APPENDIX E

WELL DEVELOPMENT LOGS

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 774645
Form Completed by: O. ALLEN
Well Developed by (person/firm): O ALLEN IT

Parcel No.: PPMP-233
Well No.: MW 03
Date started: 5-29-00

Monitoring Well Information

Development Method: Surge + Purge
Development Equipment: Grunfos Pump

Casing Diameter: 2" STICK UP

Beginning Measurments
Depth to Water (ft): 72.75
Total depth of Well (ft): 81.15

PID 10.1 BKGN: 0.0

1 WV = 1.3 gal 5 WV x 1.3 = 6.8 GAL ~~min.~~

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) (Purge Rate, Pump Position, Misc.)
12:30		72.75	START	PURGING					
12:33	.5	73.92	9.16	.294	999+	2.58	16.4	BROWN MUDDY	PUMP @ BTTM
12:40	3	77.46	7.06	.251	999+	6.11	16.9	"	"
12:50	6	N/A	WELL	DRY	NO	READINGS	—	—	
08:30	6	75.11	RE-START						6/2/00
08:45	8	78.21	6.45	.240	999	3.22	17.6	BROWN MUDDY	
08:50	9	-	WELL	DRY	NO	READINGS	—	—	
13:20	9	79.92	UNABLE	TO PUMP	/ WELL	DRY	—	—	6/29/00

TD - DTW = WC x 2'/4' well = One PV x 5 = Min PV + H20 to install well = Minimum H20 to remove

81.15 72.75 8.4 .163 = 1.3 x 5 = 6.8 gal 0 = 6.8 GAL

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 774645
Form Completed by: O. Allen
Well Developed by (firm): IT Corporation

Parcel No.: PPMP-233
Well No.: MW 04
Date Started: 5-5-00

Monitoring Well Information

Development Method: Surge & Purge
Development Equipment: Whale Pumps

Casing Diameter: 2" Stick-up

Beginning Measurments
Depth to Water (ft): 50.96
Total depth of Well (ft): 81.21

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
11 05	START	50.96							Surged Pump @ BTM
11 :10	2	57.17	6.18	.038	999	2.36	17.6	muddy gray	GPM .4 Surged BTM
11 :20	4	59.16	5.40	.031	612	3.22	18.5	Gray	.2 Surged BTM
11 :30	7	60.99	5.44	.036	181	3.16	17.4	cloudy	.3 clearing BTM
11 :40	10	62.05	5.28	.043	89.2	2.97	18.1	cloudy	.3 clearing BTM
11 :50	13	63.62	5.17	.028	48.4	2.40	17.7	cloudy	.3 BTM
12 :00	16	64.72	5.10	.027	91.3	2.82	18.0	cloudy	.3 raised Pump up to 2'
12 :10	19	65.32	5.11	.021	30.6	2.14	17.8	clear	.3 up 2'
12 :20	21	66.71	5.11	.018	30.2	2.66	18.0	clear	.3 raised Pump up to 4'

Parcel No.: PPMP-233
Well ID: MW04
Date: 5-5-00

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 GPM	Pump Location
12:30	29	74.22	5.17	.031	119	2.75	16.9	cloudy	.8	Bottom
12:40	37	Below 1st Pump	5.32	.032	105	2.07	16.5	cloudy	.8	Bottom
12:50	45	Below 1st Pump	5.23	.028	81	2.31	16.6	clearing	.8	Bottom
12:51	well dry will allow recharge and return @ later date									
09:15	45	58.11	Surged length of screen						5-29-00	
09:19	45.5	59.77	4.71	.070	147	3.51	16.8	cloudy	mild odor	surged
09:30	48	61.41	4.79	.026	408	4.01	17.1	tan cloudy	odor gone	surged
09:45	51	63.16	4.86	.018	56.8	3.89	17.2	clear	Pump 2' of Bottom	
10:00	53	64.75	4.85	.018	26.4	3.85	17.7	clear	Pump 4' "	"
10:15	56	65.71	4.86	.018	31.2	4.02	17.9	Clear	" 6'	"
10:30	59	66.81	4.85	.017	~~50.8~~ 16.2	3.72	17.9	Clear	" 8'	"
10:45	62	67.84	4.97	.020	~~67.4~~ 50.8	3.75	17.9	Clear	" 10'	"
11:00	65	69.14	4.90	.021	67.4	3.74	17.9	cloudy	" 10	"

Recharge
78.1 @ 1252
77.1 @ 1301

Parcel No.: PPMP-233
Well ID: MW04
Date: 5-29-00

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
11:15	68.0 ~~24.0~~	70.52	4.93	.020	48.9	3.81	18.1	clear	Pump @ Top of water level
11:30	71.0 ~~27.0~~	72.22	4.93	.020	32.3	3.85	18.1	clear	Lowering as level drops
11:45	74.0 ~~30.0~~	73.81	4.93	.020	20.3	3.80	18.1	clear	
12:00	77.0 ~~33.0~~	74.99	4.92	.020	13.2	3.84	18.0	clear	
Well developed Photo Sample (1 Qt) Taken									
:									
:									
:									
:									
:									
:									
:									
:									

D.K. Oe 5-29-00

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 774645
Form Completed by: D. Allen
Well Developed by (firm): IT Corp

Parcel No.: PPMP-233
Well No.: GP05
Date Started: 4-28-00

Monitoring Well Information

Development Method: Surge & Purge
Development Equipment: Grundfos Pump

Casing Diameter: 2" Stickup

Beginning Measurments
Depth to Water (ft): 58.71
Total depth of Well (ft): 69.85

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
1100	START w/ whole pumps 2 in line								Pump @
11:05	Pump Problems -- Repaired								
11:30	1.5	63.35	11.50	2.41	999+	0.71	16.9	Muddy Gray	Pump Malfunction
09:55	Restart	59.28							5-5-00
10:00	2.5	66.21	10.98	1.01	999+	1.71	19.5	Muddy Gray	Gritty Sand Btm
10:10	4.0	Below 1st Pump	11.20	1.32	999+	.72	17.7	"	" "
10:20	5.5	"	11.22	1.48	999+	.27	17.5	"	" "
10:36	7	"	11.09	1.34	999+	.42	17.6	"	" "
10:32	7	Well Dry		#1					

Parcel No.: PPMP-233
Well ID: GP05
Date: 6-9-00

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 Pump	
09:45	7	59.51	START						6-9-00	
09:47	10	Level Below 1st Pump	7.84	.190	930	0.35	16.6	GRAY	BTM	
09:50	11	"	WELL DRY -- #2 PUMPS STUCK IN WELL WIRE BROKE							
11:30	11	59.20	START -- EXTRACTED PUMPS						6-17-00	
11:40	12	61.91	7.55	.206	999+	0.32	20.9	GRAY Cloudy	BTM	.2 GPM
11:50	13	64.33	7.59	.214	999+	0.37	22.1	"	"	"
12:00	14	65.71	7.76	.220	587	0.31	22.9	"	"	"
12:10	15	67.11	8.64	.228	500	0.28	22.7	"	"	"
12:20	16	Well Dry	8.88	.225	897	0.20	22.4	"	"	"
WELL DEVELOPED PURGED DRY 3 TIMES										
:										
:			OK							
:										