	
20						
25						
30			0810			
35						
40					Silty Sand (SM). With clay.	
45		0.0/ 0.0	0820			
50						

URS
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Sacramento, CA 95833
916-679-2000

Project: Cooper Drum Location: South Gate, CA Project Number: 17326064	Log of Monitoring Well: MW-56

Depth (Vertical feet)	Sample Interval	PID (ppm)	Time	Graphic Log	LITHOLOGY DESCRIPTION	WELL CONSTRUCTION
55						Bentonite Pellets 56-58' bgs. #0/30 Transition Sand 58-60' bgs. MW-56 2-inch SCH 40 PVC, 0.020-inch Slot Screen 62-72', #3 Filter Pack Sand 60-74'
60						
65						
70			0845			Total Depth 74 feet bgs

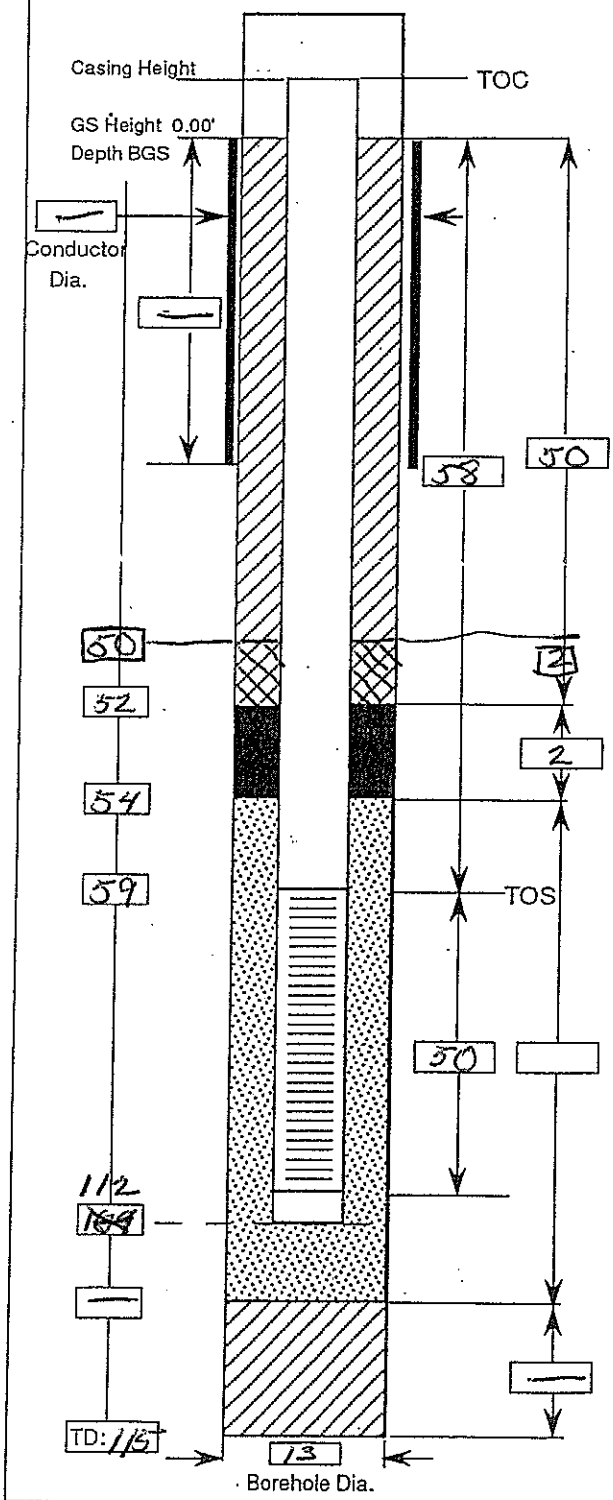
URS
2870 Gateway Oaks Dr., Ste 150
Sacramento, CA 95833
916-679-2000

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: EW-3	Site:	
Project No.: 1732 6064	Project: Cooper Drum	
Start Date/Time: 4/21/09 0830	End Date/Time: 4/21/09 1730	
Contractor: Gregg Drilling	URS Installer: PAC	
Reviewed By:	Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
christy box

BLANK CASING
Type sch40 PVC
Diameter 6"
Total Length (TOC to TOS) 1-59'
GROUT
Composing & Proportions 2bags/30gal H2O/ 10% bent.
Tremied (Y/N)
Interval BGS 0-50
CENTRALIZERS (Y/N)
Depth (s) _____

SEAL
Type 0/30 sand (2') ben pellets (2')
Setup/Hydration time _____ vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 56 50lb bags
Tremied (Y/N)

SCREEN
Type wire wrap SS
Diameter 6"
Slot Size & Type .020 wire wrap
Interval BGS 59-109'

SUMP (Y/N)
Interval BGS 109-112 Length 3'
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

NESTED WELL COMPLETION (Y/N) Sounding tube installed.
Note if well is nested completion detail should be recorded on a separate Monitor Well Construction Log (one completion per Log).
1" diameter PVC casing and screen installed in filter pack. 50' of screen, 65' of blank casing.

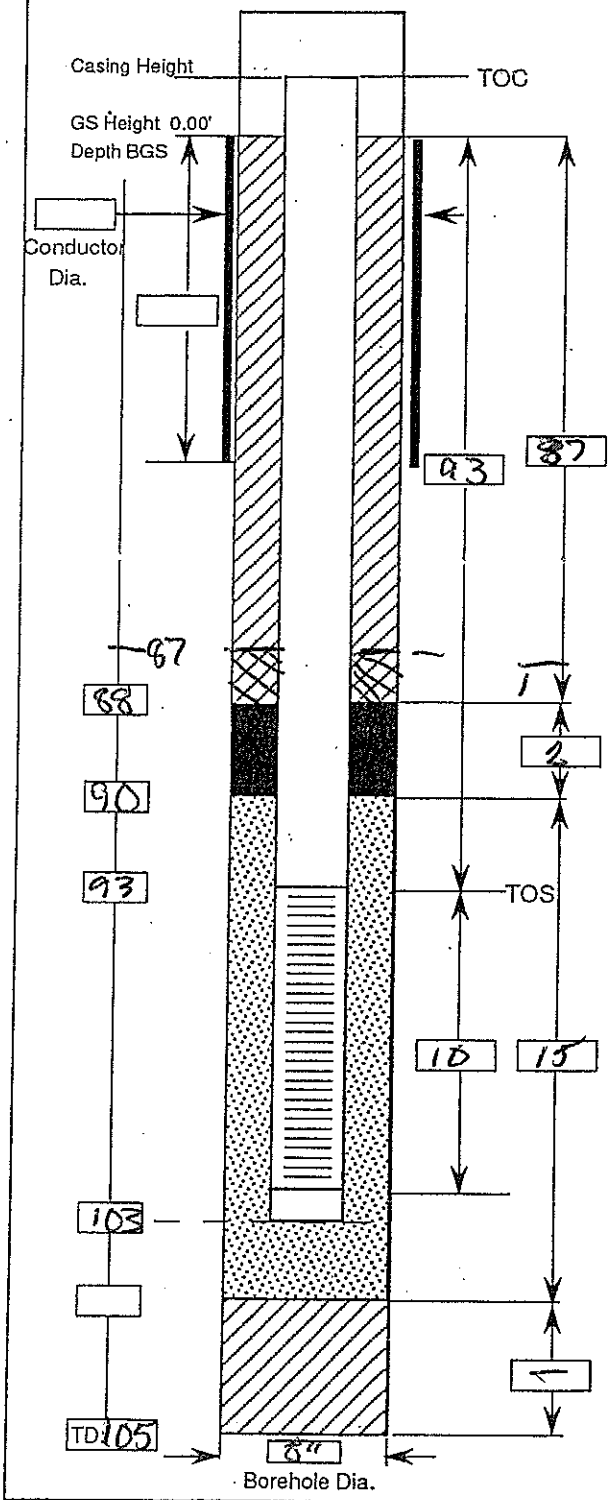
URS #94 10/92

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW 15B		Site:	
Project No.: 1732 6064		Project: Cooper Drum	
Start Date/Time: 4/13/09 0900		End Date/Time: 4/13/09 1700	
Contractor: Gregg Drilling		URS Installer: PAL	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
12" christy box

BLANK CASING
Type sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 92'
GROUT
Composing & Proportions 2 bags cement /10 lbs Ben 30-35 gal H2O
Tremied (Y/N) Y
Interval BGS +1-86'6
CENTRALIZERS (Y/N) N
Depth (s) _____

SEAL
Type Bent. Chips
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N) Y

FILTER PACK
Type monterey #3
Amt Used 5-8 bags
Tremied (Y/N) N

SCREEN
Type sch 40 PVC
Diameter 2"
Slot Size & Type .020 - mach. slot
Interval BGS 93-103

SUMP (Y/N) N
Interval BGS _____ Length _____
Bottom Cap (Y/N) Y

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

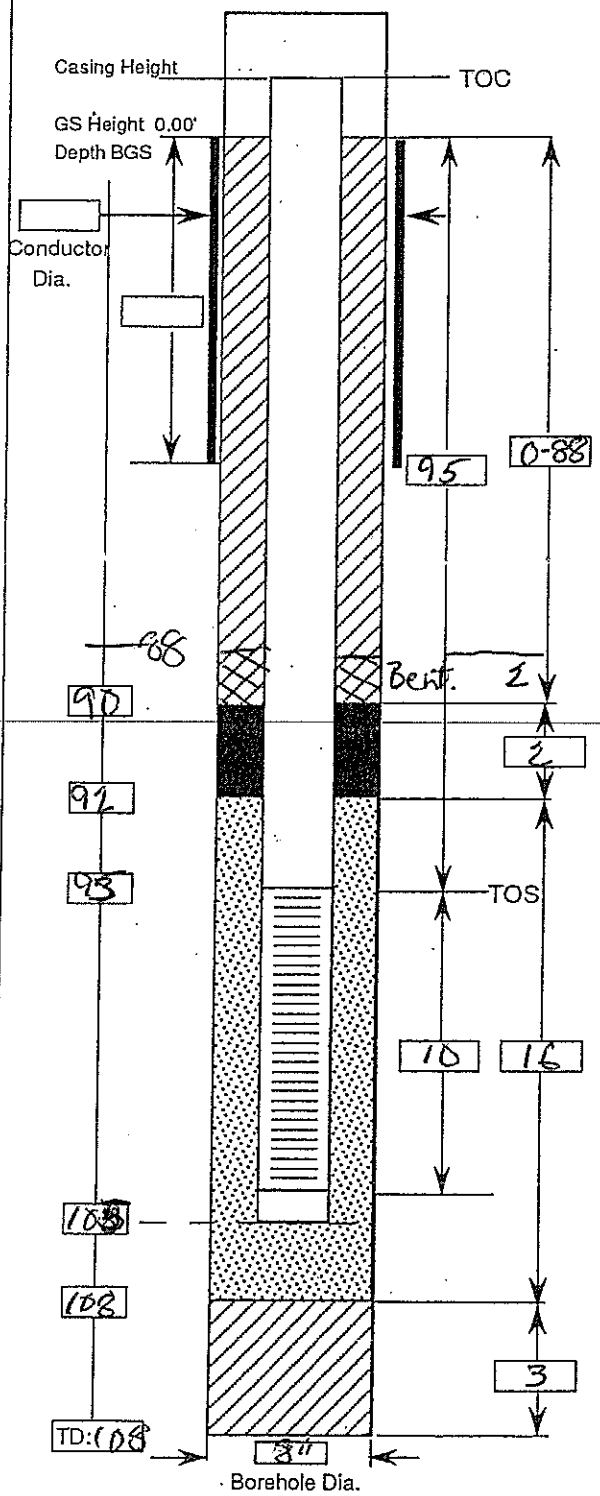
NESTED WELL COMPLETION (Y/N) N
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW23B		Site:	
Project No.: 1739 6064		Project: Cooper Drum	
Start Date/Time: 4/14/09		End Date/Time: 4/14/09	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
12" Christy box

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 0-95'
GROUT
Composing & Proportions 2 bags cement/40% bem. 30-35 gal
Tremied (Y/N)
Interval BGS 0-88
CENTRALIZERS (Y/N)
Depth (s) _____

SEAL
Type Bem Pellets
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 11 bags
Tremied (Y/N)

SCREEN
Type Sch 40 PVC
Diameter 2"
Slot Size & Type .020 mach. slot
Interval BGS 95-105

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

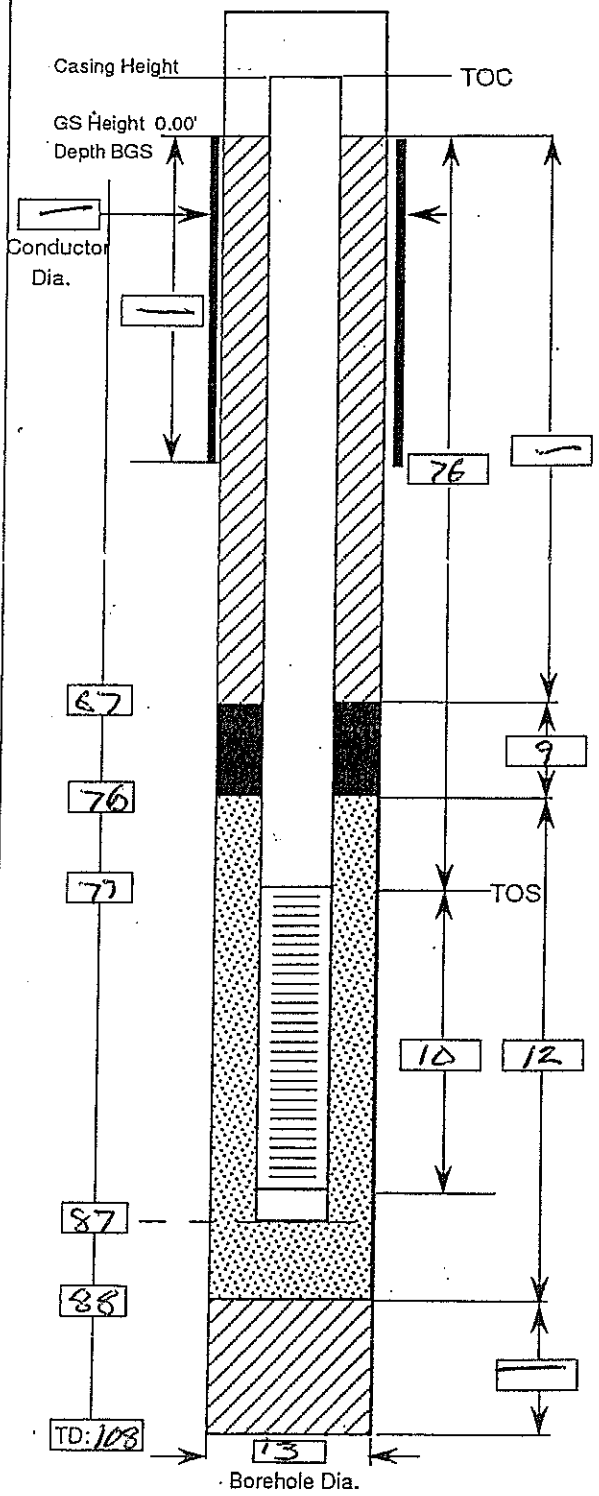
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW-43	Site:	
Project No.: 1732 6064	Project: Cooper Drum	
Start Date/Time: 9/15/09 0815	End Date/Time: 4/15/09	
Contractor: Gregg Drilling	URS Installer: PAL	
Reviewed By:	Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
_____

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 76
GROUT
Composing & Proportions _____
Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) every 30'

SEAL
Type Bentonite Pellets 4 buckets
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type #3 Sand
Amt Used 12-50lb bags.
Tremied (Y/N)

SCREEN
Type Sch 40
Diameter 2"
Slot Size & Type .020 machine slot
Interval BGS 77'-87'

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material #3 sand
Setup/Hydration time _____
Tremied (Y/N)

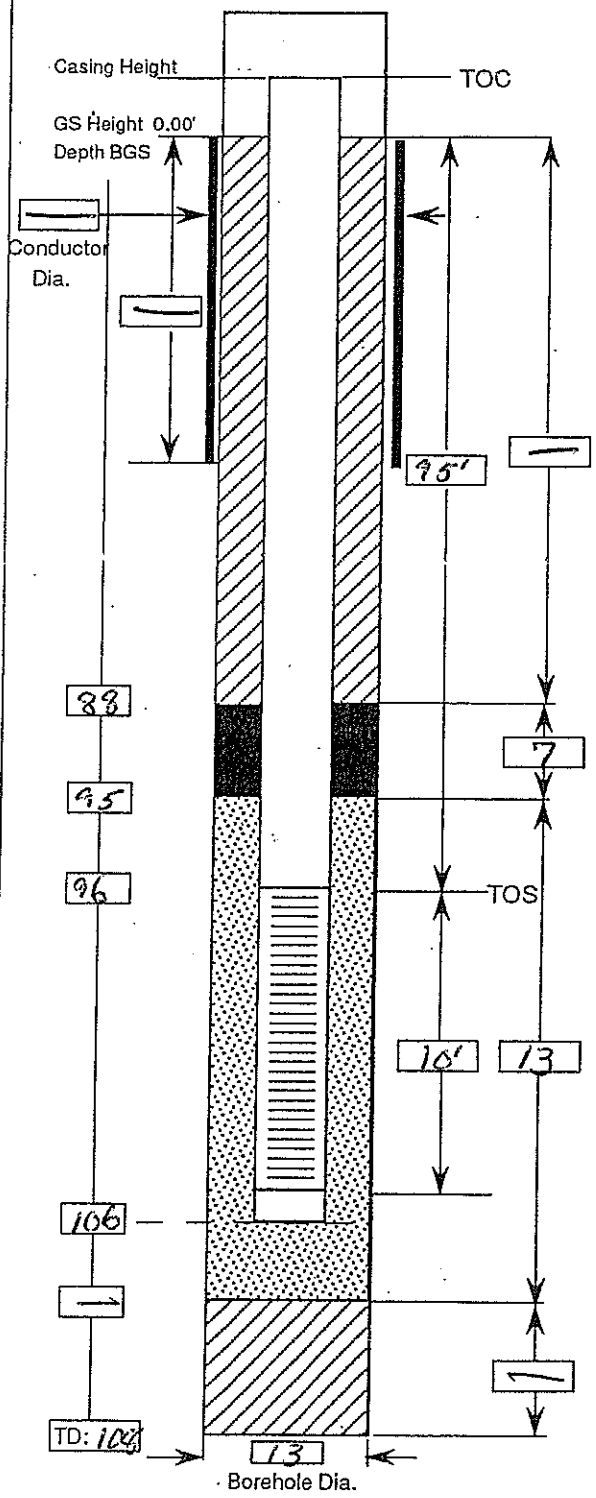
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW 44	Site:	
Project No.: 1792 6064	Project: Cooper Drum	
Start Date/Time: 4/15/09 0815	End Date/Time: 4/15/09	
Contractor: Gregg Drilling	URS Installer: PAC	
Reviewed By:	Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
12" christy box

BLANK CASING
Type sch 40
Diameter 2"
Total Length (TOC to TOS) 95'
GROUT
Composing & Proportions — top only.

Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) 100', 70', 48', 15'

SEAL
Type Bentonite Pellets - 4.5 buckets
Setup/Hydration time 45 min vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type #3
Amt Used 14 bags of 50lb
Tremied (Y/N)

SCREEN
Type Sch 40 PVC
Diameter 2"
Slot Size & Type .020 machine slot
Interval BGS 96-106

SUMP (Y/N)
Interval BGS — Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material ~~#3 sand 14 bags 50lb~~
Setup/Hydration time _____
Tremied (Y/N)

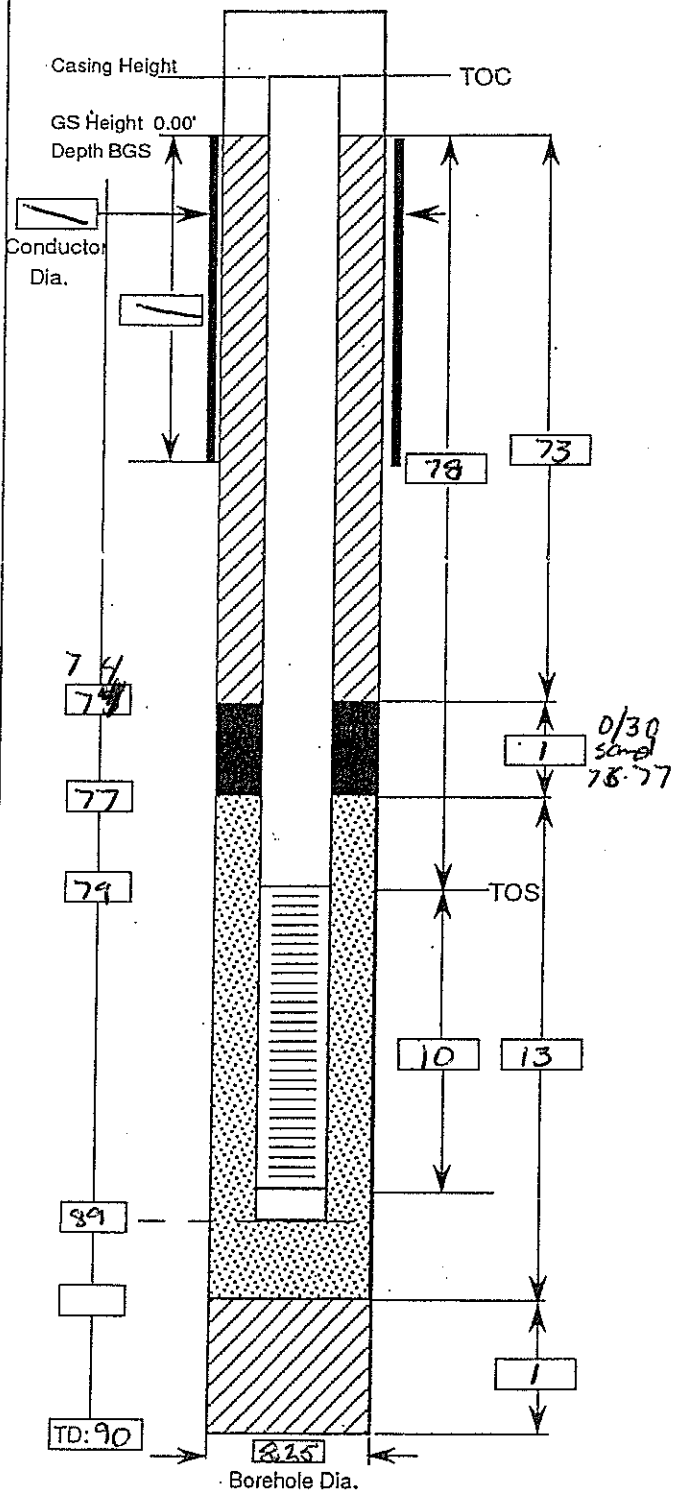
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW45		Site: Alley Way Eof	
Project No.: 1789 6064		Project: Cooper Drum	
Start Date/Time: 4/14/09 1300		End Date/Time: 4/14/09	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:	Date:	Quantity of Construction Water:	



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type ~~Christy Box 12"~~
Diameter 12"
Depth BGS
No. _____ Type

SURFACE COMPLETION
12" Christy Box

BLANK CASING
Type sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 1-79
GROUT
Composing & Proportions 2.5 bags cement 10% ben 35 gal H2O —
Tremied (Y/N)
Interval BGS
CENTRALIZERS (Y/N)
Depth (s) —

SEAL
Type Ben pellets 1 50lb bucket
Setup/Hydration time 30 vol. Fluid Added —
Tremied (Y/N)

FILTER PACK
Type #3 Cemex
Amt Used 6 50lb bags
Tremied (Y/N)

SCREEN
Type sch 40 PVC
Diameter 2"
Slot Size & Type .020 machine slot
Interval BGS 79-89

SUMP (Y/N)
Interval BGS N Length
Bottom Cap (Y/N)

BACKFILL PLUG
Material filterpack
Setup/Hydration time
Tremied (Y/N)

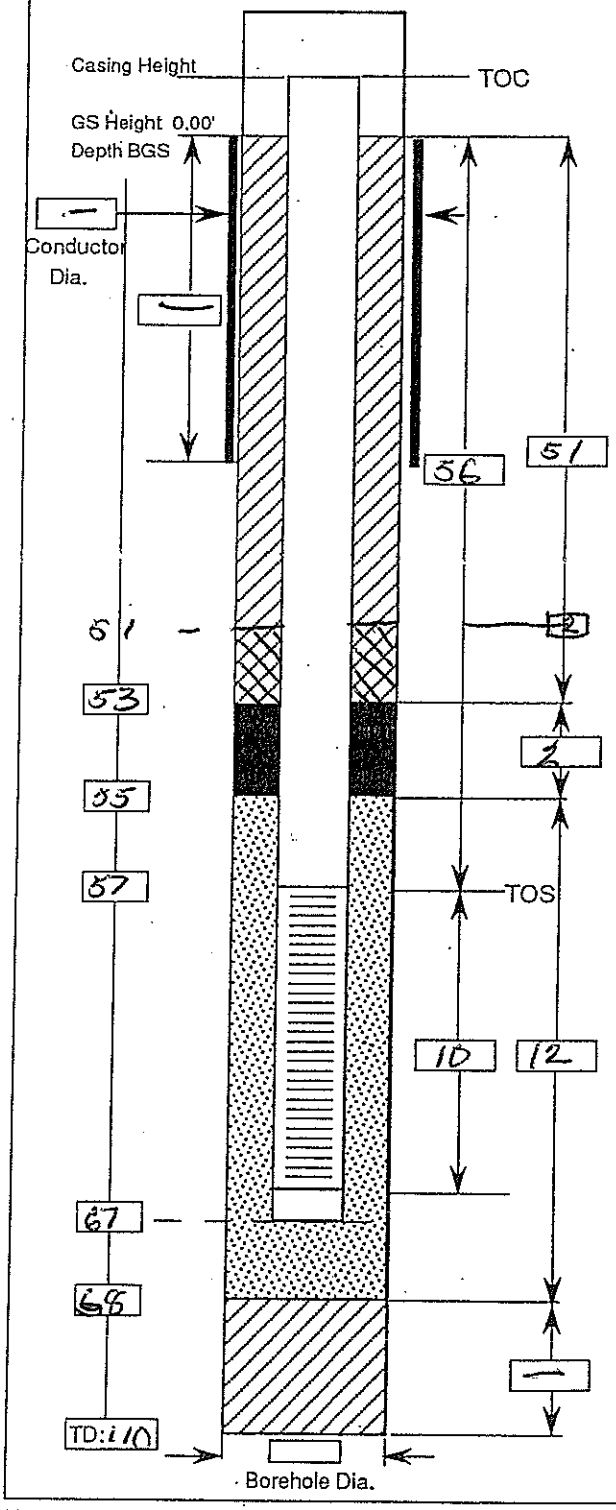
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW 46	Site:	
Project No.: 1732 6064	Project: Cooper Drum	
Start Date/Time: 4/20/09 1452	End Date/Time: 4/20/09	
Contractor: Gregg Drilling	URS Installer: PAC	
Reviewed By:	Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
Christy Box

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 56'
GROUT
Composing & Proportions 2 bags cement 10% bent. powder, 30 gal H2O
Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) ≈ 30'

SEAL
Type Bentonite Pellets / 0-30 sand
Setup/Hydration time 45 vol. Fluid Added 2/2
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 18 bags
Tremied (Y/N)

SCREEN
Type Sch 40 PVC
Diameter 2"
Slot Size & Type .020" m.s.
Interval BGS 57-67

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material —
Setup/Hydration time _____
Tremied (Y/N)

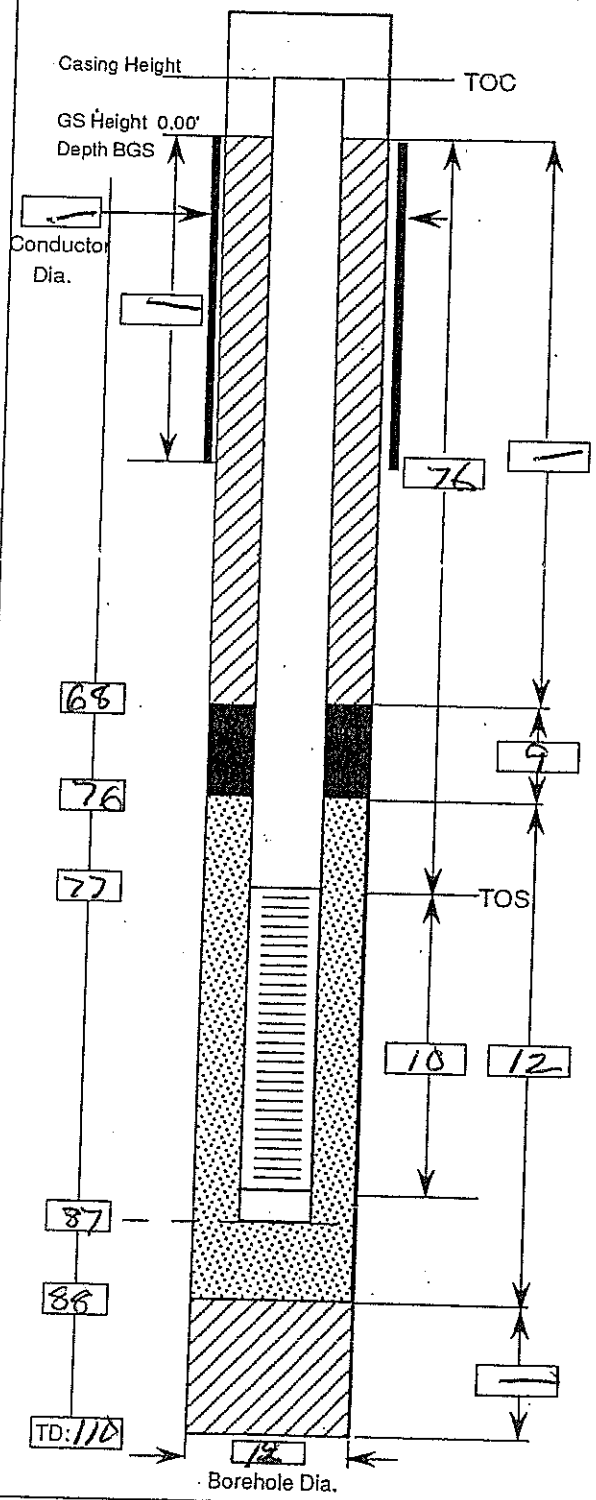
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW47		Site:	
Project No.: 1792 6064		Project: Cooper Drum	
Start Date/Time: 4/20/09 1412		End Date/Time: 4/20/09 1452	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
christybox

BLANK CASING
Type sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 76'
GROUT
Composing & Proportions —
—
Tremied (Y/N)
Interval BGS —
CENTRALIZERS (Y/N)
Depth (s) ≈ 30'

SEAL
Type Bentonite pellets
Setup/Hydration time 30 vol. Fluid Added 5.5 buckets
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 15 bags
Tremied (Y/N)

SCREEN
Type sch 40 PVC
Diameter 2"
Slot Size & Type .020" machine slot
Interval BGS 77-87'

SUMP (Y/N)
Interval BGS — Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material —
Setup/Hydration time _____
Tremied (Y/N)

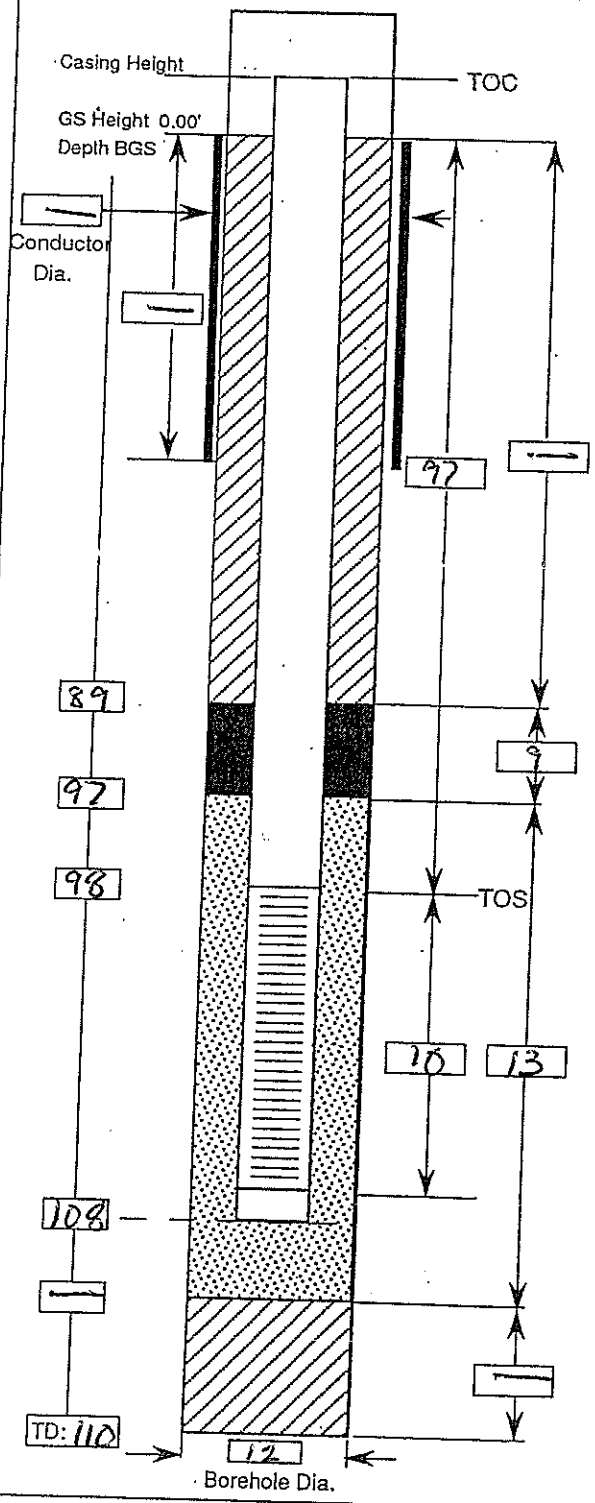
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW48		Site:	
Project No.: 1792 6064		Project: Cooper Drum	
Start Date/Time: 4/20/09 1336		End Date/Time: 4/20/09 1415	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
Christy box

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 97
GROUT
Composing & Proportions —
Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) every 30'

SEAL
Type Bentonite Pellets
Setup/Hydration time 30 vol. Fluid Added 6 buckets
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 15 bags.
Tremied (Y/N)

SCREEN
Type sch 40 PVC
Diameter 2"
Slot Size & Type .020 machine slot
Interval BGS 98-108'

SUMP (Y/N)
Interval BGS — Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material —
Setup/Hydration time _____
Tremied (Y/N)

NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

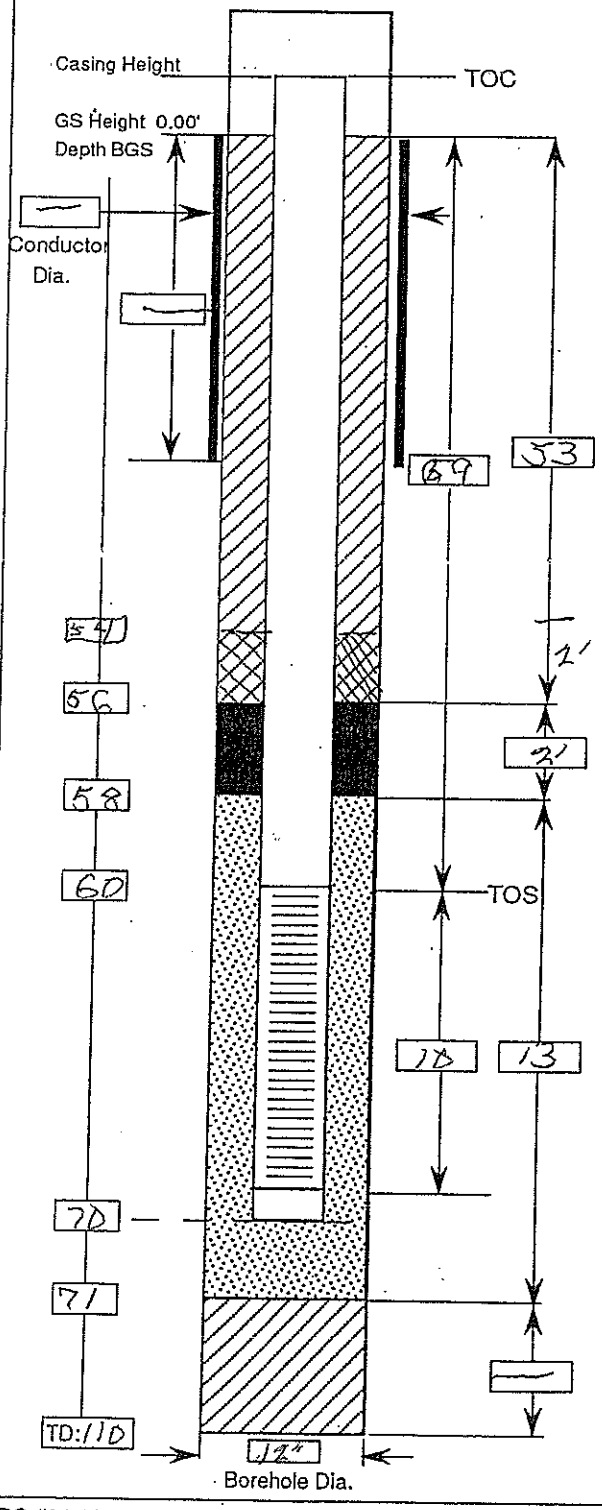
URS #94 10/92

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW49		Site:	
Project No.: 1732 6064		Project: Cooper Drum	
Start Date/Time: 4/13/09 11 AM		End Date/Time: 4/23/09 1700	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____

SURFACE COMPLETION
christy box

BLANK CASING
Type PVC sch 40
Diameter 2"
Total Length (TOC to TOS) 59'

GROUT
Composing & Proportions 2 bag cement / 10% bent.
30 gal water
Tremied (Y/N)
Interval BGS _____

CENTRALIZERS (Y/N)
Depth (s) ~30 ft

SEAL
Type 0/30 sand 1 bag Benton. Pellets 2 bkts
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 8 bags
Tremied (Y/N)

SCREEN
Type PVC sch 40
Diameter 2"
Slot Size & Type .040 machine slot
Interval BGS 60-70

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

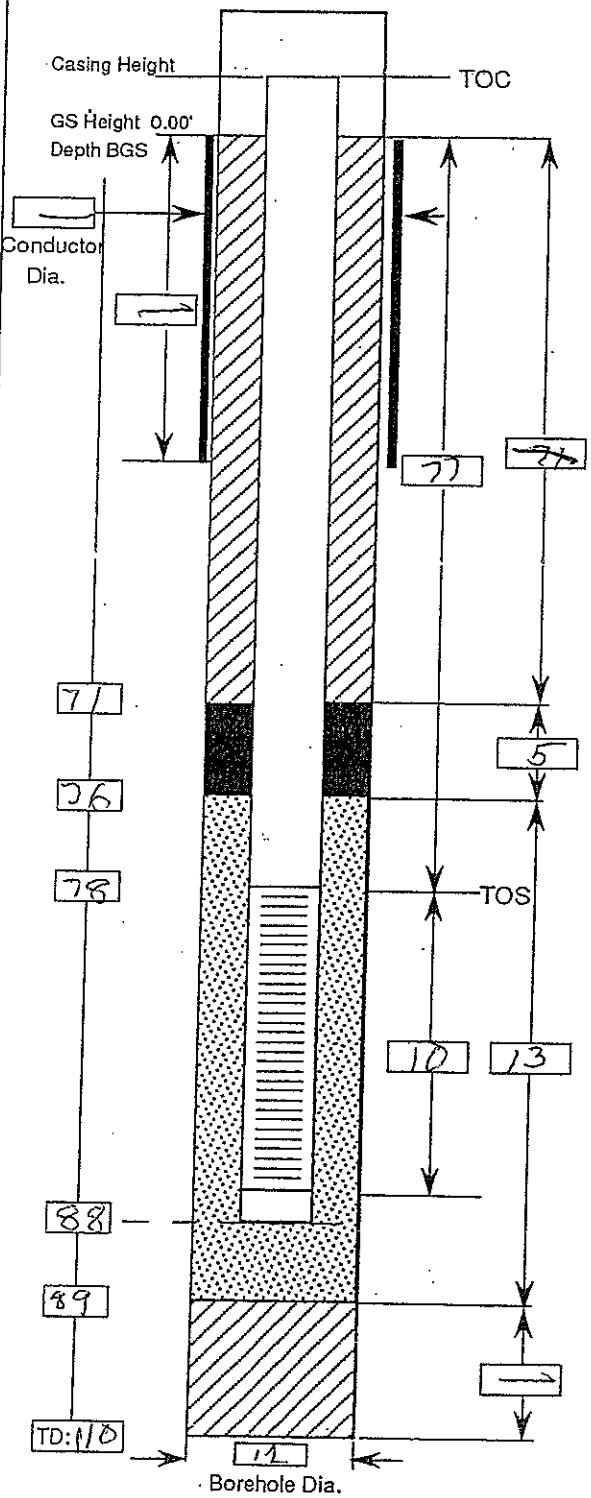
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW50		Site:	
Project No.: 1792 6064		Project: Cooper Drum	
Start Date/Time: 4/23/09 1100		End Date/Time: 4/23/09 1700	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
Christy box

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 72'
GROUT
Composing & Proportions 2 bags cement 10% bent. 30 gal H_2O
Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) ~30'

SEAL
Type Bent Pellets 6 buckets
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 8 bags 50 lb
Tremied (Y/N)

SCREEN
Type Sch 40 PVC
Diameter 2"
Slot Size & Type 10-20" machine slot
Interval BGS 78-88

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

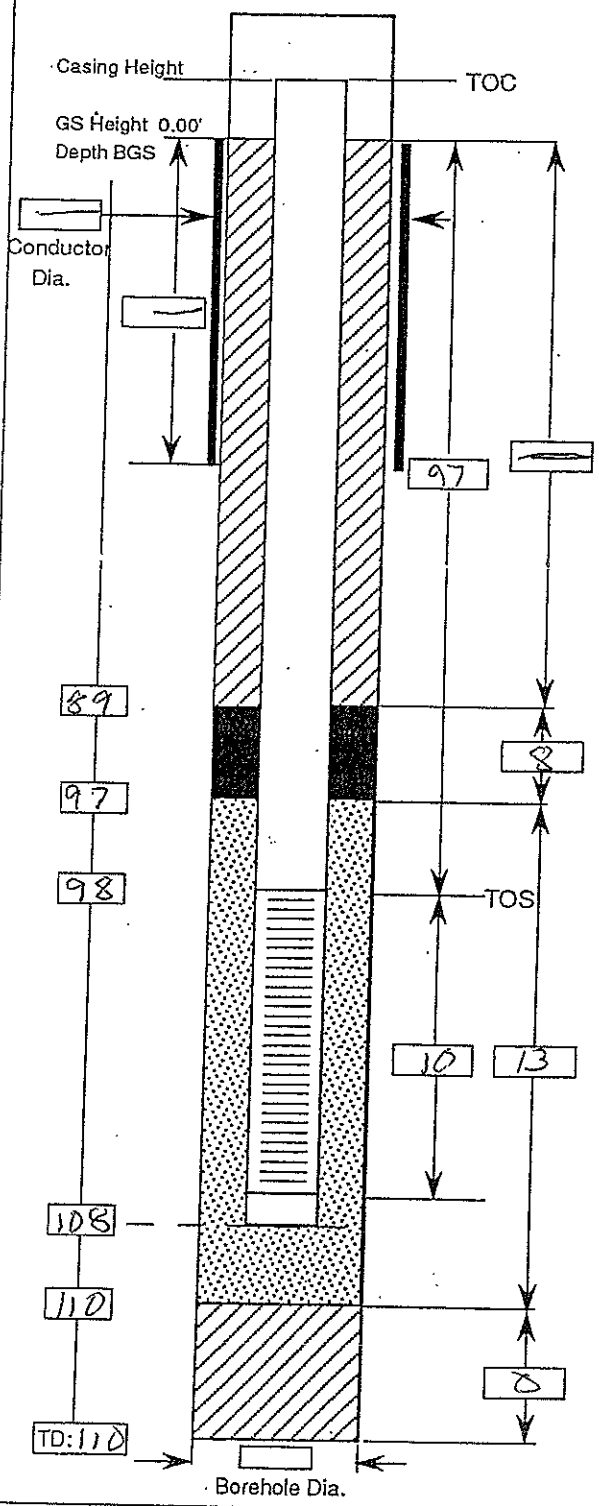
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW51		Site:	
Project No.: 1732 6064		Project: Cooper Drum	
Start Date/Time: 4/23/09 1100		End Date/Time: 4/23/09 1700	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
Christy box

BLANK CASING
Type PVC sch 40
Diameter 2"
Total Length (TOC to TOS) 97'
GROUT
Composing & Proportions _____
Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) ~30'

SEAL
Type Bentonite Pellets 9 buckets.
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 8 bags 50lb
Tremied (Y/N)

SCREEN
Type PVC sch 40
Diameter 2"
Slot Size & Type .010" machine slot
Interval BGS 98-108

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

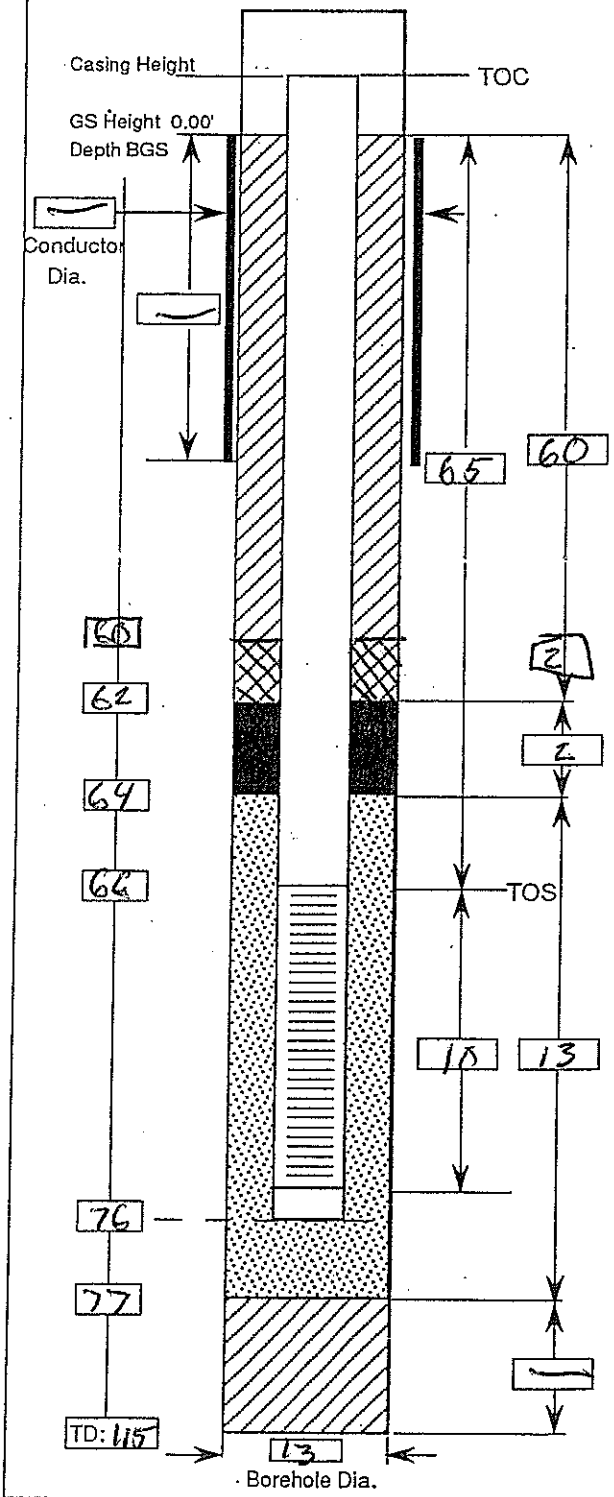
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW-52		Site:	
Project No.: 1732 6064		Project: Cooper Drum	
Start Date/Time: 4/22/09 0930		End Date/Time: 4/22/09 1230	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
christy box

BLANK CASING
Type sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 59'
GROUT
Composing & Proportions 2 bags cement / 30 gal H_2O
10% bent. 14 bags
Tremied (Y/N)
Interval BGS 0-60'
CENTRALIZERS (Y/N)
Depth (s) ~30'

SEAL
Type 0/30 sand Bent. Pellets
Setup/Hydration time 1hr vol. Fluid Added 3 buckets
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 13
Tremied (Y/N)

SCREEN
Type sch 40 PVC
Diameter 2"
Slot Size & Type .020 machine slot
Interval BGS 66-76'

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

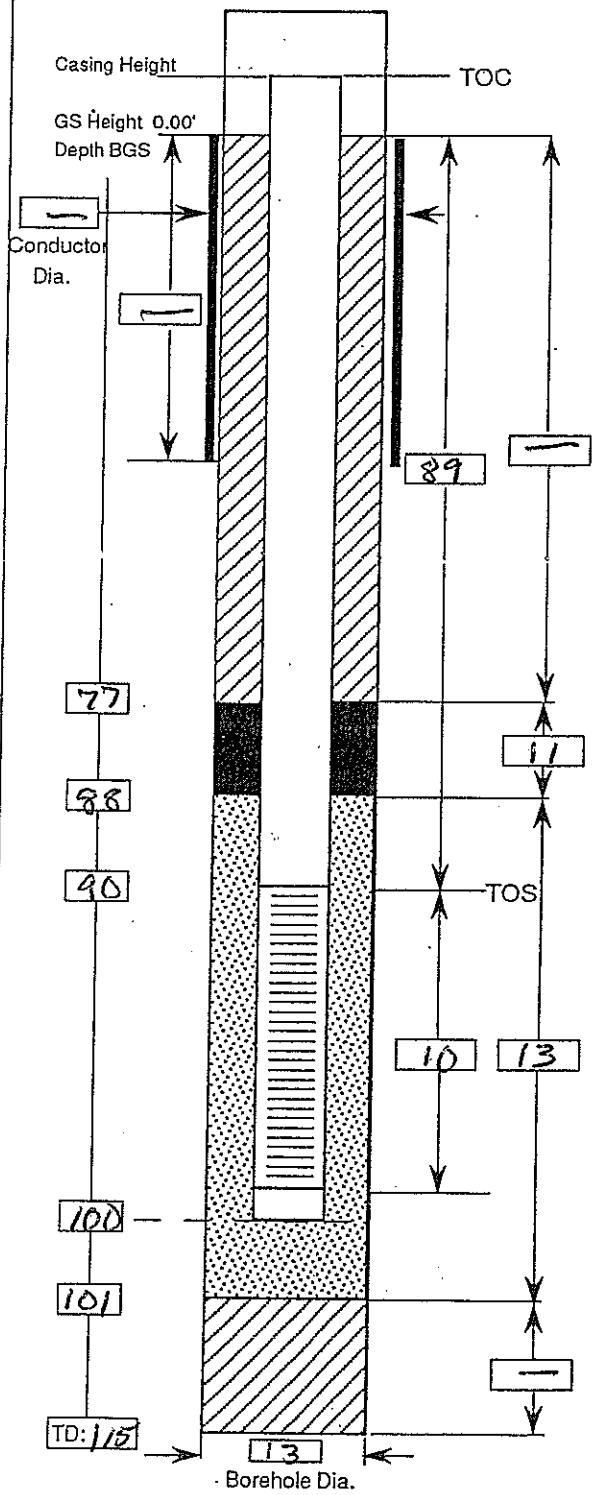
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT 00 TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW53		Site:	
Project No.: 1732 6064		Project: Cooper Drum	
Start Date/Time: 4/28/09 0930		End Date/Time: 4/28/09 1730	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
christy box

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 1-90
GROUT
Composing & Proportions ~~_____~~
Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) ~30'

SEAL
Type Ben Pellets 8
Setup/Hydration time 30 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 12 bags
Tremied (Y/N)

SCREEN
Type Sch 40 PVC
Diameter 2"
Slot Size & Type .020 machine slot
Interval BGS 90-100'

SUMP (Y/N)
Interval BGS ~~_____~~ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material ~~_____~~
Setup/Hydration time _____
Tremied (Y/N)

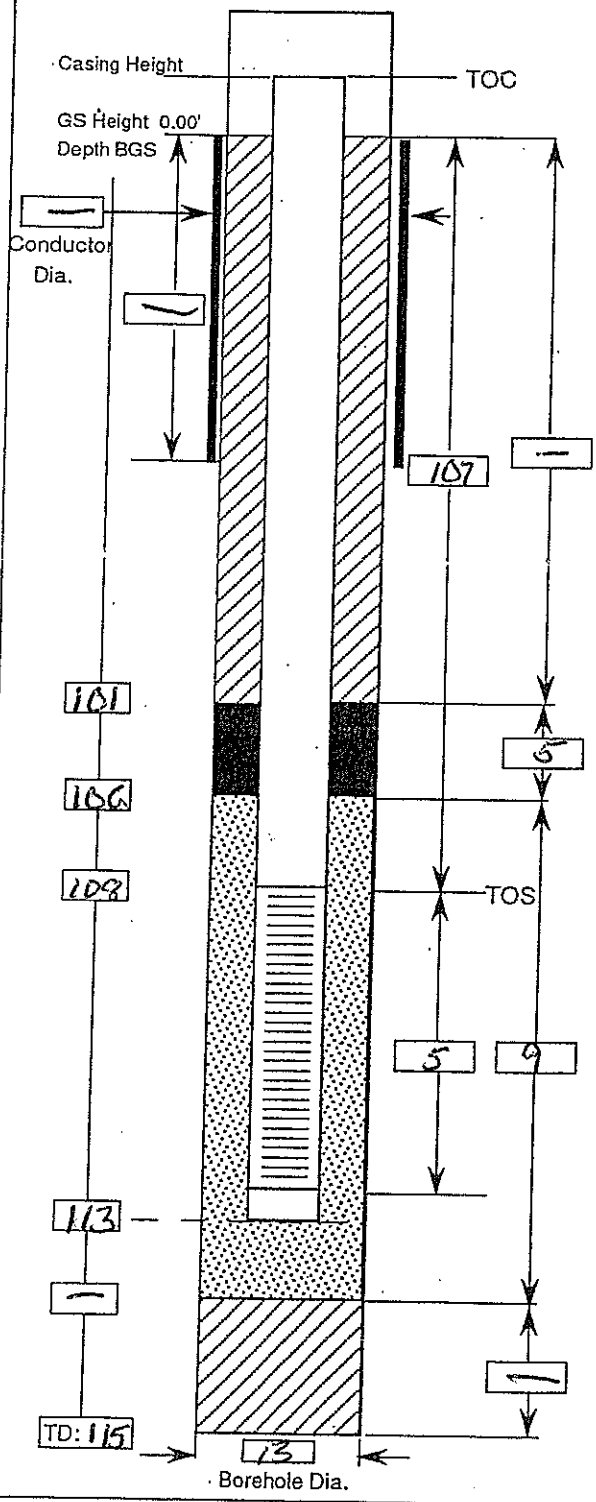
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW54		Site:	
Project No.: 1732 6064		Project: Cooper Drum	
Start Date/Time: 4/22/02 0930		End Date/Time: 4/22/02 1730	
Contractor: Gregg Drilling		URS Installer: PAC	
Reviewed By:		Date:	Quantity of Construction Water:



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
christy Box

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 107'
GROUT
Composing & Proportions _____
Tremied (Y/N)
Interval BGS _____
CENTRALIZERS (Y/N)
Depth (s) ~30'

SEAL
Type Bentonite Pellets
Setup/Hydration time 30 vol. Fluid Added 3 buckets
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 13 sacks
Tremied (Y/N)

SCREEN
Type Sch 40 PVC
Diameter 2"
Slot Size & Type .020, machine slot
Interval BGS 108-113

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

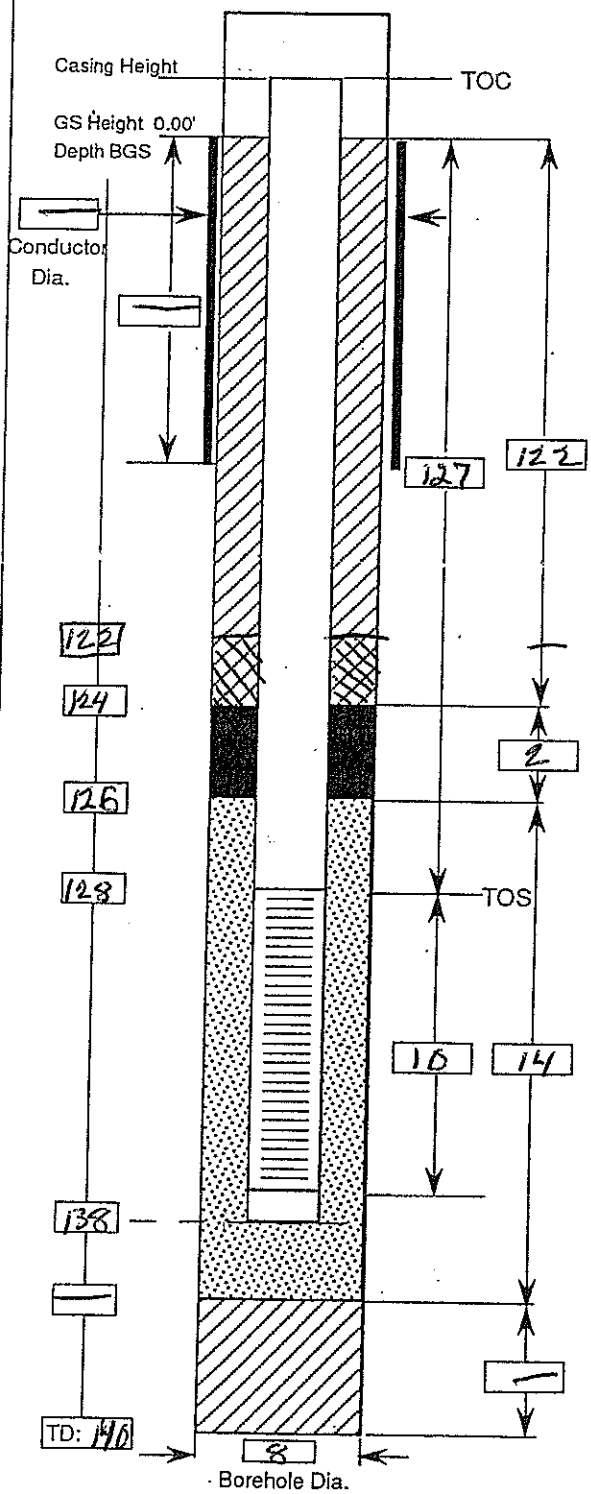
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW-155	Site:		
Project No.: 1732 6064	Project: Cooper Drum		
Start Date/Time: 4/16/09 0810	End Date/Time: 4/16/09		
Contractor: Gregg Drilling	URS Installer: PAC		
Reviewed By:	Date:	Quantity of Construction Water:	



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
12" Christy box

BLANK CASING
Type sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 1-126'
GROUT
Composing & Proportions 2 bags cement, 40% Ben
30-35 gal.
Tremied (Y/N)
Interval BGS 0-122
CENTRALIZERS (Y/N)
Depth (s) _____

SEAL
Type Bentonite Pellets
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Cemex #3 Monterey
Amt Used 8 50lb bags
Tremied (Y/N)

SCREEN
Type sch 40 PVC
Diameter 2"
Slot Size & Type .010 machine slot
Interval BGS 128-138

SUMP (Y/N)
Interval BGS _____ Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material _____
Setup/Hydration time _____
Tremied (Y/N)

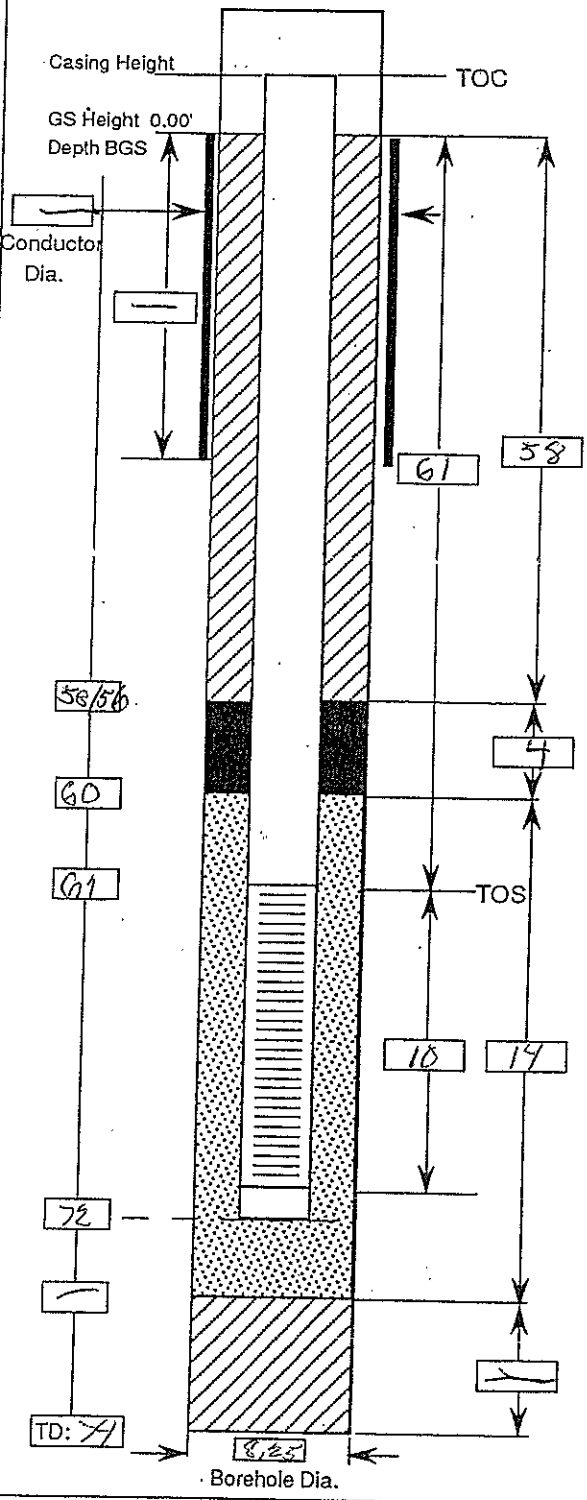
NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS TDMT On TDCN: _____
Project #: _____ Loc: 09.31 Type: 31

Exhibit 7.2-1
Monitor Well Construction Log

URS Consultants, Inc.

Well No.: MW56	Site:		
Project No.: 1732 6064	Project: Cooper Drum		
Start Date/Time: 4/17/09 0800	End Date/Time: 4/17/09 1200		
Contractor: Gregg Drilling	URS Installer: PAC		
Reviewed By:	Date:	Quantity of Construction Water:	



PROTECTIVE CSG/CONDUCTOR CSG
Material/Type _____
Diameter _____
Depth BGS _____
No. _____ Type _____
SURFACE COMPLETION
18" Christy Box

BLANK CASING
Type Sch 40 PVC
Diameter 2"
Total Length (TOC to TOS) 61'
GROUT
Composing & Proportions 1 bag cement / 10# bent. 30 gal H2O
Tremied (Y/N)
Interval BGS 0-58
CENTRALIZERS (Y/N)
Depth (s) _____

SEAL
Type Bentonite pellets
Setup/Hydration time 45 vol. Fluid Added _____
Tremied (Y/N)

FILTER PACK
Type Monterey #3
Amt Used 8 50lb bgs
Tremied (Y/N)

SCREEN
Type Sch 40 PVC
Diameter 2"
Slot Size & Type .020 machine slot
Interval BGS 62-72'

SUMP (Y/N)
Interval BGS ——— Length _____
Bottom Cap (Y/N)

BACKFILL PLUG
Material ———
Setup/Hydration time ———
Tremied (Y/N)

NESTED WELL COMPLETION (Y/N)
Note if well is nested completion detail should be recored on a separate Monitor Well Construction Log (one completion per Log).

URS Consultants

Exhibit 7.4-1

05/01/09

Monitor Well Development Data

Project: Cooper Drum

Site No:

Boring No: MW-15 B

Sample No:

Sampling Date:

Sampling Method:

Bar. Pres.:

Job No: 17326064.03020

Sampling Time:

Sampled By:

Reviewed By:

Elevation:

Weather

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 49.69 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level Meter (Keck)

2) Depth to Product (if present) ft — Method of Measurement: Same as above

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 103.05 ✓ ft (from casing top as marked) pre-development; 103.05 post-development

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft) 53.36 × .017 = 9.0712 × 10 = 90 gals

Amount of Water Removed from Well 232 gals

Method of Water Removal 2" Redi-Flo pump Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-15B

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 05-01-09

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
10:19	Pump on @ Bottom							
10:22	20.8	4.98	5.96	999	50.39	12	4GPM	Very cloudy
10:30	21.1	5.45	6.13	66	50.39	44	4	a little cloudy
10:37	21.3	4.87	6.23	999	50.49	72	4	really cloudy
10:43	21.3	5.48	6.17	9	50.49		4	clear
10:50	21.4	5.50	6.20	8	50.49	100	4	clear
10:55	21.4	5.50	6.21	1	50.49	120	4	clear
10:59	21.3	5.50	6.21	999	50.41	140	4	really cloudy
11:07	21.4	5.51	6.21	1	50.45	172	4	clear
11:11	21.3	5.52	6.20	999	50.37	192	4	really cloudy
11:16	21.2	5.51	6.21	0	50.37	212	4	clear
11:20	21.2	5.51	6.21	0	50.37	232	4	clear

TOP of column

moved the pump thru the column and pumped clean now the pump is + TOS

pump @ ~~bottom~~ Middle 10:57

Shut the Pump off @ 11:21

All done!

NTU = Nephelometric turbidity units
WL = Water level

Pete 916-717-5041 - Fax 916-679-2900

URS #94 3/90

URS Consultants

04/24/09

Exhibit 7.4-1

Monitor Well Development Data

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-23B

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather Partly cloudy

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging (Development Rig)
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 52.05 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level meter (KECK)

2) Depth to Product (if present) ft — Method of Measurement: SAME AS ABOVE

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 103.74 ft (from casing top as marked) — pre-development; 105.90 — post development

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Water column 51.69 x .17 = 8.78 = 87.8 gals

Amount of Water Removed from Well 250 gals

Method of Water Removal 2" REDI-FLO pump Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-23B

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum

Site No:

Location No:

Sample No:

Job No: 17326064.03020

Sampling Date:

Sampling Time:

Sampled By:

Reviewed By: Date: 04/24/09

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
9:15	20.3	3.06	5.16	999	60.45	7	2 GPM	pump is @ 85'
9:24	20.6	3.17	5.95	361	60.90	20	2 GPM	Cloudy
9:30	20.7	3.17	6.14	216	61.2	30	2 GPM	drop to Bottom
9:40	20.6	3.18	6.35	888	59.73	35	2 GPM	Dark Gray Cloudy
9:50	19.8	3.17	6.35	463	57.85	50	2 GPM	Cloudy
10:00	20.4	3.17	6.37	360	58.20	60	2 GPM	A little Cloudy
10:10	20.1	3.10	6.37	999	58.17	70	2 GPM	move up pump to 95
10:20	20.2	3.15	6.35	45	58.40	80	2 GPM	move pump up to 85'
10:30	20.3	3.15	6.37	9	58.52	90	2 GPM	move pump up to 70
10:40	20.2	3.14	6.38	25	58.82	100	2 GPM	Turn GPM to 3.75
10:45	20.8	3.16	6.40	6	61.70	115	3.75 GPM	@ 70' (clear)
10:50	20.3	3.16	6.40	3	61.77	130	3.75 GPM	@ 80' (drop to 9
10:55	20.5	3.16	6.40	3	61.80	145	3.75 GPM	@ 90' (drop to 10
@ 10:57 drop to Bottom 11:05	20.7	3.08	6.46	999	61.37	205	3.75 GPM	Bottom
11:10	20.8	3.16	6.37	143	61.39	220	3.75 GPM	Bottom
11:15	20.5	3.16	6.40	125	59.20	230	2 GPM	Bottom
11:20	20.6	3.16	6.41	41	58.47	240	2 GPM	Bottom } clear
11:25	20.7	3.16	6.42	18	57.20	245	1 GPM	Bottom }
11:30	20.7	3.16	6.42	15	57.11	250	1 GPM	Pump off

NTU = Nephelometric turbidity units

WL = Water level

URS Consultants

04/24/09

Exhibit 7.4-1

Monitor Well Development Data

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-45

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather Partly Cloudy

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging (Development Rig)
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 48.29 TOC ft (from casing top as marked)

Method of Measurement: 300' Water level sounder (KECK)

2) Depth to Product (if present) ft

Method of Measurement: SAME AS ABOVE

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 88.10 pre-development ft (from casing top as marked) 88.9 - post-development

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Water Column 39.81 x .17 = 6.76 x 6 = 67.6 gals

Amount of Water Removed from Well 239 gals

Method of Water Removal 2" Redi-Flo pump

Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos

Method of Measurement U-10 HORIBA

pH

Method of Measurement U-10 HORIBA

Physical Appearance

Remarks SWL @ 48.34 Final TD @ 88.90

URS Consultants

Monitor Well No: MW-45

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04/24/09

	Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
	1:05								Pump on @ 78
	1:14	21.4	3.27	6.46	76	48.84	36	4 GPM	@ 78' a little cloudy
@ 1:18 move pump to 68'	1:20	21.4	3.27	6.46	158	48.84	60	4 GPM	@ 68'
	1:23	21.3	3.27	6.46	17	48.84	72	4 GPM	@ 68' clear
@ 1:24	1:26	21.4	3.19	6.45	100	48.84	84	4 GPM	@ 58' a little clou
	1:32	21.4	3.25	6.43	13	48.84	108	4 GPM	@ 58' Clear
@ 1:34 drop to Bottom	1:37	21.3	3.27	6.42	999	48.80	136	4 GPM	@ Bottom
@ 1:43 TOS	1:43	21.4	3.25	6.43	745	48.80	160	4 GPM	@ Top of Screen
@ 1:47 GPM @ 2.25	1:51	21.4	3.23	6.43	14	48.70	185	2.25	11 (clear)
Drop to 83'	1:55	21.4	3.28	6.42	281	48.70	194	2.25 GPM	@ 83'
	1:58	21.3	3.25	6.43	21	48.7	200.75	2.25	@ 83' clear
Drop to Bottom @	2:01	21.2	3.60	6.49	989	48.7	207.5	2.25	Bottom v. cloud
	2:11	21.3	3.29	6.45	11	48.7	230	2.25	Bottom (clear
Shut pump off	2:15	21.3	3.27	6.44	4	48.7	239	2.25	Bottom (clear)

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

Exhibit 7.4-1

Monitor Well Development Data

MW-55 04/27/09

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No:

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather Partly cloudy

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging Development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 52.74 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level meter (KECK)

2) Depth to Product (if present) ft — Method of Measurement: SAME AS ABOVE

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 136.80 ft (from casing top as marked) — pre-development; 138.05 — post-development

5) Height of Water Column (h) ft (4 minus 1)

water column 84.06 × .17 = 14.29
142. GALS

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well 148 gals

Method of Water Removal 2" REDI-FLO pump — Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-55

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04-27-09

	Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
	9:18								pump on
	9:21	19.4	2.78	5.65	999	73.83	4.5	1.4 GPM	Very Cloudy
	9:31	21.0	4.62	6.06	973	78.30	15	1.27	cloudy
@ 9:32 GPM is NOW @ 1.12	9:37	21.0	4.55	6.19	460	80.90	20	1.04	a little cloudy
	9:47	21.1	4.69	6.24	656	90.43	31	1.15	cloudy
@ 9:50 drop TO Bottom	9:50	21.1	4.68	6.26	999	90.23	36	1.06	very cloudy
@ 10:04 pump is @ 118'	10:06	21.6	4.11	6.35	702	93.14	52	1.09	very cloudy
	10:10	21.2	4.35	6.35	222	93.35	56.5	1.11	a little cloudy
Shut off to fix Hose	10:14								
on	10:24	20.8	4.24	6.40	117	82.80	62	1.41	a little clear
@ 10:28 move pump up to 108'	10:32	21.0	3.80	6.42	61	94.51	70	1.15	clear
@ 10:38 drop pump to 118'	10:39	21.0	3.90	6.44	52	96.05	78.5	1.22	clear
	10:41	21.0	3.84	6.44	46	96.74	81	1.20	clear
@ 10:43 drop pump to 128'	10:45	21.0	3.66	6.44	64	98.05	87	1.40	clear T.O.S.
	10:53	21.0	3.41	6.44	41	102.45	98.5	1.31	@ Bottom
	11:02	21.3	3.17	6.45	210	120.90	112.5	1.97	@ Bottom
	11:06	21.2	2.92	6.45	161	125.5	119.5	2.00	"
	11:11	21.1	2.78	6.45	462	128.46	128.5	2.05	"
	11:16	21.2	2.88	6.43	38	104.05	138	1.00	"
	11:20	21.0	2.84	6.44	16	97.95	143	1.09	" clear
	11:22	21.0	2.82	6.45	13	96.94	145	1.10	"
	11:23	21.0	2.83	6.45	10	96.50	147	1.12	"
	11:24	21.0	2.82	6.45	10	96.24	148	1.11	Clean pump o
	@ 11:25								

SWL @ 53.84
TD @ 138.05

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

Exhibit 7.4-1

Monitor Well Development Data

04/27/09

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-46 (TRIPLE) 87'

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather Sunny

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.75 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level meter (Keck)

2) Depth to Product (if present) ft — Method of Measurement: SAME AS ABOVE

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 88.05 ft (from casing top as marked) post development — 88.0 pre-development

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft) — 40.25 × .17 = 6.84 × 68.42 gals.

Amount of Water Removed from Well 162 gals

Method of Water Removal 2" Redi-Flo pump — Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-44 Middle TD 87'

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04/27/09

	Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
pump on @ 12:53	12:52								pump @ TOS 78'
	1:00	20.8	2.81	6.38	999	48.83	5.64	2.17	Really cloudy
@ 1:08 pulled pump to 68'	1:05	21.6	2.69	6.53	773	49.10	19.30	2.90	cloudy
	1:12	21.8	2.55	6.49	666	49.23	43.5	2.91	cloudy
@ 1:17 pulled the pump up to 58'	1:18	21.8	2.49	6.48	307	49.23	58	2.90	alittle cloudy
	1:22	21.8	2.47	6.48	150	49.23	70	2.89	clear
	1:23	21.8	2.43	6.48	66	49.23	75.3	2.89	clear
drop to 68' @ 1:24	1:27	21.8	2.40	6.47	37	49.23	83	2.82	clear
1:29 drop to 78'	1:30	21.8	2.36	6.47	32	49.14	90	2.98	clear
1:32 drop to the middle of the screen	1:33	21.9	2.33	6.46	999	48.92	101	2.43	very cloudy
	1:39	21.9	2.33	6.45	134	48.95	114	2.50	clear
pump @ the Bottom	1:46	21.8	2.31	6.45	300	49.0	131	2.85	cloudy
	1:56	21.8	2.28	6.47	42	48.44	155	1.35	clear
	1:58	21.5	2.28	6.46	10	48.44	160	1.35	clear
	1:59	21.5	2.28	6.46	8	48.44	162	1.35	clear
	2:00	shut the pump off							
SWL @	47.78								
TB @	88.05								

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

04/27/09

Exhibit 7.4-1

Monitor Well Development Data

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-46 (Deep) 106'

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather Sunny

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging Development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.65 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level meter (Keck)

2) Depth to Product (if present) ft — Method of Measurement: Same as above

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 106.68 - pre development 108.28 - post development ft (from casing top as marked)

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

water column 59.03 x .17 = 10.03 x 10 = 100.35) gals

Amount of Water Removed from Well 186 gals

Method of Water Removal 2" Redi-Flo pump

Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-46 Deep 106'

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04/27/09

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
4:00								pump on @ 97
4:05	21.6	3.34	6.55	999	49.12	10	2.46	really cloudy
4:16	21.4	3.50	6.46	739	49.16	36	2.47	really cloudy
4:20	21.4	3.54	6.40	72	49.16	48.5	2.45	clear
4:28	21.5	3.60	6.43	197	49.45	70	2.70	clear
4:31	21.6	3.54	6.41	165	49.45	80	2.70	a little cloudy
4:36	21.4	2.59	6.50	52	49.47	88.5	2.77	cloudy
4:40	21.5	3.59	6.44	15	49.47	100	2.92	clear
4:50	21.4	3.67	6.39	94	49.35	127	2.87	a little cloudy
5:10	21.6	3.66	6.42	46	48.45	180	1.18	clear
5:11	21.5	3.65	6.40	15	48.45	183	1.20	clear
5:12	21.4	3.65	6.40	5	48.45	184	1.20	clear
5:13	21.3	3.65	6.40	3	48.45	185.5	1.20	clear
@5:14	shut the Pump off							
SWL @ 47.78								
TD @ 108.28								

@ 4:15 pulled pump to 87'

@ 4:21 moved pump to 77'

@ 4:28 pump @ 67'

@ 4:42 drop to the bottom

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

04/29/09

Exhibit 7.4-1

Monitor Well Development Data

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-52 76'

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.30 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level Meter (Keck

2) Depth to Product (if present) ft — Method of Measurement: Same as above

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 76.5 ft (from casing top as marked) — pre-development; 76.5 — post-development

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

26.2 × 0.17 = 4.45 × 10 = 44.54

Amount of Water Removed from Well 200 gals

Method of Water Removal 2" Redi-Flo pump — Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-52
76'

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04/29/09

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
Pump on @ 10:01 The Pump is @ 66'								
10:05	20.9	3.51	5.51	999	51	7.8	2.5	very cloudy
10:10	21.0	3.38	6.06	751	51.45	21.5	2.6	very cloudy
10:20	21.4	3.54	6.22	515	51.83	44.5	2.7	cloudy
10:27	21.4	3.56	6.21	261	51.9	66	2.7	a little cloudy
drop pump — 10:33	21.5	3.65	6.21	999	51.93	80	2.7	very cloudy
To Bottom Screen 10:48	21.5	3.68	6.22	682	51.90	118	2.7	very cloudy
10:54	21.4	3.68	6.25	230	51.90	138	2.7	a little cloudy
11:02	21.5	3.72	6.23	132	52.1	161	2.6	"
11:10	21.3	3.68	6.34	131	48.77	172	.84	clear
11:12	21.4	3.68	6.27	34	48.75	174	.82	clear
11:15	21.4	3.72	6.25	24	48.75	176.5	.82	clear
11:18	21.4	3.73	6.24	17	48.75	178.5	.82	clear
11:20	21.4	3.72	6.24	14	48.75	180	.82	clear
Shut the pump off 11:21								

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

Exhibit 7.4-1

Monitor Well Development Data

04/29/09

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-53 100'

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.36 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level meter (Keele)

2) Depth to Product (if present) ft — Method of Measurement: Same as above

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 100.10 / ft pre-development (from casing top as marked) 100.10 — post

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals, 52.77 × 8.97 × 89.709 gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well 183 gals

Method of Water Removal 2" Redi-flo pump — Was Well Pumped Dry ☐ Yes ☒ No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 Horiba

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-53
100'

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04/29/09

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
@ 11:43 Pump on @ Bottom screen						+10 gals		
11:48	21.3	4.26	6.46	999	60.05	13	2.3	Muddy
12:05	21.2	4.91	6.32	360	60.9	54	2.6	cloudy
@ 12:10 more up 10' @ 90' 12:28	21.2	4.94	6.26	398	61	120	2.5	cloudy
12:35 shut Pump off to off load. (Pump Back on @ 1:45)								
pump @ Bottom 1:51	21.3	4.80	6.32	120	60.21	150	2.6	clear
2:00	21.1	4.96	6.28	54	60.22	168	2.6	clear
2:06	21.2	4.86	6.30	18	60.22	180	2.6	clear
2:07	21.1	4.88	6.28	13	60.22	183	2.6	clear
Shut the pump off @ 2:09								

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

Exhibit 7.4-1

Monitor Well Development Data

04/29/09

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-54 113'

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.60 ft (from casing top as marked) — Method of Measurement: 300' Water level meter (Keck)

2) Depth to Product (if present) ft — Method of Measurement: Same as above

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 111.55 ft (from casing top as marked) — pre-development; 113.3 — post-development

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

63.95 × 0.17 = 10.87 × 10 = 108 gals

Amount of Water Removed from Well 110 gals

Method of Water Removal 2" Redi-Flo pump — Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-54
113' Deep

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04/29/09

	Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
	2:40	Pump mat Bottom					+ 7 gals		
	2:47	21.4	6.19	6.25	525	94.74	10	2.1	A little Cloud
	2:57	21.7	6.12	6.24	17	96.48	27	2.1	clear
pulled pump up 10'	3:00								
	3:01	21.6	6.20	6.25	14	96.30	34	2.1	clear
	3:10	21.5	6.18	6.26	5	98.20	50	2.1	clear
pump @ Bottom	3:20	21.5	5.84	6.27	35	98.20	70	2.1	clear
	3:25	21.4	5.85	6.26	21	98.20	80	2.1	clear
	3:30	21.5	5.84	6.26	5	98.20	90	2.1	clear
	3:34	shut the pump off					97		

NTU = Nephelometric turbidity units
WL = Water level

04/30/01

URS Consultants

Exhibit 7.4-1
Monitor Well Development Data

Project: Cooper Drum
Job No: 17326064.03020
Site No:
Sampling Time:
Boring No: MW-49
Sampled By:
Sample No:
Reviewed By:
Sampling Date:
Elevation:
Sampling Method:
Weather
Bar. Pres.:
Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.14 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level Meter (Keck)
2) Depth to Product (if present) ft — Method of Measurement: same as above
3) Static Water Level Elevation ft (casing top elevation minus 1) 69.33 — pre-development
4) Depth to Well Bottom ~~87.55~~ ft (from casing top as marked) ~~88.84~~ — post-development 70.10
5) Height of Water Column (h) ft (4 minus 1)

22.19 × 0.17 = 377 × 10 = 37 gals

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals ~~10.11 × 0.17 = 6.81 × 10 = 68.69~~ gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well 185 gals

Method of Water Removal 2" Redi-Flo pump — Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-49

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04-30-09

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
10:28	Pump on @ Bottom screen							
10:38	21.3	4.77	4.76	999	51.75	25	5 GALS	very cloudy
10:45	21.9	3.90	6.13	999	52.19	55	5	very cloudy
10:48	21.6	3.58	6.07	372	52.19	70	5	cloudy
10:58	21.2	3.51	5.97	43	52.19	120	5	clear
11:08	21.6	3.61	6.15	21	52.19	170	5	clear
11:11	21.7	3.62	6.17	10	52.19	185	5	clear
Pump off @ 11:11								

@ 10:44 pump @ top of screen

@ 11:00 drop to Bottom screen

NTU = Nephelometric turbidity units
WL = Water level

07 80 01

URS Consultants

Exhibit 7.4-1
Monitor Well Development Data

Project: Cooper Drum
Job No: 17326064.03020
Site No:
Sampling Time:
Boring No: MW-50
Sampled By:
Sample No:
Reviewed By:
Sampling Date:
Elevation:
Sampling Method:
Weather
Bar. Pres.:
Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.21 ft (from casing top as marked) — Method of Measurement: 300' Water level meter (Keck)
2) Depth to Product (if present) ft — Method of Measurement: Same as above
3) Static Water Level Elevation ft (casing top elevation minus 1)
4) Depth to Well Bottom 87.55 ft (from casing top as marked) — pre-development; 88.54 post
5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals (for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft)

40.34 × 0.17 = 6.85 × 10 = 68.5 gals

Amount of Water Removed from Well 243.75 gals

Method of Water Removal ~~243.75~~ 2" Redi-Flo pump

Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-50

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 04-30-09

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
Pump on @	11:35	Pump is	@	Bottom				
11:40	21.4	3.51	6.16	999	49.08	16.25	3.25	very cloudy
11:50	21.5	3.13	6.29	128	49.20	48.75	3.25	cloudy
12:00	21.3	3.19	6.29	182	52.23	81.25	3.25	cloudy
12:10	21.3	3.28	6.29	71	52.23	113.75	3.25	clear
12:20	21.3	3.32	6.25	23	52.23	146.25	3.25	clear
12:30	21.3	3.35	6.28	8	52.23	178.75	3.25	clear
				999				cloudy @ Top
12:40	21.4	3.36	6.27	21	49.3	211.25	3.25	clear
12:43	21.4	3.45	6.28	999	49.0	221	3.25	very cloudy
12:50	21.3	3.24	6.20	87	49.01	243.75	3.25	a little cloudy
1:00	21.4	3.35	6.21	5				
Shut	Pump	off @	1:01					

@ 11:55 moved the pump to TOS

@ 12:14 pump @ 68'

@ 12:23 moved pump to 57'

12:32 down to Top of Screen

Drop to Bottom

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

Exhibit 7.4-1
Monitor Well Development Data

Project: Cooper Drum
Job No: 17326064.03020
Site No:
Sampling Time:
Boring No: MW-51
Sampled By:
Sample No:
Reviewed By:
Sampling Date:
Elevation:
Sampling Method:
Weather
Bar. Pres.:
Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Rig
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.16 ft (from casing top as marked) — Method of Measurement: 300' Water level meter (Keck)
2) Depth to Product (if present) ft — Method of Measurement: Same as above
3) Static Water Level Elevation ft (casing top elevation minus 1)
4) Depth to Well Bottom 108.29 / 108.75 ft (from casing top as marked) — pre-development / post-development
5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well 315 gals

Method of Water Removal Redi-Flo Pump 2" Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

URS Consultants

Monitor Well No: MW-51

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum

Site No:

Location No:

Sample No:

Job No: 17326064.03020

Sampling Date:

Sampling Time:

Sampled By:

Reviewed By: Date: 04-30-09

	Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
	2:21	Pump on @ Bottom							
	2.23	21.3	4.26	6.24	999		10	5	really cloudy
2:33 upper screen 98'	2:30	20.9	4.37	6.26	136	47.21	45	5	a little cloudy
	2:35	21.2	4.28	6.24	425	48.58	70	5	cloudy
	2:40	21.0	4.30	6.25	104	48.58	95	5	a little cloud
	2:45	21.0	4.29	6.23	282	48.70	120	5	cloudy
	2:50	21.0	4.31	6.22	53	48.70	145	5	clear
imp @ 88' 2:52	3:00	21.0	4.32	6.21	37	48.80	195	5	clear
imp @ 78' 3:01	3:05	21.0	4.33	6.20	28	48.81	220	5	clear
imp @ 68' 3:06	3:10	20.9	4.34	6.22	53	48.83	245	5	clear
imp @ Bottom 3:12	3:18	21.1	4:39	6.21	184	48.67	285	5	a little cloudy
	3:21	21.0	4.39	6.20	46	48.68	300	5	clear
	3:24	21.1	4.40	6.20	15	48.68	315	5	clear
	Pump off @ 3:25								

NTU = Nephelometric turbidity units

WL = Water level

URS Consultants

Exhibit 7.4-1 05/01/09

Monitor Well Development Data

Project: Cooper Drum

Job No: 17326064.03020

Site No:

Sampling Time:

Boring No: MW-56

Sampled By:

Sample No:

Reviewed By:

Sampling Date:

Elevation:

Sampling Method:

Weather

Bar. Pres.:

Amb. Temp. (°F) °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [x] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging development Ri
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 47.99 TOC ft (from casing top as marked) — Method of Measurement: 300' Water level meter (Keck)

2) Depth to Product (if present) ft — Method of Measurement: Same as above

3) Static Water Level Elevation ft (casing top elevation minus 1)

4) Depth to Well Bottom 72.25 ft (from casing top as marked) — pre-development; 72.40 — post-development

5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals 24.26×0.17=4.12×10=41.2 gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well 172 gals

Method of Water Removal 2" Redi-Flo pump Was Well Pumped Dry [ ] Yes [x] No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement U-10 HORIBA

pH — Method of Measurement U-10 HORIBA

Physical Appearance

Remarks

Monitor Well No: MW-56

URS Consultants

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No:
Location No:
Sample No:

Job No: 17326064.03020
Sampling Date:
Sampling Time:
Sampled By:
Reviewed By: Date: 06/01/09

	Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
	8:24	Pump on at	Bottom						
	8:26	18.3	2.29	6.12	999	49	10	5 GPM	really cloudy
	8:30	20.6	2.16	6.19	0	49.05	30	5	clear
top of screen	8:34	20.7	2.09	6.22	999	49.15	60	5	really cloudy
	8:39	20.1	2.04	6.22	2	49.18	85	5	clear
Bottom	8:49	20.7	2.24	6.20	880	49	135	5	cloudy
	8:53	20.7	2.23	6.23	1	49	155	5	really clear
	8:55	20.8	2.23	6.23	0	49	172	5	clear
	Pump off @ 8:56								

NTU = Nephelometric turbidity units
WL = Water level

SHALLOW WELL

URS Consultants

Exhibit 7.4-1
Monitor Well Development Data

Project: Cooper Drum
Job No: 17326064.03020
Site No:
Sampling Time:
Boring No: MW-42
Sampled By:
Sample No:
Reviewed By:
Sampling Date: 4/23/09
Elevation:
Sampling Method:
Weather P Cloudy
Bar. Pres.:
Amb. Temp. (°F) 60-70's °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [ ] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging (Development Rig)
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 49.68 (T.C.) ft (from casing top as marked) — Method of Measurement:
2) Depth to Product (if present) ft — Method of Measurement:
3) Static Water Level Elevation ft (casing top elevation minus 1)
4) Depth to Well Bottom 66.30 ft (from casing top as marked) — Pre Development; 66.53 Post.
5) Height of Water Column (h) ft (4 minus 1)

water Column 16.62 x .17 = 2.82 = 28.2 Gals.

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well gals

Method of Water Removal — Was Well Pumped Dry ☐ Yes ☐ No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement

pH — Method of Measurement

Physical Appearance

Remarks

URS Consultants

Monitor Well No: _____

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum

Site No: _____

Location No: _____

Sample No: _____

Job No: 17326064.03020

Sampling Date: _____

Sampling Time: _____

Sampled By: _____

Reviewed By: _____ Date: _____

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
0920	21.3	1.61	7.30	999	53.05	4	2.5	
0926	21.7	1.62	6.60	999	53.39	15	2.5	↓
0932	21.9	1.65	6.57	946	5.64	30	2.5	Move Pump
0955	22.0	1.86	6.73	536	53.68	84	2.5	Bottom, mud
1002	22.0	1.89	6.79	304	53.81	105	2.5	top screen
1012	22.0	1.90	6.84	256	53.89	131	2.5	Flush w/clea
1021	22.0	1.90	6.86	223	53.92	151	2.5	water, the
1031	21.8	1.91	6.85	111	53.94	176	2.5	casing
Surge turning on off pump → 1042	21.9	1.93	6.86	226	53.94	205	2.63	
1046	21.9	1.92	6.87	148	53.94	210	2.63	

NTU = Nephelometric turbidity units

WL = Water level

MIDDUS

URS Consultants

Exhibit 7.4-1
Monitor Well Development Data

Project: Cooper Drum
Job No: 17326064.03020
Site No:
Sampling Time:
Boring No: MW-43
Sampled By:
Sample No:
Reviewed By:
Sampling Date: 4/23/09
Elevation:
Sampling Method:
Weather PCloudy
Bar. Pres.:
Amb. Temp. (°F) 60-70s °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [ ] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging (Rig)
- [ ] Bailer
- [ ] Other

49.66 - 87.01 = 37.35.
X 0.17 = 6.34 X 10 = 63.4

GROUND WATER ELEVATION

1) Depth Water Surface 49.66 ft (from casing top as marked) — Method of Measurement:
2) Depth to Product (if present) ft — Method of Measurement:
3) Static Water Level Elevation ft (casing top elevation minus 1)
4) Depth to Well Bottom 87.01 ft (from casing top as marked) — Pre-Develop / Post Develop.
5) Height of Water Column (h) ft (4 minus 1)

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well gals

Method of Water Removal — Was Well Pumped Dry ☐ Yes ☐ No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement

pH — Method of Measurement

Physical Appearance

Remarks

URS Consultants

Monitor Well No: _____

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum
Site No: _____
Location No: _____
Sample No: _____

Job No: 17326064.03020
Sampling Date: _____
Sampling Time: _____
Sampled By: _____
Reviewed By: _____ Date: _____

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
1230	21.4	3.12	6.93	999	50.11	5	2.76	
1249	21.7	3.42	6.94	999	50.01	58	2.63	
1256	21.7	3.40	6.91	801	50.01	75	2.63	
1300	21.7	3.42	6.91	168	50.02	82	2.63	
1304	21.7	3.43	6.92	35	50.02	96	2.63	
1310	21.7	3.43	6.97	16	50.01	111	2.63	
1319	21.7	3.43	6.98	22	50.01	135	2.63	

Stopped Pump - turn off
Turn on pump to surge the well

(Water looks Clear.)

NTU = Nephelometric turbidity units
WL = Water level

URS Consultants

Exhibit 7.4-1
Monitor Well Development Data

Project: Cooper Drum
Job No: 17326064.03020
Site No:
Sampling Time:
Boring No: MW-44
Sampled By:
Sample No:
Reviewed By:
Sampling Date: 4/23/09
Elevation:
Sampling Method:
Weather P Cloudy
Bar. Pres.:
Amb. Temp. (°F) 60-70's °C

METHOD OF WELL DEVELOPMENT:

- [x] Pumping
- [ ] Surging
- [ ] Air Lift and Surge
- [x] Bailing
- [x] Mechanical Surging
- [ ] Bailer
- [ ] Other

GROUND WATER ELEVATION

1) Depth Water Surface 49.65 ft (from casing top as marked) — Method of Measurement:
2) Depth to Product (if present) ft — Method of Measurement:
3) Static Water Level Elevation ft (casing top elevation minus 1)
4) Depth to Well Bottom 103.5 ft (from casing top as marked)
5) Height of Water Column (h) ft (4 minus 1)

49.65 − 103.5 = 53.85 X .17
= 9.15 X 10 = 91.5

103.5 Pre Development
105.7 Post Development

T.C.

WATER SAMPLING DATA

Volume of Water in Well: (x)(h)= gals
(for 2"x = 0.163 gal/ft for 4" x =0.653 gal/ft

Amount of Water Removed from Well gals

Method of Water Removal — Was Well Pumped Dry ☐ Yes ☐ No

FIELD ANALYSIS

Water Temp °C

Specific Conductance micromhos — Method of Measurement

pH — Method of Measurement

Physical Appearance

Remarks

URS Consultants

Monitor Well No: _____

Exhibit 7.4-1

Monitor Well Development Data (Continued)

Project: Cooper Drum

Job No: 17326064.03020

Site No: _____

Sampling Date: _____

Location No: _____

Sampling Time: _____

Sample No: _____

Sampled By: _____

Reviewed By: _____ Date: _____

Moved pump along screen

Time	Temp °C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Observations
0244	21.4	5.30	7.02	999	50.41	8	2.69	
0254	21.6	5.51	7.02	738	50.42	21	2.69	
0305	21.8	5.45	6.98	576	50.41	56	2.69	
0313	21.6	5.53	7.03	195	50.41	71	2.69	
0321	21.6	5.55	7.03	59	50.41	93	2.69	
0330	21.6	5.53	7.01	236	50.41	115	2.69	
0337	21.7	5.53	7.01	38	50.42	142	2.69	
0342	21.7	5.53	7.01	28	50.41	148	2.69	
0348	21.7	5.53	7.01	20	50.41	159	2.69	

NTU = Nephelometric turbidity units

WL = Water level