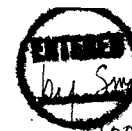


APPENDIX C

WELL DEVELOPMENT LOGS



Groundwater Well Development Log

Fort McClellan, Alabama

Project Number: 783149
Form Completed by: M. ROBERTS (MDC)
Well Developed by (person/firm): MILLER DRILLING CO.

Parcel No.: GSBP-154
Well No.: MW01
Date started: 10/13/99

COMPLETED
[Signature] 10/16/99

Monitoring Well Information

Development Method: PURGE w/ PUMP
Development Equipment: 2" SURGE BLOCK
WHALE PUMP
Casing Diameter: 2" STICK UP

Beginning Measurements
Depth to Water (ft): 11.3'
Total depth of Well (ft): 35.75'

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
09:00	⊖	11.3'							BEGIN SET UP USING 2" SURGE BLOCK
09:30	⊖	11.3'	6.65	1.01	>1000	0.45	17.0	DARK GREY	BEGIN PUMPING ON BOTTOM AT 0.5 GPM
:50	~10.0	19.7'	6.42	1.28	>1000	1.45	17.6	GREY/BROWN	
10:10	~20.0	20.6'	6.34	1.59	>1000	1.14	17.6	" "	MOVED PUMP UP/DOWN SCREEN
:30	~30.0	22.1'	6.27	1.63	>1000	1.04	17.5	GREY CLOUDY	" " " " "
:50	~40.0	24.6'	6.30	1.64	>1000	1.46	17.4	" "	
11:10	~50.0	26.9'	6.34	1.63	>1000	1.94	17.4	" "	

Parcel No.: GSRP-156Well ID: MW 01Date: 10/13/99

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
11:30	~60.0	27.9'	6.35	1.46	>1000	2.87	17.5	GREY CLOUDY	
:50	~70.0	29.1'	6.36	1.68	>1000	3.49	17.5	" "	
12:10	~80.0	31.8'	6.39	1.70	>1000	3.24	17.4	" "	
:25	~87	Too Low To READ	—	—	—	—	—	" "	WELL PUMPED DRY
13:30	~87	13.7'	6.54	1.75	>1000	5.43	17.9	" "	RESUMED PUMPING ON BOTTOM AT .3 GPM RATE
:50	~93	18.4'	6.31	1.70	>1000	4.24	18.3	" "	REDUCED RATE TO 0.20 GPM
14:10	~99	19.8'	6.31	1.69	335	4.25	18.6	" "	REDUCED RATE TO 0.20 GPM
:30	~103	18.9'	6.32	1.72	50	3.24	18.8	CLOUDY	
:50	~107	18.5'	6.31	1.71	8.8	3.02	18.8	CLEAR	RESET PUMP TO 33.0'
15:10	~111	18.15'	6.31	1.72	16.3	2.91	18.9	CLEAR	RESET PUMP TO 31.0'
:30	~115	18.47'	6.30	1.71	20.1	3.34	18.7	CLEAR	RESET PUMP TO 29.0'
:50	~119	18.57'	6.30	1.71	19.3	3.48	18.8	CLEAR	RESET PUMP TO 27.0'
16:10 14:10	~123	18.61'	6.33	1.71	12.8	3.73	19.0	CLEAR	RESET PUMP TO 25.0'

Parcel No.: GSBP-156Well ID: MW01Date: 10/13/99

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
16:30	~127	18.63	6.33	1.71	15.1	3.51	18.9	CLEAR	RESET PUMP TO 23.0'
:50	~131	19.1	6.32	1.72	7.25	2.75	18.8	CLEAR	RESET PUMP TO 21.0'
17:00	~135	19.15	6.31	1.73	5.08	2.50	18.6	CLEAR	END OF DEVELOPMENT BREAKDOWN/DECON
15:40									
:									
:									
:									
:									
:									
:									
:									
:									
:									
:									

**Groundwater Well Development Log**

Fort McClellan, Alabama

Project Number: 283149
Form Completed by: M. ROBERTS (MDC)
Well Developed by (person/firm): MILLER DRILLING Co.

Parcel No.: GSP-154
Well No.: mw02
Date started: 10/13/99

Monitoring Well Information

Development Method: PURGE w/PUMP
Development Equipment: 2" SURGE BLOCK
WHALE PUMP
Casing Diameter: 2" STICK UP

Beginning Measurements

Depth to Water (ft): 12.5'
Total depth of Well (ft): 31.0'

COMPLETED
10/15/99

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
09:30	0	12.5'	—	—	—	—	—	—	BEGIN SET UP WITH 2" SURGE BLOCK
10:00	0	12.5'	6.42	1.26	>1000	1.37	17.2	DARK GREY	BEGIN PUMPING ON BOTTOM AT 0.30 GPM RATE
:20	~6.0	15.5'	6.40	1.26	>1000	1.43	17.7	GREY CLOUDY	
:40	~12.0	15.9'	6.38	1.28	350	1.58	17.6	" "	
11:00	~18.0	16.1'	6.39	1.32	115	1.71	17.6	" "	MOVED PUMP UP/DOWN SCREEN
:20	~24.0	16.3'	6.38	1.31	>1000	1.14	17.7	" "	" " " " "
:40	~30.0	16.4'	6.40	1.32	301	1.74	17.7	" "	

* WELL HAS SLIGHT PETROLEUM ODOR *

Parcel No.: GSBP-156
 Well ID: MW02
 Date: 10/13/99

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
12:00	~36.0	16.45'	6.38	1.34	175	1.41	17.7	GREY CLOUDY	
:20	~42.0	16.6'	6.38	1.32	151	0.94	17.9	" "	
:40	~48.0	16.9'	6.38	1.30	40	1.44	17.8	CLOUDY	
13:00	~54.0	16.7'	6.37	1.30	15.4	0.82	18.2	CLEAR	RESET PUMP TO 29.0'
:20	~60.0	16.9'	6.38	1.33	14.4	1.05	18.2	"	RESET PUMP TO 27.0'
:40	~66.0	16.85'	6.37	1.33	17.1	1.67	18.1	"	RESET PUMP TO 25.0'
14:00	~72.0	16.9'	6.35	1.33	18.7	1.36	18.0	"	RESET PUMP TO 23.0'
:20	~78.0	16.91'	6.36	1.34	13.2	1.08	18.1	"	RESET PUMP TO 21.0'
:40	~84.0	16.89' 18.9	6.37	1.33	18.4	1.34	18.2	"	RESET PUMP TO 19.0'
15:00	~90.0	16.89'	6.37	1.34	13.9	1.44	18.1	"	
:20	~96.0	16.79'	6.38	1.33	9.47	1.68	18.2	"	END OF DEVELOPMENT BREAK DOWN/DECON
:									
:									

Groundwater Well Development Log

Fort McClellan, Alabama



Project Number: 703149
 Form Completed by: J. TAYLOR
 Well Developed by (person/firm): JASON TAYLOR

Parcel No.: 156
 Well No.: GSTP 156 - MW03
 Date started: 10-14-99

Monitoring Well Information

Development Method: SURGE + PURGE
 Development Equipment: SURGE BLOCK / WHALE PUMP.
 Casing Diameter: 2"

Beginning Measurements

Depth to Water (ft): 13.56
 Total depth of Well (ft): 25.32

15' SCREEN

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
10:30	0	14.36	6.67	1.37	>1K	1.64	18.4	GREY BROWN	.25gpm SURGE + BEGAN PURGING
10:50	5	14.86	6.74	1.33	481	1.52	18.7	MURKY BROWN	.25gpm Pump @ Bottom of screen
11:10	10	14.92	6.69	1.38	302	1.28	18.7	BROWN / GREY STRIPE	.25gpm
11:30	15	14.92	6.73	1.39	980	1.27	18.9	BROWN / GREY STRIPE	.25gpm
11:50	20	15.08	6.71	1.41	640	0.85	19.2	LT. GREY	.25gpm
12:10	25	15.13	6.73	1.40	325	1.30	19.2	LT. GREY	.25gpm
12:30	30	15.78	6.72	1.40	328	1.30	18.9	CLOUDY GREY	.25gpm Flush Hose to Remove HEAVY SEDIMENT

Parcel No.: 156Well ID: GSP-MW03Date: 10-14-99

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
12:30	30	15.78	6.72	1.40	328	1.30	18.9	cloudy GREY	Flushed Hose to Remove HEAVY SEDIMENT .25gpm
12:50	35	15.66	6.71	1.41	425	1.03	19.1	Lt. GREY	Flush Hose AGAIN .25gpm
13:10	40	15.68	6.68	1.42	226	0.73	19.2	Lt. GREY	.25gpm
13:30	45	15.68	6.73	1.46	82.0	1.21	19.3	cloudy	.25gpm
13:50	50	15.68	6.73	1.42	27.3	1.19	19.3	clear	.25gpm
14:10	55	15.68	6.72	1.42	16.8	1.18	19.3	clear	.25gpm
14:30	60	15.68	6.70	1.42	674	1.17	18.9	Lt. GREY	Pump 3' off Bottom of screen .25gpm
14:50	65	15.74	6.72	1.42	72.8	1.20	19.4	Lt. GREY	.25gpm
15:10	70	15.75	6.71	1.42	19.9	1.21	19.5	clear	.25gpm
15:30	75	15.86	6.72	1.42	172	1.26	19.8	GREY cloudy	Pump @ Top of WATER column 9' off Bot .25gpm
15:50	80	15.93	6.71	1.42	16.3	1.28	19.5	clear	.25gpm
16:10	85	17.90	6.73	1.42	964	1.14	18.6	GREY Brown	Flush line SURGE WATER column & PLACE PUMP on Bottom of well .25gpm
16:30	80	17.83	6.70	1.41	407	1.15	18.5	Lt GREY	.25gpm

Parcel No.: 156Well ID: GS8P-MW03Date: 10-18-99

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
16:30	90	17.85	6.70	1.41	407	1.15	18.5	Lt. GREY	Bottom of .25gpm screen (10-14-99)
10:25	95	14.72	6.53	1.86	>1K	2.03	17.2	BROWN	Pump @ bottom of screen .25gpm 10-18-99 ↓
10:45	100	14.73	6.62	1.44	18	1.71	17.2	CLEAR	.25gpm
10:50	101	14.72	6.67	1.45	15	1.70	17.2	CLEAR	.25gpm
10:55	103	14.73	6.67	1.46	12	1.70	17.2	CLEAR	.25gpm
11:06	104	14.74	6.67	1.44	8	1.71	17.1	CLEAR	.25gpm
:									
:									
:									
:									
:									
:									
:									

100
Well Developed 10/18/99

Groundwater Well Development Log

Fort McClellan, Alabama

Project Number: 783149
 Form Completed by: J. Taylor
 Well Developed by (person/firm): Jason Taylor

Parcel No.: 156
 Well No.: GS BP-156-MWD4
 Date started: 10-13-99

Monitoring Well Information

Development Method: SURGE + PURGE
 Development Equipment: SURGE Block / VHALE Pump
 Casing Diameter: 2"

Beginning Measurements

Depth to Water (ft): 14.21Total depth of Well (ft): 31.26

COMPLETED
10/14/99

Time 24hr	Purge Volume (gal)	Water Level (ft) (TOC)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
13:50	8	16.38	6.49	1.39	435	1.02	18.9	LT. GREY	SURGED well w/ SURGE Block & .25gpm REWIRED PUMP
14:00	13	15.59	6.51	1.40	637	1.00	18.6	LT. GREY	SURGED w/ PUMP .25gpm
14:30	18	15.59	6.52	1.39	144	1.00	18.5	LT. GREY	.25gpm
14:50	23	15.59	6.50	1.41	78.9 47.8	0.76	18.7	CLEAR	.25gpm
15:10	28	15.59	6.51	1.40	31.3	1.02	18.6	CLEAR	.25gpm
15:30	33	15.60	6.52	1.40	18.3	1.08	18.7	CLEAR	.25gpm
15:50	38	15.72	6.52	1.42	26.2	1.02	18.5	CLEAR	.25gpm PULLED PUMP 2' OFF BOTTOM OF SCREEN

Parcel No.: 156
 Well ID: G515P-156-MW04
 Date: 10-13-99

Time 24hr	Purge Volume (gal)	Water Level (ft) (T/C)	pH (std units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved oxygen (mg/L)	Temperature (°C)	Clarity (color)	Comments (Date if different from start date)
15:50	38	15.72	6.52	1.42	36.2	1.02	18.5	clear	.25gpm Pulled Pump 2' off Bottom
16:10	43	15.72	6.49	1.41	19.3	1.03	18.3	clear	.25gpm
16:30	48	15.97	6.49	1.40	18.7	1.00	18.4	clear	Down Pulled Pump up 2 more feet from Bottom
16:50	53	15.89	6.49	1.41	19.9	1.00	18.4	clear	.25gpm Pulled Pump up 2 more feet from Bottom
17:10	58	15.89	6.50	1.41	12.2	0.98	18.3	clear	.25gpm Pulled Pump up 2 more feet from Bottom
17:20	60	15.87	6.52	1.41	17.3	1.03	18.2	clear	.25gpm Surged screen & Dropped Pump to Bottom of screen
17:40	64	15.88	6.53	1.41	>1K	1.04	18.4	GREY	.25gpm ↓
18:00	68	15.86	6.52	1.41	307	1.00	18.2	Lt. GREY	.25gpm
18:20	72	15.86	6.52	1.39	32.8	1.02	18.1	clear	.25gpm
18:25	72	15.87	6.52	1.39	20.4	1.05	18.0	clear	.25gpm
18:30	75	15.86	6.52	1.40	19.8	1.04	17.9	clear	.25gpm
18:35	76	15.86	6.52	1.41	14.3	1.05	17.9	clear	.25gpm Well Dev. DONE.