APPENDIX C

WELL DEVELOPMENT LOGS

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 7968871
Form Completed by: N. Badon
Well Developed by (person/firm): N. Badon

Parcel No.: HR-87Q-x
Well No.: MW01
Date started: 3/9/01

Monitoring Well Information

Development Method: Surge/Purge
Development Equipment: Whale Pump

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 21.55
Total depth of Well (ft): 22.68

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.)
09:40	—	21.55 ~~22.68~~ 3/9/01	6.82	0.520	623	13.85	10.8	brown cloudy	pump ~1" off bottom purge rate 0.08 gpm
09:53	1.04	21.96	—	—	—	Dry	—	—	
10:13	—	21.95	—	—	—	—	—	—	
10:33	—	21.94	—	—	—	—	—	—	
3/12/00 10:31	—	Dry -	Visited by	J.	MATTABELL	—		Bailed	- No Recovery
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TD - DTW = WC x 2'/4' well = One PV x 5 = Min PV + H20 to install well = Minimum H20 to remove

22.68 - 21.55 = 1.13 x 0.163 = 0.18 x 5 = 4.82 gal + 5gal = 9.82 gallons

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: JOSE Maturell
Well Developed by (person/firm): SM ET 956735

Parcel No.: HR 87Q
Well No.: MW01
Date started: 5-2-01

PID - 7.6 Backgrd - 0.0

Monitoring Well Information

Development Method: Purge & Surge
Development Equipment: whale pump

Casing Diameter: 2" = .163

Beginning Measurments
Depth to Water (ft): 22.35 ft. Toc
Total depth of Well (ft): 22.7 ft. Toc

Screened Interval 10.1 - 20.1

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.)
10:25		22.35							W.L. to low to purge. hand Bailed. (Note: No water to bail)
30 08:40		NO Water in well.							P.I.D-02 Backgrd: 0.0 T.D. 22.7 W.L. Ø (cannot bail.)
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TD - DTW = WC x 2'/4' well = One PV x 5 = Min PV + H20 to install well = Minimum H20 to remove
22.7 - 22.35 = .35 x .163 = .057 x 5 = .285 + 5 = 5.285

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: N. Baden
Well Developed by (person/firm): N.Baden

Parcel No.: HR-87Q-X
Well No.: MW02
Date started: 3/8/01

Monitoring Well Information

Development Method: bail + Surge/Purge
Development Equipment: poly bailer, inhale pump

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 13.74 TOC
Total depth of Well (ft): 15.97 TOC

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.)
13:56	0.25	13.74	6.79	0.681	> 1000	10.16	14.8	brown	bailed
14:17	3.00	13.85	7.32	0.462	>1000	11.29	14.6	brown	
14:38	3/8/01 ~~5~~ 5.00	14.2	7.55	0.389	> 1000	11.14	14.7	brown	
14:51	6.50	13.9	7.37	0.382	> 1000	11.42	14.6	brown	
15:06	6.50	N/A	7.82	0.217	>1000	10.55	15.6	brown	Purge rate: 0.80 gpm water level below top of pump, no data
15:26	8.1	N/A	7.56	0.317	89	9.64	18.0	cloudy	pump 0.5 ft ~~86~~ bottom
15:30	8.42	—	7.41	0.314	84	8.90	18.9	cloudy	

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

15.97 - 13.74 = 2.24 * 0.163 = 0.36 x 5 = 1.82 gal + 5 gal = 6.82 gallons

Parcel No.: HR-87Qx
Well ID: MW02
Date: 3/8/01

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)
15:45	9.62	—	7.50	0.321	15.7	9.89	17.7	clear	
16:00	10.82	—	7.42	0.310	6.5	10.04	17.3	clear	
16:15	12.02	—	7.45	0.307	4.8	9.90	17.5	clear	
16:30	13.22	—	7.40	0.304	4.0	9.97	17.4	clear	collected sample for photography
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Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 7968887
Form Completed by: N. Badon
Well Developed by (person/firm): N. Badon / L. Flipper

Parcel No.: HR-87Q-X
Well No.: MW03
Date started: 3/6/01

Monitoring Well Information

Development Method: bailer
Development Equipment: poly bailer

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 17.55' TOC
Total depth of Well (ft): 23.8' TOC

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.)
09:17	bail	attempted	- about		~~5/3/01~~ 3/6/01		1/2 foot of	Mud	in bottom of well
~~5/3/01~~ 09:00									no water
5/3/01 09:00	(NO reading	with	the	water	indicator.				PID 0.0 Backgrd. - 0.0. T.D. 25.13 (DRY NO water)
5/7/01 09:40	"						"		PID. 0.0. Backgrd. 0.0. T.D. 25.13 (DRY NO water)
:									
:									
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TD - DTW = WC x 2'/4' well = One PV x 5 = Min PV + H20 to install well = Minimum H20 to remove

25.14-24.95' = 0.19 x 0.163 = 0.03 gal x 5 = 0.15 gal + 0 = 0.15 gallons

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 7916887
Form Completed by: Jose Maturell
Well Developed by (person/firm): SM IT 956735

Parcel No.: 87 QM
Well No.: MW04
Date started: 5-2-01

PID - 4.9 Backgrd. - 0.0

Monitoring Well Information

Development Method: Surge & Purge
Development Equipment: whale pump

Casing Diameter: 2" = .163

Beginning Measurments
Depth to Water (ft): Ø DRY well
Total depth of Well (ft): 29.09

Screened Interval 15.7 - 25.5

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.)
11 :20		DRY							well is dry. cannot bail. T.D. = 29.09
5-3-01 09 :20		cannot	get a	reading	with W.L.	indicator			PID - 0.0 Backgrd - 0.0 T.D. - 29.09
5-7-01 09 :20		"	DRY				"		P.ID. 13.7 Backgrd. 0.0. T.D. 29.09 W.L. DRY
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TD - DTW = WC x 2'/4' well = One PV x 5 = Min PV + H20 to install well = Minimum H20 to remove
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Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Jose Maturell
Well Developed by (person/firm): SM IT 952e735

Parcel No.: HR. 87 Q
Well No.: MW05
Date started: 5-2-01

P.I.D -2.8 Backgrd. 0.0

Monitoring Well Information

Development Method: Surge & Purge
Development Equipment: Whale pump

Casing Diameter: 2" = .163

Beginning Measurments
Depth to Water (ft): 28.92
Total depth of Well (ft): 43.15

Screened Interval 26 - 41

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.)
5-2-01 SM 13:30	-	28.85	6.40	.472	999+	4.27	22.4	orange	P.R. .12 GPM P.D. 40.15
13:45	1.8	30.69	6.42	.445	999+	3.99	25.5	cloudy Tan	P.R. .07 GPM
14:00	2.85	30.64	6.48	.437	999+	3.88	26.8	cloudy Tan	P.R. .07 GPM
14:15	3.9	31.38	6.60	.429	598	4.03	24.7	cloudy Tan	P.R. .12 GPM.
14:30	5.7	31.45	6.62	.428	370	4.22	25.2	cloudy light tan	P.R. .12 GPM
1 hr. 14:45	7.5	31.64	6.72	.421	197	4.20	24.6	cloudy	P.R. .132 GPM
15:00	9.48	32.07	6.72	.412	167	4.24	22.4	cloudy	P.R. .132 GPM

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

43.15 - 28.92 = 14.23 x .163 = 2.31 x 5 = 11.55 + .5 = 16.55

Parcel No.: HR. 87Q
Well ID: MW. 05
Date: 5-2-01

	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
	15:15	11.46	32.53	6.49	.421	173	3.95	22.8	Cloudy Clear	P.D. 40.15 P.R. .132 GPM.
1 hr	15:30	13.44	32.78	6.55	.426	189	3.95	22.9	cloudy clear	P.R. .18 GPM.
	15:45	16.14	33.63	6.72	.426	348	4.14	21.4	Cloudy Tan	P.R. .14 GPM
hr 30min	16:00	18.24	34.71	6.66	.436	999+	4.22	20.6	light Orange	P.R. .14 GPM.
	—	stop	taken	Parameters.						
5-7-01	13:~~60~~ 45	18.24	30.50	6.36	.402	999+	~~5~~ 4.43	20.2	Cloudy Tan orange	PID 0.0 Backgrd. 0.0 P.D. 5' from bottom 38'. P.R. .075 GPM
	14:00	19.36	W.L. below TOP of pump	6.63	.437	999+	3.74	22.8	Tan orange	P.R. .075 GPM
	14:15	20.48	" "	6.70	.426	999+	3.82	23.6	Tan orange	P.R. .075 GPM
	14:30	21.6	" "	6.77	.418	999+	3.66	25.0	Tan.	P.R. .075 GPM
30min	14:45	22.73	" "	6.71	.410	547	3.89	25.5	Tan cloudy	P.R. .075 GPM
	15:00	23.85	" "	6.77	.407	479	3.50	25.0	Tan Cloudy	P.R. .075 GPM
1hr.	15:15	24.97	" "	6.73	.406	398	3.53	26.0	Cloudy	P.R. .075 GPM
	15:30	26.09	" "	6.76	.402	153	~~5.66~~ 3.35	25.5	clear cloudy	P.R. .075 GPM

Parcel No.: HR. 87 Q
Well ID: MW 05
Date: 5-7-01

	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
hr.	15:45	27.21	W.L. Below Top Pump	6.75	.402	104	3.38	25.4	clear	P.R. .075 GPM.
	16:00	28.33	" "	6.74	.404	98	3.41	25.2	Clear	P.R. .075 GPM
	16:00	—	Stop	taken	Parameters	—	—	—	▼	
5-01	~~09:35~~	~~28.33~~	~~31.26~~							~~P.D. 0.0. Backgrd. 0.0 P.D. 4' off Bottom. 39'~~
3-01	10:00	28.33	31.26	6.61	.445	999+	4.57	17.4	Tan Orange	P.D 0.0 Backgrd 0.0 P.R. .066 GPM P.D. 4' from bottom ~~38'~~ 39'
	10:15 ~~15:00~~	29.32	32.98	6.69 ~~6.73~~	.433	999+	4.61	17.1	Tan Orange	P.R. .066 GPM.
	10:30	30.31	32.97	6.72	.427	999+	4.30	17.3	Tan Orange	P.R. .066 GPM
5 hr	10:45	~~33.~~ 31.30	33.5	6.73	.423	999+	~~4.22~~ 3.96	17.6	Tan Orange	P.R. .066 GPM
	11:00	32.29	34.49	6.73	.421	757	3.92 ~~4.16~~	17.8	Tan	" "
HR.	11:15	33.28	33.34	6.78	.418	582	4.20	18.6	Tan	" "
	11:30	34.27	33.30	6.79	.418	484	4.37	18.6	Tan	" "
	11:45	35.26	33.49	6.80	.414	377	4.38	18.8	Tan	" "
	12:00	36.25	33.57	6.81	.412	151	3.45	18.7	Cloudy clear	" "

Parcel No.: HR-87Q
Well ID: MW05
Date: 5-8-01

	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
7hr.	12 :15	37.24	33.74	6.79	.413	89	4.57	19.3	cloudy clear	P.R. .066 GPM P.D. 4' from bottom 39'
	12 :30	38.23	33.83	6.79	.412	67	4.39	19.0	clear	P.R. .066 GPM
	12 :45	39.22	33.94	6.81	.410	57	4.05	19.0	clear	P.R. .066 GPM
	13 :00	40.21	34.02	6.82	.412	60	3.99	19.3	clear	" "
8hr.	13 :15	41.20	34.14	6.82	.412	63	4.19	19.8	clear.	" "
	:	Stop taken parameters.								
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Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Lee Flippen
Well Developed by (person/firm): Lee Flippen/Nicole Badon

Parcel No.: HR87Q
Well No.: MW09
Date started: 3-6-01

Monitoring Well Information

Development Method: Surge/purge
Development Equipment: WALE pump

Casing Diameter: 2 in.

Beginning Measurments
Depth to Water (ft): 17.55
Total depth of Well (ft): 23.8

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.)
11:15	—	17.55	5.49	.173	>1000	1.27	13.7	Brownish	1 ft. off bottom .25 gpm
11:30	3.75	—	5.46	.13	>1000	2.4	13.0	cloudy Brwn	water below pump no water level data
11:45	7.5	N/A	5.6	.23	665	1.5	14.0	cloudy Brn	Ran pump up screen @1142
11:57									purge Dry
12:20									dry
12:40									dry
13:00									dry

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

~~25.14' - 24.95' = 0.19 x 0.163 = 0.03 x 5 = 0.15 + 0 = 0.15~~ NB 3/6/01

23.8 - 17.55 = 6.25 x .163 = 1.02 x 5 = 5.1 + 5 gal. = 10.1 gal

Parcel No.: 87Q
Well ID: MW09
Date: 5-7-01

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
~~10:00~~ 10 15	7.5	19.09	5.55	.096	~~.07~~ 157	.065	18.6.	~~Tan.~~ cloudy	P.D. 0.0 Backgrd. 0.0 T.D. 23.6 P.R. .1 GPM pump 1' from bottom
~~10:15~~ 10 30	9	Below TOP Pump.	5.53	.084	450	.058	20.4	Cloudy light Tan	P.R. .05 GPM
10 :35	well	purge Dry							wait 20 min. for 80% recharge.
10 :55									well did not Recharge to specs.
15 :30			~~Hat~~	3rd visit					PID=0.0 Backgrd-0.0 cannot get reading with the W.L. indicator. =DRY well=
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5-8-01

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: N. Badon
Well Developed by (person/firm): N. Badon

Parcel No.: 87Q-X
Well No.: MW10
Date started: 3/12/01

Monitoring Well Information

Development Method: Surge/purge bail
Development Equipment: whale pump / poly bailer

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 39.78
Total depth of Well (ft): 43.25

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.)
10:30	—	39.78	—	—	NO	water	—	—	3/12/01 pump ~~0.3~~ 1.0 ft off bottom
10:45	—	38.44	6.68	0.466	> 1000	5.47	17.1	cloudy orange	3/14/01 no water level data purge rate: 0.25gpm pump 1ft off bottom
11:00	2.88	—	6.70	0.501	103	6.11	18.9	cloudy ~~yellowish~~	1053 purge rate 0.125gpm (0.25gal/2 min)
11:15	4.76	—	6.41	0.400	39	4.11	19.9	cloudy yellowish	
11:30	6.64	—	6.36	0.378	horiba malfunction 10	4.26	19.0	cloudy yellowish	NTU's are not accurate, Turbidity is visually > 10
11:45	~8.52 ~~8.52~~	—	—	purged	dry	—	—	—	—
11:54	—	41.6'	—	—	—	—	—	—	—

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

43.25 - 39.78 = 3.47 x .163 = 0.566 x 5 = 2.83 gal + 5 = 7.83 gal

Parcel No.: HR-87Q-x
Well ID: MW10
Date: 3/14/01

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)
12:14		41.48							
10:15	8.52	29.07	whale pump	not working	need to	change pump			PID. 0.0 - Backgnd. 0.0. T.D-43.13 W.L. 29.07 Pump 2' from bottom moved pump 13' up top of w.c.
12:45	8.52	30.61	6.04	.252	126	0.72	24.1	cloudy clear	P.R. .125GPM. T.D. 43.13 Pump at 3' from bottom
13:00	10.39	32.31	5.98	.226	57	.58	26.7	clear	P.R. .075
13:15	11.59	33.13	6.01	.223	15.3	.41	27.8	clear	P.R. .075
13:30	12.71	34.01	6.07	.258	6.5	.31	28.2	clear	P.R. .075
13:45	13.83	34.64	6.19	.302	1.	.33	26.3	clear	P.R. .075
14:00	14.94	see comments	6.31	.328	2.	.40	27.6	clear	W.L. Below top of pump.
:	well	developed	stop	taken	Parameters.				
:		Joe Matuszel	5-3-01						
:									
:									

5-3-01 m

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: N.Badon
Well Developed by (person/firm): N.Badon

Parcel No.: 87Q-X
Well No.: MW11
Date started: 3/14/01

Monitoring Well Information

Development Method: surge/purge
Development Equipment: Whale pump

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 33.15' TOC
Total depth of Well (ft): 49.65' TOC

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.)
15:19	—	33.15	7.05	0.578	> 1000	4.25	18.0	brown	pump 4' off bottom due to sediment, purge rate: 0.25gpm
15:30	2.75	34.0	7.04	0.557	> 1000	7.00	17.0	brown	
15:45	6.5	Pump	Stopped						
15:51	6.5	36.4	6.89	0.530	> 1000	6.03	16.7	brown	pump moved up 2' off bottom
16:00	8.75	36.6	6.94	0.506	> 1000	6.41	17.0	brown	1558 moved pump up 2' b/c sediment caused pump to stop
16:15	12.5	37.5	6.85	0.454	> 1000	6.01	16.7	brown	1609 moved pump up 1 ft
13:00	12.5	48.68 Mud.							T.D 49.81 No water in well. bottom of well is mud.

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

49.65 - 33.15 = 16.5 x 0.163 = 2.70gal x5 = 13.4gal + 100 gal = 113.4 gallons

HR 87Q MW11

Parcel No.: HR87Q
Well ID: MW 11
Date: 5-8-01

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
8-01 14:10	12.5g	NONe	NO Water in well - 2x visits Found well Dry - 3rd visit to site						
:		—	well Development completed						~~[illegible]~~ 5-8-01
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Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Lee Flippen / Nicole Badon
Well Developed by (person/firm): Lee Flippen / Nicole Badon

Parcel No.: AR87Q MW12
Well No.: MW12
Date started: 3-6-01

Monitoring Well Information

Development Method: Surge/purge
Development Equipment: wale pump

Casing Diameter: 2 in.

Beginning Measurments
Depth to Water (ft): 16.7
Total depth of Well (ft): 37.52

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.)
15:00	-	16.7	5.3	.39	> 1000	3.6	15	Reddish Brn	due to mud, Pump is yet OFF Bottom .25 gpm
15:15	3.75	19.93	5.4	.48	> 1000	4.8	15	org Brn.	
15:30	7.5	20.9	5.5	.51	1274	5.1	15	org. Brn	
15:45	11.25	21.9	5.4	.44	270	4.5	15	cloudy orange	
16:00	15.0	22.67	5.4	.40	333	6.0	15	cloudy orange	
16:15	18.75	23.1	5.3	.45	367	4.0	15	Light orange	
09:22	18.75	19.25	5.28	0.~~041~~ 453 NP 3/7/01	> 1000	3.94	13.5	cloudy orange	3/7/01 Pump rate: 0.25 gpm

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

37.52 - 16.7 = 20.82 x 0.163 = 3.40 x 5 = ~~16~~ 17.0 + 55 = 72 gallons

NP 3/6/01

Parcel No.: HR-870-X
Well ID: MW12
Date: 3/7/01

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	20.75	20.5'	5.38	0.437	157	2.86	3/9/01 ~~14.7~~ 13	cloudy clearing	
09:45	24.5	21.3'	5.38	0.391	>1000	4.67	13.5	Dark orange	0938 ran pump up well screen pump 4' off bottom
10:00	28.25	22.34	5.31	0.414	708	4.55	15.1	dark orange	
10:15	32.0	22.88	5.31	0.365	>1000	4.19	15.3	dark orange	
10:30	35.75	23.8	5.32	0.393	3/7/01 → 189	3.81	15.9	dark orange	
10:45	39.50	24.25	5.40	0.432	>1000	2.60	16.0	cloudy orange	
11:00	43.25	25.1	5.43	0.472	1985	2.31	16.4	cloudy orange	
11:15	47	25.42	5.47	0.464	1367	2.61	16.5	dark orange	1113: moved pump up 2.5 ft
11:30	50.75	27.4	5.32	0.347	>1000	2.94	17.2	dark orange	
11:45	54.50	27.67	5.41	0.385	>1000	3.38	16.9	dark orange	
12:00	58.25	28.8	5.39	0.331	>1000	3.67	17.0	dark orange	
12:15	62	—	5.32	0.260	>1000	4.88	17.3	dark orange	water level below top of pump, no data

Parcel No.: HR-87Q-X
Well ID: MW12
Date: 3/7/01

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	65.75	—	5.29	0.246	> 1000	4.11	17.1	dark orange	
12:45	69.50	—	5.28	0.215	678	4.73	16.8	light orange	
13:00	73.25	—	5.19	0.184	497	4.29	16.4	light orange	
13:15	75.84 ~~2.34~~ 3/7/01	—	5.12	0.195	262	4.71	16.1	light orange	1307: purge rate slowed to 0.08 gpm (.25 gal/3 min) to lower NTU's
13:30	76.84	—	5.06	0.221	137	5.12	16.4	cloudy	
13:45	78.04	—	5.04	0.243	62	5.93	16.7	slightly cloudy	
14:00	79.24	—	5.06	0.253	41	5.82	17.0	clear	
14:15	80.44	—	5.07	0.261	22	6.00	17.0	clear	
14:30	81.64	—	5.07	0.266	21	5.75	16.6	clear	
14:45	82.84	—	5.05	0.272	17.7	5.83	16.7	clear	
15:00	84.04	—	5.07	0.278	14.9	5.82	16.9	clear	
15:15	85.24	—	5.04	0.282	26	5.83	17.0	clear	

Parcel No.: HR-87Q-MW12
Well ID: MW12
Date: 3/7/01

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)
15:30	86.44	—	5.02	0.287	22	6.06	16.1	clear	
15:45	~~88.84~~ 87.64 NB 3/7/01	—	5.02	0.292	27	5.42	16.2	clear	
16:00	~~90.04~~ 88.84 NB 3/7/01	—	5.09	0.303	33	6.17	15.7	clear	
16:15	90.04	—	5.04	0.303	62	5.81	15.7	clear	
16:30	91.24	—	5.05	0.309	12.2	5.73	15.2	clear	
08:45	91.64	21.6'	5.30	0.350	61	9.47	14.8	cloudy	3/8/01 start purging 0840 purge rate 0.~~25~~ 08 gpm (.25 gal/3 min) 3/8/01
09:00	92.84	22.34	5.44	0.340	79	10.65	~~10.65~~ 15.7 NB 3/8/01	cloudy	
09:15	94.04	22.7	5.42	0.339	357	10.50	16.5	cloudy	
09:30	95.24	22.8	5.44	0.334	-100, +1000 error	10.11	16.6	cloudy	
09:45	96.44	23.5	5.41	0.320	87	9.96	16.9	cloudy	
10:00	97.64	23.15	5.41	0.317	63	9.78	17.1	cloudy	
10:15	98.84	23.37	5.38	0.318	37	10.07	17.2	cloudy	

Parcel No.: HR-87-Q-X
Well ID: MW12
Date: 3/8/01

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	99.04	23.5	5.37	0.320	47	9.45	17.6	cloudy	
10:45	100.24	~~26~~ 23.65 3/8/01	5.44	0.322	35	9.63	18.2	clear	
11:00	101.44	23.74	5.43	0.323	40	9.66	18.3	Clear	total time spent on well: 10 hours collect sample for photography
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Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Jose Maturell
Well Developed by (person/firm): JM IT 956735

Parcel No.: 87Q
Well No.: MW13
Date started: 5-9-01

Screened Interval 45.5 - 65.5

Monitoring Well Information

Development Method: Surge & Purge
Development Equipment: Whale Pump

Casing Diameter: 2" = .163

Beginning Measurments
Depth to Water (ft): DRY
Total depth of Well (ft): 67.36

PID. 11.2 Backgrd. 0.0

	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) (Purge Rate, Pump Position, Misc.)	
5-9-01	15:00	Ø	DRY	—	—	—	—	—	→	No reading with w.L. indicator	
	:										
5-11-01	15:15	Ø	Dry	—	—	—	—	—	—	5-11-01 [signature]	PID 0.1 BKGrd 0.0
	:										
5-14-01	16:00	Ø	Dry	—	—	—	—	—	—	No water in Well - This is 3rd visit - Well Development completed for this site. [signature] 5-14-01	PID 0.0 BKGrd 0.0
	:										
	:										

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

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Mike May
Well Developed by (person/firm): Mike May / IT Corp.

Parcel No.: Range 29 87Q
Well No.: MW 14
Date started: 2/28/01

Monitoring Well Information

Development Method: Surge and Purge.
Development Equipment: Whale Pump, Water level indicator, Turbidity meter, Horiba.
Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 3.91'
Total depth of Well (ft): 35.90'

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.)
2/28 14:15	2	10.75	5.92	.351	1k+	3.52	16.5°	cloudy brown	pump @ 34' from toc.
14:30	4	12.76	6.42	.366	336	3.04	16.4°	cloudy brown	" "
14:45	6	13.32	6.40	.340	401	3.50	16.3°	cloudy brown	" "
15:00	9	16.72	6.42	.244	319	4.25	16.2°	cloudy brown	" "
15:15	12	17.99	6.42	.205	740	4.95	16.0°	cloudy brown	" "
15:30	15	19.24	6.41	.202	586	4.28	16.1°	cloudy brown	" "
15:45	18	21.06	6.43	.212	427	3.96	16.1°	cloudy brown.	pump @ 32' from toc.

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

35.90 - 3.91 = 31.99 x .163 = 5.21 x 5 = 26.05 + 55 = 81.0 gallons.

LOGGED

Parcel No.: Range 29
Well ID: MW14
Date: 3/01/01

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)
16:00	21	22.93	6.43	.201	408	3.82	16.1°	cloudy brown	pump @ 32' from toc.
16:15	24	24.62	6.42	.218	396	3.80	16.0°	cloudy brown.	" "
10 09:00	27	10.53	5.74	.199	1k+	3.74	14.8°	cloudy brown	pump @ 32' from toc.
09:15	30	12.41	5.78	.105	236	6.34	15.1°	cloudy brown	" "
09:30	33	12.98	5.86	.088	143	6.17	15.6°	fairly clear	" "
09:45	36	13.41	5.87	.077	130	6.14	16.0°	clear	" "
10:00	39	13.44	5.80	.069	84	6.14	15.7°	clear	" "
10:15	42	14.06	5.77	.064	60	5.84	16.3°	clear	" "
10:30	45	13.88	5.76	.061	50	5.38	16.2°	clear	pump @ 30' from toc.
10:45	48	14.61	5.72	.059	49	6.06	17.0°	clear	" "
11:00	51	14.93	5.80	.057	53	5.72	17.8°	clear	" "
11:15	54	15.11	5.67	.055	59	5.86	18.5°	clear.	" "

Parcel No.: Range 29
Well ID: MW 14
Date: 3/01/01

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	57	15.18	5.68	.053	47	5.72	18.5°	clear	pump @ 30' from toc
11:45	60	15.81	5.66	.052	41	5.82	18.6°	clear	" "
12:00	63	16.12	5.63	.053	56	5.96	19.6°	clear	pump @ 28' from toc.
12:15	66	15.90	5.69	.050	51	6.12	18.8°	clear	" "
12:30	69	16.14	5.66	.050	45	6.05	19.1°	clear	" "
12:45	72	16.32	5.67	.051	43	6.18	19.0°	clear.	" "
13:00	75	16.54	5.67	.051	44	6.07	19.1°	clear	" "
13:15	78	16.82	5.68	.052	47	6.09	19.2°	clear	" "
13:30	81	16.96	5.68	.051	42	6.12	19.0°	clear.	" "
19 08:15	83	8.32	5.61	.137	195	7.02	13.6°	slightly clear	pump @ 30' from toc.
08:30	85	8.46	5.94	.152	94	6.28	13.3°	clear	" "
08:45	87	8.50	6.19	.125	41	6.14	13.1°	clear	" "

Parcel No.: Range 29
Well ID: MW14
Date: 3/9/01

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	89	8.52	6.30	.107	29	6.26	12.9°	clear	
09:15	91	8.56	6.14	.095	21.6	6.52	13.3°	clear	
09:30	93	8.58	6.15	.087	14.8	6.65	13.0°	clear	
09:45	95	8.61	5.91	.080	10.5	6.68	13.0°	clear	
10:00	97	8.64	6.06	.076	8.5	6.72	13.3°	clear	
10:15	99	8.66	6.04	.840	8.9	6.28	13.3°	clear	
10:30	101	8.64	6.01	.960	8.2	6.56	13.1°	clear	
10:45	103	8.65	6.05	.844	7.6	6.42	13.3°	clear	
11:00	105	8.66	6.04	.840	7.6	6.57	13.2°	clear	
11:15	107	8.64	6.05	.842	7.4	6.41	13.3°	clear.	
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Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Mike My
Well Developed by (person/firm): Mike My IT Corp.

Parcel No.: ~~Range 29~~ 87Q
Well No.: MW 15
Date started: 3/6/01

Monitoring Well Information

Development Method: Surge and Purge
Development Equipment: Horiba Turbidity Meter, Whale Pump, water level Indicator.
Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 1.96' from toc.
Total depth of Well (ft): 37.5'

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.)
16 13:30	2.5	2.88	6.59	.427	1K+	5.38	15.8°	cloudy brown	pump @ 34' from toc
13:45	5.0	2.82	6.93	.361	1K+	6.73	14.9°	cloudy brown	" "
14:00	8.0	3.39	7.17	.347	693	5.98	15.4°	cloudy brown	" "
14:15	11.0	3.36	7.34	.347	394	6.41	15.0°	cloudy brown	" "
14:30	14.0	3.50	7.41	.346	445	6.06	15.1°	cloudy brown	" "
14:45	17.0	4.02	7.40	.345	235	6.15	14.6°	fairly clear.	pump @ 32' from toc
15:00	20.0	4.58	7.41	.348	217	6.23	14.6°	clear	" "

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

37.5' - 1.96' = 35.54' x .163 = 5.79 x 5 = 28.9 + 5 gallons = 33.96 gallons.

Parcel No.: ~~Range 29~~ 87Q
Well ID: MW 15
Date: 3/7/01

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	23.0	4.92	7.41	.352	212	6.17	14.5°	clear	pump @ 32' from toc.
15:30	26.0	5.48	7.43	.346	211	6.09	14.5°	clear	" "
15:45	29.0	5.97	7.41	.361	209	6.13	14.7°	clear	" "
16:00	32.0	6.09	7.42	.345	187	6.07	14.6°	clear	" "
16:15	35.0	6.38	7.41	.353	181	6.17	14.6°	clear	" "
18 09:15	37.0	3.78	6.50	.337	194	6.36	14.9°	clear	pump @ 30' from toc.
09:30	39.0	3.75	6.95	.315	114	6.50	14.4°	clear	" "
09:45	41.0	3.76	7.03	.311	59	6.20	15.4°	clear	" "
10:00	43.0	3.79	7.10	.314	62	6.36	14.7°	clear	" "
10:15	45.0	3.76	7.12	.312	47	6.41	15.0°	clear	" "
10:30	47.0	3.72	7.13	.311	39	6.37	14.9°	clear	" "
10:45	49.0	3.80	7.15	.309	30	6.46	15.4°	clear	" "

Parcel No.: ~~Range 29~~ 87Q
Well ID: MW15
Date: 3/8/01

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	51.0	3.82	7.17	.309	26.0	6.18	16.1°	clear	pump @ 28' from toc.
11:15	53.0	3.81	7.13	.307	16.0	6.38	16.7°	clear	" "
11:30	55.0	3.80	7.14	.309	15.0	6.30	16.1°	clear	" "
11:45	57.0	3.82	7.16	.307	13.0	6.12	16.1°	clear	" "
12:00	59.0	3.86	7.15	.310	12.4	6.26	15.7°	clear	" "
12:15	61.0	3.84	7.13	.310	10.2	6.24	16.2°	clear	" "
12:30	63.0	3.80	7.13	.307	8.4	6.29	16.7°	clear	pump @ 26' from toc.
12:45	65.0	3.82	7.19	.309	11.5	6.28	16.3°	clear	" "
13:00	67.0	3.86	7.20	.311	10.4	6.24	16.5°	clear	" "
13:15	69.0	3.80	7.19	.310	9.7	6.41	17.2°	clear	" "
13:30	71.0	3.78	7.18	.310	9.4	6.39	17.5°	clear	" "
13:45	73.0	3.82	7.23	.310	8.7	6.24	17.9°	clear	" "

Parcel No.: ~~Range 29~~ 87Q
Well ID: MW15
Date: 3/8/01

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	75.0	3.80	7.20	.313	8.4	6.27	17.8°	clear	pump @ 26' from toc.
14:15	77.0	3.82	7.21	.311	9.2	6.31	17.7°	clear	" "
14:30	79.0	3.80	7.23	.312	8.7	6.24	17.8°	clear	pump @ 24' from toc
14:45	81.0	3.80	7.20	.313	8.3	6.31	17.9°	clear	" "
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Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Mike May
Well Developed by (person/firm): Mike May / IT Corp.

Parcel No.: ~~Range 29~~ 087Q
Well No.: MW16
Date started: 3/2/01

Monitoring Well Information

Development Method: Surge + Purge
Development Equipment: Water level indicator, Horiba, Turbidity Meter, Wick Pump.
Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 12.53' from toc.
Total depth of Well (ft): 24.00'

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 (Date if different from start date) (Purge Rate, Pump Position, Misc.)
3/2 08:45	2	15.60	6.45	.457	1k+	3.24	15.8°	cloudy brown	pump @ 23' from toc.
09:00	4	16.97	6.44	.455	1k+	3.18	16.1°	cloudy brown	" "
09:15	6	17.49	6.38	.467	1k+	3.20	16.1°	cloudy brown	" "
09:30	8	17.87	6.40	.389	1k+	3.21	16.0°	cloudy brown	" "
09:45	10	17.94	6.42	.442	1k+	3.20	16.1°	cloudy brown	" "
10:00	12	18.12	6.42	.458	1k+	3.19	16.2°	cloudy brown	" "
10:15	14	18.84	6.46	.454	968	3.24	16.3°	cloudy brown	" "

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

27.0 - 9.22 = 17.78 x .163 = 2.90 x 5 = 14.49 + 20 gals. = 34.49.
from toc.

Parcel No.: ~~Page 29~~ 0870
Well ID: MW16
Date: 3/2/01

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	16	19.21	6.45	.432	952	3.26	16.2°	cloudy brown.	pump @ 22' from toc.
10:45	18	19.73	6.45	.418	872	3.30	16.2°	cloudy brown.	" "
11:00	20	20.18	6.46	.379	870	3.34	16.1°	cloudy brown.	" "
15 09:45	22	16.30	6.36	.314	771	8.18	12.6°	cloudy brown	pump @ 24' from toc.
10:00	24	16.87	6.50	.317	997	7.34	12.6°	cloudy brown	" "
10:15	26	17.12	6.68	.321	1021	7.67	12.1°	cloudy brown	" "
10:30	28	17.46	6.68	.324	924	7.38	12.2°	cloudy brown	" "
10:45	30	18.02	6.62	.319	846	7.49	12.1°	cloudy brown	" "
12:00	32	18.44	6.66	.320	986	7.38	12.6°	cloudy brown	" "
12:15	34	19.06	6.68	.319	946	7.62	12.7°	cloudy brown.	" "
13 09:00	36	not accessible	6.57	.279	617	9.01	17.4°	cloudy brown	pump @ 24' from toc.
09:15	38	not accessible	6.98	.278	236	8.88	18.3°	cloudy brown	" "

Parcel No.: ~~Range 29~~ 0870
Well ID: MW 16
Date: 3/13/01

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)
113 09:30	40	not accessible	7.04	.288	279	8.22	18.6°	cloudy brown	pump at 24' from toc.
09:45	42	" "	7.09	.300	381	9.04	18.2°	" "	" "
10:00	44	" "	7.10	.246	432	8.46	18.3°	" "	" "
10:15	46	" "	7.13	.294	415	8.81	19.0°	" "	" "
10:30	48	" "	7.14	.236	534	7.73	20.2°	" "	pump @ 22' from toc.
10:45	50	" "	7.12	.310	471	7.87	20.8°	" "	" "
11:00	52	" "	7.14	.325	543	7.60	21.9°	" "	" "
11:15	54	" "	7.14	.316	478	7.54	21.7°	" "	" "
11:30	56	" "	7.12	.309	463	7.57	21.9°	" "	" "
11:45	58	" "	7.14	.312	519	7.38	21.6°	" "	" "
12:00	60	" "	7.13	.322	506	7.32	21.7°	" "	" "
12:15	62	" "	7.12	.318	474	7.30	21.4°	" "	pump @ 21' from toc.

Parcel No.: ~~Range 29~~ 087Q
Well ID: MW16
Date: 3/13/01

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	64	not accessible	7.12	.324	496	7.27	21.4°	cloudy brown	pump @ 21' from toc.
12:~~30~~ 45	66	" "	7.14	.327	476	7.21	21.7°	" "	" "
13:00	68	" "	7.14	.326	457	7.26	21.6°	" "	" "
13:15	70	" "	7.12	.319	448	7.22	21.4°	" "	" "
13:30	72	" "	7.12	.322	492	7.20	21.3°	" "	" "
13:45	74	" "	7.14	.329	471	7.21	21.3°	" "	" "
14:00	76	" "	7.13	.327	466	7.24	21.6°	" "	" "
:									
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Groundwater Well Development Log

Fort McClellan, Alabama

Project Number: 796887
Form Completed by: Lee Flippen
Well Developed by (person/firm): Lee Flippen / IT Corp.

Parcel No.: HR 87Q
Well No.: MW17
Date started: 5-8-01

Monitoring Well Information

Development Method: Surge + purge
Development Equipment: whale pump, Horiba Heron, AquaFast II
Casing Diameter: 2" TOC

Beginning Measurments
Depth to Water (ft): 11.08 ft.
Total depth of Well (ft): 20.8 ft.

PID .7 BKGrd 0.0 Screen Interval 8'-18'

WC = water column

	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.)
5-8-01	10:50	Ø	11.08	5.99	.242	999+	1.22	15.2	Dark Orange	WC = 9.72 Hand bailed out Muddy water to clear NTUs For second well visit. Lee Flippen 5-8-01
	11:35	6.2	—	Hand Bailed	well	Dry	—	—	—	
	15:30	6.2	17.3	6.32	.179	370	5.17	15.8	cloudy	WC = 3.5 ft, PID 0.3 BKGrd 0.0 Hand Bailed well Dry 1.5 g PID 0.3 Bkgrd 0.0 removed.
5-9-01	15:45	7.7	—	—	—	—	—	—	—	Hand Bailed 1.5 g to Dry S-9-01 Lee Flippen
	14:30	7.7	18.7	6.31	.208	334	5.01	17.6	orange	PID 0.7 BKGrd 0.0 Hand Bailed .75 g 5-11-01
5-11-01	:									3rd visit + 3x Hand Bailed well Dry - Well Dev. Completed For this site. Lee Flippen 5-11-01
	:									

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

20.8 − 11.08 = 9.72 x .163 = 1.58 x 5 = 7.9 + 5 g = 12.9 g.

Groundwater Well Development Log

Fort McClellan, Alabama

Project Number: 796887
Form Completed by: Lee Flippen
Well Developed by (person/firm): Lee Flippen / IT Corp.

Parcel No.: HR 87Q
Well No.: MW 18
Date started: 5-8-01

Monitoring Well Information

Development Method: Surge + Purge
Development Equipment: whale Pump, Herlhe, Heron, AquaFAST II
Casing Diameter: 2" .163 TOC

Beginning Measurments
Depth to Water (ft): 12.25 ft. (12.25 ft. (DTW))
Total depth of Well (ft): 12.45 ft. (12.45 ft. (TD))

PID 1.4 BKGrd 0.0 Screen Interval 5-10 ft WC = water column

	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.)
5-8-01	10:25	Ø								.2 ft. WC - Attempted to hand Bail - No water purged by Baller. PID 1.4 BKGrd 0.0 5-8-01 - Dry -
	10:45	Ø	unable to bail-out any water							5-8-01 Lee Flippen
5-9-01 dm	14:10	Ø	12.26	unable to bail by hand.						T.D. 12.44 PID. 1.6 Background 0.0 DRY-well
5-11-01	14:50	Ø	12.25			unable to bail out H_2O				PID 0.0 BKGrd 0.0 wc = .2 ft 5-11-01
	:									3rd visit - Well Dry Well Development Completed For this well. Lee Flippen 5-11-01
	:									
	:									

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

12.45 - 12.25 = .2 x .163 = .0326 x 5 = .163 + 5 = 5.2 g

Groundwater Well Development Log

Fort McClellan , Alabama

Project Number: 796887
Form Completed by: Lee FLIPPEN
Well Developed by (person/firm): Lee FLIPPEN / IT Corp.

Parcel No.: HR 87Q MW 19
Well No.: MW 19
Date started: 3-14-01

PE Photovac - 0.0 15:15hrs

Monitoring Well Information

Development Method: Surge + Purge
Development Equipment: whale pump

Casing Diameter: 2"

Beginning Measurments
Depth to Water (ft): 26.18
Total depth of Well (ft): 26.52

WC = .34ft (Well Dry) 3-14-01

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.)
14-0 15:15	—	26.18	—	Well Dry - Bailed out water (attempted)					Well Dry .34ft WC Bailed but No H2O retrieved
5-01 12:30	—	Completely Dry	—	Well Dry - No water at ALL					PE Photovac 0.0 2nd visit
15-01 15:15	—	26.2	—	well Dry - 3rd visit					PE Photovac 0.0 .32ft WC 3rd visit - Inadequate water [signature] 3-19-01
:									
:									
:									
:									

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

26.52 26.18 = .344 x .163 = .055 x 5 = .277 + 5 gal 5.277 gal.