

APPENDIX G

Well Development Records and Water Level Measurement Forms

G-1: Piezometer Records

G-2: Monitoring Well Records



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: DUPONT ST
Project Location: 003 - A004
Site Name: 4-MW-01

Well Designation:	4-MW-01
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:		Gauge Time:	
Sounding Method:	WL Meter	Measurement Reference:	
Stick up/down (ft):	3'	Well Diameter (in):	4
Static Water Level:		Screen Length (ft):	10
Development Date:	6-9-06	Development Time:	
Surge Device:	Block		
Weather:	SUNNY 70'S		

Well Volume Determination

A Well Depth:		G Borehole Vol/ft:	
B Depth to Water:	4.40	H Borehole Vol (CxG)gal:	
C Liquid Depth (A-B):		I Sand Vol (H-E) gal:	
D Well Volume/ft:		J Liquid Vol in Sand (Ix0.3) gal:	
E Well Volume (Cx D)gal:		K One Well Volume (E+J)gal:	
F Liquid Screen Length (ft):			

	Beginning	1	2	3	4	5	6
Time (min)	1420	1440	1450	1500	1510	1520	
Pump Rate (gpm)	1	1	1	1	1	1	
Volume purged	0	20	30	40	50	60	
pH	-	-	-	-	-	-	
Temperature (C)	-	-	-	-	-	-	
Conductivity (umhos/cm)	-	-	-	-	-	-	
Turbidity (NTU)	-	112	38	34	13	10	
Dissolved Oxygen (mg/L)	-	-	-	-	-	-	
Eh (mV)	-	-	-	-	-	-	

Total volume of water removed 60 gal
Estimated Recharge Rate 25 GPM

Depth to sediment before development: 21.82 ft bgs
Depth to sediment after development: 21.83 ft bgs
Development Description: DARK GRAY SILTY WATER

SURGE PURGED 15 MIN -
DEPTH TO WATER AFTER DEVELOP. = 5.03



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name:

DuPont SI

Project Location:

043-AOC 4

Site Name:

4-MW-02

Well Designation:	<u>4-MW-02</u>
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:		Gauge Time:	
Sounding Method:	<u>WL Meter</u>	Measurement Reference:	
Stick up/down (ft):	<u>3'</u>	Well Diameter (in):	<u>4</u>
Static Water Level:	<u>4.82</u>	Screen Length (ft):	<u>2.5</u>
Development Date:	<u>6-9-06</u>	Development Time:	
Surge Device:	<u>Surge Block</u>		
Weather:	<u>Sunny and Warm</u>		

Well Volume Determination

A Well Depth:		G Borehole Vol/ft:	
B Depth to Water:	<u>4.82</u>	H Borehole Vol (CxG)gal:	
C Liquid Depth (A-B):		I Sand Vol (H-E) gal:	
D Well Volume/ft:		J Liquid Vol in Sand (Ix0.3) gal:	
E Well Volume (Cx D)gal:		K One Well Volume (E+J)gal:	
F Liquid Screen Length (ft):			

	Beginning	1	2	3	4	5
Time (min)	<u>12:55</u>	<u>13:10</u>	<u>13:25</u>	<u>13:35</u>	<u>13:50</u>	<u>14:05</u>
Pump Rate (gpm)	<u>.5</u>	<u>.5</u>	<u>.5</u>	<u>.5</u>	<u>.5</u>	<u>.5</u>
Volume purged	<u>0</u>	<u>7.5</u>	<u>15</u>	<u>20</u>		
pH	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
Temperature (C)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
Conductivity (umhos/cm)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
Turbidity (NTU) <u>FAu</u>	<u>-</u>	<u>169</u>	<u>63</u>	<u>47</u>	<u>42</u>	<u>0</u>
Dissolved Oxygen (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
Eh (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		<u>4.88</u>
<u>Water Level</u>						

Total volume of water removed _____ gal

Estimated Recharge Rate 2.5 gpm

Depth to sediment before development: 11.10 ft bgs

Depth to sediment after development: 11.10 ft bgs

Development Description: Muddy water

Develop well using surge block for 15 minutes



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name:
Project Location:
Site Name:

DUPONT
003 - A004
4-MW-05

Well Designation:	4-MW-05
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:	
Sounding Method:	
Stick Up/down (ft):	3
Static Water Level:	4.52
Development Date:	
Surge Device:	
Weather:	

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	
Screen Length (ft):	
Development Time:	

Well Volume Determination

A Well Depth:	
B Depth to Water:	4.53
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (CxD)gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5
Time (min)	0855	0910	0920	0930	0940	
Pump Rate (gpm)	1	1	1	1	1	
Volume purged	0	15	25	35	45	
pH	—	—	—	—	—	
Temperature (C)	—	—	—	—	—	
Conductivity (umhos/cm)	—	—	—	—	—	
Turbidity (NTU)	—	43	34	18	8	
Dissolved Oxygen (mg/L)	—	—	—	—	—	
Eh (mV)	—	—	—	—	—	

Total volume of water removed _____ gal
Estimated Recharge Rate _____

Depth to sediment before development: 10.60 ft bgs
Depth to sediment after development: 10.62 ft bgs
Development Description: GRAY SILTY WATER @ START
SURGED 15 MIN.
DEPTH TO WATER AFTER DEVEL = 4.95 FT.

4.95



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
RESTORATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name:
Project Location:
Site Name:

DuPont ST
243. AOC 4
4-MW-06

Well Designation:	4-MW-06
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:		Gauge Time:	
Sounding Method:	WL Meter	Measurement Reference:	
Stick up/down (ft):	3	Well Diameter (in):	4
Static Water Level:	4.88	Screen Length (ft):	2.5
Development Date:	6-9-06	Development Time:	85 min
Surge Device:	Surge Block		
Weather:	Sunny and mild		

OK Well Volume Determination

A Well Depth:	10.56	G Borehole Vol/ft:	
B Depth to Water:	4.88	H Borehole Vol (CxG)gal:	
C Liquid Depth (A-B):		I Sand Vol (H-E) gal:	
D Well Volume/ft:		J Liquid Vol in Sand (Ix0.3) gal:	
E Well Volume (Cx D)gal:		K One Well Volume (E+J)gal:	
F Liquid Screen Length (ft):			

	Beginning	1	2	3	4	5
Time (min)	0945	1035	1050	1055		
Pump Rate (gpm)	1	1	1	1		
Volume purged	0	50	65	70		
pH	-	-	-	-		
Temperature (C)	-	-	-	-		
Conductivity (umhos/cm)	-	-	-	-		
Turbidity (NTU) FAU	-	39	11	0		
Dissolved Oxygen (mg/L)	-	-	-	-		
Eh (mV)	-	-	-	-		
Water Level	-	-	-	5.74		

Total volume of water removed 70 gal
Estimated Recharge Rate .75 7.5 GPM

Depth to sediment before development: 10.56 ft bgs

Depth to sediment after development: 10.56 ft bgs

Development Description:

Purge water is gray + silty
Develop well using surge block for 18 minutes
prior to purging
Depth to water after purging is 5.74 ft



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: DUPONT ST
Project Location: 003 - AOCY
Site Name: 4-MW-07

Well Designation:	4-MW-07
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:	
Sounding Method:	NL Meter
Stick up/down (ft):	3'
Static Water Level:	4.10
Development Date:	6-4-06
Surge Device:	Block
Weather:	SUNNY 70's

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	4
Screen Length (ft):	2.5
Development Time:	

Well Volume Determination

A Well Depth:	
B Depth to Water:	4.10
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (Cx D) gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (Cx G) gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix 0.3) gal:	
K One Well Volume (E+J) gal:	

	Beginning	1	2	3	4	5	6
Time (min)	1315	1330	1340	1350	1400	1410	
Pump Rate (gpm)	1	1	1	1	1	1	
Volume purged	0	15	25	35	45	55	
pH	-	-	-	-	-	-	
Temperature (C)	-	-	-	-	-	-	
Conductivity (umhos/cm)	-	-	-	-	-	-	
Turbidity (NTU)	-	42	21	15	13	8	
Dissolved Oxygen (mg/L)	-	-	-	-	-	-	
Eh (mV)	-	-	-	-	-	-	

Total volume of water removed 55 gal
Estimated Recharge Rate .75 GPM

Depth to sediment before development: 10.89 ft bgs
Depth to sediment after development: 10.85 ft bgs
Development Description: BLACK SILTY WATER
SURGED 15 MIN., PURGED 10 MIN. SURGE AGAIN 10 MIN.
DEPTH TO WATER AFTER DEVEL.: 4.86



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: _____

Project Location: _____

Site Name: _____

Well Designation:	6 MW 01
Condition:	Good
Well Grout Date:	11/29/05
Well Installation Date:	11/29/05

Gauge Date:	12/1/05
Sounding Method:	Wet Tap
Stick up/down (ft):	Flush
Static Water Level:	
Development Date:	12-1-05
Surge Device:	Surge Block
Weather:	40°F

Gauge Time:	7:15
Measurement Reference:	PVC
Well Diameter (in):	4"
Screen Length (ft):	10-Ft
Development Time:	

Well Volume Determination

A Well Depth:	18.00
B Depth to Water:	9.67
C Liquid Depth (A-B):	8.33
D Well Volume/ft:	0.653
E Well Volume (CxD)gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5
Time (min)	806	850	903	1507	1514	1326
Pump Rate (gpm)						
Volume purged		30	40	60	65	67
pH						
Temperature (C)						
Conductivity (umhos/cm)						
Turbidity (NTU) FAU		40	39	63	17	11
Dissolved Oxygen (mg/L)						
Eh (mV)						

Start time = 2:14:12
1342
Total volume of water removed 70 gal
Estimated Recharge Rate 216PM

Depth to sediment before development:

16.21 ft bgs - Very Soft
17.12 ft bgs - 17.61 BGS

Depth to sediment after development

Development Description: _____



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: _____

Project Location: _____

Site Name: _____

Well Designation:	6 MW 0239
Condition:	Good
Well Grout Date:	11/29/05
Well Installation Date:	11/29/05

Gauge Date:	12-1-05
Sounding Method:	Water Tap
Stick up/down (ft):	510.54
Static Water Level:	9.62
Development Date:	12/1/05
Surge Device:	Surge
Weather:	410 F

Gauge Time:	900
Measurement Reference:	PVC
Well Diameter (in):	4.25
Screen Length (ft):	10.5
Development Time:	38 min

Well Volume Determination

A Well Depth:	17.20
B Depth to Water:	9.62
C Liquid Depth (A-B):	7.58
D Well Volume/ft:	0.653
E Well Volume (Cx D) gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (Cx G) gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix 0.3) gal:	
K One Well Volume (E+J) gal:	

	Beginning	1	2	3	4	5
Time (min)	915	932	934	939	953	
Pump Rate (gpm)						
Volume purged		20	22	27	50	
pH						
Temperature (C)						
Conductivity (umhos/cm)						
Turbidity (NTU) FAU		45	9	5	7	
Dissolved Oxygen (mg/L)						
Eh (mV)						

Total volume of water removed 50 gal
Estimated Recharge Rate 1.56 gpm

Depth to sediment before development: 17.20 ft bgs

Depth to sediment after development: 17.24 ft bgs

Development Description:

* Pumped water 50 gal to get photo



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: _____

Project Location: _____

Site Name: _____

Well Designation:	60MWO3
Condition:	Good
Well Grout Date:	11/30/05
Well Installation Date:	11/30/05

Gauge Date:	12/1/05
Sounding Method:	Water + Air
Stick up/down (ft):	510.5
Static Water Level:	10.33
Development Date:	12-1-05
Surge Device:	Surge Block
Weather:	

Gauge Time:	9:45
Measurement Reference:	PUC
Well Diameter (in):	4-inch
Screen Length (ft):	10-Ft
Development Time:	

Well Volume Determination

A Well Depth:	17.21
B Depth to Water:	10.33
C Liquid Depth (A-B):	6.88
D Well Volume/ft:	0.1053
E Well Volume (Cx D) gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG) gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J) gal:	

	Beginning	1	2	3	4	5
Time (min)	1:00	1:24	1:48	2:10	2:33	2:57
Pump Rate (gpm)						
Volume purged		40	50	160	105	150
pH						
Temperature (C)						
Conductivity (umhos/cm)				168		
Turbidity (NTU)	LAU	65	61	95	106	85
Dissolved Oxygen (mg/L)						
Eh (mV)						

* Started p. 3:50 1412
Total volume of water removed 220 gal
Estimated Recharge Rate 2 GPM

Depth to sediment before development: 17.21 ft bgs

Depth to sediment after development: 17.36 ft bgs

Development Description: _____

1429 1431 1432
180 185 190
62 12 3

17.75 865



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: DUPONT SI
Project Location: EAST RD - 023 - ACC 6
Site Name: 6-MW-04

Well Designation:	<u>6-MW-04</u>
Condition:	<u>2</u>
Well Grout Date:	
Well Installation Date:	

Gauge Date:	
Sounding Method:	
Stick up (down) (ft):	<u>5 FT</u>
Static Water Level:	<u>9.85 FT</u>
Development Date:	<u>10-8-06</u>
Surge Device:	<u>Block</u>
Weather:	<u>FOGGY - 70'S</u> <u>CLOUDY</u>

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	
Screen Length (ft):	
Development Time:	

Well Volume Determination

A Well Depth:	
B Depth to Water:	<u>9.85 FT</u>
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (Cx D) gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (Cx G) gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix 0.3) gal:	
K One Well Volume (E+J) gal:	

	Beginning	1	2	3	4	5	6	7	8	9	10
Time (min)	<u>1055</u>	<u>1110</u>	<u>1125</u>	<u>1135</u>	<u>1145</u>	<u>1240</u>	<u>1250</u>	<u>1300</u>			
Pump Rate (gpm)	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>			
Volume purged	<u>0</u>	<u>15</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>55</u>	<u>65</u>	<u>75</u>			
pH	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
Temperature (C)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
Conductivity (umhos/cm)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
Turbidity (NTU)	<u>-</u>	<u>253</u>	<u>96</u>	<u>21</u>	<u>20</u>	<u>14</u>	<u>7</u>	<u>7</u>			
Dissolved Oxygen (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			
Eh (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>			

Total volume of water removed 75 gal
Estimated Recharge Rate 0.75 GPM

Depth to sediment before development: 19.30 ft bgs
Depth to sediment after development: 19.45 ft bgs
Development Description:

DARK GRAY SILTY WATER - SURGED 15 MIN.
DEPTH TO WATER AFTER DEVEL - IS 10 FT

1150 BRAKE FOR LUNCH, 1235 RESUME PURGE



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: DUPONT SITE
Project Location: EAST ROAD, COB. ACC-6
Site Name: 6-MW-05

Well Designation:	6-MW-05
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:	
Sounding Method:	
Stick up/down (ft):	15 FT
Static Water Level:	10.57 FT
Development Date:	6-8-06
Surge Device:	Block

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	4"
Screen Length (ft):	10'
Development Time:	

Weather: SUNNY - 70'S

Well Volume Determination

A Well Depth:	
B Depth to Water:	10.57 FT
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (Cx D) gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (Cx G) gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix 0.3) gal:	
K One Well Volume (E+J) gal:	

	Beginning	1	2	3	4	5
Time (min)	0910	0920	0940	0945	0955	
Pump Rate (gpm)	1 GPM	1	1	1	1	
Volume purged GALS	0	10	20.30	35	45	
pH	—	—	—	—	—	
Temperature (C)	—	—	—	—	—	
Conductivity (umhos/cm)	—	—	—	—	—	
Turbidity (NTU)	—	95	24	4	3	
Dissolved Oxygen (mg/L)	—	—	—	—	—	
Eh (mV)	—	—	—	—	—	

Total volume of water removed 45 gal
Estimated Recharge Rate 1.2 GPM

Depth to sediment before development: 18.65 ft bgs
Depth to sediment after development: 18.74 ft bgs
Development Description:

BLACK SILTY WATER FIRST 10 TO 15 GALS. THEN
CLEARING. SURGED FOR 15 MIN.
DEPTH TO WATER AFTER DEVEL. - 11.00 FT



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: Dupont SI
Project Location: East Road, 243, AOC6
Site Name: 6-MW-06

Well Designation:	<u>6-MW-06</u>
Condition:	
Well Grout Date:	
Well Installation Date:	

PAGE 1

Gauge Date:	
Sounding Method:	
Stick up/down (ft):	<u>1.5 ft</u>
Static Water Level:	<u>109"</u>
Development Date:	<u>6-7-06</u>
Surge Device:	<u>Surge Block</u>
Weather:	<u>Overcast, light rain</u>

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	<u>4"</u>
Screen Length (ft):	<u>10'</u>
Development Time:	<u>1</u>

Well Volume Determination

A Well Depth:	
B Depth to Water:	
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (CxD)gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5
Time (min)	<u>1500</u>	<u>1515</u>	<u>1520</u>			
Pump Rate (gpm)	<u>1 gpm</u>	<u>1</u>	<u>1</u>			
Volume purged	<u>0</u>	<u>15</u>	<u>20</u>			
pH	<u>—</u>	<u>—</u>	<u>—</u>			
Temperature (C)	<u>—</u>	<u>—</u>	<u>—</u>			
Conductivity (umhos/cm)	<u>—</u>	<u>—</u>	<u>—</u>			
Turbidity (NTU) <u>FAU</u>	<u>—</u>	<u>197</u>	<u>142</u>			
Dissolved Oxygen (mg/L)	<u>—</u>	<u>—</u>	<u>—</u>			
Eh (mV)	<u>—</u>	<u>—</u>	<u>—</u>			

Total volume of water removed 20 gal
Estimated Recharge Rate slightly < 1 gpm

Depth to sediment before development: unknown ft bgs
Depth to sediment after development: unknown ft bgs

Development Description: Brown silty water
Used surge block for 15 minutes prior to purging
Depth to water after development on first day = 114.5 in.



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: DUPONT 5I
Project Location: EAST RD, 003, A006
Site Name: 6-MW-06

Well Designation:	<u>6-MW-06</u>
Condition:	
Well Grout Date:	
Well Installation Date:	

PAGE 2

Gauge Date:	
Sounding Method:	<u>5 FT</u>
Stick up/down (ft):	<u>5 FT</u>
Static Water Level:	<u>19.01</u>
Development Date:	<u>6-8-06</u>
Surge Device:	<u>Block</u>
Weather:	<u>Pt. Cloudy, 70's</u>

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	<u>4"</u>
Screen Length (ft):	<u>10'</u>
Development Time:	

Well Volume Determination

A Well Depth:	
B Depth to Water:	<u>9.11 FT</u>
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (CxD)gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5	6
Time (min)	<u>0720</u>	<u>0740</u>	<u>0750</u>	<u>0810</u>	<u>0815</u>	<u>0830</u>	<u>0835</u>
Pump Rate (gpm)	<u>1 GPM</u>	<u>1</u>		<u>1</u>	<u>1.5</u>	<u>1</u>	
Volume purged	<u>0</u>	<u>20 GALL</u>	<u>WELL</u>	<u>0</u>	<u>5</u>	<u>20</u>	<u>25</u>
pH	<u>—</u>		<u>DRY</u>	<u>—</u>	<u>—</u>		
Temperature (C)	<u>—</u>		<u>RECHARGE</u>	<u>—</u>	<u>—</u>		
Conductivity (umhos/cm)	<u>—</u>	<u>—</u>		<u>—</u>	<u>—</u>		
Turbidity (NTU)	<u>—</u>	<u>1100</u>		<u>—</u>	<u>39</u>	<u>28</u>	<u>25</u>
Dissolved Oxygen (mg/L)	<u>—</u>	<u>—</u>		<u>—</u>	<u>—</u>		
Eh (mV)	<u>—</u>	<u>—</u>		<u>—</u>	<u>—</u>		
			<u>↓</u>				

Total volume of water removed

45
50 gal

Estimated Recharge Rate

SLIGHTLY < 1 GPM

Depth to sediment before development:

1.5 ft bgs

Depth to sediment after development

1.5 ft bgs

Development Description:

DAY 2 @ 6-MW-06 - FINISH DEVELOPMENT

BROWN SILTY WATER FIRST 25 GAL PURGED.

SURGED FOR 10 MIN. PRIOR TO PURGE

0150 - WELL DRY - 0810 WELL RECHARGED.

DEPTH TO WATER AFTER DEV. IS 11.90 FT.



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: DuPont SI
Project Location: East Road, 043 AOC 6
Site Name: 6-MW-01

Well Designation:	6-MW-01
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:	
Sounding Method:	
Stick up/down (ft):	2.5
Static Water Level:	135.5"
Development Date:	6-7-06
Surge Device:	Surge Block

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	4"
Screen Length (ft):	10'
Development Time:	50 min

Weather: Overcast, light rain

Well Volume Determination

A Well Depth:	
B Depth to Water:	
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (CxD)gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5
Time (min)	1300	1340				
Pump Rate (gpm)	1	1				
Volume purged	0	40				
pH						
Temperature (C)						
Conductivity (umhos/cm)						
Turbidity (NTU) FAU		5				
Dissolved Oxygen (mg/L)						
Eh (mV)						

Total volume of water removed 40 gal
Estimated Recharge Rate ~1 gpm

Depth to sediment before development: unknown ft bgs
Depth to sediment after development: unknown ft bgs
Development Description: Brown silty water

Used surge block for 10 minutes prior to purging
Depth to water after development = 138.6 in

Well ID	Date	Time	Volume Removed (L)	pH	Cond. (ms/cm)	Temp. (C)	ORP (mV)	Turb (NTU)
MW-18	10/5/2004	1025	0	7.65	7.829	22.51	122.0	6.5
MW-18	10/5/2004	1030	2	7.67	7.860	22.48	119.0	7.0
MW-18	10/5/2004	1035	4	7.76	7.851	22.55	99.0	3.1
MW-18	10/5/2004	1040	6	7.75	7.861	22.50	98.0	3.9
MW-18	10/5/2004	1045	8	7.78	7.844	22.50	95.0	3.8
MW-18	10/5/2004	1050	10	7.78	7.878	22.52	95.0	3.6
MW-18	10/5/2004	1055	12	7.84	7.831	22.54	77.0	2.8
MW-18	10/5/2004	1100	14	7.85	7.890	22.56	20.0	1.4
MW-18	10/5/2004	1105	16	7.86	7.889	22.58	-1.0	1.7
MW-18	10/5/2004	1110	18	7.84	7.887	22.58	-18.0	1.5
MW-18	10/5/2004	1115	20	7.87	7.860	22.57	-22.0	1.7
MW-18	10/5/2004	1120	22	7.88	7.884	22.55	-21.0	1.4

* (H) = Hach turbidity meter readings

Note: Well depth and groundwater measurements from top of pvc prior to final completion of protective casing. PVC may be cut or extended upon final completion.

* Groundwater sample collected @ 1130 on 10/05/2004.

Well Development Record

Date	Time	Turbidity (NTU)
9/21/2004	1553	11
	1610	11
	1620	10

Constituent	mg/L
Ferrous FE:	0.10
Sulfide:	0.02
Nitrite:	0.035



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: _____

Project Location: _____

Site Name: 001 AOC2

Well Designation:	<u>Z. MW-19A</u>
Condition:	
Well Grout Date:	<u>8-23-05</u>
Well Installation Date:	<u>8-23-05</u>

Gauge Date:	<u>8 29</u>
Sounding Method:	
Stick up/down (ft):	
Static Water Level:	<u>6.185'</u> <i>TOC</i>
Development Date:	<u>8 29</u>
Surge Device:	<u>Block</u>
Weather:	

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	<u>2</u>
Screen Length (ft):	<u>2'</u>
Development Time:	

Well Volume Determination

A Well Depth:	<u>16.10' TOC</u>
B Depth to Water:	<u>6.185' TOC</u>
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (Cx D)gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5
Time (min)	<u>1320</u>	<u>1325</u>	<u>1330</u>	<u>1335</u>		
Pump Rate (gpm)						
Volume purged						
pH	<u>6.47</u>	<u>6.44</u>	<u>6.45</u>	<u>6.46</u>		
Temperature (C)	<u>29.04</u>	<u>28.47</u>	<u>28.06</u>	<u>27.92</u>		
Conductivity (umhos/cm)	<u>1.352</u>	<u>1.359</u>	<u>1.339</u>	<u>1.229</u>		
Turbidity (NTU)	<u>25.8</u>	<u>14.1</u>	<u>10.0</u>	<u>8.2</u>		
Dissolved Oxygen (mg/L)	<u>25.0</u>	<u>10.6</u>	<u>8.6</u>	<u>8.0</u>		
Eh (mV)						
<u>ORP</u>	<u>-41.9</u>	<u>-42.0</u>	<u>-41.2</u>	<u>-40.6</u>		

Total volume of water removed 10 gal

Estimated Recharge Rate _____

Depth to sediment before development: _____ ft bgs

Depth to sediment after development _____ ft bgs

Development Description: _____

DEPTH TO
PRODUCT
6.18'



**CABRERA
SERVICES**

WATERWORKS
PUMP AND PIPING
INSTALLATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name:

Project Location:

Site Name:

DUPONT

F-CORAL

Well Designation:	<u>MW-20 A</u>
Condition:	
Well Grout Date:	
Well Installation Date:	<u>7-18-05</u>

Gauge Date:	
Sounding Method:	
Stick up/down (ft):	<u>2'</u>
Static Water Level:	
Development Date:	<u>7/27/05</u>
Surge Device:	

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	<u>4"</u>
Screen Length (ft):	<u>2.5'</u>
Development Time:	

Weather: Hot! Hot! Hot!

Well Volume Determination

A Well Depth:	<u>9.74'</u>
B Depth to Water:	<u>4.52'</u>
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (Cx D) gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (Cx G) gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix 0.3) gal:	
K One Well Volume (E+J) gal:	

	Beginning	1	2	3	4	5
Time (min)	<u>0 820/15 0715/</u>					
Pump Rate (gpm)						
Volume purged						
pH						
Temperature (C)						
Conductivity (umhos/cm)						
Turbidity (NTU)	<u>21000</u>	<u>21000</u>	<u>21000</u>	<u>>1000</u>	<u>1000 ±</u>	<u>1100 ±</u>
Dissolved Oxygen (mg/L)						<u>1100 ±</u>
Eh (mV)						

Total volume of water removed _____ gal

Estimated Recharge Rate _____

Depth to sediment before development: _____ ft bgs

Depth to sediment after development _____ ft bgs

Development Description: _____

DEATH TO WAGE

DATE | TIME
START STOP

7/29 7:12 0710 1915?

7/30 9:41 0715

1ST

1100±

25

2ND	3RD	4TH	5TH	6	7	8	9	10	11	12	13	14
1000±	1000±	1000±	1100	1100	1100	1100	1100	1100	1100	1100	1100	1064



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name:

DuPont

Project Location:

Site Name:

F-Corral

Well Designation:	<u>MW-21</u>
Condition:	
Well Grout Date:	<u>7/15/05</u>
Well Installation Date:	<u>7/15/05</u>

Gauge Date:	<u>8/1/05</u>
Sounding Method:	<u>WL meter</u>
Stick up/down (ft):	<u>2.5 ft</u>
Static Water Level:	<u>5.20</u>
Development Date:	<u>8/1/05</u>
Surge Device:	<u>surge block</u>
Weather:	<u>80° overcast</u>

Gauge Time:	<u>0830</u>
Measurement Reference:	<u>TOL</u>
Well Diameter (in):	<u>4</u>
Screen Length (ft):	<u>2.5</u>
Development Time:	

Well Volume Determination

A Well Depth:	<u>TOL</u>	<u>11.86</u>
B Depth to Water:	<u>TOL</u>	<u>5.20</u>
C Liquid Depth (A-B):		
D Well Volume/ft:		
E Well Volume (Cx D) gal:		
F Liquid Screen Length (ft):		

G Borehole Vol/ft:	
H Borehole Vol (CxG) gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J) gal:	

	Beginning	1	2	3	4	5
Time (min)	<u>0845</u>	<u>1100</u>	<u>1235</u>	<u>1415</u>		
Pump Rate (gpm)	<u>2</u>	<u>2</u>	<u>200 mL</u>	<u>100</u>		
Volume purged	<u>0</u>	<u>20</u>	<u>20</u>	<u>22</u>		
pH	<u>-</u>	<u>-</u>	<u>-</u>			
Temperature (C)	<u>-</u>	<u>-</u>	<u>-</u>			
Conductivity (umhos/cm)	<u>-</u>	<u>-</u>	<u>-</u>			
Turbidity (NTU)	<u>>1000</u>	<u>>1000</u>	<u>-</u>	<u>7</u>		
Dissolved Oxygen (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>			
Eh (mV)	<u>-</u>	<u>-</u>	<u>-</u>			
DTW (ft TOL)	<u>5.20</u>	<u>dry</u>	<u>5.24</u>	<u>5.89</u>		

Total volume of water removed

24 gal

Estimated Recharge Rate

Depth to sediment before development:

11.86 ft bgs

Depth to sediment after development

11.87 ft bgs

Development Description:

alternate surging + pumping @ 2 gpm with
whole pump until turb decreases, slow flow rate and
collect WQ parameter readings

pg 2 of 2

[illegible]

NA

Page 2 of 2



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: _____

Project Location: _____

Site Name: _____

Well Designation:	<u>MW - 22</u>
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:	
Sounding Method:	
Stick up/down (ft):	<u>2.0'</u>
Static Water Level:	
Development Date:	<u>7/31/05</u>
Surge Device:	
Weather:	

Gauge Time:	
Measurement Reference:	
Well Diameter (in):	
Screen Length (ft):	
Development Time:	

Well Volume Determination

A Well Depth:	<u>8.65</u>	<u>100</u>	G Borehole Vol/ft:	
B Depth to Water:	<u>4.10</u>	<u>100</u>	H Borehole Vol (CxG)gal:	
C Liquid Depth (A-B):			I Sand Vol (H-E) gal:	
D Well Volume/ft:			J Liquid Vol in Sand (Ix0.3) gal:	
E Well Volume (CxG)gal:			K One Well Volume (E+J)gal:	
F Liquid Screen Length (ft):				

1.35' 100

	Beginning	1	2	3	4	5
Time (min)	<u>1038</u>		<u>0730</u>			
Pump Rate (gpm)			<u>8/105</u>			
Volume purged						
pH						
Temperature (C)						
Conductivity (umhos/cm)						
Turbidity (NTU)	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>
Dissolved Oxygen (mg/L)						
Eh (mV)						
	<u>1428</u>					

Total volume of water removed

40 gal

Estimated Recharge Rate

Depth to sediment before development:

ft bgs

Depth to sediment after development

ft bgs

Development Description:

DATE 8/1
 DEPTH TO WATER
 TIME START STOP
 SURGES 1 2 3 4 5 6 7 8
 1000 ± 1000 ± 6.48' 956.5

FIELD SAMPLE PARAMETERS

Date	Time	Volume Removed	pH	Cond.	Temp.	ORP	Turb	DO	Depth to Water from TOC	Pump Rate
Units										
8/1	1100		7.05	1.611	28.61	288.1	355.4	6.51	6.48'	80 ML/MIN
	1105		6.72	1.608	28.40	371.9	1088.2	6.52		
	1110		6.47	2.218	28.63	89.7	786.4	6.36	6.70'	
	1115		6.30	2.734	28.19	54.8	547.9	6.20	6.70'	
	1235		-	-	-	-	-	-	4.90	
	1240		5.91	4.020	35.38	18.0	95.6	4.60		80 ML/MIN
	1245		5.53	5.895	29.85	12.1	26.1	4.82		
	1250		5.41	6.049	29.61	19.6	19.4	4.66		
	1255		5.38	6.073	29.49	21.0	20.5	4.61		
	1300		5.38	6.081	29.91	18.5	22.5	4.54	5.99	
	1305		5.39	6.095	30.34	16.8	30.3	4.43		
	1310		5.41	6.096	30.65	12.4	31.0	4.34		
	1315		5.40	6.092	30.80	9.2	27.3	4.26		
	1320		5.41	6.105	30.80	1.9	29.4	4.22		

Sample ID: _____

Receiving Laboratory: _____

Sample Collection Time: _____

Sample Parameters: _____

Sample Collection Personnel: _____

FIELD SAMPLE PARAMETERS

Date	Time	Volume Removed	pH	Cond.	Temp.	ORP	Turb	DO	Depth to Water from TOC	Pump Rate
	Units									
8/1	1325		5.39	6.131	30.43	-2.8	30.8	4.21		80 80 mL/min =
	1330		5.39	6.168	30.26	-9.4	37.8	4.13	6.50	
	1335		5.41	6.198	30.38	-14.2	45.6	4.04		
	1340		5.45	6.208	30.80	-19.8	61.1	3.90		
	1345		5.50	6.281	31.16	-26.5	66.1	3.76		
	1350		5.47	6.360	30.50	-29.5	69.7	3.71		
	1355		5.47	6.435	30.46	-32.8	80.2	3.56		
	1400		5.58	6.423	32.49	-36.1	86.2	3.27		
	1405		5.58	6.860	31.86	-51.5	82.3	2.94		
	1410		5.56	6.922	31.67	-51.3	80.6	2.89		
	1415		5.55	7.083	31.58	-53.5	77.2	2.71		
	1445		5.49	7.462	31.14	-61.3	6.0	2.77		
	1450		5.62	7.752	31.98	-66.7	6.4	2.14		
	1455		5.60	7.948	31.49	-66.3	4.9	2.00		

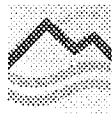
Sample ID: _____

Receiving Laboratory: _____

Sample Collection Time: _____

Sample Parameters: _____

Sample Collection Personnel: _____



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name:

DuPont

Project Location:

Site Name:

F-Conal

Well Designation:	<u>MW-23</u>
Condition:	
Well Grout Date:	<u>7/18/05</u>
Well Installation Date:	<u>7/18/05</u>

Gauge Date:	<u>7/27/05</u>
Sounding Method:	<u>WL meter</u>
Stick up/down (ft):	<u>~2.5</u>
Static Water Level:	<u>4.58</u>
Development Date:	<u>7/27/05</u>
Surge Device:	<u>block</u>

Gauge Time:	<u>0830</u>
Measurement Reference:	<u>TOL</u>
Well Diameter (in):	<u>4"</u>
Screen Length (ft):	<u>10'</u>
Development Time:	

Weather: 100° sunny, humid

Well Volume Determination

A Well Depth:	<u>TOL</u>	<u>20.38</u>
B Depth to Water:	<u>TOL</u>	<u>4.58</u>
C Liquid Depth (A-B):		<u>15.80</u>
D Well Volume/ft:		
E Well Volume (CxD)gal:		
F Liquid Screen Length (ft):		

G Borehole Vol/ft:	
H Borehole Vol (CxD)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5
Time (min)	<u>0830</u>	<u>1100</u>	<u>0710</u>	<u>1100</u>	<u>0715</u>	<u>0930</u>
Pump Rate (gpm)	<u>~0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	<u>2</u>
Volume purged gal	<u>0</u>	<u>30</u>	<u>30</u>	<u>55</u>	<u>55</u>	<u>65</u>
pH	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Temperature (C)	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Conductivity (umhos/cm)	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Turbidity (NTU)	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>
Dissolved Oxygen (mg/L)	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Eh (mV)	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
STW	<u>4.58</u>	<u>4.71</u>	<u>4.61</u>	<u>4.74</u>	<u>4.67</u>	<u>4.81</u>

continued on back →

Total volume of water removed

160 gal

Estimated Recharge Rate

Depth to sediment before development:

20.38 ft bgs

Depth to sediment after development

 ft bgs

Development Description:

Surge screen at 2' intervals pumping between
each interval; 7/28 0930 begin purging with whale pump @ 2 gpm

	7/29		7/30	→ 0820 begin YSI rdgs		
time	1000	1120	1315	1420	0700	0800
pump rate (gpm)	2	0.5 L/min	0.2 L/min	0.3 L/min	0.2 L/min	0.2 L/min
volume (gal)	115	125	130	145	145	150
turb	1100 (Hach)	>1000	336 (Hach)	198 (Hach)	430 (Hach)	29 (Hach) 27.0 (YSI)
DTW	4.90	4.75	4.76	4.80	4.75	4.79

time	temp	ms/cm ² cond	mg/L DO	pH	ORP	turb
0820	19.60	1.064	0.52	6.71	-111.8	23.2
0830	19.87	1.051	0.48	6.73	-114.0	21.6
0842	19.81	1.038	0.43	6.71	-115.2	21.1
0852	19.79	1.035	0.40	6.69	-115.5	20.2
0900	19.84	1.024	0.38	6.68	-115.2	19.2
0910	19.96	1.015	0.36	6.67	-115.5	14.9 (Hach - 16 NTU)
0916	19.96	1.013	0.35	6.66	-115.3	4.0

end development 0920 total purged 160 gal



FIELD RECORD OF WELL DEVELOPMENT

Project Name: DuPont
 Project Location: _____
 Site Name: E-Corral

Well Designation:	<u>MW-24</u>
Condition:	
Well Grout Date:	<u>7/17/05</u>
Well Installation Date:	<u>7/17/05</u>

Gauge Date:	<u>7/30/05</u>
Sounding Method:	<u>WL meter</u>
Stick up/down (ft):	<u>~2.5'</u>
Static Water Level:	<u>3.98</u>
Development Date:	<u>7/30/05</u>
Surge Device:	<u>block</u>
Weather:	<u>80° clear</u>

Gauge Time:	<u>1015</u>
Measurement Reference:	<u>TOL</u>
Well Diameter (in):	<u>4"</u>
Screen Length (ft):	<u>2.5'</u>
Development Time:	

Well Volume Determination

A Well Depth: <u>TOL</u>	<u>10.59</u>
B Depth to Water: <u>TOL</u>	<u>3.98</u>
C Liquid Depth (A-B):	
D Well Volume/ft:	
E Well Volume (CxD)gal:	
F Liquid Screen Length (ft):	

G Borehole Vol/ft:	
H Borehole Vol (CxG)gal:	
I Sand Vol (H-E) gal:	
J Liquid Vol in Sand (Ix0.3) gal:	
K One Well Volume (E+J)gal:	

	Beginning	1	2	3	4	5
Time (min)	<u>1020</u>	<u>1250</u>	<u>1415</u>	<u>0710</u>	<u>0940</u>	
Pump Rate (gpm)	<u>2</u>	<u>2</u>	<u>2</u>	<u>0.5</u>	<u>100mL</u>	
Volume purged gal	<u>0</u>	<u>10</u>	<u>20</u>	<u>20</u>	<u>25</u>	
pH	-	-	-	-	-	
Temperature (C)	-	-	-	-	-	
Conductivity (umhos/cm)	-	-	-	-	-	
Turbidity (NTU)	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>654 (HCL)</u>	
Dissolved Oxygen (mg/L)	-	-	-	-	-	
Eh (mV)	-	-	-	-	-	
DTW ft TOL	<u>3.98</u>	<u>7.78</u>	<u>9.97</u>	<u>4.59</u>	<u>9.22</u>	

continued on pg 2

Total volume of water removed 38 gal
 Estimated Recharge Rate _____

Depth to sediment before development: 10.59 ft bgs
 Depth to sediment after development _____ ft bgs
 Development Description: alternate surging + pumping at ~2 gpm until turbidity drops, continue at low flow rate

MW-24

Development

7/31/05

page 2 of 2

FIELD SAMPLE PARAMETERS

Date	Time	Volume Removed	pH	Cond.	Temp.	ORP	Turb	DO	Depth to Water from TOC	Pump Rate
		Units gal		ms/cm ²	°C	mV	NTU	mg/L	ft TOC	mL/min
7/31	1025	25	10.40	0.652	27.13	257.2	285.6	6.23	8.25	100
	1037		10.35	0.666	26.66	249.3	78.7	6.06	—	60
	1051		10.27	0.670	26.44	271.0	41.2	5.20	—	60
	1315		10.12	0.765	29.75	217.1	650.3	2.64	7.32	60
	1327		10.34	0.796	28.57	261.2	110.8	4.39	—	↓
	1441		10.52	0.839	27.74	287.1	113.7	5.44	—	↓
	1450		10.49	0.837	27.17	320.5	116.8	4.63	8.41	↓
✓	1405		10.41	0.811	28.10	310.3	86.1	4.39	—	↓
	1417	35	10.43	0.809	29.71	312.2	108.1	4.06	—	↓
8/1	0715	35	10.52	0.898	23.76	99.0	372.2	4.78	4.88	50
	0727		10.84	0.939	23.86	99.1	166.2	4.97	—	↓
	0737		11.20	1.038	24.68	106.0	20.4	6.07	5.12	↓
	0746		11.25	1.025	25.00	117.7	31.5	5.98	—	↓
	0755	38	11.22	0.981	25.33	112.4	12.1	5.95	5.19	↓
development complete										

Sample ID:

NA

Receiving Laboratory:

Sample Collection Time:

—

Sample Parameters:

—

Sample Collection Personnel:

Page 2 of 2



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: DUPONT GW PHASE 2
Project Location: _____
Site Name: _____

Well Designation:	<u>MW 25C</u>
Condition:	<u>NEW</u>
Well Grout Date:	<u>11-13-05</u>
Well Installation Date:	<u>11-12-05</u>

Gauge Date:		Gauge Time:	
Sounding Method:	<u>ELEC. TAP</u>	Measurement Reference:	
Stick up/down (ft):		Well Diameter (in):	
Static Water Level:		Screen Length (ft):	<u>5'</u>
Development Date:	<u>11/16/05</u>	Development Time:	
Surge Device:	<u>Surge Block</u>		
Weather:			

Well Volume Determination

A Well Depth:	<u>36.55'</u>	G Borehole Vol/ft:	
B Depth to Water:	<u>12.08'</u>	H Borehole Vol (CxG)gal:	
C Liquid Depth (A-B):		I Sand Vol (H-E) gal:	
D Well Volume/ft:		J Liquid Vol in Sand (Ix0.3) gal:	
E Well Volume (Cx D)gal:		K One Well Volume (E+J)gal:	
F Liquid Screen Length (ft):			

	Beginning	1	2	3	4	5
Time (min)		<u>1300</u>	<u>1330</u>	<u>1450</u>		
Pump Rate (gpm)						
Volume purged						
pH						
Temperature (C)						
Conductivity (umhos/cm)						
Turbidity (NTU)		<u>72</u>	<u>53</u>	<u>0</u>		
Dissolved Oxygen (mg/L)						
Eh (mV)						

Total volume of water removed _____ gal
Estimated Recharge Rate _____

Depth to sediment before development: _____ ft bgs
Depth to sediment after development: _____ ft bgs
Development Description: _____



**CABRERA
SERVICES**

RADIOLOGICAL
ENVIRONMENTAL
REMEDIATION

FIELD RECORD OF WELL DEVELOPMENT

Project Name: _____

Project Location: _____

Site Name: _____

Well Designation:	<u>MW-26</u>
Condition:	
Well Grout Date:	
Well Installation Date:	

Gauge Date:	<u>7/30/05</u>	Gauge Time:	
Sounding Method:		Measurement Reference:	
Stick up/down (ft):	<u>2.5</u>	Well Diameter (in):	
Static Water Level:		Screen Length (ft):	
Development Date:	<u>7/30/05</u>	Development Time:	
Surge Device:			
Weather:			

Well Volume Determination

A Well Depth:	<u>10.0</u>	G Borehole Vol/ft:	
B Depth to Water:	<u>6.17</u>	H Borehole Vol (CxG)gal:	
C Liquid Depth (A-B):		I Sand Vol (H-E) gal:	
D Well Volume/ft:		J Liquid Vol in Sand (Ix0.3) gal:	
E Well Volume (Cx D)gal:		K One Well Volume (E+J)gal:	
F Liquid Screen Length (ft):			

	Beginning	1	2	3	4	5
Time (min)	<u>0855</u>					
Pump Rate (gpm)						
Volume purged						
pH						
Temperature (C)						
Conductivity (umhos/cm)						
Turbidity (NTU)	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>	<u>>1000</u>
Dissolved Oxygen (mg/L)						
Eh (mV)						

Total volume of water removed 30 gal ±
Estimated Recharge Rate _____

Depth to sediment before development: _____ ft bgs

Depth to sediment after development: _____ ft bgs

Development Description: _____

[illegible]

FIELD SAMPLE PARAMETERS

Date	Time	Volume Removed	pH	Cond.	Temp.	ORP	Turb	DO	Depth to Water from TOC	Pump Rate
Units										
7/31/05	0825		11.77	2.670	26.42	28.5	8.2	0.62	8.89	
	0830		11.79	2.755	26.44	26.9	5.3	0.58		
	0835		11.67	2.593	26.80	38.0	2.2	0.69		
	0840		11.45	1.734	27.09	74.8	10.6	1.72		
	0845		11.42	1.591	26.89	86.4	26.4	1.85		
	0850		11.39	1.573	26.74	102.7	12.9	1.86		
	0855		11.40	1.660	26.48	112.4	33.9	1.73		
	0900		11.42	1.709	26.27	114.1	38.3	1.66	9.35	
	0905		11.46	1.785	26.09	123.0	37.6	1.51		
	0910		11.48	1.854	26.05	124.8	35.7	1.38		
	0915		11.51	1.895	26.02	125.7	36.4	1.30		
	0920		11.57	1.971	25.77	126.4	56.1	1.19		
	0925		11.60	2.107	25.66	125.9	42.2	1.02		
	0930		11.62	2.153	25.60	125.2	37.2	0.96		
	0935		11.64	2.197	25.63	123.5	18.0	0.82		

Sample ID: _____

Receiving Laboratory: _____

Sample Collection Time: _____

Sample Parameters: _____

Sample Collection Personnel: _____

FIELD SAMPLE PARAMETERS

[illegible]

Sample ID: _____

Receiving Laboratory: _____

Sample Collection Time: _____

Sample Parameters:

Sample Collection Personnel: