

APPENDIX A

GROUNDWATER FIELD SAMPLING DATA SHEETS

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ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-07	Site: SSFL Area IV
Sampler(s): TSW	Project No.: EP9038, 01.44.02
Well Depth: FLUTE	Date: 09/01/10 Time: 0750
DTW (ft):	DTP (ft):
MP Ht. Above/Below Ground Surface:	Courier: UPS Hand Other
Condition of Bottom of Well:	Sampling Method (G=grab, B=bailer, SP=submersible pump) FLUTE
Screen Interval (ft):	Type of Pump: FLUTE
Well Diameter (in):	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Placement of Pump (ft): FLUTE Port #3	Sunny, Clear, No Breeze, ~ 80°F Breeze from NE

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0750	*2		2 1/8	-	-	-	-	-	-	No water @ #1
0821	↓		2	-	-	-	-	-	-	↓
0852			2	-	-	-	-	-	-	
0915	- Sampled SMRD-07-GW090110 Port #3									
W. J. ... 09/01/10										

OBSERVATIONS

Color: <u>Clear</u> Other (describe): NO Odor No turb
Odor: None Low Medium High Very strong H2S Fuel-like NO Odor
Notes: Took 2 cycles to fill up the whole suite of bottles Sample collected from Port #3
*1 Boring (MWH Haily and Aldrich) do not collect wq during purging of the FLUTEs
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <i>[Signature]</i>

*2 Water level will be downloaded by MWH tomorrow
* Total Volume purged = 6 1/8 gallons

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-14</u>	Site: <u>SSFL Radiological Survey Area IV</u>
Sampler(s): <u>Stephanie Lepore/Monahan (HGL) / Andy Wolff (Blain Tech)</u>	Project No.:
Well Depth: <u>125</u>	Date: <u>8/18/10</u> Time: <u>1350</u>
DTW (ft): <u>82.34</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>dedicated pump (230 volt, 1/3 horse power)</u>
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>Sunny, clear, ~98° F</u>
Placement of Pump (ft): <u>117</u>	

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (N.T.U.)	COMMENTS
8/18/10	1400	82.34	4.25	4.25	—	—	—	—	—	—	Started purge
8/18/10	1417	—	4.25	85	7.06	20.79	833	-1	0.62	48.1	
8/18/10	1425	103	3	110	7.04	21.42	870	-53	0.30	34.0	
8/18/10	1432	—	1	118	7.02	21.99	891	-53	0.42	19.2	
8/18/10	1440	—	1	126	7.01	22.24	905	-47	0.47	19.0	
8/18/10	1444	Dry	1	130	—	—	—	—	—	—	well dry
8/19/10	1145	82.91	—	—	7.00	25.34	922	73	1.66	132	during sampling

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>PID 0.0 ppm</u>
<u>Sample ID: SMAD-014-GW 081910 / DUP: FD: SMDUP-01-GW081910</u>
<u>DTW = 82.91 Time = 1205 date: 8/19/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-15</u>	Site: <u>S.S.F.L. Area IV</u>
Sampler(s): <u>JASON McDaniel (H4) Edwards (Blaine)</u>	Project No.:
Well Depth: <u>152.0</u>	Date: <u>8-26-10</u> Time: <u>11:25</u>
DTW (ft): <u>54.82</u> DTP (ft): <u> </u>	Courier: <u>UPS</u> Hand Other
MP Ht. Above/Below Ground Surface: <u> </u>	Sampling Method (G=grab, B=bailer, <u>SP=submersible pump</u>)
Condition of Bottom of Well: <u> </u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>Sunny, clear ~100°F</u>
Placement of Pump (ft): <u> </u>	

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (DMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
11:30	54.82									<u>Open</u>
11:42	64.40	4 gpm	4	7.74	22.58	785	-131	2.76	11.5	
11:47	69.77	"	24	7.24	20.43	850	-134	0.65	59.1	
11:52	81.46	"	44	7.20	20.58	846	-137	0.42	31.0	
11:57	89.83	"	64	7.19	20.68	846	-137	0.33	25.5	
12:02	98.99	"	84	7.18	20.80	848	-136	0.25	30.6	
12:07	107.12	"	104	7.18	20.94	849	-134	0.23	35.9	
12:12	111.73	"	124	7.17	20.99	848	-132	0.21	25.0	
12:17	117.25	"	144	7.17	21.13	845	-128	0.18	11.7	
12:22	122.52	"	164	7.17	21.12	842	-122	0.18	20.3	
12:27	126.18	"	184	7.17	21.16	844	-116	0.17	26.4	
12:32	130.86	"	204	7.17	21.22	843	-111	0.22	30.9	
12:37	135.28	"	224	7.18	21.28	837	-106	0.42	32.9	
12:42	138.10	"	244	7.20	21.37	837	-101	0.31	29.4	
12:47	139.41	"	264	7.22	21.36	840	-94	1.24	61.5	
12:52	140.44	"	284	7.24	21.52	836	-91	1.50	75.8	
12:57	141.34	"	304	7.26	21.48	837	-82	1.90	106	

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Sampled well @ 150 ft Total purge volume = 629 gallons</u>
<u>1 Well Volume = 176 gal. 3 Well Volumes = 530 gal.</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>JPM</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: RD-15	Site: SSFL Area IV	
Sampler(s): Jason M. Daniel (MGR) Eduardo (MGR)	Project No.:	
Well Depth: 152.0	Date: 8-26-10	Time: 11:25
DTW (ft): 59.82	DTP (ft): -	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: -	Sampling Method (G=grab, B=bailer, SP=submersible pump)	
Condition of Bottom of Well: -	Type of Pump: dedicated submersible	
Screen Interval (ft): Open Hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): 8.25	Sunny clear ~ 100F	
Placement of Pump (ft): -		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
13:02	NA*	4 gpm	324	7.28	21.55	836	-72	2.78	96.9	
13:07	NA*	"	344	7.29	21.54	844	-66	2.74	86.2	
13:12	NA*	"	364	7.32	21.46	846	-52	3.37	93.2	
13:17	NA*	"	384	7.35	21.25	841	-41	4.05	30.6	
13:22	NA*	"	404	7.35	21.39	844	-35	4.25	24.8	
13:27	NA*	3 gpm	419	7.35	21.58	844	-30	4.30	11.7	
13:32	NA*	"	434	7.35	21.51	845	-28	4.55	10.6	
13:37	NA*	"	449	7.35	21.51	843	-27	4.59	9.3	
13:42	NA*	"	464	7.34	21.52	845	-27	4.55	9.9	
14:21	NA*	3 gpm	464	7.47	21.57	843	17	5.12	113	
14:26	NA*	"	479	7.29	20.45	845	-46	2.16	10.6	
14:31	NA*	"	494	7.27	20.53	841	-47	1.77	6.2	
14:36	NA*	"	509	7.27	20.65	850	-26	1.74	6.1	
14:41	NA*	"	524	7.29	20.75	850	-14	2.22	8.5	
14:44	NA*	"	539	7.29	20.76	847	-13	2.31	8.9	
14:47	NA*	"	554	7.30	20.81	854	-25	2.40	9.5	
14:50	NA*	"	569	7.30	20.84	850	-34	2.53	10.0	

OBSERVATIONS

Color: Clear Other (describe):
Odor: None Low Medium High Very strong H2S Fuel-like
Notes: Unable to get DTW past 142 - Probe will not go down any further Recalculated flow rate @ 13:27 @ 3 gpm 13:43 - Eduardo leaves to empty water / Back on site @ 14:20 / 14:22 began purge again Reached 3 well volumes @ 14:43 @ 3 gpm
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): JMD

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-15</u>	Site: <u>SSFL Area IV</u>
Sampler(s): <u>Jay M. Dawid (HGL) Eduardo (Blanco)</u>	Project No.:
Well Depth: <u>152.0</u>	Date: <u>8-26-10</u> Time: <u>11:25</u>
DTW (ft): <u>54.82</u> DTP (ft): <u>—</u>	Courier: <u>UPS</u> Hand <u>Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP= <u>submersible pump</u>)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>Sunny, clear 100°F</u>
Placement of Pump (ft): <u>—</u>	

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
14:53	NA*	3 gpm	586	7.30	20.88	857	-31	2.60	14.7	
14:56	NA*	"	599	7.30	20.90	850	-24	2.75	13.8	
14:59	NA*	"	614	7.30	20.89	852	-19	2.79	14.0	
15:02	NA*	"	629	7.30	20.93	854	-14	2.81	14.5	
15:03	Well stabilized									

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Total purge volume = 629 gallons</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-16	Site: SSFI / EPA REGION 9
Sampler(s): JONATHAN VAIDETZ	Project No.: EP30 ²⁰ EP9038.01.22.04.02
Well Depth: 220	Date: 9/1/10 Time: 0725
DTW (ft): 48.12 DTP (ft):	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well:	Type of Pump: SUBMERSIBLE PUMP
Screen Interval (ft): OPEN HO/E	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 6-1/2 IN	SUNNY CLEAR
Placement of Pump (ft):	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0745	107.50	5.0	115	7.03	19.96	765	103	0.84	1	
0800	133.41	3.75	173	7.04	20.28	784	42	0.38	0	
0815	152.79	3.5	220	7.08	20.47	795	-6	0.29	0	
0830	165.34	3.25	283	7.10	20.66	810	-24	0.30	0	
0845	177.98	3.0	327	7.11	20.79	810	-30	0.27	0	
0900		2.75	373	7.11	21.05	820	-39	0.26	0	
0915		2.5	416	7.09	21.30	826	-45	0.26	0	
0930		2.5	459	7.13	21.50	826	-50	0.24	0	
0946		2.5	503	7.16	21.81	832	-53	0.22	0	
1000		2.5	543	7.13	22.05	826 824	-55	0.20	0	
1015		2.0	589	7.15	22.21	836	-60	0.19	0	
1031		2	626	7.12	22.23	835	-61	0.17	0	
1045		2	663	7.13	21.07	838	-63	0.18	0	
1059		2	698	7.15	21.10	837	-64	0.18	0	
1115		2	743	7.16	21.21	837	-66	0.18	0	
1131		2	775	7.13	21.22	837	-66	0.18	0	
1145		2	812	7.11	21.28	836	-68	0.17	0	

OBSERVATIONS

Color: Clear Other (describe):
Odor: None Low Medium High Very strong H2S Fuel-like
Notes: FLOWMETER 101757 START. TOTAL PURGE VOLUME 893.63 GAL. WATER TABLE TOO LOW TO COLLECT DTW AFTER 0845 READING.
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-17	Site: 5JFL	
Sampler(s): Jason McDaniel (H&H) (H&H)	Project No.:	
Well Depth: 125	Date: 8-24-10	Time: 1303
DTW (ft): 29.52	DTP (ft): —	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)	
Condition of Bottom of Well: —	Type of Pump: dedicated submersible	
Screen Interval (ft): Open Hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): 8.25	Sunny, clear midday	
Placement of Pump (ft): N/A		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
13:42	29.52	6gpm	18.0	7.17	20.77	883	217	0.67	57.0	
13:45	43.59	6gpm	36.0	7.15	20.88	872	216	0.37	21.8	
13:46	51.75	6gpm	52.0	7.15	20.95	858	213	0.29	15.9	
13:49	58.14	6gpm	70.0	7.15	21.02	848	210	0.24	14.4	
13:52	62.88	6gpm	88.0	7.16	21.07	817	207	0.39	14.2	
13:55	67.58	6gpm	106	7.16	21.09	815	203	0.19	12.8	
13:58	72.52	6gpm	124	7.18	21.13	838	201	0.18	13.9	
14:01	76.90	6gpm	142	7.19	21.15	816	197	0.25	13.5	
14:04	81.11	6gpm	160	7.24	21.15	777	195	0.73	11.2	
14:07	85.71	6gpm	180	7.28	21.17	748	191	1.10	11.0	
14:10	88.91	6gpm	198	7.28	21.16	751	190	1.16	11.9	
14:13	92.71	6gpm	216	7.26	21.19	749	192	1.17	13.9	
14:16	95.70	6gpm	234	7.25	21.22	751	193	1.15	14.6	
14:19	98.99	6gpm	252	7.24	21.23	772	193	1.37	14.8	
14:22	101.53	6gpm	270	7.25	21.24	787	194	1.89	19.89	
14:25	103.92	6gpm	288	7.24	21.25	799	194	2.22	15.5	
14:28	105.10	6gpm	306	7.24	21.25	803	195	2.33	14.5	

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like
Notes: <u>Well ran dry @ 1440 (Total purged = 378 gallons)</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>J.M.D.</u>

ATTACHMENT 1

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-18</u>	Site: <u>SSFL Radiological Survey Area IV</u>
Sampler(s): <u>Stephanie Lopez Portman (HGL)</u> <u>Andy Wolfe (Blaine Tech)</u>	Project No.:
Well Depth: <u>240</u>	Date: <u>8/18/10</u> Time: <u>1200</u>
DTW (ft): <u>91.17</u> DTP (ft): <u>NA</u>	Courier: <u>UPS</u> <input type="checkbox"/> Hand <input type="checkbox"/> Other <input type="checkbox"/>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>4" Grundfos (230 watt, 1/3 horsepower) dedicated pump</u>
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>sunny, clear, ~98° F</u>
Placement of Pump (ft): <u>231</u>	

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/18/10	1211	91.17	5	5	—	—	—	—	—	—	Began Purge
8/18/10	1231	—	5	100	7.37	19.25	553	11	1.54	9.5	
8/18/10	1241	179.00	5	150	—	—	—	—	—	—	took DTW
8/18/10	1251	—	5	200	7.39	19.62	547	10	1.64	9.6	
8/18/10	1311	221	1	250	7.40	20.12	553	10	1.45	10.2	
8/18/10	1317	Dry	—	—	—	—	—	—	—	—	well dry
8/19/10	1100	202.51	—	—	7.29	23.50	568	52	1.70	9.4	during sampling

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>none</u>
Notes: <u>P10 0.0 ppm</u>
Sample ID: <u>SMRD-018-GW 081910</u>
sample date: <u>8/19/10</u> DTW = <u>202.51</u> Time: <u>1100</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

ATTACHMENT 1

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: AD-19	Site: SSFL Radiological Survey Area IV
Sampler(s): Stephanie Lepyn Kortum (HGL) / Andy Wolff (Blair Tech)	Project No.:
Well Depth: 135	Date: 8/18/10
DTW (ft): 76.64	DTP (ft): NA
MP Ht. Above/Below Ground Surface: —	Courier: UPS Hand Other
Condition of Bottom of Well: —	Sampling Method (G=grab, B=bailer, SP=submersible pump) SP
Screen Interval (ft): open hole	Type of Pump: 230 volts, 1/2 horsepower dedicated pump
Well Diameter (in): 8.25	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, clear, ~98° F
Placement of Pump (ft): 127	

DATE	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/18/10	76.64	4.5	4.5	—	—	—	—	—	—	Started purging
8/18/10	—	4.5	54	7.19	20.12	1.57	59	0.26	5	
8/18/10	dry	4.5	108	7.13	20.39	0.43	40	0.43	8	well dry after reading
8/19/10	80.14	—	—	6.52	22.78	1,600 ^{us/cm}	71	1.57	33	during sampling

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like None

Notes: PID 0.0 ppm

Sample: SMAD-019-GW081910 (priority 122)

DTW: 80.14 Time: 1330 date: 8/19/10

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): *[Signature]*

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>BD-20</u>	Site: <u>S.S.F.L Area J</u>
Sampler(s): <u>Jason McDavid (HGL) Edwards</u>	Project No.:
Well Depth: <u>127.00</u> (B=baile)	Date: <u>8-26-10</u> Time: <u>0806</u>
DTW (ft): <u>44.11</u> DTP (ft): <u> </u>	Courier: <u>UPS</u> <u>Hand</u> <u>Other</u>
MP Ht. Above/Below Ground Surface: <u> </u>	Sampling Method (G=grab, B=baile, SP=submersible pump)
Condition of Bottom of Well: <u> </u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>Sunny, clear, ~85°</u>
Placement of Pump (ft): <u> </u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O (MG/L)	TURB (NTU)	COMMENTS
0832	44.11									Jan
0834	45.93	7gpm	7	7.18	20.92	161	127	3.66	85.2	
0834	46.40	7gpm	14	7.20	21.12	158	67	1.71	10.7	
0838	46.40	"	49	7.20	21.17	157	64	1.18	11.0	
0843	50.10	"	84	7.21	21.22	152	68	0.88	12.9	
0848	46.53	"	119	7.21	21.30	154	62	0.62	18.4	
0853	46.40	"	154	7.22	21.30	153	63	0.56	10.9	
0858	46.70	"	189	7.23	21.29	151	62	0.52	12.9	
0903	46.91	"	224	7.24	21.30	151	57	0.58	11.0	
0908	48.50	"	259	7.24	21.30	1,500	51	0.36	11.3	
0916	48.70	"	259	7.31	21.62	1,492	40	2.25	65.2	
0951	48.65	"	294	7.27	21.24	1,458	-24	1.57	34.1	
0956	50.30	"	329	7.27	21.31	1,450	-17	0.56	31.3	
1001	50.29	"	364	7.27	21.33	1,427	-3	0.42	33.9	
1006	50.81	"	399	7.27	21.34	1,422	-11	0.34	33.5	
1011	51.03	"	434	7.27	21.38	1,442	1	0.32	25.5	3 Well Volume
1014	50.62	"	469	7.28	21.39	1,423	6	0.30	29.1	

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Water volume = 82.89</u>
<u>0832-0832 stopped pump to adjusted tubes on truck. 0833 restarted pump</u>
<u>0909 - stopped pump to unload water</u>
<u>1 Well Volume = 144</u> <u>3 Well volumes = 432 gallons</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>J.M.D.</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RN-20</u>	Site: <u>S.S.F.L. Area IV</u>
Sampler(s): <u>Jason M. Daniel (HGL) Edwards</u> <u>(Plaine)</u>	Project No.:
Well Depth: <u>127.00</u>	Date: <u>8-26-10</u> Time: <u>0806</u>
DTW (ft): <u>44.11</u> DTP (ft): <u>---</u>	Courier: <u>UPS</u> <u>Hand</u> <u>Other</u>
MP Ht. Above/Below Ground Surface: <u>---</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: <u>---</u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>SUNNY, clear ~ 85°</u>
Placement of Pump (ft): <u>---</u>	

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1017	50.74	7 gpm	504	7.28	21.38	1424	-5	0.29	28.7	
1020	50.72	"	539	7.28	21.38	1417	0	0.26	26.1	
1023	51.43	"	574	7.29	21.37	1405	2	0.25	23.7	
1026	51.62	"	609	7.29	21.37	1403	5	0.25	24.6	
1028	Sampled well									Well Stabilized
DOM 08/24/10										

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Total purge = 645 gallons</u> <u>Sampled @ 1028</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>J. Daniel</u>

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RO-21 (port 2)</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area 14</u>	
Sampler(s): <u>Stephane Lepere Montrose</u>	Project No.:	
Well Depth: <u>175</u>	Date: <u>9/9/10</u>	Time: <u>0730</u>
DTW (ft): <u>NA</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>	
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>@ FLUTE</u>	
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>FLUTE wells</u>	
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>8.25</u>	<u>overcast, cool (~70°F)</u>	
Placement of Pump (ft): <u>FLUTE</u>	<u>cloudy - thunder in distance</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>0730</u>	<u>—</u>	<u>—</u>	<u>0.75</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>0730-0735 pumped 1 tubing vol.</u>
0835	—	—	—	—	—	—	—	—	—	
<u>0823</u>	<u>—</u>	<u>—</u>	<u>0.75</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>0823-0828</u>
<u>080918</u>	<u>—</u>	<u>—</u>	<u>0.50</u>	<u>6.58</u>	<u>18.2</u>	<u>1,253</u>	<u>185</u>	<u>1.10</u>	<u>13.3</u>	<u>0913-0918</u>
<u>8</u>										

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>none Sulfur odor</u>
Notes:
<u>Port 2</u>
<u>Sample ID: SMRO-021-GW090910</u>
<u>Time: 1030</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-22 (part 2)</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area IV</u>
Sampler(s): <u>Stephen's Lapagne Montrose</u>	Project No.:
Well Depth: <u>440</u>	Date: <u>9/9/10</u> Time: <u>0750</u>
DTW (ft): <u>NA</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>-</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>Flute well</u>
Condition of Bottom of Well: <u>-</u>	Type of Pump: <u>Flute well</u>
Screen Interval (ft): <u>0-8 open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>overcast, cool (~70°F)</u>
Placement of Pump (ft): <u>Flute well</u>	<u>cloudy - thunder in distance</u>

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0750	-	-	1.25	-	-	-	-	-	-	0750-0757
0835	-	-	1.50	-	-	-	-	-	-	0835-0842
0929	-	-		6.87	18.97	1.448	113	0.59	24	0929-0932

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>part 2</u>
<u>Sample ID: SMRD-022-GW090910</u>
<u>time: 1050</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>BD-24</u>	Site: <u>SSFL Area IV</u>
Sampler(s): <u>Jason McDaniel (H6L) Edwards</u>	Project No.: <u>EP9.038.01.22.000</u> ⁰⁷⁰²
Well Depth: <u>650</u> (Obs: <u>61</u>)	Date: <u>8-31-10</u> Time: <u>12:00</u>
DTW (ft): <u>71.8</u> DTP (ft): <u> </u>	Courier: <u>UPS</u> <u>Hand</u> <u>Other</u>
MP Ht. Above/Below Ground Surface: <u> </u>	Sampling Method (G=grab, B=bailer, <u>SP=submersible pump</u>)
Condition of Bottom of Well: <u> </u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>Sunny, clear ~ 90°</u>
Placement of Pump (ft): <u> </u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
12:04	39.18									<u>ARM</u>
12:18	50.92	5	40	7.16	20.92	1199	-28	3.21	39.1	
12:23	57.00	"	65	7.02	20.97	1192	-26	4.06	44.3	
12:28	64.90	"	90	7.01	21.03	1160	-23	4.44	32.3	
12:33	83.63	"	115	7.02	21.06	1163	-24	4.32	30.8	
12:38	87.37	"	140	7.02	21.08	1111	-28	4.53	26.4	
12:43	90.95	"	165	6.99	21.10	1091	-40	4.75	28.1	
12:48	94.43	"	190	7.03	21.13	1063	-59	4.45	28.8	
12:53	97.15	"	215	7.06	21.15	1036	-69	4.34	23.1	
12:58	99.86	"	240	7.09	21.16	1018	-71	4.30	20.8	
13:03	102.11	"	265	7.11	21.19	995	-71	5.20	21.1	
13:08	104.08	"	290	7.13	21.19	990	-67	5.37	20.7	
13:13	106.41	"	315	7.14	21.20	970	-60	5.40	19.3	
13:18	107.60	"	340	7.14	21.22	952	-54	5.49	21.9	
13:23	109.11	"	365	7.15	21.26	963	-51	5.47	19.1	
13:28	110.81	"	390	7.12	21.21	946	-42	4.18	12.3	
13:33	114.22	"	435	7.18	21.27	944	-42	0.81	11.5	

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Water column = 110.82</u>
<u>Total purge volume = 700 gallons</u>
<u>1 Well Volume = 191 3 Well Volumes = 575 gallons</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>JPM</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RO-24</u>	Site: <u>S.S.F.L. Area IV</u>
Sampler(s): <u>Jason McDaniel (HGL) Edwards</u>	Project No.: <u>EP9.038.01.22.04.02</u>
Well Depth: <u>150.0</u> (blaine)	Date: <u>8-31-10</u> Time: <u>12:00</u>
DTW (ft): <u>39.18</u> DTP (ft): <u>—</u>	Courier: <u>UPS</u> Hand Other
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, <u>SP=submersible pump</u>)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>Sunny, clear ~ 90°</u>
Placement of Pump (ft): <u>—</u>	

TIME	DEPTH TO WATER (GD)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
13:42	115.41	5	460	7.12	21.26	940	-34	0.53	12.9	
13:47	116.82	"	485	7.09	21.26	941	-31	0.41	11.2	
13:52	117.98	"	510	7.09	21.25	924	-30	0.41	12.0	
13:57	119.30	"	535	7.09	21.28	935	-27	0.43	11.4	
14:02	120.36	"	560	7.10	21.28	923	-26	0.44	12.3	
14:05	120.78	"	585	7.10	21.28	929	-25	0.44	11.3	
14:08	121.09	"	610	7.10	21.26	934	-25	0.42	11.1	
Well	Stabilized									
14:10	Sampled Well									

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u> Complete sampling @ 14:00
Notes: <u>Total purge vol app 700 gallons.</u>
PURGE VOLUME CALCULATIONS For: well casing volume = $J(Rc)^2$ (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>JM</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: RD-29	Site: S.S.F.L. Area IV
Sampler(s): Jason M. David (HGL) & Eduardo (Blaine)	Project No.: CP9.038.01.22.04.02
Well Depth: 100	Date: 8/30/10 Time: 11:01
DTW (ft): 15.80 DTP (ft): —	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: —	Type of Pump: dedicated submersible
Screen Interval (ft): Open Hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 8.25	Sunny, clear ~ 70°
Placement of Pump (ft): —	

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
11:09	15.80									ban
11:20	28.19	7 gpm	35	7.16	21.72	901	-25	2.82	15.0	
11:25	41.71	"	70	7.14	21.82	906	-11	1.02	14.8	
11:30	45.16	"	70	7.13	22.03	900	-13	0.78	21.9	
11:35	62.20	"	105	7.12	21.83	900	-9	1.10	13.0	
11:40	76.72	"	140	7.13	21.90	906	-12	0.78	10.9	
11:45	89.46	"	175	7.20	21.97	896	-22	2.15	21.2	
11:47	Pump stopped pumping									ban
8/31 0845	16.31	7 gpm	90	7.15	21.76	904	43	5.66	17.5	ban
ban 8/31/10										

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Water column = 87.20</u> <u>8/31 = DTW 16.31</u> <u>Sampled well @ 0845</u>
<u>1 Well Volume = 87.20 147 gallons</u> <u>3 Well Volumes = 441 gallons</u>
<u>11:26-11:30 stopped purge to clean pump out. 11:30 resume purge</u> <u>Total purge = 189 gallons</u>
<u>11:47 pump stopped pumping, will return on 8/30 to 8/31 to collect samples (8/31)</u> <u>Total purge = 30 gal</u>
PURGE VOLUME CALCULATIONS For: well casing volume = $J(Rc)^2$ (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>JMD</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: RD-33B	Site: S.S.F.L. Area IV	
Sampler(s): Jason M (HGL) Nick (BGL)	Project No.: EP9038.01.22.04.02	
Well Depth: 415	Date: 9-2-10	Time: 11:15
DTW (ft): 304.33	DTP (ft): —	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)	
Condition of Bottom of Well: —	Type of Pump: dedicated submersible	
Screen Interval (ft): Open Hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): 12.25 - 6.5	Sunny clear ~ 90°	
Placement of Pump (ft): —		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1215	304.33	—	—	—	—	—	—	—	—	—
1220	304.33	N/A	61	7.43	21.50	744	-152	0.55	0	—

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>In final Totalizer: 241393 Serial 241456</u> <u>Total purge ~ 61 gallons</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>J.M.M.</u>

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-33C</u>	Site: <u>S.S.F.L. Area IV</u>
Sampler(s): <u>Jason M. (HGL) Nick (BGL) (HGL)</u> <u>Stephanie Lypynkinto (HGL)</u>	Project No.: <u>EP9038.01.22.04.02</u>
Well Depth: <u>520.0</u>	Date: <u>9-2-10</u> Time: <u>11:15</u>
DTW (ft): <u>284.44</u> DTP (ft): <u>—</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>SP</u>
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>12.25 - 6.25</u>	<u>SUNNY CLEAR ~50°F</u>
Placement of Pump (ft): <u>—</u>	

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS	
9/2/10	11:40	284.44	—	—	—	—	—	—	—	—	SP	
	12:02		7 gpm	135	7.38	22.97	678	-159	0.48	2		
	12:15		"	217	7.32	23.07	702	-145	0.29	9		
	12:32		"	336	7.41	24.30	698	-130	0.19	6		
	12:48	365.70	"	435	7.34	27.37	703	-124	0.23	3		
	12:59		"	509	7.47	26.97	693	-140	0.74	4		
	13:15		"	601	7.38	21.82	709	-134	0.23	2		
	13:30		"	691	7.35	22.42	706	-136	0.13	2		
	13:46		"	785	7.33	22.49	713	-136	0.10	2		
	14:01		"	859	7.37	22.80	715	-136	0.10	2		
	14:16		"	970	7.32	22.99	720	-141	0.07	3		
	14:31		"	1,027	7.36	22.50	714	-138	0.08	2		
	9/4/10	14:46		"	1,141	7.37	22.36	713	-136	0.08	2	
	9/3/10	09:26	287.73	6	1202	7.44	24.26	685	-144	0.85	55	Collected during sampling

OBSERVATIONS

Color: Clear Other (describe): <u>Clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Initial totalizer readings: 103995 Final: 105136 / sample: SMRD-033C-GW090210</u>
<u>Total purge = 1141 gal. reached 3 well volumes @ 1445 / NIPS: SMRD-033C-GW090310 Q</u>
<u>- Well returns to sample on 9/3 / MS: SMRD-033C-GW090310 MS</u>
<u>1 Well Volume = 376 3 Well Volumes = 1128 / time (all 3) = 0910 date = 9/3/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

ATTACHMENT 1

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No: RD-34A	Site: SSFL Areal Outfall #3
Sampler(s): Stephanie Lepynhuta (HGL) / Ben Stevens (Blaine Tech)	Project No.: EP9038.01.22.04.02
Well Depth: 60 ft	Date: 8/19/10 Time: 1110
DTW (ft): 39.96 DTP (ft): NA	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: No Sediment	Type of Pump: Dedicated SP
Screen Interval (ft): Open Hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 8.25	Sunny Clear Hot 85°F
Placement of Pump (ft): Dedicated pump 57 ft	

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/19/10	1100	39.96	5.0	37	6.64	22.48	1,224	14	1.03	31	Dry
8/19/10	1115	55.56	Final depth to water (water below pump intake)								
8/20/10	0815	42.05	0.5	10	6.89	23.39	1,251 ^{ms}	98	2.12	9	during sampling
Straw Outfall											

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like No Odor

Notes: PID reading 0 ppm

* Well pumped dry after ~ 10 mins.

* The dedicated pumps

1 Vol 35 gallons

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): [Signature]

Sample ID: SMRD-034A-GW082010
Time: 0820 DTW = 42.05
Date: 8/20/10

ATTACHMENT 1

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-34B	Site: SSFL Area IV - Out-fall 3
Sampler(s): Stephen Lepore (HGL) Sen J. Evans (Blaine Tech)	Project No.: EP9038.01.22.04.02
Well Depth: 240 ft	Date: 8/19/10 - Time: 0730 -
DTW (ft): 43.5 DTP (ft): NA	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: No Sediment	Type of Pump: Dedicated Submersible
Screen Interval (ft): Open Hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 6.25"	Sunny Clear w 75°F No wind
Placement of Pump (ft): dedicated pump 232 ft	

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/19/10	0815	43.5	9	Initial	6.71	19.70	602	-125	4.49	1	
	0830	NA	9	180	7.34	24.90	537	-168	0.25	4	
	0845	NA	5.5	248	7.26	20.44	586	-153	1.5	4.5	
	0900	NA	5	288	7.18	20.96	626	-166	0.11	3.3	
	0915	NA	3.8	345	7.17	21.37	845	-84	6.0	1.8	
	0930	NA	3.8	391	7.01	22.51	863	-65	6.99	5	
	0945	NA	2.25	418	6.95	22.81	879	-58	6.90	3	
	1000	NA	2.0	456	6.92	23.26	889	-51	6.77	2	
	1015	NA	1.5	495	6.90	23.40	895	-47	6.61	0	
	1020	NA	1.0	515	6.59	23.66	898	-46	6.59	0	
8/19/10	1035	NA	0.5	529	6.87	23.60	899	-43	6.41	0	Dry
					Dry						
8/20/10	0855	44.89	10	100	7.54	20.06	0.960 ^{ms}	-70	1.96	19	during sampling

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like No Odor^{TSO} Odor

Notes: 240,252 initial flow meter reading

* The water level meter keeps getting stuck on something in well

* Well went dry right after reading 1035 * PID reading 0ppm

Casing 531 gal / 1592 gal Sample ID: SMRD-034B-GW082010 Time: 0905

PURGE VOLUME CALCULATIONS For well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): [Signature]

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-54C</u>	Site: <u>SSPL Radiological Survey (BPA Region 9) Area 10</u>	
Sampler(s): <u>Stephenie Lynn Norman</u>	Project No.:	
Well Depth: <u>638</u>	Date: <u>9/1/10</u>	Time: <u>1445</u>
DTW (ft): <u>435.4</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>	
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>	
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Dedicated pump</u>	
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>12.125</u>	<u>Sunny, clear w/ 90° F</u>	
Placement of Pump (ft): <u>(see pump form)</u>	<u>8</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>1454</u>	<u>435.49</u>	<u>4</u>	<u>8</u>	<u>8.45</u>	<u>20.75</u>	<u>627</u>	<u>-105</u>	<u>1.49</u>	<u>30</u>	<u>sample collected</u>

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>none</u>
Notes: <u>PID=0.0 ppm</u>
<u>SMRD-054C-GW090110</u>
<u>Time: 1455 date: 9/1/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-56A</u>	Site: <u>SSFL Area IV</u>
Sampler(s): <u>Jason M. David (HGL) Edwards (BGL)</u>	Project No.:
Well Depth: <u>397.50</u>	Date: <u>8-25-10</u> Time: <u>0942</u>
DTW (ft): <u>318.16</u> DTP (ft): <u>—</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>12.25</u>	<u>clear, sunny, light wind ~ 95°</u>
Placement of Pump (ft): <u>—</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1022	318.16									began purge
1025	334.00	4 gpm	12	7.13	18.78	1036	-31	3.67	62.0	
1028	339.00	4 gpm	24	7.11	19.16	1035	6	5.50	20.9	
1031	343.27	4 gpm	36	7.11	19.57	1035	17	5.33	30.0	
1034	347.86	4 gpm	48	7.11	19.77	1037	19	5.37	18.5	
1037	355.19	4 gpm	60	7.12	19.50	1034	26	5.53	8.5	
1040	361.90	4 gpm	72	7.13	19.78	1027	33	5.32	7.0	
1043	367.95	4 gpm	84	7.14	19.82	1031	37	4.96	4.0	
1046	374.76	4 gpm	96	7.13	19.86	1025	41	4.72	3.5	
1049	380.94	4 gpm	108	7.13	19.86	1023	44	4.63	4.3	
1052	384.65	4 gpm	120	7.13	19.90	1026	48	4.47	4.8	
1052	Well ran dry									
8/26 0740	342.30	4 gpm	40	7.16	17.86	1021	206	3.48	40.7	arr

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Well ran dry @ 1052 - will return on 8/26 to collect sample</u>
<u>Total purge volume = 120 gallons</u>
<u>Returned to well on 8/26: DTW = 342.30</u>
<u>8/25 water volume = 79.34 8/26 water volume = 55.20</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>J. David</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Page of

Well No.: RD56B	Site: SSF1
Sampler(s): JONATHAN VALDEZ	Project No.: EP9038.01.22.04.02
Well Depth: 463	Date: 8/31/10 Time: 0722
DTW (ft): 174.28 DTP (ft):	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well:	Type of Pump: SUBMERSIBLE PUMP
Screen Interval (ft): OPEN HOLE	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in):	SUNNY/CLEAR
Placement of Pump (ft):	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0742	182.56	15	290	7.45	18.67	655	-246	1.59	4	
0802	182.64	15.5	611	7.30	19.03	713	-162	0.75	7	
0817	182.70	15.5	837	7.31	18.44	705	-143	0.53	4	
0832	182.75	15.5	1,087	7.16	19.36	716	-137	0.33	3	PH 7.34
0847	182.78	15.5	1322	7.31	19.13	709	-134	0.32	1	
0901	182.81	15.5	1550	7.30	19.12	722	-131	0.30	1	
-	-	-	1690	-	-	-	-	-	-	
1040	180.55	15.5	1999	7.27	20.42	724	-126	0.58	2	
1055	181.79	15.5	2,184	7.31	21.32	722	-129	0.39	2	
1110	182.24	15.5	2,425	7.35	22.20	722	-128	0.29	2	
1125	182.70	15.5	2,642	7.34	21.54	723	-127	0.24	1	
1140	182.73	15.5	2,863	7.32	22.48	722	-128	0.21	1	
1155	182.75	15.5	3,115	7.34	22.64	725	-130	0.20	1	
1210	182.79	15.5	3232 3327	7.32	22.83	721	-129	0.20	1	
1225	182.82	15.5	3577	7.30	22.95	720	-129	0.20	0	

OBSERVATIONS

Color: Clear Other (describe):
Odor: None Low Medium High Very strong H2S Fuel-like
Notes: TOTALIZER START 97548 TOTALIZER END 99236
COLLECTED SAMPLE SM RD-56B-GW083/10 P1 AND P2
0917 STOP PURGE START TOTALIZER 99236 TOTALIZER END 101275 STOP PURGE AT 1240 TOTAL PURGE 3,727
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-63</u>	Site: <u>S.S.F.L. Area IV</u>
Sampler(s): <u>Saxon M & Daniel / HGL Nick</u>	Project No.: <u>EP9.038.01.22.04.02</u>
Well Depth: <u>230.0</u> (Blaise)	Date: <u>9-2-10</u> Time: <u>0705</u>
DTW (ft): <u>23.12</u> DTP (ft): <u>—</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, <u>SP=submersible pump</u>)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.25</u>	<u>Sunny, clear in 70°</u>
Placement of Pump (ft): <u>—</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>0717</u>	<u>23.12</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>SM</u>
<u>0745</u>	<u>35.40</u>	<u>5.75</u>	<u>145</u>	<u>6.72</u>	<u>18.72</u>	<u>1,179</u>	<u>47</u>	<u>0.78</u>	<u>4</u>	
<u>0801</u>	<u>47.63</u>	<u>6.50</u>	<u>290</u>	<u>6.73</u>	<u>18.82</u>	<u>1,179</u>	<u>67</u>	<u>0.64</u>	<u>2</u>	
<u>0817</u>	<u>50.62</u>	<u>"</u>	<u>415</u>	<u>6.77</u>	<u>20.25</u>	<u>1,202</u>	<u>38</u>	<u>0.72</u>	<u>1</u>	
<u>0831</u>	<u>51.98</u>	<u>"</u>	<u>490</u>	<u>6.78</u>	<u>22.50</u>	<u>1,201</u>	<u>34</u>	<u>0.48</u>	<u>1</u>	
<u>0851</u>	<u>52.64</u>	<u>"</u>	<u>620</u>	<u>6.85</u>	<u>23.01</u>	<u>1,181</u>	<u>32</u>	<u>0.51</u>	<u>0</u>	
<u>0900</u>	<u>53.60</u>	<u>"</u>	<u>695</u>	<u>6.88</u>	<u>23.15</u>	<u>1,196</u>	<u>33</u>	<u>0.36</u>	<u>0</u>	
<u>0915</u>	<u>57.16</u>	<u>"</u>	<u>795</u>	<u>6.79</u>	<u>21.70</u>	<u>1,199</u>	<u>34</u>	<u>0.45</u>	<u>0</u>	
<u>0930</u>	<u>58.90</u>	<u>"</u>	<u>896</u>	<u>6.79</u>	<u>21.96</u>	<u>1,203</u>	<u>39</u>	<u>0.49</u>	<u>0</u>	
<u>0945</u>	<u>60.67</u>	<u>"</u>	<u>996</u>	<u>6.78</u>	<u>22.14</u>	<u>1,200</u>	<u>43</u>	<u>0.52</u>	<u>0</u>	
<u>1000</u>		<u>"</u>	<u>1,099</u>	<u>6.78</u>	<u>22.17</u>	<u>1,205</u>	<u>45</u>	<u>0.50</u>	<u>0</u>	
<u>Well Stabilized</u>										
<u>1005 Sampled Well</u>										
<u>in 9/2/10</u>										

OBSERVATIONS

Color: <u>Clear</u> Other (describe):
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like
Notes: <u>0715 - began purge</u>
<u>Totalize = 102839 (start 095) Reached 3 well volumes @ 1000</u>
<u>1 well volume = 358.84 3 well volumes = 1076</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>JB</u>

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-64</u>	Site: <u>SSFL Radiological Survey</u>
Sampler(s): <u>Stephane Lopez Montrose</u>	Project No.:
Well Depth: <u>Port #4 & #6 [398]</u>	Date: <u>09/09/10</u> Time: <u>0815</u>
DTW (ft): <u>NA</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>FLUTE</u>
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>FLUTE</u>
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>FLUTE 8.25</u>	<u>overcast/misty cool ~54°F</u>
Placement of Pump (ft): <u>FLUTE</u>	<u>cloudy - thunder in distance</u>

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0815	—	—	1.5	—	—	—	—	—	—	0810-0815
0859	—	—	1.0	—	—	—	—	—	—	0854-0859
1215	—	—	1.5	—	—	—	—	—	—	switched to Port #6
1440	—	—	0.5	—	—	—	—	—	—	Port #6 purge 2 (1215-1230)
1530	—	—	1.5	6.66	19.74	0.814	84	0.49	0	Port #6 purge 3 (1530-1550)
				6.66		0.814		0.49		

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like None

Notes: port #4 / switched to port #6 and purged 3 tube volumes due to port #4 becoming plugged.

Port 6 : sample ID: SMRD-064-GW091010 time: 0720 Date: 9/10/10

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): [Signature]

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: RD-65		Site: SSFL Area IV	
Sampler(s):		Project No.:	
Well Depth:		Date: 09/01/10	Time: 1048
DTW (ft):	DTP (ft):	Courier: UPS Hand Other	
MP Ht. Above/Below Ground Surface:		Sampling Method (G=grab, B=bailer, SP=submersible pump)	
Condition of Bottom of Well:		Type of Pump: FLUTE	
Screen Interval (ft): FLUTE Port #6		Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in):		Sunny Clear, Slight breeze w. 85°F	
Placement of Pump (ft): FLUTE #6		Breeze from NW	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1- 1048	*2		0	-	-	-	-	-	-	No water
1116	*2		0.25	-	-	-	-	-	-	Quality
2- 1228			-	-	-	-	-	-	-	↓
09/2/10 1252			0.25	-	-	-	-	-	-	
3- 0855				-	-	-	-	-	-	↓
0902			1.5	-	-	-	-	-	-	
4- 1033				-	-	-	-	-	-	
1044			1.5	-	-	-	-	-	-	
5- 1235				-	-	-	-	-	-	
1257			1.5	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
				7.44	23.32	.588	63	1.80	15.5	

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like NO Odor

*1 Notes: Boeing (Haley & Aldrich) and MWH do not collect water quality parameters while purging the FLUTES

*2 Water levels will be downloaded by MWH tomorrow

*3 Had to sample Port 6 Because 4 & 5 were dry

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s):

9/2/10 - will PURGE FROM PORT #7 INSTEAD OF PORT #6

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-70</u>	Site: <u>SSFL Area IV</u>
Sampler(s): <u>TSW</u>	Project No.: <u>EP9038.01.22.04.02</u>
Well Depth: <u>278'</u>	Date: <u>8/23/10</u> Time: <u>0815</u>
DTW (ft): <u>144.61</u> DTP (ft):	Courier: <u>UPS</u> <input type="checkbox"/> Hand <input type="checkbox"/> Other <input type="checkbox"/>
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, <input checked="" type="radio"/> SP=submersible pump)
Condition of Bottom of Well: <u>good</u>	Type of Pump: <u>Dedicated Submersible</u>
Screen Interval (ft): <u>open hole</u>	Weather (<u>sun/clear</u> , overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>12"</u>	<u>Hot Sunny Clear no wind</u>
Placement of Pump (ft): <u>Dedicated Submersible</u>	

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (µMHO/CM)	ORP	D.O. (MG/L)	TURB. (NTU)	COMMENTS
0815	144.61	7	—	—	—	—	—	—	—	Initial WL
0845	144.61	7	115	6.87	20.30	999	-174	3.15	20	
0900	144.61	7	231	6.94	21.34	1007	-156	1.43	23	
0915	144.62	7	346	6.96	19.96	1011	-145	0.55	5	
0959	144.61	7	462	6.94	20.22	1010	-97	1.03	1	
1015	144.62	7	577	7.01	20.75	1006	-94	0.53	2	
1032	144.62	7	693	7.04	20.48	1009	-98	0.06	2	
1035	Sample									
<i>[Handwritten signature and scribbles across the table]</i>										

OBSERVATIONS

Color: Clear Other (describe): <u>Clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>No Odor</u>
Notes: <u>well stabilized</u> <u>Calculated purge vol = 696.22 (3vol)</u>
<u>Sampled Priority 1 analytes 1035</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <i>[Handwritten signature]</i>

ATTACHMENT 1

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-85	Site: SSFL Radiological Survey Area IV	
Sampler(s): Andy Wolff (Blair Tech) / Stephen Gryn (HGL)	Project No.:	
Well Depth: 90	Date: 8/18/10	Time: 1100
DTW (ft): 59.71	DTP (ft): NA	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump disposable bailer)	
Condition of Bottom of Well: no sediment	Type of Pump: 2" Grunfos	
Screen Interval (ft): open hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): 8	sunny / clear / hot (~98°F)	
Placement of Pump (ft): 89	② sample ID (see bottom)	

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/13/10	1103	59.71	3	3	—	—	—	—	—	—	Began Purge
8/18/10	1108	—	3	15	6.72	20.63	1,394	89	0.50	10.1	
8/18/10	1113	—	3	30	6.75	20.95	1,395	83	0.41	10.1	
8/18/10	1118	—	3	45	6.74	21.09	1,388	82	0.71	9.8	well dry at 45 gal
8/19/10	0910	82.81	—	—	6.76	28.98	1,328	106	4.79	9.6	during sampling

OBSERVATIONS

Color: Clear Other (describe): Clear
Odor: None Low Medium High Very strong H2S Fuel-like None
Notes: PID 0.0 ppm
Sample ID: SM RD-085 - GW 081910
Sample date: 8/19/10 DTW = 82.81 Time: 0940
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): [Signature] 8/19/10

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: RD-86	Site: SSFL Radiological Survey Area IV
Sampler(s): Stephens Lepp Munk (HGL) / Andy Wolff (Blaine Tech)	Project No.:
Well Depth: 80	Date: 8/18/10
DTW (ft): 38.71	DTP (ft): NA
MP Ht. Above/Below Ground Surface: —	Courier: UPS Hand Other
Condition of Bottom of Well: —	Sampling Method (G=grab, B=bailer, SP=submersible pump) SP
Screen Interval (ft): open hole	Type of Pump: dedicated pump 230 volts, 1/3 horse power
Well Diameter (in): 8	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, clear, ~98° F
Placement of Pump (ft): 76	

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/18/10	14:35	38.71	8	23	7.37	19.87	0.911	76	4.34	45	start purge
8/18/10	14:38	75.02	8	56	7.18	19.45	0.901	100	3.82	28	end purge
8/19/10	1440	56.62	—	—	6.55	20.71	908	93	4.94	18.1	during sampling
(8)											

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like None

Notes: PID 0.0 ppm
waited 24 hours to sample (did not recharge to 80%)
Sample ID: SRD-086-GW031910 / Equip ment Blank: SMPinsate-01-EB081910
Time: 1445 date: 8/19/10 DTW: / time: 1250

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): [Signature]

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RO-87</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area 10</u>	
Sampler(s): <u>Stephanie Lepore Montrose</u>	Project No.:	
Well Depth: <u>60</u>	Date: <u>9/2/10</u>	Time: <u>0850</u>
DTW (ft): <u>47.19</u> DTP (ft): <u>NA</u>	Courier: <u>UPS</u> Hand Other	
MP Ht. Above/Below Ground Surface: <u>-</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP*</u>	
Condition of Bottom of Well: <u>-</u>	Type of Pump: <u>Grupos non dedicated</u>	
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>8</u>	<u>Sunny, clear, ~90°F</u>	
Placement of Pump (ft): <u>59</u>		

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>9/1/10</u>	<u>0909</u>	<u>-</u>	<u>7</u>	<u>8</u>	<u>6.57</u>	<u>19.69</u>	<u>1138</u>	<u>103</u>	<u>20.20</u>	<u>20</u>	<u>DO = 0.21</u>
<u>9/1/10</u>	<u>0911</u>	<u>-</u>	<u>4</u>	<u>16</u>	<u>6.64</u>	<u>19.81</u>	<u>1148</u>	<u>105</u>	<u>20.20</u>	<u>20</u>	<u>DO = 0.20</u>
<u>9/2/10</u>	<u>0910</u>	<u>50.71</u>	<u>-</u>	<u>-</u>	<u>6.61</u>	<u>20.30</u>	<u>1215</u>	<u>104</u>	<u>1.54</u>	<u>10</u>	<u>collected sample</u>

OBSERVATIONS

Color: Clear Other (describe): <u>Clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>PID = 0.0 ppm</u> <u>well dry at 16 gallons</u>
Sample ID: <u>SSRD-087-GW090210</u> / DWP: <u>SSRDWP-05-GW090210</u>
Time: <u>0910</u> Date: <u>9/2/10</u> / Date: <u>9/2/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-90</u>	Site: <u>SSFL Radiological Survey (EPA Region 9)</u>
Sampler(s): <u>Stephanie Lapeyre Montrose</u>	Project No.:
Well Depth: <u>125</u>	Date: <u>9/1/10</u> Time: <u>1030^h</u>
DTW (ft): <u>33.60</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>-</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>
Condition of Bottom of Well: <u>-</u>	Type of Pump: <u>Grundfos non dedicated pump</u>
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8</u>	<u>Sunny, clear, ~90° F</u>
Placement of Pump (ft): <u>124</u>	

date
9/1/10
9/1/10
9/1/10
9/2/10

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1054	93.23	7	70	6.75	21.85	1182	95	2.10	40	
1104	104	7	140	6.79	22.01	1199	90	2.94	60	
1157	120	7	210	6.81	22.77	1205	88	5.14	160	dry at 245 gal
1005	36.13	-	-	6.81	21.11	1027	89	1.77	44	collected sample

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>PI = 0.0 ppm</u> <u>unloaded purge water into beaker tanks halfway through</u> <u>purge of RD-90</u>
Sample ID: <u>SMAD-090-GW090210</u> } well RD-90 dry at 245 gallons <u>SMAD-090-GW090210 MS</u> } time: 1005 date: 9/2/10
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

ATTACHMENT 1

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-93	Site: SSFL Radiological Survey (EPA Region 9) Area 10
Sampler(s): Stephane Lepere Marton	Project No.:
Well Depth: 60	Date: 9/1/10 @ Time: 1230
DTW (ft): 34.47 DTP (ft): NA	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: -	Sampling Method (G=grab, B=bailer, SP=submersible pump) SP
Condition of Bottom of Well: -	Type of Pump: Grumbs non dedicated pump
Screen Interval (ft): open hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 8	sunny, clear, ~90°F
Placement of Pump (ft): 59	

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
9/1/10	1245	-	4	8	6.49	20.86	2000-1700	115	2.62	2,000	
9/1/10	1247	-	4	16	6.48	20.99	2000-1680	112	2.04	2,000	
9/1/10	1250	-	3	25	6.56	21.00	1983-1630	102	0.83	1,983	well dry at 25 yellow
9/2/10	1040	34.59	-	-	6.64	27.82	1500	94	1.22	40	collecting sample
(S)											

OBSERVATIONS

Color: Clear Other (describe): Brown
Odor: None Low Medium High Very strong H2S Fuel-like None
Notes: PID = 0.0 ppm well dry at 25 yellow
sample: SMPD-093-GW-090210 time = 1040
date = 9/2/10
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): [Signature]

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-94</u>	Site: <u>S.S.F.L Area IV</u>
Sampler(s): <u>John M. S. Davila (H66) Edwards</u>	Project No.: <u>EP9038.01.22.04.02</u>
Well Depth: <u>35.0</u> (Blaine)	Date: <u>8-30-10</u> Time: <u>0822</u>
DTW (ft): <u>18.39</u> DTP (ft): <u>---</u>	Courier: <u>UPS</u> Hand Other
MP Ht. Above/Below Ground Surface: <u>---</u>	Sampling Method (G=grab, B=bailer, <u>SR=submersible pump</u>)
Condition of Bottom of Well: <u>---</u>	Type of Pump: <u>non-dedicated submersible</u>
Screen Interval (ft): <u>Open Hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8.0</u>	<u>Sunny, clear ~ 70°</u>
Placement of Pump (ft): <u>---</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0837	18.39	---	---	---	---	---	---	---	---	Jan
0908	19.91	1 gpm	5	7.08	17.74	1,232	-130	0.52	357	
0913	19.01	"	10	7.00	17.92	1,223	-118	0.12	260	
0918	19.06	"	15	6.98	18.05	1,208	-112	0.04	235	
0923	19.30	"	20	6.94	18.55	1,197	-91	1.04	298	
0933	19.22	"	20	7.05	21.82	1,198	-108	1.00	5,999	
0947	24.54	4 gpm	20	7.08	17.54	1,257	-132	0.33	1,346	
0952	26.87	"	40	6.99	17.36	1,204	-93	1.06	518	
0957	28.01	"	60	6.95	17.28	1,213	-53	1.56	116	
1002	29.54	"	80	6.96	17.25	1,212	-38	1.81	101	
1007	30.42	"	100	6.95	17.29	1,221	-27	3.02	384	
1012	30.51	"	120	6.95	17.43	1,222	-14	3.84	180	
1017	30.51	"	140	6.95	17.57	1,218	-13	4.29	194	
1020	Pump stopped pumping									Jan
08/31	19.15	4 gpm	0	6.95	17.08	1,229	-4	4.50	876	Jan

OBSERVATIONS

Color: Clear Other (describe): Cloudy, yellowish brown in color

Odor: None Low Medium High Very strong H2S Fuel-like None

Notes: Water column: 16.61 0923-0933-pump Sealed (overwater)

1 Well Volume = 16.61 x 2.61 = 43.35 *pump failed again @ 0934. Removed

3 Well Volumes = 43.35 x 3 = 130.06 sleeve from pump set pump @ 33.0 BTD

8/31/10 DTW = 19.15 0755-Sampled well New flow rate of 4 gpm 8/31 Total purge = 20 gal

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): John M. S. Davila

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-95</u>	Site: <u>SSFC Radiological Survey (EPA Region 9)</u>
Sampler(s): <u>Stephanie Lopez-Morales</u>	Project No.:
Well Depth: <u>80</u>	Date: <u>9/1/10</u> Time: <u>1310</u>
DTW (ft): <u>52.70</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>-</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>
Condition of Bottom of Well: <u>-</u>	Type of Pump: <u>Grundfos non-dedicated pump</u>
Screen Interval (ft): <u>open hole</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>8</u>	<u>Sunny, clear, ~90°F</u>
Placement of Pump (ft): <u>79</u>	

Date
9/1/10
9/1/10
9/1/10
9/1/10

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1343	—	3	9	6.40	19.79	1385	113	0.89	5999	
1346	77.14	3	18	6.42	20.13	1383	111	0.55	5999	
1349	—	3	27	6.43	20.14	1388	110	0.51	5999	well dry at 33 gal
1120	53.02	—	—	6.45	21.97	1400	107	1.90	1497	Sampling
1120	53.02	—	—	6.45	21.97	1400	107	1.90	1497	Sampling

OBSERVATIONS

Color: Clear Other (describe): <u>Brown</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>PLD = 0, 0 ppm</u> <u>well dry at 33 gal</u> <u>Rinse</u>
DUP: <u>SM DUP - 06 - GW090210</u> Sample: <u>SM Source - 12 - 58090210</u>
Sample: <u>SM RD - 95 - GW020210</u> <u>SM Rinse - 12 - 58090210</u>
Time: <u>1120</u> (both) Time: <u>1325</u> date: <u>9/2/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

took equip. blank yesterday, but no sampling, so took equip. blank today at same well

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-96	Site: SSFL Radiological Survey Area IV	
Sampler(s): Andy Wolf / Stephanie Lepey <small>(Graben Tech) (Mottrose)</small>	Project No.:	
Well Depth: 90	Date: 8/18/10	Time: 0920
DTW (ft): 59.86	DTW (ft): NA	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump) <i>disposable bailer</i>	
Condition of Bottom of Well: no sediment	Type of Pump: 2" Grundfos	
Screen Interval (ft): open hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): 8.625 / 4	Sunny, clear, ~95° F	
Placement of Pump (ft): 89	Sample ID: SM RD-096-GW 081910 (see bottom of sheet)	

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/18/10	1000	59.86	2	2	—	—	—	—	—	—	Started purging
8/18/10	1005	—	2	10	6.60	19.66	1,001	97	0.92	75.1	
8/18/10	1010	—	2	20	6.70	20.10	989	88	0.96	123	
8/18/10	1014	dry	2	28	—	—	—	—	—	—	Dewatered (well dry)
8/19/10	0800	60.21	—	—	6.65	21.18	978	121	1.96	42.0	during sampling
(A circled 'B' is drawn in the middle of the table)											

OBSERVATIONS

Color: Clear Other (describe): <i>clear</i>
Odor: None Low Medium High Very strong H2S Fuel-like <i>None</i>
Notes:
MP20 QED flow cell (QDO3460 serial #)
Multi Rae PID 0.0 ppm (serial # 095-521573)
Sample date: 8/19/10 time: 0835 DTW: 60.21 sample ID: SMRD-096-GW 081910
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RD-98</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area IV</u>	
Sampler(s): <u>Stephanie Lepynn Montrose</u>	Project No.:	
Well Depth: <u>65</u>	Date: <u>9/1/10</u>	Time: <u>0800</u>
DTW (ft): <u>40.39</u> DTP (ft): <u>NA</u>	Courier: <u>UPS</u> Hand Other	
MP Ht. Above/Below Ground Surface: <u>-</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>	
Condition of Bottom of Well: <u>-</u>	Type of Pump: <u>Grundfos non dedicated pump</u>	
Screen Interval (ft): <u>-</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>~10</u>	<u>Sunny, clear, ~90°F</u>	
Placement of Pump (ft): <u>64</u>		

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>9/1/10</u>	<u>0820</u>	<u>-</u>	<u>6</u>	<u>30</u>	<u>6.67</u>	<u>18.98</u>	<u>770</u>	<u>136</u>	<u>1.53</u>	<u>7</u>	<u>well went dry at 43 gallons</u>
<u>9/1/10</u>	<u>0740</u>	<u>40.49</u>	<u>-</u>	<u>-</u>	<u>6.71</u>	<u>19.31</u>	<u>775</u>	<u>109</u>	<u>1.39</u>	<u>31</u>	<u>collected sample</u>

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>PIV=0.0 ppm</u> <u>well dry at 43 gallons</u>
<u>sample ID: SMRD-098-GW090210</u> / <u>lab DUP = SMRD-098-GW090210Q</u>
<u>time: 0745</u> <u>date: 9/2/10</u> / <u>time: 0745</u> <u>date: 9/2/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RS-18</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area IV</u>
Sampler(s): <u>Stephanie Lopez/Neer (HGL) / Ben Strick (Blow-down Tech)</u>	Project No.:
Well Depth: <u>13.15</u>	Date: <u>8/23/10</u> Time: <u>0955</u>
DTW (ft): <u>13.00</u> DTP (ft): <u>NA</u>	Courier: <u>UPS</u> Hand Other
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>B</u>
Condition of Bottom of Well: <u>no sediment</u>	Type of Pump: <u>None - bailer</u>
Screen Interval (ft): <u>7.5 - 13</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>4</u>	<u>Sunny, clear, ~100°</u>
Placement of Pump (ft): <u>NA</u>	

Date	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
8/23/10	1003	13.00	0.11	0.33	7.06	21.53	1.054	88	4.08	80	
8/23/10	1005	13.00	0.11	0.66	7.06	21.46	1.055	86	4.13	53	
8/23/10	1008	Dry	0.11	1.0	7.06	21.39	1.041	87	4.07	48	<u>B</u>
8/24/10	1015	Dry									

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like None

Notes: PID = 0.0 ppm

Sample ID: SMRS-18-GW082310 Time: 1015 Date: 8/23/10

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): [Signature]

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RS-25</u>	Site: <u>S.S.F.L. Area IV</u>
Sampler(s): <u>Jason McDavid (HGL) Edwards</u>	Project No.:
Well Depth: <u>14.93</u>	Date: <u>8-25-10</u> Time: <u>0747</u>
DTW (ft): <u>14.71</u> DTP (ft): <u>—</u>	Courier: <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input checked="" type="checkbox"/> Other
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Bailer</u>
Screen Interval (ft): <u>8.54 - 13.50</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>4.0</u>	<u>Clear, Sunny ~ 80° No Wind</u>
Placement of Pump (ft): <u>NA</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>0750</u>	<u>14.71</u>	<u>NA</u>	<u>NA</u>	<u>6.52</u>	<u>23.58</u>	<u>989</u>	<u>245</u>	<u>2.64</u>	<u>348</u>	
<i>Handwritten note: JPM 8/25/10</i>										

OBSERVATIONS

Color: Clear <input checked="" type="checkbox"/> Other (describe): <u>Cloudy gray in color</u>
Odor: <input checked="" type="checkbox"/> None <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very strong <input type="checkbox"/> H2S <input type="checkbox"/> Fuel-like
Notes: <u>Resample after recharge</u> <u>water column = 0.21 feet</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>JPM</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RS-54</u>		Site: <u>S.S.F.C. Area IV</u>	
Sampler(s): <u>Jason McDaniel (H&L) & Dyane B</u>		Project No.:	
Well Depth: 38.0 <u>46.24</u> (Blaise)		Date: <u>8-30-10</u>	Time: <u>12:25</u>
DTW (ft): <u>37.28</u>	DTP (ft): <u> </u>	Courier: <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other	
MP Ht. Above/Below Ground Surface: <u> </u>		Sampling Method (G=grab, B=bailer, <u>SP=submersible pump</u>)	
Condition of Bottom of Well: <u> </u>		Type of Pump: <u>dedicated submersible</u>	
Screen Interval (ft): <u>Open Hole</u>		Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>6.25</u>		<u>Sunny, clear ~ 80°</u>	
Placement of Pump (ft): <u> </u>			

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1240	37.28	—	—	—	—	—	—	—	—	don
1243	43.90	8 gpm	—	—	—	—	—	—	—	don
1243	Pump Stopped pumping / unable to collect parameters									don
8/31 0930	43.50	—	—	—	—	—	—	—	—	don
9/1 0726	43.74	—	—	—	—	—	—	—	—	don
9/13/10 0945	43.60	—	—	—	—	—	—	—	—	Sw below pump intake - unable to purge sample don

OBSERVATIONS

Color: <u>Clear</u> Other (describe):
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like
Notes: <u>DTW = 37.28 / approximate DTB = 46.24 Water column = 8.96</u> <u>Stopped pumping @ 1243 Total purge approximately 8 gallons.</u> <u>Will return on 8/31 to collect samples.</u> <u>8/31 Gaged well DTW = 43.50 No recharge unable to sample 9/1 DTW: 43.74 (No recharge)</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J(Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>PZ-005</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area 14</u>
Sampler(s): <u>Stephanie Lapeyre Norhouse</u>	Project No.:
Well Depth: <u>45</u> <small>According to TP in file = 26.14</small>	Date: <u>8/30/10</u> Time: <u>1305</u>
DTW (ft): <u>18.10</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>-</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>
Condition of Bottom of Well: <u>some sediment</u>	Type of Pump: <u>Prunkas non-dedicated</u>
Screen Interval (ft): <u>15-25</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>2"</u>	<u>Sunny, clear, ~85° F</u>
Placement of Pump (ft): <u>22'</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1337	18.22	50	750	6.80	22.97	1138	84	4.16	459	
1341	18.22 ^{10'}	100 ⁰	1050 ⁰	6.81	23.10	1138	85	4.07	411	
1343	18.28 ^{8'}	200 ⁰	1650	6.82	22.54	1139	87	4.09	301	
1346	18.30 ^{2'}	200	2250	6.80	22.14	1136	87	3.91	171	
1349	18.31	200	2850	6.83	22.13	1146	88	3.87	93.2	
1352	18.32	200	3450	6.83	22.11	1146	87	3.89	84.7	
1355	18.33	200	4050	6.84	22.14	1145	89	3.91	72.2	
1358	18.33	200	4650	6.84	21.99	1137	88	4.01	69.0	
1401	18.33	200	5250	6.84	22.04	1139	88	3.99	67.1	
1404	18.33	200	5850	6.83	22.03	1137	88	3.99	66.4	
1407	18.33	200	6450	6.85	22.05	1135	89	4.07	64.5	
1410	18.33	200	7050	6.86	21.94	1134	88	3.92	63.8	
1413	18.33	200	7650	6.86	22.03	1130	88	3.85	62.9	
<i>[Handwritten signature]</i>										

OBSERVATIONS

Color: Clear Other (describe): <u>Clear</u>						
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>						
Notes: <u>PID = 0.0 ppm</u>						
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"><u>lab dup: SM PZ-005-GW083010 Q (time=1415)</u></td> <td style="width: 50%;"><u>Rinse sample:</u></td> </tr> <tr> <td><u>Sample ID: SM PZ-005-GW083010</u></td> <td><u>SM Rinse - 08-EB083010</u></td> </tr> <tr> <td><u>time: 1415 date: 8/30/10</u></td> <td><u>SM Source - 08-EB083010</u></td> </tr> </table>	<u>lab dup: SM PZ-005-GW083010 Q (time=1415)</u>	<u>Rinse sample:</u>	<u>Sample ID: SM PZ-005-GW083010</u>	<u>SM Rinse - 08-EB083010</u>	<u>time: 1415 date: 8/30/10</u>	<u>SM Source - 08-EB083010</u>
<u>lab dup: SM PZ-005-GW083010 Q (time=1415)</u>	<u>Rinse sample:</u>					
<u>Sample ID: SM PZ-005-GW083010</u>	<u>SM Rinse - 08-EB083010</u>					
<u>time: 1415 date: 8/30/10</u>	<u>SM Source - 08-EB083010</u>					
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)						
Signed/Sampler(s): <i>[Signature]</i>						

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: P2-041	Site: S.S.F.L. Area IV
Sampler(s): Jason M. S. Daniels (HGL) Edwards	Project No.:
Well Depth: 29.6 ft (blaine)	Date: 8-27-10 Time: 11:18
DTW (ft): 13.46 DTP (ft): —	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: —	Type of Pump: non-dedicated submersible
Screen Interval (ft): 19-29	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 2	Sunny, clear ~ 90°
Placement of Pump (ft): — 24.0 BTDL	

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB. (NTU)	COMMENTS
11:25	13.46									Jan
11:46	13.96	50 ML min	600	7.25	27.89	953	109	1.89	19.9	
11:49	14.04	"	750	7.25	27.82	952	108	1.85	20.2	
11:52	14.15	"	900	7.26	27.70	951	107	1.79	20.3	
11:55	14.40	"	1050	7.26	27.47	954	106	1.78	19.6	
Well stabilized										
11:57	Sampled well									
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Jan 08/27/10 </div>										

OBSERVATIONS

Color: Clear Other (describe): Clear
Odor: None Low Medium High Very strong H2S Fuel-like No Odor
Notes: Water column = 16.04 well stabilized @ 11:55 / Sampled well 11:57 Total purge = 1150 gal 1 Well Volume = 16.04 x 0.16 = 2.56 3 Well volumes = 2.56 x 3 = 7.74 PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): JMS

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-052	Site: S.S.F.L Area IV
Sampler(s): Jaquez, Ms. David (HGL) Zedardo	Project No.: EPA-038, 01.22.04.02
Well Depth: 31.34 (Blaine)	Date: 8-31-10 Time: 0943
DTW (ft): 25.23 DTP (ft): —	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: —	Type of Pump: non-dedicated submersible
Screen Interval (ft): 18.9 - 28.9	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 2"	Sunny, clear ~75°
Placement of Pump (ft): 28.0	

TIME	DEPTH TO WATER (GD)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0449	25.23	ML/min	ML							JPM
1002	25.64	50 gph	550	6.89	21.79	1321	76	3.75	16	
1005	25.76	"	700	6.85	21.77	1189	83	2.66	10.7	
1008	25.84	"	850	6.85	21.87	1140	84	2.55	8.9	
1011	25.92	"	1,000	6.84	21.82	1,118	85	2.29	8.9	
1014	25.92	"	1,150	6.84	21.90	1,123	86	2.27	8.6	
1017	25.94	"	1,300	6.84	21.93	1,117	87	2.21	8.8	
Well stabilized @ 1017										
Sampled well @ 1020										JPM

OBSERVATIONS

Color: Clear Other (describe): Clear
Odor: None Low Medium High Very strong H2S Fuel-like None
Notes: Total purge volume 1,300 mb
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): JPM

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: PZ-052	Site: S.S.F.L. Area IV
Sampler(s): Jason McDaniel (HGL) Edwards B. (HGL)	Project No.: SP9.038.01.22.04.02
Well Depth: 31.34	Date: 8/30/10 Time: 13:05
DTW (ft): 25.03 DTP (ft):	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: —	Type of Pump: Non-dedicated bladder pump
Screen Interval (ft): 18.9 - 28.9	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 2	Sunny, clear ~ 80°
Placement of Pump (ft): 28	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
13:15	25.03	—	—	—	—	—	—	—	—	SP-1
13:52	25.32	50 mL	550 mL	7.08	23.38	1,279	67	2.56	22.1	
13:55	25.41	"	700 "	7.06	23.19	1,246	68	2.27	22.0	
13:58	25.51	"	850 "	7.05	23.15	1,248	68	2.28	22.9	
14:01	25.51	"	1,000 "	7.04	23.10	1,229	68	2.27	23.3	
14:02	Well stabilized									
14:03	Sampled well									

OBSERVATIONS

Color: Clear Other (describe): Clear
Odor: None Low Medium High Very strong H2S Fuel-like None
Notes: Unable to collect all samples. Halted sampling @ 1600, will return on 8/31 to re-stabilize and finish sampling. Total purge = 1000 mL (1 liter)
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): JMD

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>P2-056^{Old} P2-56</u>	Site: <u>SSFL</u>
Sampler(s): <u>J. Daniel (HG) Edwards (HG)</u>	Project No.:
Well Depth: <u>30.36 on 30.35</u>	Date: <u>8-24-10</u> Time: <u>11:43</u>
DTW (ft): <u>30.41</u> DTP (ft): <u>—</u>	Courier: <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Bailer</u>
Screen Interval (ft): <u>17-27</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>2"</u>	<u>Sunny clear ~100°</u>
Placement of Pump (ft): <u>N/A</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1210	30.41	NA	NA	N/A	N/A	N/A	N/A	N/A	N/A	
<p><i>Jan 08/24/10</i></p>										

OBSERVATIONS

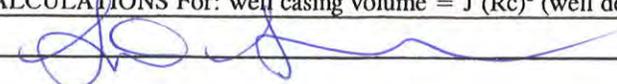
Color: Clear Other (describe): <u>Cloudy Dark Grey in color</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like
Notes: <u>Water column ~ 0.51</u>
<u>Able to collect Tritium only / Not able to collect parameters</u>
<u>Returned on 08/25 DTW = 30.42 (bottom of well) No recharge</u>
<u>1 Well Volume = 0.05 gal 3 Well Volumes = 0.15</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>J. Daniel</u>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>PT-098</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area IV</u>	
Sampler(s): <u>Stephanie Lepaym Antoine</u>	Project No.:	
Well Depth: <u>37.5</u>	Date: <u>8/31/10</u>	Time: <u>1150</u>
DTW (ft): <u>30.77</u> DTP (ft): <u>NA</u>	Courier: <u>UPS</u> <u>Hand</u> <u>Other</u>	
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>	
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Grubos non-dedicated pump</u>	
Screen Interval (ft): <u>27-34</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>2"</u>	<u>Sunny, clear, ~85° F</u>	
Placement of Pump (ft): <u>33</u>		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
1211	30.81	100	900	6.67	23.66	1284	99	2.43	11	
1214	30.97	100	1200	6.69	23.31	1297	100	2.21	11	
1217	31.00	100	1500	6.70	23.12	1280	101	2.47	10	
1220	31.04	100	1800	6.70	23.11	1293	101	2.40	10	
1224	31.09	50	2000	6.71	23.03	1293	102	2.21	9	
1228	31.14	50	2200	6.72	23.82	1292	102	2.11	9	
1232	31.21	50	2400	6.72	24.16	1298	102	2.08	9	
1236	31.25	50	2600	6.73	24.35	1288	102	2.09	6	
<i>(A large blue diagonal line is drawn across the remaining rows of the table, with a circled 'B' in the center.)</i>										

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>P10 = 0.0 ppm</u>
<u>Sample ID: SMP7-098-GW083110</u>
<u>Time: 1240</u> <u>Date: 8/31/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): 

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>PZ-100</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area 10</u>	
Sampler(s): <u>Stephanie Lopez-Montano</u>	Project No.:	
Well Depth: <u>19.32</u>	Date: <u>8/30/10</u>	Time: <u>0810</u>
DTW (ft): <u>12.26</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>	
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>	
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Gruntas non-dedicated</u>	
Screen Interval (ft): <u>5.67-15.67</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>2"</u>	<u>Sunny, clear, ~75°F</u>	
Placement of Pump (ft): <u>15</u>		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0900	12.41	50	700	7.03	18.72	1294	107	3.66	14.4	
0904	12.44	50	900	7.05	18.75	1305	102	3.55	14.1	
0908	12.48	50	1100	7.08	18.93	1285	97	3.53	13.1	
0912	12.54	50	1300	7.10	19.09	1285	92	3.52	13.3	
0916	12.61	50	1500	7.12	19.20	1286	89	3.54	13.3	
0920	12.65	50	1700	7.12	19.27	1256	87	3.56	13.5	
0924	12.73	50	1900	7.16	19.41	1252	85	3.60	13.4	
<i>(Large blue scribble across the table)</i>										

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>none</u>
Notes: <u>PID=0.0 ppm</u> <u>purged at lowest flow rate = 50 ml/min, but DTW still lowered to below 3%</u> <u>(final DTW = 15.81)</u>
Smpli: <u>SMPT-100-GW083010</u>
Time: <u>0925</u> date: <u>8/30/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>[Signature]</u>

ATTACHMENT 1

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-103	Site: SSFL Radiological Survey Area IV
Sampler(s): Stephanie Lapeyre Montrose (HGL)	Project No.:
Well Depth: 37.65 <small>per Siemens (blow test)</small>	Date: 8/23/10
DTW (ft): 26.95	DTP (ft): NA
MP Ht. Above/Below Ground Surface: -	Courier: UPS Hand Other
Condition of Bottom of Well: -	Sampling Method (G=grab, B=bailer, SP=submersible pump) SP
Screen Interval (ft): 28.5 - 38.5	Type of Pump: non dedicated pump
Well Diameter (in): 2"	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, clear, 41.06°F
Placement of Pump (ft): 35 (35)	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
1245	26.95	500 mL/min								Began pumping
1248	27.08	500 mL/min	1,000 mL	7.29	23.77	1.240	97	4.72	505	
1251	27.08	500 mL/min	2,500 mL	7.27	23.19	1.243	97	4.46	341	
1254	27.08	500 mL/min	4,000	7.27	23.13	1.238	96	4.44	283	
1257	27.08	500 mL/min	5,500	7.27	23.13	1.238	96	4.36	194	
1300	27.08	500 mL/min	7,000	7.27	22.99	1.245	95	4.33	124	
1303	27.08	500 mL/min	8,500	7.27	23.06	1.248	94	4.28	104	
1306	27.08	500 mL/min	10,000	7.27	23.00	1.240	93	4.24	98	
1309	27.08	500 mL/min	11,500	7.27	22.94	1.237	93	4.25	94	
1312	27.08	500 mL/min	13,000	7.27	22.82	1.237	92	4.24	88	
1315	27.08	500 mL/min	14,500	7.26	22.96	1.242	92	4.22	84	
1318	27.08	500 mL/min	16,000	7.26	23.02	1.242	92	4.20	81	
1321	27.08	500 mL/min	17,500	7.24	23.04	1.244	90	4.16	72	
1324	27.08	500 mL/min	19,000	7.26	23.07	1.238	90	4.15	62	
1327	27.08	500 mL/min	20,500	7.27	23.12	1.233	90	4.14	57	
1330	27.08	500 mL/min	22,000	7.27	23.15	1.228	90	4.14	57	
1333	27.08	500 mL/min	23,500	7.26	23.20	1.232	90	4.14	50	

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like None

Notes: PID = 0.0 ppm

Flow Rate = 500 mL/min

SMPZ-103-GW082310

Time: 1340 8/23/10

SM Bin site -02-EB082310 1425

SM Source -02-EB082310 1425 } 8/23/10

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s):

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: PZ-105	Site: SSFL Ecological Survey (EPA Region 9) Area IV
Sampler(s): Stephanie Lepore Motrose	Project No.:
Well Depth: 30.33	Date: 8/26/10 Time: 1350
DTW (ft): 18.75 DTP (ft): NA	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: -	Sampling Method (G=grab, B=bailer, SP=submersible pump) SP
Condition of Bottom of Well: -	Type of Pump: Grundfos non dedicated pump
Screen Interval (ft): 17-27	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 2"	clear, sunny, in 99°F
Placement of Pump (ft): 26	

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
8/26/10	1355	18.75	50 ml/min	50 @							extended purge
	1407	19.29	50 ml/min	900 ml	7.28	27.99	905	-23	0.51	22	
	1412	19.53	50 ml/min	1,150 ml	7.28	28.07	902	-26	0.40	21	
	1417	19.62	50 ml/min	1,400	7.28	27.82	904	-27	0.36	16	
	1422	19.74	50	1,650	7.28	27.99	912	-27	0.34	16	
8/26/10	1427	19.89	50	1,900	7.27	28.10	901	-27	0.32	16	
	1432	19.95	50	2,150	7.27	27.98	909	-27	0.31	16	End purge
8/27/10	0736	18.99	50	650	7.12	23.31	905	188	1.80	4	
	0741	19.23	50	900	7.11	23.23	905	188	1.35	3	
	0746	19.35	50	1150	7.10	23.27	916	185	1.31	3	
	0751	19.55	50	1400	7.09	23.36	916	190	1.37	3	

OBSERVATIONS

Color: Clear Other (describe): Clear
Odor: None Low Medium High Very strong H2S Fuel-like None
Notes: P10 = 0.0 ppm
<div style="display: flex; justify-content: space-between;"> <div> <p>sample ID: SMPZ-105-GW082610</p> <p>time: 1455 date: 8/26/10</p> </div> <div> <p>Due to low flow & time constraint, sampling split between 2 days (germe spec & spare vol 008/27/10)</p> <p>sample ID: SMPZ-105-GW082710</p> <p>time: 0755 date: 8/27/10</p> </div> </div>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: P2-106	Site: SSFL Radiological Survey (EPA Region 9) Area 14
Sampler(s): Stephen Lapeyre Montreux	Project No.:
Well Depth: 35 - ^{actual} _{static} (TD = 31.05) - ^{to 31.05}	Date: 8/26/10
DTW (ft): 17.80 DTP (ft): NA	Time: 0920
MP Ht. Above/Below Ground Surface: -	Courier: UPS Hand Other
Condition of Bottom of Well: -	Sampling Method (G=grab, B=bailer, SP=submersible pump) SP
Screen Interval (ft): 18-28	Type of Pump: Groutos non dedicated pump
Well Diameter (in): 2"	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Placement of Pump (ft): 28	clear, sunny, ~99° F

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0946	17.80	50 ml/min	50							started purge
1001	17.95	50 ml/min	750 ml	6.83	26.08	897	13	1.15	8	
1006	17.98	50 ml/min	1,000 ml	6.84	25.58	888	35	0.92	7	
1011	17.98	50	1,250	6.85	25.39	896	35	0.74	4	
1016	18.00	75 ml/min	1,625	6.86	24.52	897	35	0.67	3	
1021	18.02	75	2,000	6.89	24.02	899	36	0.63	4	
1026	18.02	75	2,375	6.91	23.71	897	34	0.56	4	
1031	18.02	100 ml/min	2,875	6.93	23.44	895	33	0.54	4	
1036	18.02	100	3,375	6.94	22.96	893	33	0.50	4	
1041	18.02	100	3,875	6.95	22.95	894	34	0.46	2	
1046	18.02	100	4,375	6.96	22.85	894	36	0.44	2	
1051	18.02	100	4,875	6.96	22.96	893	39	0.37	2	
1056	18.02	100	5,375	6.97	23.05	894	40	0.36	1	
1101	18.02	100	5,875	6.97	22.91	892	43	0.35	1	took sample
(Signature)										

OBSERVATIONS

Color: Clear Other (describe): clear
Odor: None Low Medium High Very strong H2S Fuel-like none
Notes: PND > 0.0 ppm
Sample ID = SMP2-106 - Gw082610 (finished sample at 1310)
Time: 1105 Date: 8/26/10
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): (Signature)

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: P2-1φ8	Site: S.S.F.L. Area IV	
Sampler(s): Jason M. David (HLE) Edwards (Bolina)	Project No.:	
Well Depth: 3φ φ	Date: 8-27-10	Time: 0700
DTW (ft): 13.φ1	DTP (ft): —	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface: —	Sampling Method (G=grab, B=bailer, SP=submersible pump)	
Condition of Bottom of Well: —	Type of Pump: Non-dedicated submersible pump	
Screen Interval (ft): 16.26	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): 2	sunny, clear ~75°	
Placement of Pump (ft): — 22.φ BTOL		

TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0745	13.φ1	—	—	—	—	—	—	—	—	Jan
0759	13.4φ	75 ml/min	525 mL	7.φ1	23.37	1,φ87	188	1.9φ	25.5	
0802	13.43	75 ml/min	75φ mL	7.φ2	23.34	1,φ9φ	187	1.49	28.3	
0805	13.59	"	975 "	7.φ3	23.22	1,φ87	184	1.44	28.9	
0808	13.69	"	1,2φφ "	7.φ4	23.16	1,φ94	181	1.4φ	29.9	
0808	Well Stabilized									Jan
0810	Sampled well									

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like None

Notes: DTW = 13.φ1 Water volume = 16.99 (16.99 x φ.16 = 2.72)
 Flow rate φ.75 ml/min Well Stabilized @ 0808 φ.8φ8 Sampled well @ 0810
 Total purge = 15φφ mL
 1 Well Volume = 2.72 gal 3 Well Volumes = 8.16

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): JM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-109	Site: 50 FL Ave IV
Sampler(s): Jason McDonald (AW) Eduardo (AW)	Project No.:
Well Depth: 36.5	Date: 8-25-10 Time: 11:16
DTW (ft): 15.01 DTP (ft):	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well:	Type of Pump: non-dedicated submersible bladder pump
Screen Interval (ft): 25-35	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 2.0	Sunny, clear ~100° no wind
Placement of Pump (ft): 30.0	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
12:05	15.01	125 ml/m								21"
12:25	16.24	50 ml/m	650 ml	7.49	31.65	1,061	29	2.22	67.2	
12:28	16.49	50 ml/m	2,150 ml	7.50	32.56	1,054	33	2.33	54.3	
12:31	16.59	50 ml/m	3,650 ml	7.51	32.87	1,054	37	2.40	54.7	
12:34	16.69	50 ml/m	1,100	7.52	33.18	1,049	39	2.53	54.0	
12:37	16.81	50 ml/m	1,250	7.53	33.44	1,037	43	2.67	49.0	
12:40	16.91	50 ml/m	1,400	7.53	33.62	1,037	44	2.76	51.2	
12:43	17.01	50 ml/m	1,550	7.54	33.73	1,044	45	2.78	50.1	
12:46	17.15	50 ml/m	1,700	7.55	33.82	1,035	48	2.82	50.3	
12:49	17.24	50 ml/m	1,850	7.56	33.90	1,037	49	2.93	44.6	
12:52	17.33	50 ml/m	2,000	7.56	33.97	1,036	51	2.97	46.6	
12:55	17.48	50 ml/m	2,150	7.57	30.91	1,029	53	2.99	44.7	
12:56	Sampled well									
08/25/10										

OBSERVATIONS

Color: Clear Other (describe): Clear
Odor: None Low Medium High Very strong H2S Fuel-like No odor
Notes: Water column = 21.49
Began purge @ 12:05 / @ 12:10 adjusted flow rate to 30 ml/min / adjusted to 50 ml/min @ 12:25 / 16:45 had to cease well sampling due to time.
1 Well Volume = 3.44 3 Well Volumes = 10.32
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <i>[Signature]</i>

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>PZ-112</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area 10</u>
Sampler(s): <u>Stephanie Lopez-Morales</u>	Project No.:
Well Depth: <u>37.06</u>	Date: <u>8/31/10</u> Time: <u>0755</u>
DTW (ft): <u>29.41</u> DTP (ft): <u>NA</u>	Courier: <u>UPS Hand Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Grubbs non-dedicated</u>
Screen Interval (ft): <u>24-34</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>2</u>	<u>Sunny, clear, ~85°F</u>
Placement of Pump (ft): <u>33</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0822	29.61	100	900	6.31	19.36	1144	120	3.73	18	
0825	29.71	100	1200	6.25	19.43	1132	125	3.43	16	
0828	29.70	100	1500	6.24	19.47	1144	129	3.19	18	
0831	29.70	100	1800	6.24	19.49	1145	130	3.12	14	
0834	29.70	100	2100	6.24	19.56	1140	130	3.12	13	
0837	29.70	100	2400	6.25	19.65	1132	131	3.07	13	

OBSERVATIONS

Color: Clear Other (describe): <u>Clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>PI0 = 0.0 ppm</u>
Sample ID: <u>SMPZ-112-GW083110</u>
Time: <u>0840</u> Date: <u>8/31/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>P2-121</u>	Site: <u>S.S.F.L Area IV</u>
Sampler(s): <u>Josmar M. Daniel (HGL) Edwards (Blaine)</u>	Project No.: <u>EP9 038.01.22.04.02</u>
Well Depth: <u>33.0</u>	Date: <u>09/01/10</u> Time: <u>0900</u>
DTW (ft): <u>18.74</u> DTP (ft): <u>—</u>	Courier: <u>UPS</u> Hand Other
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>non-dedicated submersible</u>
Screen Interval (ft): <u>15-25</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>2"</u>	<u>Sunny, clear ~ 80°</u>
Placement of Pump (ft): <u>23</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>0904</u>	<u>18.74</u>	<u>ms/m</u>	<u>ml</u>							<u>SP-1</u>
<u>0930</u>	<u>18.80</u>	<u>50 ml/m</u>	<u>500</u>	<u>6.15</u>	<u>28.46</u>	<u>1,079</u>	<u>159</u>	<u>2.28</u>	<u>17.0</u>	
<u>0933</u>	<u>18.80</u>	<u>"</u>	<u>650</u>	<u>6.15</u>	<u>28.37</u>	<u>1,061</u>	<u>160</u>	<u>2.04</u>	<u>18.5</u>	
<u>0936</u>	<u>18.82</u>	<u>"</u>	<u>800</u>	<u>6.15</u>	<u>28.27</u>	<u>1,062</u>	<u>162</u>	<u>1.85</u>	<u>18.8</u>	
<u>0939</u>	<u>18.85</u>	<u>"</u>	<u>950</u>	<u>6.15</u>	<u>28.19</u>	<u>1,062</u>	<u>164</u>	<u>1.72</u>	<u>18.1</u>	
<u>0942</u>	<u>18.92</u>	<u>"</u>	<u>1,100</u>	<u>6.16</u>	<u>28.25</u>	<u>1,055</u>	<u>167</u>	<u>1.56</u>	<u>15.5</u>	
<u>0945</u>	<u>18.97</u>	<u>"</u>	<u>1,250</u>	<u>6.16</u>	<u>28.30</u>	<u>1,066</u>	<u>169</u>	<u>1.47</u>	<u>16.0</u>	
<u>0948</u>	<u>19.02</u>	<u>"</u>	<u>1,400</u>	<u>6.16</u>	<u>28.34</u>	<u>1,065</u>	<u>170</u>	<u>1.44</u>	<u>16.4</u>	
<u>0949</u>	<u>Well stabilized</u>									
<u>0950</u>	<u>Sampled Well</u>									
<u>09/01/10</u>										

OBSERVATIONS

Color: <u>Clear</u> Other (describe): <u>Clear</u>
Odor: <u>None</u> Low Medium High Very strong H2S Fuel-like <u>None</u>
Notes: <u>Water column = 14.26</u>
<u>1 well volume = 14.26 x 0.16 = 2.28 3 well volumes = 2.28 x 3 = 6.84</u>
<u>Total purge = 1,450 ml (1.4 liters)</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>Josmar</u>

ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>PZ-122</u>	Site: <u>SSFL Radiological Survey (Region 9) Area 14</u>	
Sampler(s): <u>Stephanie Lepage Montoux</u>	Project No.:	
Well Depth: <u>27.5</u>	Date: <u>8/27/10</u>	Time: <u>1305</u>
DTW (ft): <u>17.00</u> DTP (ft): <u>NA</u>	Courier: <u>UPS</u> <u>Hand</u> <u>Other</u>	
MP Ht. Above/Below Ground Surface: <u>-</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>	
Condition of Bottom of Well: <u>-</u>	Type of Pump: <u>Grundfos non dedicated pump</u>	
Screen Interval (ft): <u>15.5 - 25.5</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>2"</u>	<u>sunny, clear, ~95°F</u>	
Placement of Pump (ft): <u>23</u>		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (NTU)	COMMENTS
1315	17.25	50 ml/min	600	6.71	26.35	990	71	1.87	18	started purge
1320	17.24	50 ml/min	850	6.71	25.81	1001	79	1.07	15	
1325	17.26	50 ml/min	1,000	6.71	25.63	1001	81	0.95	10	
1330	17.30	50	1,250	6.73	24.74	1004	83	0.77	9	
1335	17.32	50	1,500	6.75	24.40	1002	85	0.62	8	
1340	17.32	50	1,750	6.75	24.40	1002	86	0.60	9	
1345	17.33	50	1,800	6.74	24.31	1003	89	0.58	9	End purge/began sampling

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>						
Odor: None Low Medium High Very strong H2S Fuel-like <u>None</u>						
Notes: <u>PID 0.0 ppm</u>						
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">sample ID = <u>SMPZ-122-GW082710</u></td> <td style="width: 50%;">Equip. Blank: ID: <u>SM50000-07-082710</u></td> </tr> <tr> <td>time: <u>1345</u> date: <u>8/27/10</u></td> <td>ID: <u>SM binsati-07-082710</u></td> </tr> <tr> <td></td> <td>time: <u>1545</u> date: <u>8/27/10</u></td> </tr> </table>	sample ID = <u>SMPZ-122-GW082710</u>	Equip. Blank: ID: <u>SM50000-07-082710</u>	time: <u>1345</u> date: <u>8/27/10</u>	ID: <u>SM binsati-07-082710</u>		time: <u>1545</u> date: <u>8/27/10</u>
sample ID = <u>SMPZ-122-GW082710</u>	Equip. Blank: ID: <u>SM50000-07-082710</u>					
time: <u>1345</u> date: <u>8/27/10</u>	ID: <u>SM binsati-07-082710</u>					
	time: <u>1545</u> date: <u>8/27/10</u>					
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)						
Signed/Sampler(s):						

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>P2-154</u>	Site: <u>SSFL</u>
Sampler(s): <u>Jason M. Daniels (HGL) Edwards</u> <u>(blower)</u>	Project No.:
Well Depth: <u>3048</u>	Date: <u>8-24-10</u> Time: <u>0928</u>
DTW (ft): <u>28.10</u> DTP (ft): <u>—</u>	Courier: <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, <u>B=bailer</u> , SP=submersible pump)
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Bailer</u>
Screen Interval (ft): <u>NA</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>NA per 4.0"</u>	<u>Sunny, clear ~95°</u>
Placement of Pump (ft): <u>—</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
<u>0940</u>	<u>28.10</u>	<u>N/A</u>	<u>N/A</u>	<u>7.40</u>	<u>31.07</u>	<u>1,438</u>	<u>198</u>	<u>4.30</u>	<u>5.0</u>	
<u>8-24-10</u>										

OBSERVATIONS

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very strong H2S Fuel-like

Notes: Water column = 2.08
Unable to collect space volumes due to no water, unable to collect Gross Alpha & Beta / one SR90 bottle only 75% full
1 well volume = 1.55 3 well volumes = 4.64 8-25-10 returned to well
DTW ^{28.10} 28.10 (No recovery)

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): JMD

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: PZ-160	Site: S.S.P.L.	
Sampler(s): Jason M. David (H&W) ^{Edwards} _{Blain}	Project No.:	
Well Depth: 29.50 (Bgs) 29.63	Date: 8-27-10	Time: 0825
DTW (ft): 26.80	DTP (ft):	Courier: UPS Hand Other
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump)	
Condition of Bottom of Well:	Type of Pump: Non-dedicated bladder pump/Bailer	
Screen Interval (ft):	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): 4 inch	sunny, clear ~ 90° No wind	
Placement of Pump (ft): N/A		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0847	26.80	N/A	N/A	7.04	25.32	181	80	2.60	1.7	

OBSERVATIONS

Color: Clear Other (describe):

Odor: None Low Medium High Very strong H2S Fuel-like

Notes: 2.78 foot water column. Used bailer to retrieve samples

8-25-10 - Returned to well DTW 29.50 (NO recharge.)

1 well volume: 1.82 3 well volumes: 5.44

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H₂O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): *JM David*

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>PZ-161</u>	Site: <u>SSFL Radiological Survey (EPA Region 9) Area 1</u>	
Sampler(s): <u>Stephanie Lynn Morrow</u>	Project No.:	
Well Depth: <u>30.07</u>	Date: <u>8/25/10</u>	Time: <u>0910</u>
DTW (ft): <u>25.63</u> DTP (ft): <u>NP</u>	Courier: <u>UPS</u> <input type="checkbox"/> Hand <input type="checkbox"/> Other <input type="checkbox"/>	
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>SP</u>	
Condition of Bottom of Well: <u>—</u>	Type of Pump: <u>Grufos pump (non dedicated)</u>	
Screen Interval (ft): <u>—</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Well Diameter (in): <u>4</u>	<u>Sunny, clear, ~100°F</u>	
Placement of Pump (ft): <u>29.5</u>		

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
0933	25.63	100 mL/m	600 mL	6.67	26.03	1.267	81	2.34	40	Started purge
0937	25.79	100	900	6.96	25.73	2.34	62	3.18	28	
0940	25.80	75	1,125	6.88	25.92	2.54	66	2.51	24	
0943	25.80	75	1,350	6.84	25.99	2.53	66	2.23	22	
0946	25.80	75	1,575	6.83	26.13	2.53	65	1.93	21	
0949	25.80	75	1,800	6.83	26.15	2.52	65	1.93	20	
0952	25.80	75	2,025	6.83	26.17	2.50	65	1.91	20	after reading - began sampling

OBSERVATIONS

Color: Clear Other (describe): <u>clear</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>NONE</u>
Notes: <u>PID = 0.0 ppm</u>
<u>Equip. Blank: SM Rinsets-03-EB082510 1340 / Source SM Rinsets-03-EB082510</u>
<u>Sample ID: SMPZ-161-GW082510</u> <u>Sample began at 1005 and ended at 1330</u>
<u>Time: 1005</u> <u>Date: 8/25/10</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>WS 07</u>	Site: <u>SSFL EPA REGION 9</u>
Sampler(s): <u>JONATHAN VAIDEZ</u>	Project No.: <u>EP9038-01-22-04-02</u>
Well Depth:	Date: <u>8/25/10-8/26/10</u> Time: <u>0800</u>
DTW (ft): <u>59.37</u> DTP (ft):	Courier: <u>UPS</u> <u>Hand</u> <u>Other</u>
MP Ht. Above/Below Ground Surface:	Sampling Method (G=grab, B=bailer, SP=submersible pump)
Condition of Bottom of Well:	Type of Pump: <u>SUBMERSIBLE PUMP</u>
Screen Interval (ft): <u>OPEN HOLE</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>12</u>	<u>SUN/CLEAR 100%</u>
Placement of Pump (ft):	

8/24/10

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (NTU)	COMMENTS
1100	62.00	14	168	7.42	22.12	778	-155	1.82	32	START PURGE
1200	69.38	14.25								
1300	72.04	14.25	855							
1400	73.95	14.25	855							STOP PURGE VAC TRUCK FULL
<hr/>										
0725	60.76	14								
0740	68.34	14		6.90	21.46	820	-106	0.87	36	
0825	69.30	14	840							
0925	72.56	14	840							
1025	74.79	14	840							
1056	75.64									STOP PURGE VAC TRUCK FULL
1203	67.95	14								STARTED PURGE
1303	75.39	14	840							
1307		14		7.14	23.49	802	-89	0.83	25	
1403	77.73	14	840							
1503	79.40	14	840							
1537	80.00	14								STOP PURGE VAC TRUCK FULL

OBSERVATIONS

Color: Clear Other (describe):
Odor: None Low Medium High Very strong H2S Fuel-like
Notes: <u>1050 BEGAN PURGE AT 14 GPM. FLOWMETER START AT 69.38/66.280. STOPPED PURGE AT 1422</u> <u>VAC TRUCK FULL 3101 GAL. FLOWMETER END AT 69.38/1. WILL CONTINUE PURGING WELL TOMORROW 8/26/10</u> <u>KAT (WDC) ONLY ABLE TO RUN 360 FT OF PIPE DUE TO OBSTRUCTION IN WELL. 08/24/10 BEGAN PURGE AT</u> <u>0725. FLOWMETER START 69.38/STOP PURGE VAC TRUCK FULL 12950 GAL/END OF WORK DAY/ FLOWMETER END 75320</u> PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s):

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RS-11	Site: SSFL Area IV
Sampler(s): Japo McDaniel (HGL)	Project No.: EPA 038, 01.22.04.02
Sampler(s): Nick Harrel (Blowline Tech)	Date: 3-30-11 (3-31-11) Time: 1400 (0745)
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Electric Ground Gas
Sample ID: SMRS116W033111	Sample Date: 3-31-11 Sample Time: 0750
Additional Samples (DUP/MSD/Blanks): SM Dup 074W033111	Sample Date: 3-31-11 Sample Time: 0800
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: 17.70	DTW (ft): 7.57 (8.10) Type of Pump: Ground Gas
Condition of Bottom of Well: Soft	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): —	Sunny, clear, NW wind @ 80°
Well Diameter (in): Open Hole	Placement of Pump (ft) 17.5 BTCL

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-30-11	14:23	9.20	1.0	3.0	6.90	18.03	2040	132	3.09	15	
"	14:26	9.40	"	6.0	6.95	17.95	2030	131	3.71	15	
"	14:29	10.25	"	9.0	6.93	17.65	2,020	129	4.44	8	
"	14:32	11.30	"	12.0	6.94	17.61	2,060	127	3.85	9	
"	14:35	12.10	"	15.0	6.95	17.51	3,070	124	3.77	10	
"	14:38	13.12	"	18.0	6.94	17.65	2,110	122	3.62	4	
"	14:41	14.05	"	21.0	6.92	17.90	2,130	120	2.91	5	
"	14:44	15.05	"	24.0	6.87	18.14	2,040	120	2.00	5	
"	14:47	15.60	"	27.0	6.87	18.29	2,140	118	1.40	6	
"	14:50	16.55	"	30.0	6.88	18.56	3,230	104	1.22	6	
"	14:52	Well ran dry.									
3-31-11	0745	8.10	N/A	Log	6.81	20.21	2,220	224	4.57	3	
"	0750	Sampled well SMRS116W033111									
APM 3-31-11											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Water Column: 10.13
 1 Well Vol: 105.75 3 Well Vol: 317.27
 14:52 Well ran dry. Will return on 3-30 to collect sample.
 Sampled well @ 0750 on 3-31 SMRS-116W033111 Total purge = 32 gallons

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): APM

Well No.: AS-16	Site: SSFL RAD Survey Area IV + NBZ EPA Reg 9	
Sampler(s): Timothy Morse	Project No.: EP9088-01-22-04-02	
Sampler(s): ED Budano	Date: 3/30/11	Time: 0910
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Sample Pro Blower Pump
Sample ID: SMRS-16-6W033011	Sample Date: 3/30/11	Sample Time: 0910^c 1030
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 22.05	DTW (ft): 17.77	Type of Pump: Sample Pro Bladder pump
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 16.5-20.5	Sunny N 75°F, light wind	
Well Diameter (in): 4"	Placement of Pump (ft) ~ 21' bgs.	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/30/11	0954	17.88	60 ml	780 ml	6.76	19.82	0.901	-191	3.06	20.7	
	0957	17.82	60 ml	960	6.76	19.87	0.900	-189	3.11	20.2	
	1000	17.82	60	1140	6.76	19.82	0.901	-188	3.25	19.7	
	1003	17.82	60	1320	6.76	19.93	0.899	-188	3.04	18.8	
	1006	17.82	60	1500	6.75	19.94	0.893	-187	2.87	18.3	
	1009	17.82	60	1680	6.76	19.90	0.899	-188	3.00	18.0	
	1012	17.82	60	1860	6.76	19.87	0.899	-188	3.02	17.7	
	1015	17.82	60	2040	6.76	19.92	0.890	-188	2.72	17.5	
	1018	17.82	60	2220	6.76	19.97	0.891	-188	2.81	16.6	
	1021	17.82	60	2400	6.76	20.03	0.891	-189	2.87	17.1	
	1024	17.82	60	2580	6.76	20.06	0.899	-188	2.83	15.8	
Parameters stabilized											
	1500				6.98	23.46	1.118	-269	3.09	85.9	TA

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: **75 gal minimum system purge volume**
1025 - sample collection begun

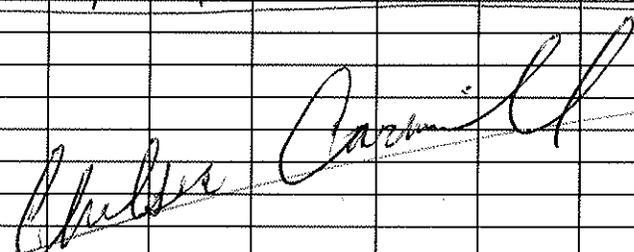
PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RS-18	Site: SSFL Radiological Study, Area IV	
Sampler(s): C. Carmichael	Project No.: R9008, 01, 22, 04, 02	
Sampler(s):	Date: 3-17-11	Time: 1512
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP ² B	Type of Pump: 2 Bailer	
Sample ID: SMRS-18-GW031811	Sample Date: 3-18-11	Sample Time: 0820
Additional Samples (DUP/MSD/Blanks): SMRS-18-GW031811 Q	Sample Date: 3-18-11	Sample Time: 0820
Additional Samples (DUP/MSD/Blanks): SMRS-18-GW031811 MS	Sample Date: 3-18-11	Sample Time: 0820
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 14.29'	DTW (ft): 4.57'	Type of Pump: Bailer
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 7.5-13'	partly cloudy, 73°	
Well Diameter (in): 4"	Placement of Pump (ft) n/a	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-17-11	1520	8.31	n/a	3	6.95	17.21	900	203	5.72	110	start purging
3-17-11	1524	9.25	n/a	6	7.00	16.82	928	203	5.43	127	
3-17-11	1527	9.42	n/a	9	7.00	16.79 ⁽²⁾	911	199	5.37	119	
3-17-11	1531	10.23	n/a	12	7.00	16.80	900	197	4.91	140	
3-17-11	1535	10.92	n/a	15	7.02	16.83	894	196	5.56	132	
3-17-11	1544	11.35	n/a	19	7.03	17.01	861	199	5.21	166	end purge
3-18-11	0740	4.82	n/a	n/a	7.05	13.79	831	193	5.23	60	sample
											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Purged dry until parameters stable at 1544.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

**ATTACHMENT 1
GROUNDWATER FIELD SAMPLING DATA SHEET**

Well No.: <u>RS-23</u>	Site: <u>SSFL Area IV (EPA Region 9)</u>
Sampler(s): <u>C. Carmichael</u>	Project No.: <u>EP9038:01.22.04.02</u>
Well Depth: <u>13'</u>	Date: <u>3-16-11</u> Time: <u>1224</u>
DTW (ft): <u>n/a</u> DTP (ft): <u>—</u>	Courier: <u>UPS</u> <u>Hand</u> <u>Other</u>
MP Ht. Above/Below Ground Surface: <u>—</u>	Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>NA</u>
Condition of Bottom of Well: <u>dry</u>	Type of Pump: <u>n/a</u>
Screen Interval (ft): <u>open hole^{ga} 8-13'</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): <u>4"</u>	<u>Sunny, clear, 73°</u>
Placement of Pump (ft): <u>n/a</u>	

TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
<u>1021</u>	<u>dry</u>									

OBSERVATIONS

Color: Clear Other (describe): <u>—</u>
Odor: None Low Medium High Very strong H2S Fuel-like <u>—</u>
Notes:
<u>well dry</u>
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc) ² (well depth - static H ₂ O depth) x (conversion 7.48 gal/ft ³)
Signed/Sampler(s): <u>Chelsea Carmichael</u>

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RS-25	Site: SSFL RAD Survey Area IV+NBZ EPA Reg. 9	
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02	
Sampler(s): ED Budano (BlainTech)	Date: 3/22/11	Time: 1500
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Bailer
Sample ID: SMRS-25-6W032211	Sample Date: 3/22/11	Sample Time: 1510
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time: (pre-sample)
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time: (disregard)
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 14.87 TM 14.92	DTW (ft): 12.18	Type of Pump: Bailer
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 8.5-13.5	Partly cloudy, light wind, 65°F	
Well Diameter (in): 4"	Placement of Pump (ft) Bailer	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
START	3/22/11	1500	14.92	-	6.66	16.04	0.892	-202	1.62	116	
					- samples collected -						
					6.65	17.04	0.886	-200	2.17	97.1	murky/sandy
					6.68	17.17	0.886	-193	2.45	124	murky
					6.71	17.12	0.879	-172	2.50	138	murky
					6.67	17.16	0.890	-183	2.92	161	murky
					6.66	17.15	0.891	-180	2.71	153	murky
					Stopped Bailer Purge ~ 16 gal total						
END	3/23/11	0830	12.43	16							Bailing
START		0840	12.43	16	6.52	14.60	0.349	48	4.21	143	murky
		0855	12.63	22	6.51	16.56	0.468	-21	1.64	665	very murky
		0903	-	26	6.55	17.14	0.856	-116	2.42	2000	silt/mud
		0909	12.79	32	6.64	17.07	0.866	-106	3.74	2000	"
		0918	-	38	6.70	16.87	0.852	-116	3.57	2000	"
		0923	1309	44	6.62	16.35	0.854	-124	3.60	5999	muddy
END		0932	13.22	50	6.65	17.07	0.869	-130	3.93	5999	very muddy/silty

OBSERVATIONS

Color: Clear Other (describe): murky to very murky/silty/muddy (due to use of bailer purge)
Odor (circle one): None Low Medium High Very strong H2S Fuel-like
PID reading:
Notes: 1500 - collected samples 1517 - continued to purge (bailer) water from RS-25 - 1535 (stop)
90% = 12.95 DTW, will return to collect post-purge sample once silt settles
PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]
Signed/Sampler(s): <i>Ed Budano</i>

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RS-25	Site: SSFL RAD Survey Area IV + MBZ EPA Reg. 9	
Sampler(s): Timothy Morse	Project No.: EP90388.01.22.04.02	
Sampler(s): ED Bruno (Bantech)	Date: 3/24/11	Time: 0740
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Bailer
Sample ID: SMRS-25-6W032411	Sample Date: 3/24/11	Sample Time: 0815
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 14.92	DTW (ft): 12.80	Type of Pump: Bailer
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 8.5-15.5	Partly cloudy, light wind, cool ~50°F	
Well Diameter (in): 4"	Placement of Pump (ft) Bailer	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/24/11	0808	12.80	-	-	6.73	15.80	0.904	-121	2.35	550	Sample collected
TM											

OBSERVATIONS

Color: Clear Other (describe): clear at first until well surged by bailer activity

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Samples turbid (~500-1000 ntu) due to hard bailing sample technique

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RS-27</u>	Site: <u>SSFL Radiological Study, Area III</u>	
Sampler(s): <u>C Carmichael</u>	Project No.: <u>EM9038.01.22.04.02</u>	
Sampler(s): <u>—</u>	Date: <u>3-30-11</u>	Time: <u>1400</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>B</u>	Type of Pump: <u>bailer</u>	
Sample ID: <u>SMRS-27-GW033011</u>	Sample Date: <u>3-30-11</u>	Sample Time: <u>1400</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Well Depth: <u>9.83</u>	DTW (ft): <u>6.97</u>	Type of Pump: <u>bailer</u>
Condition of Bottom of Well: <u>/</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): <u>Sunny, 82°</u>	
Screen Interval (ft): <u>5-9'</u>	Placement of Pump (ft) <u>n/a</u>	
Well Diameter (in): <u>4"</u>		

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
<u>3-30-11</u>	<u>1413</u>	<u>6.97</u>	<u>/</u>	<u>/</u>	<u>6.97</u>	<u>21.36</u>	<u>764</u>	<u>117</u>	<u>5.65</u>	<u>516</u>	<u>Sample parameters</u>
<p><i>Chelsea Carmichael</i></p>											

OBSERVATIONS

Color: Clear Other (describe): slight yellowish-brown tint

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading: /

Notes: Sample collected first - little to no recharge with <3 ft water column. All 9 bottles were filled.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RS-54</u>	Site: <u>SSFL Radiological Study, Area IV</u>
Sampler(s): <u>C. Carmichael</u>	Project No.: <u>EP9038. 01.22.04.020</u>
Sampler(s): <u>—</u>	Date: <u>3-28-11</u> Time: <u>1425</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>SP</u>	Type of Pump: <u>dedicated submersible</u>
Sample ID: <u>SMRS-54-GW032811</u>	Sample Date: <u>3-28-11</u> Sample Time: <u>1450</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u> Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u> Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u> Sample Time: <u>/</u>
Well Depth: <u>46.24'</u>	DTW (ft): <u>17.26'</u> Type of Pump: <u>dedicated submersible</u>
Condition of Bottom of Well: <u>—</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): <u>sunny, 68"</u>
Screen Interval (ft): <u>open hole</u>	Placement of Pump (ft) <u>—</u>
Well Diameter (in): <u>6.25"</u>	

1449

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS	
3-28-11	1451	24.35	3	9	7.42	19.92	1189	141	2.07	105	sample	
3-28-11	1454	28.89	3	18	7.08	20.00	1190	130	0.63	105	post-sample purge	
3-28-11	1457	33.23	3	27	7.05	19.93	1180	125	0.54	98.5		
3-28-11	1500	38.93	3	36	7.07	19.77	1189	125	0.53	99.5		
3-28-11	1503	44.30	3	43	7.05	19.79	1187	120	0.71	103		
3-28-11	1504	Pump ceases										Purge stopped

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: 3 gail

Notes: Start purge at 50 ml/min using Franklin electric box → sampled first because there is no recharge. Well went dry at 1504 (~44 gallons purged)

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Ben Stevens

Well No.: PZ-005	Site: SSFL Area IV Radiological Study	
Sampler(s): C. Carmichael	Project No.: 89038.01.22.04.02	
Sampler(s):	Date: 3-23-11	Time: 0815
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: bladder	
Sample ID: SMPZ-005-GW032311	Sample Date: 3-23-11	Sample Time: 1000
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 25.92'	DTW (ft): 14.28'	Type of Pump: bladder
Condition of Bottom of Well: some sediment	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): overcast, 51°	
Screen Interval (ft): 15-25	Placement of Pump (ft): 22'	
Well Diameter (in): 2"		

0827

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM) (ml/min)	TOTAL VOLUME (GAL) (ml)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-23-11	0832	14.39	100 ml/min	800	6.87	17.01	1,093	181	5.84	5999	Start purge
3-23-11	0835	14.41	200	1400	6.99	18.28	1090	174	6.03	5999	
3-23-11	0838	14.41	200	2000	7.04	18.45	1079	170	6.16	5999	
3-23-11	0841	14.41	200	2600	7.10	18.48	1074	169	6.29	2000	
3-23-11	0844	14.41	200	3200	7.12	18.52	1075	167	6.34	2000	
3-23-11	0847	14.41	200	3800	7.11	18.54	1072	166	6.36	2000	stabilization reached
	start sample		0849								

Chelsea Carmichael

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Start sampling at 0849; Flow rate for sample: 100 ml/min

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *Chelsea Carmichael*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-041	Site: SSFL RAD SURVEY AREA	
Sampler(s): Timothy Morse	Project No.: EPA D38.01.22.04.02	
Sampler(s): ED Budano	Date: 3/25/11	Time: 0905
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Sample Pro micro purge
Sample ID: SMPZ-041-6W032511	Sample Date: 3/25/11	Sample Time: 1000
Additional Samples (DUP/MSD/Blanks): SM source-16-EB032511	Sample Date: 3/25/11	Sample Time: 1420
Additional Samples (DUP/MSD/Blanks): SM source-16-EB032511	Sample Date: 3/25/11	Sample Time: 1420
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 29.6'	DTW (ft): 5.99	Type of Pump: Sample Pro pump
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 19-29	cloudy, light breeze	
Well Diameter (in): 2"	Placement of Pump (ft) 24'	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/25/11	0928	6.29	60 mL	815	7.12	16.14	1.111	-162	0.87	25.3	
	0931	6.43	60	925	7.12	16.07	1.111	-165	0.82	24.0	
	0934	6.57	60	1055	7.12	15.99	1.111	-167	0.77	21.5	
	0937	6.70	50 mL	1105	7.12	15.94	1.113	-169	0.75	20.1	
	0940	6.83	50	1165	7.12	15.90	1.114	-172	0.78	18.7	
	0943	7.01	50	1205	7.12	15.85	1.099	-173	0.75	7.6	
	0948	7.10	50	1255	7.12	15.80	1.098	-174	0.74	16.7	
	0949	7.20	50	1305	7.12	15.51	1.098	-176	0.74	16.5	
Parameters stabilized											
FM											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: 772 mL needed to purge system volume
pump on @ 0915
50 mL/min continues to cause drawdown

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-052	Site: SDFL Area IV	
Sampler(s): Jason M's Daniel (HGL)	Project No.: EP9.038.01.22.04.02	
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-31-11	Time: 0850
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Bladder	Non-dedicated submersible
Sample ID: SMP20526W03311	Sample Date: 3-31-11	Sample Time: 0942
Additional Samples (DUP/MSD/Blanks): SM Dup 086W03311 Q	Sample Date: 3-31-11	Sample Time: 1230
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 21.35	DTW (ft): 16.70	Type of Pump: non ded. submersible
Condition of Bottom of Well: /	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 18.9-28.9	Sunny, clear, light N wind ~ 70°	
Well Diameter (in): 2.0	Placement of Pump (ft) 25.0 ft 24.0 BTL	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3-31-11	0938	17.10	50 gal/hr	700 gal	7.05	21.52	1,024	114	4.26	39	
"	0931	17.19	"	850 "	7.06	21.19	1,026	105	4.49	37	
"	0934	17.22	"	1000 "	7.08	21.01	1,027	96	4.50	35	
"	0937	17.24	"	1150 "	7.09	20.95	1,028	91	4.61	35	
"	0940	17.27	"	1300 "	7.10	20.81	1,026	92	4.72	36	
"	0941	well stabilized									
"	0942	Sampled well: SMP20526W03311									

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Water Column: 14.65

0942 Sampled well: SMP20526W03311

1 Well Vol: 2.54 3 Well Vol: 7.03 Total Purge: 1700 ml

PURGE VOLUME CALCULATIONS For: well casing volume = J (Re)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): [Signature]

Well No.: <u>PZ-055</u>	Site: <u>SSFL RAD SURVEY AREA II+NBZ EPA Rg 9</u>	
Sampler(s): <u>Timothy Mase</u>	Project No.: <u>EP9058.01.22.04.02</u>	
Sampler(s): <u>Ed Budano</u>	Date: <u>3/31/11</u>	Time: <u>0800</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: <u>Bailer</u>	
Sample ID: <u>SMPZ-055-6W033111</u>	Sample Date: <u>3/31/11</u>	Sample Time: <u>0810</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Well Depth: <u>32.30</u>	DTW (ft): <u>32.18</u>	Type of Pump: <u>Bailer</u>
Condition of Bottom of Well: <u>-</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): <u>Sunny, mod. wind, ~75°F</u>	
Screen Interval (ft): <u>open hole</u>	Placement of Pump (ft) <u>Bailer (bottom)</u>	
Well Diameter (in): <u>2"</u>		

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
<u>3/31/11</u>											<u>Insufficient amount of water</u>

OBSERVATIONS

Color: Clear Other (describe): Silty, murky

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: insufficient water column to purge and/or collect sample. Used bailer to try and retrieve sample and was only able to collect 1/2 of 250-mL Tritium sample.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-056	Site: SSFL RAD Survey Area # + NBZ EPA Reg. 2	
Sampler(s): ED Budano (BlainTech)	Project No.: EP9038, 01.22.04.02	
Sampler(s): Timothy Morse (HBL)	Date: 3/28/11	Time: 0910
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Sample Pro Micro Purge
Sample ID: SMPZ-056-6W032811	Sample Date: 3/28/11	Sample Time: 1030
Additional Samples (DUP/MSD/Blanks): SMA site-19-EB032811	Sample Date: 3/28/11	Sample Time: 1310
Additional Samples (DUP/MSD/Blanks): SMSOURCE-19-EB032811	Sample Date: 3/28/11	Sample Time: 1310
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 30.25 (30.3 ft gauged)	DTW (ft): 8.1 ft	Type of Pump: Sample Pro
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 17-27	Sunny, light wind, ~65°F	
Well Diameter (in): 2"	Placement of Pump (ft): 25'	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/28/11	0942	8.33	75 mL	675 mL	6.41	15.41	0.408	-205	1.02	31.2	
	0945	8.43	75	750	6.39	15.41	0.402	-207	0.96	27.2	
	0948	8.53	75	1125	6.38	15.34	0.404	-211	0.75	23.7	
	0951	8.62	75	1350	6.37	15.40	0.403	-213	0.62	22.7	
	0954	8.72	75	1575	6.37	15.40	0.403	-216	0.55	33.8	
	0957	8.76	75	1800	6.37	15.33	0.404	-217	0.50	38.5	
	1000	8.81	75	2025	6.37	15.47	0.404	-219	0.46	36.1	
	1003	8.90	75	2250	6.37	15.61	0.403	-219	0.43	27.1	
	1006	8.92	75	2475	6.37	15.75	0.403	-221	0.40	23.0	
	1009	8.93	75	2700	6.37	15.96	0.402	-224	0.38	20.1	
	1012	8.96	75	2925	6.37	15.92	0.402	-226	0.35	19.5	
	1015	8.98	75	3150	6.37	15.96	0.400	-226	0.34	19.2	
	1018	9.03	75	3375	6.37	16.07	0.400	-227	0.33	17.9	
	1021	9.06	75	3600	6.37	16.13	0.401	-228	0.32	17.9	
Parameters Stabilized											
AA											

OBSERVATIONS

Color: Clear Other (describe): *water is slightly turbid*

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: *pump placed @ 25' bgs. due to possible shutdown
650 mL needed for minimum system purge
pump on @ 0953 pump off @ 1022*

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

Well No.: PZ-073	Site: SSFL Radiological Survey Area 10/NB2 (EPA Region 9)	
Sampler(s): Stephanie Lopez-Nortone (HGL)	Project No.: EP9038.01.22.04.02	
Sampler(s): Nick Mamed (Blow Tech)	Date: 4/19/11	Time: 0915
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	
Sample ID: no sample - well dry	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Well Depth: 55	DTW (ft): Dry	Type of Pump: —
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 41-51	overcast, ~70°F (cool), slight breeze from North	
Well Diameter (in): —	Placement of Pump (ft): —	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/19/11	0915	Dry	—	—	—	—	—	—	—	—	well dry
(A large diagonal line is drawn across the remaining rows of the table, indicating no further data was recorded.)											

OBSERVATIONS

Color: Clear Other (describe): — NA
Odor (circle one): None Low Medium High Very strong H2S Fuel-like — NA
PID reading: NA
Notes: well dry
PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]
Signed/Sampler(s): <i>[Signature]</i>

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-098	Site: SSFL RAD Survey Area DE+NBZ EPA Reg. 9	
Sampler(s): Timothy Morse	Project No.: EP9038-01.22.04.02	
Sampler(s): ED Budano (BlainTech)	Date: 3/29/11	Time: 1015
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	dedicated submersible
Sample ID: SMPZ-098-6W032211	Sample Date: 3/29/11	Sample Time: 1130
Additional Samples (DUP/MSD/Blanks): SMARinate-24-EB032211	Sample Date: 3/29/11	Sample Time: 1520
Additional Samples (DUP/MSD/Blanks): SMSOURCE-24-EB032211	Sample Date: 3/29/11	Sample Time: 1520
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 37.88	DTW (ft): 18.55	Type of Pump: dedicated submersible
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 24-34	Sunny, N 70°E, light wind	
Well Diameter (in): 2"	Placement of Pump (ft) 28.5-29'	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/29/11	1047	19.53	75 mL	825 mL	6.62	17.72	1.114	-183	3.60	5.1	
	1050	19.72	75	1050 mL	6.68	17.96	1.127	-181	3.32	5.1	
	1053	19.92	75	1275	6.68	18.05	1.129	-179	3.33	6.2	
	1057	20.10	50	1475	6.68	18.35	1.121	-177	3.21	5.6	
	1101	20.27	50	1675	6.68	18.57	1.129	-175	3.21	5.9	
	1105	20.45	50	1875	6.68	18.77	1.117	-174	3.15	6.7	
	1109	20.55	50	2075	6.68	18.83	1.117	-173	3.08	6.4	
	1113	20.72	50	2275	6.67	19.00	1.129	-172	3.14	6.8	
	1117	20.81	50	2475	6.68	18.97	1.129	-172	3.01	6.7	
				Parameters stabilized							

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: 781 mL needed to purge minimum system volume
 (1119 begin filling sample bottles
 1510 samples finished)

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-100	Site: SSFL Radiological Study, Area IV	
Sampler(s): C. Carmichael	Project No.: R9038.01.22.04.02	
Sampler(s):	Date: 3-18-11	Time: 0855
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Bladder	
Sample ID: SMPZ-100-GW031811	Sample Date: 3-18-11	Sample Time: 1100
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 19.34	DTW (ft): 10.54'	Type of Pump: Bladder pump
Condition of Bottom of Well: /	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 5.67' - 15.67'	Clear, 62°	
Well Diameter (in): 2"	Placement of Pump (ft) 15'	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM) (ML/MIN)	TOTAL VOLUME (GAL) (L)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-18-11	0928	10.54'	50	800	7.33	15.11	1416	153	5.84	25	Start purge (after system volume)
3-18-11	0928	10.76	50	1,000	7.31	15.28	1427	164	5.92	28	
3-18-11	0932	10.84	50	1,200	7.33	15.29	1422	169	5.93	28	
3-18-11	0936	10.91	50	1,400	7.35	15.43	1428	170	6.04	28	
3-18-11	0940	11.00	50	1,600	7.39	15.57	1412	170	6.05	27	
3-18-11	0944	11.05	50	1,800	7.38	15.69	1425	170	6.08	27	Purge ended - equilibrium
Chelsea Carmichael											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Purged until equilibrium reached at 0944.
Final DTW: 14.11'

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2", x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-101	Site: SSFL Radiological Study, Area IV	
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02	
Sampler(s):	Date: 3-28-11	Time: 0815
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: bladder	
Sample ID: SMPZ-101-CW032811	Sample Date: 3-28-11	Sample Time: 1000
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 23.23'	DTW (ft): 6.44'	Type of Pump: bladder
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 10-20'	clear, sunny, 61"	
Well Diameter (in): 2"	Placement of Pump (ft):	

0830

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM) (ML/min)	TOTAL VOLUME (GAL) (ML)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-28-11	0842	6.90'	50	600	7.49	16.96	783	185	6.09	311	start purge
3-28-11	0845	7.04'	50	750	7.49	17.24	781 ⁰⁰	189	5.81	313	
3-28-11	0848	7.19'	50	900	7.50	17.20	782	188	5.76	307	
3-28-11	0851	7.34'	50	1050	7.49	17.20	780	187	5.74	304	Stabilization reached
<p><i>Chelsea Carmichael</i></p>											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Begin purge at 0830, stabilization reached at 0851. Start sample at 0852. Flow rate increased to 70/ml a minute at 1100. Sample complete at 1156.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *Chelsea Carmichael*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-103	Site: SSFL Radiological Study, Area IV
Sampler(s): C. Carmichael	Project No.: 609038.01.28.04.02
Sampler(s):	Date: 3-25-11 Time: 1025
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: non-dedicated SP (bladder)
Sample ID: SMPZ-103-CW032511	Sample Date: 3-25-11 Sample Time: 1245
Additional Samples (DUP/MSD/Blanks) SMS source - 18-EB032511	Sample Date: 3-25-11 Sample Time: 1025
Additional Samples (DUP/MSD/Blanks) SMR insate - 18-EB032511	Sample Date: 3-25-11 Sample Time: 1025
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 37.65	DTW (ft): 24.05 Type of Pump: non-dedicated SP (bladder)
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): 28.5 - 38.5'	Overcast, 54°
Well Diameter (in): 2"	Placement of Pump (ft): 35'

1043

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM) (ML/min)	TOTAL VOLUME (GAL) (L)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-25-11	1046	24.08	500	1500	7.61	19.11	1097	138	5.96	1267	
3-25-11	1049	24.08	500	3000	7.48	19.59	1105	140	6.67	2000	
3-25-11	1052	24.08	500	4500	7.23	19.95	1099	138	6.71	2000	
3-25-11	1055	24.08	500	6000	7.34	19.78	1096	138	6.17	2000	
3-25-11	1058	24.08	500	7500	7.35	19.79	1095	137	5.83	2000	
3-25-11	1101	24.08	500	9000	7.36	19.80	1095	136	5.63	2000	
3-25-11	1104	24.08	500	10500	7.36	19.83	1092	136	5.68	2000	
3-25-11	1107	24.08	500	12000	7.35	19.84	1094	136	5.68	2000	
3-25-11	1110	24.08	500	13500	7.36	19.85	1093	136	5.67	1773	
3-25-11	1113	24.08	500	15000	7.35	19.75	1098	136	5.65	1631	
3-25-11	1116	24.08	500	16500	7.35	19.76	1105	137	5.64	1586	
3-25-11	1119	24.08	500	18000	7.35	19.74	1095	137	5.64	1576	
3-25-11	1124	24.08	500	19500	7.36	19.75	1094	135	5.68	1407	
3-25-11	1129	24.08	500	21000	7.36	19.78	1092	136	5.65	1198	
3-25-11	1134	24.08	500	22500	7.35	19.80	1093	136	5.66	1105	
3-25-11	1139	24.08	500	24000	7.36	19.81	1087	136	5.65	932	
3-25-11	1144	24.08	500	25500	7.35	19.64	1091	136	5.64	840	
3-25-11	1149	24.08	500	27000	7.35	19.74	1091	136	5.64	790	
3-25-11	1154	24.08	500	28500	7.36	19.76	1091	136	5.63	760	
3-25-11	1159	24.08	500	30000	7.36	19.76	1092	135	5.65	729	
3-25-11	1204	24.08	500	31500	7.36	19.76	1091	135	5.65	675	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: —

Notes: Start purge at 1043, stabilization reached at 1229. (waited for turbidity to decline)

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

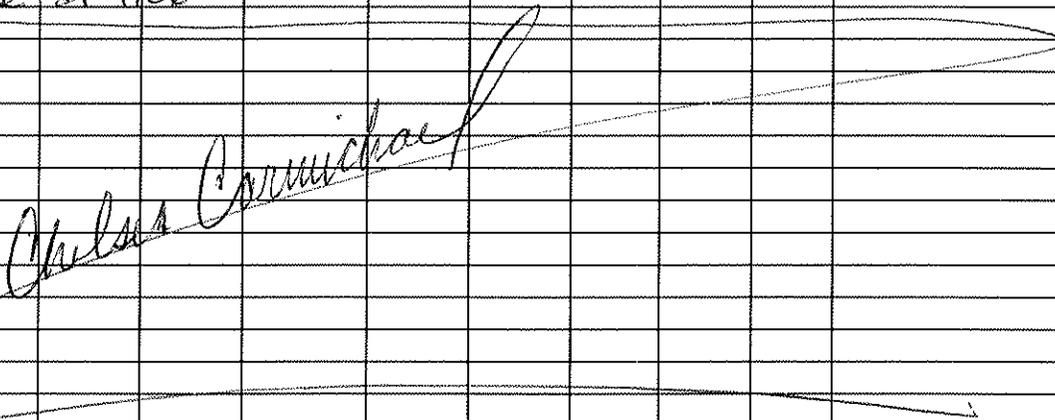
Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>PZ-105</u>	Site: <u>SSFL Area IV Radiological Study</u>	
Sampler(s): <u>C. Carmichael</u>	Project No.: <u>EP9038.01.22.04.02</u>	
Sampler(s): <u> </u>	Date: <u>3-23-11</u>	Time: <u>1020</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>SP</u>	Type of Pump: <u>Grunfos</u>	
Sample ID: <u>SMPZ-105-BW032311</u>	Sample Date: <u>3-23-11</u>	Sample Time: <u>1230</u>
Additional Samples (DUP/MSD/Blanks): <u> </u>	Sample Date: <u> </u>	Sample Time: <u> </u>
Additional Samples (DUP/MSD/Blanks): <u> </u>	Sample Date: <u> </u>	Sample Time: <u> </u>
Additional Samples (DUP/MSD/Blanks): <u> </u>	Sample Date: <u> </u>	Sample Time: <u> </u>
Well Depth: <u>30.38'</u>	DTW (ft): <u>14.59</u>	Type of Pump: <u>Grunfos, non-decl.</u>
Condition of Bottom of Well: <u> </u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): <u> </u>	
Screen Interval (ft): <u>17-27'</u>	<u>overcast, 56'</u>	
Well Diameter (in): <u>2"</u>	Placement of Pump (ft) <u>26'</u>	

1036

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-23-11	1049	14.60	50	700	7.89	17.56	730	152	4.32	470	Start purge
3-23-11	1052	14.66	50	850	7.90	17.68	935	164	4.23	376	
3-23-11	1055	14.66	50	1,000	7.77	17.64	942	165	4.11	350	
3-23-11	1057	14.66	50	1,150	7.69	17.88	934	165	3.84	334	
3-23-11	1100	14.66	50	1,300	7.69	17.98	939	166	3.84	330	
3-23-11	1103	14.66	50	1,450	7.66	18.00	937	166	3.87	331	
Start sample at 1106											
											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Begin purge at 1036. Stabilization reached at 1105.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-106	Site: SSFL Area IV	
Sampler(s): Jason McDaniel (HGL)	Project No.: EP9038.01.22.04.02	
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-18-11	Time: 0920
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Bladder	
Sample ID: SMP2 106 GWO31811	Sample Date: 3-18-11	Sample Time: 1020
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 35.0	DTW (ft): 12.72	Type of Pump: _____
Condition of Bottom of Well: Soft	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 18.28	Clear, no wind in 65°	
Well Diameter (in): 2	Placement of Pump (ft) 23' BTOL	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-18-11	0955	12.85	75 ml/a	1,125 ml	6.85	16.52	906	92	4.24	33	
"	0958	12.90	"	1,350 "	6.86	16.68	919	93	4.11	27	
"	1001	12.93	"	1,575 "	6.86	16.73	937	94	4.12	20	
"	1004	" "	"	1,800	6.86	16.73	927	96	4.06	18	
"	1007	" "	"	2,025	6.87	16.80	927	98	4.26	18	
"	1010	" "	"	2,250	6.87	16.85	929	100	4.24	14	
"	1013	" "	"	2,475	6.88	16.86	918	101	4.11	13	
"	1016	" "	"	2,700	6.88	16.87	923	103	4.05	12	
"	1019	" "	"	2,925	6.89	16.90	919	104	4.17	12	
Well stabilized and sampled @ 1020											
3-18-11											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: water level stabilized @ 12.93 BTOL

Well stabilized and sampled @ 1020 SMP2 106 GWO31811 Total purge vol. 3,000 ml

Water column = 22.28

1 well vol = 3.56 3 well vol = 10.69

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): JGC

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-108	Site: SSFL Area IV	
Sampler(s): Jason M. Daniel (HGU)	Project No.: EP09038.01-22.04.02	
Sampler(s): Nick Harrel (Blaine Tech.)	Date: 3-17-11	Time: 1100
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Non dedicated bladder pump
Sample ID: SMP2 108 GW031711	Sample Date: 3-17-11	Sample Time: 12:52
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 26.13	DTW (ft): 8.52	Type of Pump: /
Condition of Bottom of Well: soft	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): -	Overcast, light wind NE, app 70°	
Well Diameter (in): 26.38" 2"	Placement of Pump (ft) 21.0	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-17-11	12:19	8.80	50 mL/min	200 mL	6.91	19.25	1,022	79	3.62	0	
"	12:22	8.87	"	850 "	6.88	19.24	1,022	78	3.52	0	
"	12:25	9.00	"	1000 "	6.87	19.20	1,025	78	3.60	0	
"	12:28	9.11	"	1150 "	6.88	19.13	1,035	79	3.64	0	
"	12:31	9.19	"	1,300 "	6.88	19.17	1,022	80	3.67	0	
"	12:32	Well stabilized, collected sample									

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes: Well stabilized @ 12:31 collected sample SMP2-108 GW031711 @ 12:32

Total purge = 1,300 mL Max drawdown 0.39'

WC Column: 17.61 X 0.16 = 2.81 l well vol 3 well vol = 8.45

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JMA

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>PZ-109</u>	Site: <u>SSFL Radiological Study, Area IV</u>	
Sampler(s): <u>C. Carmichael</u>	Project No.: <u>EP9038-01-22-04.02</u>	
Sampler(s): <u> </u>	Date: <u>3-24-11</u>	Time: <u>1255</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>SP</u>	Type of Pump: <u>Bladder</u>	
Sample ID: <u>SMPZ-109-032411</u>	Sample Date: <u>03-24-11</u>	Sample Time: <u>1530</u>
Additional Samples (DUP/MSD/Blanks): <u> </u>	Sample Date: <u> </u>	Sample Time: <u> </u>
Additional Samples (DUP/MSD/Blanks): <u> </u>	Sample Date: <u> </u>	Sample Time: <u> </u>
Additional Samples (DUP/MSD/Blanks): <u> </u>	Sample Date: <u> </u>	Sample Time: <u> </u>
Well Depth: <u>36.5' 35.19'</u>	DTW (ft): <u>13.62</u>	Type of Pump: <u>Bladder pump</u>
Condition of Bottom of Well: <u> </u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): <u>Overcast, 56°</u>	
Screen Interval (ft): <u>25'-35'</u>	Placement of Pump (ft): <u>30'</u>	
Well Diameter (in): <u>2"</u>		

1318

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM) <small>ml/min</small>	TOTAL VOLUME (GAL) <small>ml</small>	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-24-11	1326	13.79	75	675	7.44	15.90	922	45	3.75	470	Start purge
3-24-11	1329	13.84	75	900	7.41	16.04	1,006	43	3.08	412	
3-24-11	1332	13.94	75	1125	7.50	16.25	1,056	-20	2.61	367	
3-24-11	1335	13.96	50	1350	7.51	16.50	1063	-29	2.40	353	
3-24-11	1338	14.12	50	1475	7.52	16.37	1074	-34	2.28	328	
3-24-11	1341	14.23	50	1575	7.53	16.30	1080	-36	2.25	325	
3-24-11	1344	14.38	50	1725	7.52	16.29	1085	-34	2.20	320	Stabilization reached
<p><i>Chelsea Carmichael</i></p>											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: 1345 - begin sampling.
1405⁰⁰ - finish sampling (filled 8 bottles, no second spare volume because of lack of time)
1605

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

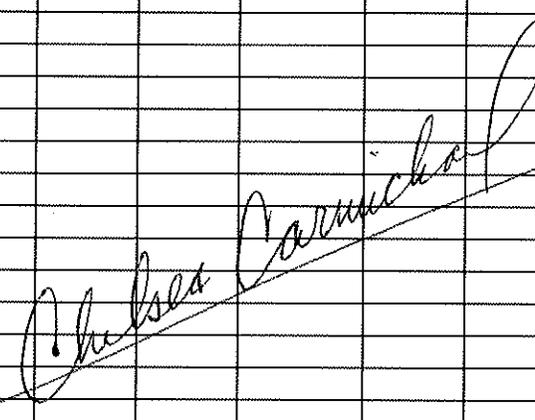
Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-III	Site: SSFL Radiological Study, Area IV
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02
Sampler(s): /	Date: 3-30-11 Time: 0745
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: bladder
Sample ID: SMPZ-III-GW033011	Sample Date: 3-31-11 Sample Time: 1100 ^(ca) 0905
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: 20.32	DTW (ft): 12.44 Type of Pump: bladder
Condition of Bottom of Well: /	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): 7-17.5'	Sunny, 73°
Well Diameter (in): 2"	Placement of Pump (ft) 18'

0822

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-31-11	0834	19.13	50	1100	7.00	19.33	1830	66	3.51	235	Start purge
3-31-11	0836										stop pump
3-31-11	0859	19.40									pump re-started
3-31-11	1132	19.40	50		7.65	21.31	927	98	3.76	195	Sample parameters
											

sample collection by

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: /

Notes: During system purge, the water column dropped from 8 ft to 1 ft, so pump stopped, then sample started to be collected at 0859. Sample complete at 1130. All 9 bottles filled after water column stabilized around ~1 ft.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-112	Site: 55FL RAD SURVEY AREA IV+NBZ EAM Reg. 9
Sampler(s): Timothy Morse	Project No.: FP9038.01.22.04.02
Sampler(s): ED Budano (Blainetech)	Date: 3/18/11 Time: 0800
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: Sample Pro Bladder pump
Sample ID: SMPZ-112-61031811	Sample Date: 3/18/11 Sample Time: 0915
Additional Samples (DUP/MSD/Blanks): SMPINsatc-07-031811	Sample Date: 3/18/11 Sample Time: 1315
Additional Samples (DUP/MSD/Blanks): SMsource-07-031811	Sample Date: 3/18/11 Sample Time: 1315
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 37.02	DTW (ft): 24.07/24.13 (3/18)
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): 24-34	Sunny/clear ~ 65°F
Well Diameter (in): 2	Placement of Pump (ft) 33' M 29.5

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3/18/11	0843	24.79	100mL	650	6.26	17.18	0.945	-160	2.75	15.0	
	0844	24.87	100mL	750	6.26	17.38	0.944	-167	2.74	15.4	
	0845	24.98	100mL	850	6.25	17.55	0.945	-170	2.65	15.7	
	0848	25.29	100mL	1150	6.25	17.67	0.940	-174	2.37	16.5	Drawdown (excess)
	0852	25.49	75mL	1450	6.24	17.67	0.941	-180	2.44	15.7	Drawdown (excess)
	0856	25.69	50mL	1650	6.25	17.51	0.942	-184	2.37	16.0	down to 50mL/min
	0900	25.79	50mL	1450	6.25	17.30	0.940	-186	2.27	15.9	=
	0904	25.89	50mL	2050	6.25	17.50	0.941	-185	2.21	15.9	=
	0908	25.99	50mL	2250	6.25	17.62	0.943	-188	2.22	15.8	=

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Pump placed @ 29.5 ft. (DTW) = 24.13 screen 24-34
 Pump on at 0824 - initial pump line purge = 650 mL
 DTW = 24.65 @ 450 mL
 Pump purge ended @ 0909 samples (0915-1255)

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): ED Budano

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-113	Site: SSFL Radiological Study, Area IV	
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02	
Sampler(s):	Date: 3-29-11	Time: 4500 1200
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: bladder	
Sample ID: SMPZ-113-GW032911	Sample Date: 3-29-11	Sample Time: 1500
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 17.04	DTW (ft): 5.09	Type of Pump: bladder
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 7-15	Sunny, 69°	
Well Diameter (in): 2"	Placement of Pump (ft) 13'	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM) (mL/min)	TOTAL VOLUME (GAL) (L)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3-29-11	1211	5.09	50								Start purge
3-29-11	1223	5.52	50	600	7.04	23.76	649	24	2.18	1684	
3-29-11	1226	5.72	50	750	7.00	23.98	647	23	1.47	1236	
3-29-11	1229	5.90	50	900	6.98	24.10	627	25	1.33	929	
3-29-11	1232	6.05	50	1050	6.98	23.92	605	28	1.34	720	
3-29-11	1233										start sample
3-29-11	1548	12.71	50		6.85	24.11	504	94	1.31	274	

Chelsea Carmichael

OBSERVATIONS

Color: (Clear) Other (describe): with brown tint

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Purge started at 1211. Because of lack of recharge, sample collection started at 1233 (before turbidity stabilized). Sample complete at 1542.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *Chelsea Carmichael*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-114	Site: SSFL Radiological Study, Area III
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02
Sampler(s):	Date: 3-28-11 Time: 1225
Sampling Method (G=grab, B=bailer, SP=submersible pump): G	Type of Pump: bladder ^{cc} Bailer
Sample ID: SMPZ-114-GW032811	Sample Date: 3-28-11 Sample Time: 1250
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 50.34	DTW (ft): 48.87 Type of Pump: bladder ^{cc} Bailer
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): 37-47	sunny, 64°
Well Diameter (in): 2"	Placement of Pump (ft) n/a

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-28-11	1247	48.87	n/a	n/a	7.25	18.47	1135	154	6.71	190	ran dry
<p><i>Chelsea Carmichael</i></p>											

OBSERVATIONS

Color: Clear Other (describe): brown tint

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Only 1.53' of water in well, bailer filled tritium and 1/4 of gamma spec bottle only, then ran dry.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *Chelsea Carmichael*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-116	Site: SSFL Area IV	
Sampler(s): Jason MSDaniel (HGL)	Project No.: EP9.038.01.22.04.02	
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-29-11	Time: 0930
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: low flow	Non-dedicated bladder pump
Sample ID: SMP2116GW032911	Sample Date: 3-29-11	Sample Time: 1034
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 34.64 or 34.69	DTW (ft): 19.89	Type of Pump: non-dedicated bladder
Condition of Bottom of Well: sand	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 22-32 btec	Clear, sunny, no wind ~65°	
Well Diameter (in): 2.0	Placement of Pump (ft) 27.0570L	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FD)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3-29-11	1014	19.88	50 mL/min	700 mL	6.27	18.14	2240	119	3.32	17	
"	1017	20.35	"	850	6.29	18.15	2250	130	4.76	17	
"	1020	20.43	"	1000	6.33	18.24	2250	144	4.77	17	
"	1023	20.43	"	1150	6.36	18.35	2250	152	4.91	17	
"	1026	20.54	"	1300	6.38	18.38	2250	161	5.24	17	
"	1029	20.61	"	1450	6.41	18.28	2250	165	5.32	17	
"	1032	20.68	"	1600	6.43	18.31	2240	169	5.40	17	
"	1033	Well Stabilized									
"	1034	Sampled well SMP2116GW032911									

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A water column: 14.80

Notes: 1034 Sampled well SMP2116GW032911 (prior to 1)

1 Well Vol: 2.36 3 Well Vol: 7.10 Total purge: 1,600 mL

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H2O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): J.D.

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>PZ-120</u>	Site: <u>SSFL Radiological Study, Area IV</u>
Sampler(s): <u>C. Carmichael</u>	Project No.: <u>EP9038.01.22.04.02</u>
Sampler(s): <u>---</u>	Date: <u>3-17-11</u> Time: <u>0754</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>B</u>	Type of Pump: <u>Bladder</u>
Sample ID: <u>SMPZ-120-GW031711</u>	Sample Date: <u>3-17-11</u> Sample Time: <u>0930</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u> Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u> Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u> Sample Time: <u>/</u>
Well Depth: <u>26</u>	DTW (ft): <u>13.44 @</u> Type of Pump: <u>Bladder</u>
Condition of Bottom of Well: <u>---</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): <u>15-25'</u>	<u>cloudy, 60'</u>
Well Diameter (in): <u>2"</u>	Placement of Pump (ft) <u>25'</u>

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM) (ML/MIN)	TOTAL VOLUME (GAL) (ML)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-17-11	0855	14.33	50	850	6.94	15.10	800	212	2.68	20	Start purge
3-17-11	0857	14.41	50	1,050	6.96	14.87	804	219	2.38	16	
3-17-11	0900	14.51	50	1,250	6.97	14.75	806	222	2.22	11	
3-17-11	0905	14.64	50	1,450	6.97	14.71	805	223	2.11	7	
3-17-11	0910	14.78	50	1,650	6.97	14.56	804	226	2.07	8	
3-17-11	0913	14.86	50	1,850	6.98	14.61	804	223	2.40	7	Stabilized
cc-3-17-11	1020	16.41	50								

Chelsea Carmichael

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: ---

Notes: Readings stabilized at 0913, sampling began at 0920.
Final DTW: 18.18'

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC). Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-121	Site: SJFL Area IV	
Sampler(s): Jason M. Daniel (HGL)	Project No.: EP9038.01.22.04.07	
Sampler(s): Nick (Blair Tech)	Date: 3-16-11	Time: 12:40
Sampling Method (G=grab, B=bailer, SP=submersible pump)	Type of Pump: Grundfos	Non-dedicated submersible
Sample ID: SMP2 1216w031611	Sample Date: 3/16/11	Sample Time: 1356
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 24.63	DTW (ft): 18.05	Type of Pump: Grundfos
Condition of Bottom of Well: Soft	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 15-25	Sunny, clear Wind SE app 10 mph.	
Well Diameter (in): 2	Placement of Pump (ft) 23.0 BTOL	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (N.T.U.)	COMMENTS
3-16-11	1334	18.10	50.0	800L	6.04	20.35	869	221	4.59	27	
"	1342	↓	"	950	6.07	20.33	870	222	4.47	26	
"	1345	18.18	"	1100	6.10	20.37	870	223	4.67	22	
"	1348	↓	"	1250	6.14	20.49	869	221	4.87	21	
"	1351	18.22	"	1400	6.16	20.48	870	219	4.78	20	
"	1354	18.35	"	1550	6.18	20.36	872	216	4.85	20	
Well Stabilized @ 1355											
3-16-11											

OBSERVATIONS

Color: (Clear) Other (describe):

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Total purge vol. 1600 mL Sample ID SMP2 1216w031611
Sample time 1356

Water Column: 6.58 x 0.16 = 1.05 well vol. 3.15 3 well vol. Total drawdown: 0.25"

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JMD

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-122	Site: SSFL Area IV	
Sampler(s): Jason M. David (1462)	Project No.: EPA.038.01.22.04.02	
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-25-11	Time: 0900
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Bladder	Non-Dedicated Bladder Pump
Sample ID: SMP2122GW032511	Sample Date: 3-25-11	Sample Time: 0955
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 28.35	DTW (ft): 9.20	Type of Pump: Bladder
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 15.5 - 25.5	M. Cloudy, rain in 55°	
Well Diameter (in): 2	Placement of Pump (ft): 20.0	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (NTU)	COMMENTS
3-25-11	0938	9.22	50 mL/min	1,000 mL	6.85	16.70	1,026	213	3.00	13	
"	0941	9.30	"	1,150 mL	6.84	16.86	1,027	215	3.16	13	
"	0944	9.38	"	1,300 mL	6.84	17.10	1,028	217	3.12	12	
"	0947	9.45	"	1,450 mL	6.85	17.14	1,015	220	3.25	11	
"	0950	9.52	"	1,600 mL	6.86	17.15	1,027	223	3.26	11	
"	0953	9.59	"	1,750 mL	6.87	16.94	1,020	225	3.30	11	
Well Stabilized @ 0953											
3-25-11	0955	Sampled well SMP2122GW032511									

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Water column: 19.15 1 well vol: 3.06 gal. 3 well vol: 9.12
 0955 - Sampled well SMP2122GW032511

Total purge: 1,750 mL

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)² (well depth - static H2O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): J.M.D.

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: P2-124	Site: SSFL Area II	
Sampler(s): Jason MS Daniel (HGL)	Project No.: EP9.038.01.22.04.02	
Sampler(s): Nick Harrel (Bladder Tech)	Date: 3-30-11	Time: 0805
Sampling Method (G=grab, B=bladder, SP=submersible pump): SP	Type of Pump: bladder	Now dedicated submersible
Sample ID: SMP2124GW033011	Sample Date: 3-30-11	Sample Time: 0947
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 28.25	DTW (ft): 24.73	Type of Pump: bladder
Condition of Bottom of Well: Sand	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 14.7 - 24.7	Sunny, clear ~70"	
Well Diameter (in): 2.0	Placement of Pump (ft) 28.0 BTOL	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-30-11	0930	24.43	50 ^{1/4}	600 ^{1/4}	6.70	16.97	2,810	191	2.32	13	
"	0933	24.71	"	750"	6.73	16.89	2,810	177	2.15	12	
"	0936	24.90	"	900"	6.75	16.83	2,820	164	2.36	11	
"	0936 ⁰⁹⁴⁵	25.00	"	1,050"	6.80	16.77	2,800	156	2.58	12	
"	0939 ⁰⁹⁴⁵	25.09	"	1,200"	6.81	16.80	2,810	150	2.64	12	
"	0942 ⁰⁹⁴⁵	25.12	"	1,350"	6.83	16.77	2,810	148	2.70	12	
"	0946	Well Still Low									
3-30-11	0947	Sampled well - SMP2124GW033011									

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Water column: 3.52
Well Sampled @ 0947

1 Well Vol: 3.52 x 0.16 = 0.56 3 Well vol 0.56 x 3 = 1.69 Total Purge 1,350 ml

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *J.D. Daniel*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-150	Site: SSFL RAD Survey Area IV+NBZ EPA Reg. 9	
Sampler(s): Timothy Moore	Project No.: EP9058.01.22.04.02	
Sampler(s): ED Budano (BlainTech)	Date: 3/22/11	Time: 1000
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Sample Pro Bladder pump
Sample ID: SMPZ--150-6N032211	Sample Date: 3/22/11	Sample Time: 1055
Additional Samples (DUP/MSD/Blanks): SMRinsate-10-EP032211	Sample Date: 3/22/11	Sample Time: 1440
Additional Samples (DUP/MSD/Blanks): SMSource-10-66032211	Sample Date: 3/22/11	Sample Time: 1440
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 30.28	DTW (ft): 17.56	Type of Pump: Sample Pro Bladder Pump
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): —	Partly cloudy, ~65°F, light wind	
Well Diameter (in): 4"	Placement of Pump (ft) 27	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/22/11	1020	17.79	50 mL	800 mL	7.40	16.92	1.214	-170	6.00	4.5	
	1024	17.85	50 mL	1000 mL	7.40	17.12	1.217	-164	6.06	4.5	
	1028	17.91	50	1200 mL	7.40	16.88	1.214	-162	5.77	4.8	
	1032	17.95	50	1400 mL	7.40	16.20	1.218	-157	5.78	4.7	
	1036	18.02	50	1600 mL	7.40	16.35	1.217	-155	5.73	5.2	
	1040	18.11	50	1800 mL	7.40	16.68	1.216	-155	5.81	4.9	
	1044	18.13	50	2000 mL	7.40	16.65	1.217	-155	5.72	5.4	
	1046	18.16	50	2200 mL	7.40	16.43	1.213	-155	5.75	4.9	
	1048	18.19	50	2400 mL	7.40	16.32	1.215	-156	5.73	4.8	
	1050	18.23	50	2600 mL	7.40	16.13	1.218	-155	5.78	5.0	
	1052	18.27	50	2800 mL	7.40	16.10	1.216	-153	5.79	5.0	
			stabilized	readings							

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Purge started @ 1004
 1055 - began collecting samples
 - finished collecting samples

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-151	Site: SSFL Radiological Study, Area IV
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02
Sampler(s):	Date: 3-28-11 Time: 1306
Sampling Method (G=grab, B=bailer, SP=submersible pump): B	Type of Pump: Bailer
Sample ID: SMPZ-151-GW032811	Sample Date: 3-28-11 Sample Time: 1325
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 79.85	DTW (ft): 77.63 Type of Pump: bailer
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft):	sunny, 67'
Well Diameter (in): 2"	Placement of Pump (ft):

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-28-11	1320	77.63	—	—	6.94	22.09	1560	144	2.36	138	ran dry
Chelsea Carmichael											

OBSERVATIONS

Color: Clear Other (describe): with slight brown tint

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Only 2.22 ft of water, so hand-bailed until 1337 - filled tritium bottle and 2/3 of gamma spec. bottle, then ran dry.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: PZ-160	Site: SSFL RAD SURVEY AREA IV+NBZ EPA Reg. 9
Sampler(s): Timothy Morse	Project No.: EPR038.01.22.04.02
Sampler(s): Ed Bulano	Date: 3/23/11 Time: 1000
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: Sample Pro (MP10) micro purge
Sample ID: SMPZ-160-6W032311	Sample Date: 3/23/11 Sample Time: 1100
Additional Samples (DUP/MSD/Blanks): SM Rinse - 10-EB032311	Sample Date: 3/23/11 Sample Time: 1420
Additional Samples (DUP/MSD/Blanks): SM Source - 10-EB032311	Sample Date: 3/23/11 Sample Time: 1420
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 29.5'	DTW (ft): 24.26 Type of Pump: Sample Pro
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): —	Cloudy, light wind, ~60°F
Well Diameter (in): 4"	Placement of Pump (ft) 28'

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/23/11	1034	24.47	60 mL/min	840 mL	6.81	17.10	1.64	-150	3.04	7.7	LOW FLOW rate, less than 75 mL needed
	1038	24.48	60 mL	1080 mL	6.80	17.23	1.64	-151	2.91	7.7	
	1042	24.53	60	1320 mL	6.80	17.37	1.64	-151	2.83	7.9	
	1046	24.57	60	1560 mL	6.80	17.36	1.63	-152	2.69	7.6	
	1050	24.60	60	1800 mL	6.80	17.36	1.63	-154	2.74	7.5	
Stabilized parameters											
FA											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Start time - 1020
840 mL pumped to purge tubing/flow-thru

Equipment Blank collected on Sample Pro micro purge pump

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: AD-13	Site: SSFL RAD AREA SURVEY II + UBZ EPA Reg. 2	
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02	
Sampler(s): Ed Bland (Plantech)	Date: 3/28/11	Time: 1340
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: dedicated submersible	
Sample ID: SMRD-13-6W032911	Sample Date: 3/29/11	Sample Time: 0910
Additional Samples (DUP/MSD/Blanks): SMRD-13-6W032911Q	Sample Date: 3/29/11	Sample Time: 0910
Additional Samples (DUP/MSD/Blanks): SMRD-13-6W032911MS	Sample Date: 3/29/11	Sample Time: 0910
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 160	DTW (ft): 64.00	Type of Pump: ded. submersible
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny, light wind, ~70°F	
Well Diameter (in): 8.25	Placement of Pump (ft): 150	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS	
3/28/11	1408	75.65	8 gpm	24	7.15	19.17	0.675	-265	0.57	2.2		
	1412	82.25	8	56	7.16	19.30	0.677	-248	0.54	1.9		
	1416	90.32	8	88	7.17	19.38	0.670	-244	0.49	2.4		
	1420	96.80	8	120	7.16	19.40	0.679	-240	0.45	2.6		
	1424	103.48	8	152	7.17	19.44	0.678	-238	0.43	2.6		
	1428	110.23	8	184	7.16	19.45	0.679	-239	0.40	3.0		
	1432	113.62	8	216	7.17	19.44	0.681	-238	0.38	2.5		
	1436	118.65	8	248	7.17	19.48	0.674	-238	0.37	2.8		
	1440	122.27	8	280	7.17	19.49	0.684	-239	0.35	2.7		
	1444	126.43	8	312	7.16	19.51	0.679	-238	0.34	3.6		
	1448	130.23	8	344	7.17	19.54	0.681	-237	0.34	3.4		
	1452	137.43	8	376	7.17	19.55	0.685	-234	0.36	3.5		
	↓	1458	138.58	6 gpm	402	7.18	19.54	0.687	-227	0.46	4.1	
	↓	1504	142.49	6 gpm	438	7.19	19.64	0.701	-197	0.43	4.0	
↓	1508	140.90	6 gpm	444	7.27	19.69	0.711	-157	3.17	3.6	Full to capacity unlo	
↓	1559	115.44	6 gpm	483	7.25	19.43	0.714	-152	3.60	3.4		
↓	1603	121.30	6 gpm	510	7.16	19.53	0.729	-202	0.79	2.9		
↓	1607	126.46	6 gpm	534	7.15	19.59	0.729	-214	0.56	3.1		
↓	1611	129.75	6 gpm	558	7.15	19.61	0.731	-214	0.53	3.4		
					3RV reached							
3/29/11	0908	70.28	—	—	7.02	19.34	0.723	-224	0.57	3.4		

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: pump on @ 1405
 Tanks full @ 1509 → unloa @ Building 4011
 pump back on @ 1555 TA
 pump off @ 1612 ~ 554 gals.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

PI+P2
 LAB+MS

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-14	Site: SSFL RAD survey Area IV + NBZ EPA Reg 9	
Sampler(s): Timothy Morse	Project No.: BR038.01.22.04.02	
Sampler(s): ED Boland	Date: 3/21/11	Time: 1310
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	dedicated submersible
Sample ID: SMRD-14-0W032111	Sample Date: 3/21/11	Sample Time: 1545
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 125	DTW (ft): 82.47	Type of Pump: —
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): partly cloudy, light wind, ~70°F	
Screen Interval (ft): open hole	Placement of Pump (ft) 117	
Well Diameter (in): 4.25		

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/21/11	1334	88.49	5 gpm	25 gal	7.33	19.80	0.861	-245	0.14	12.0	
	1339	91.70	5 gpm	50	7.12	20.04	0.892	-271	0.09	13.0	
	1344	95.56	5	75	7.14	20.17	0.903	-265	0.08	10.3	
	1349	98.10	5	100	7.11	20.24	0.895	-269	0.07	9.7	
	1354	100.28	5	125	7.10	20.22	0.884	-269	0.06	8.8	
	1359	101.34	5	150	7.08	20.31	0.879	-265	0.05	8.1	
	1404	104.77	5	175	7.07	20.34	0.886	-263	0.05	6.7	
	1409	105.87	4	125	7.06	20.35	0.882	-259	0.06	7.2	
	1414	106.24	4	215	7.06	20.34	0.884	-258	0.07	8.8	
	✓	1416	106.11	4	223	7.05	20.37	0.907	-257	0.06	10.8
3 PV reached stop Purge											
3/21/11	1540	90.1	—	—	7.05	20.25	0.947	-232	0.14	9.1	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Start time - 1329, end purge @ 1416 (purged 223 gal + retrieved 3 pv).
 sample time 1545 - 1548
 3 PV = ~ 220 gal 80% ~ 91.0 ft

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s):

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-15	Site: SSFL Radiological Study, Area IV
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02
Sampler(s):	Date: 3-29-11 ^{CO} Time: 0755
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: dedicated submersible
Sample ID: SMRD-15-GW032911	Sample Date: 3-29-11 Sample Time: 1015
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 152.0	DTW (ft): 43.13' Type of Pump: dedicated submersible
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): open hole	clear, sunny, 62°
Well Diameter (in): 8.25	Placement of Pump (ft):

0759

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-29-11	0759	43.13	4								Start purge
3-29-11	0814	56.93	4	60	7.13	19.85	819	-147	0.69	110	
3-29-11	0829	66.69	4	120	7.14	19.92	821	-141	0.37	125	
3-29-11	0844	72.10	4	180	7.15	19.89	826	-147	0.28	111	
3-29-11	0859	76.52	4.5	242.5	7.15	20.25	818	-143	0.31	111	
3-29-11	0914	78.84	3	292.5	7.14	20.41	824	-142	0.26	112	
3-29-11	0929	80.82	3	322.5	7.13	20.48	821	-144	0.19	123	
3-29-11	0944	81.89	3	367.5	7.13	20.44	815	-139	0.20	119	Pumping stopped - to off-load (370.5 gal)
3-29-11	1032	73.05	3	412.5	7.14	20.65	817	-115	0.34	114	
3-29-11	1047	77.78	3	457.5	7.13	20.79	820	-118	0.30	120	
3-29-11	1102	81.40	3	502.5	7.13	20.84	825	-120	0.25	108	
3-29-11	1107	81.92	3	517.5	7.13	20.93	822	-121	0.23	110	
3-29-11	1112	82.52	3	532.5	7.14	21.00	820	-122	0.24	109	Stabilized
3-29-11	1113	Start	Sampling								

232.5
277.5

Chelsa Carmichael

OBSERVATIONS

Color: (Clear) Other (describe): at ~400 gallons, the water turned brownish

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: 3 well volumes: 532 gal, Start purge at 0759, readings taken every 15 minutes until 3 well volumes purged, then sampled after stable. Stop pumping to off-load at 0945. Return to well at 1014 and start pumping at 1017. Readings stable at 1112 (532.5 gal). Sampling started still 1113, complete at 1121.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *Chelsa Carmichael*

Well No.: RD-16	Site: DDFL Radiological Survey Area IV/US2 (EPA Region 9)	
Sampler(s): Stephanie Lapczyn Mastrose (HGC)	Project No.: EP9038.01.22.04.02	
Sampler(s): NCSA Manual (Stein Tech)	Date: 4/19/11	Time: 1335
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump:	Submersible pump (vac truck)
Sample ID: SARD-16-GW042011	Sample Date: 4/20/11	Sample Time: 1440
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Well Depth: 220	DTW (ft): 41.20	Type of Pump: submersible pump
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny / partly cloudy, light breeze from North (in 70°F)	
Well Diameter (in): 6 1/2 in	Placement of Pump (ft) —	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM MS/2m)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/19/11	1338	41.20	5.5	—	7.17	19.99	0.770	-164	4.82	6.7	start purge
4/19/11	1350	—	5.0	106	7.22	20.20	0.770	-145	3.21	8.4	
4/19/11	1405	125.51	4.5	164	7.14	20.02	0.769	-131	2.53	7.5	
4/19/11	1420	137.40	4.0	216	7.20	20.70	0.776	-90	1.77	5.0	
4/19/11	1435	—	4.0	284	7.13	20.74	0.801	-170	0.56	7.1	
4/19/11	1450	166.20	3.5	335	7.14	20.12	0.804	-176	0.41	6.8	
4/19/11	1505	171.42	3.0	389	7.15	21.30	0.810	-176	0.33	6.6	
4/19/11	1520	—	3.0	436.5	7.18	20.53	0.809	-182	0.34	8.3	DTW meter stuck on something inside well casing - unable to collect DTW.
4/19/11	1535	—	3.0	480.5	7.11	20.73	0.816	-174	0.29	4.9	↓
4/19/11	1550	—	3.0	519	7.15	20.98	0.819	-167	0.28	5.2	↓
4/19/11	1605	—	3.0	569	7.17	20.43	0.823	-164	0.30	4.9	↓
											stopped purge for the day.
4/20/11	0742	41.33	5.5	569	6.91	17.12	0.856	-44	1.92	11.1	started purge
4/20/11	0800	108.70	5.0	668	7.05	15.96	0.859	-126	1.34	9.6	
4/20/11	0815	—	4.5	735	7.13	14.92	0.859	-133	1.08	8.8	DTW meter stuck - unable to collect DTW
4/20/11	0830	—	4.0	816	7.08	14.34	0.847	-127	0.86	8.8	
4/20/11	0845	—	3.75	868	7.09	19.36	0.833	-143	0.32	12.9	
4/20/11	0900	—	3.50	926	7.12	18.79	0.844	-147	0.29	13.6	end purge
4/20/11	1440	42.20	—	—	—	—	—	—	—	—	sample & recharge

OBSERVATIONS

Color: (Clear) Other (describe):

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes:

Flowmeter start: 10594 / End: 106430

Stopped purging at 1607 (out of time for the day) - will continue tomorrow.

4/20/11 continued purge 1607 → let recharge → sampled at 1440

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-17	Site: SJFL Area IV
Sampler(s): Jason McDaniel (H66)	Project No.: EPA 038.01.22.04.02
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-24-11 (3-25-11) Time: 0945 (0945)
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Electric Dedicated Submersible
Sample ID: SMRD176W032511	Sample Date: 3-25-11 Sample Time: 0800
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: 125.0	DTW (ft): 25.50 (31.80) Type of Pump: ded. submersible
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): —	Overcast, no wind @ 55°
Well Diameter (in): Open Hole	Placement of Pump (ft) —

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-24-11	10:13	N/A	5	114	6.80	12.75	878	122	0.65	9	
"	10:32	N/A	3.5	174	6.87	14.22	801	100	0.50	15	
"	10:53	N/A	3.5	242	6.91	13.23	799	95	0.59	16	
"	11:12	N/A	3.5	314	6.90	14.13	787	99	0.94	20	
"	11:32	N/A	3.5	387	6.90	12.54	801	120	1.95	22	
"	11:52	N/A	3.5	461	6.82	18.05	791	132	3.73	33	
"	12:03	N/A	3.5	477	6.90	17.11	783	137	5.17	36	
Well ran dry @ 12:03. Will return on 3-25 to collect sample											
3-25-11	0950	31.80	252.0	6 gal	6.80	18.40	813	205	3.73	20	

OBSERVATIONS

Color: <input checked="" type="radio"/> Clear <input type="radio"/> Other (describe):
Odor (circle one): <input checked="" type="radio"/> None <input type="radio"/> Low <input type="radio"/> Medium <input type="radio"/> High <input type="radio"/> Very strong <input type="radio"/> H2S <input type="radio"/> Fuel-like
PID reading: N/A Well ran dry @ 12:03 will return on 3-25 to collect sample
Notes: Water Column: 99.50 Sampled SMRD176W032511 @ 0800 on 3/25
Beginning totalizer: 283,426 End totalizer: 283,903
10:12 unable to get DTW due to probe sticking.
1 Well Vol: 120.01 3 Well vol: 510.04 Total Purge: 477 gal
PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]
Signed/Sampler(s): JPM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-18	Site: SSFL RAD SURVEY Area V4 NRZ EPA Act 9.	
Sampler(s): Timothy Moore	Project No.: E99038, 01, 22, 04, 02	
Sampler(s): ED BWARD (Blainetech)	Date: 3/21/11	Time: 0950
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	dedicated submersible
Sample ID: SMAD-18-6W032211	Sample Date: 3/22/11	Sample Time: 0830
Additional Samples (DUP/MSD/Blanks): SMRD-18-6W032211G	Sample Date: 3/22/11	Sample Time: 0830
Additional Samples (DUP/MSD/Blanks): SMAD-18-6W032211AG	Sample Date: 3/22/11	Sample Time: 0830
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 240	DTW (ft): 91.52	Type of Pump: dedicated submers.
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	overcast, drizzly rain ~55°F	
Well Diameter (in): 8.25	Placement of Pump (ft): 231	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/21/11	1017	137.01	5	50	7.40	18.87	0.567	-123	1.49	3.1	
	1027	137.01	5	100	7.42	19.00	0.567	-133	1.36	3.4	
	1037	156.02	5	150	7.42	19.17	0.561	-135	1.35	3.7	
	1047	171.53	5	200	7.42	19.24	0.558	-138	1.35	3.5	
	1057	187.89	5	250	7.43	19.36	0.565	-140	1.34	3.1	
	1107	200.00	5	300	7.43	19.48	0.565	-140	1.35	3.5	
	1117	213.18	5	350	7.43	19.61	0.563	-135	1.36	3.7	
	1127	229.00	4 gpm	390	7.43	19.70	0.567	-137	1.36	3.7	
	1137	231.00	4	430	7.43	19.89	0.564	-135	1.42	5.4	
	1139		4	438				pump dry			
3/22/11	0815	208.21	5 gpm	-	7.35	18.50	0.573	-116	5.30	3.8	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Will return to sample on 3/22/11, pump dry @ 438 gal (1139)

* (MS + Lab dupe taken)

* note: in well pump wire housing is damaged *

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): AM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-19	Site: SSFL RAD Survey Area IV
Sampler(s): Timothy Morse (HGL)	Project No.: EPA08.01.22.04.02
Sampler(s): ED Budano (Blainetech)	Date: 3/16/11 Time: 1340
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: submersible Dedicated Submersible
Sample ID: SMRD-19-6W031711	Sample Date: 3/17/11 Sample Time: 1230
Additional Samples (DUP/MSD/Blanks) (SMDUP-01-	Sample Date: 3/17/11 Sample Time: —
Additional Samples (DUP/MSD/Blanks): 6W031711Q	Sample Date: — Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: — Sample Time: —
Well Depth: 135 ft	DTW (ft): 74.10 Type of Pump: Dedicated Submersible
Condition of Bottom of Well: NA (PUMP)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): open hole	Sunny, Hot ~95°F Light wind
Well Diameter (in): 8.25	Placement of Pump (ft)

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/16/11	1415	84.36	4 gpm	12	6.57	19.28	1.57	-349	0.45	4.3	
	1418	87.37	4 gpm	24	6.55	19.45	1.57	-361	0.21	4.1	
	1420	90.92	4 gpm	32	6.55	19.57	1.57	-371	0.17	4.3	
	1422	94.43	4 gpm	40	6.56	19.64	1.57	-378	0.16	3.9	
	1424	97.63	4 gpm	48	6.56	19.70	1.57	-381	0.15	3.9	
	1426	101.96	4 gpm	56	6.57	19.75	1.57	-380	0.17	3.9	
	1428	103.92	4 gpm	64	6.57	19.76	1.56	-379	0.19	3.8	
	1430	106.28	4 gpm	72	6.57	19.76	1.57	-375	0.19	4.2	
	1432	108.92	4 gpm	80	6.57	19.80	1.57	-369	0.18	4.7	
	1434	111.60	4 gpm	88	6.57	19.81	1.56	-354	0.18	4.9	
	1436	115.14	4 gpm	96	6.57	19.83	1.56	-317	0.20	5.5	
	1438	117.56	4 gpm	104	6.57	19.86	1.56	-286	0.23	5.9	
	1440	120.39	4 gpm	112	6.57	19.86	1.56	-252	0.30	5.5	
	1442	123.27	4 gpm	120	6.54	19.86	1.55	-203	0.62	7.7	
	1444	dewatered well									
3/17/11	1222	77.44	4 gpm	—	6.65	19.03	1.59	-255	0.25	6.0	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: —

Notes: *SMRD-19-6W031711 (1230) *SMRD-19-6W031711Q
 SMDUP-19-TM
 SMDUP-01-6W031711-TM
 *SMDUP-01-6W031711Q

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-20	Site: SSFL Area IV	
Sampler(s): Jason McDaniel (HGL)	Project No.: EP9.038.01.22.04.02	
Sampler(s): Nick Howell (Blower Tech)	Date: 3-21-11 (3-22-11)	Time: 1445 (0750)
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Electric	Dedicated submersible
Sample ID: SM RD 20 GWO32211	Sample Date: 3-22-11	Sample Time: 0800
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 127.00	DTW (ft): 41.93(49.55)	Type of Pump: ded. submersible
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): —	A. Cloudy, light drizzle, light wind W, app 60°	
Well Diameter (in): Open Hole	Placement of Pump (ft) —	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-21-11	15:05	61.56	6.5	63	7.11	20.93	1560	-13	3.32	0	
"	15:15	69.05	6.5	126	7.08	20.24	1500	-8	1.80	0	
"	15:25	78.72	6.5	176	7.07	20.40	1480	-5	1.17	0	
"	15:35	83.20	5.5	240	7.07	20.05	1480	-31	0.82	0	
"	15:45	86.41	5.5	315	7.09	19.50	1460	-24	0.58	0	
"	15:55	NA	5.5	370	7.10	19.14	1470	-18	0.51	0	
"	16:05	NA	5.5	440	7.10	20.56	1436	-15	0.36	0	
Purged 3 well volume 1606											
3-22-11	0800	49.35	6.5	4	6.66	17.99	1427	220	6.20	0	
Collected sample SMRD 20 GWO32211											
3-22-11											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Beginning totalizer readings: 278957 End totalizer readings: 279940
 15:55 unable to get DTW due to probe sticking in well. Total Purge: 440 gal
 16:06: reached 3 well volume. with return on 3-22 to collect sample
 1 Well Vol.: 146.23 3 Well Vol.: 438.69

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JPM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-21 (Port 4) FLUTE	Site: SSFL RAD SURVEY AREA IV + NBZ	
Sampler(s): Timothy Morse	Project No.: EP9058.01.22.04.02	
Sampler(s): Ben (D.L. HALL)	Date: 3/31/11	Time: 0845
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	FLUTE well
Sample ID: SMRD-21-GW04011	Sample Date: 4/1/11	Sample Time: 1200
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: Port 4	DTW (ft): ---	Type of Pump: FLUTE
Condition of Bottom of Well: ---	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny, warm ~ 75°F, mod. wind	
Well Diameter (in): 8.25	Placement of Pump (ft) --- (Port 2) at first (Port 4) after	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/31/11	0855	---	---	1.0 gal	6.98	22.35	0.811	-371	1.27	9.3	Port 4
	1045	---	---	0.5 gal	7.05	20.50	0.837	-266	2.35	5.11	
	1220	---	---	<0.5 gal	7.33	23.81	0.892	-278	1.84	28.7	Line Blew
4/1/11	0800	---	---	0.5 gal	7.14	19.19	0.774	-363	1.82	29.7	Port 2 (2nd attempt)
	1005	---	---	0.5 gal	7.15	21.68	0.779	-271	1.45	22.6	
	1200	---	---	0.25							start sample collection
	1300	---	---	0.5							
	1400	---	---	0.25							
	1530	---	---	0.25							Samples finished being collected

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: (Port 2) - worked very slowly ~ 0.75 gal purge
 (Port 4) used, 1220 (Port 4) Line Blew, abandon purge on Port 4
 (4/1/11) Port 2 tried again

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

Well No.: RD-22 FLUTE	Site: SSFL RAD survey area #4NBZ	
Sampler(s): Timothy Moore	Project No.: EP9038.01.22.04.02	
Sampler(s): Ben (B.L. Hall)	Date: 3/31/11	Time: 0930
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	FLUTE
Sample ID: SMAD-22-6W033111	Sample Date: 3/31/11	Sample Time: 1420
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: Port 2	DTW (ft): -	Type of Pump: FLUTE
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny hwm, ~ 75° F, mod wind	
Well Diameter (in): 3.25	Placement of Pump (ft) Port 2	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/31/11	0945	-	-	1.5 gal	7.09	20.69	1.118	-326	1.30	11.0	
	1120	-	-	1.5 gal	7.41	20.92	1.136	-284	1.66	38.6	
	1310	-	-	1.5 gal	7.49	22.91	1.145	-330	0.99	55.8	
	1420	-	-	~1.25	-	-	-	-	-	-	
	1505	-	-	~1.0 gal	-	-	-	-	-	-	
	1600	-	-	~2.6	-	-	-	-	-	-	Sample complete
	1630	-	-	-	-	-	-	-	-	-	
3-31-11											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Port 2

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): *[Signature]*

Well No.: RD-23 FLUTE	Site: SSFL RAD SURVEY AREA IV + NBZ	
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02	
Sampler(s): Ben (BL HALL)	Date: 4/1/11	Time: 0730
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	FLUTE
Sample ID: SMRI-23-6W030111	Sample Date: 4/1/11	Sample Time: 1230
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: Port 3	DTW (ft): —	Type of Pump: FLUTE
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny, light wind, ~40°F	
Well Diameter (in): 8.25	Placement of Pump (ft) Port 3	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/1/11	0730	—	—	0.75	—	—	—	—	—	—	Port 3
	0925	—	—	0.75	7.72	19.97	0.605	-356	1.61	36.4	
	1100	—	—	0.5	7.36	22.12	0.664	-357	2.53	14.8	
	1230	—	—	0.5	—	—	—	—	—	—	
	1330	—	—	0.5	—	—	—	—	—	—	
	1445	—	—	0.5	—	—	—	—	—	—	
	1545	—	—	1.5L	—	—	—	—	—	—	Samples finished being collected

OBSERVATIONS

Color: Clea Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: port 3

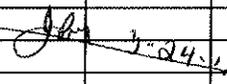
PURGE VOLUME CALCULATIONS For: well casing volume = J (Re)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-24	Site: SSPL Area II	
Sampler(s): Jason M. David (HGL)	Project No.: LP9088.01.22.04.02	
Sampler(s): Nick Hamel (Blow Tech)	Date: 3-24-11	Time: 12:20
Sampling Method (G=grab, B=bailey, SP=submersible pump): SP	Type of Pump: Electric	Dedicated submersible
Sample ID: SMRD 24 GW 032411	Sample Date: 3-24-11	Sample Time: 1600
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 150.0	DTW (ft): 36.42	Type of Pump: ded. submersible
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): —	P. Cloudy no wind ~ 60°	
Well Diameter (in): Open Hole	Placement of Pump (ft) —	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3-24-11	1350	69.45	4	85	7.53	19.24	306	163	4.59	30	
"	1310	88.53	2	118	7.23	16.50	255	165	3.69	12	
"	1330	98.45	3	182	7.16	19.10	403	151	2.37	9	
"	1350	104.50	2	222 ⁹⁴²	7.14	19.76	471	135	1.36	10	
"	1410	107.73	2	262 ³⁰⁴	7.13	18.67	517	130	0.86	22	
"	1430	111.14	3	363	7.09	18.93	544	135	0.75	6	
"	1450	114.29	3	423	7.07	19.55	568	111	0.69	7	
"	1510	116.25	3	483	7.13	18.88	598	111	0.70	9	
"	1530	—	3	545	7.09	17.93	620	122	0.71	9	
"	1550	—	3	605	7.07	18.39	637	129	0.77	8	
"	1553	—	3	614	7.10	16.09	650	130	0.78	8	
"	1556	—	3	623	7.02	16.23	657	130	0.77	8	
Well stabilized @ 1556											
"	1600	Sampled well		ID SMRD 24 GW 032411							
											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Beginning totalizer: 283,902 End totalizer reading: 1400. Totalizer began sticking, flow rate determined by measuring 5 gal. bucket.

1 well vol: 193.32 3 well vol: 579.95 Total Purge: 623 gal

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): Jason M. David

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-27	Site: SSFC RAD SURVEY AREA IV+NBZ EPA Reg 9
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02
Sampler(s): ED Budano (Bluintech)	Date: 3/17/11
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: Delicate Submersible
Sample ID: SAR-27-6NO31711	Sample Date: 3/17/11
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /
Well Depth: 150	DTW (ft): 50.37
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): open hole	Overcast, Light wind, ~60°F
Well Diameter (in): 8.25	Placement of Pump (ft): 138

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB. (NTU)	COMMENTS
3/17/11	0844		6 gpm	0	7.26	16.61	0.555	-238	7.81	28.6	
	0846		Pump	disconnected, repair connection							
	0848	59.44	6 gpm	16	6.88	18.85	0.619	-308	0.75	80.0	
	0852	62.47	6	32	7.17	19.04	0.611	-308	0.42	42.0	
	0856	69.44	6	48	7.01	19.14	0.617	-315	0.23	20.5	
	0900	75.16	6	64	7.32	19.23	0.611	-322	0.34	15.4	
	0904	81.20	6	80	7.02	19.30	0.617	-325	0.24	11.6	
	0910	88.76	6	104	7.14	19.38	0.619	-331	0.13	9.4	
	0915		well	stopped due to water temp, possible pump problem							
	0920		Pump	back on (overheated)							
	0926	94.93	6 gpm	170	7.06	19.39	0.611	-338	0.15	13.3	
	0932	100.91	6 gpm	206	7.11	19.40	0.617	-338	0.19	11.5	
	0938	104.81	6	248	7.33	19.47	0.617	-328	0.21	10.0	
	0944	108.87	6	278	7.23	19.49	0.612	-317	0.23	13.5	
	0950	112.58	6	314	7.10	19.53	0.619	-315	0.20	21.8	
	0956	115.57	6	350	7.22	19.56	0.619	-304	0.23	23.8	
	1002	118.75	6	386	7.22	19.57	0.611	-302	0.25	28.6	
	1008	121.98	6	422	7.17	19.58	0.613	-311	0.27	20.1	
	1014	21.18	6	458	7.37	19.54	0.614	-310	0.34	29.0	
			STOP Purge	to unload water							
	1127		Restart Purge								

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: 0846 - flow thru tubing became disconnected, minimal amount of water lost, restart
 0848 - restart Purge
 0915 - pump stopped working - 0920 pump back on (overheated)
 1015 - stopped purge @ 458 gals to unload tanks @ Building 4011

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-29	Site: SSFL Area IV Radiological Study	
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02	
Sampler(s):	Date: 3-24-11	Time: 1030
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: dedicated submersible	
Sample ID: SMRD-29-GW032511	Sample Date: 3-25-11	Sample Time: 0915
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 100	DTW (ft): 9.10'	Type of Pump: dedicated
Condition of Bottom of Well: /	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): Open hole	Overcast/rainy, 61	
Well Diameter (in): 8.25"	Placement of Pump (ft): /	

1040

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-24-11	1043	15.34'	7	21	7.13	21.62	874	90	3.98	97.3	Start purge
3-24-11	1046	18.60	7	42	6.93	21.39	877	-52	1.64	104	
3-24-11	1050	23.38	7	70	7.14	21.34	876	-47	1.16	124	
3-24-11	1053	27.05	7	91	7.13	21.33	877	-84	1.74	129	
3-24-11	1056	30.02	7	112	7.14	21.31	880	-72	1.77	196	
3-24-11	1059	34.24	7	133	7.18	21.14	879	-37	1.94	208	
3-24-11	1102	38.63	7	154	7.18	21.31	879	-22	2.35	1605	
3-24-11	1105	43.54	7	175	7.18	21.54	877	-6	2.75	228	
3-24-11	1108	46.63	7	196	7.17	21.24	881	-3	1.97	135	
3-24-11	1111	50.41	6	214	7.17	21.12	876	0	1.92	104	
3-24-11	1114	53.31	6	232	7.18	21.47	882	1	1.93	95	
3-24-11	1117	56.81	6	250	7.15	20.93	884	-9	1.59	90	
3-24-11	1120	59.93	6	268	7.15	21.25	878	-13	1.99	89	
3-24-11	1123	63.35	6	286	7.15	21.13	875	-18	1.97	89.6	
3-24-11	1126	65.70	6	304	7.13	21.14	882	-18	1.84	103	
3-24-11	1129	69.30	6	322	7.13	21.26	877	-17	1.98	82.2	
3-24-11	1132	72.01	5	337	7.13	21.42	878	-17	1.99	87.8	
3-24-11	1135	74.14	5	352	7.09	21.43	876	-18	1.67	82.3	
3-24-11	1138	77.35	5	367	7.19	21.39	882	1	3.29	118	
3-24-11	1141	79.83	5	382	7.20	21.37	878	1	3.96	114	
3-24-11	1144	81.42	5	397	7.24	21.43	877	4	3.98	138	Purge water off-loaded

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Purged dry at until 3 well volumes: 469 gallons at 1234
Truck taken to offload purge water at 1145.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-29</u>	Site: <u>SSFL Radiological Study, Area IV</u>	
Sampler(s): <u>C. Carmichael</u>	Project No.: <u>EP9038.01.22.07293</u>	
Sampler(s): <u> </u>	Date: <u>3-24-11</u>	Time: <u>1020^{ea} (cont.)</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>SP</u>	Type of Pump: <u>Dedicated</u>	
Sample ID: <u>SMRD-29-GW032511</u>	Sample Date: <u>3-25-11</u>	Sample Time: <u>0915</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Well Depth: <u>100</u>	DTW (ft): <u>59.50</u>	Type of Pump: <u>dedicated</u>
Condition of Bottom of Well: <u> </u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): <u> </u>	
Screen Interval (ft): <u>open hole</u>	<u>overcast, 54"</u>	
Well Diameter (in): <u>8.25"</u>	Placement of Pump (ft) <u>~90'</u>	

FIELD PARAMETERS

DTW
66.15

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (N.T.U.)	COMMENTS
3-24-11	1225	66.15 <u>59.50</u>	6	415	7.42	20.70	877	62	5.36	105	
3-24-11	1228	66.15 <u>63.50</u>	6	433	7.38	21.24	879	59	5.42	919	
3-24-11	1231	69.13	6	451	7.37	21.42	880	54	5.76	82.5	
3-24-11	1234	71.93	6	469	7.34	21.36	875	54	5.68	98.1	
<u>end purge</u>											<u>3 WV kit</u>
3-25-11	0902	8.98	3	6	7.22	20.24	876	143	<u>5.41</u>	106	<u>Sample</u>
<i>Chelsea Carmichael</i> <u>3-25-11</u>											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Continue purge at 1225.
Sample at 0915 - filled all 22 priority 1 & 2 bottles.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

Well No.: RD-33a Flute	Site: SSFL RAD SURVEY AREA IV + NBZ	
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02	
Sampler(s): Ben (Ab Hall)	Date: 3/31/11	Time: 0955
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Flute
Sample ID: SMAD-33A-6W033111	Sample Date: 3/31/11	Sample Time: 1440
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: Port 2	DTW (ft): —	Type of Pump: FLUTE
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny, warm ~ 75°F, no wind	
Well Diameter (in): 8.25	Placement of Pump (ft) Port 2	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3/31/11	1005	—	—	~0.75 gal	7.12	21.08	0.542	-227	1.71	9.1	
	1135	—	—	~0.75 gal	7.60	20.24	0.504	-279	2.80	4.3	
	1335	—	—	1.0 gal	7.57	21.43	0.537	-296	3.04	5.0	
	1440	—	—	~0.75							
	1620	—	—	~1.0							
	1610	—	—	~0.75							Sample complete TM
3/31/11	1630	—	—	~1.2							Sample complete

OBSERVATIONS

Color: **Clear** Other (describe):

Odor (circle one): **None** Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: **Port 2**

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-35B	Site: SSFL Area IV
Sampler(s): Jason McDaniel (HGL)	Project No.: 299.038.01.22.04.02
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-21-11 (3-22-11) Time: 1520 (0920)
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: Electric Dedicated Submersible
Sample ID: SMRD 35B GW032211	Sample Date: 3-22-11 Sample Time: 0950
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: 415.00	DTW (ft): 282.00 (309.00) Type of Pump: ded. submersible
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): -	PCloudy light wind west ~60°
Well Diameter (in): Open Hole	Placement of Pump (ft): -

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
13-21-11	13:43	N/A	5.0	47	7.36	19.09	689	-159	3.41	0	
"	13:53	"	4.25	89	7.33	19.10	688	-167	2.27	0	
"	14:03	"	4.0	119	7.48	19.54	679	-201	1.05	0	
"	14:11	"	3.0	137	7.47	19.33	650	-191	0.71	0	
Well was dry @ 14:11						17.80					
3-22-11	0950	301.45	3.0	6	6.90	17.03	753	-99	6.16	0	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Initial totalizer readings: 278820 Final totalizer: 278957 Total purge: 137 gal
 Unable to get DTW - probe sticking to side of well
 14:11 - well ran dry. Will return within 24 hours to sample.
 One well vol: 213.01 Three well vol: 639.03

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JPM MD

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-33C	Site: SSFL Area IV
Sampler(s): Jason M. Daniel (466)	Project No.: EP9.038 - 01.22.04.02
Sampler(s): Nick Hanel (Blaine Tech)	Date: 3-21-11 (3-22-11) Time: 0845 (0835)
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Electric No. 111 Dedicatd Submersible
Sample ID: SMRD 33C GW 032211	Sample Date: 3-22-11 Sample Time: 0855
Additional Samples (DUP/MSD/Blanks): SM DVP026W032211 Q	Sample Date: 3-22-11 Sample Time: 0900
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: 520.0	DTW (ft): 282.54 (286.54) Type of Pump: ded. submersible
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): -	Overcast with drizzle, no wind, app. 60°
Well Diameter (in): Open Hole	Placement of Pump (ft) N/A

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-21-11	1028	N/A	4	171	6.31	20.05	652	-73	3.35	32	
"	1048	N/A	7.25	303	6.94	19.94	656	-101	0.72	0	
"	1108	N/A	7.50	451	7.08	18.51	647	-105	0.29	0	
"	1128	N/A	7.50	608	7.08	19.33	660	-100	0.48	0	
"	1148	N/A	7.50	758	7.11	20.34	671	-100	0.12	0	
"	1208	N/A	7.50	865	7.15	20.44	668	-103	0.09	0	
"	1228	N/A	7.0	1005	7.17	20.43	664	-104	0.08	0	
"	1248	N/A	7.0	1195	7.19	20.41	671	-103	0.08	0	
Completed 3 well volume @ 13:00											JPM
3-22-11	0855	286.54	9	54	6.84	14.66	690	-161	3.27	17	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Beginning totalizer reading: 277620 End totalizer reading: 278815
 1030 - Unable to get DTW (probe sticking) Total purge: 1,195 gal
 1300 - Completed 3 well volume. Will allow 80% recharge for sample.
 1 well vol: 378.08 3 well vol: 1137.04 3-22-11 DTW: 286.54

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JPM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-39A	Site: SSFL Area III	
Sampler(s): Jason McDaniel (HGL)	Project No.: 2P9.038-01.22.04.02	
Sampler(s): Nick Havel (Blower Tech)	Date: 3-22-11	Time: 1535
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Electric	Dedicated Submersible
Sample ID: SMRD 39A GW032311	Sample Date: 3-23-11	Sample Time: 1540
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 60.00	DTW (ft): 31.87	Type of Pump: ded. submersible
Condition of Bottom of Well: ---	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): ---	Clear no wind app 65°	
Well Diameter (in): Open Hole	Placement of Pump (ft) ---	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB. (N.T.U.)	COMMENTS
3-22-11	1548	31.87	5.0	10	6.68	17.66	777	28	4.20	0	
"	1553	46.32	5.0	20	6.58	17.53	491	50	5.14	6	
"	1555	54.90	5.0	30	6.50	17.25	469	55	5.54	12	
"	1557	56.56	5.0	47	6.51	16.64	456	62	5.44	14.3	
Well ran dry @ 1557											
3-23-11	1540	30.75	5.0	8	6.45	15.74	1128	155	1.44	2	
"	1540	Collected sample SMRD 39A GW032311									

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: w/A

Notes: Initial totalizer: 281,680 End totalizer reading: 281,727
 Well ran dry @ 1557
 Returned 3:23 to sample well SMRD 39A GW032311 @ 1540
 1 Well Vol: 44.60 3 Well Vol: 133.80 Total purge: 47 gal

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): JPH

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD 34 B	Site: SFL Area IV	
Sampler(s): Jason McDaniel (HGL)	Project No.: EP9038.01.22.04.02	
Sampler(s): Nick Havel (Blowline Tech)	Date: 3-17-11	Time: 0750
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	Dedicated Submersible
Sample ID: N/A	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 240	DTW (ft): 38.10	Type of Pump:
Condition of Bottom of Well: NA	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft):	Overcast, no wind ~ 60°	
Well Diameter (in): Open Hole	Placement of Pump (ft) N/A	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3-17-11	0817	—	4.5	55	6.63	18.33	683	-109	1.88	0	
"	0832	109.50	3.5	104	6.87	17.45	710	-128	0.79	0	
"	0847	N/A	3.0	153	6.88	17.01	736	-119	0.39	0	
"	0902	N/A	2.5	194	6.85	17.42	762	-112	0.29	0	
"	0917	N/A	2.5	230	6.81	16.90	791	-101	0.26	0	
"	0932	N/A	2.0	265	6.77	16.71	815	-92	0.24	0	
"	0947	N/A	2.0	296	6.75	16.59	839	-83	0.21	0	
"	1002	N/A	2.0	340	6.73	16.71	851	-75	0.21	0	
Well Drg @ 1005 will return on 3-18 to sample											
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Done 3-17-11 </div>											

OBSERVATIONS

Color: Clear (Other (describe): light dr)

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Beginning totalizer reading: 245017 Ending reading: 245356
 0834 - unable to collect further DTW due to probe sticking on side of well.
 Stopped purge @ 1005 (well Drg) will return on 3-18 to sample
 1 Well Vol: 320.89 3 Well Vol: 962.66 Total purge: 360 gallons

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): JPM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-34B	Site: SSFL Area 10
Sampler(s): Jason M. Dawid (HGL)	Project No.: EPA.038.01.22.04.02
Sampler(s): Nich Harrel (Blow-By Tech)	Date: 3-18-11
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Time: 0730
Sample ID: SMRD 34B GW031811	Type of Pump: Dedicated
Additional Samples (DUP/MSD/Blanks): /	Submersible
Sample Date: /	Sample Date: 3-18-11
Sample Time: /	Sample Time: 0815
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /
Additional Samples (DUP/MSD/Blanks): /	Sample Time: /
Well Depth: 240	DTW (ft): 39.33
Condition of Bottom of Well: —	Type of Pump: —
Screen Interval (ft): —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): Open Hole	clear, no wind approx 50°
	Placement of Pump (ft) dedicated

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-18-11	0811	39.33	4.5	—	6.90	14.95	892	-37	1.55	0	
Collected sample SMRD 34B GW031811											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Sample ID SMRD 34B GW031811

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JMD

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD 37C	Site: SDFL Area IV	
Sampler(s): Jason M. Daniel (HGL)	Project No.: EP9.038.01.22.04.02	
Sampler(s): Mick Harrel (Blaine Truck)	Date: 3-22-11	Time: 1040
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: Electric	Dedicated Submersible
Sample ID: SMRD 37C GW032211	Sample Date: 3-22-11	Sample Time: 1520
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 450.00	DTW (ft): 10.02	Type of Pump: ded. Submersible
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): —	Clear, no wind or 65°	
Well Diameter (in): Open Hole	Placement of Pump (ft) —	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3-22-11	1110	59.92	10.75	301	7.34	18.20	548	-213	0.85	0	
"	1140	65.97	9.5	569	7.16	17.70	553	-151	0.33	0	
"	1210	69.61	8.5	826	7.14	19.23	555	-135	0.15	0	
"	1240	72.90	8.5	1,065	7.14	19.56	554	-129	0.11	0	
"	1310	75.15	8.5	1,305	7.15	19.43	553	-128	0.09	0	
"	1340	76.94	8.5	1,534	7.17	19.43	554	-125	0.08	0	
"	1410	78.75	8.5	1,764	7.18	19.35	551	-126	0.09	0	
"	1440	80.24	8.5	1,984	7.20	19.51	551	-129	0.07	0	
"	1510	79.00	8.5	2,201	7.21	19.84	554	-130	0.08	0	
Reached 3 well volumes. Allowed to recharge 19 minutes then sampled											
Area 3-22-11											

OBSERVATIONS

Color: Clear Other (describe):
Odor (circle one): None Low Medium High Very strong H2S Fuel-like
PID reading: N/A 279,467
Notes: Initial totalizer reading: 279,467 End totalizer reading: 281,680
Allowed to recharge 20 minutes recharged to 59.79 ftoc Total purge: 2,220 gal
Water Col: 439.98
1 Well Vol: 201 gal 3 well vol: 2003 gal
PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)
Signed/Sampler(s): J. Daniel

Well No.: RD-50 FLUTE	Site: SSFL RAD SURVEY AREA TX+MBZ	
Sampler(s): Timothy Morse	Project No.: E99038.01.22.04.02	
Sampler(s): Ben (BL Hand)	Date: 3/31/11	Time: 0800
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: FLUTE	
Sample ID: SMRD-50-6W033111	Sample Date: 3/31/11	Sample Time: 1400 (partial set)
Additional Samples (DUP/MSD/Blanks): SMRD-50-6W040111	Sample Date: 4/1/11	Sample Time: 0850 (partial set)
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: Port 2	DTW (ft): -	Type of Pump: FLUTE
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny, warm ~75°F, mod wind	
Well Diameter (in): 8.25	Placement of Pump (ft) Port 2	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/31/11	0800	-	-	2L	-	-	-	-	-	-	Port 2
	1035	-	-	0.5 gal	7.36	19.28	0.732	-282	3.70	6.3	
	1205	-	-	0.5 gal	7.37	20.26	0.735	-271	2.66	2.7	
	1400	-	-	0.5 gal	-	-	-	-	-	-	
	1455	-	-	0.5 gal	-	-	-	-	-	-	
	1555	-	-	0.5 gal	-	-	-	-	-	-	
4/1/11	0850	-	-	2L	-	-	-	-	-	-	
	1025	-	-	2L	-	-	-	-	-	-	sampling complete

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: port 2

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): *[Signature]*

Well No.: RD-54A FLUTE	Site: SSFL RAD SURVEY AREA T4+NBZ	
Sampler(s): Timothy Mose	Project No.: EP9038.01.22.04.02	
Sampler(s): Ben (BL HAW)	Date: 4/1/11	Time: 0815
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	FLUTE
Sample ID: SMRD-54A-6W040111	Sample Date: 4/1/11	Sample Time: 1245
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: Port 2	DTW (ft): -	Type of Pump: FLUTE
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny, no wind, ~80°F	
Well Diameter (in): 12.125	Placement of Pump (ft) Port 2	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
4/1/11	0825	-	-	1.25	7.16	19.47	0.725	-331	1.93	8.3	Port 2
	0935	-	-	1.25	7.61	21.82	0.717	-224	1.03	18.1	
	1110	-	-	0.75	7.34	23.62	0.722	-290	1.94	11.6	
	1245	-	-	1.0 gal							
	1400	-	-	1.0 gal							
	1505	-	-	2 L							sample complete

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Port 2

PURGE VOLUME CALCULATIONS For: well casing volume = J (Re)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>GD-54B</u>	Site: <u>SSFL Area IV</u>	
Sampler(s): <u>Josiah M^S Daniels (HGL)</u>	Project No.: <u>EP9.038.01.22.04.02</u>	
Sampler(s): <u>Nick Harrel (Blaine Tech)</u>	Date: <u>3-23-11</u>	Time: <u>11:50</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>SP</u>	Type of Pump: <u>Electric</u>	<u>Dedicated Submersible</u>
Sample ID: <u>SMAD 54B GW032411</u>	Sample Date: <u>3-24-11</u>	Sample Time: <u>0910</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Well Depth: <u>437.0</u>	DTW (ft): <u>346.74</u>	Type of Pump: <u>ded. Submersible</u>
Condition of Bottom of Well: <u>---</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>---</u>	<u>Cloudy, no wind ~ 55°</u>	
Well Diameter (in): <u>Open Hole</u>	Placement of Pump (ft) <u>---</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (N.T.U.)	COMMENTS
3-23-11	1220	330.90	4.5	91	7.53	12.48	923	-156	0.70	22	
"	1240	378.35	4.0	165	7.66	17.25	998	-190	0.59	29	
"	1300	417.47	1.5	225	7.24	20.72	833	-269	0.28	122	
"	1500	Well ran dry will return on 3-24-11 to collect sample.									
3-24-11	0825	329.70	NA	NA	NA	NA	NA	NA	NA	NA	
"	0905	329.70	4.5	3	7.21	16.88	857	-169	1.46	20	

OBSERVATIONS

Color: Clear Other (describe): _____

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A 8-2-0A 3-24-11 Collected sample SMAD54B GW032411

Notes: Initial totalizer: 282,000 and totalizer readings: 282,225

1 Well Vol = 268.0 3 Well Vol = 803.99 Water Column = 190.66 Total purge: 225

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Josiah Daniels

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-54C	Site: SIFL Area IV
Sampler(s): Jason M ^s Daniel (HGL)	Project No.: ERD-EP9,038,01,22,04,02
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-23-11
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: Electric Dedicated Submersible
Sample ID: SMRD 54C GW052411	Sample Date: 3-24-11 3-23-11
Additional Samples (DUP/MSD/Blank): SMRD 54C GW052411	Sample Date: 3-24-11 3-23-11
Additional Samples (DUP/MSD/Blank): SMRD 54C GW052411	Sample Date: 3-24-11 3-23-11
Additional Samples (DUP/MSD/Blanks):	Sample Date:
Well Depth: 638.0	DTW (ft): 228.02
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): —	M. Cloudy, light wind (W), ~ 50°
Well Diameter (in): Open Hole	Placement of Pump (ft) —

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-23-11	0922	307.38	5.5	103	6.75	17.83	708	-97	1.28	28	
"	0942	376.28	5.0	188	7.86	13.76	687	-139	0.79	27	
"	1002	435.18	4.0	260	7.96	17.49	694	-246	0.39	27	
"	1022	NA	2.5	310	7.95	16.45	712	-204	0.32	21	
"	1042	NA	2.5	362	7.83	17.36	708	-265	0.24	28	
"	1102	NA	2.0	402	7.85	19.52	705	-284	0.21	37	
"	1122	NA	2.0	443	7.91	18.10	711	-301	0.21	38	
"	1142	NA	1.5	473	7.87	21.01	713	-321	0.25	40	
"	1143	Well ran dry will return on 3-24-11 collect sample									
3-24-11	0800	461.64	5.52	NA	NA	NA	NA	NA	NA	NA	
"	0830	461.64	2.0	5	8.76	14.24	686	-117	1.01	44	

OBSERVATIONS

Color: <u>Clear</u> Other (describe):
Odor (circle one): <u>None</u> Low Medium High Very strong H2S Fuel-like
PID reading: <u>N/A</u> Sample ID <u>SMRD 54C GW052411 @ 0830 on 3-24-11</u>
Notes: Beginning totalizer: 281,727 End totalizer: 282,000
10:10 flow meter totalizer begin striking however, flow continued @ 2.0 gpm
10:22 water level dropped below sounding probe reach + 500 ft. Total Purge = 473 gal.
1 Well Vol = 653.53 3 Well Vol = 1960.59 Water Column = 409.98
PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]
Signed/Sampler(s): <u>J Daniel</u>

Well No.: RD-56A	Site: SSFL Area #1/NSE Radiological Survey (EPA Region 9)
Sampler(s): Nicholas Hylton (Blaine Tech)	Project No.: EP9038.01.02.04.02
Sampler(s): Stephanie Lepore Montrose (H&C)	Date: 4/19/11
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Time: 1220
Sample ID: SMRD-56A-@w042011	Type of Pump: Submersible pump
Additional Samples (DUP/MSD/Blanks): —	Sample Date: 4/20/11
Additional Samples (DUP/MSD/Blanks): —	Sample Time: 1205
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —
Additional Samples (DUP/MSD/Blanks): —	Sample Time: —
Well Depth: 397.5	DTW (ft): 297.10
Condition of Bottom of Well: —	Type of Pump: Submersible
Screen Interval (ft): Open Hole	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): P Cloudy Slight Breeze
Well Diameter (in): 12.25 (12.125) @	Placement of Pump (ft): —

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/19/11	1225	—	—	—	—	—	—	—	—	—	Start Purge
4/19/11	1230	312.60	4.5	23	7.42	19.48	1161	-126	7.81	11	
4/19/11	1235	—	4.5	48	7.08	19.64	1159	-116	5.40	10	
4/19/11	1246	—	4.5	71	7.04	20.05	1160	-117	4.31	8	
4/19/11	1245	—	4.0	91	7.06	19.90	1158	-108	4.25	9	
4/19/11	1250	—	4.0	115	7.06	19.76	1158	-114	3.73	8	
4/19/11	1255	—	4.0	136	7.03	20.33	1159	-109	3.71	10	
4/19/11	1300	—	4.0	155	7.03	20.64	1155	-110	3.00	13	
4/19/11	1303	—	Well Purged	dry	dry	16.1	gnl	—	—	—	
(A large blue scribble is present across the middle of the table, crossing out several rows.)											
4/20/11	1205	325.21	—	—	7.12	17.91	1133	-69	2.91	4.4	Sample

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes: well purged dry on 4/19/11
well sampled on 4/20/11

Flow Meter Serial = 105342

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

Well No.: RD-56 B	Site: SSEC Radiological Survey Area IV/NO2 (EPA Region 9)	
Sampler(s): Stephanie Lepeque Montross (HGA)	Project No.: EP9038, 01.22.04.02	
Sampler(s): Nick Hamel (Blair Tech)	Date: 4/20/11	Time: 0922
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump:	Submersible (vac truck)
Sample ID: SMAO-56B-GW 042011	Sample Date: 4/20/11	Sample Time: 1410
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Well Depth: 463	DTW (ft): 168.64	Type of Pump: Submersible (vac truck)
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	overcast, cool (68°F)	
Well Diameter (in): 16	Placement of Pump (ft): —	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM) <small>µS/cm</small>	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/20/11	0937	168.64	17	—	7.72	16.16	0.563	-91	6.32	56.5	Start purge
4/20/11	0955	178.20	17	353	7.43	18.33	0.673	-254	0.55	11.7	
4/20/11	1010	180.30	17	623	7.35	18.09	0.732	-178	0.29	21.1	
4/20/11	1025	180.78	17	806	7.20	17.91	0.735	-166	0.23	12.2	
4/20/11	1040	180.60	17	1,079	7.24	17.19	0.730	-167	0.18	9.6	
4/20/11	1055	180.78	17	1,416	7.16	16.96	0.737	-166	0.15	8.0	
4/20/11	1110	180.71	17	1,628	7.23	17.01	0.734	-167	0.16	8.1	
4/20/11	1125	180.73	16.5	1,850	7.23	17.38	0.740	-167	0.16	7.8	
4/20/11	1140	180.71	16.5	2,068.5	7.24	16.72	0.741	-169	0.15	7.2	
4/20/11	1155	180.76	17	2,348	7.24	17.12	0.733	-170	0.14	7.4	Stopped purge to offload
4/20/11	1240	—	—	—	—	—	—	—	—	—	restarted purge
4/20/11	1255	180.11	16.75	2,672	7.46	18.28	0.738	-110	3.31	9.9	
4/20/11	1310	180.40	17.0	2,905	7.25	19.35	0.736	-99	2.77	13.3	
4/20/11	1325	179.92	16.75	3,179	7.23	19.87	0.740	-97	2.51	13.3	
4/20/11	1340	186.30	17	3,395	7.23	20.32	0.738	-99	2.27	14.7	
4/20/11	1355	186.90	17	3,631	7.23	20.69	0.741	-101	2.04	12.8	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Totalizer: start = 106430 / end: 110061

P2 sample

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

Well No.: RD-57 FLUTE	Site: SSFL RAD SURVEY AREA III + NBZ
Sampler(s): Timothy MORZE	Project No.: EP9058.01.22.04.02
Sampler(s): Ben (BL Hall)	Date: 3/31/11 Time: 1015
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: FLUTE
Sample ID: SMAD-57-6W033111	Sample Date: 3/31/11 Sample Time: 1500 (partial set)
Additional Samples (DUP/MSD/Blanks): SMAD-57-6W040111	Sample Date: 4/1/11 Sample Time: 0910 (partial set)
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: Port 7	DTW (ft): — Type of Pump: Flute
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): 12.125' open hole	suny, warm, ~ 80°F, MOD wind
Well Diameter (in): 12.125" & 12.125"	Placement of Pump (ft) Port 7

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
3/31/11	1014	—	—	0.75 gal	7.14	21.12	0.612	-289	1.36	4.4	Port 7
	1155	—	—	0.75	7.25	20.30	0.644	-250	2.75	4.7	
	1345	—	—	0.5 gal	7.85	21.49	0.651	-288	1.70	26.7	
	1500	—	—	0.5 gal							
	1538	—	—	0.5 gal							
4/1/11	0910	—	—	2.5 L							sampling complete
	1040	—	—	1.5 L							

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Port 7

PURGE VOLUME CALCULATIONS For: well casing volume = J (Re)² (well depth - static H2O depth) x (conversion 7.48 gal/ft³)

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-63</u>	Site: <u>SSFL Area IV</u>	
Sampler(s): <u>Jason MSDaniel (HGL)</u>	Project No.: <u>EP9.038.01.22.04.02</u>	
Sampler(s): <u>Nick Harrel (Blaine Tech)</u>	Date: <u>3-23-11</u>	Time: <u>1320</u>
Sampling Method (G=grab, B=baile, SP=submersible pump): <u>SP</u>	Type of Pump: <u>Electric</u>	<u>Dedicated Submersible</u>
Sample ID: <u>SMAD 63 6w032311</u>	Sample Date: <u>3-23-11</u>	Sample Time: <u>1530</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Well Depth: <u>230.0</u>	DTW (ft): <u>15.83</u>	Type of Pump: <u>ded. submersible</u>
Condition of Bottom of Well: <u>---</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): <u>Light rain, no wind ~50°</u>	
Screen Interval (ft): <u>---</u>	Placement of Pump (ft) <u>---</u>	
Well Diameter (in): <u>Open Hole</u>		

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-23-11	1400	49.74	11.5	237	6.72	18.10	1162	145	3.92	13	
"	1420	59.49	11.25	433	6.66	18.33	1091	110	3.25	14	
"	1440	67.44	11.0	649	6.66	18.12	1109	98	3.48	8	
"	1500	73.37	11.0	863	6.72	17.70	1102	127	2.93	8	
"	1520	79.05	11.0	1135	6.70	17.92	1121	121	2.98	8	
<u>Deeded 3 well volumes sampled well @ 15:30</u>											
<u>3-23-11</u>											

OBSERVATIONS

Color: <u>Clear</u> Other (describe):
Odor (circle one): <u>None</u> Low Medium High Very strong H2S Fuel-like
PID reading: <u>N/A</u>
Notes: <u>Beginning Totalizer: 283,225 End Totalizer: 283,360</u>
<u>Sample SMAD 63 6w032311 collected @ 1530</u>
<u>1135</u>
<u>Total Purge: 4135.991</u>
<u>1 Well Vol: 366.44 3 well Vol: 1099.31 Water Column: 214.17</u>
PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]
Signed/Sampler(s): <u>[Signature]</u>

Well No.: DD-64 FLUTE	Site: SSFL RAD SURVEY AREA II + NBZ	
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02	
Sampler(s): Ben (BL HALL)	Date: 4/4/11	Time: 0720
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: FLUTE	
Sample ID: SMRD-64-6W040411	Sample Date: 4/4/11	Sample Time: 1215
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: Port #6	DTW (ft): -	Type of Pump: FLUTE
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny/clear, mod. wind, ~75°F	
Well Diameter (in): -	Placement of Pump (ft) Port #6	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/4/11	0754	-	-	1.5g	6.25	17.69	0.821	-310	2.50	4.6	Port #6
	0851	-	-	1.5g	7.51	18.53	0.804	-308	1.97	34.1	
	1048	-	-	1.5g	7.66	19.25	0.786	-378	5.82	7.6	
	1205	-	-	1.5g							start sample collection
	1400	-	-	1.5g							
	1540	-	-	1.5g							Final sampling
<i>[Handwritten signature and date 4/4/11]</i>											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: **Tricked Purging Port #5, no water, switched to port #6**

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

Well No.: RD-65 FLUTE	Site: SCFL RAD SURVEY AREA # + MBZ	
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02	
Sampler(s): Ben (BL HALL)	Date: 4/4/11	Time: 0800
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: FLUTE	
Sample ID: SMAD-65-6N040411	Sample Date: 4/4/11	Sample Time: 1500
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: Port #7	DTW (ft): -	Type of Pump: FLUTE
Condition of Bottom of Well: -	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny/clear, light wind ~75°F	
Well Diameter (in): -	Placement of Pump (ft) Port #7	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (NTU)	COMMENTS
4/4/11	0811	-	-	0.5 gal	7.21	18.87	1.044	-319	2.02	21.4	Port #7
	0930	-	-	0.75	7.53	20.08	0.563	-292	3.07	32.3	
	1120	-	-	0.25	7.67	20.35	0.518	-284	7.53	12.4	Line clogged
	1330	-	-	7.25							start sample collection
											continue purge
	1500	-	-	5L							start sample collection
	1600	-	-								finish sampling (minus spare vol.)
4/4/11											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Port #7
Water smells strong (like fecal matter) and contains insect matter

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): *[Signature]*

Well No.: RD-70	Site: SSFL RAD SURVEY AREA IV + NBZ
Sampler(s): Timothy Moore	Project No.: EP9038.01.22.04.02
Sampler(s): Nick Humel (Blairtech)	Date: 4/18/11 Time: 1000
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: dedicated submersible
Sample ID: SMAD-70-6W041811	Sample Date: 4/19/11 Sample Time: 1130
Additional Samples (DUP/MSD/Blanks): SMAD-70-6W041811	Sample Date: 4/18/11 Sample Time: —
Additional Samples (DUP/MSD/Blanks): SMADUP-09-6W041811	Sample Date: — Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: — Sample Time: —
Well Depth: 278'	DTW (ft): 138.94 Type of Pump: dedicated submersible
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): open hole	overcast, cool ~ 70°F
Well Diameter (in): 12"	Placement of Pump (ft) —

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/18/11	1051	138.96	3.5	10.5	6.91	18.05	0.994	-158	12.05	8.0	
	1054	138.96	3.5	21	6.75	17.25	1.006	-157	3.59	8.7	
	1059	138.96	3.5	34.5	6.96	18.11	1.003	-159	2.66	8.9	
	1104	138.96	3.5	56	6.97	18.29	1.005	-165	1.97	9.8	
	1109	138.97	3.5	73.5	6.97	18.40	1.008	-171	1.46	10.0	
	1114	138.97	3.5	91	6.99	18.46	1.009	-177	1.19	9.9	
	1119	138.97	3.5	108.5	6.99	18.39	1.008	-179	0.87	10.0	
	1124	138.97	3.5	126	6.99	18.37	1.009	-182	0.79	11.1	
4/18/11	1129	138.97	3.5	143.5	6.99	18.33	1.009	-186	0.69	12.7	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like Light H2S

PID reading: NA

Notes: NEW dedicated Low flow submersible pump installed last quarter. Blairtech says 1-3 gpm with no drawdown was achieved. minimum system volume = 34 L. ~89 gal. Pump on @ 10:19 pump off @ 11:30

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-85	Site: SSFL QAD Survey area IV
Sampler(s): Tim Morse (HGL)	Project No.: EP9038.01.22.04.02
Sampler(s): ED Bulano (Blainetech)	Date: 3/16/11 Time: 1525
Sampling Method (G=grab, B=bailler, SP=submersible pump):	Type of Pump: 2" Grundfos
Sample ID: SM RD-85-02-031711	Sample Date: 1355/3/11 Sample Time: 1355
Additional Samples (DUP/MSD/Blanks): SM Rinsate-02-EB03-1711	Sample Date: 3/14/11 Sample Time: 1545
Additional Samples (DUP/MSD/Blanks): SM SOURCE-02-EB03-1711	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 90 ft	DTW (ft): 59.13 Type of Pump:
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): open hole	Sunny & Hot ~ 85°F
Well Diameter (in): 8	Placement of Pump (ft): 88 ft

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/16/11	1602	—	2 gpm	2	6.60	20.12	1.464	-198	4.46	15.2	
	1603	57.83	2 gpm	4	6.67	20.39	1.458	-199	4.25	9.5	
	1604	58.40	2 gpm	6	6.77	20.50	1.451	-199	4.17	6.78	
	1605	59.85	2 gpm	8	6.80	20.52	1.468	-198	4.13	6.5	
	1607	61.15	2 gpm	12	6.83	20.51	1.467	-197	4.04	5.7	
	1608	62.15	2 gpm	14	6.85	20.53	1.469	-195	3.96	5.7	
	1610	64.03	2 gpm	18	6.86	20.55	1.450	-194	3.93	5.7	
	1612	66.34	2 gpm	22	6.87	20.63	1.465	-192	3.92	5.3	
	1614	67.84	2 gpm	26	6.87	20.65	1.465	-190	3.94	5.2	
	1616	70.85	2 gpm	30	6.88	20.72	1.464	-189	3.97	5.6	
	1618	72.59	2 gpm	34	6.88	20.77	1.448	-188	4.01	5.9	
	1620	73.79	2 gpm	38	6.88	20.76	1.450	-187	4.06	5.7	
	1622	75.58	2 gpm	42	6.88	20.83	1.449	-185	4.11	6.6	
	1624	77.76	2 gpm	46	6.89	20.81	1.462	-183	4.18	6.1	
	1626	79.63	2 gpm	50	6.89	20.85	1.465	-178	4.26	6.3	
	1628	82.09	2 gpm	54	6.89	20.90	1.464	-176	4.39	7.4	
	1630	84.60	2 gpm	58	6.89	20.91	1.457	-173	4.61	8.5	
	1632	86.32	2 gpm	62	6.90	20.95	1.448	-172	4.68	8.8	
	1634	88.15	2 gpm	66	6.88	20.97	1.441	-170	4.75	7.9	
	1636	DEWATERED									
	1346	75.85	2 gpm	—	6.83	19.45	1.344	-158	4.96	5.8	Bailler used

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: SM SOURCE-02-EO3 taken @ 1545 (2" Grundfos)

Notes: SM Rinsate-02-EB03 taken @ 1545 (2" Grundfos)

Final DTW 89.94 ft has

*SM SOURCE-02-EO3-1711 TA

*SM Rinsate-02-EB03-1711 TA

SM Rinsate-02-EB031711

SM SOURCE-02-EB031711

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2", x = 0.653 for 4"]

Signed/Sampler(s):

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-86	Site: SSFZ RAD SURVEY AREA IV + NBZ EPA Reg. 9		
Sampler(s): Timothy Morse	Project No.: EP9008.01.22.04.02		
Sampler(s): ED Bulano	Date: 3/23/11	Time: 1430	
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	dedicated submersible	
Sample ID: SMRD-86-6W032411	Sample Date: 3/24/11	Sample Time: 0900	
Additional Samples (DUP/MSD/Blanks): SMRD-86-5M	Sample Date: _____	Sample Time: _____	
Additional Samples (DUP/MSD/Blanks): SM-DUP-03-0W032411	Sample Date: 3/24/11	Sample Time: 0900	
Additional Samples (DUP/MSD/Blanks): _____	Sample Date: _____	Sample Time: _____	
Well Depth: 80'	DTW (ft): 28.09	Type of Pump: ded. submersible	
Condition of Bottom of Well: _____	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):		
Screen Interval (ft): Open hole	Rainy, light wind, ~ 65°F		
Well Diameter (in): 8	Placement of Pump (ft): _____		

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/23/11	1455	43.80	8.1 gpm	24	6.22	18.60	0.904	-229	0.47	6.1	
	1457	53.73	8	40	6.20	18.71	0.903	-222	0.42	5.3	
	1459	62.31	8	56	6.20	18.81	0.901	-213	0.42	4.1	
	1501	69.63	8	72	6.20	18.79	0.911	-208	0.47	4.4	
	1502										pump off well DRY
		75.63									end DTW @ 80 gal
3/24/11	0850	41.24	-	-	6.53	14.73	0.916	-114	5.92	8.8	none

OBSERVATIONS

Color: Clear Other (describe): _____

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: _____

Notes: pump on @ 1452 well dry @ 1502 and ~ 80 gal

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): dm

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-86	Site: SSFL RAD SURVEY AREA IV+NBZ EPA REG. 9	
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02	
Sampler(s): ED Budano (Blantech)	Date: 3/28/11	Time: 0815
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	dedicated submersible
Sample ID: SMRD-86-6W032911	Sample Date: 3/29/11	Sample Time: 0830
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 80	DTW (ft): 27.10	Type of Pump: dedicated submersible
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Sunny ~ 60°F, light wind	
Well Diameter (in): 8	Placement of Pump (ft): 76	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/28/11	0835	40.27	~8 gpm	16	6.21	18.58	0.911	-156	1.60	4.3	
	0837	48.75	8	32	6.21	18.67	0.902	-165	1.09	4.1	
	0839	57.78	8	48	6.22	18.74	0.910	-171	0.95	3.8	
	0841	67.12	8	66	6.22	18.77	0.905	-175	0.85	4.1	
	0843	75.02	8	82	6.24	18.82	0.911	-171	1.06	3.9	
Well Dry / Pump off											
3/29/11	0810	60.51	—	—	6.35	18.74	0.900	-95	7.27	4.4	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like P2

PID reading:

Notes: PUMP ON @ 0833 PUMP OFF/Well dry @ 0843

(Priority) sets collected previously (P2) sample only due to recent findings in well

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-87	Site: SSFL Area IV
Sampler(s): Jason McDaniel (HGL)	Project No.: EP9038.01.22.04.02
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-17-11
Sampling Method (G=grab, B=bailer, SP=submersible pump)	Time: 1100
Sample ID: N/A SMAD 87 GW 031811	Type of Pump: Electric
Additional Samples (DUP/MSD/Blanks):	Electric Groundlog Submersible
Additional Samples (DUP/MSD/Blanks):	Sample Date: 3-18-11
Additional Samples (DUP/MSD/Blanks):	Sample Time: 0850
Well Depth: 60.0 ft	Sample Date:
Condition of Bottom of Well: Soft	Sample Time:
Screen Interval (ft): N/A	Sample Date:
Well Diameter (in): Open Hole	Sample Time:
	DTW (ft): 45.70
	Type of Pump:
	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
	Overcast, no wind ~70°
	Placement of Pump (ft) 60.0

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-17-11	11:20	50.66	2	6	6.58	17.31	1,062	19	1.23	0	
"	11:23	57.32	2	12	6.51	17.49	1,042	31	1.27	0	
"	11:26	59.33	2	18	6.47	17.46	1,043	17	1.12	0	
11:27	Well ran dry										Well return on 3-18 to collect sample

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Well ran dry @ 11:27 Well return on 3-18 to collect sample

Total purge vol: 18 gallons

1 Well Vol: 14.58 3 Well Vol: 43.74

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JPM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-87</u>	Site: <u>SSFL Area IV</u>	
Sampler(s): <u>Jason McDaniel (HGL)</u>	Project No.: <u>EP9038.01.22.04.02</u>	
Sampler(s): <u>Nick Harrel (Blaine Tech)</u>	Date: <u>3-18-11</u>	Time: <u>0840</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump) <u>B SP</u>	Type of Pump: <u>Ground Hog</u>	<u>Electric</u>
Sample ID: <u>SMRD 87GW031811</u>	Sample Date: <u>3-18-11</u>	Sample Time: <u>0850</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Additional Samples (DUP/MSD/Blanks): <u>/</u>	Sample Date: <u>/</u>	Sample Time: <u>/</u>
Well Depth: <u>61.46</u>	DTW (ft): <u>50.50</u>	Type of Pump: <u>/</u>
Condition of Bottom of Well: <u>soft</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>NA</u>	<u>Clear no wind, ~60°</u>	
Well Diameter (in): <u>Open Hole</u>	Placement of Pump (ft) <u>60 Open</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
<u>3-18-11</u>	<u>0850</u>	<u>50.50</u>	<u>N/A</u>	<u>N/A</u>	<u>6.68</u>	<u>15.75</u>	<u>1198</u>	<u>34</u>	<u>2.46</u>	<u>0</u>	
<u>Collected SMRD 87GW031811</u>											
<u>Plot 3-18-11</u>											
(A large diagonal line is drawn across the remaining empty rows of the table.)											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: 0850 collect SMRD 87GW031811 w H bailer

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): JMD

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-88	Site: SSFL Area IV
Sampler(s): Jason McDaniel (HGL)	Project No.: SP1.038, 01.22.04.02
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-28-11 (3-29-11) Time: 11:20 (0830)
Sampling Method (G=grab, B=bailer (SP=submersible pump): SP	Type of Pump: Electric Grundfos
Sample ID: SMRD 886W032911	Sample Date: 3-29-11 Sample Time: 0845
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: 30.0	DTW (ft): 15.09 (17.29) Type of Pump: Grundfos
Condition of Bottom of Well: Soft	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): —	Sunny, clear, light west wind, ~60°
Well Diameter (in): Open Hole	Placement of Pump (ft) 29.0 BTOL

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (N.T.U.)	COMMENTS
3-28-11	11:48	17.72	1.5	7.5	6.68	17.75	562	117	2.26	2.0	
"	11:53	halted purge									
"	12:24	20.40	1.5 gpm	16.5	6.25	17.56	573	211	0.85	18.0	
"	12:29	23.20	"	24.0	6.13	17.72	601	215	0.92	13.0	
"	12:34	28.00	"	31.5	6.15	17.76	584	152	0.48	19.0	
"	12:35	well ran dry			6.42						
3-29-11	0840	17.29	—	< 1.0 gal	6.42	15.56	730	159	1.75	17	
3-29-11	0845	Sampled well SMRD 886W032911									

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A 3-29-11 Total purge 5.10 gal. Collected with disposable bailer

Notes: Water Column: 14.91 3-29-11 Sample SMRD 886W032911 collected @ 0845

11:53: halted purge due to water quality meter failure. 12:24 continued purge with new water meter. 12:35 well ran dry. Well return on 3-29 to collect sample.

1 Well vol approximately: 15 gal. 3 Well vol approximately: 45 gal. Total purge: 31.5 gal.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2", x = 0.653 for 4"]

Signed/Sampler(s): JDM

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-90	Site: SSFL Area IV	
Sampler(s): Jason McDavid (HGL)	Project No.: EPA 058. 01.22.04.02	
Sampler(s): Nick Harrel (Blaine Tech)	Date: 3-28-11/3-29-11	Time: 0815 (0750)
Sampling Method (G=grab, B=bailey, SP=submersible pump): SP	Type of Pump: Electric	Groundflos
Sample ID: SMAD 90GW032911	Sample Date: 3-29-11	Sample Time: 0810
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 125.0	DTW (ft): 27.09(28.53)	Type of Pump: Groundflos
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): —	Clear, no wind, ≈ 55°	
Well Diameter (in): Open Hole	Placement of Pump (ft) 127.0 BTOL	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-28-11	0914	52.60	2.53	45	6.58	19.41	1,182	157	1.20	0	
"	0929	67.64	3.0	90	6.59	19.59	1,182	150	0.86	0	
"	0944	79.04	3.0	135	6.60	19.71	1,180	144	0.74	0	
"	0959	91.75	3.0	180	6.62	19.77	1,181	134	0.76	0	
"	1014	109.40	3.0	225	6.65	19.96	1,193	118	1.07	20	
"	1025	Well	ran dry								
3-29-11	0805	25.53	—	21.0 gal	6.47	16.88	1,260	226	3.14	6.0	
"	0810	Sampled well		SMAD 90GW032911							

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Water Column: 97.91

Well ran dry @ 1025. Well return on 3-29 to collect sample.

3-29-11 Sampled well SMAD 90GW032911 @ 0810

1 Well Vol: 138.25 3 Well Vol: 414.76 Sample collected with disposable bailer.

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): J Harrel

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-91	Site: SSFL Area IV
Sampler(s): Jason McDaniel (HGL)	Project No.: EP9.038.01.22.04.02
Sampler(s): Nick Hurrell (Blaine Tech)	Date: 3-29-11 (3:30-11) Time: 1445 (0145)
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Electric Dedicated Submersible
Sample ID: SMRD 91 GW 033011	Sample Date: 3-30-11 Sample Time: 1330
Additional Samples (DUP/MSD/Blanks): SM Dup 05 GW 033011	Sample Date: 3-30-11 Sample Time: 1340
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: / Sample Time: /
Well Depth: 140.0	DTW (ft): 28.80 (105.10) Type of Pump: ded. submersible
Condition of Bottom of Well: ---	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Clear, Sunny, light NW wind ~ 70°
Screen Interval (ft): ---	Placement of Pump (ft) ---
Well Diameter (in): Open Hole	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (NTU)	COMMENTS
3-29-11	1515	96.30	6.5	92	6.48	21.95	1,184	163	2.59	9	
"	1530	131.22	5.75	164	6.48	21.19	1,164	152	1.38	6	
"	1531	Well Ran dry									
3-30-11	1320	97.35	6.5	3	7.22	22.23	1,192	169	4.60	1	
Sampled well @ 1330 SMRD 91 GW 033011											

OBSERVATIONS

Color: Clear Other (describe): _____

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Beginning totalizer: 284122 end totalizer: 284203
 Water column: 111.20 Collected sample on 3:30 SMRD 91 GW 033011 @ 1330
 Well ran dry @ 1531 well return on 3:30 to collect sample
 1 Well Vol: 163.34 3 Well Vol: 490.02 Total purge: 164 gal

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): J. Hurrell

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-92</u>	Site: <u>SSFL RAD Survey Area IV+NBZ EPA Reg 9</u>	
Sampler(s): <u>Timothy Morse</u>	Project No.: <u>EP9038.01.22.04.02</u>	
Sampler(s): <u>ED Bruno (Blairtech)</u>	Date: <u>3/21/11</u>	Time: <u>1445</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	<u>deducted submersible</u>
Sample ID: <u>SMAD-92-6W032211</u>	Sample Date: <u>3/22/11</u>	Sample Time: <u>0930</u>
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: <u>105</u>	DTW (ft): <u>60.15</u>	Type of Pump: <u>deducted submers.</u>
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>8 open hole</u>	<u>Cloudy, damp ~ 70°F</u>	
Well Diameter (in): <u>8</u>	Placement of Pump (ft) <u>102</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
<u>3/21/11</u>	<u>1504</u>	<u>74.59</u>	<u>8 gpm</u>	<u>32</u>	<u>7.04</u>	<u>19.48</u>	<u>0.472</u>	<u>-214</u>	<u>0.40</u>	<u>2.9</u>	
<u>3/21/11</u>	<u>1505</u>	<u>81.66</u>	<u>8</u>	<u>64</u>	<u>6.92</u>	<u>19.63</u>	<u>0.452</u>	<u>-218</u>	<u>0.24</u>	<u>3.1</u>	
<u>3/21/11</u>	<u>1509</u>	<u>89.97</u>	<u>8</u>	<u>96</u>	<u>6.20</u>	<u>19.69</u>	<u>0.443</u>	<u>-215</u>	<u>0.29</u>	<u>2.8</u>	
<u>11</u>	<u>1503</u>	<u>97.51</u>	<u>8</u>	<u>128</u>	<u>6.91</u>	<u>19.70</u>	<u>0.441</u>	<u>-207</u>	<u>0.40</u>	<u>3.8</u>	
<u>11</u>	<u>1516</u>	<u>101.92</u>	<u>8 gpm</u>			<u>well dry</u>					
<u>3/22/11</u>	<u>0919</u>	<u>61.30</u>	<u>~8 gpm</u>	<u>-</u>	<u>7.10</u>	<u>19.46</u>	<u>0.507</u>	<u>-171</u>	<u>2.73</u>	<u>3.5</u>	<u>none</u>

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Start time - 1457 end - 1516 @ ~ 152 gal.

30V = ~ 196 gal. 40% ~ 69 ft.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): ad

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-93	Site: SSFL Radiological Study, Area IV	
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02	
Sampler(s): /	Date: 3-16-11	Time: 1434
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP/B	Type of Pump: 2" grunfos	
Sample ID: SMRD-93-GW031711	Sample Date: 3-17-11	Sample Time: 1445
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 60'	DTW (ft): 34.58'	Type of Pump: Grunfos
Condition of Bottom of Well: /	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 8" open hole	Sunny, 74°, windy	
Well Diameter (in): 8"	Placement of Pump (ft) 59'	

1441

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-16-11	1444	/	1	3	6.43	20.63	1900	207	4.91	476	Start purge
3-16-11	1447	36.91	1	6	6.27	20.84	1870	187	2.22	548	
3-16-11	1450	38.47	1	9	6.27	20.95	1850	172	1.61	478	
3-16-11	1452	39.47	1	11	6.25	20.95	1830	159	1.41	383	
3-16-11	1454	41.21	1	13	6.32	20.96	1820	142	1.20	349	
3-16-11	1458	42.91	1	17	6.39	21.04	1730	118	1.03	334	
3-16-11	1502	46.64	2	25	6.40	20.99	1850	103	0.95	358	
3-16-11	1507	50.17	2	35	6.47	21.00	1720	99	1.00	451	Dry
3-17-11	1432	33.49	n/a	n/a	6.67	21.37	1650	198	2.17	375	sample

Chelsea Carmichael

OBSERVATIONS

Color: Clear Other (describe): clear with slight brown tinting

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: /

Notes: Purged dry at 35 gallons.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): Chelsea Carmichael

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-94	Site: SFL Area IV	
Sampler(s): Jason M & Daniel (CH6)	Project No.: EP9.038.01.22.04.02	
Sampler(s): Nick Harrel (Blasius Tech)	Date: 3-28-11	Time: 1250
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: Electric	Grundfos
Sample ID: SMRD94GW032811	Sample Date: 3-28-11	Sample Time: 1408
Additional Samples (DUP/MSD/Blanks): SMDup046w032811	Sample Date: 3-28-11	Sample Time: 1418
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 35.0	DTW (ft): 7.44	Type of Pump: Grundfos
Condition of Bottom of Well: Soft	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): —	Sunny, clear, no wind @ 70°	
Well Diameter (in): Open Hole	Placement of Pump (ft) 34.0 BTOC	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/28/11	13:14	8.68	1.0	7	6.39	16.55	1363	-58	0.68	232	
"	13:19	8.92	"	12	6.39	16.79	1368	-52	0.71	267	
"	13:24	9.10	"	17	6.40	16.82	1366	-48	0.73	197	
"	13:29	9.22	"	22	6.40	16.79	1368	-38	0.85	130	
"	13:34	9.30	"	27	6.40	16.84	1379	-31	0.92	97	
"	13:39	9.36	"	32	6.41	17.01	1381	-26	1.09	78	
"	13:44	9.44	"	37	6.40	17.06	1396	-14	1.22	53	
"	13:49	9.53	"	42	6.41	17.11	1403	-11	1.35	44	
"	13:54	9.60	"	47	6.41	17.13	1413	-10	1.40	38	Well Vol reached
"	13:59	9.68	"	52	6.42	17.17	1415	-9	1.43	34	
"	14:02	9.71	"	57	6.42	17.09	1431	-9	1.38	35	
"	14:05	9.78	"	62	6.43	17.11	1432	-6	1.42	34	
"	14:06	well stabilized									
"	14:08	Sampled well									
John 3-28-11											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes: Water column: 27.56
 13:54 reached 3 well vol. began to stabilize.
 14:08 Sampled well SMRD94GW032811 pulled D-up#9 SMDup046w032811
 Well vol app: 16.27 3 well vol app: 48.82 Total purge: 65 gallons

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): John

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-95	Site: SSFL Radiological Study, Area IV	
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02	
Sampler(s):	Date: 3-16-11	Time: 1253
Sampling Method (G=grab, B=bailer, SP=submersible pump): B ^B SP ^{SP} B ^B	Type of Pump: 2" Grundfos	
Sample ID: SMRD-95-6W03-1711	Sample Date: 3-17-11	Sample Time: 1400
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 80	DTW (ft): 52.58	Type of Pump: 2" Grundfos
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 27.42 ^{cc} 48.5 ^{cc} open hole	Sunny, 73°	
Well Diameter (in): 8 8" at top	Placement of Pump (ft) 79	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-16-11	1404	52.58	3	9	6.22	19.90	1,354	298	1.44	598	start purge
3-16-11	1408	52.58	3	21	6.25	20.05	1,392	262	1.22	1,304	Purged dry
3-16-11	1408	52.58									
3-17-11	1344	52.76	n/a	n/a	6.50	19.75	1400	238	2.46	198	

cc
cc

Chelsea Carmichael

OBSERVATIONS

Color: Clear Other (describe): Brown-clear

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: Purged dry at 21 gallons.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *Chelsea Carmichael*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-96	Site: SSFC RAD SURVEY AREA IV+NBZ EPA Reg. 9	
Sampler(s): Timothy Morse	Project No.: EP9058.01.22.04.02	
Sampler(s): ED Budano	Date: 3/24/11	Time: 1415
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump:	2" Grundfos
Sample ID: SMRD-96-6W032511	Sample Date: 3/25/11	Sample Time: 0815
Additional Samples (DUP/MSD/Blanks): SMRD-96-6W032511	Sample Date: 3/25/11	Sample Time: 0845 TM 0815
Additional Samples (DUP/MSD/Blanks): SMMSite-15-15032511	Sample Date: 3/25/11	Sample Time: 0845
Additional Samples (DUP/MSD/Blanks): MSOURCE-15-EB032511	Sample Date: 3/25/11	Sample Time: 0845
Well Depth: 20.02	DTW (ft): 59.56	Type of Pump: —
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	partly cloudy, slight drizzle, ~60°F, light wind	
Well Diameter (in): 8.625	Placement of Pump (ft): 89'	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/24/11	1436	62.61	1 gpm	3	6.92	18.78	1.034	-253	0.31	36.1	
	1439	65.10	1	6	6.87	19.14	1.019	-239	0.34	33.7	
	1442	67.10	1	9	6.84	19.17	1.030	-222	0.46	29.2	
	1445	69.11	1	12	6.83	19.41	1.026	-208	0.58	28.5	
	1448	71.03	1	15	6.83	19.33	1.026	-199	0.69	24.4	
	1451	71.45	1	18	6.82	19.41	1.013	-191	0.74	22.1	
	1454	75.60	1	21	6.82	19.43	1.023	-187	0.81	21.0	
	1457	77.38	1	24	6.82	19.38	1.013	-185	0.85	19.6	
	1500	79.12	1	27	6.81	19.63	1.005	-183	0.87	23.3	
	1503	81.22	1	30	6.81	19.45	1.016	-180	0.91	25.3	
	1506	83.02	1	33	6.82	19.50	1.007	-174	1.07	26.7	
	1509	84.83	1	36	6.82	19.58	0.992	-153	1.44	25.3	
	1512	85.34	1	39	6.82	19.30	0.986	-140	2.48	32.7	
					Well DRY						
3/25/11	0810	60.03	—	—	6.93	14.75	1.134	-116	1.54	21.2	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading:

Notes: pump on at 1433 * SMRD-96-6W032511MS (0815)
 Well dry at 1513 MS sample also taken
 - well water column drops quickly

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-97	Site: SSFL RAD SURVEY AREA IV + NBZ EPA Reg 2
Sampler(s): Timothy Morse	Project No.: EP9038.01.22.04.02
Sampler(s): ED Budano (Blairtech)	Date: 3/30/11
Sampling Method (G=grab, B=bailer, SP=submersible pump):	Type of Pump: 2" br. Jace
Sample ID: SMD-97-6W033011	Sample Date: 3/30/11
Additional Samples (DUP/MSD/Blanks): SMDUP-06-6W033011	Sample Date: 3/30/11
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /
Well Depth: 74.5	DTW (ft): 44.39
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): sunny ~ 70°F, light wind
Screen Interval (ft): open hole	Placement of Pump (ft) ~ 71-72'
Well Diameter (in): 8.625	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3/30/11	0821	49.50	2 gpm	6	6.65	14.52	1.123	-252	1.62	98.0	
	0824	52.25	2	12	6.66	14.70	1.135	-255	0.89	60.9	
	0827	55.07	2	18	6.67	14.82	1.120	-256	0.76	45.5	
	0830	57.02	2	24	6.67	14.88	1.125	-258	0.67	28.6	
	0833	59.05	2	30	6.68	14.90	1.117	-258	0.61	27.4	
	0836	61.30	2	36	6.68	14.95	1.127	-262	0.53	28.6	
	0839	61.65	2	42	6.69	14.98	1.119	-267	0.48	53.1	nearly bottom of well
	0842	65.11	2	48	6.70	19.03	1.108	-261	0.53	80.0	
	0845	67.23	2	54	6.71	19.99	1.123	-246	0.73	144	
	0848	69.17	2	60	6.71	19.02	1.124	-220	1.23	184	
	0849			Pump	DRY + 3PV	run					
	1500	46.25	—	—	6.98	23.46	1.118	-262	3.09	85.9	

OBSERVATIONS

Color: Clear Other (describe): slightly turbid, more towards bottom 10 ft.
Odor (circle one): <u>None</u> Low Medium High Very strong H2S Fuel-like
PID reading:
Notes: WC x 0.651535 x 3 = 3PV = 58.84 gal pump difficult to get groundfrees down well Pump on @ 0818 Pump off @ 0849
PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]
Signed/Sampler(s): <i>Ed Budano</i>

Well No.: RD-98	Site: SSFL RAD Survey area TW+WBZ	
Sampler(s): Timothy Morse / Stephanie Lopez-Nestor	Project No.: EP9038.01.22.04.02	
Sampler(s): Nick Harrel (Blairtech)	Date: 4/18/11	Time: 1330
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: 4/18/11	6-run foos
Sample ID: SMAD-98-6W041811 (Supd-98-6W041911)	Sample Date: 4/18/11	Sample Time: 0940
Additional Samples (DUP/MSD/Blanks): -9 @	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Well Depth: 65	DTW (ft): 27.04	Type of Pump: 6-run foos
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): open hole	Overcast, ~70°F, light wind	
Well Diameter (in): —	Placement of Pump (ft): 62"	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (N.T.U.)	COMMENTS
4/18/11	1339	35.72	2 gpm	14 g	6.99	18.51	0.625	-107	6.19	16.6	
↑	1348	38.32	2	28	6.94	18.58	0.619	-105	6.16	15.1	
	1353	40.70	2	42	6.92	18.71	0.626	-103	6.02	12.7	
	1400	41.68	2	56	6.91	18.85	0.627	-101	5.95	12.0	
	1407	47.72	2	70	6.91	18.65	0.626	-98	6.00	8.6	
	1414	50.45	2	84	6.91	18.76	0.631	-98	5.84	9.5	
	1421	52.05	2	98	6.90	18.91	0.629	-97	5.72	9.6	
	1428	52.78	2	112	6.91	19.03	0.637	-98	5.10	9.2	
	1435	54.25	2	126	6.90	18.92	0.641	-100	5.45	9.4	
4/18/11	1444	55.43	2	144	6.91	19.07	0.642	-99	5.44	10.5	
4/18/11							SPV achieved				
4/19/11	0940	27.33	bailer		7.02	17.46	1233 μmhos/cm		4.58	32	SAMPLE

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes: 3PV = 141 gal
 1332 - Pump On @ ~2 gpm 1447 - Pump off @ ~149 gal.
 Total well purge = 148 gal
 Tim Morse purged well 4/18/11 / Stephanie Lopez-Nestor Sampled well 4/19/11

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]* / *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: ES-31	Site: SSFL Radiological Study, Area IV	
Sampler(s): C. Carmichael	Project No.: EP9038.01.22.04.02	
Sampler(s): /	Date: 3-24-11	Time: 0845
Sampling Method (G=grab, B=bailer, SP=submersible pump): SP	Type of Pump: dedicated pump	
Sample ID: SMES-31-GW032511	Sample Date: 3-25-11	Sample Time: 0830
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Additional Samples (DUP/MSD/Blanks): /	Sample Date: /	Sample Time: /
Well Depth: 25'	DTW (ft): 5.48	Type of Pump: dedicated
Condition of Bottom of Well: /	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Cloudy, 55"	
Screen Interval (ft): 11.6-25'	Placement of Pump (ft) 24' (fixed)	
Well Diameter (in): 6"		

0909

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
3-24-11	0809		6	6	5.86	13.91	807	184	9.91	149	Start purge
3-24-11	0912	14	6	18	6.29	18.44	778	157	6.94	126	
3-24-11	0915		6	36	6.69	17.91	794	132	5.78	119	
3-24-11	0918	14.59	6	54	6.76	18.08	810	122	4.84	117	
3-24-11	0921	17.10	6	72	6.82	18.31	823	117	4.09	122	
3-24-11	0924	18.43	6	90	6.83	18.51	834	108	3.94	104	
3-24-11	0927	19.63	6	108	6.85	18.58	850	106	3.57	95.7	
3-24-11	0930	21.00	6	126	6.85	18.86	845	102	3.51	88.3	
3-24-11	0933	21.85	6	144	6.85	19.03	852	85	3.33	87.0	
3-24-11	0936	22.40	6	162	6.84	19.12	864	78	3.10	85.4	
3-24-11	0939	23.05	6	180	6.86	19.24	877	74	3.23	82.5	
3-24-11	0942	23.72	6	198	6.86	19.29	880	69	2.95	88.8	
3-24-11	0943	24.00	3	201							Purged dry
3-25-11	0820	5.90	6.3	6	6.16	17.46	857	161	4.93	60.9	sample

Chelsea Carmichael

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: /

Notes: Pumped dry at 0943. 201 gallons purged.
Flow rate lowered to 3 GPM naturally at 0943.
used restrictor valve to slow from 10 GPM to 6 GPM
All 9 priority 1 bottles filled at 0830 on 3-25-11.

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of Water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *Chelsea Carmichael*

Well No.: <u>WS-07</u>	Site: <u>SSFL RAD SURVEY AREA IV+NBZ EIA RES P.</u>	
Sampler(s): <u>Timothy Morse, Todd Larson</u>	Project No.: <u>EP9038, 01, 22, 04, 02</u>	
Sampler(s): <u>Dale Eherson, Nick Harrel</u>	Date: <u>4/18/11</u>	Time: <u>0800</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>SP</u>	Type of Pump: <u>submersible</u>	<u>(vac truck)</u>
Sample ID: <u>SM053-07-GW041911</u>	Sample Date: <u>4/19/11</u>	Sample Time: <u>1215</u>
Additional Samples (DUP/MSD/Blanks): <u>SM DUP-10-GW041911</u>	Sample Date: <u>4/19/11</u>	Sample Time: <u>NO time</u>
Additional Samples (DUP/MSD/Blanks): <u>SM Rinse - 34-ES041911</u>	Sample Date: <u>4/19/11</u>	Sample Time: <u>0830 (Equip used at 20-98)</u>
Additional Samples (DUP/MSD/Blanks): <u>SM Sewer - 34-ES041911</u>	Sample Date: <u>4/19/11</u>	Sample Time: <u>0830 (Equip used at 20-98)</u>
Well Depth: <u>700</u>	DTW (ft): <u>48.70</u>	Type of Pump: <u>submersible</u> <u>(vac truck)</u>
Condition of Bottom of Well: <u>—</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>open hole</u>	<u>overcast, cool ~ 65°F (4/18/11) / same on 4/19/11</u>	
Well Diameter (in): <u>12</u>	Placement of Pump (ft) <u>360</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM AT 25°C)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/18/11	0956	48.70	13 gpm	104 g	6.72	18.93	0.544	-100	2.64	258	turbid, rust color
	↑ notes @ 1110		↑ pump changed to ~24.5 gpm								
	1229	67.5	24.5	2750	7.14	12.31	0.691	-181	1.03	96.7	
	1305	76.65	24.5	6000	7.20	19.56	0.733	-125	3.71	30.7	
4/18/11				total pumped 7,200 gal.							will continue pump 4/19/11
4/19/11	0742	52.85	25 gpm								begin purge
4/19/11	0855	69.35	25 gpm	9,000	6.96	18.51	0.773	-161	1.63	33.6	
4/19/11	1215	71.20	25 gpm	12,200	7.11	19.92	76.9 μm	-195	1.34	23.0	end purge

OBSERVATIONS

Color: (Clear) Other (describe):

Odor (circle one): (None) Low Medium High Very strong H2S Fuel-like

PID reading: NA 3PV = 12, 192

Notes: Totalizer initial @ 8170.5 gal
pump on @ 0948 ~ 13 gpm / @ 1110 changed to ~ 24.5 gpm
PUMP (225 - SAE 220) 3" Grundfos / Total gallons pumped = 12,520

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature] / [Signature]

Well No.: OS-3	Site: SSFL Radiological Survey Area 10/NS2 (EPA Region 9)
Sampler(s): Stephen Lopez Montrose (HGL)	Project No.: EP9058. 01.22.04.02
Sampler(s): Ben Stevens (Blair Tech)	Date: 4/18/11 Time: 1150 / 1151
Sampling Method (G=grab, B=bailer, SP=submersible pump): G	Type of Pump: artesian
Sample ID: S005-03-GW041811 / S005-03-GW042111	Sample Date: 4/18/11 / 4/21/11 Sample Time: 1155 / 1340
Additional Samples (DUP/MSD/Blanks): S005-DUP-11-GW042111 Q	Sample Date: 4/21/11 Sample Time: 0 - no time on field book
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date: Sample Time:
Well Depth: 100	DTW (ft): Type of Pump: artesian
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Screen Interval (ft): 30-60 open hole	overcast, ~70°F, drizzle
Well Diameter (in): 8" (casing)	Placement of Pump (ft):

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/18/11	1152				7.54	18.95	786	114	3.28	10.5	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes:

continuously flowing artesian well - above ground collection - good flow

4/21/11 re collected sample; S005-03-GW042111 & DUP; SMDUP-11-GW042111 @ 1340

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

Well No.: OS-4	Site: SSFL Biological Survey Area 10 / NSE (EPA Region 9)	
Sampler(s): Stephanie Lapeere (HGC)	Project No.: EP 9038-01.22.04.02	
Sampler(s): Ben Stevens (Blair Tech)	Date: 4/18/11	Time: 1130
Sampling Method (G=grab, B=bailer, SP=submersible pump): G	Type of Pump:	artesian
Sample ID: S005-04-GW041811 / S005-04-GW042111	Sample Date: 4/18/11 / 4/21/11	Sample Time: 1130 / 1320
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —	Sample Time: —
Well Depth: —	DTW (ft): —	Type of Pump: artesian
Condition of Bottom of Well: —	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): —	overcast, ~70°F, drizzle	
Well Diameter (in): —	Placement of Pump (ft): —	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB. (N.T.U.)	COMMENTS
4/18/11	1130	—	—	—	7.12	16.31	1009	-98	3.47	86.1	sampled

OBSERVATIONS

Color: (Clear) Other (describe): with plant and rust debris floating

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes: artesian well - remove lid and place bottles directly into well casing (well does not pump) - groundwater constantly flowing from well onto ground surface (casing is ground level)

4/21/11 - re collected sample: S005-04-GW042111 (1320) due to label error @

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): *[Signature]*

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>OS-9</u>	Site: <u>SSFL Radiological Survey Area IV / NBT (EPA Region 4)</u>	
Sampler(s): <u>Stephanie Lopez Monrose (HGC)</u>	Project No.: <u>EP9038.01.22.04.02</u>	
Sampler(s): <u>Ken Stevens (Blair Tech)</u>	Date: <u>4/18/11</u>	Time: <u>1450</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>G</u>	Type of Pump:	<u>antesian</u>
Sample ID: <u>SOOS-09-GW041811</u>	Sample Date: <u>4/18/11</u>	Sample Time: <u>1452</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Well Depth: <u>—</u>	DTW (ft): <u>—</u>	Type of Pump: <u>antesian</u>
Condition of Bottom of Well: <u>—</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>—</u>	<u>overcast, ~ 70° F</u>	
Well Diameter (in): <u>—</u>	Placement of Pump (ft) <u>—</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB. (N.T.U.)	COMMENTS
<u>4/18/11</u>	<u>1455</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>8.54</u>	<u>17.60</u>	<u>878</u>	<u>-277</u>	<u>1.83</u>	<u>23.3</u>	<u>Sample</u>
<i>(A large diagonal line is drawn across the remaining rows of the table, with a circled 'S' in the center.)</i>											

OBSERVATIONS

Color: Clear Other (describe): black

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes:
no water flowing out of pipe / pooled area - sample collected from.

PURGE VOLUME CALCULATIONS: DTW, TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: OS-9R	Site: SSFL
Sampler(s): Stephanie Lapoye Montrose (HGL)	Project No.: EP9038.01.22.04.02
Sampler(s): Drew Lassen (MWH)	Date: 4/1/11
Sampling Method (G=grab, B=bailer, SP=submersible pump): B	Time: 0800
Sample ID: S00S-9R-GW04011	Type of Pump: Westbay Pump System
Additional Samples (DUP/MSD/Blanks): 50 Rinse - 33-EB04011	Sample Date: 4/1/11
Additional Samples (DUP/MSD/Blanks): 50 Source - 33-EB04011	Sample Time: 0920
Additional Samples (DUP/MSD/Blanks):	Sample Date: 4/1/11
Additional Samples (DUP/MSD/Blanks):	Sample Time: 1305
Well Depth: 398 ft. bgs	Sample Date: 4/1/11
Condition of Bottom of Well: Fair	Sample Time: 1305
Screen Interval (ft): see ports listed below	DTW (ft): Top of casing
Well Diameter (in): 1 1/2" (casing) / 4" (well)	Type of Pump: Westbay Pump System
	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
	Clear, sunny, ~80°F
	Placement of Pump (ft) (Pump - NA) / Sampled out of Port #1

DATE	TIME	DEPTH TO WATER (ft)	Fluid Pressure Readings		TEMP. (°C)	COND. (UMHOS/CM)	ORP	DO (MG/L)	TURB. (NTU)	COMMENTS
			Flow Rate (GPM)	Total Volume (GAL)						
4/1/11	0838	391.2	183.70	204.64	20.90	16				
4/1/11	0840	366.2	172.87	186.76	21.33	15				
4/1/11	0840	346.2	164.29	177.79	21.52	14				
4/1/11	0841	326.2	155.61	165.25	21.50	13				
4/1/11	0842	301.1	144.75	154.26	21.43	12				
4/1/11	0843	286.1	138.26	147.60	21.45	11				
4/1/11	0844	266.1	129.60	138.71	21.36	10				
4/1/11	0845	249.1	122.23	131.31	21.25	QA3				
4/1/11	0846	234.1	115.72	122.46	21.15	9				
4/1/11	0847	212.1	106.20	114.39	21.04	8				
4/1/11	0848	190.0	96.62	104.84	20.94	7				
4/1/11	0848	164.0	85.39	93.10	20.74	6				
4/1/11	0849	141.0	75.43	82.86	20.53	5				
4/1/11	0850	123.0	67.60	74.40	20.24	4				
4/1/11	0851	94.0	55.08	61.84	20.08	QA2				
4/1/11	0852	79.0	48.55	55.31	19.93	3				
4/1/11	0852	57.9	39.42	40.87	19.69	QA1				
4/1/11	0854	45.9	34.21	35.70	19.47	2				
4/1/11	0855	35.9	29.89	31.21	19.14	1				

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes: Ports separated by hydraulic inflatable packers
 4 cylinders take approx. 2-4 minutes for pressure build up and fill with water
 4 cylinders fill w 0.75 liter / Took ~14 times to collect full sample (sending down 4 cylinders well).
 DI lot # A047-27

PURGE VOLUME CALCULATIONS For: well casing volume = J(Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3) NA

Signed/Sampler(s): *[Signature]*

Well No.: <u>05-10</u>	Site: <u>SSFL Radiological Survey Area IV NO2 (EPA Region 9)</u>	
Sampler(s): <u>Stephanie LePeyre Montoux (HGL)</u>	Project No.: <u>EP9038.01.22.04.02</u>	
Sampler(s): <u>Ben Stevens (Blaine Tech)</u>	Date: <u>4/18/11</u>	Time: <u>1530</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>G</u>	Type of Pump: <u>antesian</u>	
Sample ID: <u>5005-10-GW041811</u>	Sample Date: <u>4/18/11</u>	Sample Time: <u>1535</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Well Depth: <u>600</u>	DTW (ft): <u>—</u>	Type of Pump: <u>antesian</u>
Condition of Bottom of Well: <u>—</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>open hole</u>	<u>overcast, ~70°F</u>	
Well Diameter (in): <u>18 & 12 (borehole)</u>	Placement of Pump (ft) <u>antesian</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB. (N.T.U.)	COMMENTS
<u>4/18/11</u>	<u>1545</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>8.00</u>	<u>18.72</u>	<u>699</u>	<u>0.86</u> <u>-86</u>	<u>4.00</u>	<u>5999</u>	<u>Ⓞ</u>

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes: no flowing water - collected sample from ponded area

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RD-59A</u>	Site: <u>SSFL Radiological Survey Area 10/NOZ (COPR Reg 679)</u>	
Sampler(s): <u>Stephanie Laporte-Morin (HGL)</u>	Project No.: <u>EP9058.01.22.04.02</u>	
Sampler(s): <u>Don Stevens (Blaine Tech)</u>	Date: <u>4/18/11</u>	Time: <u>1015</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>G</u>	Type of Pump: <u>arterien</u>	
Sample ID: <u>SO RD-59A-GW041811</u>	Sample Date: <u>4/18/11</u>	Sample Time: <u>1115</u>
Additional Samples (DUP/MSD/Blanks): <u>---</u>	Sample Date: <u>---</u>	Sample Time: <u>---</u>
Additional Samples (DUP/MSD/Blanks): <u>---</u>	Sample Date: <u>---</u>	Sample Time: <u>---</u>
Additional Samples (DUP/MSD/Blanks): <u>---</u>	Sample Date: <u>---</u>	Sample Time: <u>---</u>
Well Depth: <u>58</u>	DTW (ft): <u>30.58</u>	Type of Pump: <u>arterien</u>
Condition of Bottom of Well: <u>---</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>open hole</u>	<u>overcast, cool (~70°F)</u>	
Well Diameter (in): <u>17 1/2 & 6 1/2 (borehole diam)</u>	Placement of Pump (ft) <u>---</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/18/11	1020	30.58	3								Start purge
4/18/11	1030	40.53	3	30	7.66	16.48	1083	72	4.83	20.0	
4/18/11	1040	42.15	3	60	6.99	16.73	1085	56	3.51	23.7	
4/18/11	1050	42.87	3	90	7.03	17.01	1045	43	3.14	28.3	
4/18/11	1100	42.90	3	120	7.04	16.97	1087	27	2.92	27.9	
4/18/11	1110	42.90	3	150	7.06	17.06	1086	25	2.91	27.3	
4/18/11	1115	42.90	3	165	7.05	17.08	1087	25	2.90	25.1	
<i>(A large handwritten 'S' is drawn across the bottom half of the table.)</i>											

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes:

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: RD-59B	Site: SSFL Radiological Survey Area 10/NDZ (EPA Region 9)	
Sampler(s): Stephane Lapeyre Norton (UGL)	Project No.: EP9038.01.22.04.02	
Sampler(s): Ben Stevens (Blow Tech)	Date: 4/18/11	Time: 0900
Sampling Method (G=grab, B=bailer, SP=submersible pump): G	Type of Pump:	artesian
Sample ID: SORD-59B-GW041811	Sample Date: 4/18/11	Sample Time: 0925
Additional Samples (DUP/MSD/Blanks): SORD-59B-GW041811	Sample Date: 4/18/11	Sample Time: 0925
Additional Samples (DUP/MSD/Blanks): SORD-59B-GW041811	Sample Date: 4/18/11	Sample Time: 0925
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 214	DTW (ft):	Type of Pump: artesian
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 178-209	overcast, cool (~70°F)	
Well Diameter (in): 17 1/2" / 6 1/2" (borehole diam)	Placement of Pump (ft): artesian	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/18/11	0905	—	10	—	—	—	—	—	—	—	→ start purge
4/18/11	0910	—	10	—	7.19	18.80	773	71	2.40	69.2	
4/18/11	0913	—	10	—	7.30	18.75	775	65	4.67	77.8	
4/18/11	0916	—	10	—	7.43	18.63	709	29	4.18	53.0	
4/18/11	0919	—	10	—	7.45	18.56	770	27	4.24	49.0	
4/18/11	0922	—	10	—	7.46	18.62	775	26	4.19	48.5	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes:

End Sampling 0935

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

Well No.: RD-59C	Site: ESFL Radiological Survey Area 10/MSZ (EPA Region 9)
Sampler(s): Stephanie (open) Norton (MIG)	Project No.: 619038.01.22.04.02
Sampler(s): Ben Stearns (Blain Tech)	Date: 4/18/11
Sampling Method (G=grab, B=bailer, SP=submersible pump): G	Time: 0935
Sample ID: SORO-59C - GW 041811	Type of Pump: artesian
Additional Samples (DUP/MSD/Blanks): —	Sample Date: 4/18/11
Additional Samples (DUP/MSD/Blanks): —	Sample Time: 0952
Additional Samples (DUP/MSD/Blanks): —	Sample Date: —
Additional Samples (DUP/MSD/Blanks): —	Sample Time: —
Well Depth: 398	DTW (ft): —
Condition of Bottom of Well: —	Type of Pump: artesian
Screen Interval (ft): 345.5 - 397	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): overcast cool (47.0°F)
Well Diameter (in): 345.5 @ 17 1/2 + 6 1/2 (borehole diameter)	Placement of Pump (ft): artesian

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
4/13/11	0939	—	2	PH	Temp	—	—	—	—	—	Start purge
4/18/11	0942	—	2	7.56	16.49°C	804	0.44	3.20	18.5		
4/18/11	0945	—	2	7.69	16.97°C	805	0.50	3.48	18.8		
4/18/11	0948	—	2	7.68	17.03°C	800	0.48	3.55	20.5		
4/18/11	0951	—	2	7.70	17.09°C	805	0.47	3.57	23.3		

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes:
 End Sampling: 1002

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s):

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: <u>RO-68B</u>	Site: <u>SSFL Radiological Survey Area 10/NB2 (EPA Region 9)</u>	
Sampler(s): <u>Stephanie Lepage Montrose (MSc)</u>	Project No.: <u>EP9038.01.22.04.02</u>	
Sampler(s): <u>Ben Stevens (Blair Tech)</u>	Date: <u>4/18/11</u>	Time: <u>1355</u>
Sampling Method (G=grab, B=bailer, SP=submersible pump): <u>G</u>	Type of Pump:	<u>artesian</u>
Sample ID: <u>SORD-68B-GW041811</u>	Sample Date: <u>4/18/11</u>	Sample Time: <u>1420 ⁽¹⁴⁷⁰⁾ 1550</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Additional Samples (DUP/MSD/Blanks): <u>—</u>	Sample Date: <u>—</u>	Sample Time: <u>—</u>
Well Depth: <u>272</u>	DTW (ft): <u>—</u>	Type of Pump: <u>artesian</u>
Condition of Bottom of Well: <u>—</u>	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): <u>240-270</u>	<u>overcast, 47°F</u>	
Well Diameter (in): <u>1 7/8 (borehole diam.)</u>	Placement of Pump (ft) <u>—</u>	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (FT)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MGL)	TURB (N.T.U.)	COMMENTS
4/18/11	1357	—	3	9	7.67	19.20	814	-137	4.32	13.1	
4/18/11	1400	—	3	18	7.40	19.40	810	-138	3.34	8.1	
4/18/11	1403	—	3	27	7.37	19.40	815	-137	3.29	10.6	
4/18/11	1406	—	3	36	7.36	19.41	817	-135	3.34	11.3	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: N/A

Notes:

PURGE VOLUME CALCULATIONS: DTW - TD = Water Column (WC); Volume of water = (WC)(x) [note: x = 0.163 for 2"; x = 0.653 for 4"]

Signed/Sampler(s): [Signature]

Well No.: WS-09A	Site: SSFL Radiological Survey Area IV082 (EPA Region 9)	
Sampler(s): Stephanie Lopez-Morales (HGL)	Project No.: EP9038.01.22.04.02	
Sampler(s): Andy Wolfe (Glenn Tech) / Rob Ellis (MWH)	Date: 6/3/11	Time: 1025
Sampling Method (G=grab, B=bailer, SP=submersible pump): G	Type of Pump: \rightarrow	Hooked up to the Area 1 GET system
Sample ID: SOWS-09A-GW060311	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Additional Samples (DUP/MSD/Blanks):	Sample Date:	Sample Time:
Well Depth: 511	DTW (ft): 26.82	Type of Pump:
Condition of Bottom of Well:	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):	
Screen Interval (ft): 0-34 (S) 20-539	Sunny, clear, warm (~75°F)	
Well Diameter (in): 14 (0-34); 12 1/8 (0-541); (casing) 8 1/4 (0-539)	Placement of Pump (ft)	

FIELD PARAMETERS

DATE	TIME	DEPTH TO WATER (ft)	FLOW RATE (GPM)	TOTAL VOLUME (GAL)	PH	TEMP. (°C)	COND. (UMHOS/CM)	ORP	D.O. (MG/L)	TURB (N.T.U.)	COMMENTS
6/3/11	0935	26.82	32.37	91,000	6.75	15.13	654	-24	3.13	2	

OBSERVATIONS

Color: Clear Other (describe):

Odor (circle one): None Low Medium High Very strong H2S Fuel-like

PID reading: NA

Notes:

* WS-09A is continuously pumping - since start up early this week it has pumped 91,000 gallons

PURGE VOLUME CALCULATIONS For: well casing volume = J (Rc)2 (well depth - static H2O depth) x (conversion 7.48 gal/ft3)

Signed/Sampler(s): [Signature]