APPENDIX C

WELL DEVELOPMENT LOGS

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 783149
Form Completed by: T. Rice
Well Developed by (person/firm): IT / Miller Drilling

Parcel No.: GSBP-86
Well No.: MW01
Date started: 10/7/99

COMPLETED 10/19/99

Monitoring Well Information

Development Method: Surge / Purge
Development Equipment: Surge block, whale pump, horiba, Turb. meter
Casing Diameter:

Beginning Measurments
Depth to Water (ft): 6.21'
Total depth of Well (ft): 34.62'

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)
15:50	Ø	14.5	7.42	.650	>1000	0.59	22.3	dk grey	
16:10	10	21.32	7.28	.93	>1000	8.21	22.3	dk grey	
16:20	20	23.82	7.08	1.25	>1000	8.61	21.8	dk grey	
:		Stopped pump water below pump level							
16:45	30	25.5	7.39	.745	>1000	8.83	21.3	dk grey	
17:00			Stopped pump water below pump						Pumped dry
:									

Parcel No.: GSBP-86
Well ID: MW01
Date: ~~10/8/99~~

10/11/99

DTW = 11.71'
TD = 34.61

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 : 20	30	11.71	6.83	2.05	309	2.00	21.9	lt grey	re started well Dev. 10/11/99
09 : 40	37	21.38	7.02	2.18	550	2.60	22.7	Lt. GREY	.5gpm
10 : 00	43	28.41	7.07	2.31	>1k	1.33	21.8	Lt. GREY	.35gpm SURGE w/screen
10 : 20	48	30.21	7.22	1.64	>1k	1.39	24.7	GREY	.25gpm STOP PUMP & WAIT FOR RECHARGE
11 :50	52	22.57	7.29	1.63	>1k	1.12	22.5	GREY	RESTART PUMP .25gpm
12 :10	58	27.33	7.11	2.70	>1k	3.47	22.4	LtGREY	.25gpm
12 :30	60	28.60	7.25	2.61	300	3.84	22.5	Lt GREY	.25gpm
12 :50	64	30.21	7.25	2.32	365	3.24	22.4	Lt GREY	.25gpm
13 :10	68	32.06	7.24	1.73	>1000	1.38	23.2	lt grey	.25gpm stopped well to prime - change DTW 32'+
15 :10	68	24.72	7.17	2.42	465	1.95	22.4	lt grey	.25gpm / Restarted pump DTW = 24.72'
15 :30	72	28.73	7.15	2.81	405	9.04	22.9	lt grey	.25gpm
15 :50	76	30.10	7.18	2.80	128.7	4.12	23.0	almost clear	
16 : 10	80	31.20	7.22	2.75	524	2.68	22.7	lt grey	

Parcel No.: GSBP-86
Well ID: MW01
Date: 10/11/99

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	84	32.40	7.14	2.47	>1000	8.38	22.3	dk gray	
16 :44		well	pumped	dry		3rd	time		
:									10/12/99 USE BAILER
16 :15	84	14.91'	6.37	2.83	>1000	4.25	21.2	DARK GREY	START BAILING WELL
16 :45	94	TOO LOW	—	—	—	—	—	—	WELL BAILED DRY
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Groundwater Well Development Log

Fort McClellan , Alabama

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

Parcel No.: GSBP-86
Well No.: MW 02
Date started: 10/11/99

COMPLETED 10/14/99

Monitoring Well Information

Development Method: PURGE WITH PUMP
Development Equipment: 2" SURGE BLOCK
WHALE PUMP
Casing Diameter: 2" FLUSHMOUNT

Beginning Measurments
Depth to Water (ft): 11.4'
Total depth of Well (ft): 44.4'

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)
08:30	0	11.4'	—	—	—	—	—	—	BEGIN SET UP OF DEVELOPMENT USING 2" SURGE BLOCK
08:55	0	11.4'	8.35	.389	>1000	1.32	19.5	DARK GREY	BEGIN PUMPING ON BOTTOM
09:07	~10.5	TOO LOW TO READ	—	—	—	—	—	" "	WELL PUMPED DRY
10:10	~10.5	35.5'	7.74	.433	>1000	3.71	20.2	" "	RESUMED PUMPING ON BOTTOM
10:25 ~~30~~	~14	43.4'	7.60	.426	>1000	2.92	20.7	" "	
10:31	~15.5	TOO LOW TO READ	—	—	—	—	—	" "	WELL PUMPED DRY
:									

Parcel No.: GSBP-86
Well ID: MW02
Date: 10/12/99

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)
10:30	~15.5	37.5'	—	—	—	—	—	—	10/12/99 BEGIN SET UP FOR DEVELOPMENT
:45	~15.5	37.5'	7.45	.556	>1000	2.49	21.1	DARK GREY	BEGIN PUMPING ON BOTTOM AT 0.20 GPM
11:00	~18.5	TOO LOW TO READ	7.13	.560	>1000	1.88	20.9	" "	WELL PUMPED DRY
:									BREAK DOWN / DECON END OF DEV. FOR TODAY
:									
08:00	~18.5	36.4'	7.12	.758	188	2.52	18.8	GREY CLOUDY	10/13/99 USE BAILER TO TAKE SAMPLE
08:30	~22.0	TOO LOW	—	—	—	—	—	" "	WELL BAILED DRY
:									
:									
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:									
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Reconstructed Log From information in log Book #3
Wrong MW# used in Log Book. Measurment indicate this info is For MW03

Unknown
Final NTU
Total Water Removed

Known
Total Time: 3.4 hrs

Groundwater Well Development Log

Fort McClellan, Alabama

Project Number:
Form Completed by:
Well Developed by (person/firm): Jason Taylor (IT)
Tim Rice (IT)

Parcel No.: GSBP-86
Well No.: MW03
Date started: 10-12-99

Monitoring Well Information

Development Method: Purge & Surge
Development Equipment: Whale Pump / Surge Block

Casing Diameter: 2"
Flush mount or Stickup: Flush

Beginning Measurments
Depth to Water (ft): 4.12
Total depth of Well (ft): 36.36

Time 24hr 10-12-99	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)
14:45	SET UP ON WELL								
15:00	Started Purging			Pump @ Bottom			OF well		.25gpm
17:00	Surged Screen			Length	Stopped		For today		Removed 25 GAL
10-13-99									
08:40	Started Pumping			NEW DTW: 22.79					1.0GPM @0900
09:25	Well Dry								
* :	APPROX TOTAL			WATER	Removed		50+ GAL		

Parcel No.: GSBP-86
Well ID: MW 03
Date: 10-19-99

Time 10-19-99 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	START Pumping								
12 :00	Pump MALFUNCTION								
13 :30	RESTARTED Pumping								
13 :45	WELL DRY								
Summary Indicated this well completed.									
NO INDICATIONS OF WATER Sample TAKEN									
:									
:									
:									
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Groundwater Well Development Log

Fort McClellan , Alabama

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

Parcel No.: Parcel 86(7)
Well No.: GSBP-86-MW04
Date started: 10/8/99

COMPLETED 10/13/99

Monitoring Well Information

Development Method: pump/surge
Development Equipment: Whale Pump

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 7.95
Total depth of Well (ft): 30.0

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)
08:30	–	7.95	7.18	0.322	394.0	1.96	24.2	Dk Gray	Pump on bottom ½ gpm
08:50	5 gals	18.07	6.25	0.593	527.0	1.17	23.8	Dk Gray	
09:10	10 gals	17.75	6.37	0.564	22.6	1.55	24.4	Dk Gray	¼ gpm
09:30	15 gals	16.64	6.22	0.675	360	3.44	24.7	Cloudy	
09:50	20	15.51	6.27	0.675	>1000	2.47	24.9	Dk Gray	well surged @ 0945 for 3 mins
10:10	25	15.00	6.11	0.689	>1000	2.99	24.8	Cloudy	
10:30	30	14.61	6.11	0.697	95.7	3.14	25.0	Clear	Pump 5 ft off bottom

Groundwater Well Development Log

Fort McClellan , Alabama

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

Parcel No.: Parcel 86 (7)
Well No.: MW04
Date started: 10/8/99

Monitoring Well Information

Development Method: surge + pump
Development Equipment: whale pump

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 7.95
Total depth of Well (ft): 30

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)
10:50	35	15.06	6.14	0.722	307	3.18	25.5	Cloudy	~~surf~~
11:10	42	15.79	6.03	0.694	>1000	3.08	24.7	Dk Gray	lower pump to bottom, surge + increase rate to 1/2 gpm
11:30	52	18.93	6.05	0.684	>1000	2.06	24.4	Gray	
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:									
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Parcel No.: PARCEL 86 (7)
Well ID: GSBP-86-MW04
Date: 10-18-99

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)
14:25	54	12.32	6.41	.741	204	2.97	25.2	cloudy	START PURGING FOR THE DAY .25 gpm
14:45	58	15.58	6.56	.756	(>1000) >1K	2.64	24.5	Lt. GREY	SURGE WELL SCREEN .25 gpm
15:05	62	22.38	6.52	.696	>1K	1.94	23.8	Lt. GREY	.25 GPM SURGE SCREEN
15:25	66	22.53	6.37	.728	>1K	3.82	25.0	Lt. GREY	.25 GPM SURGE
15:45	70	24.13	6.36	.691	>1K	3.08	23.6	Lt. GREY	.25 GPM SURGE
16:05	74	25.49	6.56	.683	>1000	1.19	22.7	Lt. GREY	.25 GPM
16:15	WELL DRY			WAIT FOR RECHARGE					
16:35	DTW	19.98'	PULL PUMP + HEAD OUT FOR THE DAY						
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Parcel No.: 86
Well ID: GSBP-86 MW04
Date: 10-12-99

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)
08:40	74	8.03	6.45	.742	>1000 (>1K)	4.19	22.2	GREY	START PUMP FOR DEV. .25gpm SURGE WELL
~~10~~ 09:00	78	14.33	6.30	.739	>1K	4.26	21.3	GREY	.25gpm SET PUMP ON BOTTOM OF SCREEN
~~12~~ 09:20	82	21.19	6.40	.715	473	1.46	22.9	Lt GREY	.25gpm
09:40	86	19.68	6.64	.730	678	2.56	23.1	Lt GREY	.25gpm
10:00	90	18.47	6.49	.702	177	3.14	23.5	Lt GREY	.25gpm BEGIN SURGING
10:20	94	15.51	6.51	.710	>1K	2.93	23.0	GREY	.25gpm
10:40	98	16.08	6.42	.691	322	3.21	23.2	Lt GREY	.25gpm
11:00	102	18.37	6.38	.676	610	3.21	23.6	Lt GREY	.25gpm
11:20	106	19.58	6.32	.681	>1K	1.88	23.6	GREY	.25gpm
11:40	110	17.53	6.53	.703	201	2.40	23.9	Lt. GREY	.25gpm
12:00	114	16.25	6.44	.703	42.8	2.87	24.2	clear	.25gpm
12:20	118	15.82	6.42	.699	26.2	2.60	~~26.2~~ 24.4	clear	.25gpm
12:40	122	19.92	6.68	.767	317	2.06	24.0	Lt GREY	pulled pump up 2 ft.

Parcel No.: 86
Well ID: GSBP-86 MW04
Date: 10-12-99

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)
13:00	PUMP	STOPED	WORKING	TRY	TO FIX				
13:25	DROP	PUMP TO	BOTTOM	OF SCREEN	&	BEGIN	PUMPING @	1gpm	TO REMOVE HEAVY SEDIMENT FROM WELL
13:35	132	29.53	6.72	.698	>1K	2.16	24.1	GREY	
13:50	WELL	DRY		TURB	>1K				
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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-86
Well No.: MW05
Date started: 10/11/99

COMPLETED Jan 10/14/99

Monitoring Well Information

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

Beginning Measurments
Depth to Water (ft): 9.8'
Total depth of Well (ft): 25.9'

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)
15:15	0	9.8'	—	—	—	—	—	—	BEGIN SETUP FOR DEVELOPMENT USING 2" SURGE BLOCK
:30	0	9.8'	6.24	.473	>1000	1.15	20.3	GREY CLOUDY	BEGIN PUMPING ON BOTTOM PUMP RATE 1.1 GPM
:45	~16.0	18.9'	6.26	.485	>1000	1.11	20.1	" "	
16:00	~30.0	TOO LOW TO READ	—	—	—	—	—	" "	WELL PUMPED DRY
16:20	~30.0	13.0'	6.30	.519	>1000	2.14	20.6	" "	RESUMED PUMPING ON BOTTOM AT REDUCED RATE OF .3 GPM
:40	~36.0	15.5'	5.77	.334	182	2.03	20.9	" "	STOPPED DEVELOPMENT FOR TODAY
:45	~36.0	—	—	—	—	—	—	—	BREAK DOWN/DECON

Parcel No.: GSBP-86
Well ID: MW05
Date: 10/12/99

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)
07:45	~36	9.95'	—	—	—	—	—	—	10/12/99 SET UP FOR DEV. COMPLETION
08:00	~36	9.95'	5.87	.518	86	2.25	19.4	CLOUDY	BEGIN PUMPING ON BOTTOM AT .3 GPM
:20	~42	12.28'	5.74	.349	9.6	2.96	20.6	CLEAR	RESET PUMP TO 24.0' (T.O.C.) REDUCE PUMP RATE TO .2 GPM
:40	~46	12.7'	5.76	.346	17.9	2.40	20.8	CLEAR	RESET PUMP TO 22.0' (T.O.C.)
09:00	~52	13.15'	5.78	.343	4.9	2.28	22.4	CLEAR	RESET PUMP TO 20.0' (T.O.C.)
:20	~56	13.5'	5.78	.334	3.2	2.29	22.6	CLEAR	RESET PUMP TO 18.0' (T.O.C.)
:40	~62	13.98'	5.78	.333	7.8	1.86	22.5	CLEAR	RESET PUMP TO 16.0' (T.O.C.)
10:00	~66	14.2'	5.78	.334	5.3	2.28	22.5	CLEAR	END OF DEVELOPMENT, BREAK DOWN/DECON EQUIP.
:									
:									
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Groundwater Well Development Log

Fort McClellan , Alabama

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

Parcel No.: GSBP-86
Well No.: MW 06
Date started: 10/7/99

Monitoring Well Information

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

Beginning Measurments
Depth to Water (ft): 6.2'
Total depth of Well (ft): 21.4'

COMPLETED 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)
10:45	0	6.2'	—	—	—	—	—	—	BEGIN SET UP FOR DEVELOPMENT USING A 2" SURGE BLOCK
11:00	0	6.2'	6.07	.742	>1000	0.73	27.4	GREY MUDDY	BEGIN PUMPING AT BOTTOM
:20	~17	13.0'	6.35	.990	>1000	0.89	23.5	GREY CLOUDY	MOVE PUMP UP/DOWN SCREEN
:40	~27	13.25'	6.29	.980	>1000	1.40	23.5	" "	" " " " "
12:00	~37	14.45'	6.22	.990	>1000	1.04	25.0	" "	" " " " "
:20	~47	15.1'	6.26	.841	>1000	0.94	23.9	" "	" " " " "
:40	~57	15.02'	6.24	.960	>1000	1.15	24.3	" "	

Parcel No.: GSBP-86
Well ID: MW06
Date: 10/7/99

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)
13:00	~67	15.1	6.27	.962	>1000	1.12	24.5	GREY CLOUDY	STOPPED PUMPING TO REWIRE NEW PUMP
13:30	~67	10.8'	6.41	.990	>1000	1.30	24.6	" "	RESUMED PUMPING ON BOTTOM
:50	~75	13.1'	6.37	.990	157	1.63	25.0	" "	
14:10	~83	13.25'	6.36	.980	177	1.68	25.2	" "	
:30	~91	13.45	6.38	.970	160	1.10	25.4	" "	
:50	~99	13.65	6.39	.970	370	1.56	25.3	" "	
15:10	~107	13.70	6.38	.970	210	1.44	25.5	" "	
:30	~115	14.2	6.33	.980	144	1.71	25.0	" "	
:50	~123	14.05	6.42	.970	60.8	1.08	25.0	" "	
16:10	~131	15.6	6.23	.824	>1000	1.44	23.6	" "	
:30	~139	15.95	6.26	.828	>1000	1.76	23.5	" "	
:45	~155	TOO LOW TO READ	—	—	—	—	—	" "	WELL PUMPED DRY
:									

Parcel No.: GSBP-86
Well ID: MW06
Date: 10/8/99

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)
07:45	~155	10.6'	—	—	—	—	—	—	BEGIN SETUP FOR FINAL DEVELOPMENT ON 10/8/99
08:00	~155	10.6'	6.45	0.97	>1000	0.86	21.3	GREY CLOUDY	BEGIN PUMPING ON BOTTOM
:20	~163	11.1'	6.45	0.98	100	1.53	23.0	" "	
:40	~171	11.95'	6.50	1.00	30	2.10	22.8	CLEARING	
09:00	~179	12.1'	6.43	.884	96	1.49	23.2	CLOUDY	
:20	~187	12.6'	6.51	.881	59	1.60	22.0	"	
:40	~195	12.95'	6.52	.877	42.1	1.66	24.0	CLEARING	
10:00	~204	13.5'	6.51	.990	30.1	1.78	24.1	"	
:15	~210	13.95'	6.51	.998	28.5	2.01	24.3	CLEAR	END OF DEVELOPMENT BREAK DOWN/DECON
:									
:									
:									
:									

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-86
Well No.: MW 07
Date started: 10/11/99

COMPLETED 10/14/99

Monitoring Well Information

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

Beginning Measurments
Depth to Water (ft): 10.0'
Total depth of Well (ft): 25.75

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)
11:00	0	10.0'	—	—	—	—	—	—	BEGIN SETUP WITH 2" SURGE BLOCK
:15	0	10.0'	6.46	1.83	>1000	1.94	21.7	DARK GREY	BEGIN PUMPING ON BOTTOM WITH PUMP RATE OF .1 GPM TO REMOVE SEDIMENT
:30	~16.0	19.5'	6.49	1.79	>1000	2.39	21.3	GREY CLOUDY	REDUCE PUMP RATE TO .3 GPM INORDER TO RECHARGE WELL
:45	~20.5	13.4'	6.44	1.75	>1000	1.96	22.0	" "	MOVED PUMP UP/DOWN SCREEN
12:00	~25	13.35'	6.40	1.78	306	2.54	21.8	" "	" " " " "
:20	~31	13.15'	6.38	1.76	~~27.5~~ 57.0	2.55	21.8	CLEARING	" " " " "
:40	~37	13.1'	6.40	1.76	98	2.69	21.7	"	

Parcel No.: GSBP-86
Well ID: MW07
Date: 10/1/99

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)
13:00	~43	13.15'	6.36	1.77	22.0	2.91	21.5	CLEAR	RESET PUMP TO 22.0' (T.O.C.)
:20	~49	13.12'	6.39	1.74	14.0	2.35	21.6	"	RESET PUMP TO 20.0' (T.O.C.)
:40	~55	13.14'	6.42	1.76	11.2	2.42	21.8	"	RESET PUMP TO 18.0' (T.O.C.)
14:00	~61	13.12'	6.39	1.74	20.6	2.12	21.7	"	RESET PUMP TO 16.0' (T.O.C.)
:20	~67	13.15'	6.41	1.75	8.7	2.89	22.0	"	RESET PUMP TO 14.0' (T.O.C.)
:~~30~~ 40	~73	13.17'	6.43	1.72	12.3	2.21	22.1	"	STOP DEVELOPMENT, BREAK DOWN/DECON
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ENTERED 11/17/99

Groundwater Well Development Log

Fort McClellan , Alabama

COMPLETED 10/14/99

Project Number: 783/47
Form Completed by: M. ROBERTS (MDC)
Well Developed by (person/firm): MILLER DRILLING CO.

Parcel No.: GSBP-99
Well No.: MW01
Date started: 10/12/99

Monitoring Well Information

Development Method: PURGE WITH PUMP
Development Equipment: 2" SURGE BLOCK
WHALE PUMP
Casing Diameter: 2" FLUSH MOUNT

Beginning Measurments
Depth to Water (ft): 4.7
Total depth of Well (ft): 13.4

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	0	4.7'	—	—	—	—	—	—	BEGIN SET UP FOR DEVELOPMENT USING 2" SURGE BLOCK
:15	0	4.7'	5.93	.337	>1000	1.75	24.4	TAN CLOUDY	BEGIN PUMPING ON BOTTOM AT PUMP RATE OF 1.10 GPM (APPROX.)
:20	~6.0	TOO LOW TO READ	—	—	—	—	—	" "	WELL PUMPED DRY
13:10	~6.0	7.5'	5.81	.334	407	2.45	24.3	" "	RESUMED PUMPING ON BOTTOM AT PUMP RATE OF 0.20 GPM
:25	~9.0	10.25'	5.83	.299	411	3.47	24.8	" "	MOVED PUMP UP/DOWN SCREEN
:45	~13.0	TOO LOW TO READ	5.92	.372	308	2.38	23.9	" "	WELL PUMPED DRY
15:10	~13.0	8.1'	6.00	.409	28	2.00	23.5	CLEAR	RESUMED PUMPING ON BOTTOM AT PUMP RATE OF 0.15 GPM

Parcel No.: GSBP-99
Well ID: MW01
Date: 10/12/99

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)
15:25	~15.5	12.0'	5.72	.322	43	3.04	24.2	CLOUDY	
:30	~16 ~~17~~	TOO LOW TO READ	—	—	—	—	—	"	WELL PUMPED DRY
:									BREAKDOWN/DECON DONE FOR TODAY
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ENTERED 11/17/99

Groundwater Well Development Log

Fort McClellan , Alabama

COMPLETED 10/14/99

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

Parcel No.: GSBP-99
Well No.: MW02
Date started: 10/12/99

Monitoring Well Information

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

Beginning Measurments
Depth to Water (ft): 8.9'
Total depth of Well (ft): 22.65'

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	0	8.9'	—	—	—	—	—	—	BEGIN SET UP FOR DEVELOPMENT USING A 2" SURGE BLOCK
:45	0	8.9'	6.20	.515	>1000	2.19	21.6	DARK GREY	BEGIN PUMPING ON BOTTOM AT 1.10 GPM TO REMOVE SEDIMENT
:52	~7.5	TOO LOW TO READ	—	—	—	—	—	" "	WELL PUMPED DRY
12:45	~7.5	10.5'	6.38	.573	>1000	2.61	21.8	" "	RESUMED PUMPING ON BOTTOM AT 0.2 GPM
13:00	~11	11.2'	6.15	.482	152	3.30	23.0	GREY CLOUDY	MOVED PUMP UP/DOWN SCREEN
:20	~15	11.9'	6.12	.479	567	2.75	23.3	" "	MOVED PUMP UP/DOWN SCREEN
:40	~19	12.3'	6.13	.472	74	2.79	22.9	CLOUDY	

Parcel No.: GSBP-99
Well ID: MW 02
Date: 10/12/99

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)
14:00	~23	12.75'	6.14	.481	44	2.73	22.9	CLEARING	
:20	~27	13.2	6.13	.482	12.0	2.90	22.9	CLEAR	RESET PUMP TO 20.0' (TOC)
:40	~31	13.5	6.11	.483	10.3	2.23	22.8	CLEAR	RESET PUMP TO 18.0' (TOC)
15:00	~35	13.7	6.11	.481	32.1	2.18	22.9	CLEAR	
:20	~39	13.9	6.12	.478	3.3	1.98	22.7	CLEAR	RESET PUMP TO 16.0'
:40	~43	14.3	6.14	.474	0.40	1.81	22.5	CLEAR	FINAL READING
:45	~43	—	—	—	—	—	—	—	BREAK DOWN / DECON END OF DEVELOPMENT
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