APPENDIX B

BORING LOGS, WELL CONSTRUCTION LOGS, AND WELL ABANDONMENT FORMS

BORING LOGS

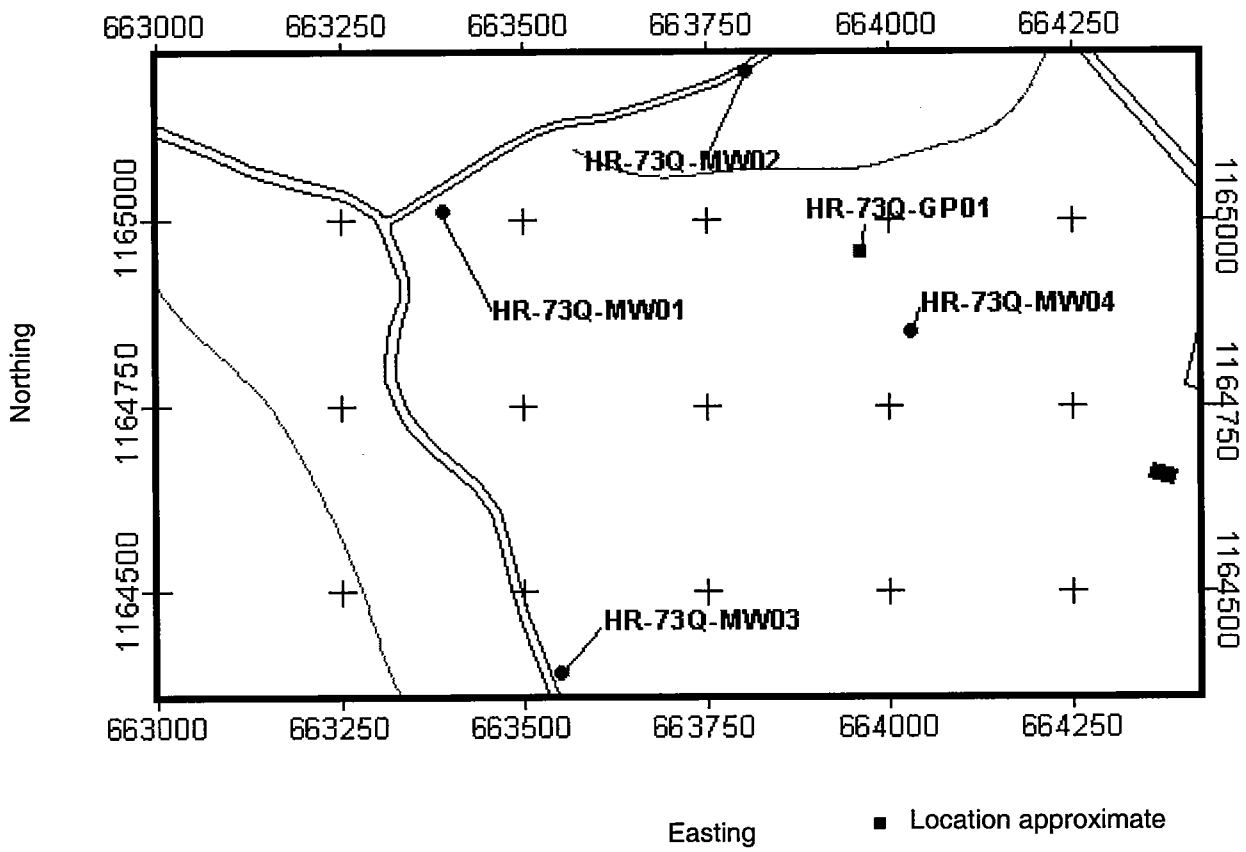
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-73Q-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 73Q-X 9. Surface elevation (feet above mean sea level): approximately 847 10. Date started: 03/30/01 — 11. Date completed: 03/30/01
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 12	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Leslie O' Hare		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-GP01

Project: Fort McClellan | Geologist: Leslie O' Hare | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist soft SILT, some Clay, little fine to coarse Sand, little subrounded quartz-rich Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JF0009 MS/MSD		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown slightly moist stiff CLAY.	cl		Organic Vapor = 0.0ppm				Rec 1.6'/3.0' (1-4' bgs)
845	2								
	3								
	4	cl: Light brown to yellowish orange to red mottled medium stiff moist CLAY.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
840	7								
	8	cl: Light brown to yellowish orange mottled dry CLAY.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-GP01

Project: Fort McClellan | Geologist: Leslie O' Hare | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl				JF0010		11
835	12								Bottom of borehole at 12' bgs 12

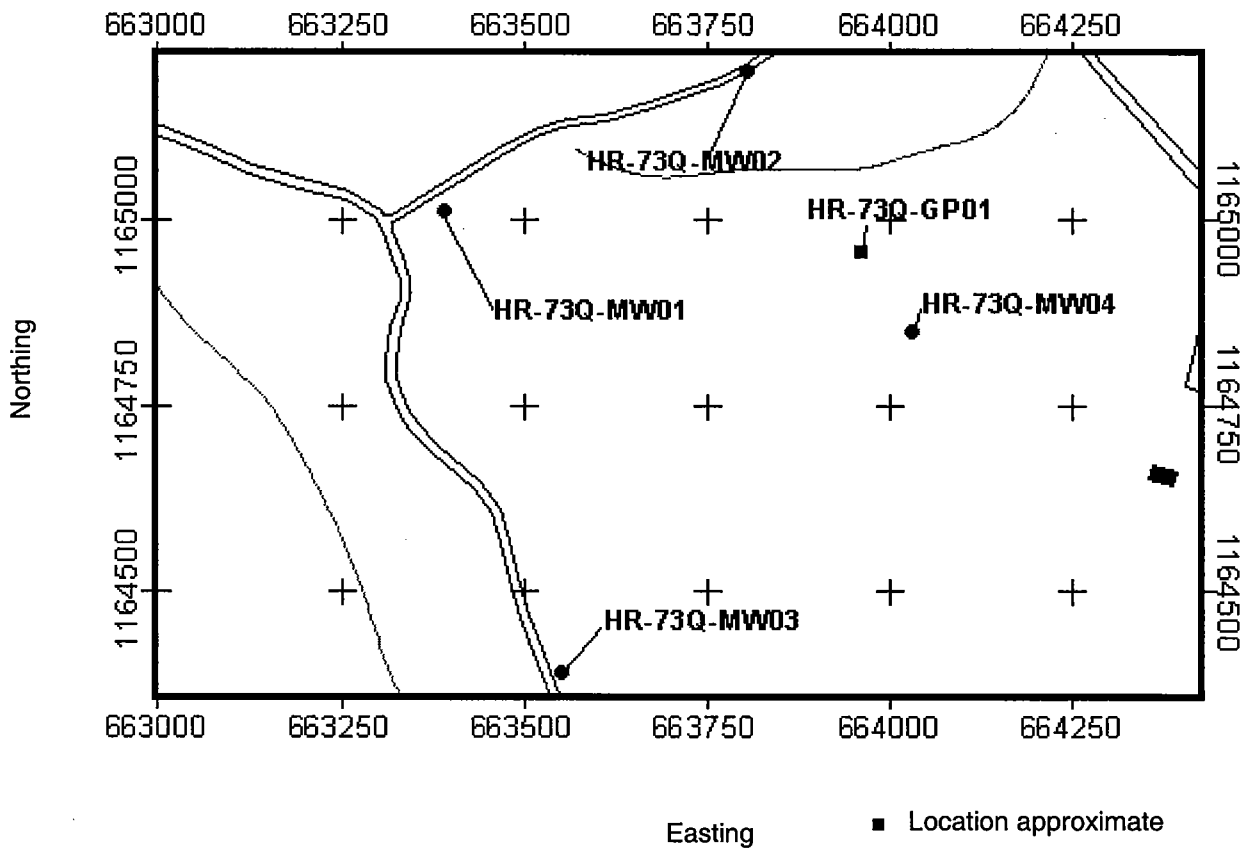
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-73Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 13 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 73Q-X 9. Surface elevation (feet above mean sea level): 891.71 10. Date started: 03/21/01 — 11. Date completed: 03/30/01
12. Overburden thickness (feet bgs): >119	15. Depth groundwater encountered (feet bgs): 108
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 119	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/James Dendy		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-73Q-MW01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 2 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl-ml: Dark brown moist CLAY and SILT, trace subrounded Gravel, trace organics.	cl-ml		Organic Vapor = 0.0ppm		JF0001		Rec 2.5'/4.0' (0-4' bgs)
	1	cl: Light brown moist medium stiff CLAY, trace fine to medium Sand.	cl						
890									
	2								
	3								
	4	cl: Light brown moist medium stiff CLAY, trace fine to medium Sand.	cl		Organic Vapor = 0.0ppm		JF0002		Rec 2.0'/2.0' (4-6' bgs)
	5								
	6	cl: Damp yellowish orange medium stiff CLAY, little Silt, trace quartz-rich subrounded to subangular Gravel.	cl						Direct push refusal at 6' bgs Rec 2.0'/2.0' (6-8'bgs)
885									
	7								
	8	cl: Damp yellowish orange medium stiff CLAY, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 3 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								
880			NA						
	12								
	13	cl: Light brown and light gray medium stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			10 9 10 17	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
	16								
875			NA						
	17								
	18	cl: Light brown dry medium stiff CLAY, some hard angular fine claystone Gravel, some Silt.			Organic Vapor = 0.0ppm			12 12 12 14	Rec 1.0'/2.0' (18-20' bgs)
			cl						
	19	NA: No recovery.							
			NA						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 4 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								21
870			NA						
	22								22
	23	cl: Light brown medium stiff CLAY, some hard angular fine claystone Gravel, some Silt.	cl		Organic Vapor = 0.0ppm			10 12 11 16	Rec 1.0'/2.0' (23-25' bgs) 23
	24	NA: No recovery.	NA						24
	25	NA: No sample collected for lithologic description.	NA						25
	26								26
865									
	27								27
	28	cl: Light brown dry medium stiff CLAY, some hard angular fine claystone Gravel, some Silt.	cl		Organic Vapor = 0.0ppm			8 7 10 15	Rec 2.0'/2.0' (28-30' bgs) 28
	29								29
	30	NA: No sample collected for lithologic description.							30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 5 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
860	32								
	33	cl: Light brown medium stiff CLAY, some hard angular fine claystone Gravel, some Silt.	cl		Organic Vapor = 0.0ppm			12 18 18 26	Rec 0.5'/2.0' (33-35' bgs)
		NA: No recovery.							
	34		NA						
	35	NA: No sample collected for lithologic description.							
	36		NA						
855	37								
	38	cl: Light brown and light gray medium stiff CLAY, some angular fine claystone Gravel, some Silt.			Organic Vapor = 0.0ppm			9 11 13 21	Rec 2.0'/2.0' (38-40' bgs)
	39		cl						
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 6 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								
850			NA						
	42								
	43	cl: Light brown, light gray, and purple stiff CLAY, some angular fine claystone Gravel, some Silt.			Organic Vapor = 0.0ppm			10 10 15 18	Rec 2.0'/2.0' (43-45' bgs)
	44		cl						
	45	NA: No sample collected for lithologic description.							
	46								
845			NA						
	47								
	48	cl: Light brown and light gray stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			9 13 18 22	Rec 2.0'/2.0' (48-50' bgs)
	49		cl						
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 7 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								
840			NA						
	52								
	53	cl: Light brown and light gray stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			13 16 24 34	Rec 2.0'/2.0' (53-55' bgs)
	54		cl						
	55	NA: No sample collected for lithologic description.							
	56								
835			NA						
	57								
	58	cl: Light brown and light gray hard CLAY, some Silt, slightly laminated.			Organic Vapor = 0.0ppm			10 14 15 22	Rec 2.0'/2.0' (58-60' bgs)
	59		cl						
	60	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 8 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								
830			NA						
	62								
	63	cl: Light brown and black stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			8 12 16 21	Rec 2.0'/2.0' (63-65' bgs)
	64		cl						
	65	NA: No sample collected for lithologic description.							
	66								
825			NA						
	67								
	68	cl: Light brown and black stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			9 12 14 18	Rec 2.0'/2.0' (68-70' bgs)
	69		cl						
	70	NA: No sample collected for lithologic description.							
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 9 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
820			NA						
	72								
	73	cl: Light brown stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			7 9 9 13	Rec 2.0'/2.0' (73-75' bgs)
	74		cl						
	75	NA: No sample collected for lithologic description.							
	76								
815			NA						
	77								
	78	cl: Light brown, black, and reddish brown stiff CLAY, little Silt, moist.			Organic Vapor = 0.0ppm			11 13 16 20	Rec 2.0'/2.0' (78-80' bgs)
	79		cl						
	80	NA: No sample collected for lithologic description.							
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 10 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
810			NA						
	82								
	83	cl: Light brown and purple medium stiff layered fissile CLAY, little Silt, moist.			Organic Vapor = 0.0ppm			9 14 12 17	Rec 2.0'/2.0' (83-85' bgs)
	84		cl						
	85	NA: No sample collected for lithologic description.							
	86								
805			NA						
	87								
	88	cl: Light brown and dark reddish brown laminated fissile soft moist CLAY, little Silt.			Organic Vapor = 0.0ppm			10 13 16 21	Rec 2.0'/2.0' (88-90' bgs)
	89		cl						
	90	NA: No sample collected for lithologic description.							
	91								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 11 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
800			NA						
	92								
	93	cl: Light brown and dark reddish brown slightly laminated soft moist CLAY, little Silt.			Organic Vapor = 0.0ppm			5 5 6 10	Rec 2.0'/2.0' (93-95' bgs)
	94		cl						
	95	NA: No sample collected for lithologic description.							
	96								
795			NA						
	97								
	98	cl: Light brown and dark reddish brown slightly laminated moist soft CLAY, little Silt.			Organic Vapor = 0.0ppm			7 8 10 13	Rec 2.0'/2.0' (98-100' bgs)
	99		cl						
	100	NA: No sample collected for lithologic description.							
	101								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 12 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
790			NA						
	102								102
	103	cl: Light brown and dark reddish brown slightly laminated moist soft CLAY, little Silt.			Organic Vapor = 0.0ppm			6 8 8 13	Rec 2.0'/2.0' (103-105' bgs) 103
	104		cl						104
	105	NA: No sample collected for lithologic description.							105
	106								106
785			NA						
	107								107
									Groundwater encountered at 108' bgs
	108	cl: Light brown moist soft CLAY, some angular fine claystone Gravel, little Silt.			Organic Vapor = 0.0ppm			7 9 10 7	Rec 2.0'/2.0' (108-110' bgs) 108
	109		cl						109
	110	NA: No sample collected for lithologic description.							110
	111								111

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW01

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 13 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
780			NA						
	112								
	113	cl: Light brown moist CLAY, some angular fine to coarse claystone Gravel, little Silt.			Organic Vapor = 0.0ppm			9 11 10 13	Rec 2.0'/2.0' (113-115' bgs)
	114		cl						
	115	NA: No sample collected for lithologic description.							
	116								
775			NA						
	117								
	118	cl: Light brown moist CLAY, some angular fine to coarse claystone Gravel, little Silt.	cl		Organic Vapor = 0.0ppm			12 11	Rec 1.0'/1.0' (118-119'bgs)
	119								Bottom of borehole at 119' bgs

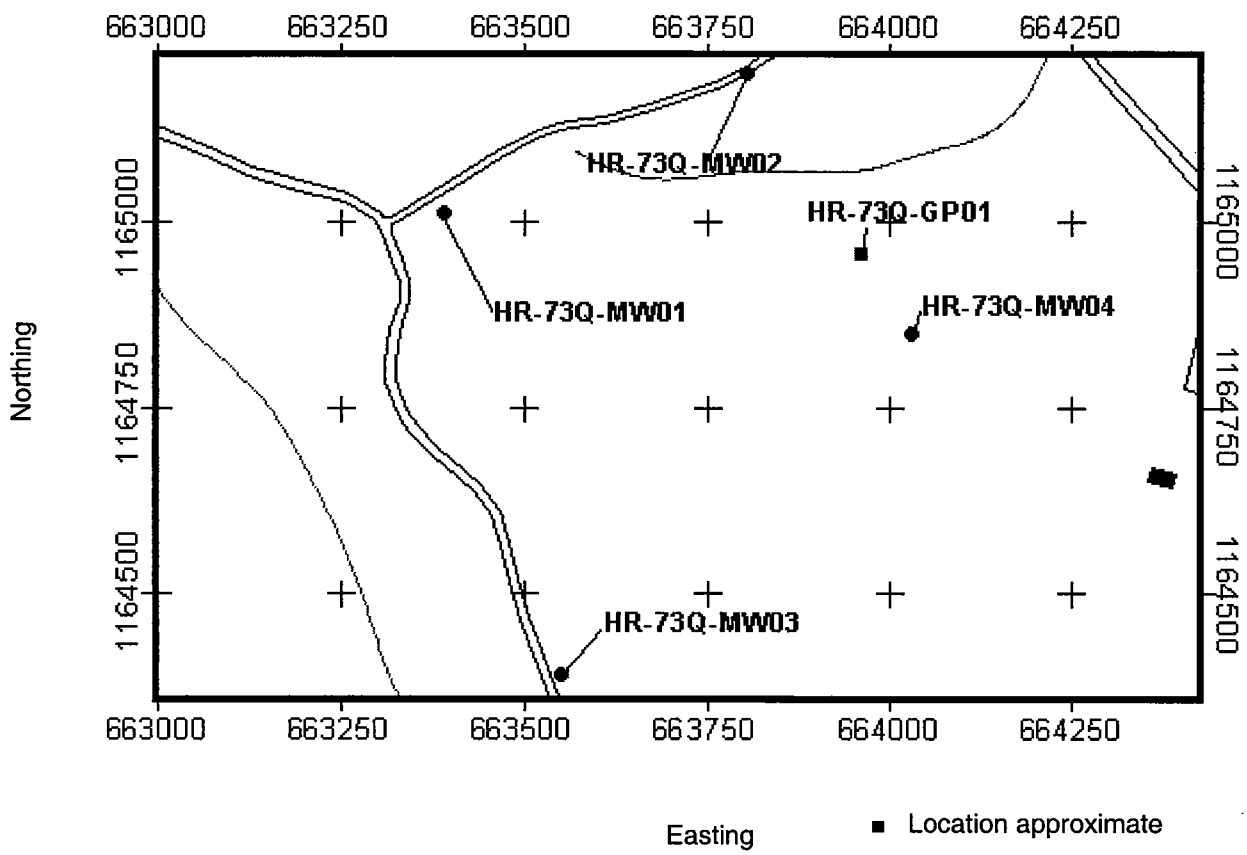
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-73Q-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 7 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don Jerome/Don White	6. Mfr. designation of drill: Strataprobe/66 DT Geoprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 73Q-X 9. Surface elevation (feet above mean sea level): 848.22 10. Date started: 03/15/01 — 11. Date completed: 03/30/01
12. Overburden thickness (feet bgs): >52	15. Depth groundwater encountered (feet bgs): 30
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 52	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O' Hare/James Dendy		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-73Q-MW02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW02

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 2 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Light brown moist stiff CLAY, trace Silt, trace organics.	cl		Organic Vapor = 0.0ppm		JF0003		Rec 4.0'/4.0' (0-4' bgs)
	1								
	2								
845	3								
	4	cl: Light brown mottled light gray dry stiff CLAY, trace Silt.	cl		Organic Vapor = 0.0ppm		JF0004		Rec 2.0'/2.0' (4-6' bgs)
	5								
	6	cl: Brown to yellowish brown stiff dry CLAY, some Silt.	cl						Direct push refusal at 6' bgs Rec 2.0'/2.0' (6-8' bgs)
	7								
840	8	cl: Light brown, white, and red-orange medium stiff dry CLAY, some Silt.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW02

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 3 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11		NA						
	12								
	13	cl: Light brown stiff CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			3 8 11 15	Rec 1.0'/2.0' (13-15' bgs)
835									
	14	NA: No recovery.	NA						
	15	NA: No sample collected for lithologic description.							
	16		NA						
	17								
	18	cl: Light brown to reddish brown stiff CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			4 8 7 11	Rec 1.8'/2.0' (18-20' bgs)
830									
	19								
	20	NA: No recovery.	NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW02

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 4 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for ltihologic description.							
	21		NA						
	22								
	23	cl: Light brown to reddish brown stiff CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			4 6 8 12	Rec 2.0'/2.0' (23-25' bgs)
825	24								
	25	NA: No sample collected for lithologic description.	NA						
	26								
	27								
	28	cl: Light brown to light purple medium stiff CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			4 7 8 9	Rec 2.0'/2.0' (28-30' bgs)
820	29								
	30	NA: No sample collected for lithologic description.							Groundwater encountered at 30' bgs (15 minutes after

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW02

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 5 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
									drilling)
	31		NA						
	32								
815	33	cl: Light brown to yellow stiff CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			7 10 11 15	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
	36								
	37								
810	38	cl: Light brown to yellow medium stiff CLAY, some angular fine claystone Gravel, some Silt.	cl		Organic Vapor = 0.0ppm			4 6 7 12	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW02

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 6 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	cl: Light brown moist medium stiff CLAY, some angular fine claystone Gravel, some Silt.			Organic Vapor = 0.0ppm			3 8 7 8	Rec 2.0'/2.0' (43-45' bgs)
805	44		cl						
	45	NA: No sample collected for lithologic description.							
	46		NA						
	47								
	48	cl: Light brown moist medium stiff CLAY, some angular fine claystone Gravel.			Organic Vapor = 0.0ppm			8 11 15 15	Rec 2.0'/2.0' (48-50' bgs)
800	49		cl						
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW02

Project: Fort McClellan

Geologist: Leslie O' Hare/James Dendy

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						51
									Auger refusal at 52' bgs on limestone Bottom of borehole at 52' bgs
	52								52

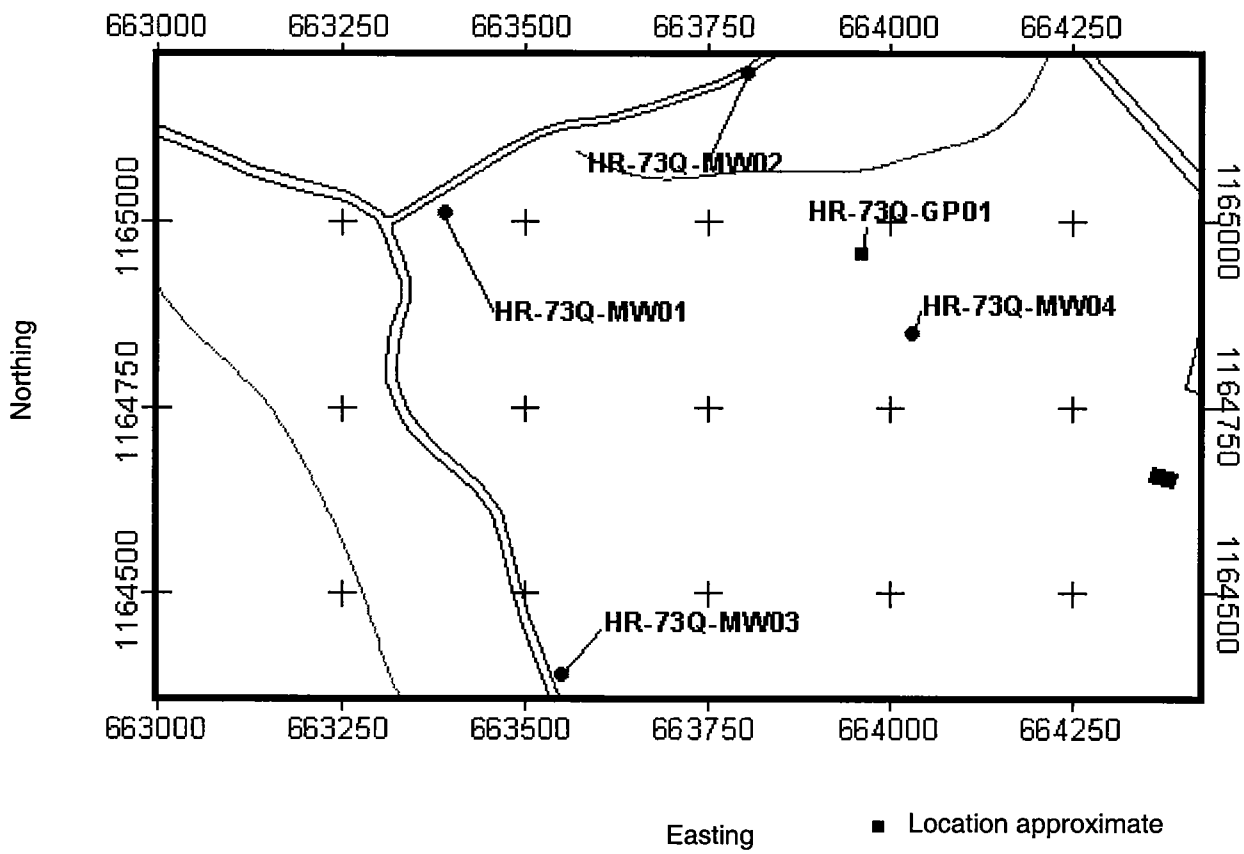
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-73Q-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 73Q-X 9. Surface elevation (feet above mean sea level): 947.49 10. Date started: 03/13/01 — 11. Date completed: 04/05/01
12. Overburden thickness (feet bgs): >86	15. Depth groundwater encountered (feet bgs): 74
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 86	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/Deborah Allan		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-73Q-MW03

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl-ml: Light brown stiff CLAY and SILT, little medium to coarse Sand, trace organics, moist.	cl-ml		Organic Vapor = 0.0ppm		JF0005		Rec 2.6'/4.0' (0-1' bgs)
	1								
	2								
945									
	3								
	4	cl: Light brown stiff moist CLAY, little fine to coarse Sand.	cl		Organic Vapor = 0.0ppm		JF0006		Rec 1.0'/1.0' (4-5' bgs)
									Direct push refusal at 5' bgs
	5	cl: Light brown to yellowish orange, stiff CLAY, some very pale gray fine Sand, trace Silt, slightly moist.			Organic Vapor = 0.0ppm			25 35	Rec 1.0'/1.0' (5-6' bgs)
	6	NA: No sample collected for lithologic description.	NA						
	7								
940									
	8	cl: Yellowish orange, very stiff CLAY, little Silt, dry.	cl		Organic Vapor = 0.0ppm			14 27 50/0.5'	Rec 1.5'/1.5' (8-9.5' bgs)
	9								
		NA: No sample collected for lithologic description.							
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								
	12		NA						
935									
	13								
	14	sm: Yellowish orange, very fine SAND, some Silt, little Clay, trace quartz-rich Gravel, dry.	sm		Organic Vapor = 0.0ppm			17 27 50/0.5'	Rec 1.5'/1.5' (14-15.5' bgs)
	15								
		NA: No sample collected for lithologic description.							
	16								
	17		NA						
930									
	18								
	19	cl: Light brown to yellowish orange hard CLAY, dry.			Organic Vapor = 0.0ppm			17 23 25 25	Rec 2.0'/2.0' (19-21' bgs)
	20		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21	NA: No sample collected for lithologic description.							
	22								
925			NA						
	23								
	24	cl: Light brown to yellowish orange, hard CLAY, little Silt, little Sand, slightly damp.			Organic Vapor = 0.0ppm			14 23 27 37	Rec 2.0'/2.0' (24-26' bgs)
	25		cl						
	26	NA: No sample collected for lithologic description.							
	27								
920			NA						
	28								
	29	cl: Light brown to yellowish orange, hard CLAY, little Silt, little Sand, slightly damp.			Organic Vapor = 0.0ppm			14 17 20 23	Rec 2.0'/2.0' (29-31' bgs)
	30		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							
	32								
915			NA						
	33								
	34	sp: Light brownish gray and moderate red SAND, some fine to coarse shale Gravel, trace Silt, dry.	sp		Organic Vapor = 0.0ppm			50/0.4'	Rec 0.4'/0.4' (34-34.4' bgs)
		NA: No sample collected for lithologic description.							
	35								
	36								
			NA						
	37								
910									
	38								
	39	cl: Light brown to yellowish orange very stiff CLAY, little Sand, trace Silt, dry.			Organic Vapor = 0.0ppm			17 20 24 25	Rec 2.0'/2.0' (39-41' bgs)
			cl						
	40								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sp: Yellowish orange fine SAND, trace Silt, dry.	sp						
	41	NA: No sample collected for lithologic description.							
	42								
905			NA						
	43								
	44	cl: Light brown to yellowish orange very stiff CLAY, dry.			Organic Vapor = 0.0ppm			12 14 17 41	Rec 2.0'/2.0' (44-46' bgs)
	45		cl						
	46	NA: No sample collected for lithologic description.							
	47								
900			NA						
	48								
	49	cl: Light brown to yellowish orange, very stiff CLAY, trace shale Gravel, dry.			Organic Vapor = 0.0ppm			7 10 27 50/0.3'	Rec 1.8'/1.8' (49-50.8' bgs)
	50		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
	52								
895			NA						
	53								
	54	cl: Light brown to yellowish orange, very stiff CLAY, trace shale Gravel, slightly moist around Gravel at bottom of spoon.			Organic Vapor = 0.0ppm			15 15 27 48	Rec 2.0'/2.0' (54-56' bgs)
	55		cl						
	56	NA: No sample collected for lithologic description.							
	57								
890			NA						
	58								
	59	cl: Light brown to yellowish orange, very stiff CLAY, trace shale Gravel, dry.	cl		Organic Vapor = 0.0ppm			50/0.3'	Rec 0.3'/0.3' (59-59.3' bgs)
		NA: No sample collected for lithologic description.							
	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		NA						
	62								
885									
	63								
	64	cl: Light brown to yellowish orange and very light gray, very stiff CLAY, dry.	cl		Organic Vapor = 0.0ppm			10 10 27 43	Rec 2.0'/2.0' (64-66' bgs)
	65								
	66	NA: No sample collected for lithologic description.	NA						
	67								
880									
	68								
	69	gc: Light brown to yellowish orange CLAY and quartz-rich fine to coarse GRAVEL, some light to dark gray fine Sand, slightly moist.	gc		Organic Vapor = 0.0ppm			20 50/0.3'	Rec 0.8'/0.8' (69-69.8' bgs)
	70	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
	72		NA						
875									
	73								
	74	sw: Light brown to yellowish orange, fine SAND, some quartz-rich, dark gray Gravel, wet.			Organic Vapor = 0.0ppm			21 43 45 49	Groundwater encountered at 74' bgs Rec 2.0'/2.0' (74-76' bgs)
	75		sw						
	76	NA: No sample collected for lithologic description.							
	77								
870			NA						
	78								
	79	sw: Light brown to yellowish orange and olive gray, fine SAND, trace quartz-rich Gravel, wet.			Organic Vapor = 0.0ppm			17 17 29 32	Rec 1.5'/2.0' (79-81' bgs)
	80		sw						
		NA: No recovery.	NA						
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Deborah Allan | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	82								82
865			NA						
	83								83
	84	sc: Dark olive gray fine SAND, little yellowish orange Clay, trace quartz-rich Gravel, wet.			Organic Vapor = 0.0ppm			20 22 50/0.5'	Rec 1.5'/1.5' (84-85.5' bgs) 84
	85		sc						85
		NA: No sample collected for lithologic description.	NA						Bottom of borehole at 86' bgs
	86								86

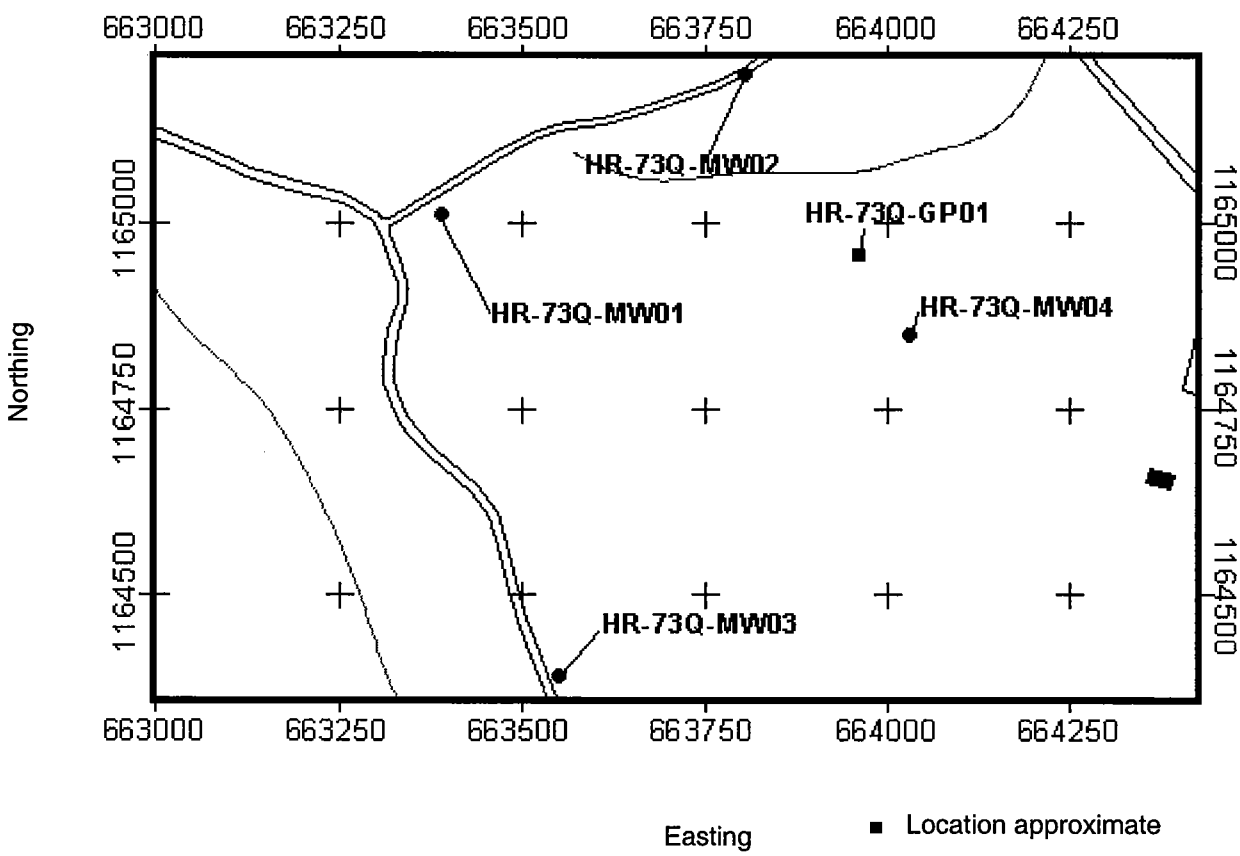
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-73Q-MW04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 73Q-X 9. Surface elevation (feet above mean sea level): 848.35 10. Date started: 04/10/01 — 11. Date completed: 05/15/01
12. Overburden thickness (feet bgs): >49	15. Depth groundwater encountered (feet bgs): 45
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 49	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/James Dendy		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-73Q-MW04

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist soft SILT, some Clay, little coarse subangular quartz-rich Gravel.	ml		Organic Vapor = 0.0ppm				Rec 2.7'/4.0' (0-4' bgs)
		cl: Light brown moist soft CLAY, some coarse subangular quartz-rich Gravel.					JF0007		
	1								
	2		cl						
	3								
845									
	4	cl: Light brown, mottled light gray, dry, medium stiff CLAY.			Organic Vapor = 0.0ppm				Rec 4.0/4.0' (4-8' bgs)
	5								
	6		cl						
	7								
							JF0008		
									Direct push refusal at 8' bgs
	8	cl: Reddish brown and yellow medium stiff CLAY, some fine to coarse Sand, little subangular fine Gravel.			Organic Vapor = 0.0ppm			8 7 7 9	Rec 2.0'/2.0' (8-10' bgs)
840									
	9		cl						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11		NA						
	12								
	13	cl: Light brown and reddish brown stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			9 12 13 15	Rec 2.0'/2.0' (13-15' bgs)
835									
	14		cl						
	15	NA: No sample collected for lithologic description.							
	16		NA						
	17								
	18	cl: Light brown and reddish brown stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			12 13 15 15	Rec 2.0'/2.0' (18-20' bgs)
830									
	19		cl						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21		NA						
	22								
	23	cl: Light brown and reddish brown medium stiff CLAY, little subangular fine Gravel (Clay clasts).			Organic Vapor = 0.0ppm			7 7 11 13	Rec 2.0'/2.0' (23-25' bgs)
825									
	24		cl						
	25	NA: No sample collected for lithologic description.							
	26		NA						
	27								
	28	cl: Light brown and reddish brown moist, stiff, slightly laminated CLAY, little Silt.			Organic Vapor = 0.0ppm			35 36 38 43	Rec 2.0'/2.0' (28-30' bgs)
820									
	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
815	33	cl: Light brown, reddish brown and white, moist, medium stiff CLAY, little fine Sand.	cl		Organic Vapor = 0.0ppm			3 7 9 10	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
	36								
	37								
810	38	cl: Light brown, medium stiff, moist CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			17 19 20 23	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-73Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 6 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	cl: Reddish brown moist CLAY, little Silt.			Organic Vapor = 0.0ppm			3 4 7 6	Rec 2.0'/2.0' (43-45' bgs)
805									
	44		cl						
	45	NA: No sample collected for lithologic description.							
	46								
	47		sw						
	48								
800									
	49								Auger refusal at 49' bgs Bottom of borehole at 49' bgs

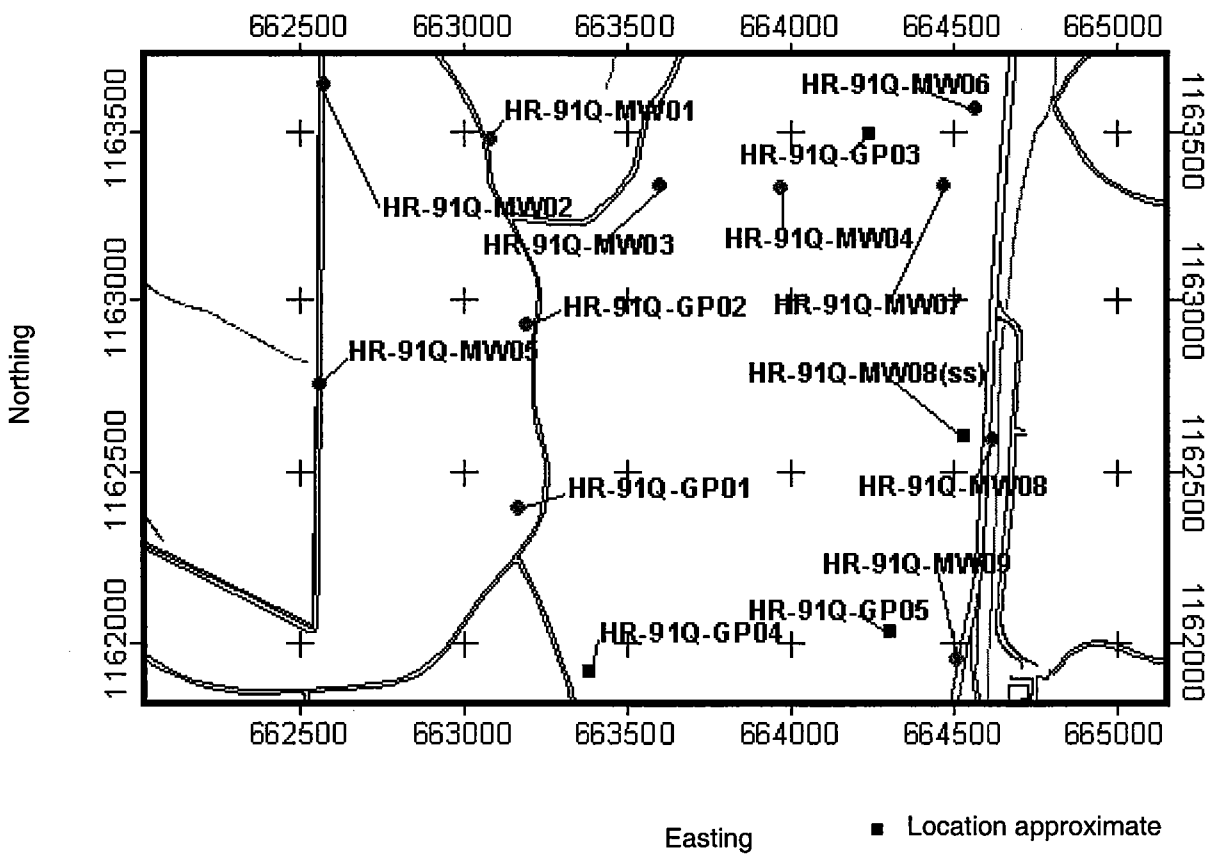
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 913.75 10. Date started: 03/28/01 — 11. Date completed: 03/28/01
12. Overburden thickness (feet bgs): >5	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Leslie O'Hare/Nicole Badon		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-91Q-GP01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-GP01

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist SILT, trace Clay, trace fine to medium Sand, trace roots and organics.	ml		Organic Vapor = 0.0ppm		JH0021		Rec 2.8'/4.0' (0-4' bgs)
	1	cl: Light brown medium stiff moist CLAY, little fine to coarse Sand.	cl						
	2								
	3								
910	4	cl: Light brown mottled light gray very stiff, dry, CLAY, trace fine to medium Sand.	cl		Organic Vapor = 0.0ppm		JH0022		Rec 1.0'/1.0' (4-5' bgs)
	5								Direct push refusal at 5' bgs Bottom of borehole at 5' bgs

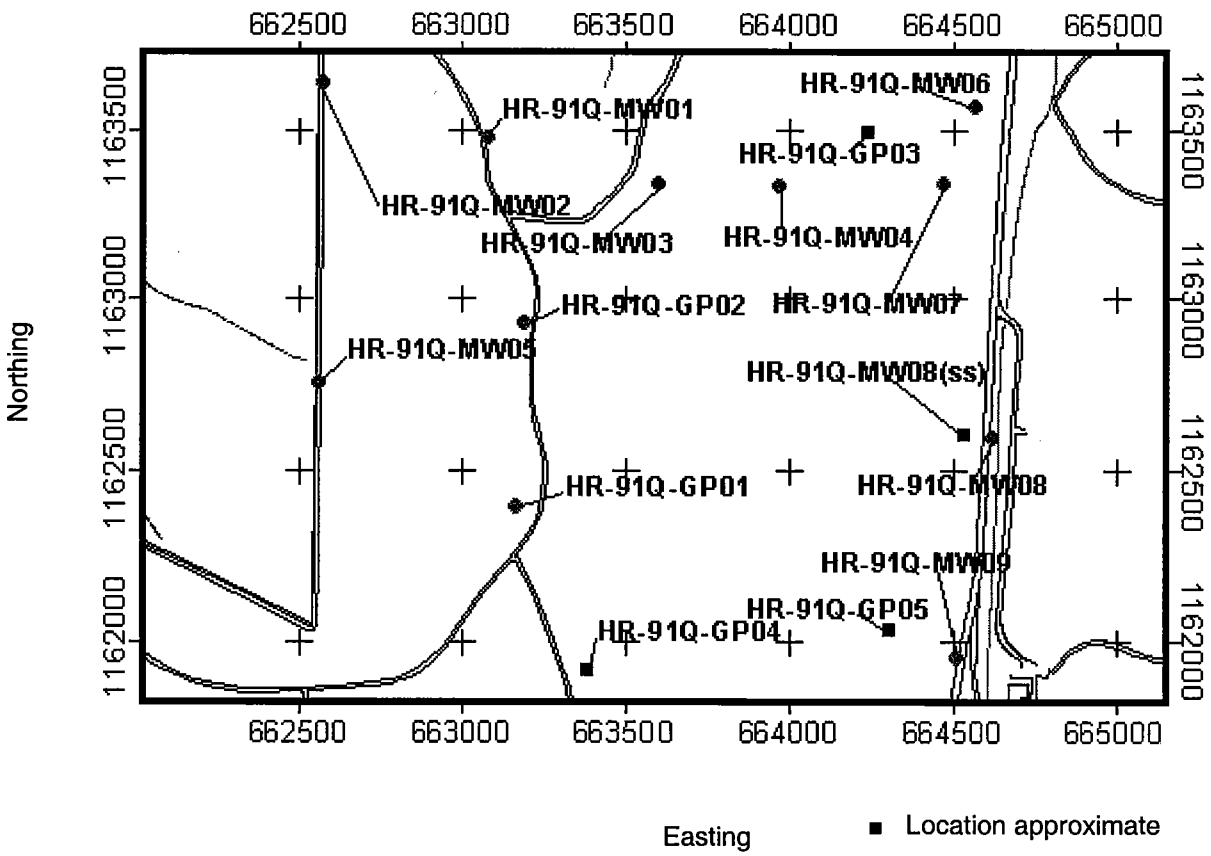
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-GP02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 918.65 10. Date started: 03/28/01 — 11. Date completed: 03/28/01
12. Overburden thickness (feet bgs): >3	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 3	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Leslie O'Hare/Nicole Badon		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

Hole no.: HR-91Q-GP02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-GP02

Project: Fort McClellan

Geologist: Leslie O'Hare/Nicole Badon

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Light brown medium stiff moist CLAY, some fine to medium Gravel.	cl		Organic Vapor = 0.0ppm		JH0023		Rec 3.0'/3.0' (0-3' bgs)
	1								
	2						JH0024 JH0025		
	3								Direct push refusal at 3' bgs Bottom of borehole at 3' bgs

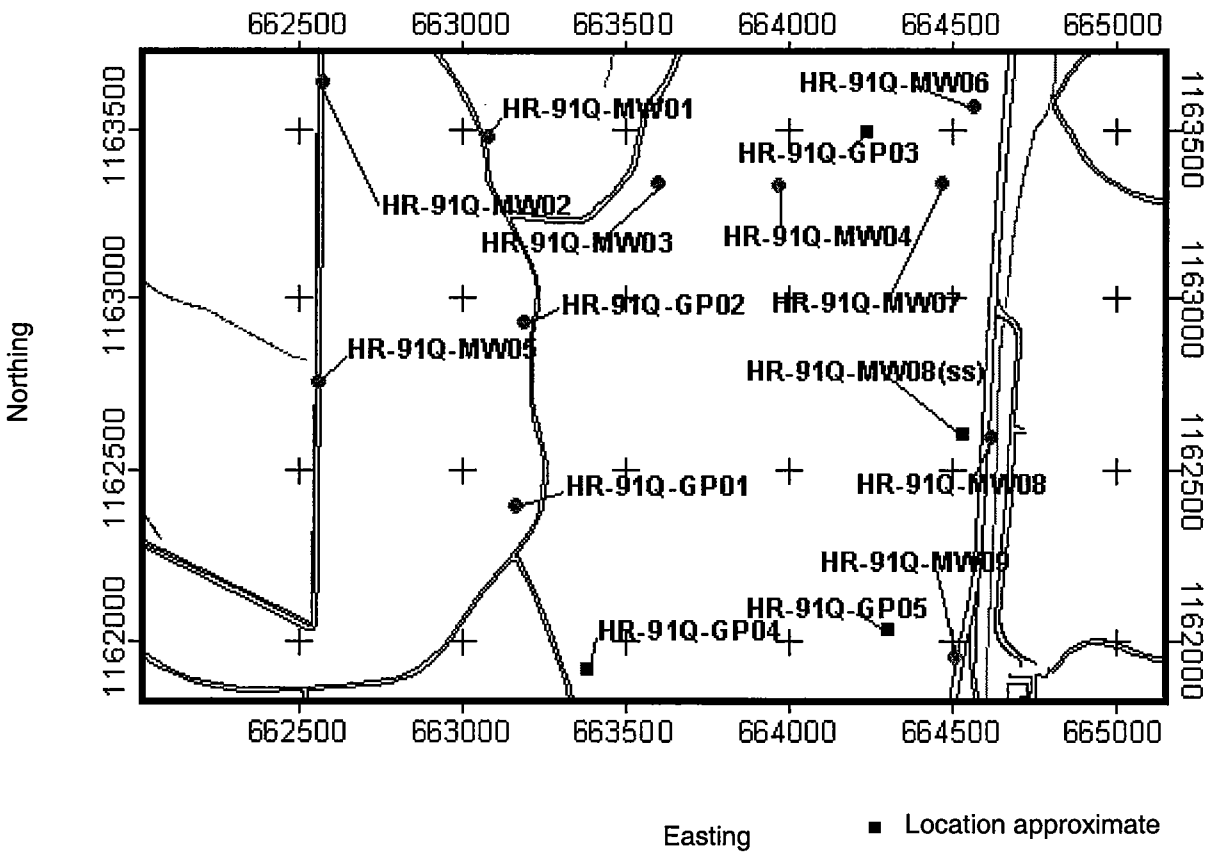
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-GP03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): approximately 915 10. Date started: 04/09/01 — 11. Date completed: 04/09/01
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 12	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Leslie O' Hare		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan | bgs= below ground surface, NA = Not applicable | ss=direct push sample location, associated well offset | Hole no.: HR-91Q-GP03

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-GP03

Project: Fort McClellan | Geologist: Leslie O' Hare | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
915	0	ml: Brown moist SILT, some fine to coarse Sand, little Clay, trace quartz-rich subangular coarse Gravel, trace organics.	ml		Organic Vapor = 0.0ppm		JH0027		Rec 1.8'/4.0' (0-4' bgs)
	1								
	2								
	3								
	4	sc: Light brown fine to coarse SAND, some quartz-rich subangular coarse to fine Gravel, little Clay, trace organics.	sc		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
910	5								
	6								
	7								
	8	cl: Light brown mottled yellowish orange stiff dry CLAY, little fine to coarse Sand, little quartz-rich subangular coarse Gravel.			Organic Vapor = 0.0ppm				Rec 3.4'/4.0' (8-12' bgs)
	9								
905	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-GP03

Project: Fort McClellan | Geologist: Leslie O' Hare | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl						11
							JH0028		
	12								Bottom of borehole at 12' bgs 12

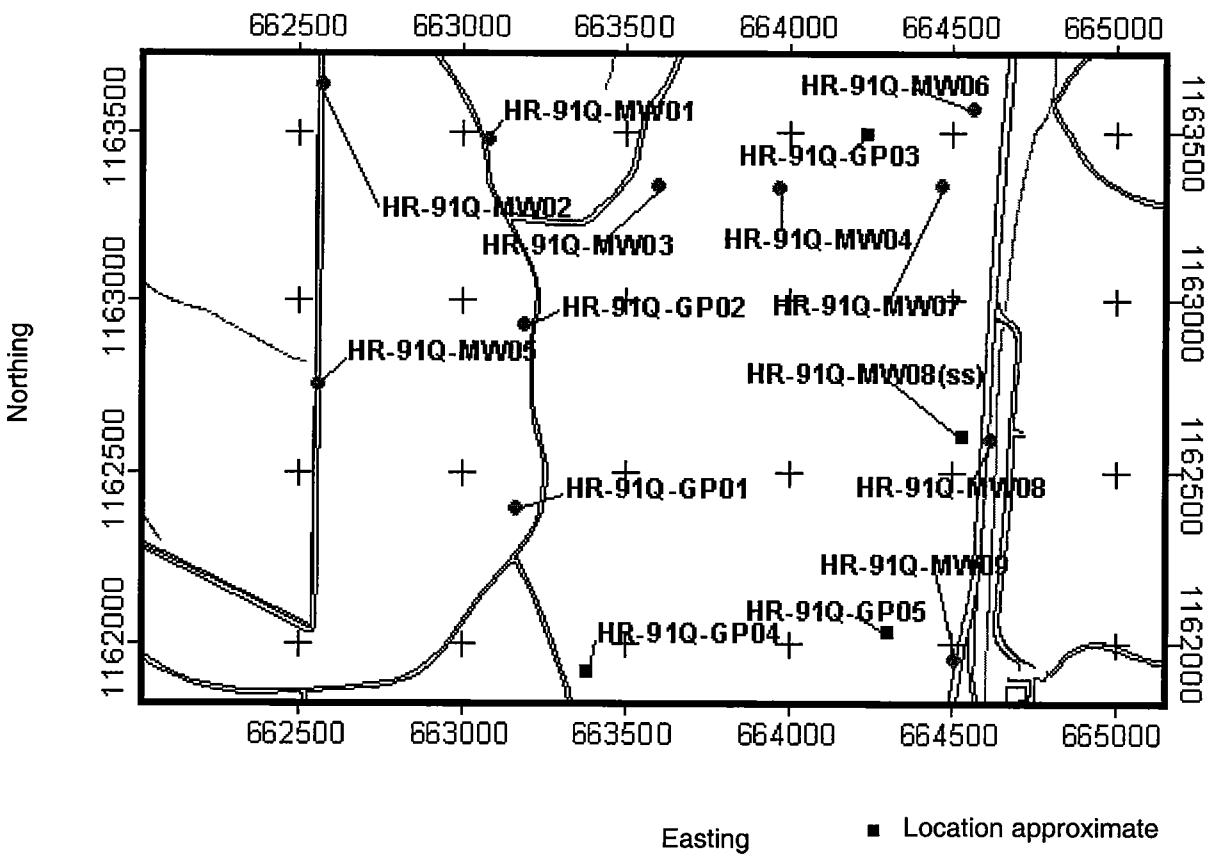
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-GP04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): approximately 1212 10. Date started: 03/28/01 — 11. Date completed: 03/28/01
12. Overburden thickness (feet bgs): >5	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Leslie O' Hare/Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-91Q-GP04	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-GP04

Project: Fort McClellan

Geologist: Leslie O' Hare/Nicole Badon

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Dark brown to light brown moist soft CLAY, little coarse Sand, little Silt.	cl		Organic Vapor = 0.0ppm		JH0029		Rec 2.4'/4.0' (0-4' bgs)
	1								
1210	2								
	3								
	4	cl: Light brown to light gray mottled stiff moist CLAY, little medium Sand, trace subangular quartz-rich fine Gravel.	cl		Organic Vapor = 0.0ppm		JH0030		Rec 1.0'/1.0' (4-5' bgs)
	5								Direct push refusal at 5' bgs Bottom of borehole at 5' bgs

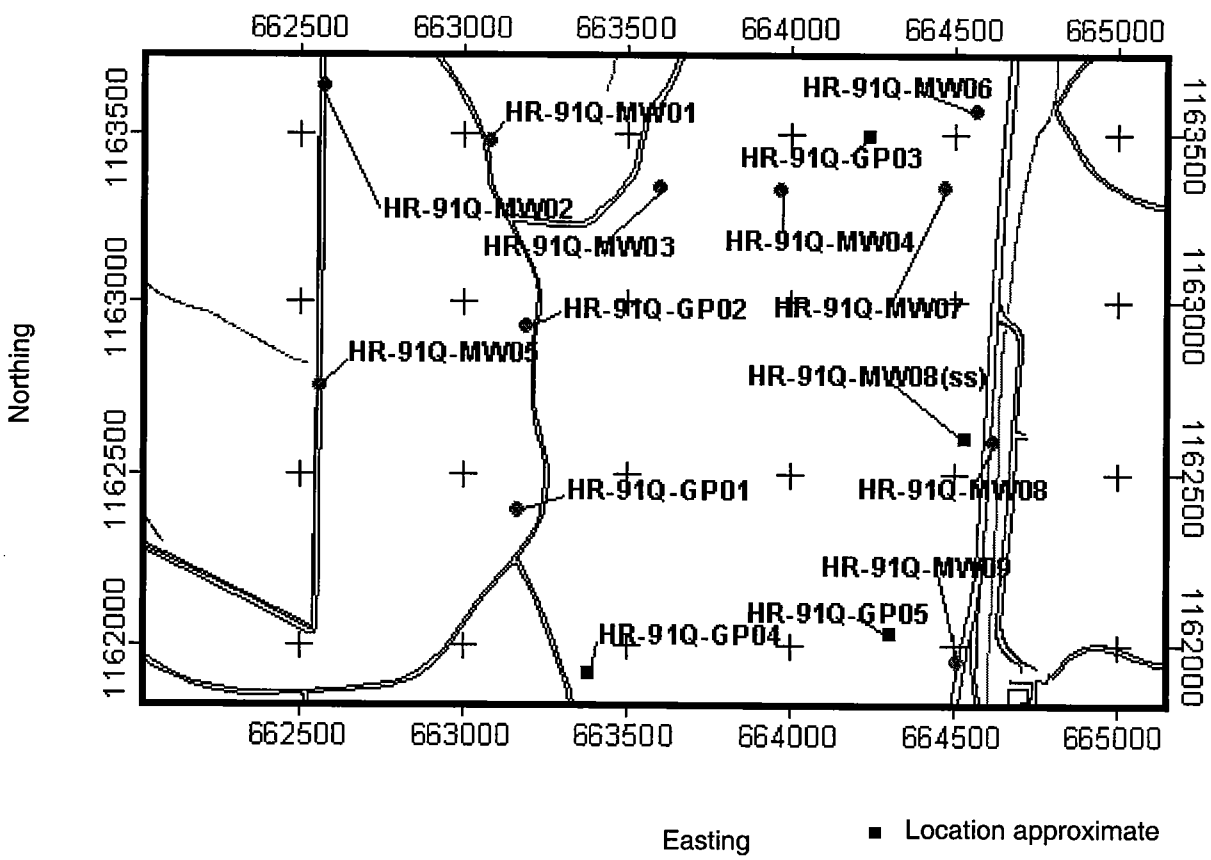
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-GP05
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): approximately 975 10. Date started: 03/29/01 — 11. Date completed: 03/29/01
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 12	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Leslie O' Hare/Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-91Q-GP05

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-GP05

Project: Fort McClellan | Geologist: Leslie O' Hare/Nicole Badon | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
975	0	cl-ml: Dark brown moist soft CLAY and SILT, little medium Sand, trace organics.	cl-ml		Organic Vapor = 0.0ppm		JH0031		Rec 2.0'/4.0' (0-4' bgs)
	1								
	2								
	3								
	4	cl: Light brown moist medium stiff CLAY, some fine to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (0-8' bgs)
970	5								
	6								
	7								
	8	cl: Light brown mottled light gray moist medium stiff CLAY, some Silt.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
965	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-GP05

Project: Fort McClellan

Geologist: Leslie O' Hare/Nicole Badon

Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl						11
							JH0032		
	12								Bottom of borehole at 12' bgs 12

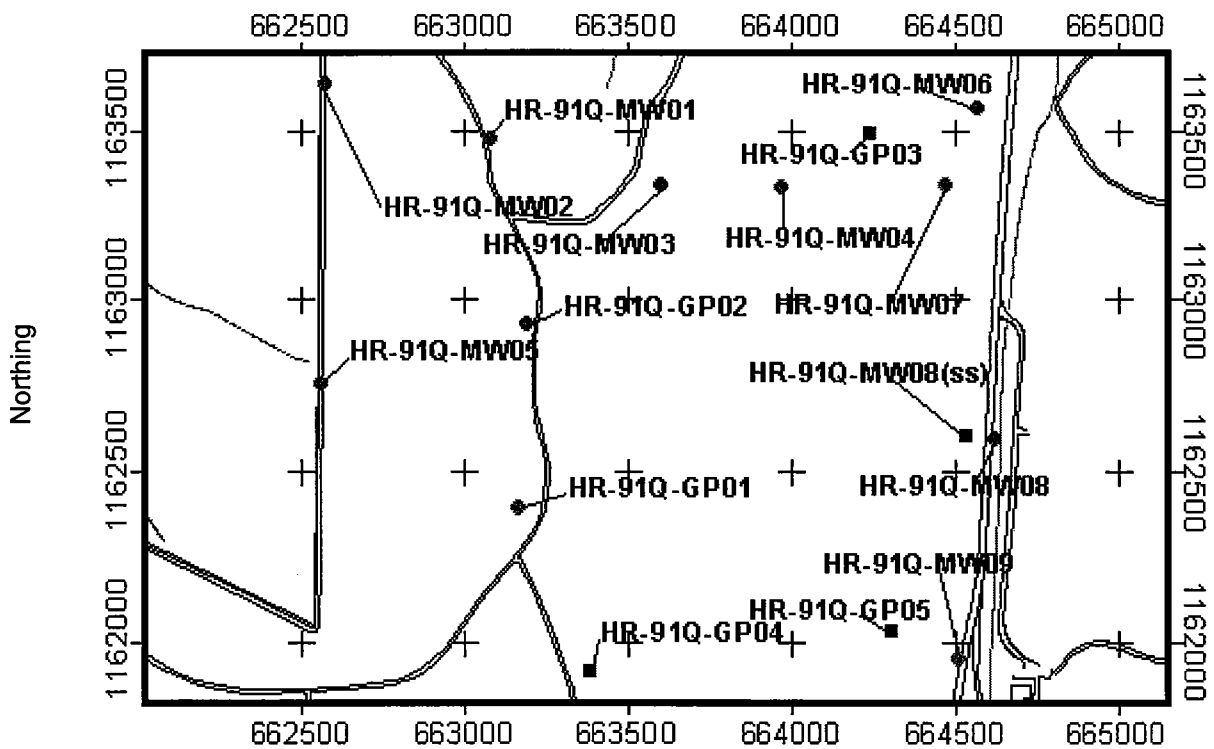
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 1073.29 10. Date started: 03/22/01 — 11. Date completed: 03/28/01
12. Overburden thickness (feet bgs): >40	15. Depth groundwater encountered (feet bgs): Unknown
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 40	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N. Badon/A. Barnes		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-91Q-MW01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl-ml: Light brown CLAY and SILT, little fine Sand, little quartz-rich Gravel, moist.	cl-ml		Organic Vapor = 0.0ppm		JH0001		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown medium stiff CLAY, some medium to coarse Sand, little quartz-rich Gravel, trace Silt, moist.	cl		Organic Vapor = 0.0ppm		JH0002		Rec 1.75'/3.0' (1-4' bgs)
	2								
	3								
1070									
	4	NA: No sample collected for lithologic description.	NA						Direct push refusal at 4' bgs
	5								
	6								
	7								
	8	cl: Light reddish brown stiff dry CLAY, little Silt, little coarse to fine sandstone Gravel.	cl		Organic Vapor = 0.0ppm			19 19 16 20	Rec 2.0'/2.0' (8-10' bgs)
1065									
	9	cl: Medium purple stiff dry CLAY, little Silt.	cl						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								
	12		NA						
	13								
1060									
	14	cl: Medium purple to off white dry stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			9 15 17 18	Rec 2.0'/2.0' (14-16' bgs)
		ml: Yellowish orange dry SILT.	ml						
	15	cl: Yellowish orange to off white dry stiff CLAY.	cl						
	16	NA: No sample collected for lithologic description.							
	17		NA						
	18								
1055									
	19	cl: Yellowish orange to off white dry stiff CLAY.	cl		Organic Vapor = 0.0ppm			5 11 12 14	Rec 2.0'/2.0' (19-21' bgs)
	20	cl-ml: Medium purple,off white, yellowish	cl-						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		orange dry CLAY and SILT.	ml						
		cl: Yellowish orange to off white to light brown dry stiff CLAY.	cl						
	21	NA: No sample collected for lithologic description.							
	22		NA						
	23								
1050									
	24	cl: Yellowish orange to medium purple dry stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			8 10 11 15	Rec 2.0'/2.0' (24-26' bgs)
		cl: Yellowish orange dry medium stiff CLAY.	cl						
	25								
	26	NA: No sample collected for lithologic description.							
	27		NA						
	28								
1045									
	29	NA: Yellowish orange, light brown, off white dry stiff CLAY.	cl		Organic Vapor = 0.0ppm			12 13 20 24	Rec 1.0'/2.0' (29-31' bgs)
	30	NA: No recovery.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	31	NA: No sample collected for lithologic description.							
	32		NA						
	33								
1040									
	34	cl: Yellowish orange medium stiff to stiff dry CLAY.			Organic Vapor = 0.0ppm			8 13 19 29	Rec 2.0'/2.0' (34-36' bgs)
	35		cl						
	36	NA: No sample collected for lithologic description.							
	37		NA						
	38								
1035									
	39	gm: Light pink fine to coarse subangular sandstone GRAVEL, some fine to coarse Sand, little Silt, dry.	gm		Organic Vapor = 0.0ppm			25 50/0.5'	Rec 1.0'/1.0' (39-40' bgs)
	40								Auger refusal at 40' bgs Bottom of borehole at 40' bgs

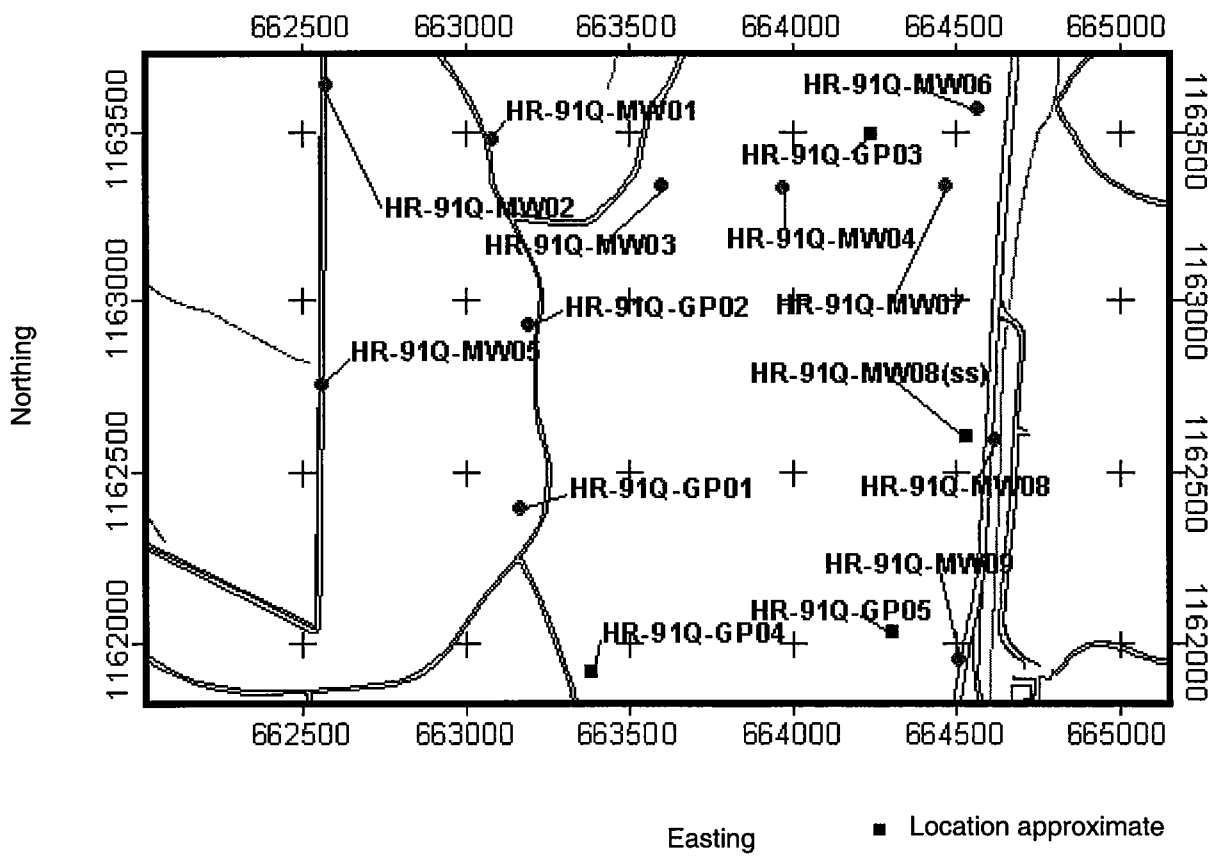
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-91Q-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 973.92 10. Date started: 04/02/01 — 11. Date completed: 04/19/01
12. Overburden thickness (feet bgs): >28	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 28	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N. Badon/J. Dendy		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan | bgs= below ground surface, NA = Not applicable | ss=direct push sample location, associated well offset | Hole no.: HR-91Q-MW02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW02

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Light brown soft to medium stiff SILT and medium to coarse SAND, little Clay, trace roots.	sm		Organic Vapor = 0.0ppm		JH0003		Rec 2.0'/4.0' (0-4' bgs)
	1								
	2								
	3								
970	4	ml: Light brown stiff SILT, some fine to medium Sand, little Clay.	ml		Organic Vapor = 0.0ppm		JH0004		Rec 2.0'/2.0' (4-6' bgs)
	5								
	6	NA: No sample collected for lithologic description.	NA						Direct push refusal at 6' bgs
	7								
	8								
965	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW02

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
	12								12
	13	sm: Light brown, white and reddish brown, well sorted very dense fine SAND, little Silt.			Organic Vapor = 0.0ppm			20 46 46 50/0.4'	Rec 1.9'/1.9' (13-14.9' bgs) 13
960	14		sm						14
	15	NA: No sample collected for lithologic description.							15
	16								16
	17								17
	18								18
955	19		NA						19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW02

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 4 of 4 sheets

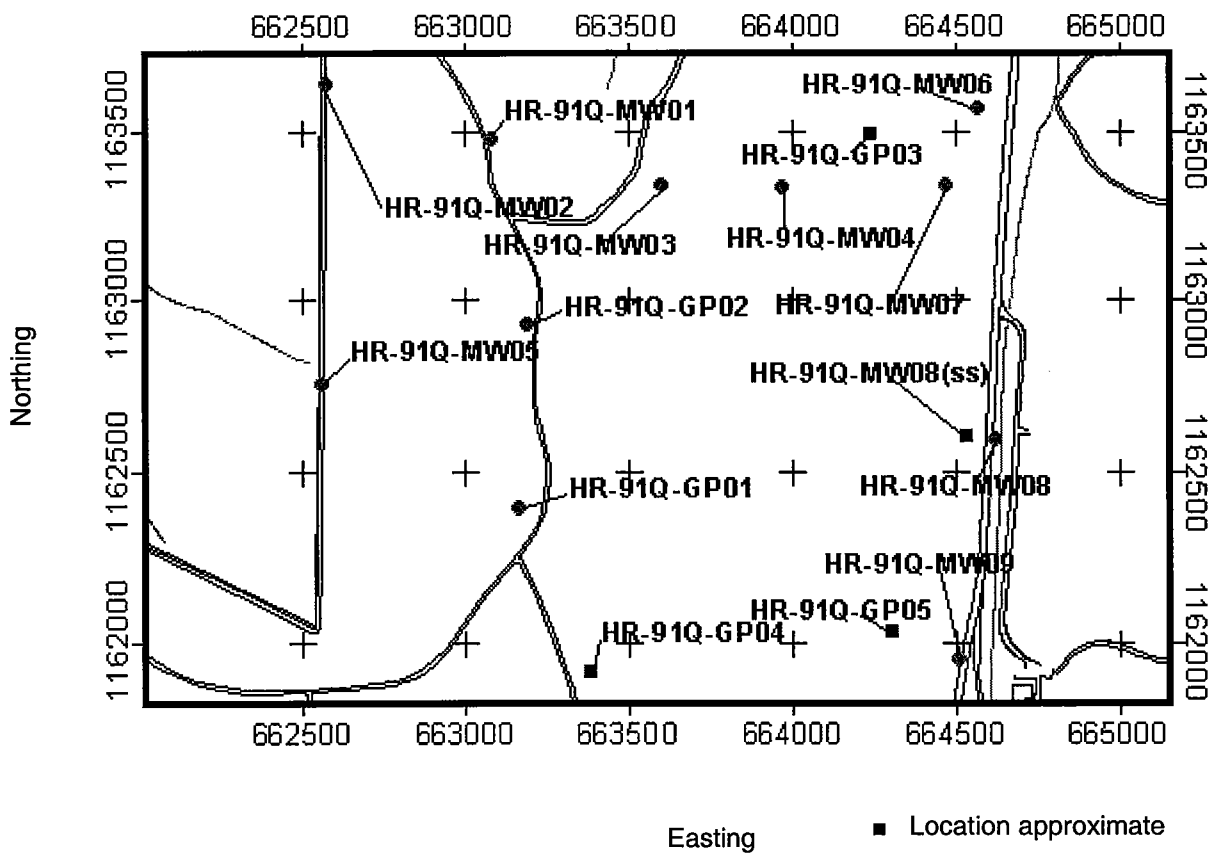
Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
	22								22
	23	sc: Hard light brown and white fine grained SAND and CLAY.			Organic Vapor = 0.0ppm			30 35 44 50/0.3'	Rec 1.7'/1.8' (23-25' bgs) 23
950	24		sc						24
		NA: No recovery.	NA						
	25	NA: No sample collected for lithologic description.							25
	26		NA						26
	27								27
									Auger and split spoon refusal at 28.0' bgs
	28								Bottom of borehole at 28' bgs 28

HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner/MDC	Sheet 1 of 10 sheets
3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**	
5. Name of driller: Sammy McDaniel/Dennis Sink/Robert Tullier	6. Mfr. designation of drill: Strataprobe/CME-550X/Ingersoll Rand 97	
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger, Air Rotary 7 7/8" Rotary Bit DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 1052.98 10. Date started: 03/15/01	11. Date completed: 05/01/01
12. Overburden thickness (feet bgs): >87	15. Depth groundwater encountered (feet bgs): 81.3	
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 78.9 ~24 hours	
14. Total depth of hole (feet bgs): 87	17. Other water level measurements (specify): NA	

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N. Badon/D. Allan		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-91Q-MW03

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown SILT, some medium to coarse Sand, trace organics, trace Gravel.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/4.0' (0-4' bgs)
		cl: Light brown CLAY, little Sand.	cl				JH0005		
	1								
	2								
1050	3								
	4	cl: Light brown soft CLAY, some fine to coarse Sand, little fine quartz-rich Gravel.	cl		Organic Vapor = 0.0ppm		JH0006		Rec 1.0'/1.0' (4-5' bgs)
	5	NA: No sample collected for lithologic description.	NA						Direct push refusal at 5' bgs
	6								
	7								
1045	8	sp: Pale yellowish gray, fine to coarse, dense SAND, trace Silt, dry.	sp		Organic Vapor = 0.0ppm			13 20 29 34	Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11		NA						
	12								
1040	13	sm: Pale yellowish gray, fine to coarse, dense SAND, little Silt, trace quartz-rich Gravel, dry.			Organic Vapor = 0.0ppm			14 18 25 26	Rec 2.0'/2.0' (13-15' bgs)
	14		sm						
	15	NA: No sample collected for lithologic description.							
	16		NA						
	17								
1035	18	sm: Pale yellowish gray, fine to coarse, dense SAND, little Silt, trace quartz-rich Gravel, dry.			Organic Vapor = 0.0ppm			11 21 29 34	Rec 2.0'/2.0' (18-20' bgs)
	19		sm						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								21
			NA						
	22								22
1030	23	sm: Pale yellowish gray fine, dense SAND, little Silt, trace grayish red-purple Clay, trace quartz-rich Gravel, dry.			Organic Vapor = 0.0ppm			6 11 15 20	Rec 2.0'/2.0' (23-25' bgs) 23
	24		sm						24
	25	NA: No sample collected for lithologic description.							25
	26								26
			NA						
	27								27
1025	28	sm: Pale yellowish gray, fine to coarse SAND, little Silt, little fine to coarse Gravel, dry.			Organic Vapor = 0.0ppm			12 17 25 37	Rec 2.0'/2.0' (28-30' bgs) 28
	29		sm						29
	30	NA: No sample collected for lithologic description.							30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
1020	33	sm: White and light brown, fine to medium, well sorted medium dense SAND, little Clay, little angular fine quartz-rich Gravel.			Organic Vapor = 0.0ppm			7 8 8 20	Rec 2.0'/2.0' (33-35' bgs)
	34		sm						
	35	NA: No sample collected for lithologic description.							
	36		NA						
	37								
1015	38	sp: White well sorted fine to medium dense SAND.			Organic Vapor = 0.0ppm			7 44 38 38	Rec 2.0'/2.0' (38-40' bgs)
	39		sp						
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
1010	43	sp: White well sorted dense medium SAND with orange and red oxidation lines.	sp		Organic Vapor = 0.0ppm			23 34 34 40	Rec 2.0'/2.0' (43-45' bgs)
	44								
	45	NA: No sample collected for lithologic description.	NA						
	46								
	47								
1005	48	sp: White, well sorted, dense, medium to coarse SAND with orange and red oxidation.	sp		Organic Vapor = 0.0ppm			8 12 34 42	Rec 2.0'/2.0' (48-50' bgs)
	49								
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						
	52								
1000	53	sp: White, well sorted, dense, medium to coarse SAND with orange and red oxidation.	sp		Organic Vapor = 0.0ppm			17 36 21 21	Rec 2.0'/2.0' (53-55' bgs)
	54								
	55	sp: White to light orange well sorted medium SAND, trace Clay.							Description from air rotary drill cuttings (55-87' bgs)
	56								
	57								
995	58								
	59								
	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62								62
990	63								63
	64								64
	65		sp						65
	66								66
	67								67
985	68								68
	69								69
	70								70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
	72								
980	73		sp						
	74								
	75	sp: White to light orange moist well graded fine to coarse SAND.							
	76								
	77								
975	78		sp						
	79								
	80								
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW03

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Allan | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
									Groundwater encountered at 81.3' bgs
	82								82
970	83								83
	84		sp						84
	85								85
	86								86
	87								Bottom of borehole at 87' bgs 87

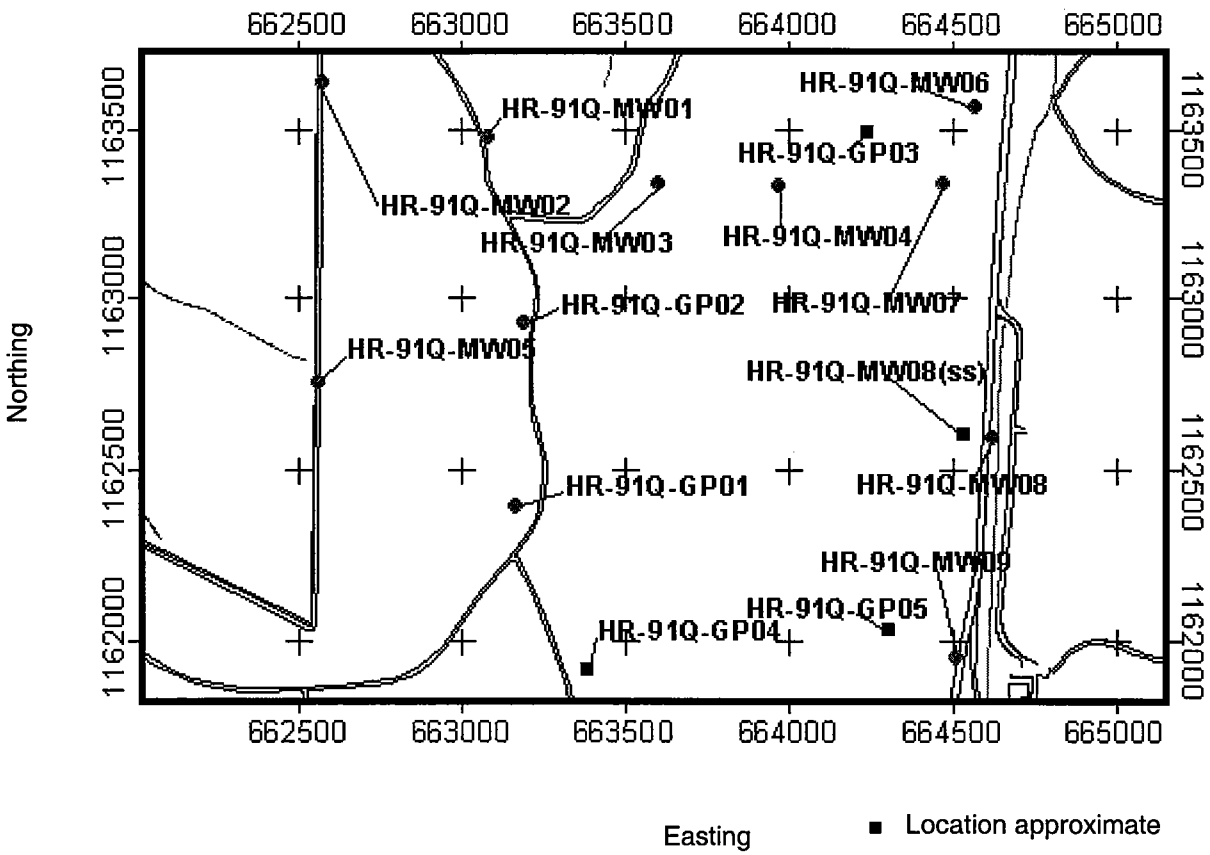
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 16 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don Jerome/Robert Tullier	6. Mfr. designation of drill: Strataprobe/66 DT Geoprobe/Ingersoll Rand 97
7. Sizes and types of drilling and sampling equipment: Direct Push, Air Rotary DP - 4'x2" Acetate-Lined Sampler AR - 7 7/8" Rotary Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel, 91Q-X 9. Surface elevation (feet above mean sea level): 985.98 10. Date started: 03/28/01 — 11. Date completed: 05/01/01
12. Overburden thickness (feet bgs): >145	15. Depth groundwater encountered (feet bgs): 141
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 105.2
14. Total depth of hole (feet bgs): 145	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/Nicole Badon		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-91Q-MW04	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 2 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sc: Light brown fine to coarse SAND, some Clay, some light gray quartz-rich subangular fine to coarse Gravel.	sc		Organic Vapor = 0.0ppm		JH0007		Rec 2.0'/2.0' (0-2' bgs)
985	1						JH0008 JH0009		
	2	NA: No sample collected for lithologic description.	NA						Direct push refusal at 2' bgs
	3								
	4	sm: Light brown stiff slightly moist to coarse SAND, some Silt, trace coarse subangular Gravel.	sm		Organic Vapor = 0.0ppm				Rec 3.4'/4.0' (4-8' bgs)
	5								
980	6								
	7								
	8	sm: Light brown very stiff fine SAND and SILT, slightly moist.	sm		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 3 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl: Yellowish orange to light brown slightly moist stiff CLAY, little fine to coarse Sand, trace Gravel.							Description from air rotary drill cuttings (10-145' bgs)
975	11								11
	12								12
	13								13
	14		cl						14
	15								15
970	16								16
	17								17
	18								18
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 4 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
965	21								21
	22		cl						22
	23								23
	24								24
	25	cl: Light brown stiff CLAY, trace medium Sand.							25
960	26								26
	27		cl						27
	28								28
	29								29
	30								30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 5 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
955	31								31
	32								32
	33								33
	34								34
	35		cl						35
950	36								36
	37								37
	38								38
	39								39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan

Geologist: Leslie O'Hare/Nicole Badon

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
945	41								41
	42								42
	43								43
	44								44
	45		cl						45
940	46								46
	47								47
	48								48
	49								49
	50								50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 7 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
935	51								51
	52								52
	53								53
	54								54
	55		cl						55
930	56								56
	57								57
	58								58
	59								59
	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 8 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
925	61								61
	62								62
	63								63
	64								64
	65		cl						65
920	66								66
	67								67
	68								68
	69								69
	70								70
915	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 9 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
	72								
	73								
	74								
	75		cl						
910	76								
	77								
	78								
	79								
	80								
905	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 10 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	82								82
	83								83
	84								84
	85		cl						85
900	86								86
	87								87
	88								88
	89								89
	90								90
895	91								91

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 11 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92								92
	93								93
	94								94
	95		cl						95
890	96								96
	97								97
	98								98
	99								99
	100								100
885	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 12 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	102								102
	103								103
	104								104
			cl						
	105								105
880	106								106
	107								107
	108	cl: Light brown CLAY, some coarse quartz-rich subangular Gravel.							108
	109								109
			cl						
	110								110
875	111								111

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 13 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	112								112
	113								113
	114								114
	115								115
870	116		cl						116
	117								117
	118								118
	119								119
	120								120
865	121								121

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 14 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	122								122
	123								123
	124		cl						124
	125								125
860	126								126
	127								127
	128	cl: Light brown CLAY, some medium Sand.							128
	129								129
	130		cl						130
855	131								131

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 15 of 16 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	132								132
	133								133
	134								134
	135								135
850	136								136
			cl						
	137								137
	138								138
	139								139
	140								140
845	141								141 Groundwater encountered at 141' bgs
	142								142

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW04

Project: Fort McClellan

Geologist: Leslie O'Hare/Nicole Badon

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	143		cl						143
	144								144
	145								Bottom of borehole at 145' bgs 145

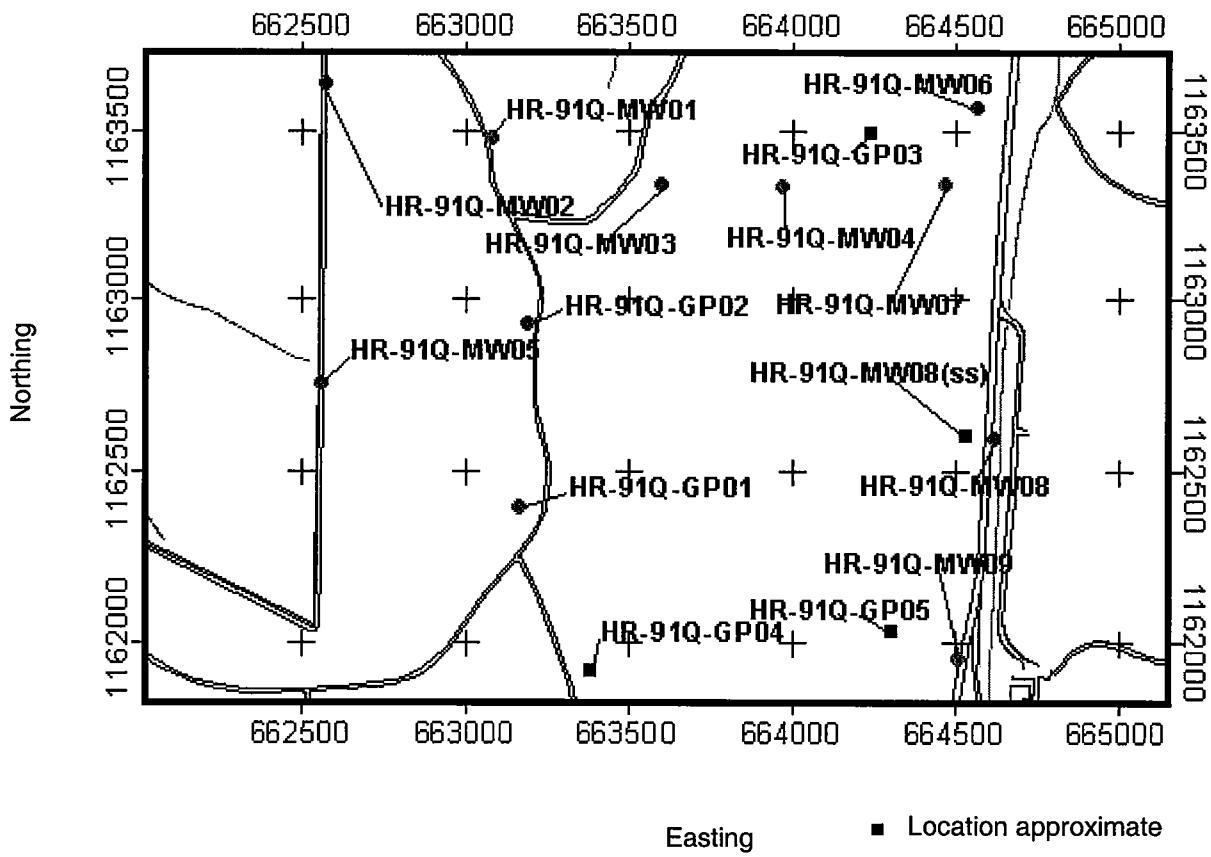
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW05
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 1042.55 10. Date started: 04/02/01 — 11. Date completed: 05/17/01
12. Overburden thickness (feet bgs): 62	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 62	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N. Badon/J. Dendy		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-91Q-MW05	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW05

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown medium stiff SILT, some fine to medium Sand, trace roots, moist.	ml		Organic Vapor = 0.0ppm		JH0011		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown medium stiff SILT, some fine to medium Sand, moist.	ml		Organic Vapor = 0.0ppm		JH0012		Rec 1.0'/3.0' (1-4' bgs)
1040	2								
	3								
	4	NA: No sample collected for lithologic description.	NA						Direct push refusal at 4' bgs
	5	cl: Light brown medium stiff CLAY, some fine Sand, little angular coarse Gravel.	cl		Organic Vapor = 0.0ppm			5 31 24 13	Rec 2.0'/2.0' (5-7' bgs)
	6								
	7	NA: No sample collected for lithologic description.	NA						
1035	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW05

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl: Light brown medum stiff CLAY, some fine to coarse Sand, little angular quartz coarse Gravel.			Organic Vapor = 0.0ppm			22 24 23 24	Rec 2.0'/2.0' (10-12' bgs)
	11		cl						11
	12	NA: No sample collected for lithologic description.							12
1030			NA						
	13	cl: Light brown and white medium stiff CLAY, some coarse quartz Sand.			Organic Vapor = 0.0ppm			20 50/0.3'	Rec 0.8'/0.8' (13-13.8' bgs) 13
	14	NA: No sample collected for lithologic description.	cl						14
	15								15
	16								16
			NA						
	17								17
1025									
	18	cl: Light brown and white hard CLAY, little subangular coarse sandstone Gravel, little medium Sand.			Organic Vapor = 0.0ppm			10 15 22 28	Rec 2.0'/2.0' (18-20' bgs) 18
	19		cl						19
	20	NA: No sample collected for lithologic							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW05

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								
			NA						
	22								
1020									
	23	cl: Light brown and white hard CLAY, little subangular coarse sandstone Gravel, little medium Sand.			Organic Vapor = 0.0ppm			12 18 25 32	Rec 2.0'/2.0' (23-25' bgs)
	24		cl						
	25	NA: No sample collected for lithologic description.							
	26								
			NA						
	27								
1015									
	28	cl: Light brown and reddish brown medium stiff CLAY, little fine to coarse Sand.			Organic Vapor = 0.0ppm			6 8 8 10	Rec 2.0'/2.0' (28-30' bgs)
	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW05

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
1010									
	33	cl: Light brown medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			9 15 15 19	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
	36								
	37								
1005									
	38	cl: Light brown and dark brown medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			12 15 22 27	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW05

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
1000									
	43	cl: Light brown and dark brown medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			10 12 32 50/0.4'	Rec 1.9'/1.9' (43-44.9' bgs)
	44								
	45	NA: No sample collected for lithologic description.	NA						
	46								
	47								
995									
	48	cl: Light brown, dark brown, and pink, medium stiff CLAY, little fine Sand, little Silt.	cl		Organic Vapor = 0.0ppm			10 15 15 18	Rec 2.0'/2.0' (48-50' bgs)
	49								
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW05

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/J. Dendy | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						51
	52								52
990									
	53	cl: Light brown and reddish brown hard CLAY, little Silt.			Organic Vapor = 0.0ppm			43 44 50/0.2'	Rec 1.2'/1.2' (53-54.2' bgs) 53
	54		cl						54
		NA: No sample collected for lithologic description.							
	55								55
	56								56
			NA						
	57								57
985									
	58	cl: Light brown and reddish brown hard CLAY, little angular coarse grained quartz sandstone Gravel, little fine to coarse quartz Sand.			Organic Vapor = 0.0ppm			2 43 50/0.4'	Rec 1.4'/1.4' (58-59.4' bgs) 58
	59		cl						59
		NA: No sample collected for lithologic description.							
	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW05

Project: Fort McClellan

Geologist: L. O'Hare/N. Badon/J. Dendy

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		NA						61
	62								Auger Refusal at 62' bgs Bottom of borehole at 62' bgs 62

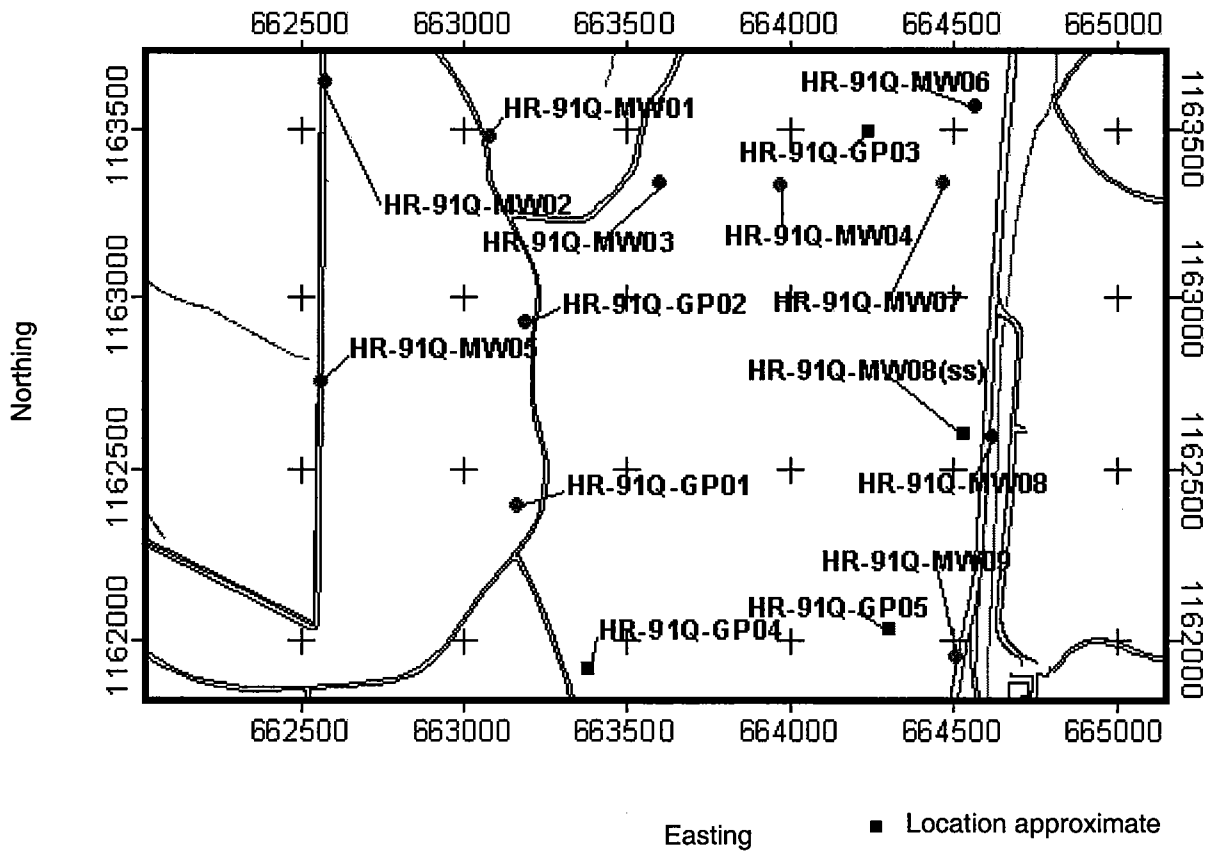
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW06
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don Jerome/Ken Gobell	6. Mfr. designation of drill: Strataprobe/66 DT Geoprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 866.77 10. Date started: 03/22/01 — 11. Date completed: 04/02/01
12. Overburden thickness (feet bgs): >44	15. Depth groundwater encountered (feet bgs): 34
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 14.05 ~24 hours
14. Total depth of hole (feet bgs): 44	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N. Badon/D. Mayton		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-91Q-MW06

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW06

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium to light brown soft SILT, some Clay, litte medium to coarse Sand, trace roots, moist.	ml		Organic Vapor = 0.0ppm		JH0013		Rec 1.9'/4.0' (0-4' bgs)
	1								
865	2								
	3								
	4	ml: Light brown medium stiff SILT, some Clay, little fine to medium Sand, trace coarse subangular Gravel, moist.	ml		Organic Vapor = 0.0ppm		JH0014		Rec 1.6'/2.0' (4-6' bgs)
	5								
	6	cl: Dry, yellowish orange to yellowish brown stiff CLAY, little subangular fine to coarse Gravel, trace Silt.	cl		Organic Vapor = 0.0ppm				Direct push refusal at 6' bgs Rec 2.0'/2.0' (6-8' bgs)
860	7								
	8	NA: No sample collected for lithologic description.							
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW06

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		NA						
855	12								
	13								
	14	cl: Wet, reddish brown soft CLAY, some broken white medium grained sandstone Gravel.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (14-14.5' bgs)
		NA: No sample collected for lithologic description.							
	15								
	16								
850	17		NA						
	18								
	19	cl: Dry, light purple to light brown, very stiff to hard CLAY, little Silt, trace medium Sand, trace subangular fine Gravel.	cl		Organic Vapor = 0.0ppm			20 30 50/0.5'	Rec 1.5'/1.5' (19-20.5' bgs)
	20								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW06

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	21								
845	22		NA						
	23								
	24	cl: Dry, white to light purple, very stiff CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			20 50/0.5'	Rec 1.0'/1.0' (24-25' bgs)
	25	NA: No sample collected for lithologic description.							
	26								
840	27		NA						
	28								
	29	cl: Dry, light brown to yellowish orange, very stiff to hard CLAY, trace Silt, trace sandstone Gravel.	cl		Organic Vapor = 0.0ppm			45 50/0.5'	Rec 1.0'/1.0' (29-30' bgs)
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW06

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
835	32		NA						32
	33								33
	34	cl: Wet, yellowish orange, medium stiff CLAY, trace Silt, trace fine Sand, trace broken sandstone Gravel.	cl		Organic Vapor = 0.0ppm			25 35 50/0.5'	Rec 1.5'/1.5' (34-35.5' bgs) 34
	35								35
		NA: No sample collected for lithologic description.							
	36								36
830	37		NA						37
	38								38
	39	sm: Wet, white to light purple, fine SAND, some Silt, some sandstone Gravel, little Clay.	sm		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (39-39.5' bgs) 39
		NA: No sample collected for lithologic description.							
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW06

Project: Fort McClellan

Geologist: L. O'Hare/N. Badon/D. Mayton

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
825			NA						
	42								42
	43								43
	44								Bottom of borehole at 44' bgs 44

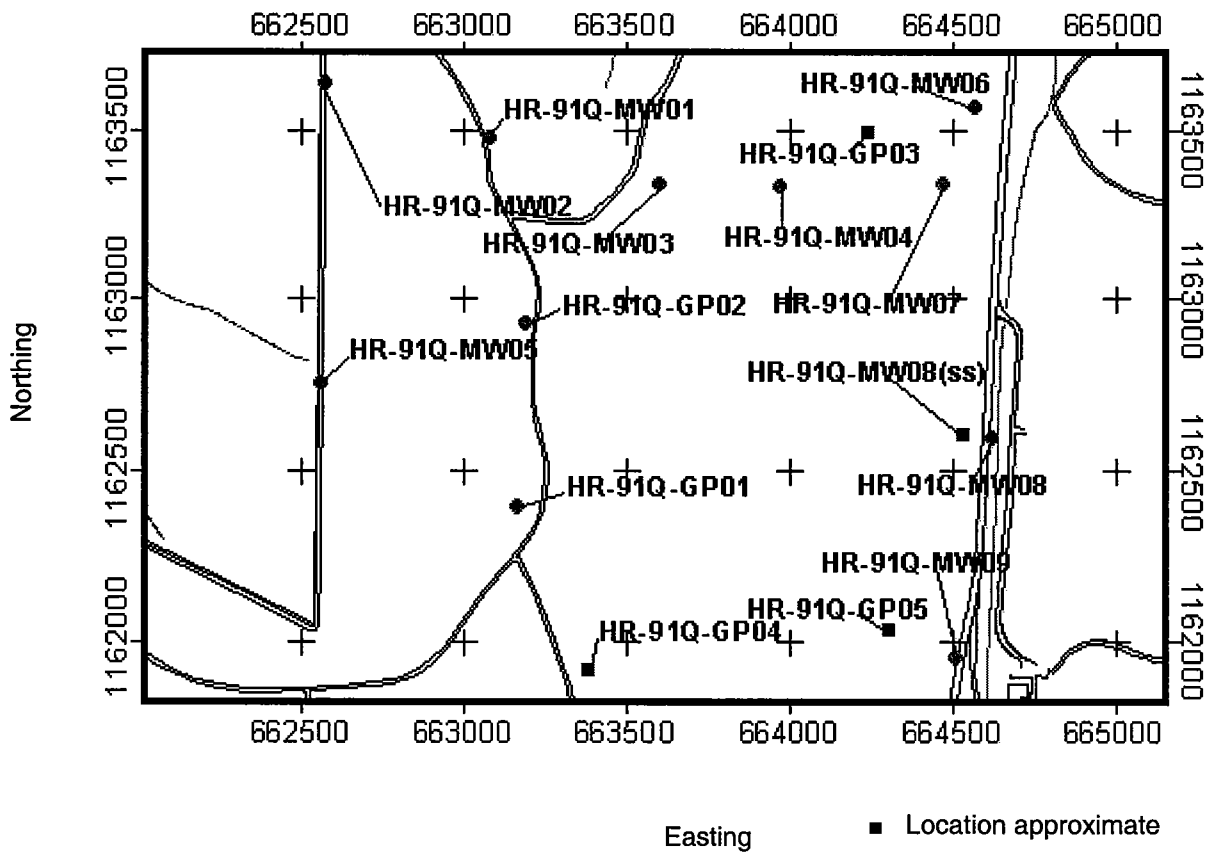
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW07
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don Jerome/Ken Gobell	6. Mfr. designation of drill: Strataprobe/66 DT Geoprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 873.80 10. Date started: 03/14/01 — 11. Date completed: 03/29/01
12. Overburden thickness (feet bgs): >39	15. Depth groundwater encountered (feet bgs): 24
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 39	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N.Badon/D.Mayton		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-91Q-MW07

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW07

Project: Fort McClellan | Geologist: L. O'Hare/N.Badon/D.Mayton | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Dark brown to tan to light brown moist CLAY, some Silt, little Sand, trace organics.	cl		Organic Vapor = 0.0ppm		JH0015		Rec 3.0'/4.0' (0-4' bgs)
	1								
	2								
	3								
870	4	cl: Light brown dry medium stiff CLAY, little Sand.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7						JH0016		
	8	cl: Dry, yellowish orange to reddish brown medium stiff CLAY, trace Silt.	cl		Organic Vapor = 0.0ppm			3 7 9 14	Direct push refusal at 8' bgs Rec 2.0'/2.0' (8-10' bgs)
865	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW07

Project: Fort McClellan | Geologist: L. O'Hare/N.Badon/D.Mayton | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								11
	12		NA						12
	13								13
860	14	cl: Dry, hard reddish brown CLAY, little fine Sand, trace Silt.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (14-14.5' bgs) 14
		NA: No sample collected for lithologic description.							
	15								15
	16								16
			NA						
	17								17
	18								18
855	19	cl: Dry, yellowish orange to reddish brown, hard CLAY, trace fine Sand, trace Silt.	cl		Organic Vapor = 0.0ppm			17 31 50/0.4'	Rec 1.4'/1.4' (19-20.4' bgs) 19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW07

Project: Fort McClellan | Geologist: L. O'Hare/N.Badon/D.Mayton | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	21								21
	22		NA						22
	23								23
850	24	cl: Damp to moist, light purple to yellowish brown, very stiff CLAY, little fine Sand, trace Silt.			Organic Vapor = 0.0ppm			23 15 15 50/0.4'	Rec 1.9'/1.9' (24-25.9' bgs) Groundwater encountered at 24' bgs 24
	25		cl						25
	26	NA: No sample collected for lithologic description.							26
	27		NA						27
	28								28
845	29	cl: Moist, light purple to yellowish brown, hard CLAY, little fine Sand, trace Silt.			Organic Vapor = 0.0ppm			23 27 50/0.5'	Rec 1.5'/1.5' (29-30.5' bgs) 29
	30		cl						30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW07

Project: Fort McClellan | Geologist: L. O'Hare/N.Badon/D.Mayton | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							
	32		NA						
	33								
840	34	cl: Moist, light purple to reddish brown CLAY, some Silt, little fine Sand.	cl		Organic Vapor = 0.0ppm			26 31 50/0.5'	Rec 1.5'/1.5' (34-35.5' bgs)
	35								
	36	NA: No sample collected for lithologic description.							
	37		NA						
	38								
835	39								Bottom of borehole at 39' bgs

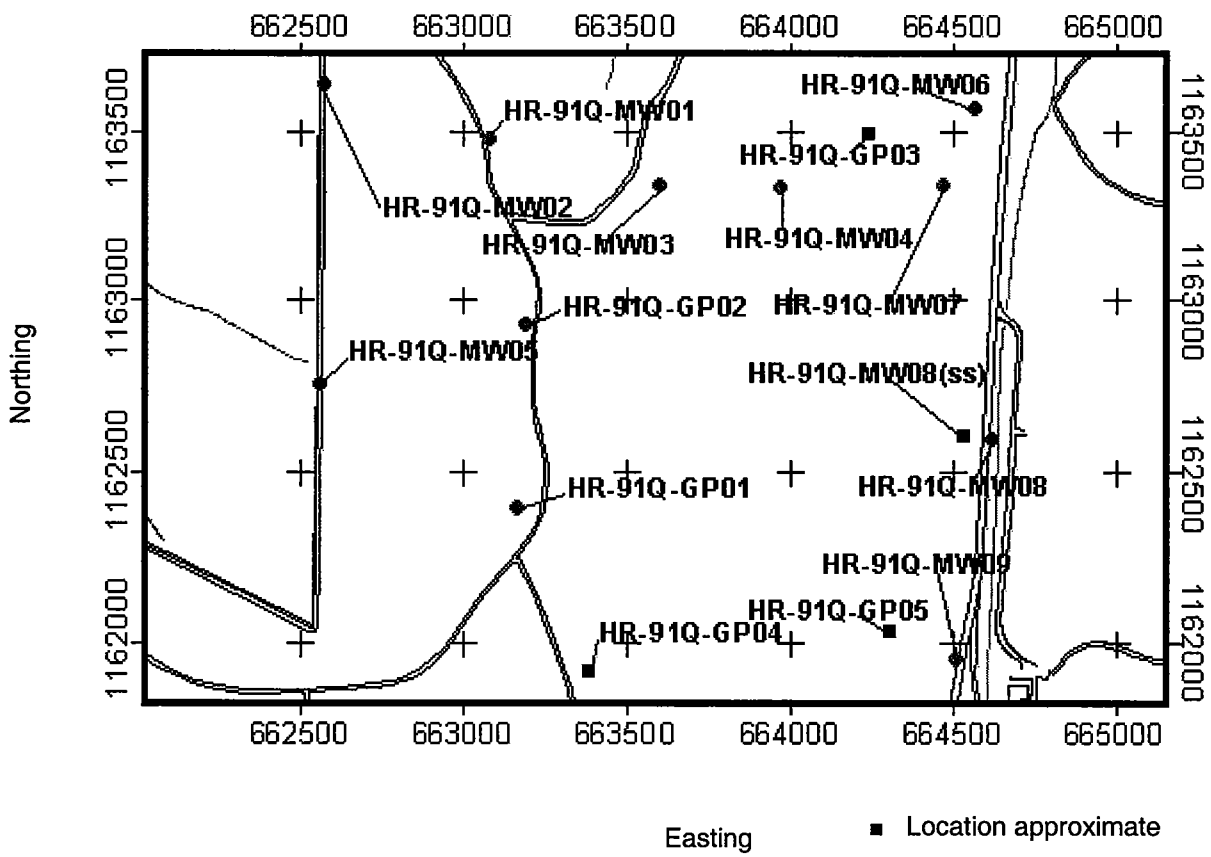
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW08(SS)
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q 9. Surface elevation (feet above mean sea level): approximately 885 10. Date started: 03/14/01 — 11. Date completed: 03/29/01
12. Overburden thickness (feet bgs): >30.5	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 30.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Grout	NA	NA	L. O'Hare/N. Badon/A. Barnes		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan | bgs= below ground surface, NA = Not applicable | ss=direct push sample location, associated well offset | Hole no.: HR-91Q-MW08(SS)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08(SS)

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
885	0	cl: Light brown moist soft CLAY, some fine to coarse Sand, little quartz-rich subrounded Gravel, trace roots.	cl		Organic Vapor = 0.0ppm		JH0017		Rec 2.0'/2.0' (0-4' bgs)
	1								
	2								
	3								
	4	cl: Light brown mottled light gray moist medium stiff CLAY, little fine to medium Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/4.0' (4-8' bgs)
880	5								
	6								
	7								
	8	cl: Light brown mottled, light gray very moist stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm		JH0018		Rec 2.0'/2.0' (8-10' bgs)
	9								
875	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08(SS)

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							Direct push refusal at 10' bgs
	11								
	12		NA						
	13								
	14								
870	15	NA: No recovery.						8 14 20 25	Rec 0.0'/2.0' (15-17' bgs)
	16		NA						
	17	NA: No sample collected for lithologic description.							
	18		NA						
	19								
865	20	cl: Reddish brown, yellowish orange, light			Organic			11 15	Rec 2.0'/2.0' (20-22' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08(SS)

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		pink, off white, dry hard CLAY.			Vapor = 0.0ppm			19 23	
	21		cl						
	22	NA: No sample collected for lithologic description.							
	23		NA						
	24								
860	25	cl: Reddish brown, yellowish orange, light to medium pink, off white CLAY, trace Silt, dry, evidence of swelling.			Organic Vapor = 0.0ppm			11 24 26 28	Rec 2.0'/2.0' (25-27' bgs)
	26		cl						
	27	NA: No sample collected for lithologic description.							
	28		NA						
	29								
855	30	NA: No recovery.						50/0.5'	Rec 0.0'/0.5' (30-30.5' bgs) Bottom of borehole at 30.5'

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08(SS)

Project: Fort McClellan

Geologist: L. O'Hare/N. Badon/A. Barnes

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)

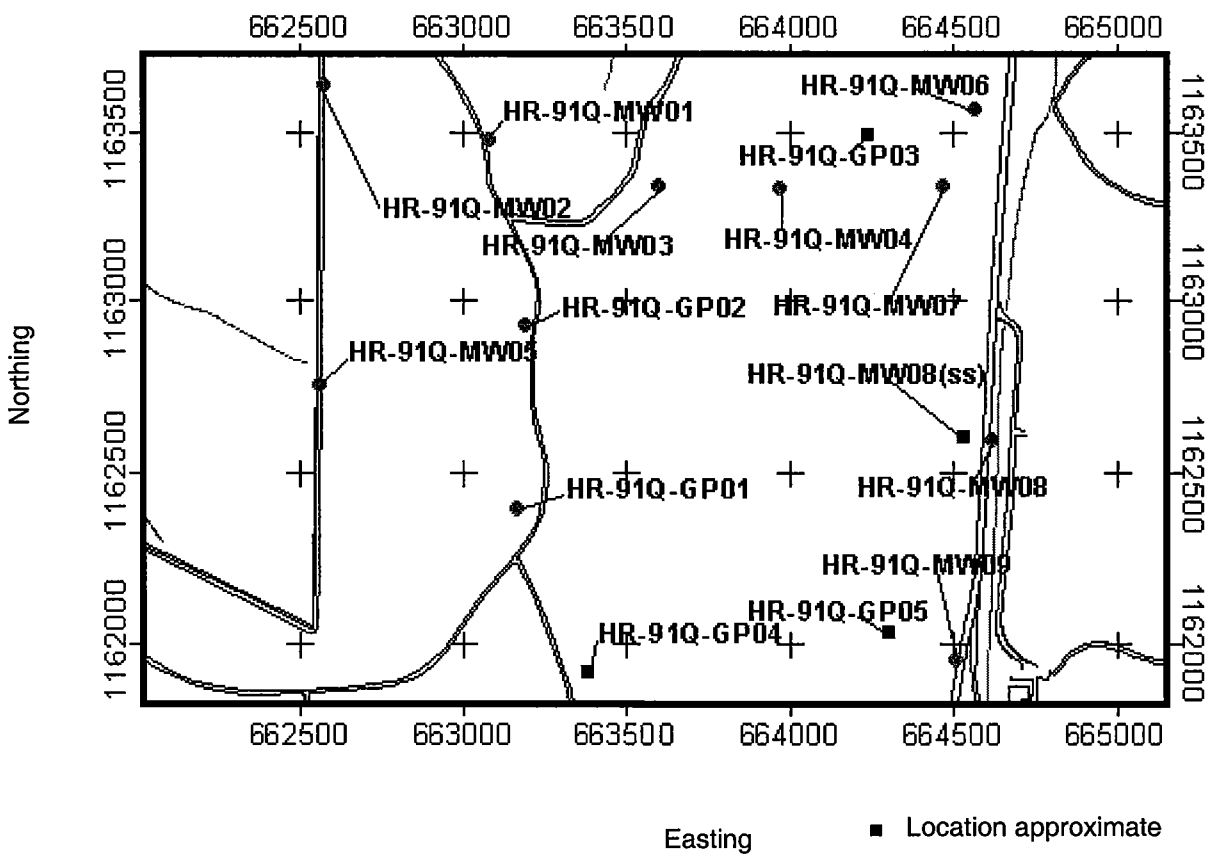
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW08
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Mike Martin	6. Mfr. designation of drill: Ingersoll-Rand 97
7. Sizes and types of drilling and sampling equipment: Air Rotary AR - 6.25" OD Tricone Roller Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q 9. Surface elevation (feet above mean sea level): 873.1 10. Date started: 03/22/01 — 11. Date completed: 03/23/01
12. Overburden thickness (feet bgs): >39.9	15. Depth groundwater encountered (feet bgs): 31
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 39.9	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	NA	NA	NA	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: George Robertson		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan — bgs= below ground surface; NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-91Q-MW08

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08

Project: Fort McClellan | Geologist: George Robertson | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	NA: No sample collected for lithologic description.							Note: 60' E of direct push location MW08(SS)
	1								
	2								
870	3								
	4		NA						
	5								
	6								
	7								
865	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08

Project: Fort McClellan | Geologist: George Robertson | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
	12								12
860	13								13
	14								14
	15		NA						15
	16								16
	17								17
855	18								18
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08

Project: Fort McClellan | Geologist: George Robertson | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
	22								22
850	23								23
	24		NA						24
	25								25
	26								26
	27								27
845	28								28
	29								29
	30								30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW08

Project: Fort McClellan | Geologist: George Robertson | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl-ml: Stiff, orangish brown to light gray CLAY and SILT, low to no plasticity, laminated, very moist.	cl-ml						Description based on air rotary drill cuttings (30.5-39.9' bgs)
	31	cl-ml: Stiff, orangish brown to light gray CLAY and SILT, some fine to coarse, subrounded to subangular Gravel, no plasticity, wet.	cl-ml						Groundwater encountered at 31' bgs
	32	cl-ml: Stiff, orangish brown to light gray CLAY and SILT, low to no plasticity, laminated, very moist.							
840	33								
	34								
	35								
	36		cl-ml						
	37								
835	38								
	39								Bottom of borehole at 39.9'

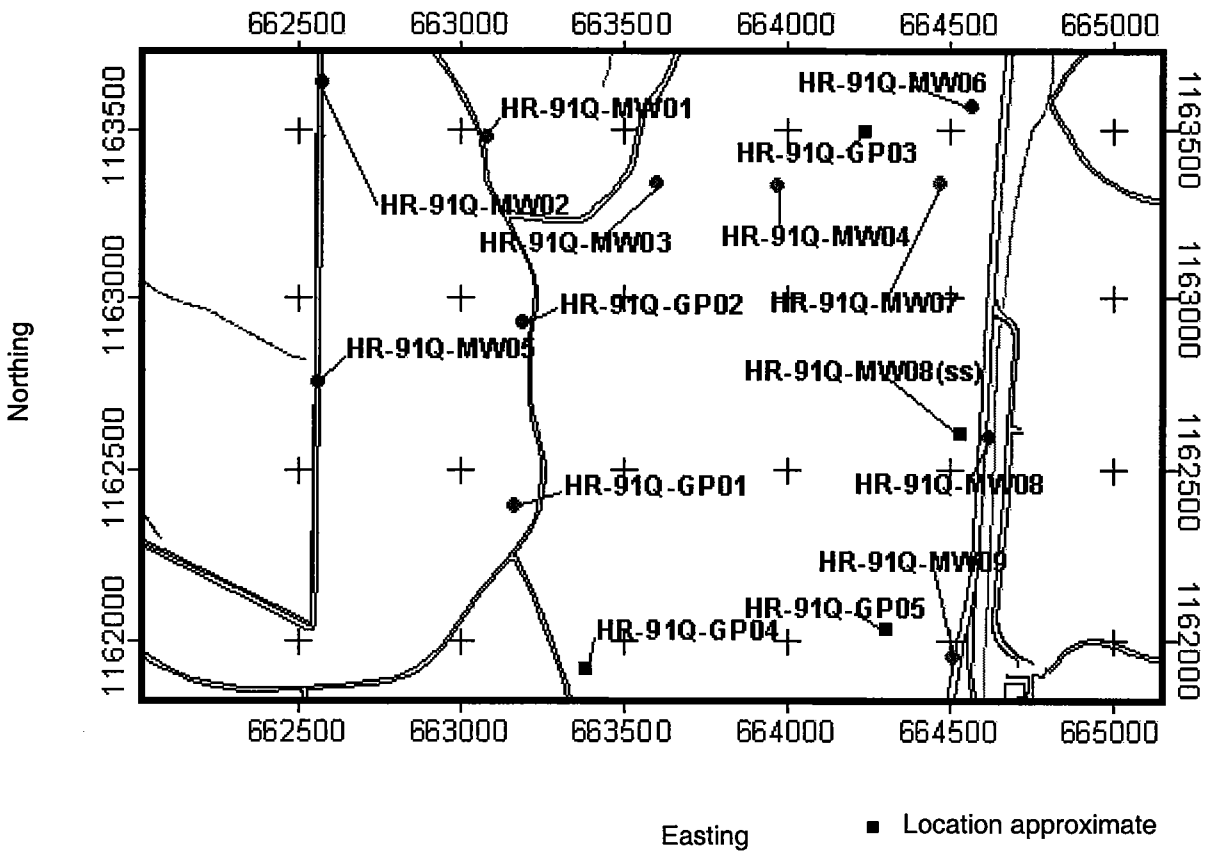
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-91Q-MW09
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 91Q-X 9. Surface elevation (feet above mean sea level): 903.31 10. Date started: 03/13/01 — 11. Date completed: 03/28/01
12. Overburden thickness (feet bgs): >45	15. Depth groundwater encountered (feet bgs): 34
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 45	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N. Badon/A. Barnes		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan | bgs= below ground surface, NA = Not applicable | ss=direct push sample location, associated well offset | Hole no.: HR-91Q-MW09

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW09

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Light brown moist medium stiff CLAY, some Sand, little fine to coarse quartz-rich subrounded Gravel.	cl		Organic Vapor = 0.0ppm		JH0019		Rec 4.0'/4.0' (0-4' bgs)
	1								
	2								
900	3								
	4	cl: Light brown moist medium stiff CLAY, some fine to coarse Sand.	cl		Organic Vapor = 0.0ppm		JH0020		Rec 2.0'/2.0' (4-6' bgs)
	5								
	6	NA: No sample collected for lithologic description.	NA						Direct push refusal at 6' bgs
	7								
895	8	ml: Light brown dry SILT.	ml		Organic Vapor = 0.0ppm			4 12 23 36	Rec 2.0'/2.0' (8-10' bgs)
	9	cl-ml: Light brown, light pink, yellowish orange CLAY and SILT, little fine Sand, trace fine sandstone Gravel, dry.	cl-ml						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW09

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								
	12		NA						
	13								
890									
	14	sm: Light brown, off white, light pink, yellowish orange, dry SILT and fine SAND, some to little Clay, little fine to coarse sandstone Gravel.			Organic Vapor = 0.0ppm			12 16 16 22	Rec 2.0'/2.0' (14-16' bgs)
	15		sm						
	16	NA: No sample collected for lithologic description.							
	17								
	18		NA						
885									
	19								
	20	ml: Light brown, medium pink dry SILT, little			Organic			12 16	Rec 2.0'/2.0' (20-22' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW09

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		fine Sand, little fine sandstone Gravel.			Vapor = 0.0ppm			17 18	
	21		ml						
	22	NA: No sample collected for lithologic description.							
	23		NA						
880									
	24	cl-ml: Light brown to yellowish orange CLAY and SILT, dry.			Organic Vapor = 0.0ppm			8 14 24 19	Rec 2.0'/2.0' (24-26' bgs)
	25		cl-ml						
	26	ml: Light brown to yellowish orange SILT, little Clay, dry.	ml						
		NA: No sample collected for lithologic description.							
	27								
	28		NA						
875									
	29								
	30	cl-ml: Reddish brown yellowish orange CLAY and SILT, dry.			Organic Vapor			11 15 13 17	Rec 2.0'/2.0' (30-32' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW09

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		cl-ml		= 0.0ppm				
	32	NA: No sample collected for lithologic description.							
870	33		NA						
	34	cl-ml: Reddish brown yellowish orange CLAY and SILT, slightly moist.	cl-ml		Organic Vapor = 0.0ppm			12 15 19 32	Groundwater encountered at 34' bgs Rec 2.0'/2.0' (34-36' bgs)
	35								
		ml: Off white, yellowish orange, slightly moist SILT, some fine grained Sand.	ml						
	36	NA: No sample collected for lithologic description.							
	37								
865	38		NA						
	39								
	40	ml: Dark yellowish orange, slightly moist SILT, little Clay.	ml		Organic Vapor =			12 17 15 18	Rec 2.0'/2.0' (40-42' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-91Q-MW09

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/A. Barnes | Sheet 6 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		ml: Off white, slightly moist SILT.	ml		0.0ppm				
	41	ml: Dark yellowish orange, slightly moist SILT, little Clay.	ml						41
	42	NA: No sample collected for lithologic description.							42
	43								43
860			NA						
	44								44
									Bottom of borehole at 45' bgs
	45								45

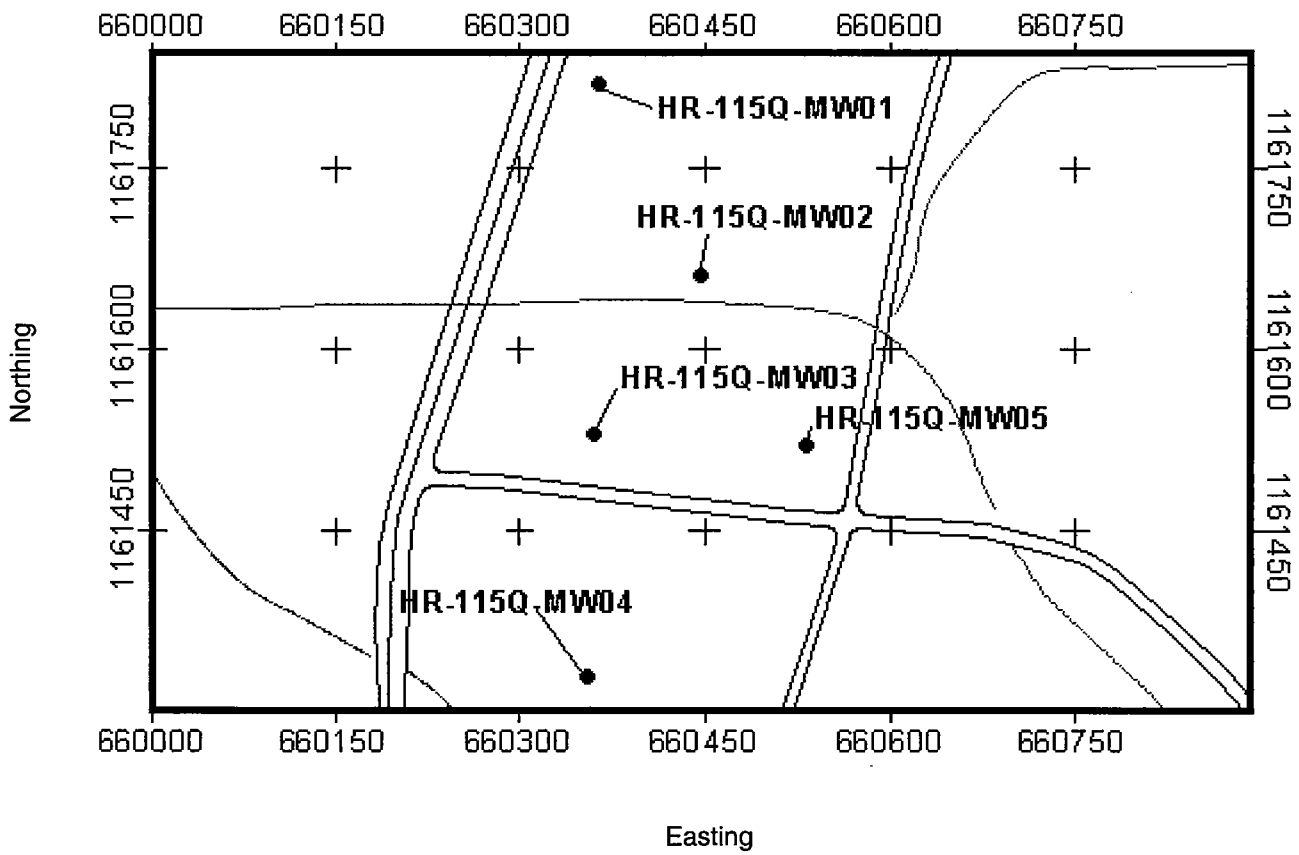
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-115Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 115Q 9. Surface elevation (feet above mean sea level): 803.53 10. Date started: 12/08/00 — 11. Date completed: 01/25/01
12. Overburden thickness (feet bgs): >28	15. Depth groundwater encountered (feet bgs): 8
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 28	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Leslie O'Hare		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Leslie O'Hare | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist soft SILT, some fine to coarse Sand, little quartz- rich subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JK0001		Rec 1.0'/1.0' (0-1' bgs)
	1	cl-ml: Yellowish brown moist soft CLAY and SILT, trace subangular quartz-rich coarse Gravel.	cl - ml		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
	2								
	3								
800									
	4	sm: Yellowish orange to reddish brown, moist, loose, medium to coarse SAND, some Silt, some Clay, little coarse subangular Gravel.	sm		Organic Vapor = 0.0ppm				Rec 2.5'/4.0' (4-8' bgs)
	5								
	6								
	7								
	8	sm: Yellowish orange to off white with pink layers soft, wet, medium to coarse SAND, some Silt, little Clay, little coarse subrounded Gravel.			Organic Vapor = 0.0ppm				Groundwater encountered at 8' bgs Rec 4.0'/4.0' (8-12' bgs)
795									
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Leslie O'Hare | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		sm				JK0002		11
	12	NA: No sample collected for lithologic description.							Bottom of direct push hole at 12' bgs 12
	13								13
790									
	14								14
	15								15
	16		NA						16
	17								17
	18								18
785									
	19								19
	20	NA: No recovery						52/0.5'	Rec 0.0'/0.5' (20-20.5' bgs) 20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Leslie O'Hare | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
		NA: No sample collected for lithologic description.							
	21								21
	22								22
			NA						
	23								23
780									
	24								24
	25	cl: Reddish orange to off white, moist medium stiff CLAY.	cl		Organic Vapor = 0.0ppm			11 11 22 28	Rec 2.0'/2.0' (25-27' bgs) 25
	26	sw: Off white, wet, fine to medium SAND, trace Silt.	sp						26
	27	NA: No sample collected for lithologic description.	NA						27
	28								Bottom of borehole at 28' bgs 28

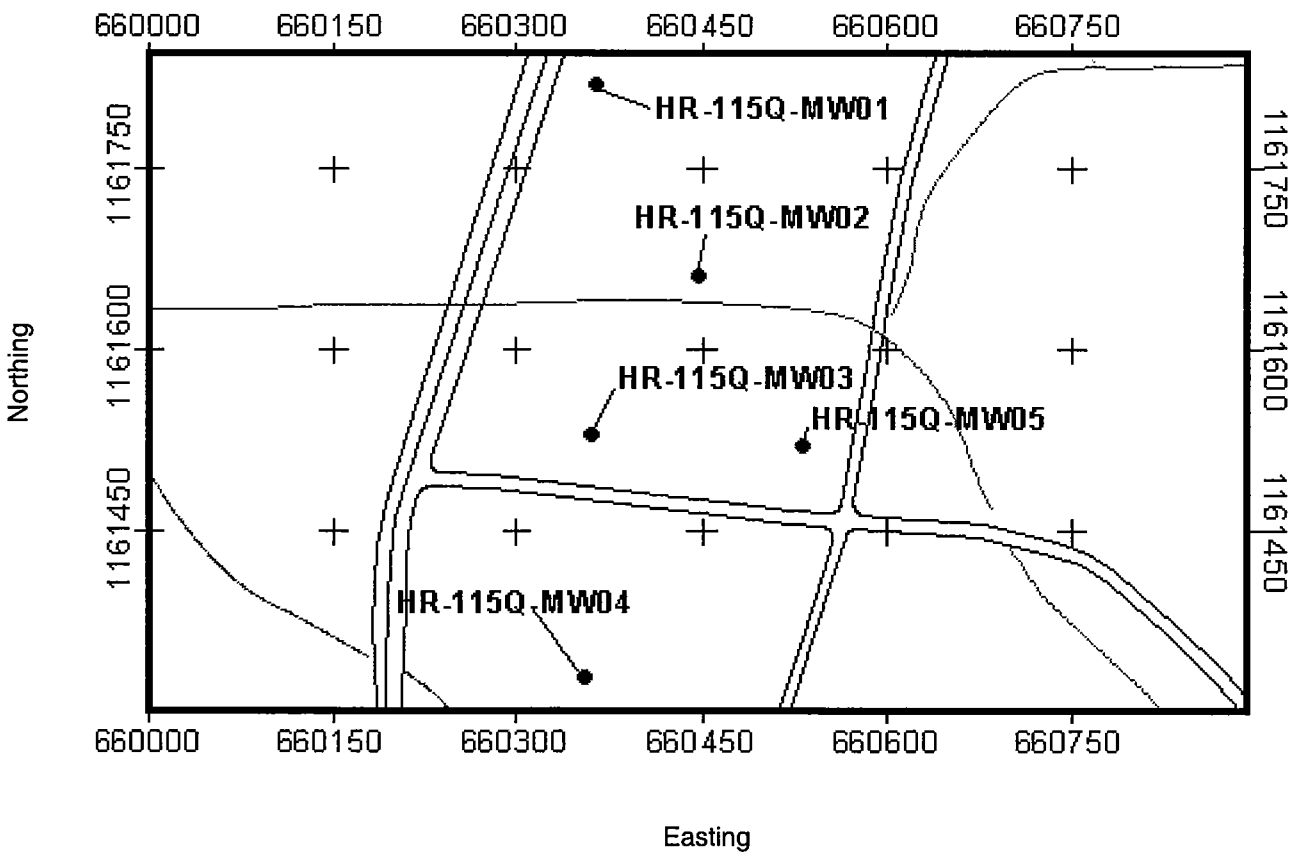
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-115Q-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 115Q 9. Surface elevation (feet above mean sea level): 806.54 10. Date started: 12/07/00 — 11. Date completed: 01/24/01
12. Overburden thickness (feet bgs): >30	15. Depth groundwater encountered (feet bgs): 10
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 30	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/Steve White		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-115Q-MW02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW02

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown soft moist SILT, little fine to coarse Sand, little coarse subrounded Gravel, trace organics.	ml		Organic Vapor = 0.0ppm		JK0003		Rec 1.0'/1.0' (0-1' bgs)
805	1	ml: Dark brown to light brown at 3' bgs, soft moist SILT, some fine to medium Sand, little coarse subangular Gravel, trace organics.	ml		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
	2								
	3								
	4	ml: Light brown soft moist SILT, some fine to coarse subangular Sand, some coarse subangular Gravel, trace organics.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/4.0' (4-8' bgs)
	5								
800	6								
	7								
	8	sm: Light brown to light gray loose moist SAND, some Silt, some coarse subrounded Gravel, trace organics.	sm		Organic Vapor = 0.0ppm		JK0004		Rec 1.0'/1.0' (8-9' bgs)
	9	NA: No sample collected for lithologic description							Direct push refusal at 9' bgs
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW02

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
									Groundwater encountered at 10' bgs
			NA						
	11								
795									
	12	sw: Reddish brown grading to grayish white, fine to medium, loose, damp, SAND, little to trace Silt, trace Clay, trace coarse Sand.			Organic Vapor = 0.0ppm			7 7 12 13	Rec 1.5'/2.0' (12-14' bgs)
	13		sw						
		NA: No recovery	NA						
	14	NA: No sample collected for lithologic description.							
	15								
			NA						
	16								
790									
	17	sw: Grayish and brownish white grading to yellow, fine to medium, loose to dense, damp to wet SAND, little Silt, trace Clay. Coarse Sand layer at 18.5', Sand finer and denser below 18.5'.			Organic Vapor = 0.0ppm			11 18 50/0.5'	Rec 1.5'/1.5' (17-18.5' bgs)
	18		sw						
		NA: No sample collected for lithologic description.							
	19								
	20								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW02

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	21								
785									
	22	sw: Brownish yellow, fine to medium, loose wet SAND, trace Silt, trace coarse Sand.	sw		Organic Vapor = 0.0ppm			12 20 29 40	Rec 2.0'/2.0' (22-24' bgs)
	23	sc: Pinkish to grayish white, dense to stiff, damp fine SAND, some Clay, trace Silt.	sc						
	24	NA: No sample collected for lithologic description.							
	25		NA						
	26								
780									
	27	sm: Pinkish to yellowish gray, dense, wet fine SAND, some Silt, trace Clay.	sm		Organic Vapor = 0.0ppm			6 9 17 35	Rec 2.0'/2.0' (27-29' bgs)
	28								
	29	NA: No sample collected for lithologic description.	NA						
	30								Bottom of borehole at 30' bgs

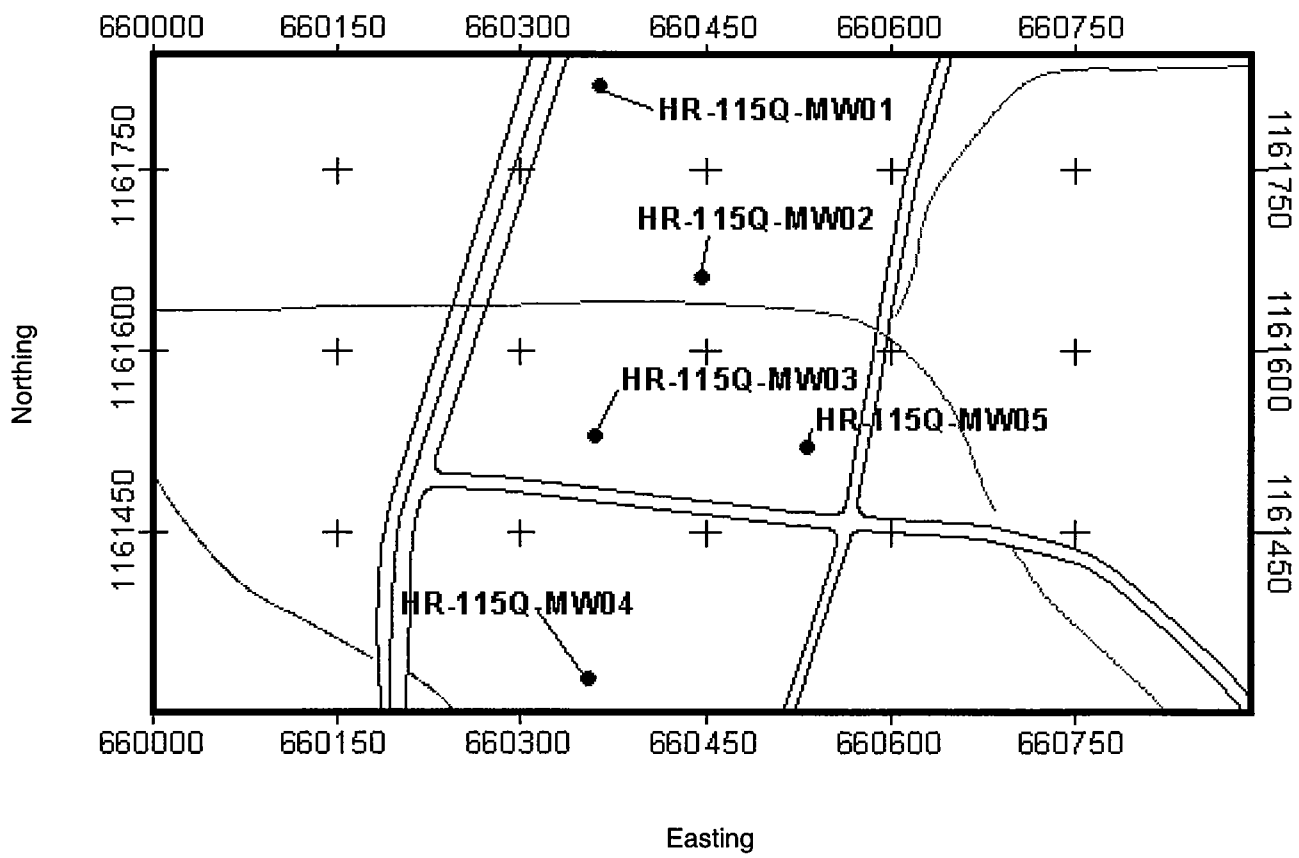
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-115Q-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 115Q 9. Surface elevation (feet above mean sea level): 816.14 10. Date started: 12/07/00 — 11. Date completed: 02/01/01
12. Overburden thickness (feet bgs): >37	15. Depth groundwater encountered (feet bgs): 27
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 37	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: N/A		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	N/A
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/Steve White		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-115Q-MW03

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft moist SILT, some fine to coarse Sand, little subangular coarse quartz-rich Gravel, trace organics.	ml		Organic Vapor = 0.0ppm		JK0005		Rec 1.0'/1.0' (0-1' bgs)
815	1	sm: Yellowish orange to reddish brown to tan loose fine to coarse SAND, some Silt, little subangular coarse quartz-rich Gravel.	sm		Organic Vapor = 0.0ppm		JK0006 JK0007 JK0008		Rec 3.0'/3.0' (1-4' bgs)
	2								
	3								
	4	NA: No sample collected for lithologic description	NA						Direct push refusal at 4' bgs
	5								
810	6								
	7								
	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
805	11								
	12								
	13	sp: White to grayish white, damp to dry, dense fine SAND, trace Clay, trace Silt.	sp		Organic Vapor = 0.0ppm			21 21 30 40	Rec 2.0'/2.0' (13-15' bgs)
	14								
	15	NA: No sample collected for lithologic description.	NA						
800	16								
	17								
	18	sc: White to grayish white, fine to very fine, damp, loose to medium dense SAND, some to little Clay, little to trace Silt, trace medium Sand.	sc		Organic Vapor = 0.0ppm			6 7 8 10	Rec 2.0'/2.0' (18-20' bgs)
	19								
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
795	21		NA						
	22								
	23	sw-sm: White to grayish white, fine to medium, damp to wet, medium dense SAND, little Silt, trace Clay.	sw-sm		Organic Vapor = 0.0ppm			15 17 15 19	Rec 1.7'/2.0' (23-25' bgs)
	24								
		NA: No recovery	NA						
	25	NA: No sample collected for lithologic description.							
790	26		NA						
	27								Groundwater encountered at 27' bgs
	28	sp-sm: Grayish to pinkish white, fine to very fine, medium dense wet SAND, little Silt, trace Clay, trace medium Sand.	sp-sm		Organic Vapor = 0.0ppm			12 12 9 9	Rec 1.7'/2.0' (28-30' bgs)
	29								
		NA: No recovery	NA						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW03

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
785	31		NA						
	32								
	33	sm: Gray, fine to very fine, wet medium dense SAND, little to some Silt, trace Clay.	sm		Organic Vapor = 0.0ppm			6 8 10 11	Rec 1.5'/2.0' (33-35' bgs)
	34								
		NA: No recovery	NA						
	35	NA: No sample collected for lithologic description.							
780	36		NA						
	37								Bottom of borehole at 37' bgs

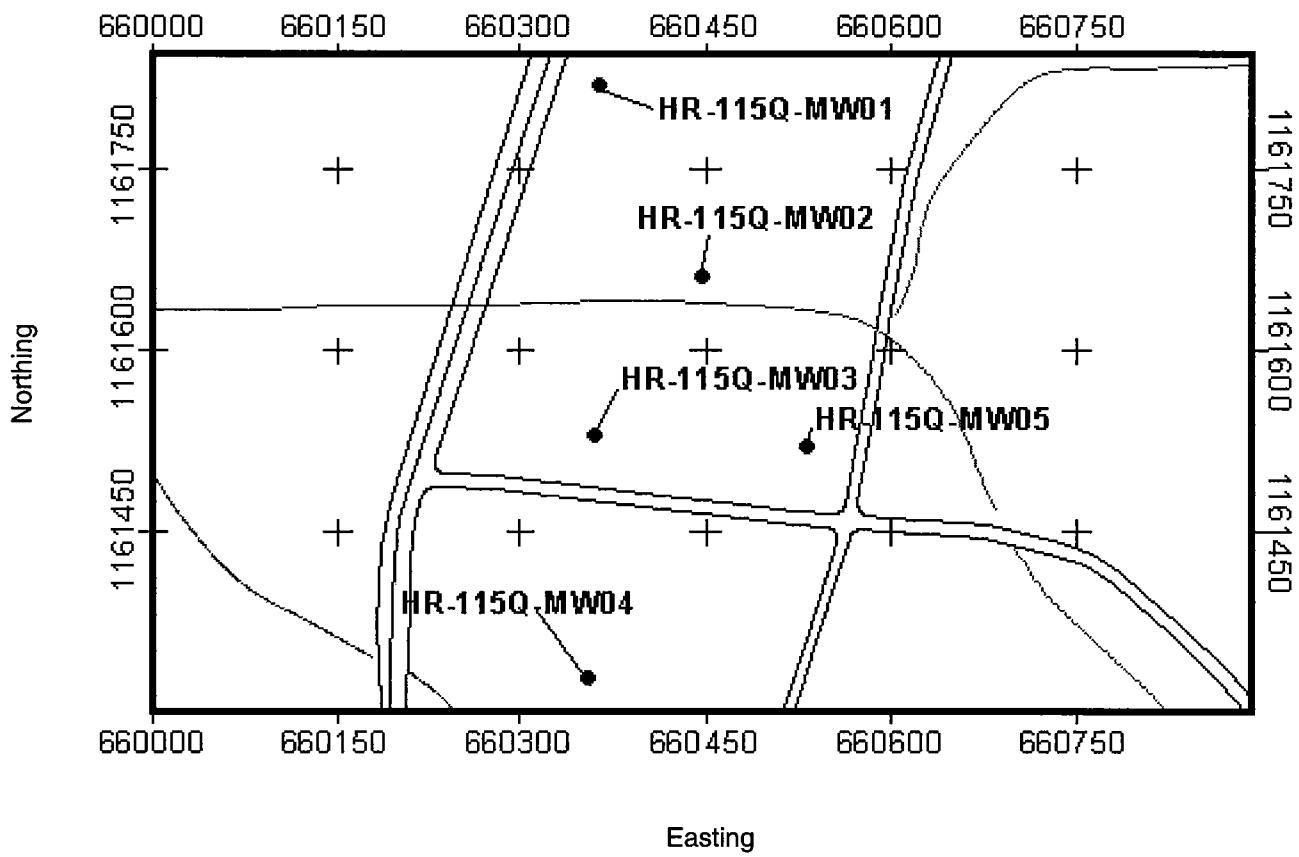
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-115Q-MW04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 115Q 9. Surface elevation (feet above mean sea level): 826.09 10. Date started: 12/08/00 — 11. Date completed: 01/24/01
12. Overburden thickness (feet bgs): >40	15. Depth groundwater encountered (feet bgs): 40
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 29.0 ~2 hours
14. Total depth of hole (feet bgs): 40	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/Nicole Badon		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-115Q-MW04

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sw: Light brown, medium to coarse, loose moist SAND, some quartz- rich fine to coarse subrounded Gravel, little Silt, trace roots.	sw		Organic Vapor = 0.0ppm		JK0009		Rec 1.0'/1.0' (0-1' bgs)
825	1	cl: Yellowish orange to reddish brown moist medium stiff CLAY, some fine to medium Sand, little Silt.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
	2								
	3								
	4	sw: Yellowish orange, medium to coarse, loose moist SAND, some Clay, some quartz-rich coarse subangular Gravel, trace Silt, trace roots.	sw		Organic Vapor = 0.0ppm		JK0010		Rec 2.0'/2.0' (4-6' bgs)
	5								
	6								Direct push refusal at 6' bgs
820		NA: No sample collected for lithologic description.	NA						
	7								
	8	sp: Off-white, dry, dense, fine, subrounded SAND, trace red Silt, trace Clay.	sp		Organic Vapor = 0.0ppm			7 22 31 50/0.4'	Rec 1.9'/1.9' (8-9.9' bgs)
	9								
	10	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
815	11								
	12		NA						
	13								
	14								
	15	sw: Off white, dry, medium dense, fine to coarse SAND, trace quartz-rich Gravel, trace Silt.	sw		Organic Vapor = 0.0ppm			20 50/0.4'	Rec 0.6'/0.9' (15-15.9' bgs)
		NA: No recovery	NA						
810	16	NA: No sample collected for lithologic description.							
	17								
	18		NA						
	19								
	20	sw: Off white, moist, medium to coarse SAND,			Organic			30	Rec 1.0'/1.0' (20-21' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		trace Silt, trace fine subangular quartz-rich Gravel.	SW		Vapor = 0.0ppm			50/0.5'	
805	21	NA: No sample collected for lithologic description.							
	22								
	23		NA						
	24								
	25	sw: Off white, medium dense, moist medium to coarse SAND, trace Silt.	SW		Organic Vapor = 0.0ppm			20 50/0.5'	Rec 1.0'/1.0' (25-26' bgs)
800	26	NA: No sample collected for lithologic description.							
	27								
	28		NA						
	29								
	30	sw: Off white, moist, dense, medium to coarse SAND, trace fine subangular Gravel, trace Silt.			Organic Vapor			22 50/0.5'	Rec 1.0'/1.0' (30-31' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW04

Project: Fort McClellan | Geologist: Leslie O'Hare/Nicole Badon | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			SW		= 0.0ppm				
795	31	NA: No sample collected for lithologic description.							31
	32								32
	33		NA						33
	34								34
	35	sw: Off white, moist, medium dense, fine to medium SAND, trace Silt, trace fine subangular Gravel.			Organic Vapor = 0.0ppm			26 30 50/0.5'	Rec 1.5'/1.5' (35-36.5' bgs) 35
790	36		SW						36
		NA: No sample collected for lithologic description.							
	37								37
	38		NA						38
	39								39
									Groundwater encountered at 40' bgs
	40								Bottom of borehole at 40' bgs 40

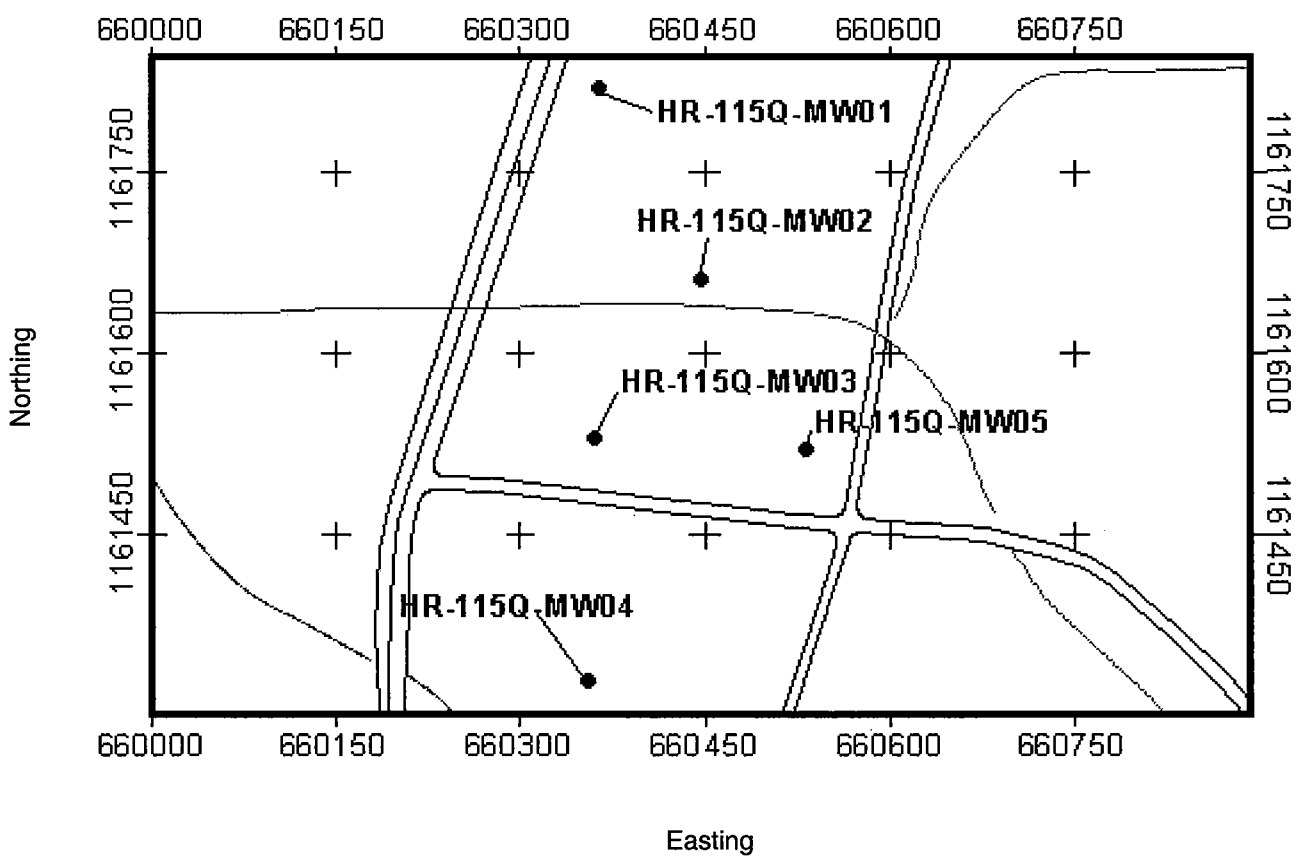
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-115Q-MW05
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 115Q 9. Surface elevation (feet above mean sea level): 817.63 10. Date started: 12/08/01 — 11. Date completed: 01/26/01
12. Overburden thickness (feet bgs): >77.5	15. Depth groundwater encountered (feet bgs): 19.2
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 77.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/Steve White		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-115Q-MW05

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 2 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist soft SILT, little fine to medium Sand, little coarse subangular quartz-rich Gravel.	ml		Organic Vapor = 0.0ppm		JK0011		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Dark brown to reddish brown SILT, some fine to coarse Sand, trace to little quartz-rich coarse subangular Gravel.	ml		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
815	2								
	3								
	4	sm: Reddish brown moist loose SAND, some Silt, little coarse subangular Gravel, trace organics.	sm		Organic Vapor = 0.0ppm				Rec 3.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
810	8	sm: Yellowish orange moist medium dense SAND, some Silt, little coarse subangular quartz-rich Gravel, trace organics.	sm		Organic Vapor = 0.0ppm		JK0012 JK0013		Rec 3.0'/3.0' (8-11' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 3 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
							JK0014		
	11	NA: No sample collected for lithologic description	NA						Direct push refusal at 11' bgs
805	12	sw-sm: Reddish brown, loose, damp fine SAND, little Silt, little quartz Gravel, little coarse Sand, trace Clay.	sw-sm		Organic Vapor = 0.0ppm			5 24	Rec 1.0'/1.0' (12-13' bgs)
	13	NA: No sample collected for lithologic description.							
	14								
	15		NA						
	16								
800	17	sw-sm: Reddish brown grading to grayish white, fine to medium, loose damp SAND, little Silt, little quartz Gravel, little coarse Sand, trace Clay.	sw-sm		Organic Vapor = 0.0ppm			11 27 30 40	Rec 1.7'/2.0' (17-19' bgs)
	18								
		NA: No recovery	NA						
	19	NA: No sample collected for lithologic description.							Groundwater encountered at 19.2' bgs
	20								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 4 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	21								
	22	sm: Pinkish gray to grayish white, fine to medium, loose, wet SAND, little to some Silt, trace Clay, trace quartz Gravel, trace coarse Sand.	sm		Organic Vapor = 0.0ppm			20 20 50/0.5'	Rec 1.5'/1.5' (22-23.5' bgs)
795	23								
		NA: No sample collected for lithologic description							
	24								
	25		NA						
	26								
	27	sm-ml: Yellowish gray, fine to medium, wet, loose SAND, some Silt, trace Clay, grading to gray dense and stiff, damp to dry SILT, trace fine Sand.	sm-ml		Organic Vapor = 0.0ppm			12 50/0.5'	Rec 1.0'/1.0' (27-28' bgs)
790	28	NA: No sample collected for lithologic description.							
	29								
	30								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 5 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	31								
	32	sm: Gray, fine, medium dense, damp to wet SAND, some Silt, trace Clay, trace medium Sand.	sm		Organic Vapor = 0.0ppm			15 39 50/0.5'	Rec 1.5'/1.5' (32-33.5' bgs)
785	33								
		NA: No sample collected for lithologic description							
	34								
	35		NA						
	36								
	37	sm: Gray, fine, medium dense, damp to wet, SAND, some Silt, trace Clay, trace medium Sand.	sm		Organic Vapor = 0.0ppm			43 50/0.5'	Rec 1.0'/1.0' (37-38' bgs)
780	38	NA: No sample collected for lithologic description.							
	39								
	40								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 6 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	41								
	42	sc-sm: Pinkish gray fine, stiff, dense, wet SAND and CLAY, grading to gray, medium to fine SAND, some to little Silt, trace Clay, trace coarse Sand.	sc-sm		Organic Vapor = 0.0ppm			43 50/0.5'	Rec 1.0'/1.0' (42-43' bgs)
775									
	43	NA: No sample collected for lithologic description.							
	44								
	45								
			NA						
	46								
	47	sw-sm: Gray, fine to medium, dense, wet SAND, some to little Silt, trace Clay, trace coarse Sand, trace coarse Gravel.	sw-sm		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (47-47.5' bgs)
770		NA: No sample collected for lithologic description.							
	48								
	49								
	50								
			NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 7 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52	sm: Gray, fine to medium, dense, wet SAND, some to little Silt, trace Clay, trace coarse Sand.	sm		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (52-52.5' bgs) 52
765		NA: No sample collected for lithologic description.							
	53								53
	54								54
	55								55
	56								56
	57		NA						Heaving sand below 57' bgs stopped spoons 57
760									
	58								58
	59								59
	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 8 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62								62
755									
	63								63
	64								64
	65								65
			NA						
	66								66
	67								67
750									
	68								68
	69								69
	70								70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-115Q-MW05

Project: Fort McClellan | Geologist: Leslie O'Hare/Steve White | Sheet 9 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
	72								72
745									
	73								73
	74		NA						74
	75								75
	76								76
	77								77
									Bottom of borehole at 77.5' bgs

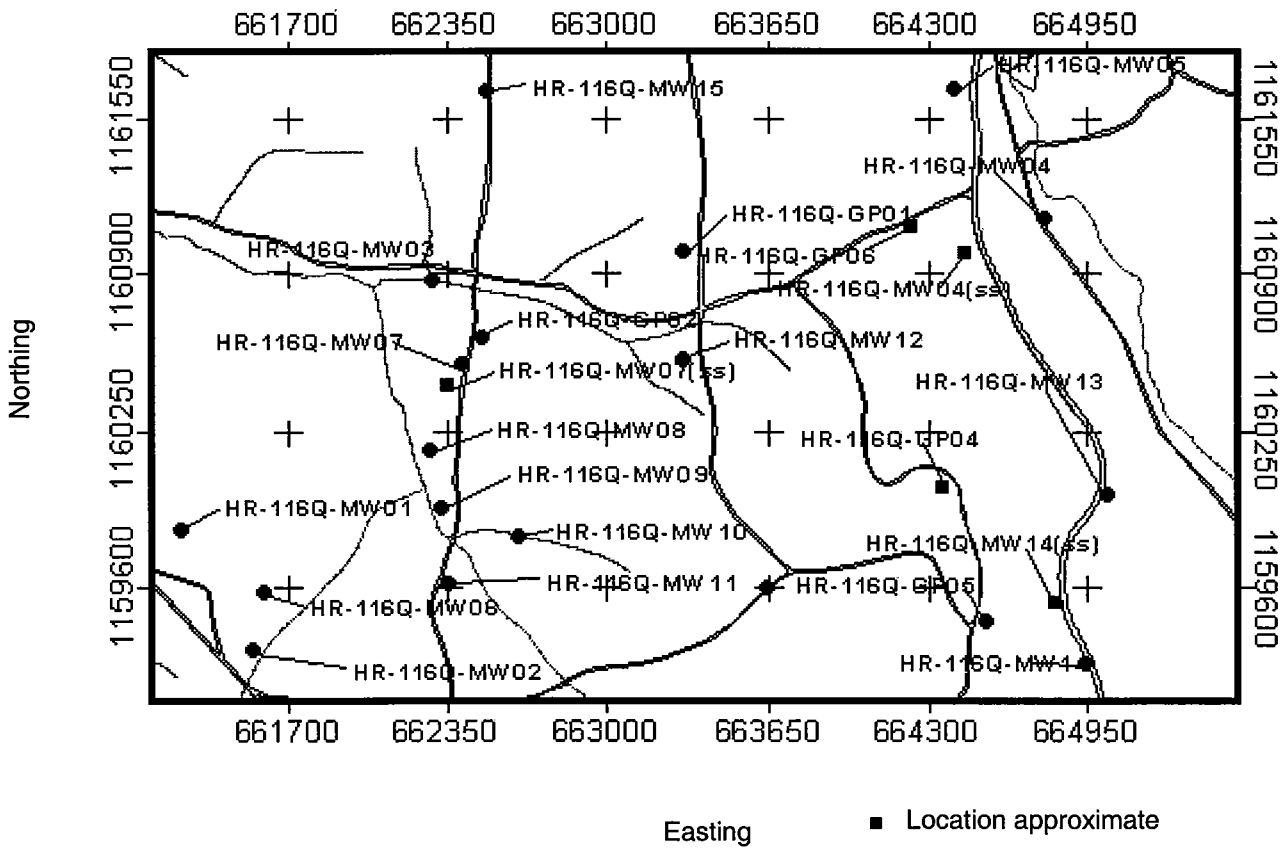
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 1016.25 10. Date started: 02/07/01 — 11. Date completed: 02/07/01
12. Overburden thickness (feet bgs): >7	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 7	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-GP01

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown soft moist SILT, some medium to coarse Sand, little fine to coarse subangular Gravel.	ml		Organic Vapor = 0.0ppm		JL0031 JL0032		Rec 1.0'/1.0' (0-1' bgs)
1015	1	sw: Light brown medium stiff moist SAND, little Silt, trace Clay.	sw		Organic Vapor = 0.0ppm				Rec 1.8'/3.0' (1-4' bgs)
	2								
	3								
	4	sw: Light brown medium stiff dry fine to coarse SAND, little Silt.	sw		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (4-7' bgs)
	5								
1010	6						JL0034		Direct push refusal at 7' bgs Bottom of borehole at 7' bgs
	7								

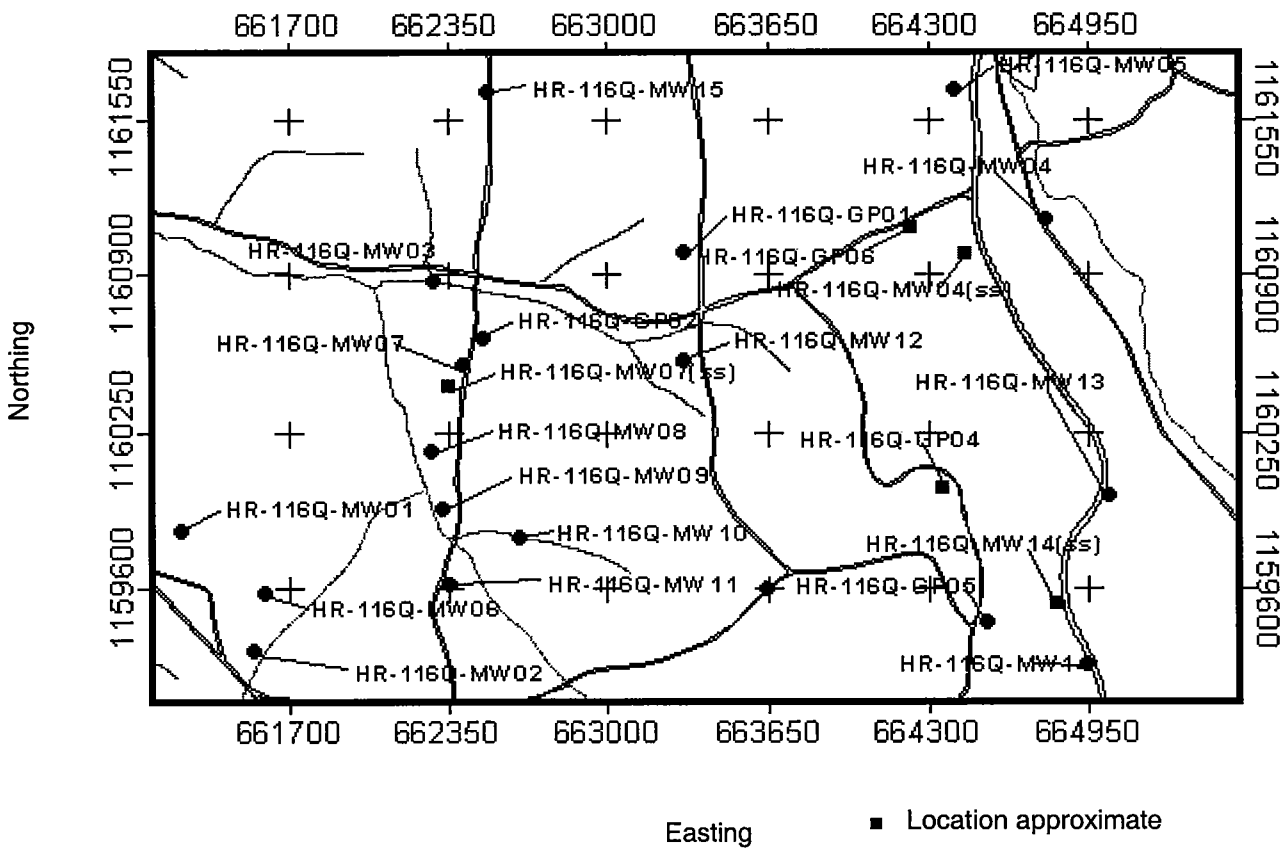
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-GP02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 943.88 10. Date started: 12/13/00 — 11. Date completed: 12/13/00
12. Overburden thickness (feet bgs): >6	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 6	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon/Leslie O'Hare		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-116Q-GP02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-GP02

Project: Fort McClellan | Geologist: Nicole Badon/Leslie O'Hare | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown soft moist SILT, some Clay, little medium to coarse Sand, little coarse subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JL0035		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown medium stiff moist CLAY, some Silt, little fine subrounded Gravel, little fine to medium Sand.	cl		Organic Vapor = 0.0ppm				Rec 1.1'/3.0' (1-4' bgs)
	2								
	3								
940	4	ml: Reddish brown medium stiff SILT, some Clay, some medium to coarse Sand, little fine subangular Gravel.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (4-6' bgs)
	5						JL0036		
	6								Direct push refusal at 6' bgs Bottom of borehole at 6' bgs

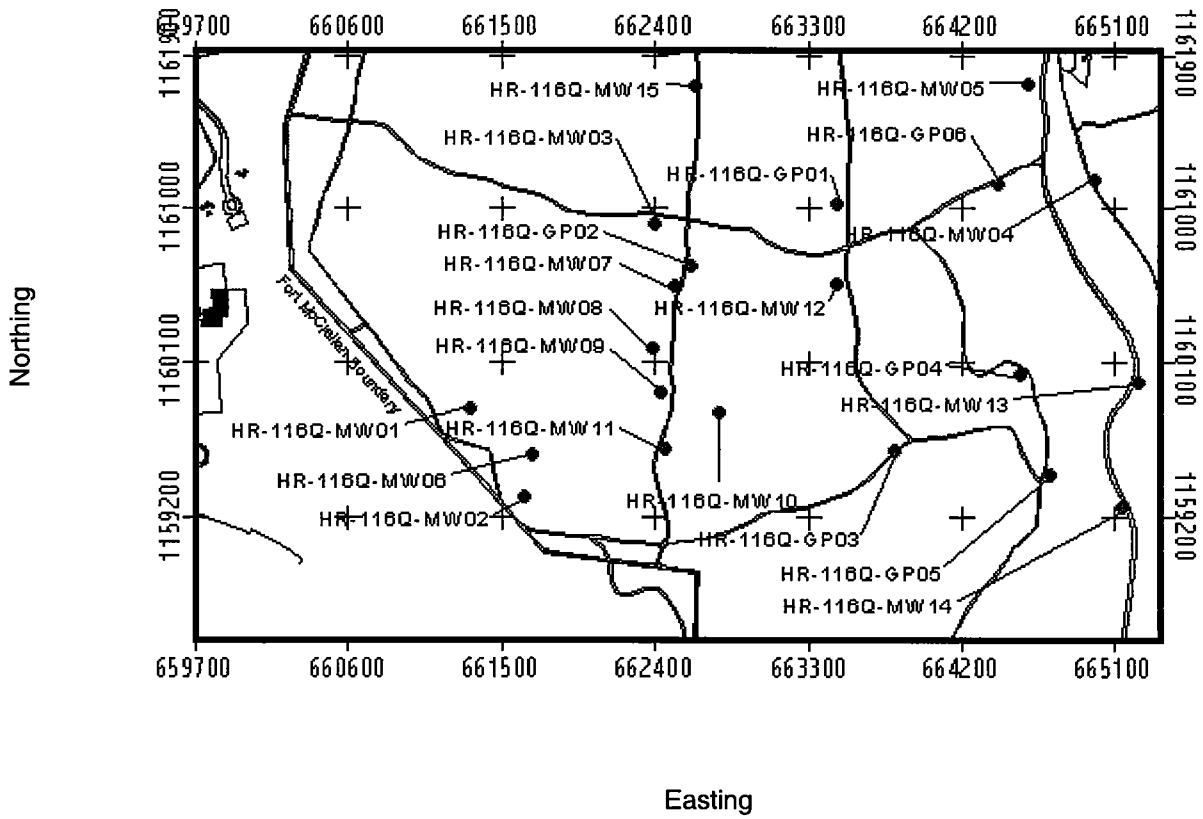
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-GP03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 1179.03 10. Date started: 04/09/01 — 11. Date completed: 04/09/01
12. Overburden thickness (feet bgs): >4	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 4	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: N/A		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	N/A
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Leslie O' Hare		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-116Q-GP03

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-GP03

Project: Fort McClellan | Geologist: Leslie O' Hare | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl-ml: Brown slightly moist CLAY and SILT, some coarse to fine Sand, little quartz-rich subangular coarse to fine Gravel.	cl-ml		Organic Vapor = 0.0ppm		JL0037		Rec 1.0'/2.0' (0-2' bgs)
	1								
	2	cl: Light brown mottled yellowish orange dry stiff CLAY, little fine to coarse Sand, little coarse quartz-rich subangular Gravel.	cl		Organic Vapor = 0.0ppm		JL0038		Rec 2.0'/2.0' (2-4' bgs)
	3								
	4								Direct push refusal at 4' bgs Bottom of borehole at 4' bgs

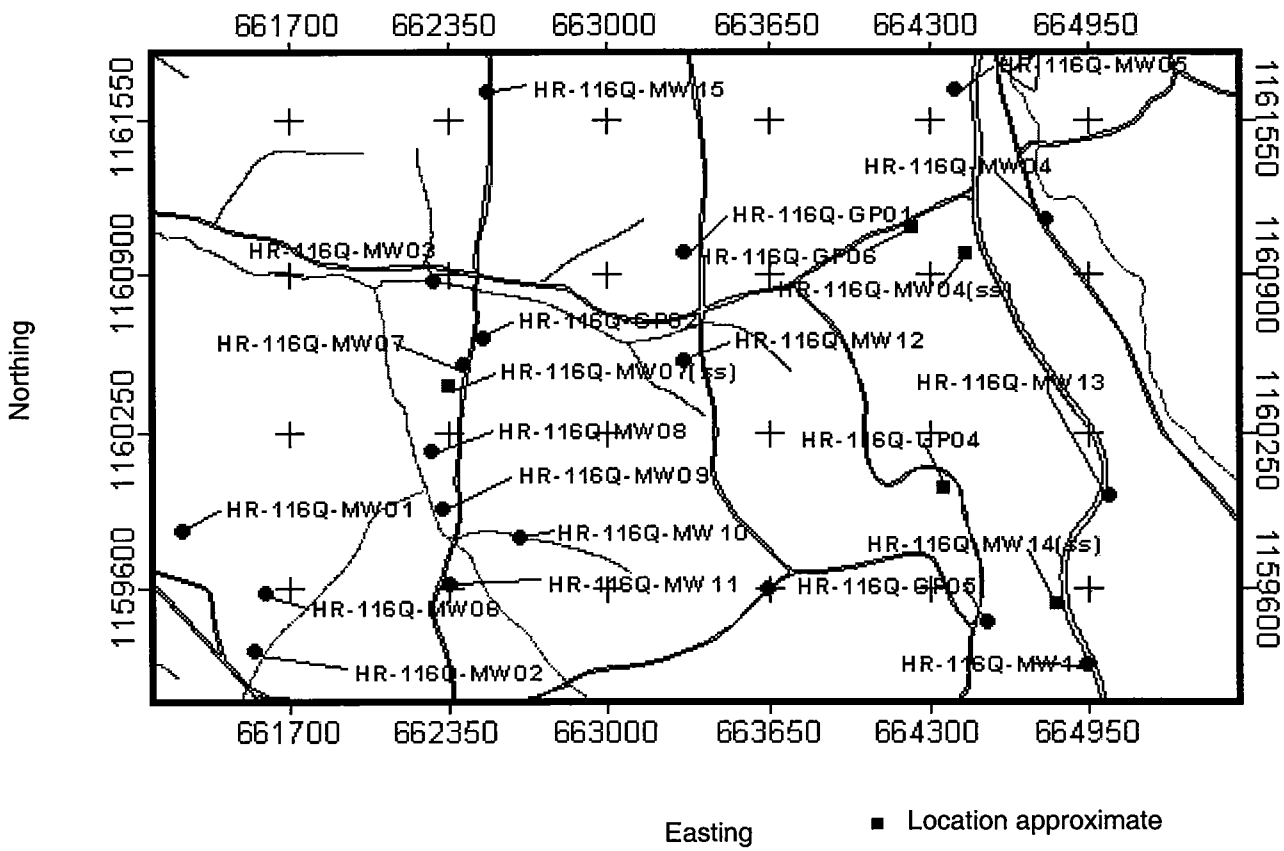
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-GP04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): approximately 1210 10. Date started: 01/30/01 — 11. Date completed: 01/30/01
12. Overburden thickness (feet bgs): >7	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 7	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-116Q-GP04	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-GP04

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1210	0	ml: Medium brown soft moist SILT, little Clay, little fine Sand, trace fine subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JL0039		Rec 1.0'/1.0' (0-1' bgs)
	1	sc: Light brown medium stiff to stiff CLAY and SAND, little fine subangular Gravel, trace Silt.	sc		Organic Vapor = 0.0ppm				Rec 1.7'/3.0' (1-4' bgs)
	2								
	3								
	4	sc: Light brown stiff CLAY and SAND, trace Silt.	sc		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (4-7' bgs)
1205	5								
	6						JL0040		
	7								Direct push refusal at 7' bgs Bottom of borehole at 7' bgs

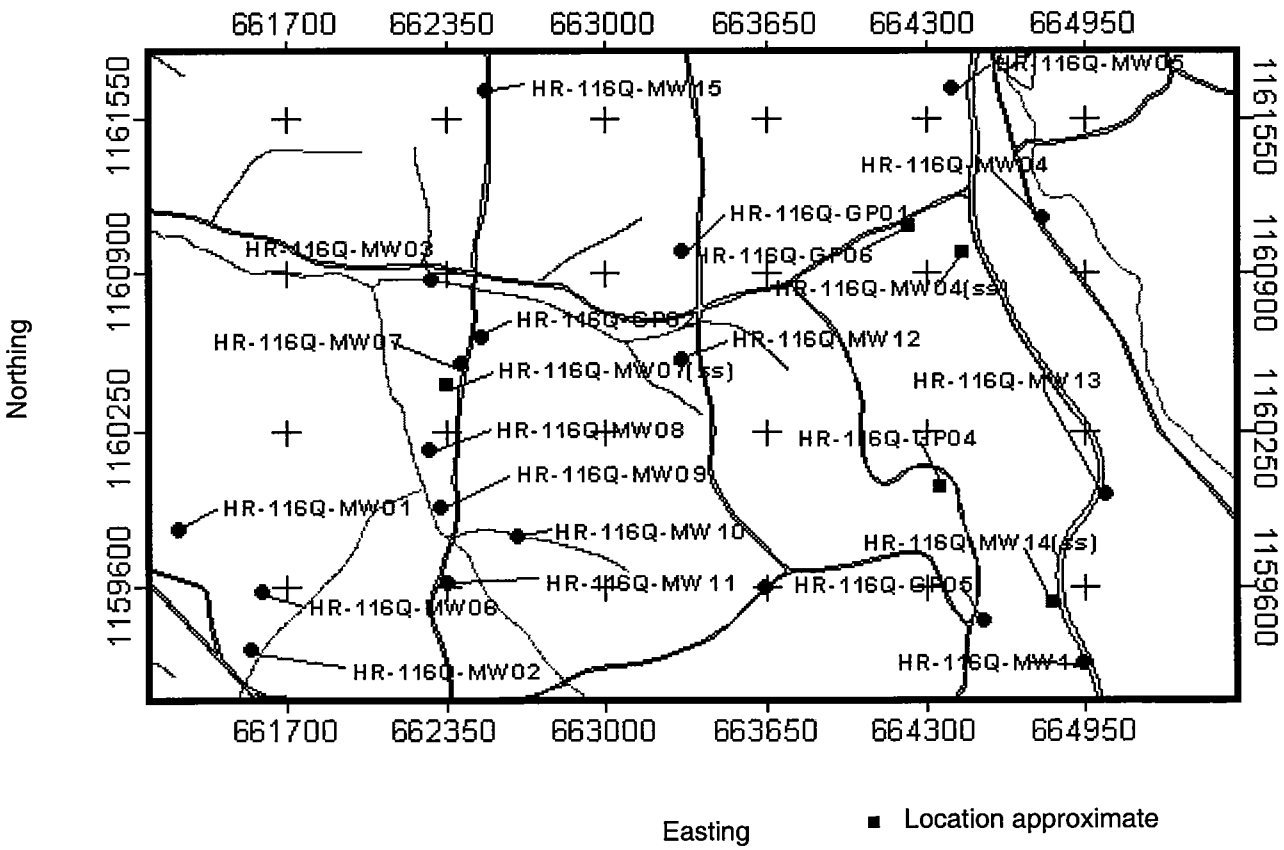
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-GP05
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 1210.33 10. Date started: 02/02/01 — 11. Date completed: 02/02/01
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 12	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: Nicole Badon		
	Bentonite	NA	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-GP05

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1210	0	ml: Brown soft moist SILT, some Clay, little fine to coarse Sand, trace fine to coarse subrounded Gravel.	ml		Organic Vapor = 0.0ppm		JL0041		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Reddish brown medium stiff moist CLAY, some Silt, trace fine Sand, trace fine subrounded Gravel.	cl		Organic Vapor = 0.0ppm				Rec 1.8'/3.0' (1-4' bgs)
	2								
	3								
	4	cl: Reddish brown to yellowish brown stiff moist CLAY, some Silt, little fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
1205	5								
	6								
	7								
	8	ml: Reddish brown, stiff, dry SILT, some Clay, little fine Sand.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-GP05

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1200			ml						
	11								11
							JL0042		
	12								Bottom of borehole at 12' bgs 12

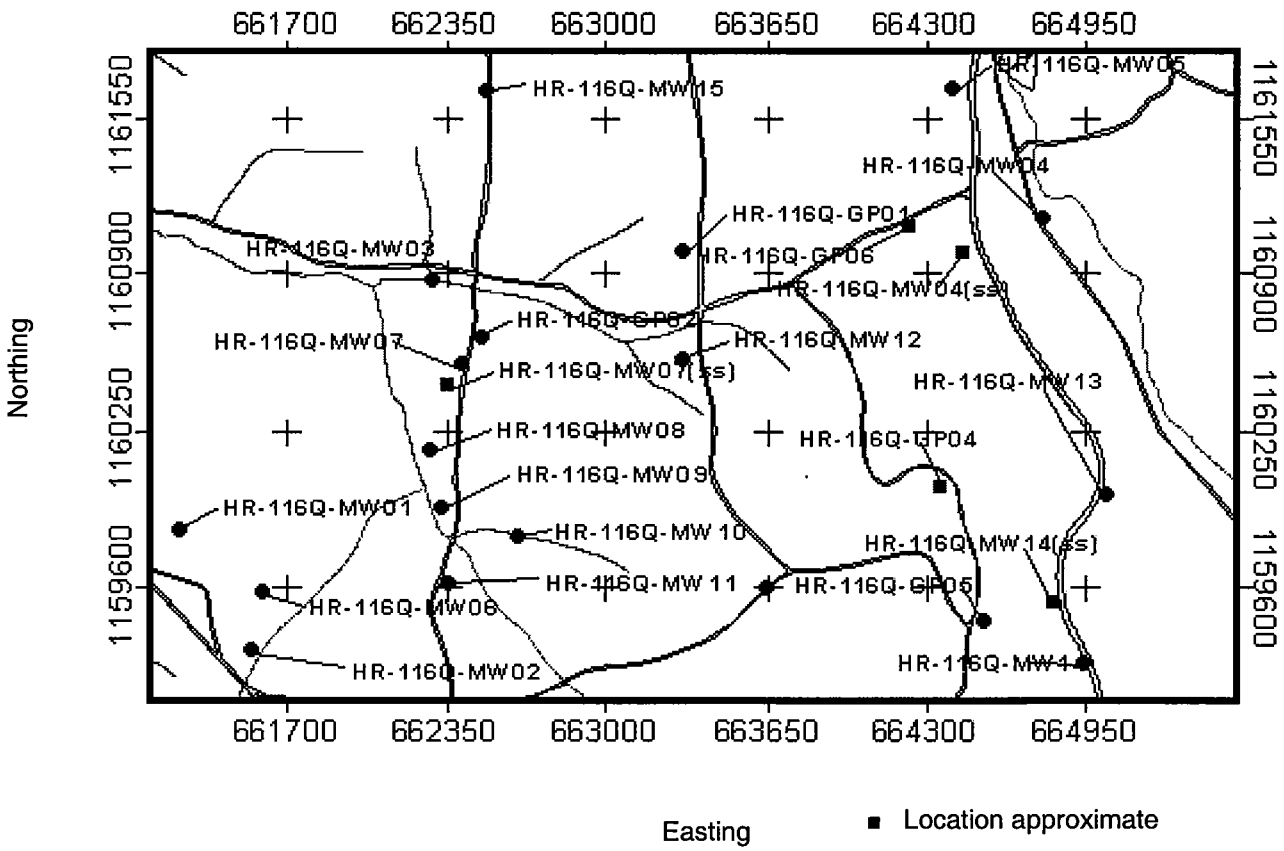
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-GP06
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): approximately 960 10. Date started: 02/01/01 — 11. Date completed: 02/01/01
12. Overburden thickness (feet bgs): >6	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 6	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: N/A		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	N/A
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: Nicole Badon		
	Bentonite	NA	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-116Q-GP06	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-GP06

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
960	0	ml: Light brown, soft, wet SILT some fine to coarse Sand, little coarse subangular Gravel, trace Clay, trace roots.	ml		Organic Vapor = 0.0ppm		JL0043		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown medium stiff wet CLAY, some medium to coarse Sand, little Silt, trace fine subrounded Gravel.	cl		Organic Vapor = 0.0ppm				Rec 2.3'/3.0' (1-4' bgs)
	2								
	3								
	4	cl: Light brown stiff moist CLAY, some Silt, little medium to coarse Sand.	cl		Organic Vapor = 0.0ppm		JL0044 JL0045 JL0046		Rec 2.0'/2.0' (4-6' bgs)
955	5								
	6								Direct push refusal at 6' bgs Bottom of borehole at 6' bgs

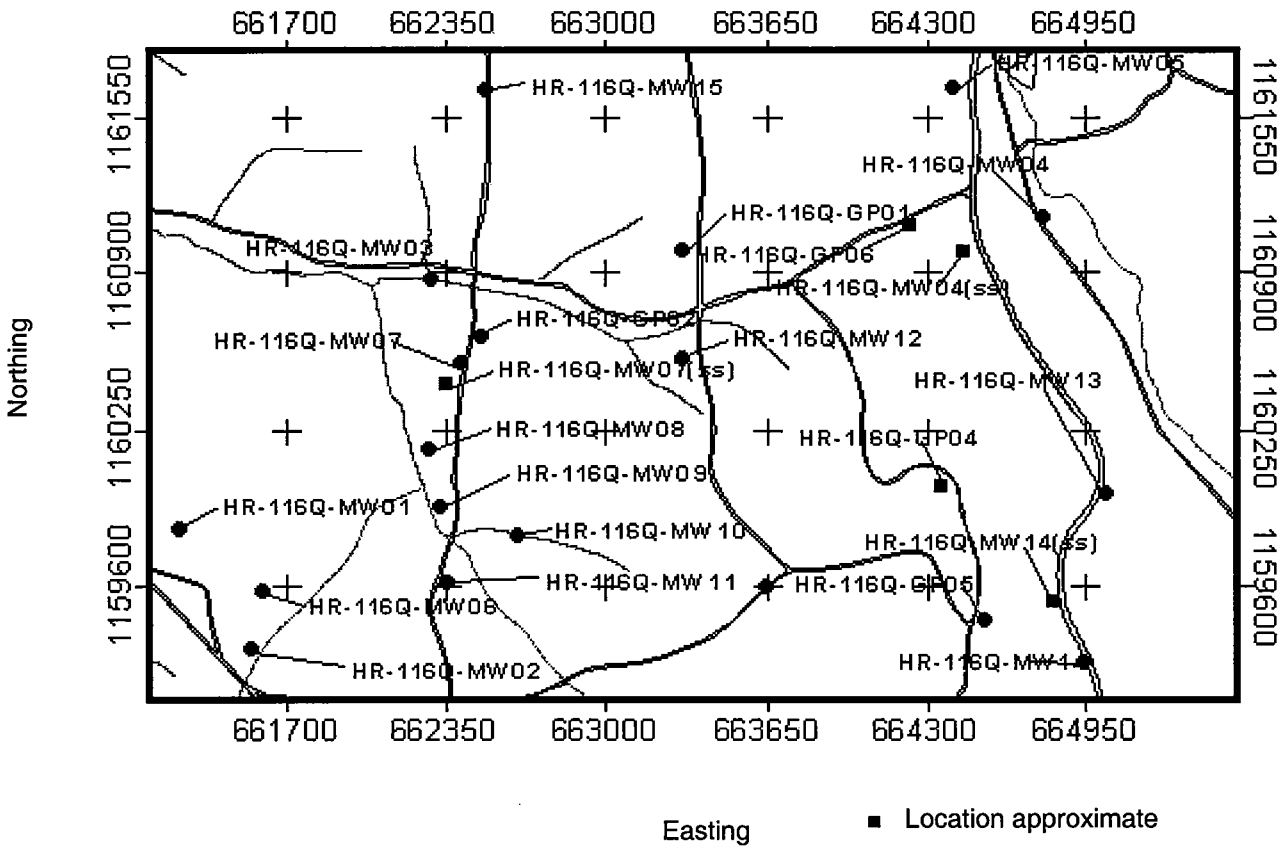
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: S.McDaniel/R.McNeil/D.White	6. Mfr. designation of drill: Strataprobe/CME-550X/Schramm T450W
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger, Air Rotary DP - 4'x2" Acetate-Lined Sampler. HSA - 5'x4.25" ID Augers 2'x2" Steel Split Spoons. AR - 6.25" OD Tricone Roller Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X
	9. Surface elevation (feet above mean sea level): 959.98
	10. Date started: 01/30/01 — 11. Date completed: 05/14/01
12. Overburden thickness (feet bgs): 62	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 10	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 72	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: N.Badon/S.White/J.Dendy		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-116Q-MW01	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 2 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown, soft, moist SILT, some Clay, little fine subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JL0001		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Red-orange stiff moist CLAY, some medium to coarse Sand, little Silt, trace fine subangular Gravel.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
	2								
	3								
	4	sm: Red-orange, medium stiff, slightly moist, fine to coarse SAND, some Silt, trace Clay, trace coarse Gravel.	sm		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
955	5								
	6								
	7								
	8	sm: Red-orange, medium stiff, dry fine SAND, some Silt, trace Clay.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
950	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 3 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		sm				JL0002		Bottom of direct push hole at 12' bgs
	12	NA: No sample collected for lithologic description.	NA						
	13	cl: Medium stiff, reddish brown CLAY, some fine to coarse Sand, some fine to coarse sandstone Gravel.	cl		Organic Vapor = 0.0ppm			10 15 16 18	Rec 2.0'/2.0' (13-15' bgs)
	14								
945	15	NA: No sample collected for lithologic description.	NA						
	16								
	17								
	18	cl: Medium stiff, reddish brown CLAY, some fine to coarse Sand, some fine to coarse sandstone Gravel.	cl		Organic Vapor = 0.0ppm			12 15 20 18	Rec 1.0'/2.0' (18-20' bgs)
	19	NA: No recovery.	NA						
940	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 4 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.	NA						
	21	cl: Reddish brown, dry, CLAY, little Silt.							Auger refusal at 21' bgs Description from air rotary drill cuttings (21-72' bgs)
	22								
	23								
	24								
935	25		cl						
	26								
	27								
	28								
	29								
930	30								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 5 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32								32
	33								33
	34								34
925	35		cl						35
	36								36
	37								37
	38								38
	39								39
920	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 6 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
	42								42
	43								43
	44								44
915	45		cl						45
	46								46
	47								47
	48								48
	49								49
910	50								50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 7 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52								52
	53								53
	54								54
905	55		cl						55
	56								56
	57								57
	58								58
	59								59
900	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 8 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								
	62	ss: SANDSTONE.							
	63								
	64								
895	65								
	66		ss						
	67								
	68								
	69								
890	70								
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW01

Project: Fort McClellan | Geologist: N.Badon/S.White/J.Dendy | Sheet 9 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
			SS						
	72								Bottom of borehole at 72' bgs 72

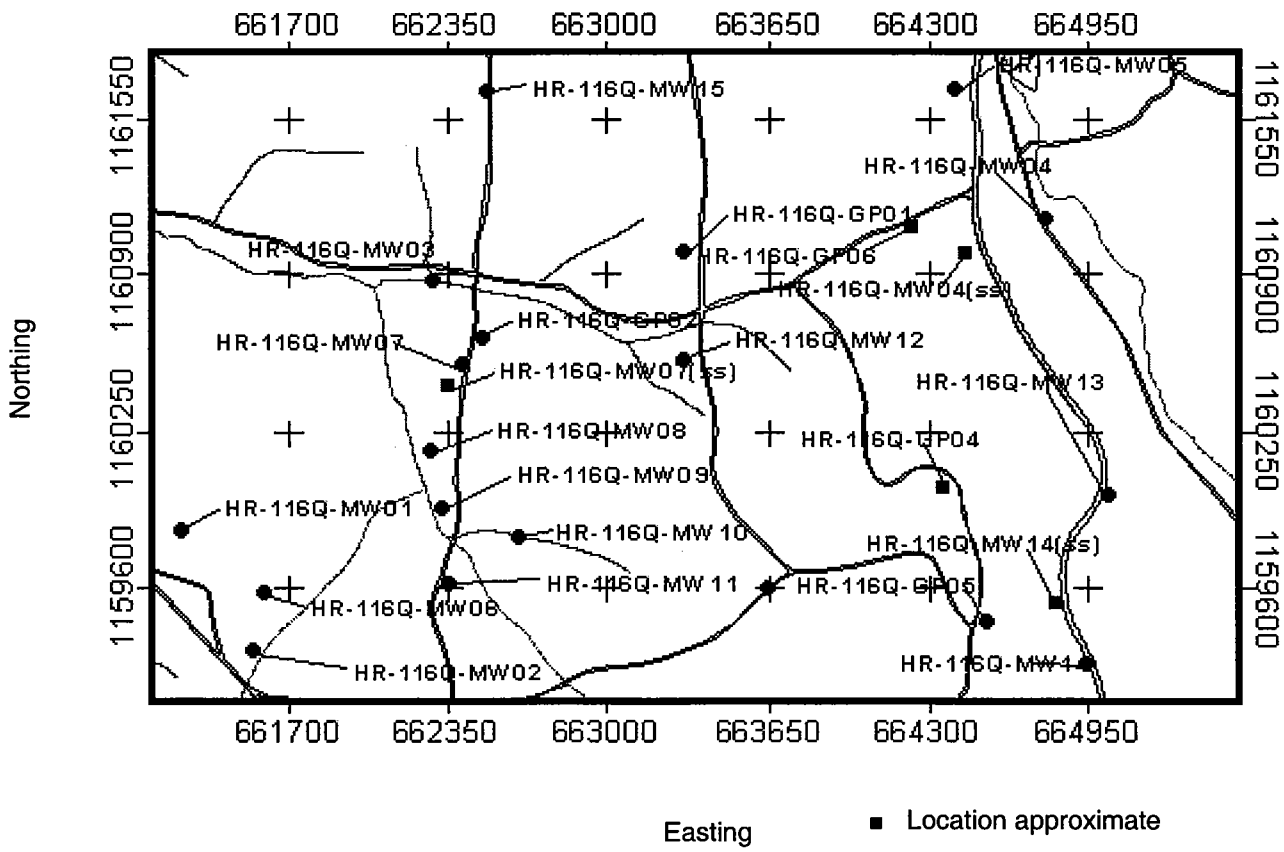
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 1021.07 10. Date started: 01/30/01 — 11. Date completed: 02/08/01
12. Overburden thickness (feet bgs): >84	15. Depth groundwater encountered (feet bgs): 82
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 84	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown soft moist SILT, some Clay, little Sand, trace fine to coarse Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JL0003		Rec 1.0'/1.0' (0-1' bgs)
1020	1	sm: Dark gray to yellowish orange, medium stiff moist, medium to coarse SAND, some Silt, little fine to coarse Gravel.	sm		Organic Vapor = 0.0ppm				Rec 1.0'/3.0' (1-4' bgs)
	2								
	3								
	4	sm: Light orange, medium stiff, medium to coarse SAND, some Silt, little fine subrounded Gravel, trace Clay.	sm		Organic Vapor = 0.0ppm				Rec 2.0'/3.0' (4-7' bgs)
	5								
1015	6						JL0004		
	7	NA: No sample collected for lithologic description.							Direct push refusal at 7' bgs
	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1010	11		NA						
	12								
	13								
	14								
	15	gp: Subrounded coarse sandstone GRAVEL.	gp		Organic Vapor = 0.0ppm			3 3 4 7	Rec 0.6'/2.0' (15-17' bgs)
		cl-ml: Medium pink to light gray CLAY and SILT, trace fine grained Sand.	cl-ml						
		NA: No recovery.							
1005	16		NA						
	17	NA: No sample collected for lithologic description.							
	18		NA						
	19								
	20	gp: Subrounded coarse sandstone GRAVEL.	gp		Organic			18	Rec 0.3'/1.0' (20-21' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl-ml: Medium pink to light gray CLAY and SILT, trace fine Sand, slightly moist.	cl-ml		Vapor = 0.0ppm			50/0.5'	
		NA: No recovery.	NA						
1000	21	NA: No sample collected for lithologic description.							
	22								
	23		NA						
	24								
	25	sm: Light pink to light gray fine SAND, some Silt, some Clay, slightly moist.			Organic Vapor = 0.0ppm			6 23 27 47	Rec 1.5'/2.0' (25-27' bgs)
995	26		sm						
		NA: No Recovery.	NA						
	27	NA: No sample collected for lithologic description.							
	28								
			NA						
	29								
	30	NA: No recovery.	NA					39 50/0.1'	Rec 0.0'/0.6' (30-30.6' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
990	31								
	32								
	33		NA						
	34								
	35	sw: Yellowish orange to white fine to coarse SAND, some fine subrounded sandstone Gravel, slightly moist, trace Silt.	sw		Organic Vapor = 0.0ppm			31 32 49 43	Rec 1.6'/2.0' (35-37' bgs)
985	36								
		cl: Yellowish orange to white mottled CLAY, some Silt, trace fine Sand, slightly moist.	cl						
	37	NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							
	38		NA						
	39								
	40	cl: Light brown dry CLAY, trace Silt.			Organic Vapor =			9 15 23 27	Rec 2.0'/2.0' (40-42' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			cl		0.0ppm				
980	41								
	42	sc: Yellowish orange, light brown, medium pink and white mottled interbedded CLAY and SILT and fine SAND.	sc						
		NA: No sample collected for lithologic description.							
	43								
	44								
	45								
975	46		NA						
	47								
	48								
	49								
	50	ml: Yellowish orange, light brown, white mottled SILT, some Clay, trace fine Sand, dry.	ml		Organic Vapor = 0.0ppm			9 13 23 29	Rec 2.0'/2.0' (50-52' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
970	51	ml: Light brown to yellowish orange mottled SILT, some Clay, little fine sandstone Gravel, trace fine Sand.	ml						
		cl: Light brown to yellowish orange CLAY, little Silt.	cl						
	52	NA: No sample collected for lithologic description.	NA						
	53								
	54								
	55	cl: Yellowish orange dry CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			7 9 15 13	Rec 1.5'/2.0' (55-57' bgs)
965	56	cl: Yellowish orange dry CLAY, some Silt, little subangular Gravel.	cl						
		NA: No Recovery.	NA						
	57	NA: No sample collected for lithologic description.	NA						
	58								
	59								
	60	ml: Yellowish orange SILT, trace Clay, dry.	ml		Organic Vapor = 0.0ppm			16 20 21 20	Rec 2.0'/2.0' (60-62' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
960	61	ml: Yellowish orange SILT, trace Clay, little subangular sandstone Gravel, dry.	ml						
		cl-ml: Yellowish orange CLAY and SILT.	cl-ml						
	62	NA: No sample collected for lithologic description.	NA						
	63								
	64								
	65	ml: Yellowish orange dry SILT, trace Clay, trace fine subangular sandstone Gravel.	ml		Organic Vapor = 0.0ppm			7 11 15 23	Rec 1.5'/2.0' (65-67' bgs)
955	66								
		NA: No Recovery.	NA						
	67	NA: No sample collected for lithologic description.	NA						
	68								
	69								
	70	gm: Yellowish orange dry SILT and subrounded coarse sandstone GRAVEL, trace Clay, trace fine Sand.	gm		Organic Vapor = 0.0ppm			21 33 50/0.5'	Rec 1.0'/1.5' (70-71.5' bgs)
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
950	71	NA: No Recovery.	NA						
		NA: No sample collected for lithologic description.							
	72								
	73		NA						
	74								
	75	ml: Yellowish orange dry SILT, little subangular fine sandstone Gravel.	ml		Organic Vapor = 0.0ppm			7 11 6 7	Rec 2.0'/2.0' (75-77' bgs)
945	76	cl: Yellowish orange to white CLAY, some Silt, little subangular fine to coarse sandstone Gravel, dry.	cl						
	77	NA: No sample collected for lithologic description.							
	78		NA						
	79								
	80	ml: Yellowish orange moist SILT, some subangular fine to coarse sandstone Gravel, trace Clay.	ml		Organic Vapor = 0.0ppm			3 5 4 4	Rec 1.0'/2.0' (80-82' bgs)
940	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No Recovery.	NA						
	82	NA: No sample collected for lithologic description.							Groundwater encountered at 82' bgs
	83		NA						
	84								Auger refusal at 84' bgs Bottom of borehole at 84' bgs

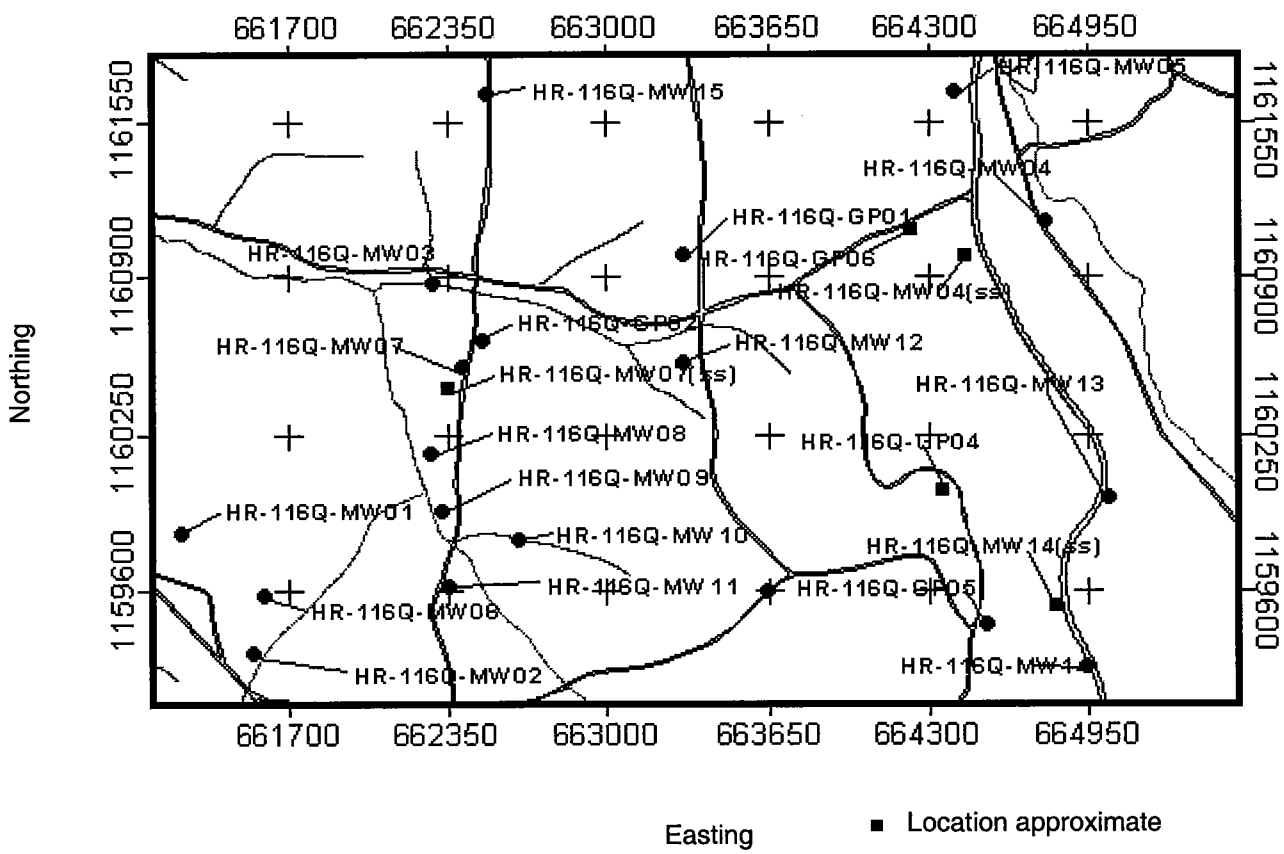
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 888.20 10. Date started: 12/13/00 — 11. Date completed: 01/23/01
12. Overburden thickness (feet bgs): >28	15. Depth groundwater encountered (feet bgs): 7.8
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 28	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Steve White		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-116Q-MW03

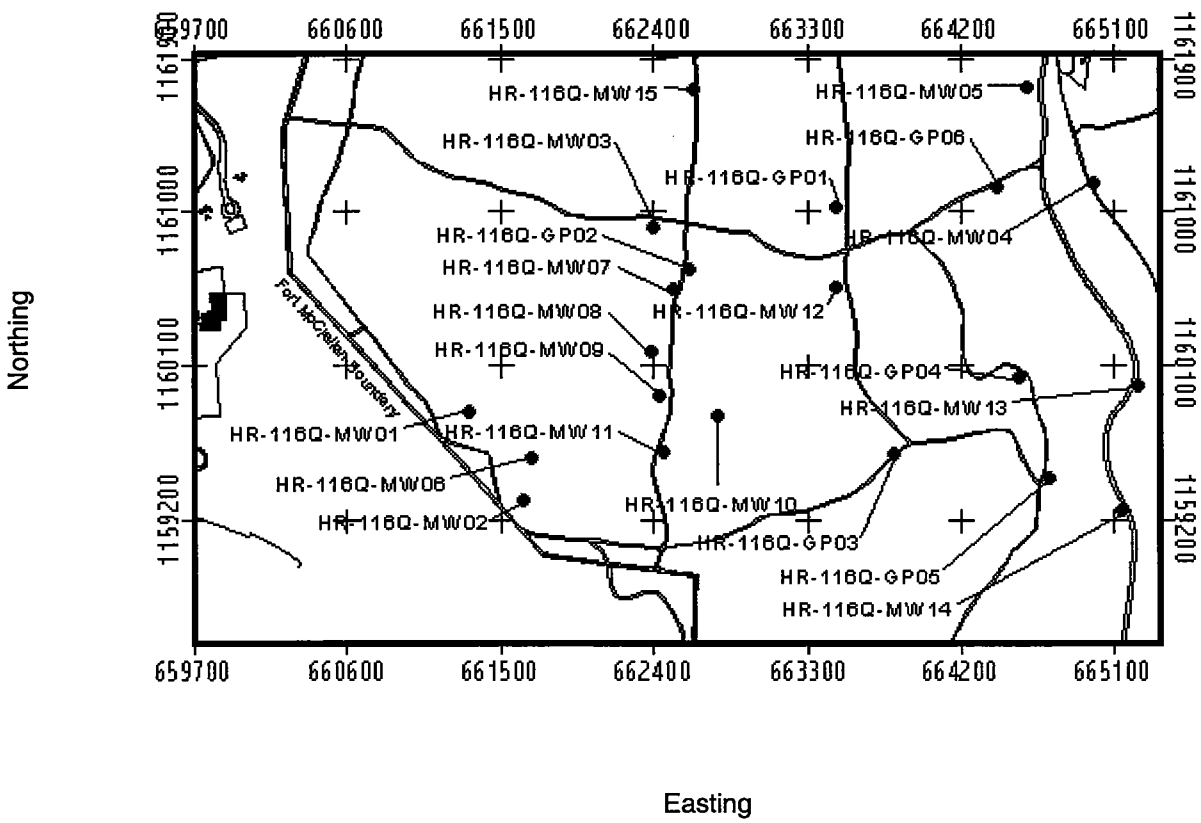
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 888.20 10. Date started: 12/13/00 — 11. Date completed: 01/23/01
12. Overburden thickness (feet bgs): >28	15. Depth groundwater encountered (feet bgs): 7.8
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 28	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: Nicole Badon/Steve White		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/Steve White | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
									Gravel and cobbles prohibited split spoons from 10-28' bgs
	11								11
	12								12
	13								13
875									
	14								14
	15		NA						15
	16								16
	17								17
	18								18
870									
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/Steve White | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
	22								22
	23								23
865			NA						
	24								24
	25								25
	26								26
	27								27
	28								Bottom of borehole at 28' bgs 28

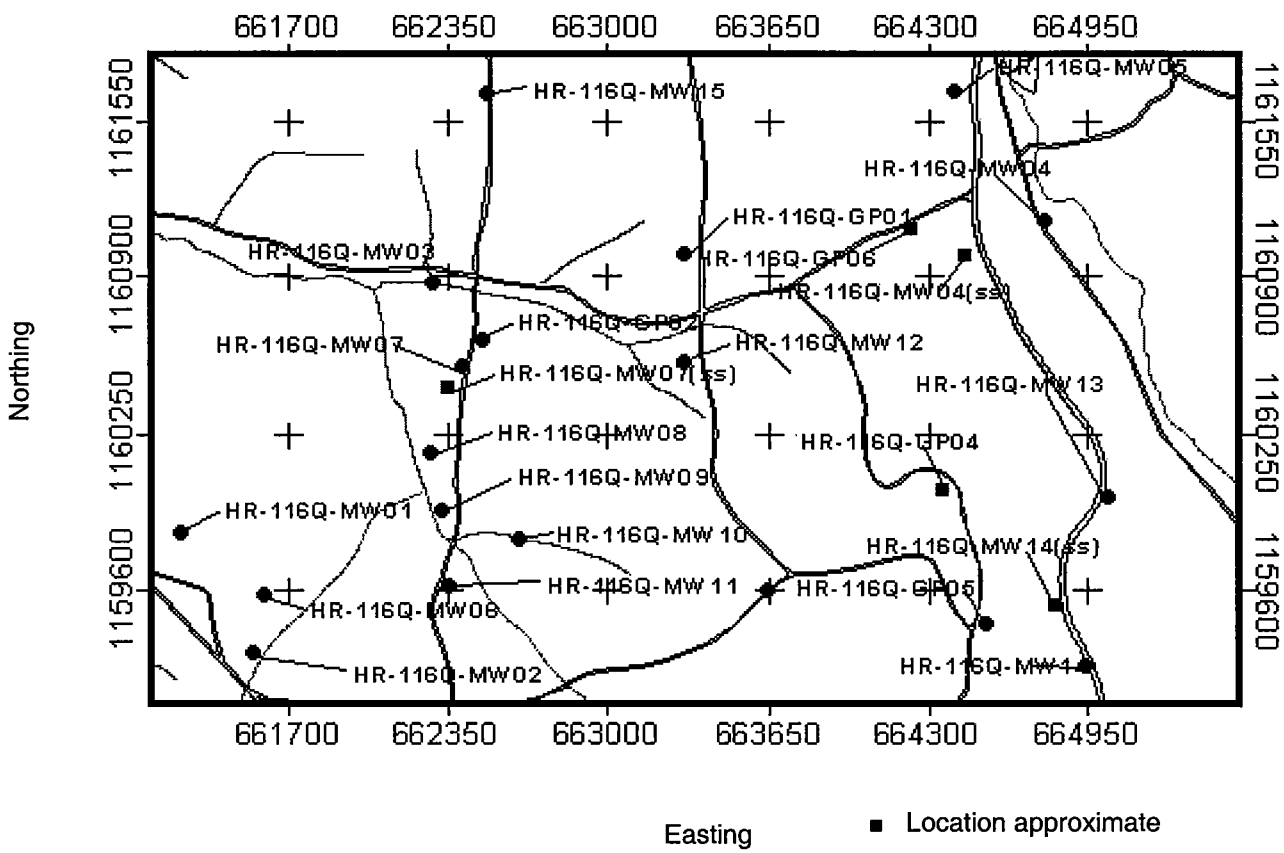
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW04(SS)
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Red McNeil	6. Mfr. designation of drill: Strataprobe/Schramm T450W
7. Sizes and types of drilling and sampling equipment: Direct Push, Air Rotary DP - 2'x2" Acetate-Lined Sampler AR - 6.25" Tricone Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q 9. Surface elevation (feet above mean sea level): approximately 970 10. Date started: 01/30/01 — 11. Date completed: 02/08/01
12. Overburden thickness (feet bgs): 10	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 10	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon/George Robertson		

LOCATION SKETCH/COMMENTS:



■ Location approximate

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW04(SS)

Project: Fort McClellan | Geologist: Nicole Badon/George Robertson | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
970	0	ml: Light brown, soft, moist SILT, some fine Sand, little Clay, trace roots.	ml		Organic Vapor = 0.0ppm		JL0007		Rec 1.0'/1.0' (0'-1' bgs)
	1	ml: Light brown, medium stiff, slightly moist SILT, some fine Sand, trace Clay.	ml		Organic Vapor = 0.0ppm		JL0008		Rec 3.0'/3.0' (1-4' bgs)
	2								
	3								
	4	NA: No sample collected for lithologic description.	NA						Direct push refusal at 4' bgs
965	5	sm: Orangish brown SAND, fine grained, some Silt, trace to little Clay, slightly moist.	sm						Descriptions based on air rotary cuttings (5-10' bgs)
	6								
	7								
	8								
	9								
960	10								Bedrock at 10' bgs Bottom of borehole at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW04(SS)

Project: Fort McClellan | Geologist: Nicole Badon/George Robertson | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		ss: SANDSTONE, off white to light gray, fine grained, well sorted, quartz-rich, some Silt, dry.							

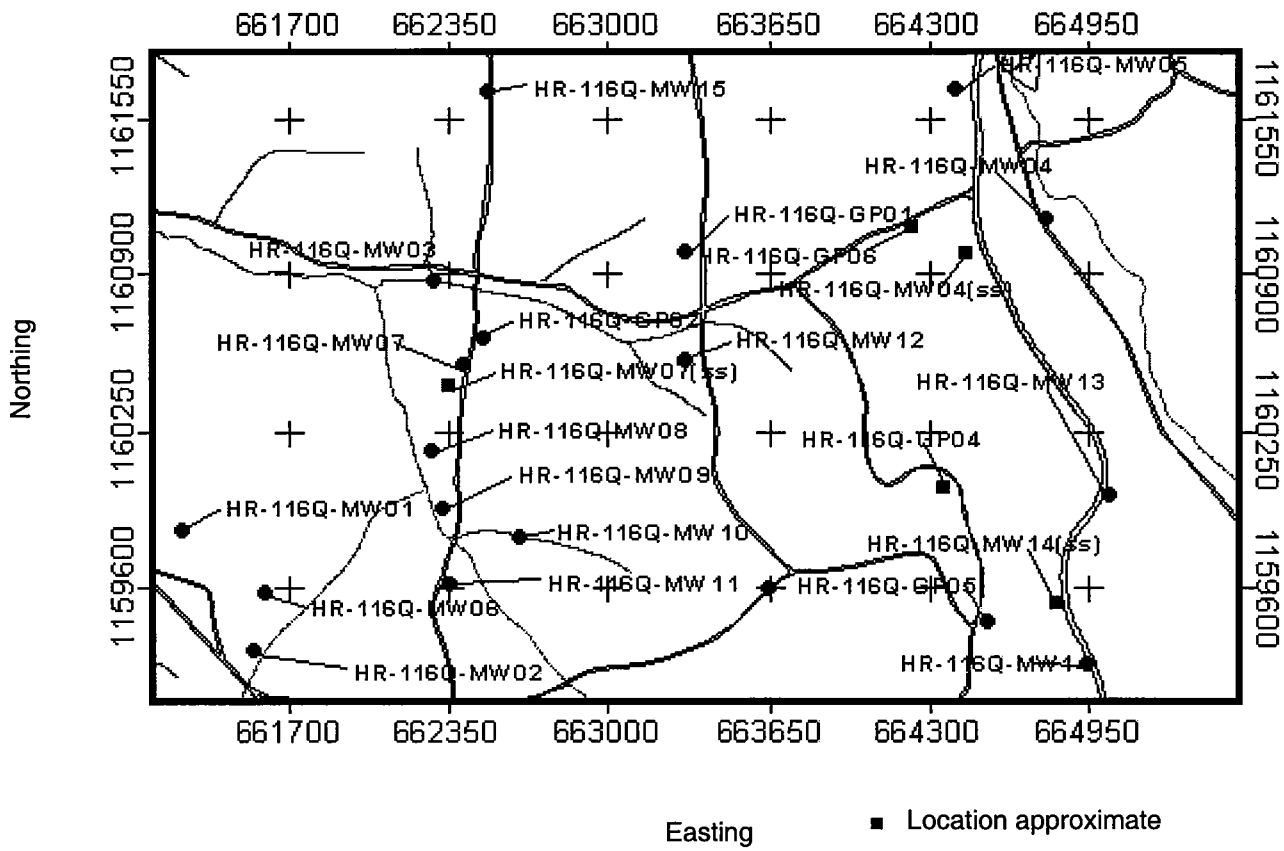
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW04
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Mike Martin	6. Mfr. designation of drill: Ingersoll-Rand 97
7. Sizes and types of drilling and sampling equipment: Air Rotary AR - 6.25" Tricone Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q 9. Surface elevation (feet above mean sea level): 911.42 10. Date started: 03/29/01 — 11. Date completed: 03/30/01
12. Overburden thickness (feet bgs): >49.2	15. Depth groundwater encountered (feet bgs): 40
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 49.2	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	NA	NA	NA	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	George Robertson		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-116Q-MW04

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW04

Project: Fort McClellan | Geologist: George Robertson | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sw: Medium brown, loose, coarse to fine, well-graded, quartz-rich SAND, little fine to coarse, angular to subrounded Gravel, little Silt, trace Clay, moist.	sw						Note: 370' E of direct push location Description from air rotary drill cuttings (0-49.2' bgs)
	1								
910									
	2								
	3								
	4								
	5								
	6								
905									
	7								
	8	sw: Yellowish brown, loose to moderately dense, fine to coarse, quartz-rich, well graded SAND, little Silt, little fine to medium, subrounded to subangular Gravel, trace Clay, dry.							
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW04

Project: Fort McClellan | Geologist: George Robertson | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
900									
	12								12
	13								13
	14								14
	15		SW						15
	16								16
895									
	17								17
	18								18
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW04

Project: Fort McClellan | Geologist: George Robertson | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
890									
	22								22
	23		sw						23
	24								24
	25								25
	26								26
885									
	27	sm: Orangish to yellowish brown, moderately dense to dense, fine to occasionally medium, poorly graded, quartz-rich SAND, some Silt, little subrounded Gravel, slightly moist to moist.							27
	28								28
			sm						
	29								29
	30								30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW04

Project: Fort McClellan | Geologist: George Robertson | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
880									
	32								32
	33								33
	34		sm						34
	35								35
	36								36
875									
	37								37
	38								38
		sm: Orangish brown, stiff, fine, poorly sorted SAND, some Silt, little Clay, moist.							
	39								39
			sm						
	40								40 Groundwater encountered at 40' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW04

Project: Fort McClellan | Geologist: George Robertson | Sheet 6 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
870									
	42								42
	43								43
	44		sm						44
	45								45
	46								46
865									
	47								47
	48								48
	49								49

Bottom of borehole at 49.2'

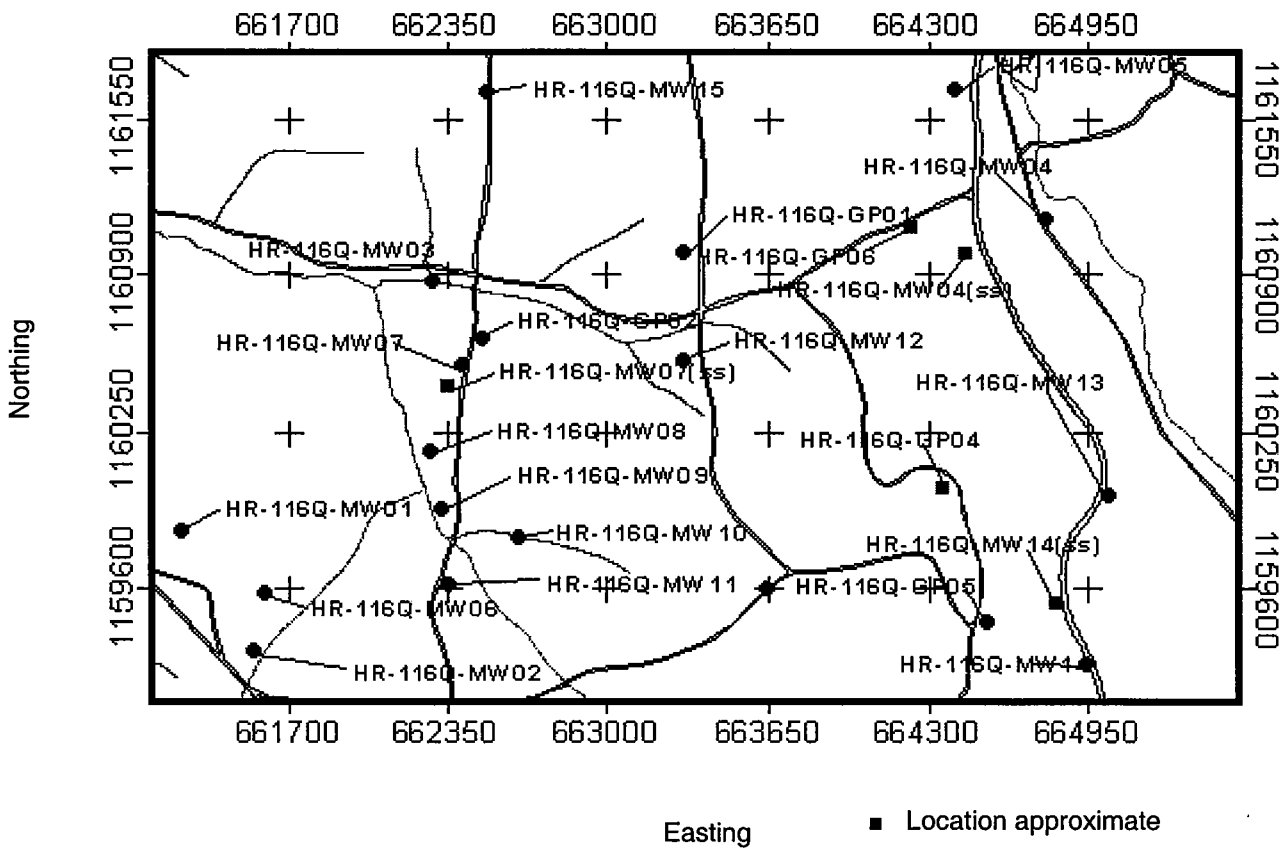
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW05
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 15 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell/Red McNeil	6. Mfr. designation of drill: Strataprobe/CME-750X/Schramn T450W
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem, Air Rotary DP - 4'x2" Acetate-Lined Sampler/AR - 6.25" Tricone Bit HSA - 5'x4.25" ID Auger, 2'x2" Steel Split Spoon	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 923.67 10. Date started: 02/01/01 — 11. Date completed: 02/07/01
12. Overburden thickness (feet bgs): >135	15. Depth groundwater encountered (feet bgs): 60
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 135	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: N.Badon/J. Remo/G. Robertson		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-116Q-MW05	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 2 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light orange soft moist SILT, some medium to coarse Sand, little coarse subangular Gravel, trace Clay.	ml		Organic Vapor = 0.0ppm		JL0009		Rec 1.0'/1.0' (0-1' bgs)
	1	sm: Off white to yellowish orange, very dense, fine to medium SAND, some Silt, little coarse sandstone Gravel.	sm		Organic Vapor = 0.0ppm		JL0010		Rec 1.0'/1.0' (1-2' bgs)
	2	NA: No sample collected for lithologic description.	NA						Direct push refusal at 2' bgs
920	3								
	4								
	5	sm: Light brown dense dry fine SAND and SILT, trace Clay.	sm		Organic Vapor = 0.0ppm			12 23 40 50	Rec 2.0'/2.0' (5-7' bgs)
	6								
	7	NA: No sample collected for lithologic description.	NA						
915	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 3 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sm: Light brown dry dense fine SAND and SILT, trace Clay, trace coarse grained sandstone Gravel.	sm		Organic Vapor = 0.0ppm			24 40/0.5'	Rec 1.0'/1.0' (10-11' bgs)
	11	NA: No sample collected for lithologic description.							
	12								
	13		NA						
910									
	14								
	15	sm: Light brown medium stiff dry SAND and SILT, trace Clay, trace sandstone fragments.	sm		Organic Vapor = 0.0ppm			33 40/0.5'	Rec 0.8'/1.0' (15-16' bgs)
		NA: No Recovery	NA						
	16	NA: No sample collected for lithologic description.							
	17								
	18		NA						
905									
	19								Auger refusal at 19.5' bgs
	20	cl: Orangish brown to reddish brown CLAY,							Description from air rotary

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 4 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		some Silt, low plasticity, trace fine Sand, trace subangular fine Gravel.							drill cuttings (20-135' bgs)
	21								21
	22								22
	23								23
900									
	24								24
	25								25
			cl						
	26								26
	27								27
	28								28
895									
	29								29
	30								30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 5 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32								32
			cl						
	33								33
890									
	34								34
	35	sm: Yellowish brown poorly graded fine SAND and SILT, trace Clay, dry.							35
	36								36
	37								37
	38		sm						38
885									
	39								39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 6 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
	42								42
	43								43
880									
	44								44
	45		sm						45
	46								46
	47								47
	48								48
875									
	49								49
	50								50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 7 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52								52
			sm						
	53								53
870									
	54								54
	55	ml: Yellowish brown SILT, some Clay, no to low plasticity, some fine Sand, slightly moist.							55
	56								56
	57								57
	58		ml						58
865									
	59								59
	60								60 Groundwater encountered at 60' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 8 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62								62
	63								63
860									
	64								64
	65								65
			ml						
	66								66
	67								67
	68								68
855									
	69								69
	70								70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 9 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
	72								72
	73		ml						73
850									
	74								74
	75	ml: Yellowish brown **SILT**, trace Clay, trace fine Sand, no plasticity, dry.							75
	76								76
	77								77
	78		ml						78
845									
	79								79
	80								80
	81								81

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 10 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	82								82
		ml: Yellowish brown to orangish brown SILT, some Clay, no to low plasticity, trace fine Sand, dry.							
	83								83
840									
	84								84
	85								85
	86								86
	87		ml						87
	88								88
835									
	89								89
	90								90
	91								91

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 11 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92								92
	93								93
830									
	94								94
	95								95
	96		ml						96
	97								97
	98								98
825									
	99								99
	100								100
	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 12 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	102								102
	103								103
820									
	104								104
	105								105
	106		ml						106
	107								107
	108								108
815									
	109								109
	110								110
	111								111

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 13 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	112								112
	113		ml						113
810									
	114								114
	115	ml: Light brown SILT, some fine Sand, little Clay, moist.							115
	116								116
	117								117
	118		ml						118
805									
	119								119
	120								120
	121								121

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 14 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	122								122
		ml: Yellowish brown SILT, some Clay, low plasticity, little fine Sand, very moist.							
	123								123
800									
	124								124
	125								125
	126		ml						126
	127								127
	128								128
795									
	129								129
	130	sm: Orangish brown poorly graded fine SAND, some Silt, little Clay, trace Gravel, (Gravel was pulverized by drill bit).							130
	131								131

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW05

Project: Fort McClellan | Geologist: N.Badon/J. Remo/G. Robertson | Sheet 15 of 15 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	132		sm						132
	133								133
790									Boring terminated at 135' bgs due to possible water bearing zone at 125-127' bgs. Hole caved in to 73.8' bgs. Water bearing zone also at approximately 60' bgs. Set well at 73.8' bgs.
	134								134
									Bottom of borehole at 135' bgs
	135								135

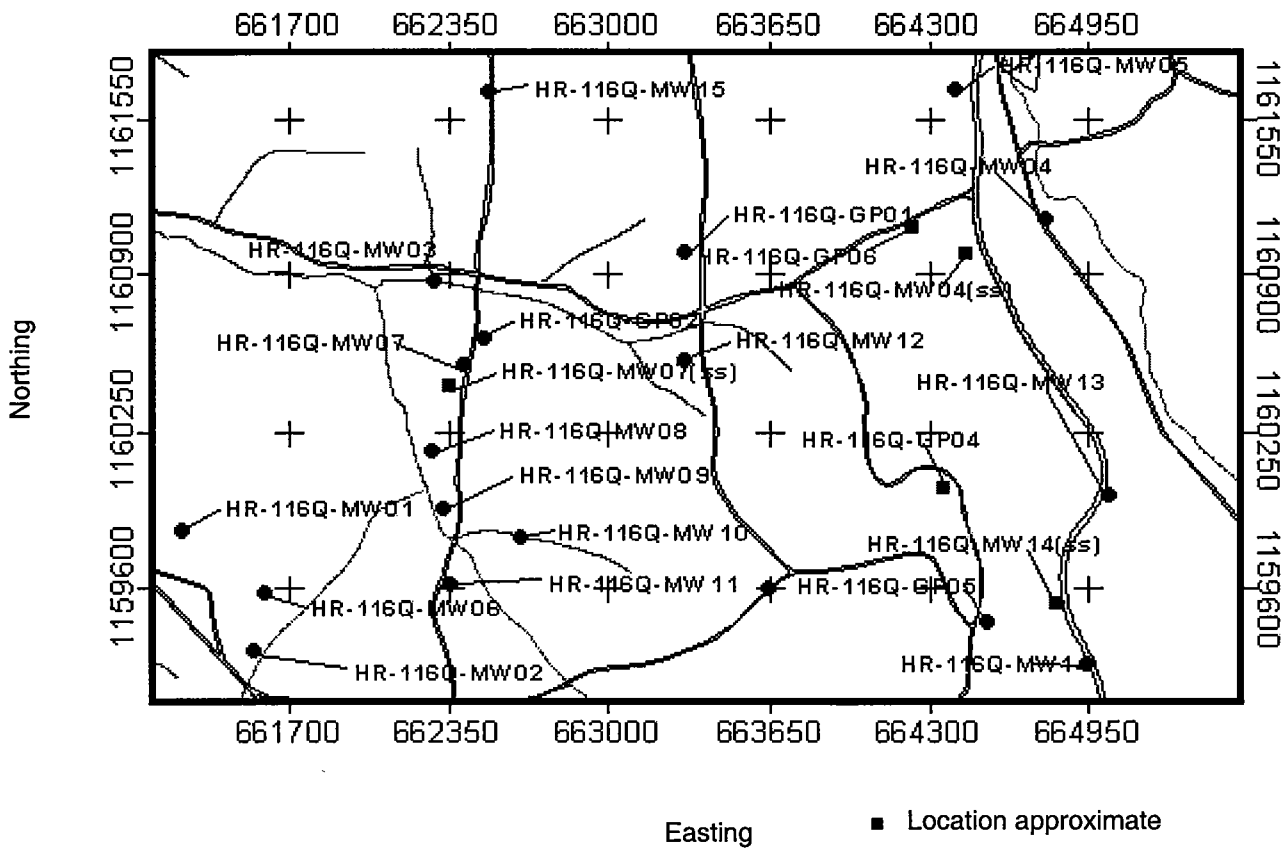
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW06
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 11 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 997.76 10. Date started: 01/30/01 — 11. Date completed: 02/27/01
12. Overburden thickness (feet bgs): >97	15. Depth groundwater encountered (feet bgs): Unknown
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 97	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown, soft, moist SILT, some fine to medium Sand, little Clay, trace fine subrounded Gravel, trace organic material (roots).	ml		Organic Vapor = 0.0ppm		JL0011		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Orange-red, moist, medium stiff CLAY, some fine to medium Sand, trace fine Gravel.	cl		Organic Vapor = 0.0ppm				Rec 2.1'/3.0' (1-4' bgs)
	2								
995	3								
	4	cl: Red-orange, stiff, moist CLAY, some medium to coarse Sand, little Silt, trace subangular Gravel.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6		cl						
	7								
990	8	ml: Red-orange stiff slightly moist SILT, some fine to medium Sand, little Clay, trace coarse subangular Gravel.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 3 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			ml						
	11						JL0012		
									Bottom of direct push hole at 12' bgs
	12	NA: No sample collected for lithologic description.							
985									
	13		NA						
	14								
	15	gw: Coarse sandstone GRAVEL.	gw		Organic Vapor = 0.0ppm			17 10 12 20	Rec 0.1'/2.0' (15-17' bgs)
		NA: No recovery.							
	16		NA						
	17	NA: No sample collected for lithologic description.			Organic Vapor = 0.0ppm				
980									
	18		NA						
	19								
	20	NA: No recovery.						4 6 9	Rec 0.0'/2.0' (20-22' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 4 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
								14	
	21		NA						
	22	NA: No sample collected for lithologic description.							
975									
	23		NA						
	24								
	25	cl: Reddish brown, yellowish orange mottled stiff CLAY, slightly moist.	cl		Organic Vapor = 0.0ppm			9 10 11 20	Rec 2.0'/2.0' (25-27' bgs)
	26	sh: Reddish brown, yellowish orange weathered SHALE, slightly moist, slightly fissile.	sh						
		sh: Yellowish orange, reddish brown, dark gray weathered SHALE, slightly moist, slightly fissile.	sh						
	27	NA: No sample collected for lithologic description.							
970									
	28		NA						
	29								
	30	sh: Reddish brown, yellowish orange, dark gray weathered SHALE, fine grained shale			Organic Vapor			9 10 12 15	Rec 2.0'/2.0' (30-32' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 5 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		Gravel, slightly fissile, slightly moist.			= 0.0ppm				
	31		sh						31
	32	NA: No sample collected for lithologic description.							32
965									
	33		NA						33
	34								34
	35	sh: Reddish brown, slightly moist, weathered SHALE, slightly fissile.	sh		Organic Vapor = 0.0ppm			5 4 5 5	Rec 2.0'/2.0' (35-37' bgs) 35
	36	sh: Reddish brown, yellowish orange, dark gray weathered SHALE, fine grained shale Gravel, slightly fissile.	sh						36
	37	NA: No sample collected for lithologic description.							37
960									
	38		NA						38
	39								39
	40	sh: Yellowish brown, reddish brown, dark gray weathered SHALE, fine grained shale Gravel, slightly fissile, slightly moist.			Organic Vapor =			5 7 8 9	Rec 1.5'/2.0' (40-42' bgs) 40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 6 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			sh		0.0ppm				
	41								41
		NA: No recovery.	NA						
	42	NA: No sample collected for lithologic description.							42
955									
	43								43
			NA						
	44								44
	45	sh: Reddish brown, reddish purple, yellowish orange, off white, medium brown, weathered SHALE, slightly fissile, slightly moist.			Organic Vapor = 0.0ppm			2 3 9 11	Rec 1.5'/2.0' (45-47' bgs) 45
			sh						
	46								46
		NA: No recovery.	NA						
	47	NA: No sample collected for lithologic description.							47
950									
	48								48
			NA						
	49								49
									Well set at 50' bgs. (Drilled past first water. Abandoned first hole, drilled adjacent hole in order to set well at 50' bgs)
	50	sh: Reddish brown, yellowish orange, off white, dark gray/brown mottled weathered SHALE, slightly moist, slightly fissile.	sh		Organic Vapor = 0.0ppm			6 9 11 12	Rec 2.0'/2.0' (50-52' bgs) 50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 7 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	sh: Medium brown, off white, slightly moist weathered SHALE.	sh						
		sh: Reddish brown, yellowish orange, off white weathered SHALE, slightly moist, slightly fissile.	sh						
	52	sh: Dark brown, reddish brown slightly moist weathered SHALE, slightly fissile, some fine to coarse shale Gravel.	sh						
945		NA: No sample collected for lithologic description.							
	53		NA						
	54								
	55	sh: Yellowish orange, medium brown weathered SHALE, some fine shale Gravel, slightly moist, slightly fissile.			Organic Vapor = 0.0ppm			5 7 13 15	Rec 2.0'/2.0' (55-57' bgs)
	56		sh						
	57	NA: No sample collected for lithologic description.							
940	58		NA						
	59								
	60	cl: Reddish orange, yellowish orange, off white slightly moist CLAY, some fine to coarse chert Gravel.			Organic Vapor = 0.0ppm			10 12 18 22	Rec 2.0'/2.0' (60-62' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 8 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								
	62	sh: Yellowish orange, off white, slightly moist weathered SHALE, slightly fissile.	sh						
		NA: No sample collected for lithologic description.							
935	63		NA						
	64								
	65	sh: Yellowish orange, off white weathered SHALE, slightly fissile, dry.			Organic Vapor = 0.0ppm			11 15 18 30	Rec 2.0'/2.0' (65-67' bgs)
	66		sh						
	67	NA: No sample collected for lithologic description.							
930	68		NA						
	69								
	70	cl: Yellowish orange to off white CLAY, some fine to coarse subangular chert Gravel, stiff, dry.			Organic Vapor = 0.0ppm			6 16 18 26	Rec 2.0'/2.0' (70-72' bgs)
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 9 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71		cl						
	72	NA: No sample collected for lithologic description.							
925									
	73		NA						
	74								
	75	sh: Yellowish orange to off white highly weathered SHALE, slightly fissile, some fine to coarse chert Gravel, dry.	sh		Organic Vapor = 0.0ppm			13 18 21 21	Rec 2.0'/2.0' (75-77' bgs)
	76								
		cl: Reddish brown CLAY, dry, some fine grained chert Gravel.	cl						
	77	NA: No sample collected for lithologic description.							
920									
	78		NA						
	79								
	80	sh: Yellowish orange to reddish brown, dry, highly weathered SHALE, slightly fissile.			Organic Vapor = 0.0ppm			10 16 21 25	Rec 2.0'/2.0' (80-82' bgs)
	81		sh						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 10 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	82	NA: No sample collected for lithologic description.							
915	83		NA						
	84								
	85	cl: Yellowish orange CLAY, some fine to coarse chert Gravel, little fine grained Sand, little Silt, dry.	cl		Organic Vapor = 0.0ppm			22 20 28 32	Rec 2.0'/2.0' (85-87' bgs)
	86	sh: Yellowish orange to off white weathered SHALE, slightly fissile, dry.	sh						
	87	NA: No sample collected for lithologic description.							
910	88		NA						
	89								
	90	sh-cl: Yellowish orange CLAY and weathered SHALE, some fine to coarse chert Gravel, dry.	sh-cl		Organic Vapor = 0.0ppm			22 50/0.5'	Rec 1.0'/1.0' (90-91' bgs)
	91	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW06

Project: Fort McClellan | Geologist: Nicole. Badon/April Barnes | Sheet 11 of 11 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92								92
905									
	93		NA						93
	94								94
	95	cl: Yellowish orange CLAY, some fine to coarse chert Gravel, dry.	cl		Organic Vapor = 0.0ppm			25 25 31 50/0.5'	Rec 2.0'/2.0' (95-97' bgs) 95
		sh: Dark brown, off white, medium gray highly weathered SHALE, slightly fissile, little fine grained shale Gravel, dry.							
	96		sh						Auger Refusal at 96' bgs 96
	97								Bottom of original borehole at 97' bgs 97

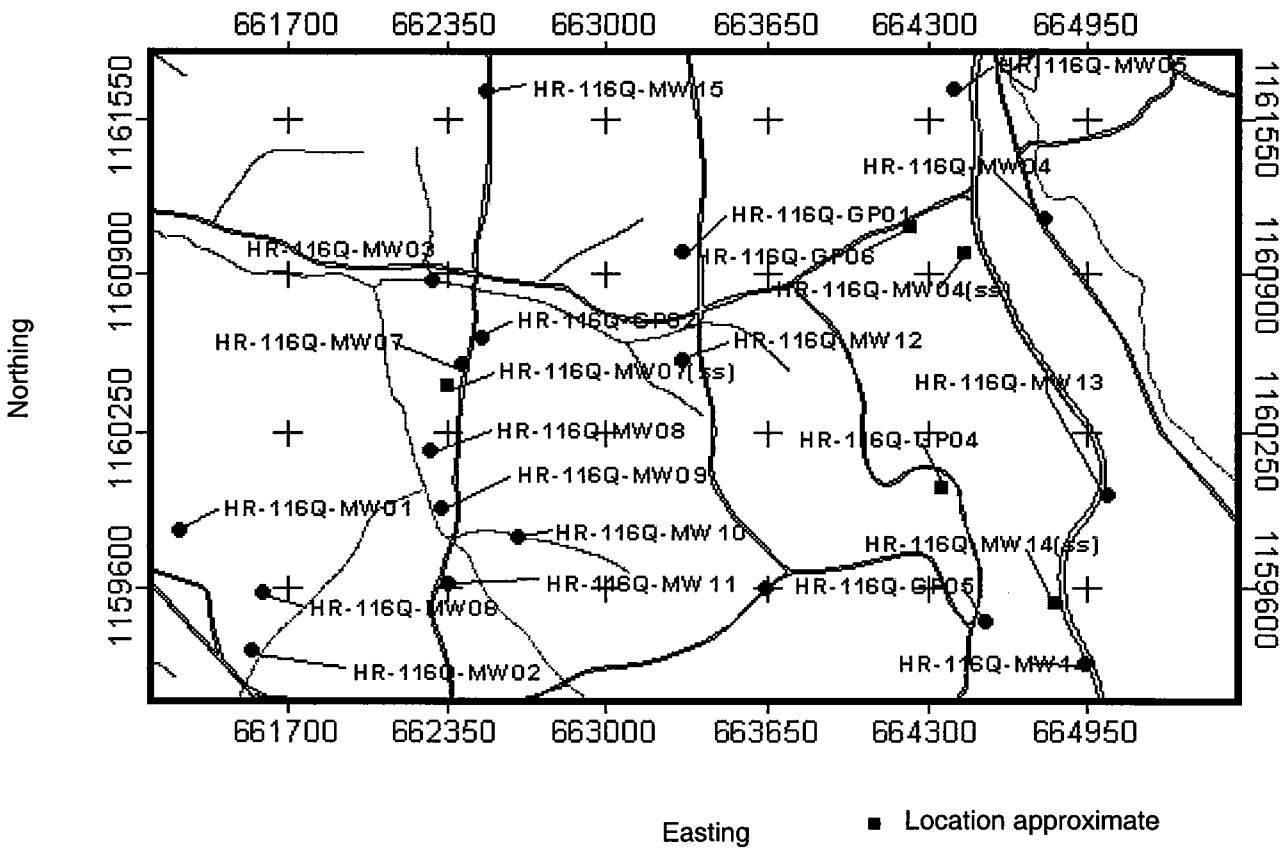
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW07(SS)
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 2'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q 9. Surface elevation (feet above mean sea level): approximately 950 10. Date started: 12/13/00 — 11. Date completed: 02/08/01
12. Overburden thickness (feet bgs): >21.5	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 21.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Grout	NA	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-116Q-MW07(SS)	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07(SS)

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
950	0	ml: Light brown soft moist SILT, some Clay, some medium to coarse Sand, little coarse subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JL0013		Rec 1.0'/1.0' (0-1' bgs)
	1	cl-ml: Reddish brown medium stiff moist CLAY and SILT, some coarse subrounded Gravel, little medium to coarse Sand.	cl-ml		Organic Vapor = 0.0ppm				Rec 2.0'/3.0' (1-4' bgs)
	2								
	3								
	4	cl: Light brown medium stiff moist CLAY, some Silt, some medium to coarse Sand, little fine subangular Gravel.	cl		Organic Vapor = 0.0ppm		JL0014		Rec 1.0'/1.0' (4-5' bgs)
945	5	NA: No sample collected for lithologic description.							Direct push refusal at 5' bgs
	6								
	7								
	8								
	9		NA						
940	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07(SS)

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
	12								12
	13								13
	14	sp: Light gray to medium pink, slightly moist, fine to medium SAND, trace Silt.	sp		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (14-14.5' bgs) 14
		sp: Light gray fine to medium slightly moist SAND, little subrounded sandstone Gravel.	sp						
935	15	sp: Light brown to light gray mottled fine to coarse SAND, little fine subrounded sandstone Gravel.	sp						15
		NA: No sample collected for lithologic description.							
	16								16
			NA						
	17								17
	18								18
	19	sp: Light gray fine to coarse SAND, dry, some subangular sandstone Gravel.	sp		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.1'/0.5' (19-19.5' bgs) 19
		NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							
930	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07(SS)

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	21								Auger refusal at 21.5' bgs Bottom of borehole at 21.5' bgs

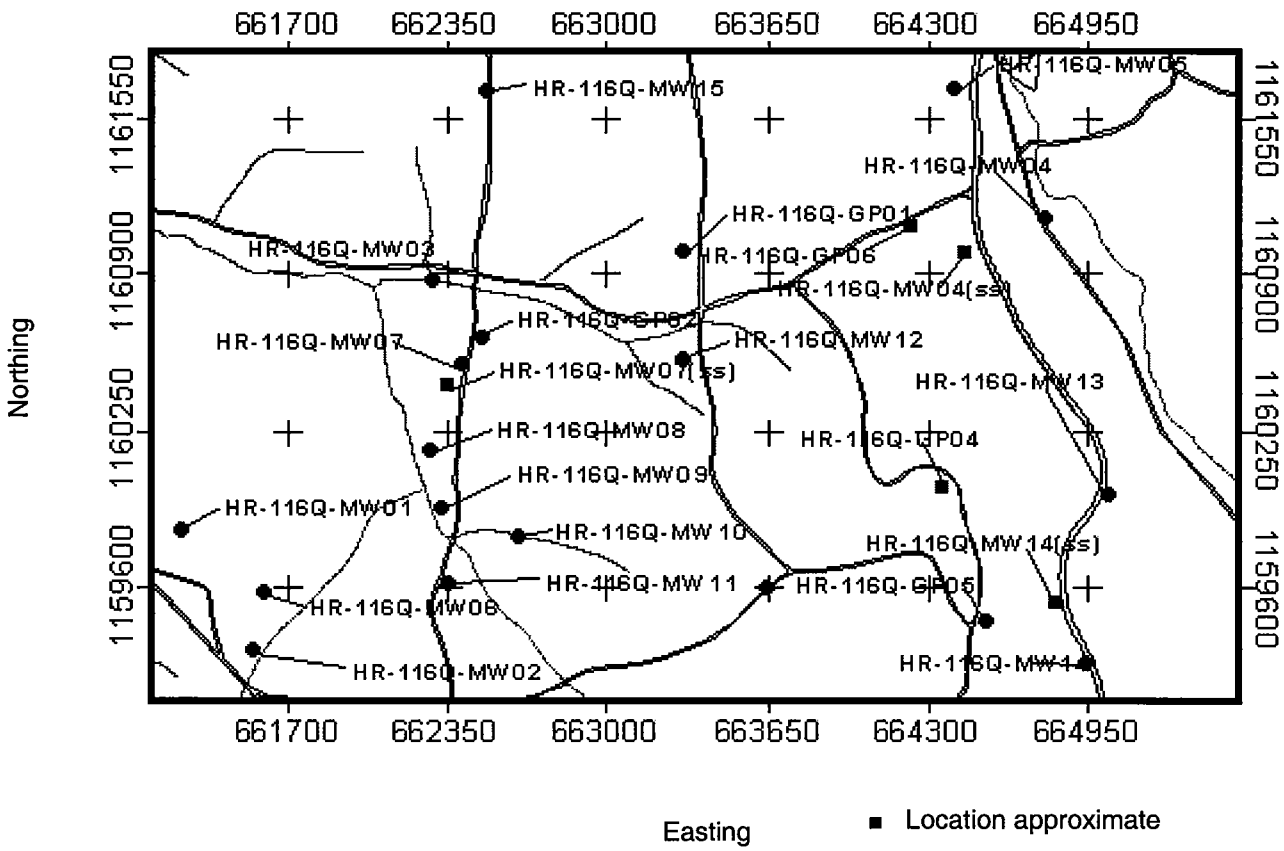
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW07
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Mike Martin	6. Mfr. designation of drill: Ingersoll-Rand 97
7. Sizes and types of drilling and sampling equipment: Air Rotary AR - 6.25" Tricone Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q 9. Surface elevation (feet above mean sea level): 967.78 10. Date started: 12/13/00 — 11. Date completed: 04/11/01
12. Overburden thickness (feet bgs): >47.6	15. Depth groundwater encountered (feet bgs): 38
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 47.6	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	NA	NA	NA	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	George Robertson		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-116Q-MW07

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	NA: No sample collected for lithologic description.							Note: 15' E of direct push location MW07(SS)
	1								
	2								
965	3								
	4								
	5		NA						
	6								
	7								
960	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
	12								12
955									
	13								13
	14								14
	15		NA						15
	16								16
	17								17
950									
	18								18
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
		sp: Off white to light gray, dense, fine to medium, quartz-rich SAND, little Silt, trace subrounded fine Gravel, slightly moist.							Description from air rotary drill cuttings (21.5-47.6' bgs)
	22								22
945									
	23								23
	24								24
	25								25
	26		sp						26
	27								27
940									
	28								28
	29								29
	30								30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32								32
935	33		sp						33
	34								34
	35								35
	36								36
	37								37
930	38	sm: Pink to light reddish brown, dense fine SAND, some Silt, trace Clay, wet.							38 Groundwater encountered at 38' bgs
	39		sm						39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 6 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
	42								42
925			sm						
	43								43
	44								44
	45								45
	46								46
	47								47
									Bottom of borehole at 47.6' bgs

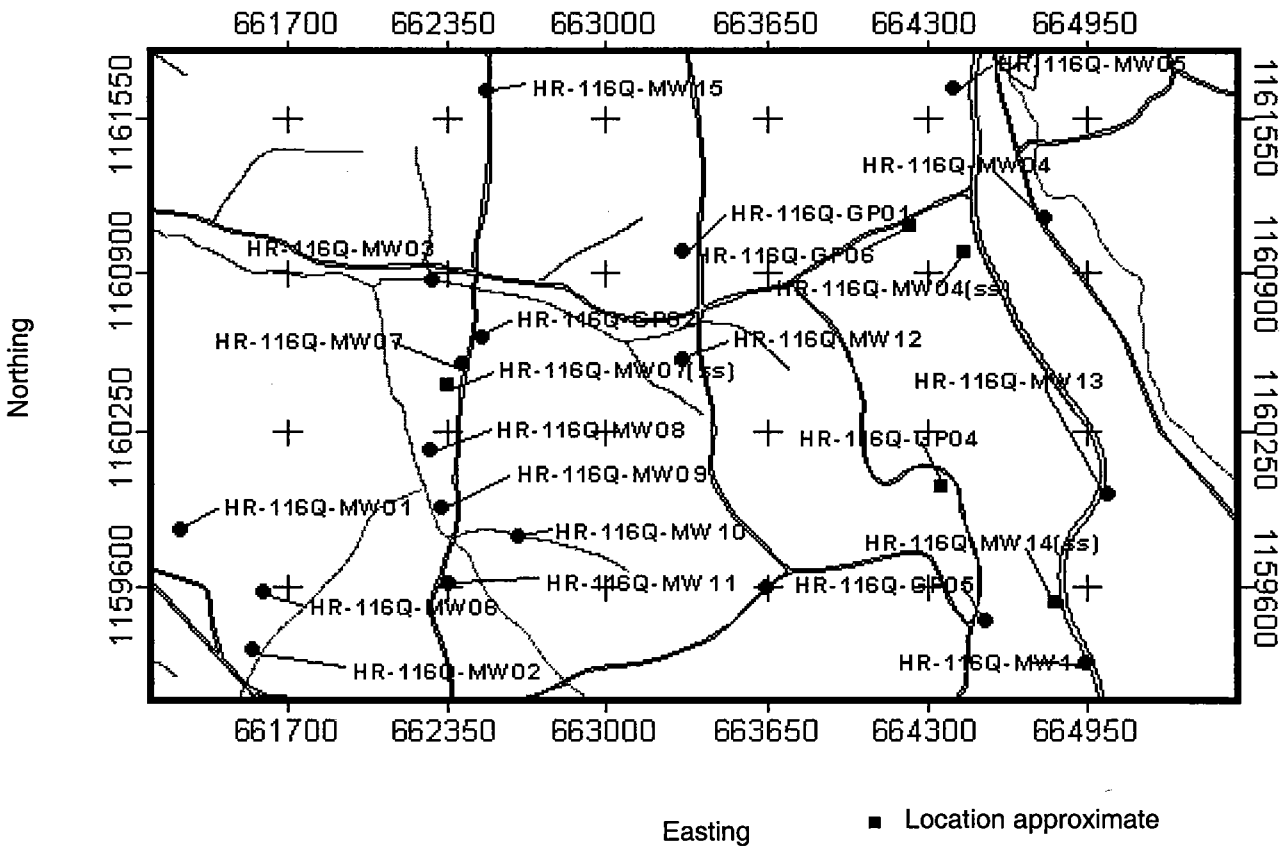
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW08
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 7 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 913.71 10. Date started: 04/02/01 — 11. Date completed: 05/03/01
12. Overburden thickness (feet bgs): >57	15. Depth groundwater encountered (feet bgs): 45
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 57	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: Leslie O'Hare/James Dendy		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-116Q-MW08	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW08

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 2 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Light brown medium stiff moist CLAY, little fine to coarse Sand, trace quartz-rich medium subrounded Gravel.	cl		Organic Vapor = 0.0ppm		JL0015		Rec 2.5'/4.0' (0-4' bgs)
	1								
	2								
	3								
910	4	cl: Light brown mottled reddish brown, stiff dry CLAY, little fine to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
	8	cl: Light brown, mottled light gray and reddish brown very stiff, dry CLAY, trace medium Sand.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
905	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW08

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 3 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl				JL0016		Bottom of direct push hole at 12' bgs
	12	NA: No sample collected for lithologic description.	NA						
	13	cl: Light brown, black and reddish brown, medium stiff CLAY, little Silt.			Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (13-15' bgs)
900	14		cl						
	15	NA: No sample collected for lithologic description.							
	16		NA						
	17								
	18	cl: Light brown, black and reddish brown, medium stiff CLAY, little Silt.			Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (18-20' bgs)
895	19		cl						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW08

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 4 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								
			NA						
	22								
	23	cl: Light brown and black moist, medium soft CLAY, little Silt.			Organic Vapor = 0.0ppm			8 7 10 15	Rec 2.0'/2.0' (23-25' bgs)
890									
	24		cl						
	25	NA: No sample collected for lithologic description.							
	26								
			NA						
	27								
	28	cl: Light brown and black, moist, medium soft CLAY, little Silt.			Organic Vapor = 0.0ppm			4 5 5 5	Rec 2.0'/2.0' (28-30' bgs)
885									
	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW08

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 5 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
	33	cl: Light brown and black, moist, medium soft CLAY, little Silt.			Organic Vapor = 0.0ppm			20 18 19 20	Rec 2.0'/2.0' (33-35' bgs)
880	34		cl						
	35	NA: No sample collected for lithologic description.							
	36		NA						
	37								
	38	cl: Light brown and reddish brown, soft, moist CLAY, little Silt.			Organic Vapor = 0.0ppm			3 4 5 5	Rec 2.0'/2.0' (38-40' bgs)
875	39		cl						
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW08

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 6 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	cl: Light brown, soft, moist CLAY, little medium Sand, little angular fine chert Gravel.			Organic Vapor = 0.0ppm			3 3 4 5	Rec 2.0'/2.0' (43-45' bgs)
870	44		cl						
	45	NA: No sample collected for lithologic description.							Groundwater encountered at 45' bgs
	46		NA						
	47								
	48	cl: Light gray, soft wet CLAY, some fine to coarse angular dolomitic gray Gravel (slight reaction to HCl).			Organic Vapor = 0.0ppm			2 2 33 38	Rec 2.0'/2.0' (48-50' bgs)
865	49		cl						
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW08

Project: Fort McClellan | Geologist: Leslie O'Hare/James Dendy | Sheet 7 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						
	52								
	53	sp: White loose SAND and angular hard white, fine to coarse quartz GRAVEL.			Organic Vapor = 0.0ppm			2 2 28 24	Rec 2.0'/2.0' (53-55' bgs)
860	54		sp						
	55	NA: No sample collected for lithologic description.							
	56		NA						
	57								Bottom of borehole at 57' bgs

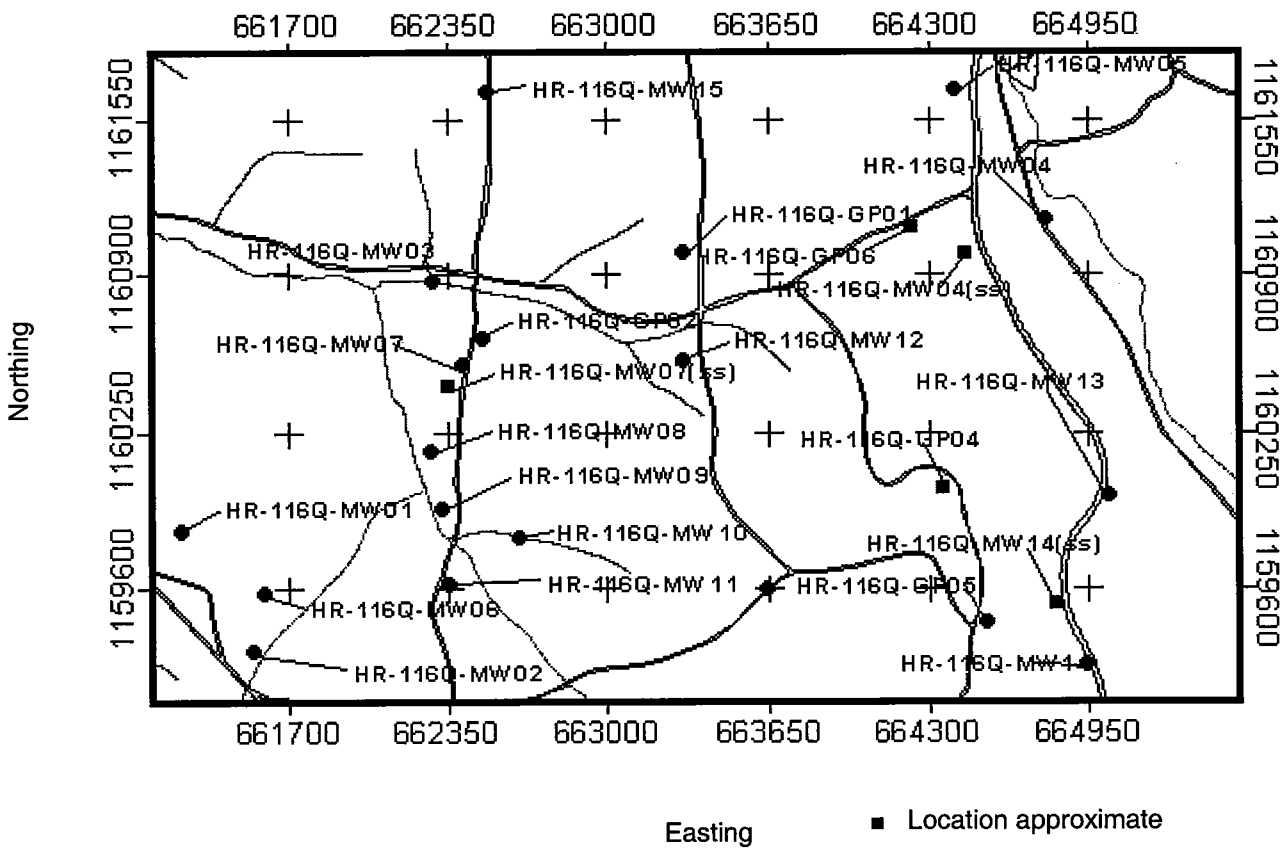
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW09
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 7 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 925.26 10. Date started: 04/02/01 — 11. Date completed: 05/03/01
12. Overburden thickness (feet bgs): 54.5	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 54.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O' Hare/James Dendy		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW09

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 2 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
925	0	cl-ml: Light brown soft SILT and CLAY, little fine to medium Sand, trace fine subangular Gravel, moist.	cl-ml		Organic Vapor = 0.0ppm				Rec 3.0'/4.0' (0-4' bgs)
	1						JL0017		
	2								
	3								
	4	sm: Light brown stiff medium to coarse SAND, some Silt, little Clay, trace fine subangular Gravel.	sm						Rec 2.0'/2.0' (4-6' bgs)
920	5						JL0018		
	6	NA: No sample collected for lithologic description.	NA						Direct push refusal at 6' bgs
	7								
	8	cl: Light brown CLAY and well sorted, medium SAND, little angular coarse grained quartz sandstone Gravel.	cl		Organic Vapor = 0.0ppm			14 10 10 15	Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW09

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 3 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
915		NA: No sample collected for lithologic description.							
	11		NA						
	12								
	13	cl: Light brown and reddish brown, medium stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			10 13 15 19	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
910									
	16		NA						
	17								
	18	cl: Dark brown hard CLAY, little Silt.			Organic Vapor = 0.0ppm			9 13 24 23	Rec 2.0'/2.0' (18-20' bgs)
	19		cl						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW09

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 4 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
905		description.							
	21		NA						
	22								
	23	cl: Light brown hard CLAY, some angular, fine chert Gravel, little fine chert Sand.	cl		Organic Vapor = 0.0ppm			14 16 20 24	Rec 2.0'/2.0' (23-25' bgs)
	24								
	25	NA: No sample collected for lithologic description.							
900									
	26		NA						
	27								
	28	cl: Purple, hard, slightly laminated CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			14 24 24 30	Rec 2.0'/2.0' (28-30' bgs)
	29								
	30	NA: No sample collected for lithologic description.							
895									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW09

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 5 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
	33	cl: Light brown and purple, hard CLAY, slightly laminated.	cl		Organic Vapor = 0.0ppm			31 40 42 50	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.							
890									
	36		NA						
	37								
	38	cl: Light brown and purple hard CLAY, slightly laminated.	cl		Organic Vapor = 0.0ppm			10 11 14 30	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							
885									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW09

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 6 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	cl: Light brown and purple, hard CLAY, slightly laminated.	cl		Organic Vapor = 0.0ppm			13 20 41 45	Rec 2.0'/2.0' (43-45' bgs)
	44								
	45	NA: No sample collected for lithologic description.							
880									
	46		NA						
	47								
	48	cl: Light brown hard CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			13 19 34 43	Rec 2.0'/2.0' (48-50' bgs)
	49								
	50	NA: No sample collected for lithologic description.							
875									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW09

Project: Fort McClellan | Geologist: Leslie O' Hare/James Dendy | Sheet 7 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						51
	52								52
	53	cl: Light brown hard CLAY, little Silt.			Organic Vapor = 0.0ppm			12 27 50/0.5'	Rec 1.5'/1.5' (53-54.5' bgs) 53
	54		cl						Auger and split spoon refusal at 54.5' bgs 54
		ss: Dark brown hard fine grained SANDSTONE.	ss						Bottom of borehole at 54.5' bgs

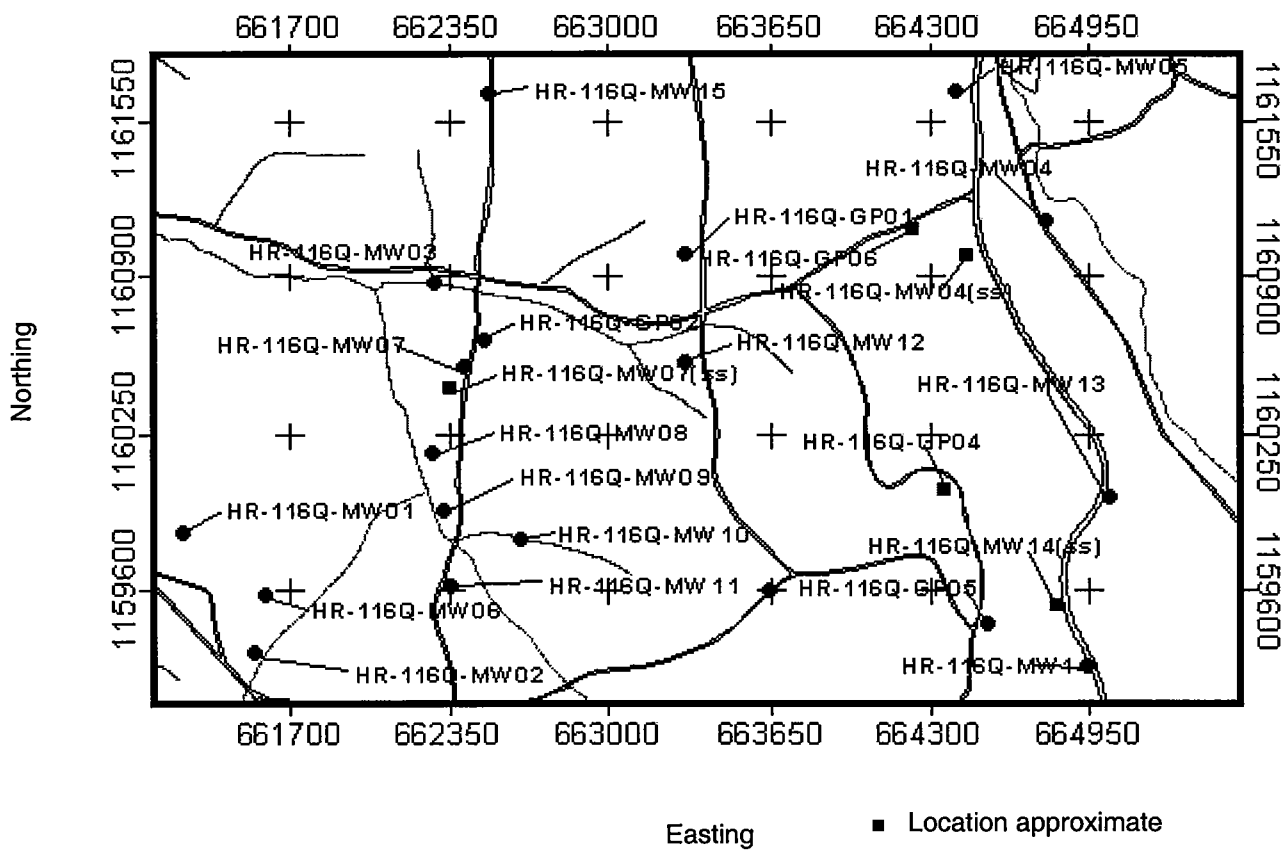
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW10
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 12 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q 9. Surface elevation (feet above mean sea level): 970.13 10. Date started: 12/13/00 — 11. Date completed: 02/15/01
12. Overburden thickness (feet bgs): >104.2	15. Depth groundwater encountered (feet bgs): Unknown
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 104.2	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



■ Location approximate

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
970	0	ml: Reddish brown soft moist SILT, some medium to coarse Sand, some coarse subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JL0019		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Orange brown medium stiff moist SILT, some Clay, some medium Sand, little coarse subrounded Gravel.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/3.0' (1-4' bgs)
	2								
	3								
	4	cl-ml: Light brown stiff to very stiff dry CLAY and SILT, some medium to coarse Sand, some coarse subrounded Gravel.	cl-ml		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
965	5								
	6								
	7								
	8	cl-ml: Yellowish orange very stiff dry CLAY and SILT, some medium to coarse subangular Sand.	cl-ml		Organic Vapor = 0.0ppm		JL0020		Rec 1.0'/1.0' (8-9' bgs)
	9	NA: No sample collected for lithologic description.							Direct push refusal at 9' bgs
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
960									
	11		NA						
	12								
	13								
	14	cl: Yellowish orange dry very stiff CLAY, trace Silt, trace subangular chert Gravel.	cl		Organic Vapor = 0.0ppm			17 50/0.5'	Rec 1.0'/1.0' (14-15' bgs)
955	15	NA: No sample collected for lithologic description.							
	16								
	17		NA						
	18								
	19	cl: Yellowish orange to light reddish brown, very stiff, dry CLAY, trace Silt.			Organic Vapor = 0.0ppm			19 26 35 42	Rec 2.0'/2.0' (19-21' bgs)
950	20		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21	NA: No sample collected for lithologic description.	NA						
	22								
	23								
	24	cl: Yellowish orange to light reddish brown mottled dry CLAY, trace Silt, trace coarse grained Sand.	cl		Organic Vapor = 0.0ppm			22 50/0.5'	Rec 1.0'/1.0' (24-25' bgs)
945	25	NA: No sample collected for lithologic description.	NA						
	26								
	27								
	28								
	29	cl: Yellowish orange to reddish brown mottled hard dry CLAY, trace Silt.	cl		Organic Vapor = 0.0ppm			26 50/0.5'	Rec 1.0'/1.0' (29-30' bgs)
940	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 5 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32		NA						32
	33								33
	34	cl: Reddish brown yellowish orange medium gray to light gray, hard dry CLAY.			Organic Vapor = 0.0ppm			16 21 32 50/0.5'	Rec 2.0'/2.0' (34-36' bgs) 34
935	35		cl						35
	36	NA: No sample collected for lithologic description.							36
	37								37
			NA						
	38								38
	39	cl: Reddish brown, yellowish orange, light gray mottled, hard dry CLAY.			Organic Vapor = 0.0ppm			26 50/0.5'	Rec 1.0'/1.0' (39-40' bgs) 39
			cl						
930	40	NA: No sample collected for lithologic description.							40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 6 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
	42		NA						42
	43								43
	44	cl: Reddish brown, yellowish orange light gray mottled hard dry CLAY.	cl		Organic Vapor = 0.0ppm			25 50/0.5'	Rec 1.0'/1.0' (44-45' bgs) 44
925	45	NA: No sample collected for lithologic description.							45
	46								46
	47		NA						47
	48								48
	49	cl: Reddish brown very stiff dry CLAY.	cl		Organic Vapor = 0.0ppm			25 29 50/0.5'	Rec 1.5'/1.5' (49-50.5' bgs) 49
920	50	NA: No sample collected for lithologic							50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 7 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	51								
	52		NA						
	53								
	54	cl: Reddish brown medium pink, yellowish orange, light gray mottled, very stiff dry CLAY.			Organic Vapor = 0.0ppm			16 22 34 39	Rec 2.0'/2.0' (54-56' bgs)
915	55		cl						
	56	NA: No sample collected for lithologic description.							
	57		NA						
	58								
	59	cl: Reddish brown, medium pink, light gray mottled, very stiff dry CLAY.			Organic Vapor = 0.0ppm			14 21 35 31	Rec 2.0'/2.0' (59-61' bgs)
910	60		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 8 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61	NA: No sample collected for lithologic description.	NA						
	62								
	63								
	64	cl-ml: Off white CLAY and SILT, dry, stiff.	cl-ml		Organic Vapor = 0.0ppm			26 50/0.5'	Rec 1.0'/1.0' (64-65' bgs)
905	65	NA: No sample collected for lithologic description.							
	66								
	67		NA						
	68								
	69	cl: Reddish brown stiff dry CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (69-69.5' bgs)
		NA: No sample collected for lithologic description.							
900	70								
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 9 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
	72		NA						
	73								
	74	cl: Dark reddish brown hard CLAY.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (74-74.5' bgs)
		ml: Yellowish orange, dry SILT, trace Clay, trace fine grained Sand.	ml						
		NA: No sample collected for lithologic description.							
895	75								
	76								
			NA						
	77								
	78								
	79	cl-ml: Interbedded reddish brown very stiff dry CLAY and yellowish orange SILT, trace fine Sand.	cl-ml		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (79-79.5' bgs)
		NA: No sample collected for lithologic description.							
890	80								
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 10 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	82		NA						
	83								
	84	cl: Light reddish brown to yellowish orange CLAY, trace Silt, trace fine Sand, dry.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (84-84.5' bgs)
		NA: No sample collected for lithologic description.							
885	85								
	86								
	87		NA						
	88								
	89	cl-ml: Yellowish orange, dry, stiff CLAY and SILT.	cl-ml		Organic Vapor = 0.0ppm			50/0.3'	Rec 0.3'/0.3' (89-89.3' bgs)
		NA: No sample collected for lithologic description.							
880	90								
	91								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 11 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92		NA						
	93								
	94	cl: Reddish brown to dark reddish brown, hard dry CLAY.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (94-94.5' bgs)
		NA: No sample collected for lithologic description.							
875	95								
	96								
	97		NA						
	98								
	99	sh: Reddish brown, yellowish orange, light gray, dry weathered SHALE, slightly fissile, trace Silt, trace fine Sand.	sh		Organic Vapor = 0.0ppm			30 50/0.5'	Rec 1.0'/1.0' (99-100' bgs)
870	100	NA: No sample collected for lithologic description.							
	101								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW10

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 12 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	102								102
	103								103
									Bottom of borehole at 104.2' bgs
	104	ss: Fine grained SANDSTONE.	ss					50/0.2'	Rec 0.1'/0.2' (104-104.2' bgs) 104
		NA: No recovery.	NA						

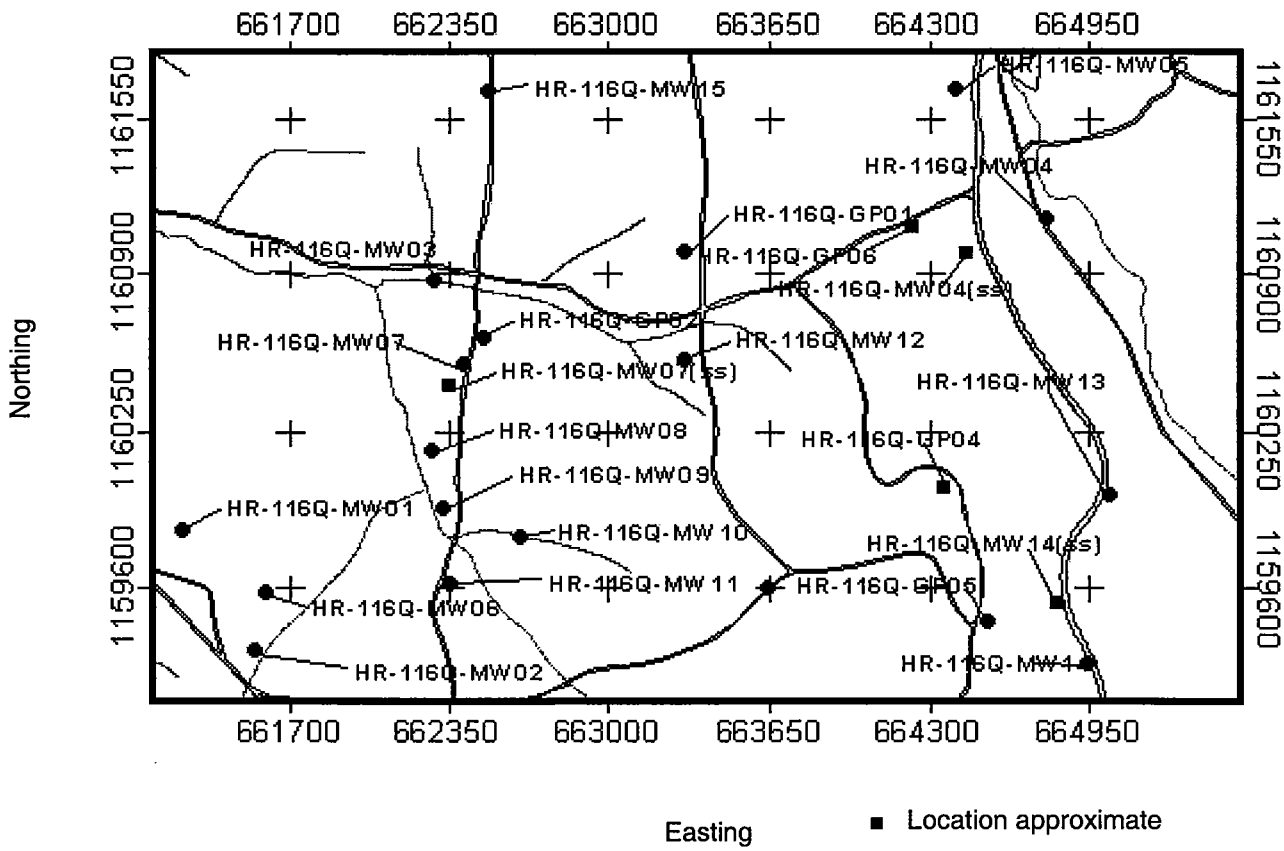
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW11
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 975.35 10. Date started: 02/01/01 — 11. Date completed: 04/19/01
12. Overburden thickness (feet bgs): >22	15. Depth groundwater encountered (feet bgs): 18
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 22	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/James Dendy		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW11

Project: Fort McClellan | Geologist: Nicole Badon/James Dendy | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
975	0	ml: Medium brown to orange soft moist SILT, some Clay, little fine to medium Sand, trace fine subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JL0021		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Yellowish orange stiff moist CLAY, some Silt, little fine to medium Sand, trace fine subrounded Gravel.	cl		Organic Vapor = 0.0ppm				Rec 2.6'/3.0' (1-4' bgs)
	2								
	3								
	4	sm: Yellowish orange stiff moist fine SAND, some Silt, little Clay.	sm		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
970	5								
	6								
	7						JL0022		
	8	sm: Light brown medium stiff fine SAND, some Silt, some Clay.	sm		Organic Vapor = 0.0ppm			10 25 30 36	Direct push refusal at 8' bgs. Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW11

Project: Fort McClellan | Geologist: Nicole Badon/James Dendy | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
965		NA: No sample collected for lithologic description.							
	11		NA						
	12								
	13	ml: Light brown and purple medium stiff SILT, some Sand, some Clay.			Organic Vapor = 0.0ppm			10 15 18 22	Rec 2.0'/2.0' (13-15' bgs)
	14		ml						
	15	NA: No sample collected for lithologic description.							
960									
	16		NA						
	17								
	18	sm: Light brown and gray fine SAND and SILT, little Clay.			Organic Vapor = 0.0ppm			12 22 21 24	Groundwater encountered at 18' bgs Rec 2.0'/2.0' (18-20' bgs)
	19		sm						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW11

Project: Fort McClellan | Geologist: Nicole Badon/James Dendy | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
955		description.							
	21		NA						21
	22								Auger refusal at 22' bgs Bottom of borehole at 22' bgs 22

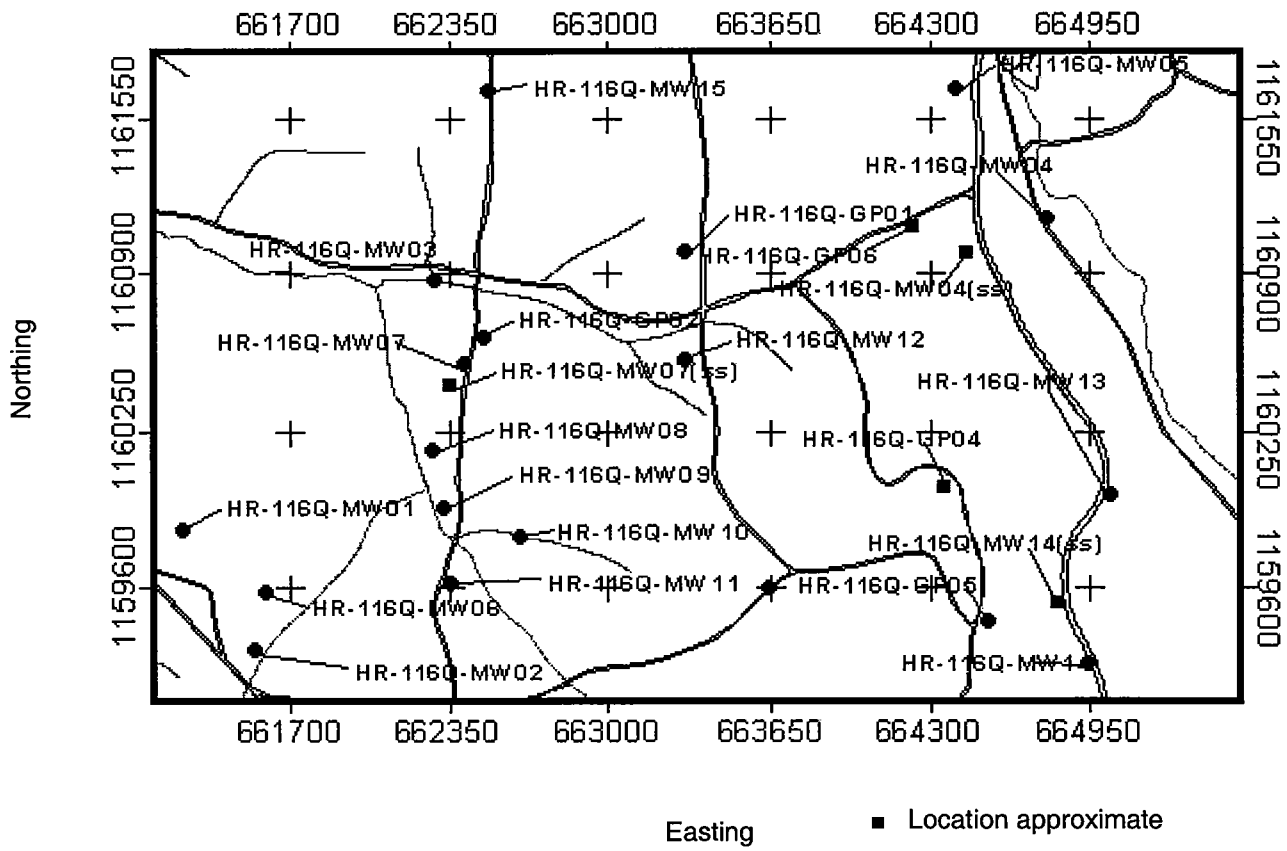
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW12
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 986.68 10. Date started: 01/30/01 — 11. Date completed: 05/03/01
12. Overburden thickness (feet bgs): 36	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 36	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/James Dendy		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-116Q-MW12

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW12

Project: Fort McClellan | Geologist: Nicole Badon/James Dendy | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft moist SILT, some fine Sand, little Clay, trace fine subrounded Gravel.	ml		Organic Vapor = 0.0ppm		JL0023		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown, soft to medium stiff, moist CLAY, some Sand, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 1.75'/3.0' (1-4' bgs)
985									
	2								
	3								
	4	cl: Orange-red stiff slightly moist CLAY, some fine to medium Sand, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
980									
	7								
	8	sm: Orange-yellow medium dense fine to medium SAND, some Silt, trace Clay.	sm		Organic Vapor = 0.0ppm		JL0024		Rec 1.0'/1.0' (8-9' bgs)
	9	NA: No sample collected for lithologic description.							Direct push refusal at 9' bgs
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW12

Project: Fort McClellan | Geologist: Nicole Badon/James Dendy | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		NA						
975									
	12								
	13	cl: Light brown and reddish brown, medium stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			14 21 30 33	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
	16								
970			NA						
	17								
	18	cl: Light brown and reddish brown, hard CLAY, little Silt.			Organic Vapor = 0.0ppm			28 40 38 50/0.3'	Rec 1.6'/1.8' (18-19.8' bgs)
	19		cl						
		NA: No recovery.	NA						
	20	NA: No sample collected for a lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW12

Project: Fort McClellan | Geologist: Nicole Badon/James Dendy | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21		NA						
965									
	22								
	23	cl: Light brown and reddish brown, hard CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			24 25 28 35	Rec 2.0'/2.0' (23-25' bgs)
	24								
	25	NA: No sample collected for lithologic description.	NA						
	26								
960									
	27								
	28	cl: Light brown hard CLAY, some fine Sand.	cl		Organic Vapor = 0.0ppm			35 50/0.2'	Rec 0.7'/0.7' (28-28.7' bgs)
	29	NA: No sample collected for lithologic description.							
	30								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW12

Project: Fort McClellan | Geologist: Nicole Badon/James Dendy | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
955									
	32								
	33	cl: Hard, light brown and reddish brown CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			35 50/0.3'	Rec 0.8'/0.8' (33-33.8' bgs)
	34	NA: No sample collected for lithologic description.							
	35		NA						
	36	ss: SANDSTONE, hard, reddish brown and white, coarse grained.	ss						Auger and split spoon refusal at 36' bgs Bottom of borehole at 36' bgs

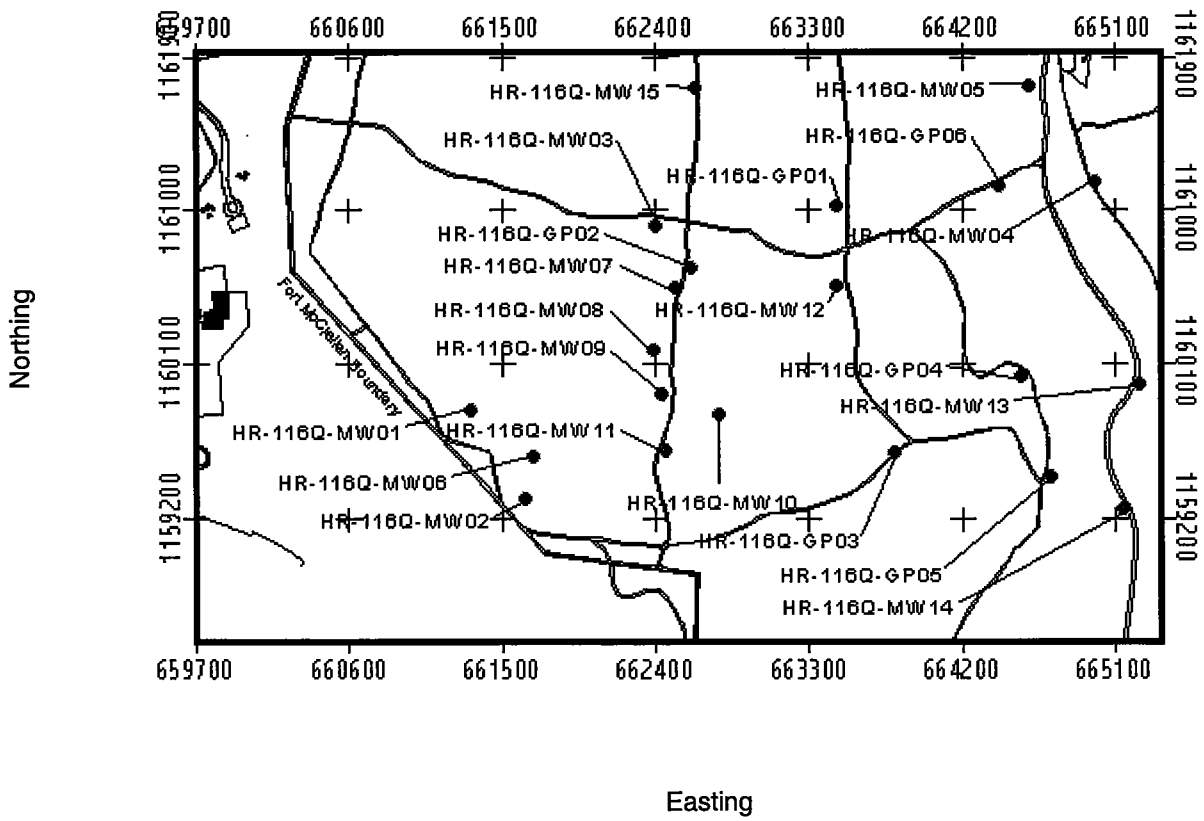
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW13
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell/Red McNeil	6. Mfr. designation of drill: Strataprobe/CME-750X/Schramn T450W
7. Sizes and types of drilling and sampling equipment: Direct Push, Air Rotary, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler/AR - 6.25" Tricone Bit HSA - 5'x4.25" ID Auger, 2'x2" Steel Split Spoon	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 1073.96 10. Date started: 01/12/01 — 11. Date completed: 02/07/01
12. Overburden thickness (feet bgs): >80	15. Depth groundwater encountered (feet bgs): 79
13. Depth drilled into rock (feet bgs): 0.5	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 80.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Remo/White/Robertson		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-116Q-MW13

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 2 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Light brown, moist, loose, medium to coarse SAND, some Silt, little Clay, little fine subangular Gravel.	sm		Organic Vapor = 0.0ppm		JL0025		Rec 1.0'/1.0' (0-1' bgs)
	1	sw: Light orange-brown, dense, slightly moist, fine to medium SAND, trace Clay.	sw		Organic Vapor = 0.0ppm				Rec 2.8'/3.0' (1-4' bgs)
	2								
	3								
1070	4	sp: Light orange brown to off white, medium dense, dry, fine to coarse SAND, poorly graded.	sp		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (4-6' bgs)
	5						JL0026		
	6	NA: No sample collected for lithologic description.	NA						Direct push refusal at 6' bgs
	7								
	8								
1065	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 3 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
	12								12
	13								13
1060	14		NA						14
	15								15
	16								16
	17								17
	18								18
1055	19								19
	20	sm: Light brown to tan very dense SAND,			Organic				Rec 0.5'/0.5' (20-20.5' bgs) 20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 4 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		some Silt, dry.	sm		Vapor = 0.0ppm				
		NA: No sample collected for lithologic description.							
	21								21
	22								22
	23								23
1050	24								24
	25		NA						25
	26								26
	27								27
	28								28
1045	29								29
	30	sm: Light red to pink, very dense, poorly sorted fine SAND, some Silt, trace Clay, weak			Organic Vapor				Rec 1.0'/1.0' (30-31' bgs) 30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 5 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		reaction of materials with acid.	sm		= 0.0ppm				
	31	NA: No sample collected for lithologic description.							
	32								
	33								
1040	34								
	35		NA						
	36								
	37								
	38								
1035	39								
	40	sm: Yellowish brown, fine, poorly sorted SAND, some Silt, dry.							Auger refusal at 40' bgs Description from air rotary drill cuttings (40-80.5' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 6 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
	42								42
	43								43
1030	44								44
	45		sm						45
	46								46
	47								47
	48								48
1025	49								49
	50								50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 7 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52								52
	53								53
1020	54								54
	55								55
	56		sm						56
	57								57
	58								58
1015	59								59
	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 8 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62								62
	63								63
1010	64								64
	65								65
	66		sm						66
	67								67
	68								68
1005	69								69
	70								70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW13

Project: Fort McClellan | Geologist: Remo/White/Robertson | Sheet 9 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
	72								72
	73								73
1000	74								74
	75		sm						75
	76								76
	77								77
	78								78
995	79								79 Groundwater encountered at 79' bgs
	80	ss: SANDSTONE, reddish brown, hard, highly weathered, fine grained, well-sorted, quartz-rich, dry.	ss						80 Bedrock at 80' bgs Bottom of borehole at 80.5' bgs

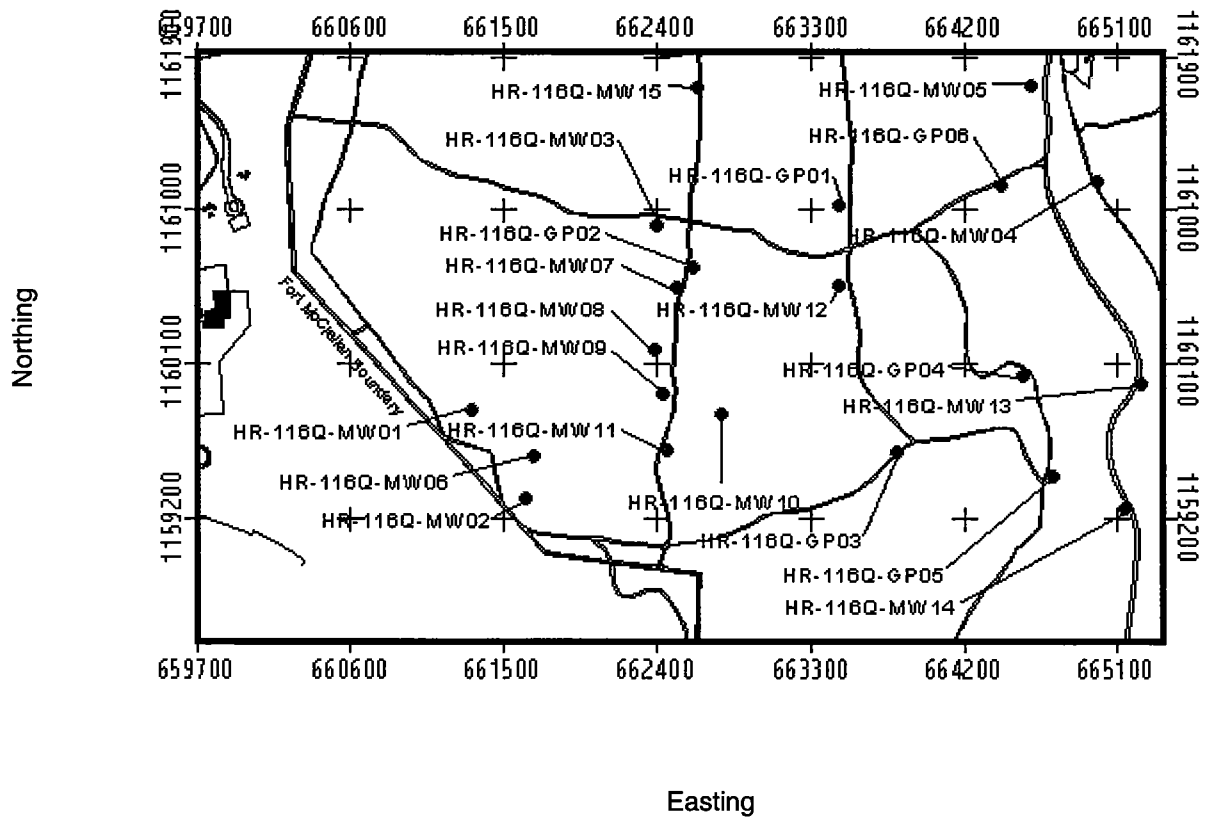
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-116Q-MW14(SS)
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Clete Sanders/Red McNeil	6. Mfr. designation of drill: Strataprobe/CME-550X/Schramm T450W
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 2'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q 9. Surface elevation (feet above mean sea level): approximately 1110 10. Date started: 01/10/01 — 11. Date completed: 02/08/01
12. Overburden thickness (feet bgs): 29	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 5	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 34	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Grout	NA	NA	J.Remo/K.Hunter/G.Robertson		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-116Q-MW14(SS)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14(SS)

Project: Fort McClellan | Geologist: J.Remo/K.Hunter/G.Robertson | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1110	0	ml: Light brown, soft, moist SILT, some medium to coarse Sand, little Clay, little roots.	ml		Organic Vapor = 0.0ppm		JL0027		Rec 1.0'/1.0' (0-1' bgs)
	1	sc: Light brown, soft moist CLAY and SAND, some fine subangular Gravel.	sc		Organic Vapor = 0.0ppm				Rec 2.2'/3.0' (1-4' bgs)
	2								
	3								
	4	sc: Light brown, soft, moist CLAY and SAND, some coarse subangular Gravel, trace weathered sandstone.	sc		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (4-7' bgs)
1105	5								
	6						JL0028		
	7	NA: No sample collected for lithologic description.	NA						Direct push refusal at 7' bgs
	8	sp: Light orangish brown, very dense platy SAND, damp.	sp		Organic Vapor = 0.0ppm				Rec 0.5'/0.5' (8-8.5' bgs)
		NA: No sample collected for lithologic description.							
	9								
1100	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14(SS)

Project: Fort McClellan | Geologist: J.Remo/K.Hunter/G.Robertson | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		NA						
	12								
	13	cl: Dark reddish brown to tan, mottled reddish, medium stiff CLAY, moist.			Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
1095	15	NA: No sample collected for lithologic description.							
	16								
			NA						
	17								
	18	ml: Light tan, very dense, soft to stiff SILT, dry.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (18-20' bgs)
		cl-ml: Medium to dark reddish brown, mottled gray, soft to stiff CLAY and SILT, dry.							
	19		cl-ml						
1090	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14(SS)

Project: Fort McClellan | Geologist: J.Remo/K.Hunter/G.Robertson | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								21
			NA						
	22								22
	23	sm: Grayish brown to reddish brown, mottled tan to light brown, very dense SAND, some Silt, dry.	sm		Organic Vapor = 0.0ppm				Rec 0.5'/0.5' (23-23.5' bgs) 23
		NA: No sample collected for lithologic description.							
	24								24
1085	25								25
			NA						
	26								26
	27	sm: Reddish brown SAND, some Silt, little Clay, dry.							Auger refusal at 27' bgs Description from air rotary drill cuttings (27-34' bgs) 27
	28		sm						28
	29	ss: SANDSTONE, light gray, hard, highly weathered, fine grained, well to poorly sorted.							Bedrock at 29' bgs 29
1080	30								30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14(SS)

Project: Fort McClellan | Geologist: J.Remo/K.Hunter/G.Robertson | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32		SS						32
	33								33
	34								Bottom of borehole at 34' bgs 34

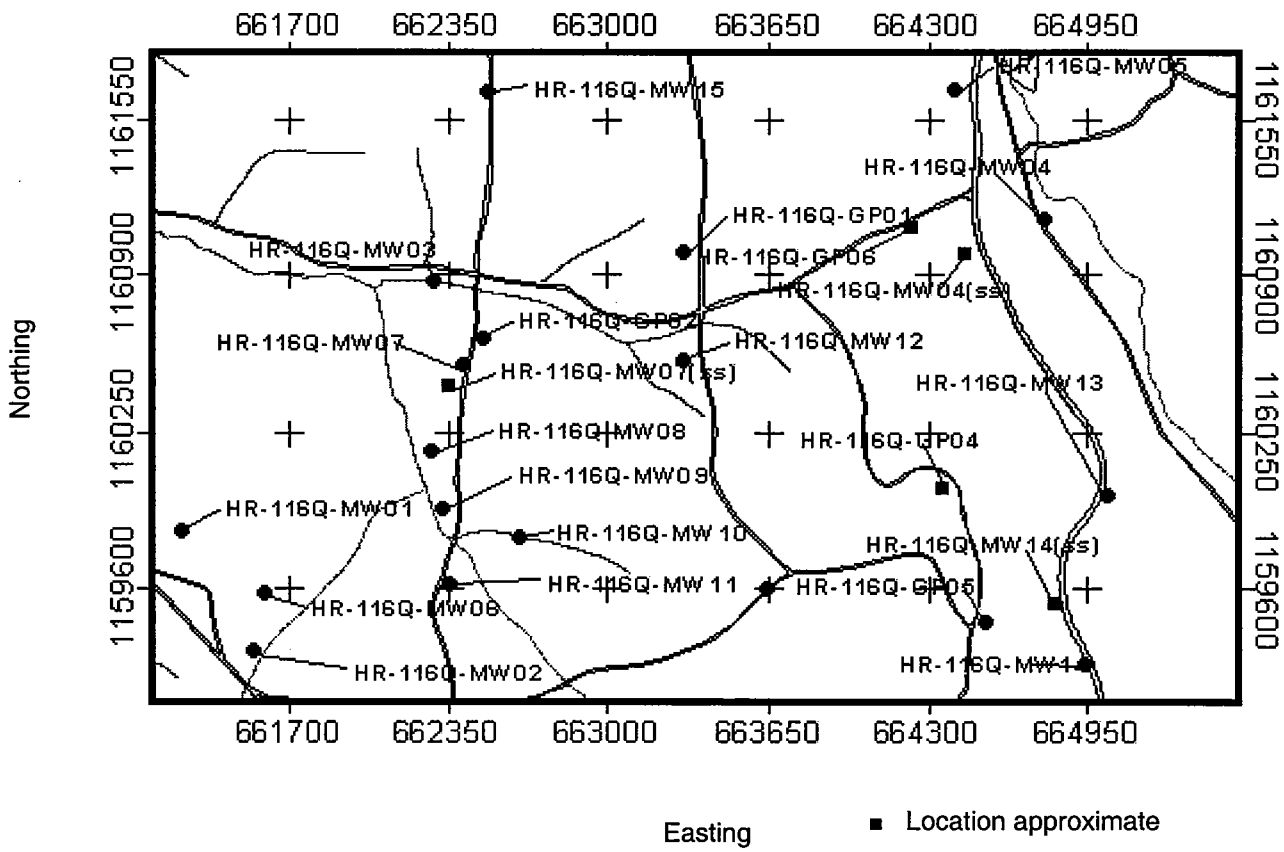
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW14
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 12 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Mark Thomas	6. Mfr. designation of drill: Schramm T450W
7. Sizes and types of drilling and sampling equipment: Air Rotary AR-6.25" Tricone Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q 9. Surface elevation (feet above mean sea level): 1130.51 10. Date started: 01/10/01 — 11. Date completed: 02/22/01
12. Overburden thickness (feet bgs): >108.2	15. Depth groundwater encountered (feet bgs): 97
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 108.2	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	NA	NA	NA	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: George Robertson		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-116Q-MW14	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 2 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	NA: No sample collected for lithologic description.							Note: 180' S/SW of direct push location MW14(SS)
1130									
	1								
	2								
	3								
	4								
	5		NA						
1125									
	6								
	7								
	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 3 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1120									
	11								11
	12								12
	13								13
	14								14
	15		NA						15
1115									
	16								16
	17								17
	18								18
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 4 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1110									
	21								21
	22								22
	23								23
	24								24
	25		NA						25
1105									
	26								26
	27								27
	28								28
	29								29
	30	ml: Yellowish to orangish brown, occasionally off white, stiff SILT, some Sand, trace Clay, no							30 Descriptions from air rotary drill cuttings (30-108.2' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 5 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
1100		plasticity, moist.							
	31								31
	32								32
	33								33
	34								34
	35								35
1095			ml						
	36								36
	37								37
	38								38
	39								39
	40								40
1090									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 6 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
	42								42
	43								43
	44								44
	45								45
1085			ml						
	46								46
	47								47
	48								48
	49								49
	50								50
1080									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 7 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52								52
	53								53
	54								54
	55								55
1075			ml						
	56								56
	57								57
	58								58
	59								59
	60								60
1070									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 8 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62								62
	63								63
	64								64
	65								65
1065			ml						
	66								66
	67								67
	68								68
	69								69
	70								70
1060									
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 9 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
	72								72
	73								73
	74								74
	75								75
1055			ml						
	76								76
	77								77
	78								78
	79								79
	80								80
1050									
	81								81

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 10 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	82								82
	83		ml						83
	84								84
	85	ml: Light gray stiff SILT, some Sand, trace to little Clay, no plasticity, moist.							85
1045									
	86								86
	87								87
	88		ml						88
	89								89
	90								90
1040									
	91								91

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 11 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92								92
	93								93
	94								94
	95								95
1035									
	96								96
			ml						
	97								97 Groundwater encountered at 97' bgs.
	98								98
	99								99
	100								100
1030									
	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW14

Project: Fort McClellan | Geologist: George Robertson | Sheet 12 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	102								102
	103								103
	104								104
			ml						
	105								105
1025									
	106								106
	107								107
	108								Bottom of borehole at 108.2' bgs 108

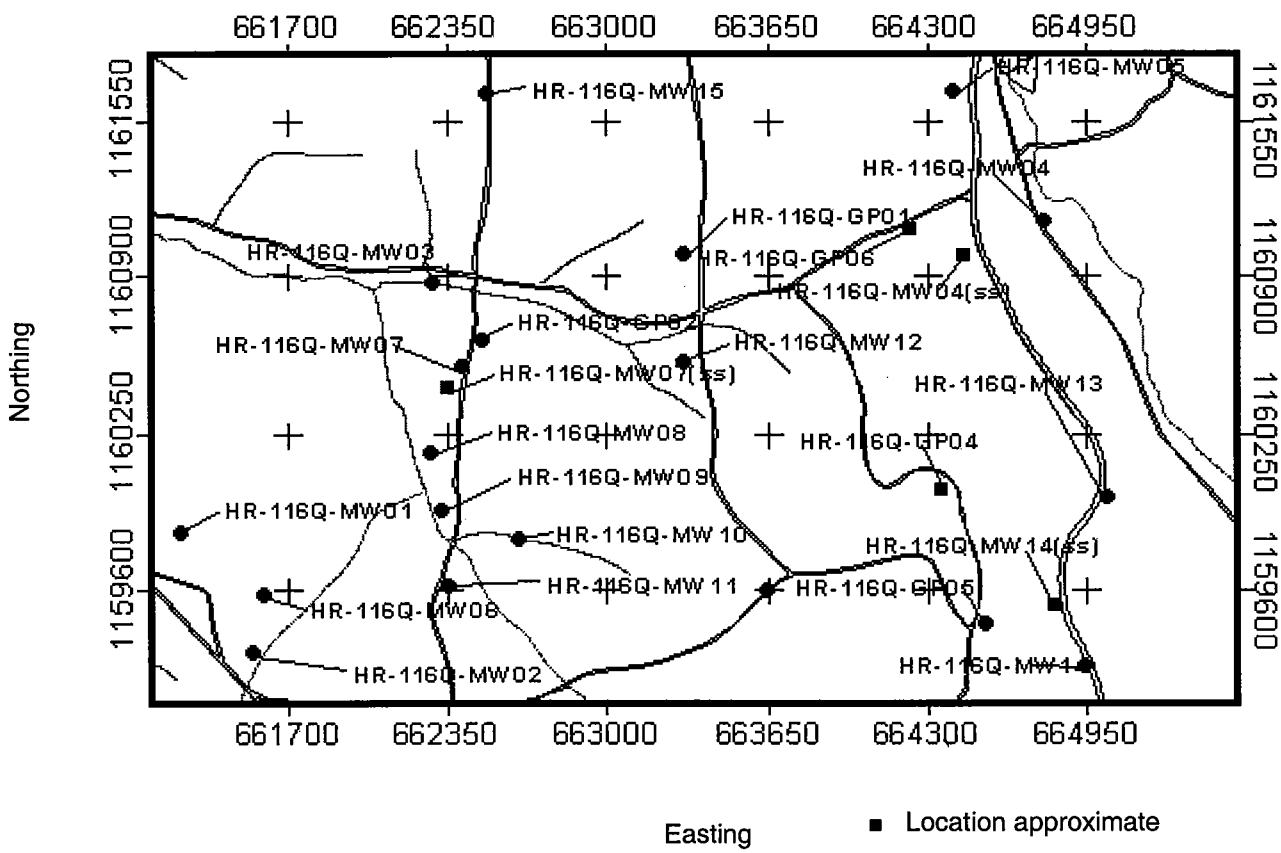
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-116Q-MW15
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 116Q-X 9. Surface elevation (feet above mean sea level): 1051.03 10. Date started: 12/14/00 — 11. Date completed: 02/12/01
12. Overburden thickness (feet bgs): >71	15. Depth groundwater encountered (feet bgs): Unknown
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 71	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan — bgs= below ground surface, NA = Not applicable — ss=direct push sample location, associated well offset — Hole no.: HR-116Q-MW15

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Orange brown moist soft SILT and fine to coarse SAND, little quartz-rich subrounded fine to coarse Gravel, trace organics.	sm		Organic Vapor = 0.0ppm		JL0029		Rec 1.0'/1.0' (0-1' bgs)
1050	1	ml: Yellowish orange to off white slightly moist SILT, some fine to coarse dense Sand, little quartz-rich subangular coarse to fine Gravel.	ml		Organic Vapor = 0.0ppm				Rec 1.3'/3.0' (1-4' bgs)
	2								
	3								
	4	ml: Off white to yellowish orange dry SILT, little fine to medium Sand.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (4-6' bgs)
	5						JL0030		
1045	6	NA: No sample collected for lithologic description.							Direct push refusal at 6' bgs
	7								
	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
1040	11								
	12								
	13								
	14	cl: Light gray to yellowish orange mottled, stiff, slightly moist CLAY.			Organic Vapor = 0.0ppm			7 7 12 14	Rec 2.0'/2.0' (14-16' bgs)
	15		cl						
1035	16	NA: No sample collected for lithologic description.							
	17								
			NA						
	18								
	19	cl: Light gray, very stiff, dry CLAY.	cl		Organic Vapor = 0.0ppm			15 12 15 21	Rec 2.0'/2.0' (19-21' bgs)
		sm: Light gray, dry SAND and SILT, trace Clay.	sm						
		sm: Light brown to yellowish orange, dry SAND and SILT.	sm						
	20								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl: Light gray to light pink CLAY, some Silt,	cl						
1030	21	NA: No sample collected for lithologic description.							
	22		NA						
	23								
	24	sm: Light gray, yellowish orange light to medium pink mottled fine SAND, some Silt, some Clay, slightly moist.	sm		Organic Vapor = 0.0ppm			17 18 19 24	Rec 2.0'/2.0' (24-26' bgs)
		sw: Medium pink to yellowish orange fine SAND, trace Silt, slightly moist.	sw						
	25	cl: Yellowish orange to medium pink fine SAND, slightly moist.	cl						
1025	26	cl: Light gray CLAY, trace Silt, trace fine Sand, slightly moist.	cl						
		NA: No sample collected for lithologic description.							
	27								
	28		NA						
	29								
	30	sc: Light gray, yellowish orange, medium pink, interbedded fine SAND and CLAY, some Silt,	sc		Organic Vapor			10 15 16 20	Rec 2.0'/2.0' (30-32' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 5 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		slightly moist.			=				
		cl: Light gray to medium pink stiff CLAY, slightly moist.	cl		0.0ppm				
1020	31	sw: Light gray to medium pink, fine SAND, trace Silt, slightly moist.	sw						
		cl: Light gray to medium pink, stiff CLAY, slightly moist.	cl						
		sw: Light gray to yellowish orange to medium pink fine SAND, trace Silt, slightly moist.	sw						
	32	cl: Light gray to medium pink very stiff CLAY.	cl						
		NA: No sample collected for lithologic description.							
	33								
			NA						
	34								
	35	cl: Light gray to yellowish orange dry CLAY, some fine Sand, trace Silt.	cl		Organic Vapor = 0.0ppm			7 11 16 24	Rec 2.0'/2.0' (35-37' bgs)
		cl: Light gray, stiff CLAY, slightly moist.	cl						
		sm: Light gray to light pink fine SAND, some Silt, trace Clay.	sm						
1015	36	cl: Light gray, very stiff CLAY, slightly moist.	cl						
		cl: Light gray to yellowish orange mottled CLAY, trace Silt, slightly moist.	cl						
	37	NA: No sample collected for lithologic description.							
	38		NA						
	39	sp: Light gray to medium pink fine SAND, trace Silt and Clay.	sp		Organic Vapor = 0.0ppm			12 12 14 15	Rec 2.0'/2.0' (39-41' bgs)
	40								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 6 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sc: Light gray CLAY and fine SAND, trace Silt.	sc						
1010	41	NA: No sample collected for lithologic description.							
	42		NA						
	43								
	44	sc: Light gray fine SAND, some Clay, trace Silt, slightly moist.	sc		Organic Vapor = 0.0ppm			10 12 13 18	Rec 2.0'/2.0' (44-46' bgs)
	45	cl: Light gray very stiff CLAY, slightly moist.	cl						
1005	46	NA: No sample collected for lithologic description.							
	47		NA						
	48								
	49	cl: Light yellowish orange to light gray stiff CLAY, some fine Sand, trace Silt, slightly moist.	cl		Organic Vapor = 0.0ppm			12 18 20 50/0.5'	Rec 2.0'/2.0' (49-51' bgs)
	50	cl: Yellowish orange to light gray, very stiff CLAY, slightly moist.	cl						
		sp: Light yellowish orange to light gray fine							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 7 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		SAND, trace Silt and trace Clay.	sp						
1000	51	cl: Light yellowish orange very stiff CLAY, dry.	cl						
		NA: No sample collected for lithologic description.							
	52		NA						
	53								
	54	cl: Light yellowish orange to light gray, very stiff, dry CLAY.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (54-54.5' bgs)
		sp: Light brown to yellowish orange fine SAND, trace Silt, slightly moist.	sp						
	55	NA: No sample collected for lithologic description.							
995	56								
	57		NA						
	58								
	59	cl: Light yellowish orange, very stiff, dry CLAY, trace Silt.			Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (59-59.5' bgs)
		NA: No sample collected for lithologic description.							
	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 8 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
990	61								
			NA						
	62								
	63								
	64	ml: Light yellowish orange to light pink SILT, some fine Sand, trace Clay.	ml		Organic Vapor = 0.0ppm			23 50/0.5'	Rec 1.0'/1.0' (64-65' bgs)
	65	cl: Light gray to yellowish orange very stiff dry CLAY. NA: No sample collected for lithologic description.	cl						
985	66								
	67		NA						
	68								
	69	sh: Yellowish orange, dry, weathered SHALE, fissile, some fine grained Sand.	sh		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (69-69.5' bgs)
		sp: Light to medium pink fine grained SAND, trace coarse Sandstone Gravel, trace Silt, dry. NA: No sample collected for lithologic description.	sp						
	70		NA						
	71								Bottom of borehole at 71' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-116Q-MW15

Project: Fort McClellan

Geologist: Nicole Badon/April Barnes

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)

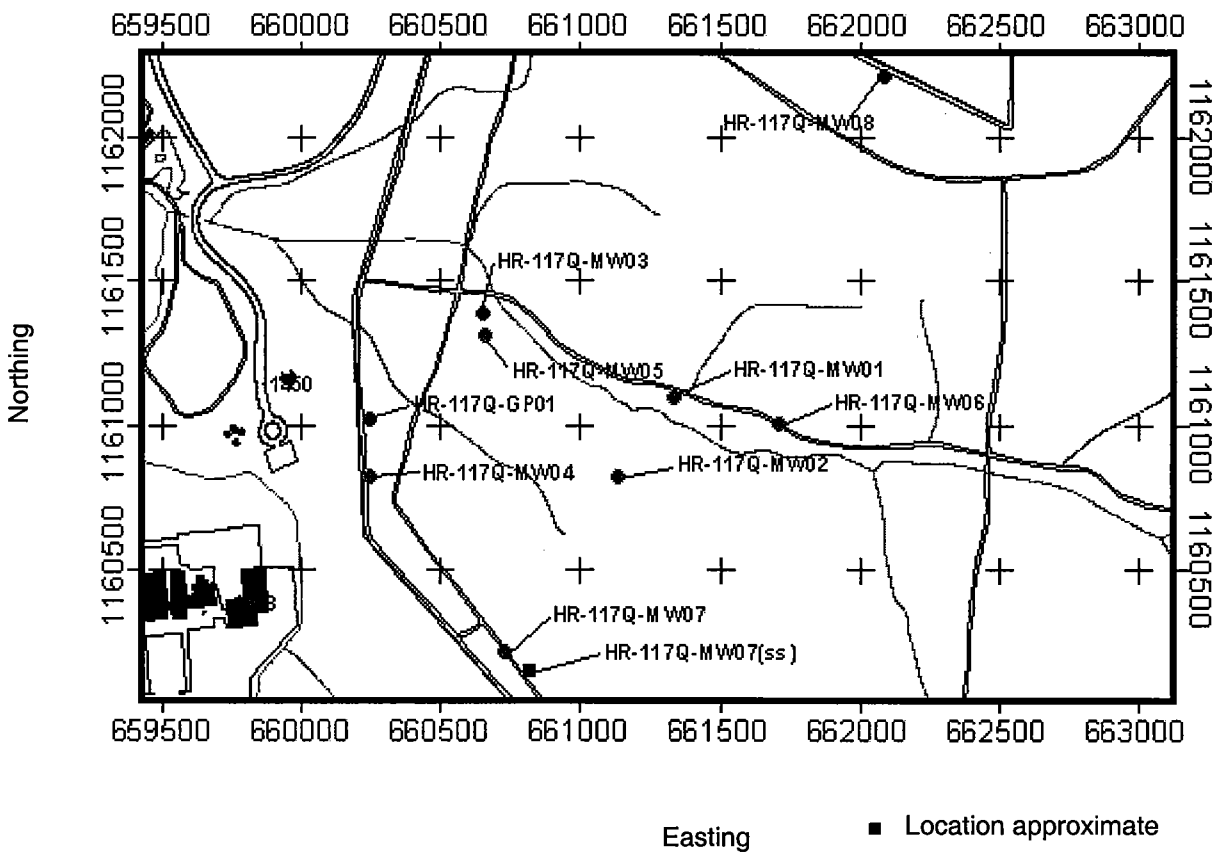
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-117Q-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 858.92 10. Date started: 12/12/00 — 11. Date completed: 12/12/00
12. Overburden thickness (feet bgs): >6	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 6	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: Nicole Badon/Leslie O'Hare		
	Bentonite	NA	NA			

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

Hole no.: HR-117Q-GP01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-GP01

Project: Fort McClellan | Geologist: Nicole Badon/Leslie O'Hare | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Medium brown loose moist fine to medium SAND, some Silt, some coarse subrounded Gravel, trace roots.	sm		Organic Vapor = 0.0ppm		JM0016		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown medium stiff moist CLAY, some Silt, some medium to coarse Sand, little coarse subrounded Gravel.	cl		Organic Vapor = 0.0ppm				Rec 1.0'/3.0' (1-4' bgs)
	2								
	3								
855	4	sm: Light brown loose dry medium to coarse SAND, some Silt, some coarse subangular Gravel.	sm		Organic Vapor = 0.0ppm		JM0017 JM0018 JM0019		Rec 2.0'/2.0' (4-6' bgs)
	5								
	6								Direct push refusal at 6' bgs Bottom of borehole at 6' bgs

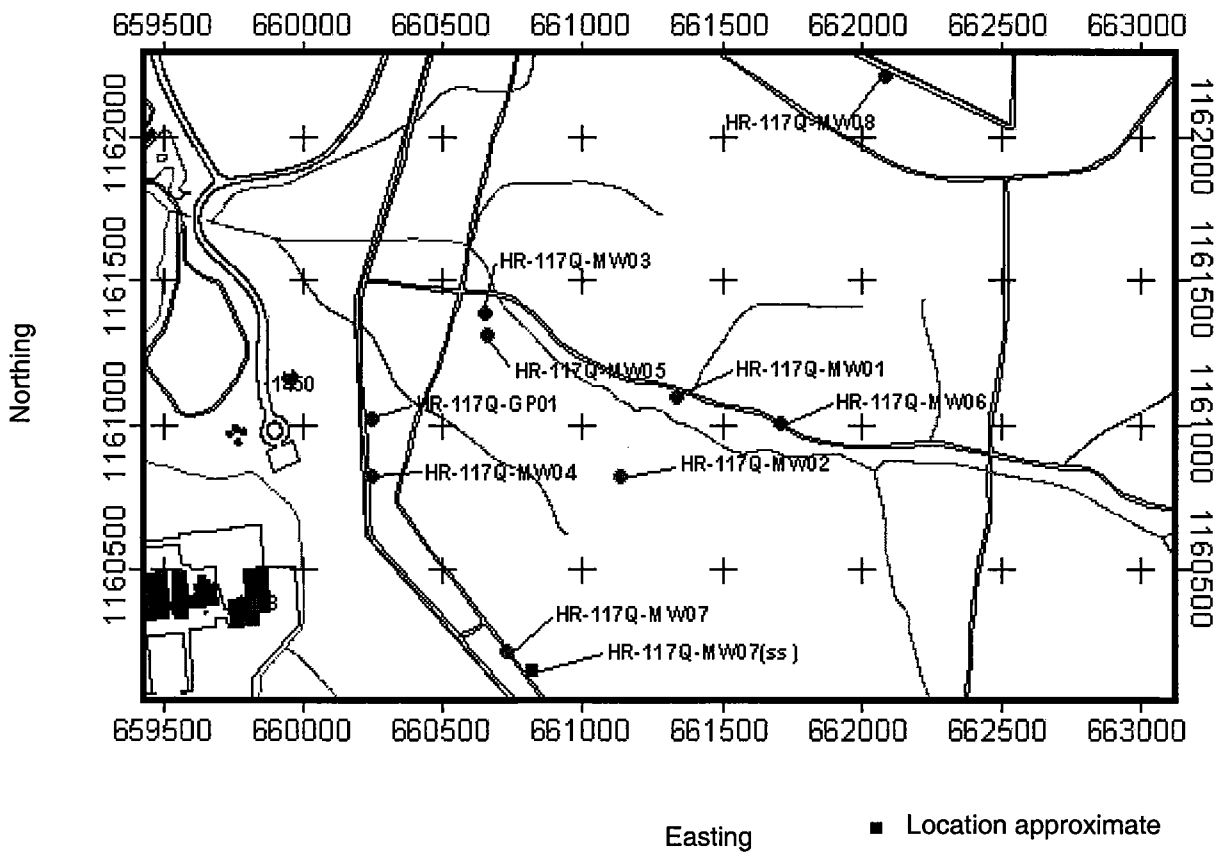
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-117Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 847.48 10. Date started: 01/31/01 — 11. Date completed: 04/17/01
12. Overburden thickness (feet bgs): >18	15. Depth groundwater encountered (feet bgs): 9.0
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 18	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	N.Badon/G.Robertson/J.Dendy		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW01

Project: Fort McClellan | Geologist: N.Badon/G.Robertson/J.Dendy | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown, soft, moist SILT, some fine to medium Sand, little Clay, trace fine subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JM0001		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Medium brown, soft, moist SILT, some Clay, little medium to coarse Sand, trace roots.	ml		Organic Vapor = 0.0ppm				Rec 1.3'/3.0' (1-4' bgs)
845	2								
	3								
	4	sm: Orange-brown, loose, moist, medium to coarse SAND, some Clay, trace fine subrounded Gravel.	sm		Organic Vapor = 0.0ppm				Rec 1.8'/4.0' (4-8' bgs)
	5								
	6								
840	7								
	8	sm: Orange-brown, dense, moist, medium to coarse SAND, some Silt, little Clay.	sm		Organic Vapor = 18.9ppm		JM0002		Rec 2.6'/3.0' (8-11' bgs)
	9								Groundwater encountered at 9' bgs
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW01

Project: Fort McClellan | Geologist: N.Badon/G.Robertson/J.Dendy | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11	NA: No sample collected for lithologic description.							Direct push refusal at 11' bgs
	12								
835									
	13								
	14								
			NA						
	15								
	16								
	17								
830									
	18								Bottom of borehole at 18' bgs

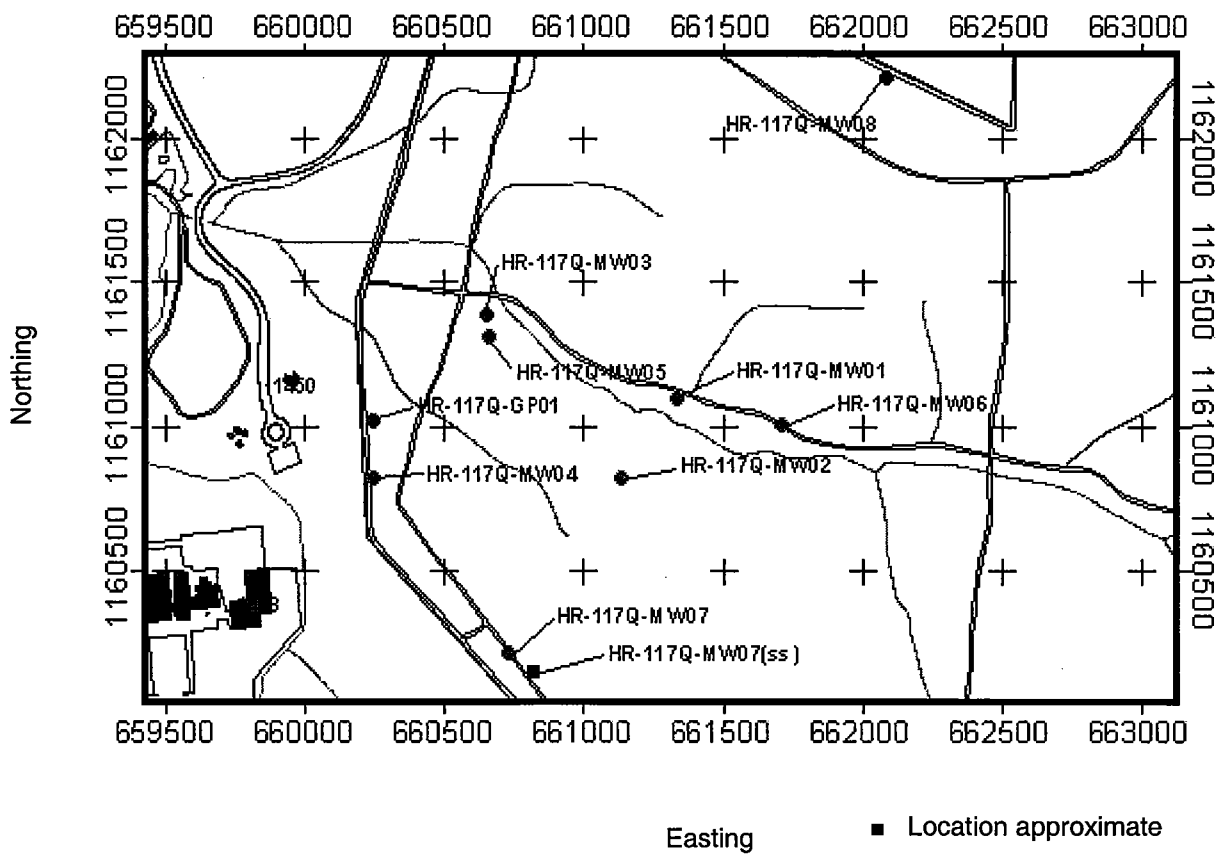
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-117Q-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 904.70 10. Date started: 02/05/01 — 11. Date completed: 05/04/01
12. Overburden thickness (feet bgs): >26	15. Depth groundwater encountered (feet bgs): 21.0
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 26	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: K.Hunter/N.Badon/J.Dendy		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-117Q-MW02	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW02

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Dendy | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Reddish brown soft moist SILT, some fine to medium Sand, trace fine subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JM0003		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown soft moist SILT, some fine to medium Sand, trace fine subangular Gravel, trace Clay.	ml		Organic Vapor = 0.0ppm				Rec 1.0'/1.0' (1-2' bgs)
	2	ml: Yellowish orange medium stiff moist SILT, some fine to coarse Sand, little fine subangular Gravel.	ml		Organic Vapor = 0.2ppm		JM0004		Rec 1.8'/2.0' (2-4' bgs)
	3								
	4	ml: Yellowish orange medium stiff moist SILT, some fine to coarse Sand, little fine to coarse subangular Gravel, trace Clay.	ml		Organic Vapor = 0.0ppm				Rec 1.9'/2.0' (4-6' bgs)
900	5								
	6	ml: Yellowish brown medium stiff moist SILT, some fine to coarse Sand, trace Clay.	ml		Organic Vapor = 0.0ppm				Rec 1.0'/1.0' (6-7' bgs)
	7	NA: No sample collected for lithologic description.							Direct push refusal at 7' bgs
	8								
	9								
895	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW02

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Dendy | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	11								
	12								
	13	cl: Light brown medium stiff CLAY, little subrounded, fine sandstone Gravel, little fine Sand.			Organic Vapor = 0.0ppm			14 18 14 20	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
890									
	15	NA: No sample collected for lithologic description.							
	16								
			NA						
	17								
	18	cl: Light brown medium stiff CLAY, little Silt.			Organic Vapor = 0.0ppm			20 22 31 30	Rec 2.0'/2.0' (18-20' bgs)
	19		cl						
885									
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW02

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Dendy | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21		NA						Groundwater encountered at 21' bgs
	22								
	23	cl: Reddish brown hard CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			21 31 38 40	Rec 2.0'/2.0' (23-25' bgs)
	24								
880	25	NA: No sample collected for lithologic description.	NA						Auger and split spoon refusal at 26' bgs Bottom of borehole at 26' bgs
	26								

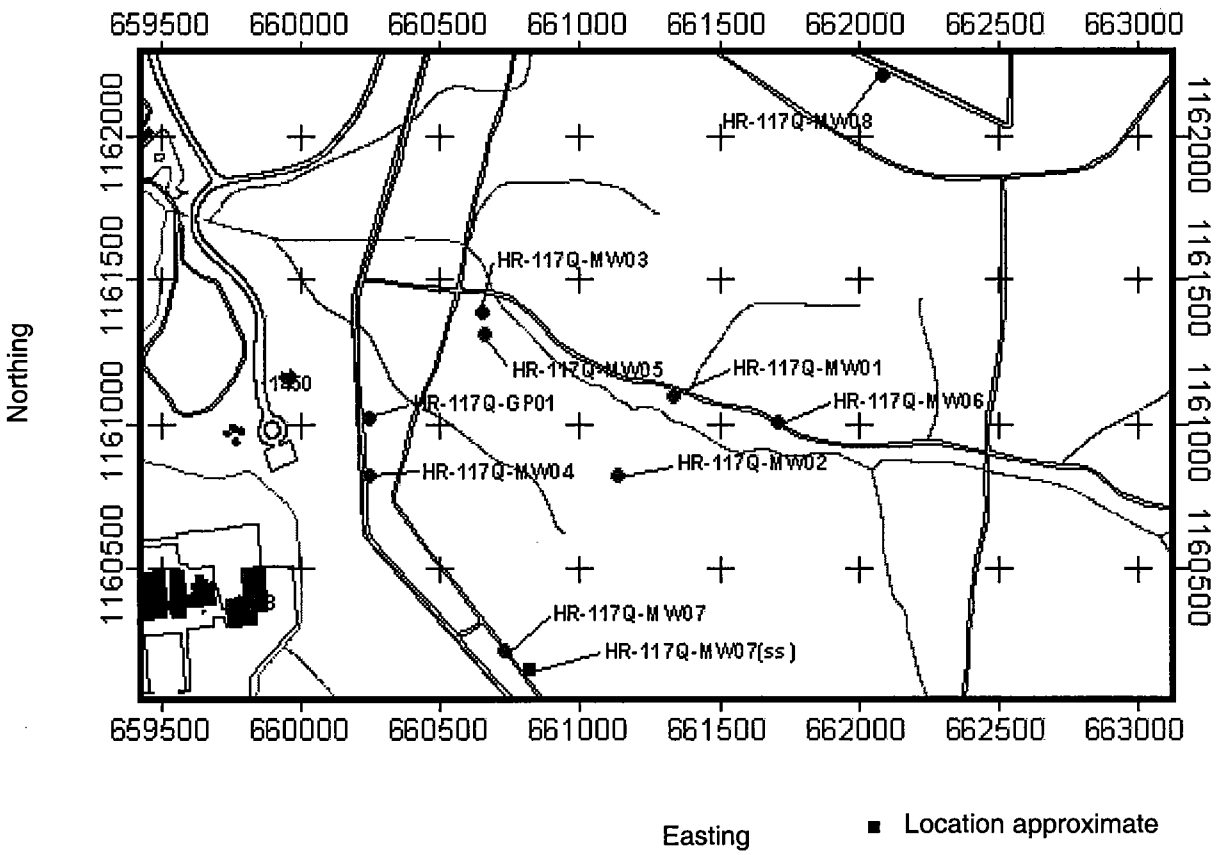
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-117Q-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 831.66 10. Date started: 01/31/01 — 11. Date completed: 02/21/01
12. Overburden thickness (feet bgs): >74	15. Depth groundwater encountered (feet bgs): Unknown
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 69.3 ~7 days
14. Total depth of hole (feet bgs): 74	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft SILT, some fine to medium Sand, little Clay, trace coarse subrounded Gravel, moist.	ml		Organic Vapor = 0.0ppm		JM0005		Rec 1.0'/1.0' (0-1' bgs)
	1	sm: Orange, fine to coarse, dense SAND, some Silt, little Clay, trace fine subangular Gravel, slightly moist.	sm		Organic Vapor = 0.0ppm				Rec 2.1'/3.0' (1-4' bgs)
830									
	2								
	3								
	4	ml: Dark red soft SILT, some fine to medium Sand, trace Clay dry.	ml		Organic Vapor = 0.0ppm		JM0007		Rec 2.0'/2.0' (4-6' bgs)
	5								
	6	NA: No sample collected for lithologic description.	NA						Direct push refusal at 6' bgs
825									
	7								
	8								
	9	sh: Reddish brown dry weathered SHALE, slightly fissile.	sh		Organic Vapor = 0.0ppm			25 50/0.4'	Rec 0.9'/0.9' (9-10' bgs)
	10	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	11								11
820									
	12		NA						12
	13								13
	14	sh: Reddish brown, yellowish orange, off white weathered SHALE, dry, slightly fissile.	sh		Organic Vapor = 0.0ppm			16 20 50/0.5'	Rec 1.5'/1.5' (14-15.5' bgs) 14
	15								15
		NA: No sample collected for lithologic description.							
	16								16
815			NA						
	17								17
	18								18
	19	sh: Reddish brown, yellowish orange off white weathered SHALE, dry, slightly fissile.	sh		Organic Vapor = 0.0ppm			24 50/0.4'	Rec 0.9'/0.9' (19-19.9' bgs) 19
	20	NA: No sample collected for lithologic description.							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								
810									
	22		NA						
	23								
	24	sh: Reddish brown, yellowish orange, off white, mottled highly weathered SHALE, dry, slightly fissile, trace fine Sand.	sh		Organic Vapor = 0.0ppm			16 50/0.5'	Rec 1.0'/1.0' (24-25' bgs)
	25	NA: No sample collected for lithologic description.							
	26								
805									
	27		NA						
	28								
	29	sh: Reddish brown, yellowish orange, off white, dry weathered SHALE, slightly fissile.	sh		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (29-29.5' bgs)
		cl: Very light reddish brown to tan hard dry CLAY.	cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 5 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
800			NA						
	32								32
	33								33
	34	sh: Reddish brown, yellowish orange, off white, dry, highly weathered SHALE, slightly fissile, trace fine to coarse chert Gravel.	sh		Organic Vapor = 0.0ppm			16 22 24 26	Rec 2.0'/2.0' (34-36' bgs) 34
	35								35
	36	NA: No sample collected for lithologic description.							36
795									
	37		NA						37
	38								38
	39	cl: Reddish brown, reddish purple, yellowish orange, off white, dry hard CLAY.	cl		Organic Vapor = 0.0ppm			11 17 19 25	Rec 2.0'/2.0' (39-41' bgs) 39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 6 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41	NA: No sample collected for lithologic description.							
790									
	42		NA						
	43								
	44	cl: Reddish brown, yellowish orange, reddish purple, off white, dry hard CLAY.	cl		Organic Vapor = 0.0ppm			13 16 19 25	Rec 2.0'/2.0' (44-46' bgs)
	45	cl: Reddish brown, yellowish orange, reddish purple stiff CLAY.	cl						
	46	NA: No sample collected for lithologic description.							
785									
	47		NA						
	48								
	49	cl-ml: Yellowish orange to off white CLAY and SILT, trace fine Sand, slightly moist.	cl-ml		Organic Vapor = 0.0ppm			11 13 16 24	Rec 2.0'/2.0' (49-51' bgs)
		cl-ml: Yellowish orange CLAY and SILT, trace fine Sand, slightly moist.	cl-ml						
	50	cl: Reddish brown stiff CLAY, some Silt, trace fine Sand, slightly moist.	cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 7 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
780									
	52		NA						
	53								
	54	sm: Yellowish orange fine SAND and SILT, trace rounded quartzite Gravel.	sm		Organic Vapor = 0.0ppm			13 50/0.5'	Rec 1.0'/1.0' (54-55' bgs)
		sh: Reddish brown, yellowish orange, off white bands of dry weathered SHALE, slightly fissile.	sh						
	55	NA: No sample collected for lithologic description.							
	56								
775									
	57								
	58								
	59		NA						
	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 8 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								
770									
	62								
	63								
	64	cl: Reddish brown to yellowish orange mottled dry hard CLAY, some Silt.			Organic Vapor = 0.0ppm			13 20 24 30	Rec 2.0'/2.0' (64-66' bgs)
	65		cl						
	66	NA: No sample collected for lithologic description.							
765									
	67								
			NA						
	68								
	69	cl: Light reddish brown to tan dry hard CLAY, trace Silt.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (69-69.5' bgs) Groundwater encountered at 69.3' bgs
		NA: No sample collected for lithologic description.							
	70								
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW03

Project: Fort McClellan

Geologist: Nicole Badon/April Barnes

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
760			NA						
	72								
	73								
	74								Bottom of borehole at 74' bgs

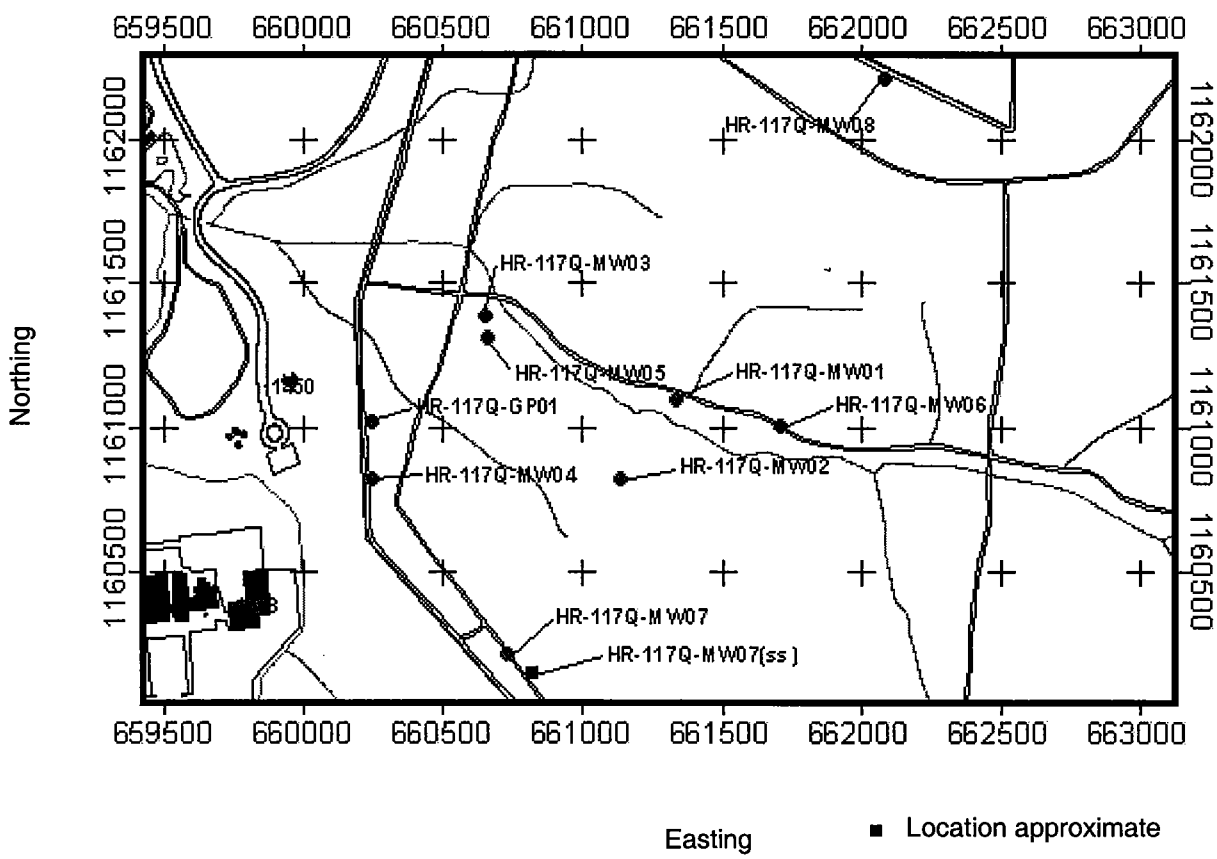
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-117Q-MW04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 838.98 10. Date started: 12/12/01 — 11. Date completed: 02/05/01
12. Overburden thickness (feet bgs): >36.9	15. Depth groundwater encountered (feet bgs): 26
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 36.9	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: N.Badon/G.Robertson/N.Muloshi		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW04

Project: Fort McClellan | Geologist: N.Badon/G.Robertson/N.Muloshi | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Light brown, loose, moist, medium to coarse SAND, some Silt, some coarse subrounded Gravel, trace roots.	sm		Organic Vapor = 0.0ppm		JM0008		Rec 1.0'/1.0' (0-1' bgs)
	1	sm: Light brown to white, loose, moist, medium to coarse SAND, some Silt, some coarse subrounded Gravel.	sm		Organic Vapor = 0.0ppm				Rec 1.0'/3.0' (1-4' bgs)
	2								
	3								
835	4	cl: Off white to yellowish orange, stiff dry CLAY, some coarse to medium Sand, some Silt, little coarse angular Gravel.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
	8	cl: Light yellow stiff dry CLAY, some Silt.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-10' bgs)
830	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW04

Project: Fort McClellan | Geologist: N.Badon/G.Robertson/N.Muloshi | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			cl						
	11								11
							JM0009		
									Bottom of direct push hole at 12' bgs
	12	NA: No sample collected for lithologic description.							12
			NA						
	13	cl: Light yellow stiff, dry CLAY, some Silt.			Organic Vapor = 0.0ppm			11 24 47 50/0.2'	Rec 1.7'/1.7' (13-14.7' bgs) 13
			cl						
825	14								14
		ml: Light gray, occasionally mottled reddish to yellowish brown, stiff SILT, no plasticity, trace fine Sand, trace Clay, dry.	ml						
	15	NA: No sample collected for lithologic description.							15
	16								16
			NA						
	17								17
	18	ml: Light gray, occasionally mottled reddish to yellowish brown, stiff SILT, no plasticity, trace fine Sand, trace Clay, dry.			Organic Vapor = 0.0ppm			10 17 50/0.4'	Rec 1.4'/1.4' (18-19.4' bgs) 18
			ml						
820	19								19
		NA: No sample collected for lithologic description.							
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW04

Project: Fort McClellan | Geologist: N.Badon/G.Robertson/N.Muloshi | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21		NA						
	22								
	23	sw: Off white to light gray, fine to coarse, subangular to angular, well graded, loose, micaceous (muscovite) and quartz SAND, trace to little Silt, little fine to medium angular quartz Gravel, slightly moist to moist.	sw		Organic Vapor = 0.0ppm			27 50 60/0.5'	Rec 1.2'/1.5' (23-24.5' bgs)
815	24								
		NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							
	25								
	26		NA						Groundwater encountered at 26' bgs
	27								
	28	sw: Off white to light gray, fine to coarse, subangular to angular, well graded, loose, micaceous (muscovite) and quartz SAND, trace to little Silt, little fine to medium angular quartz Gravel, slightly moist to moist.	sw		Organic Vapor = 0.0ppm			17 18 19 20	Rec 1.1'/2.0' (28-30' bgs)
810	29								
		NA: No recovery.	NA						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW04

Project: Fort McClellan | Geologist: N.Badon/G.Robertson/N.Muloshi | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32								32
	33		NA						33
805	34								34
	35								35
	36								36
									Bottom of borehole at 36.9' bgs

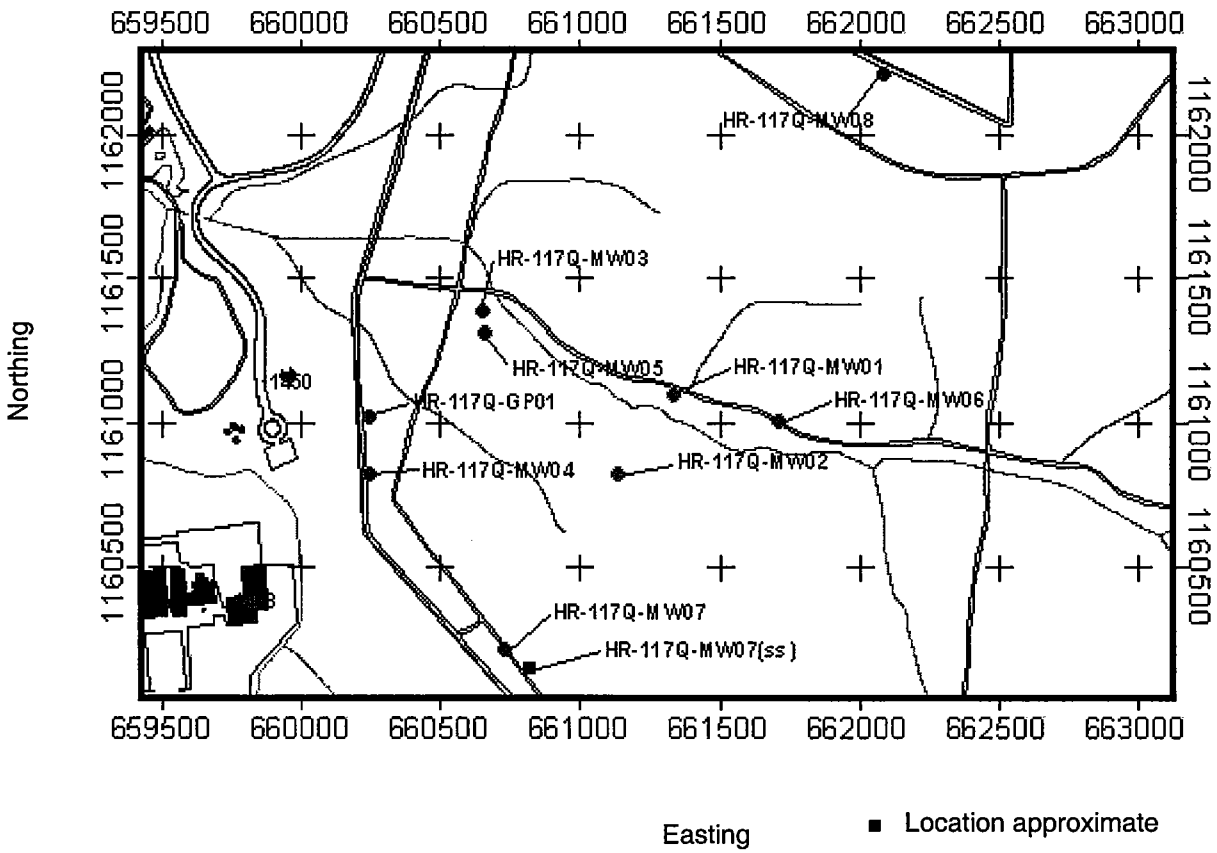
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-117Q-MW05
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Co	Sheet 1 of 13 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 838.87 10. Date started: 01/31/01 — 11. Date completed: 02/19/01
12. Overburden thickness (feet bgs): >115	15. Depth groundwater encountered (feet bgs): Unknown
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 60.45
14. Total depth of hole (feet bgs): 115	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

Hole no.: HR-117Q-MW05

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft SILT, some Clay, little fine to medium Sand, trace fine to coarse Gravel, trace organics (roots), moist.	ml		Organic Vapor = 0.0ppm		JM0010		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Orangish brown medium stiff CLAY, some Silt, little fine to medium Sand, trace fine subangular Gravel, moist.	cl		Organic Vapor = 0.0ppm				Rec 2.5'/3.0' (1-4' bgs)
	2								
	3								
835	4	sm: Red orange with zones of white medium to coarse SAND, some Silt, little Clay, trace coarse subrounded Gravel.	sm		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7						JM0011		
	8	NA: No sample collected for lithologic description.							Direct push refusal at 8' bgs
830	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		NA						
	12								
	13								
825	14								
	15	cl: Reddish brown yellowish orange light gray mottled CLAY, some fine to coarse chert Gravel, dry.	cl		Organic Vapor = 0.0ppm			7 15 17 19	Rec 2.0'/2.0' (15-17' bgs)
	16								
	17	NA: No sample collected for lithologic description.							
	18		NA						
820	19								
	20	cl: Reddish brown yellowish orange light gray			Organic			11 17	Rec 2.0'/2.0' (20-22' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		mottled CLAY, some fine to coarse chert Gravel, dry.			Vapor = 0.0ppm			23 25	
	21		cl						21
	22	NA: No sample collected for lithologic description.							22
	23		NA						23
815	24								24
	25	cl: Reddish brown yellowish orange light gray CLAY, little fine to coarse chert Gravel.			Organic Vapor = 0.0ppm			9 12 15 21	Rec 2.0'/2.0' (25-27' bgs) 25
	26		cl						26
	27	NA: No sample collected for lithologic description.							27
	28		NA						28
810	29								29
	30	sh: Reddish brown, medium pink, medium gray, off white, dry weathered SHALE, slightly			Organic Vapor			11 13 11 17	Rec 2.0'/2.0' (30-32' bgs) 30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 5 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		fissile.			= 0.0ppm				
	31		sh						
	32	NA: No sample collected for lithologic description.							
	33		NA						
805	34								
	35	sh: Reddish orange, medium pink, off white, medium gray highly weathered SHALE, slightly fissile, slightly moist.			Organic Vapor = 0.0ppm			13 15 17 19	Rec 2.0'/2.0' (35-37' bgs)
	36		sh						
	37	NA: No sample collected for lithologic description.							
	38		NA						
800	39								
	40	cl: Reddish brown slightly moist CLAY.	cl		Organic Vapor =			8 11 12 14	Rec 2.0'/2.0' (40-42' bgs)
		cl-ml: Reddish brown to medium pink CLAY	cl-						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 6 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		and SILT.	ml		0.0ppm				
		sh: Reddish brown to yellowish orange, yellow brown, slightly moist weathered SHALE.	sh						
	41	sh: Reddish brown to off white slightly moist weathered SHALE.	sh						41
	42	NA: No sample collected for lithologic description.							42
	43		NA						43
795	44								44
	45	sh: Reddish brown to off white, slightly moist, highly weathered SHALE, slightly moist, slightly fissile, trace shale Gravel.			Organic Vapor = 0.0ppm			10 11 12 11	Rec 2.0'/2.0' (45-47' bgs) 45
	46		sh						46
	47	NA: No sample collected for lithologic description.							47
	48		NA						48
790	49								49
	50	sh: Reddish brown, yellowish orange, off white, dark gray, weathered SHALE, moist.			Organic Vapor = 0.0ppm			11 13 18 23	Rec 2.0'/2.0' (50-52' bgs) 50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 7 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		sh						
	52	NA: No sample collected for lithologic description.							
	53		NA						
785	54								
	55	sh: Dark brown, yellowish orange, off white, moist, weathered SHALE.	sh		Organic Vapor = 0.0ppm			11 15 17 18	Rec 2.0'/2.0' (55-57' bgs)
		cl-sm: Dark brown, reddish brown, yellowish orange, off white CLAY and SILT and fine SAND, moist.	cl-sm						
	56	sm: Reddish orange, off white, dark brown, fine SAND, little Silt, trace Clay, moist.	sm						
		sh: Dark brown, yellowish orange, reddish brown, off white, moist weathered SHALE, slightly fissile.	sh						
	57	NA: No sample collected for lithologic description.							
	58		NA						
780	59								
	60	sh: Reddish brown, yellowish orange, off white, dark brown, dark gray weathered SHALE, slightly moist.						8 11 17 20	Rec 2.0'/2.0' (60-62' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 8 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		sh						
	62	NA: No sample collected for lithologic description.							
	63								
775	64								
	65								
	66		NA						
	67								
	68								
770	69								
	70	sh: Dark brown, reddish brown yellowish orange, off white bands, slightly moist weathered SHALE.	sh		Organic Vapor = 0.0ppm			13 11 17 24	Rec 2.0'/2.0' (70-72' bgs)
		cl: Reddish brown to yellowish orange, slightly moist CLAY.							
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 9 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71		cl						
		cl-ml: Reddish brown, yellowish orange, and white interbedded CLAY and SILT.	cl-ml						
	72	NA: No sample collected for lithologic description.							
	73		NA						
765	74								
	75	cl: Reddish brown to yellowish orange CLAY, some fine to coarse chert Gravel, slightly moist.	cl		Organic Vapor = 0.0ppm			19 27 50/0.5'	Rec 1.5'/1.5' (75-76.5' bgs)
	76	cl: Reddish brown to yellowish orange CLAY, little Silt.	cl						
		NA: No sample collected for lithologic description.							
	77								
	78		NA						
760	79								
	80	cl: Reddish brown to yellowish orange mottled stiff, slightly moist CLAY.	cl		Organic Vapor = 0.0ppm			13 20 24 32	Rec 1.6'/2.0' (80-82' bgs)
	81	sh: Reddish brown to off white weathered SHALE, slightly fissile, slightly moist.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 10 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			sh						
		NA: No recovery.	NA						
	82	NA: No sample collected for lithologic description.							
	83		NA						
755	84								
	85	sh-cl: Reddish brown, yellowish orange, off white slightly moist CLAY, stiff interbedded with yellowish orange, off white, reddish brown weathered SHALE, slightly fissile, trace fine shale Gravel.	sh-cl		Organic Vapor = 0.0ppm			13 17 19 20	Rec 1.5'/2.0' (85-87' bgs)
	86								
		NA: No recovery.	NA						
	87	NA: No sample collected for lithologic description.							
	88		NA						
750	89								
	90	cl: Reddish brown to off white mottled CLAY, slightly moist.	cl		Organic Vapor = 0.0ppm			16 18 24 30	Rec 2.0'/2.0' (90-92' bgs)
		ml: Yellowish orange to yellowish brown SILT, some Clay.	ml						
	91	sh: Reddish brown, yellowish orange, off white, weathered SHALE, slightly fissile.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 11 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			sh						
	92	sh: Reddish purple, yellowish orange weathered SHALE, slightly fissile, dry, trace shale Gravel.	sh						
		NA: No sample collected for lithologic description.							
	93								
			NA						
745	94								
	95	sh-cl: Reddish brown, yellowish orange, off white mottled, slightly moist, stiff CLAY interbedded with reddish brown off white yellowish orange SHALE, slightly fissile.			Organic Vapor = 0.0ppm			11 12 13 14	Rec 2.0'/2.0' (95-97' bgs)
	96		sh-cl						
	97	NA: No sample collected for lithologic description.							
	98								
			NA						
740	99								
	100	sh: Reddish brown, yellowish orange, off white weathered SHALE, slightly moist, slightly fissile.			Organic Vapor = 0.0ppm			17 19 24 30	Rec 1.8'/2.0' (100-102' bgs)
			sh						
	101								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 12 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sm: Reddish brown fine grained SAND and SILT, some Clay, slightly moist.	sm						
	102	NA: No recovery.	NA						102
		NA: No sample collected for lithologic description.							
	103		NA						103
735	104								104
	105	sh: Dark brown, off white, black, moist, weathered SHALE, slightly fissile.			Organic Vapor = 0.0ppm			11 17 21 30	Rec 2.0'/2.0' (105-107' bgs) 105
	106		sh						106
	107	sh: Reddish brown yellowish orange, off white, weathered SHALE, slightly moist.	sh						107
		NA: No sample collected for lithologic description.							
	108		NA						108
730	109								109
	110	sh: Yellowish orange to off white weathered SHALE, slightly fissile, dry, trace Silt.	sh		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (110-112' bgs) 110
		NA: No sample collected for lithologic description.							
	111		NA						111

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW05

Project: Fort McClellan

Geologist: Nicole Badon/April Barnes

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	112								112
	113								113
725	114								114
	115								Bottom of borehole at 115' bgs 115

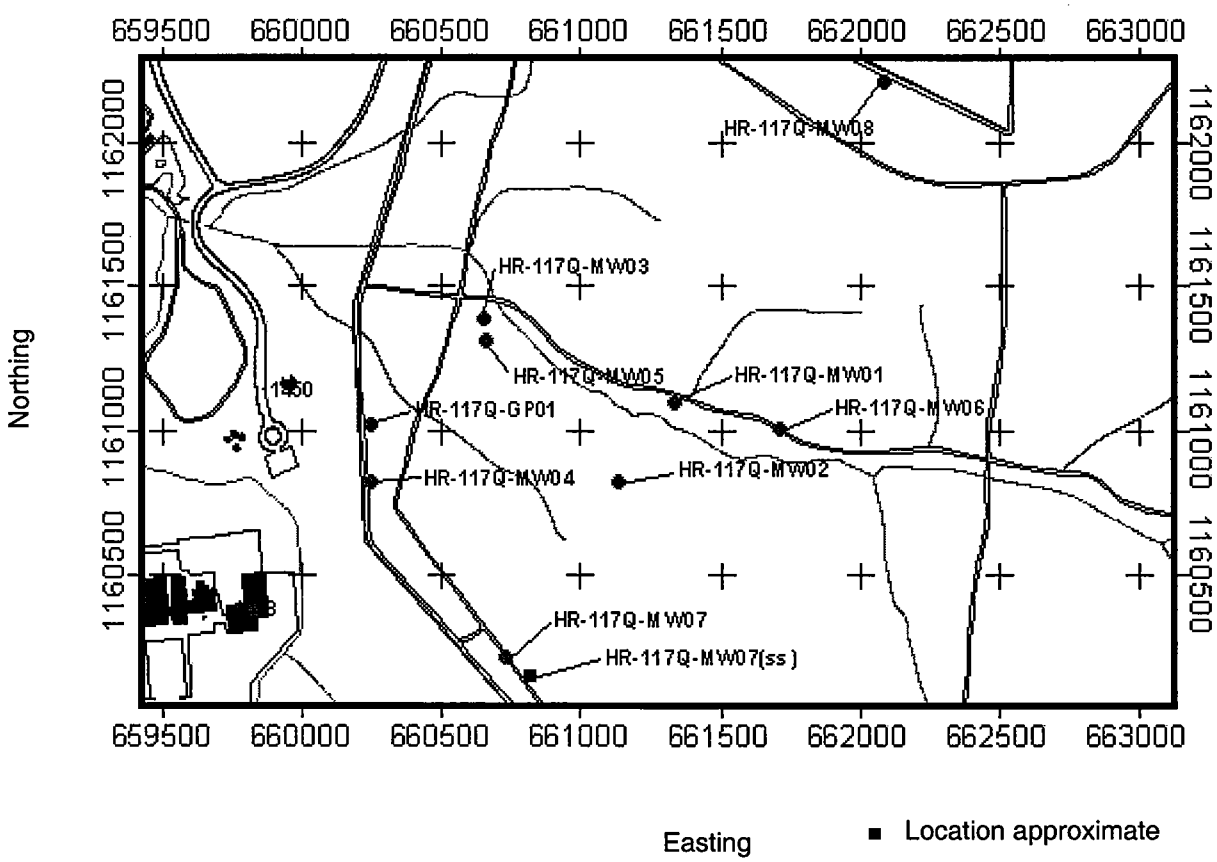
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-117Q-MW06
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 861.11 10. Date started: 02/05/01 — 11. Date completed: 05/15/01
12. Overburden thickness (feet bgs): >30	15. Depth groundwater encountered (feet bgs): Not Recorded
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 30	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	K.Hunter/N.Badon/J.Dendy		

LOCATION SKETCH/COMMENTS:



■ Location approximate

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW06

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Dendy | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Dark brown, loose, moist, medium to coarse SAND, some Silt, trace roots.	sm		Organic Vapor = 0.0ppm		JM0012		Rec 1.0'/1.0' (0-1' bgs)
860	1	sm: Dark brown, loose, wet, medium to coarse SAND, some Silt, trace coarse subrounded Gravel.	sm		Organic Vapor = 0.0ppm				Rec 1.0'/1.0' (1-2' bgs)
	2	sm: Dark brown, loose, wet SAND, some Silt, trace medium to coarse subrounded Gravel, trace coarse sandstone Gravel.	sm		Organic Vapor = 0.0ppm		JM0013		Rec 2.0'/2.0' (2-4' bgs)
	3								Direct push refusal at 4' bgs
	4	cl: Brown, soft, moist CLAY, some hard subangular fine sandstone Gravel.	cl		Organic Vapor = 0.0ppm			2 6 7 2	Rec 2.0'/2.0' (4-6' bgs)
	5								
855	6	NA: No sample collected for lithologic description.	NA						
	7								
	8	sc: Light brown and purple dry CLAY and fine SAND, little Silt. Orange oxidations throughout.	sc		Organic Vapor = 0.0ppm			24 42 41 50/0.3'	Rec 1.8'/2.0' (8-10' bgs)
	9								
	10	NA: No recovery.	NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW06

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Dendy | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
850	11		NA						
	12								
	13	cl: Light brown dry CLAY, little angular fine claystone Gravel, little fine Sand.			Organic Vapor = 0.0ppm			30 30 42 43	Rec 2.0'/2.0' (13-14' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
845	16		NA						
	17								
	18	sc: Light purple, fine SAND and CLAY, little Silt.			Organic Vapor = 0.0ppm			20 30 42 44	Rec 2.0'/2.0' (18-20' bgs)
	19		sc						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW06

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Dendy | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
840	21		NA						
	22								
	23	sc: Light brown and purple, moist, fine SAND and CLAY, little Silt.	sc		Organic Vapor = 0.0ppm			15 36 40 50/0.5'	Rec 2.0'/2.0' (23-25' bgs)
	24								
	25	NA: No sample collected for lithologic description.							
835	26		NA						
	27								
	28	ss: White, hard, wet, coarse grained SANDSTONE.	ss		Organic Vapor = 0.0ppm			40 50/0.2'	Rec 0.7'/0.7' (28-28.7' bgs)
	29	NA: No sample collected for lithologic description.	NA						
	30								Auger refusal at 30' bgs Bottom of borehole at 30' bgs

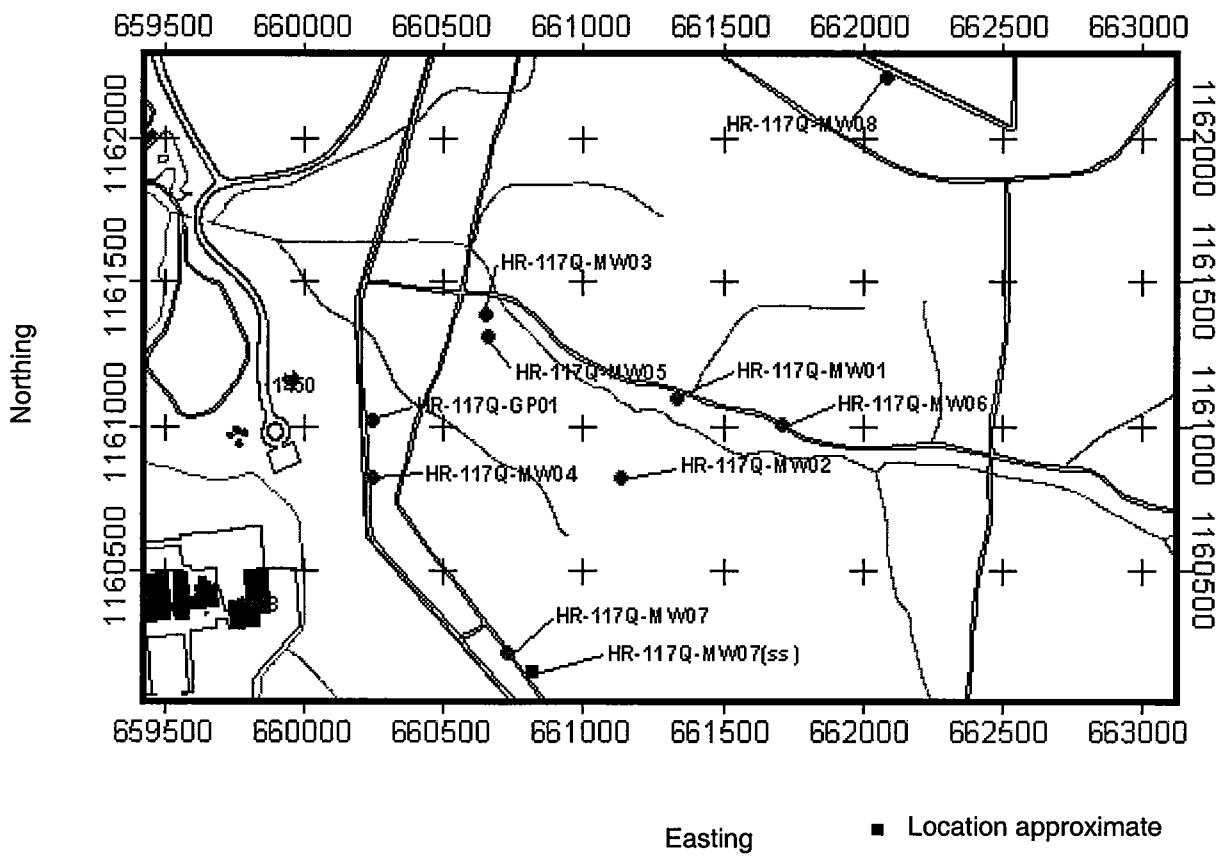
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-117Q-MW07(SS)
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push/Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoon	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q 9. Surface elevation (feet above mean sea level): approximately 910 10. Date started: 01/31/01 — 11. Date completed: 02/08/01
12. Overburden thickness (feet bgs): >88	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 88	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: Badon/Robertson/Allan/Hunter		
	Grout	NA	NA			

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-117Q-MW07(SS)	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
910	0	cl: Orange-red stiff CLAY, some Silt, little fine to medium Sand, trace coarse subangular Gravel, trace organic material (roots), moist.	cl		Organic Vapor = 0.0ppm		JM0014		Rec 1.0'/1.0' (0'-1' bgs)
	1	cl: Yellow-orange medium stiff CLAY, some Silt, little fine to medium Sand, trace coarse subrounded Gravel, moist.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1'-4' bgs)
	2								
	3								
	4	ml: Orange-red stiff SILT, some Clay, little fine to medium Sand, moist.	ml		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
905	5								
	6								
	7								
	8	cl: Stiff, red-orange CLAY, little Silt, moist.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
900	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			cl						
	11						JM0015		
	12								Bottom of direct push hole at 12' bgs
		NA: No sample collected for lithologic description.	NA						
	13	ml: Orangish brown medium stiff SILT, no to low plasticity, some Clay, trace fine Sand, slightly moist.	ml		Organic Vapor = 0.0ppm			17 25 27 20	Rec 2.0'/2.0' (13-15' bgs)
		ml: Light gray, off-white and yellowish brown soft SILT, no plasticity, trace Clay, dry.							
	14		ml						
		ml: Yellowish brown mottled reddish brown, soft to medium stiff SILT, no to low plasticity, some Clay, trace fine Sand, trace fine to medium subangular Gravel, dry.	ml						
895	15								
		NA: No sample collected for lithologic description.							
	16		NA						
	17								
	18	ml: Yellowish brown mottled reddish brown, soft to medium stiff SILT, no to low plasticity, some Clay, trace fine Sand, trace fine to medium subangular Gravel, dry.			Organic Vapor = 0.0ppm			11 17 24 30	Rec 2.0'/2.0' (18-20' bgs)
	19		ml						
890	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21		NA						
	22								
	23	ml: Yellowish to orangish brown, occasionally mottled light gray, medium stiff SILT, no to low plasticity, some Clay, dry.	ml		Organic Vapor = 0.0ppm			4 5 25 40	Rec 1.7'/2.0' (23-25' bgs)
	24								
		NA: No recovery.	NA						
885	25	NA: No sample collected for lithologic description.							
	26		NA						
	27								
	28	ml: Yellowish to orangish brown, occasionally mottled light gray to reddish brown, medium stiff SILT, no plasticity, some Clay, trace fine Sand, trace fine to medium angular Gravel, dry.	ml		Organic Vapor = 0.0ppm			9 8 13 14	Rec 1.6'/2.0' (28-30' bgs)
	29								
		NA: No recovery.	NA						
880	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
	33	ml: Yellowish to orangish brown, occasionally mottled light gray to reddish brown, medium stiff SILT, no plasticity, some Clay, trace fine Sand, trace fine to medium angular Gravel, dry.	ml		Organic Vapor = 0.0ppm			18 19 14 12	Rec 1.4'/2.0' (33-35' bgs)
	34								
		NA: No recovery	NA						
875	35	NA: No sample collected for lithologic description.							
	36		NA						
	37								
	38	ml: Yellowish to orangish brown, occasionally mottled light gray to reddish brown, medium stiff SILT, no plasticity, some Clay, trace fine Sand, trace fine to medium angular Gravel, dry.	ml		Organic Vapor = 0.0ppm			8 11 14 17	Rec 2.0'/2.0' (38-40' bgs)
	39	cl-ml: Orangish to reddish brown, mottled yellowish brown to light gray, stiff CLAY and SILT, low plasticity, trace fine Sand, slightly moist.	cl-ml						
870	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	cl-ml: Orangish to reddish brown, mottled yellowish brown to light gray, stiff CLAY and SILT, low plasticity, trace fine Sand, slightly moist.	cl-ml		Organic Vapor = 0.0ppm			10 13 14 17	Rec 2.0'/2.0' (43-45' bgs)
	44								
865	45	NA: No sample collected for lithologic description.	NA						
	46								
	47								
	48	cl-ml: Reddish light brown mottled with yellowish orange, stiff CLAY and SILT, low plasticity, very slightly moist.	cl-ml		Organic Vapor = 0.0ppm			15 30 26 29	Rec 2.0'/2.0' (48-50' bgs)
	49								
860	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						
	52								
	53	cl: Light brown, yellowish orange and light gray, medium stiff CLAY, trace rounded fine Sand, slightly moist.	cl		Organic Vapor = 0.0ppm			9 12 13 15	Rec 2.0'/2.0' (53-55' bgs)
	54								
855	55	NA: No sample collected for lithologic description.	NA						
	56								
	57								
	58	cl: Light brown, yellowish orange and light gray, medium stiff CLAY, little fine subrounded Sand, trace subangular quartz-rich Gravel, very slightly moist.	cl		Organic Vapor = 0.0ppm			6 11 13 15	Rec 1.9'/2.0' (58-60' bgs)
	59								
850	60	NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		NA						
	62								
	63	cl: Yellowish orange and light gray, stiff CLAY, trace fine Gravel, trace coarse Sand, very slightly moist.	cl		Organic Vapor = 0.0ppm			10 13 16 21	Rec 2.0'/2.0' (63-65' bgs)
	64								
845	65	NA: No sample collected for lithologic description.	NA						
	66								
	67								
	68	cl: Yellowish orange, light brown and red brown, stiff CLAY, very slightly moist.	cl		Organic Vapor = 0.0ppm			11 16 17 21	Rec 2.0'/2.0' (68-70' bgs)
	69								
840	70	NA: No sample collected for lithologic description.							
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
			NA						
	72								
	73	cl: Yellowish orange to light brown, stiff CLAY, trace Silt, trace medium subrounded Sand, dry.			Organic Vapor = 0.0ppm			13 15 20 25	Rec 2.0'/2.0' (73-75' bgs)
	74		cl						
835	75	NA: No sample collected for lithologic description.							
	76								
			NA						
	77								
	78	cl: Yellowish orange to light brown, stiff CLAY, trace Silt, trace medium subrounded Sand, dry.	cl		Organic Vapor = 0.0ppm			16 35 23 27	Rec 2.0'/2.0' (78-80' bgs)
		ml: Yellowish orange SILT, trace Clay, moist.							
	79		ml						
		cl: Yellowish orange to light brown, stiff CLAY, trace Silt, trace medium subrounded Sand, dry.	cl						
830	80	NA: No sample collected for lithologic description.							
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07(SS)

Project: Fort McClellan | Geologist: Badon/Robertson/Allan/Hunter | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	82								
	83	cl: Light red brown stiff CLAY, dry.	cl		Organic Vapor = 0.0ppm			8 14 20 18	Rec 2.0'/2.0' (83-85' bgs)
	84								
		sm: Pale yellow, fine, subrounded, loose SAND, dry.	sm						
825	85	cl: Light red brown stiff CLAY, dry.	cl						
		NA: No sample collected for lithologic description.							
	86								
			NA						
	87								
									Auger refusal at 88' (not on bedrock)
	88								Bottom of borehole at 88' bgs

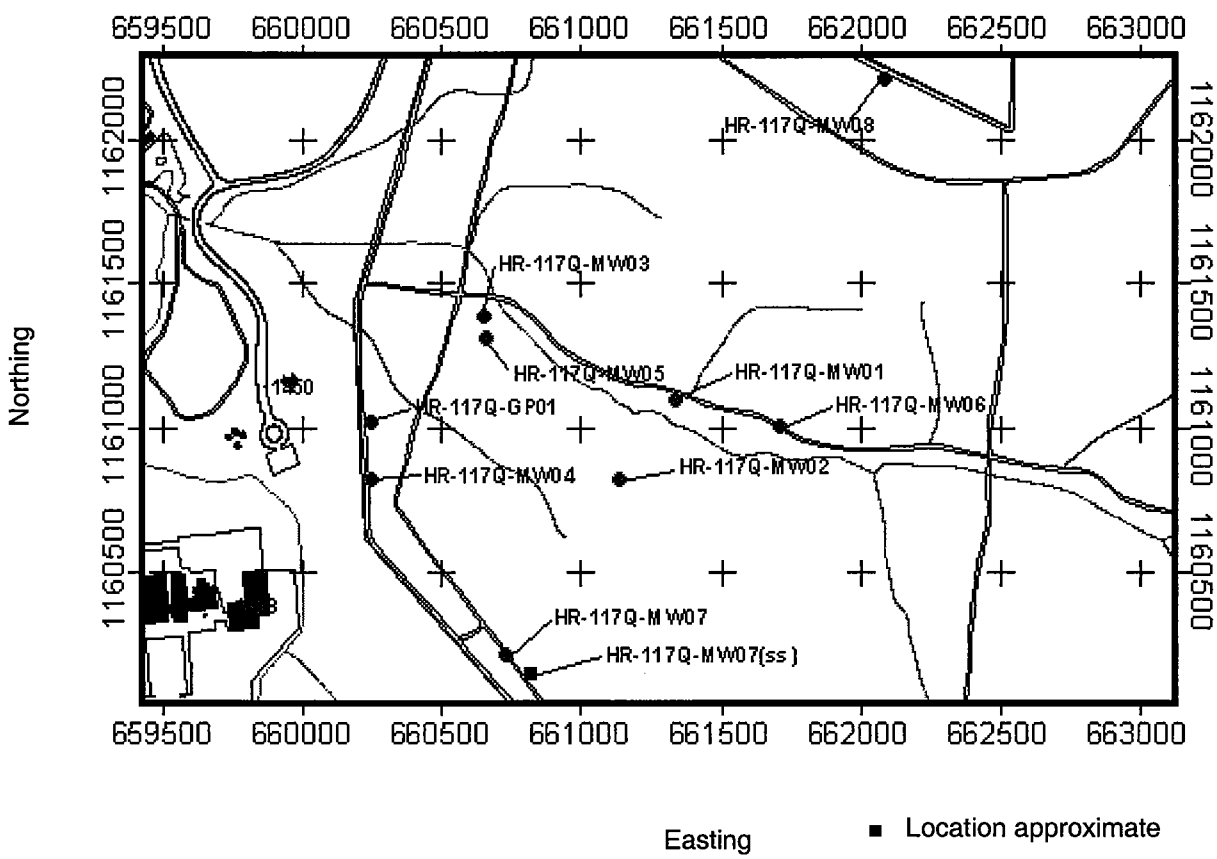
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-117Q-MW07
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 13 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Mike Martin	6. Mfr. designation of drill: Geoprobe/Ingersoll-Rand 97
7. Sizes and types of drilling and sampling equipment: Direct Push, Air Rotary DP - 4'x2" Acetate-Lined Sampler AR - 6.25" ID Tricone Roller Bit	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q 9. Surface elevation (feet above mean sea level): 918.16 10. Date started: 03/21/01 — 11. Date completed: 03/22/01
12. Overburden thickness (feet bgs): >118	15. Depth groundwater encountered (feet bgs): 108
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 118	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	NA	NA	NA	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	George Robertson		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan | bgs= below ground surface, NA = Not applicable | ss=direct push sample location, associated well offset | Hole no.: HR-117Q-MW07

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 2 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Yellowish to reddish brown loose fine SAND, some Clay, little Silt, little fine to coarse Gravel, moist.	sm		Organic Vapor = 0.0ppm				Rec 2.0'/4.0' (0-4' bgs) Note: 100' NW of direct push location
	1	cl: Orangish brown soft CLAY, some Silt, little fine Sand, low plasticity, moist.	cl						
	2								
915	3								
	4	cl: Orangish brown soft CLAY, some Silt, little fine Sand, low plasticity, moist.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
		ml: Orangish to yellowish brown, moderately stiff SILT, some Clay, little fine Sand, little fine to coarse angular Gravel, slightly moist.							
	5								
	6		ml						
	7								
910	8	ml: Orangish to yellowish brown moderately stiff SILT, some Clay, little fine Sand, little fine to coarse angular Gravel, slightly moist.							Description from air rotary drill cuttings (8-118' bgs)
	9		ml						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 3 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		ml: Yellowish to orange brown moderately stiff SILT, some Clay, little fine Sand, no plasticity, slightly moist.							
	11								11
	12								12
905	13								13
	14		ml						14
	15								15
	16								16
	17								17
900	18								18
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 4 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
	22								22
895	23								23
	24								24
	25		ml						25
	26								26
	27								27
890	28								28
	29								29
	30								30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 5 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32								32
885	33								33
	34								34
	35		ml						35
	36								36
	37								37
880	38								38
	39								39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 6 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
	42								42
875	43								43
	44								44
	45		ml						45
	46								46
	47								47
870	48								48
	49								49
	50								50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 7 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52		ml						52
865	53								53
	54								54
	55	ml: Yellowish brown stiff to moderately stiff SILT, some fine Sand, little Clay, no plasticity, slightly moist.							55
	56								56
	57								57
860	58		ml						58
	59								59
	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 8 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62								62
855	63								63
	64								64
	65		ml						65
	66								66
	67								67
850	68								68
	69								69
	70								70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 9 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
	72		ml						
845	73								
	74								
	75	ml: Yellowish brown stiff to moderately stiff SILT, some fine Sand, little Clay, no plasticity, moist.							
	76								
	77		ml						
840	78								
	79								
	80								
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 10 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	82								82
835	83								83
	84								84
	85		ml						85
	86								86
	87								87
830	88								88
	89								89
	90								90
	91								91

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 11 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92								92
825	93		ml						93
	94								94
	95								95
	96	cl: Medium brown moderately stiff CLAY, some Silt, little fine to coarse Sand, trace fine Gravel, no plasticity, moist.							96
	97								97
820	98								98
	99		cl						99
	100								100
	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 12 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	102	ml: Yellowish brown moderately stiff SILT, some Clay, little fine Sand, no plasticity, slightly moist.							
815	103								
	104								
	105								
	106		ml						
	107								
810	108								Groundwater encountered at 108' bgs
	109								
	110	ml: Yellowish brown moderately stiff SILT, some Clay, little fine Sand, no plasticity, wet.							
	111								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW07

Project: Fort McClellan | Geologist: George Robertson | Sheet 13 of 13 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	112								112
805	113								113
	114		ml						114
	115								115
	116								116
	117								117
	118								Bottom of borehole at 118' bgs 118

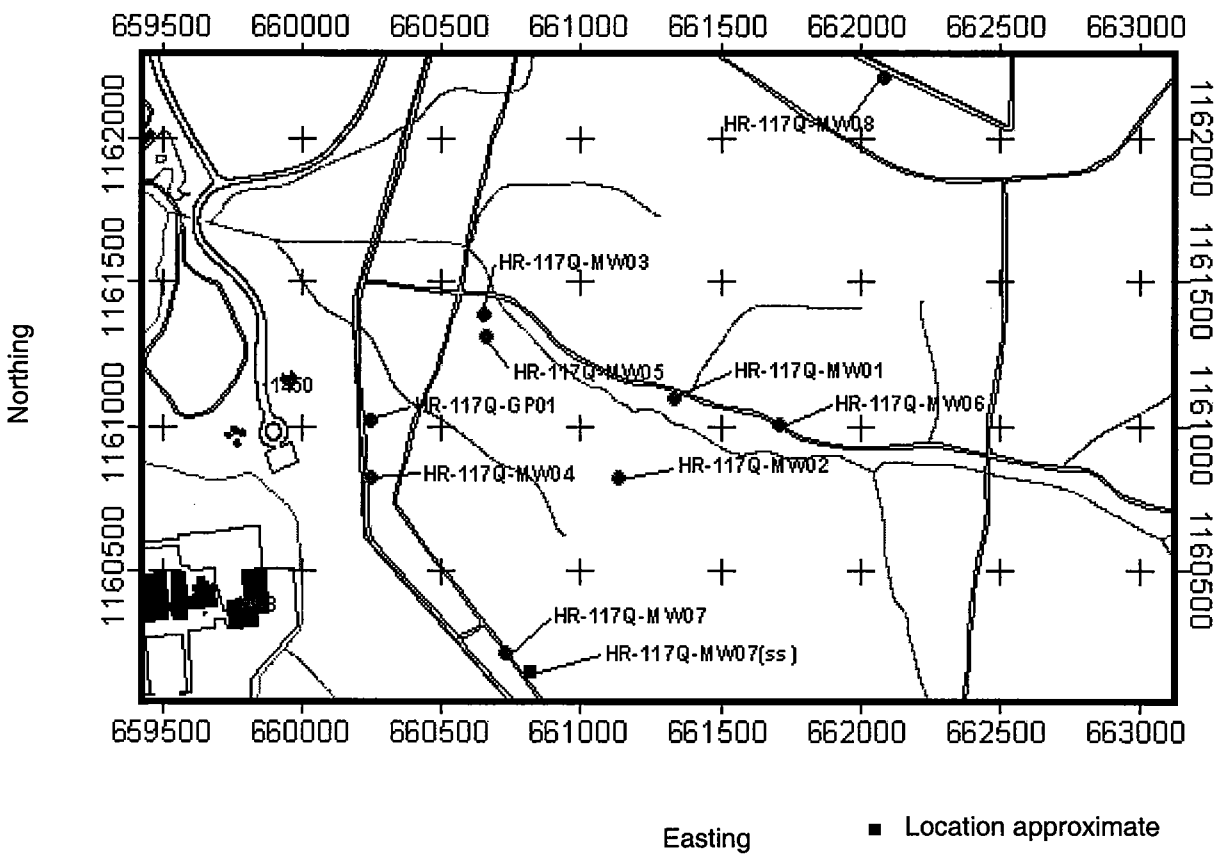
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-117Q-MW08
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 117Q-X 9. Surface elevation (feet above mean sea level): 995.54 10. Date started: 12/12/00 — 11. Date completed: 02/02/01
12. Overburden thickness (feet bgs): >35	15. Depth groundwater encountered (feet bgs): 35
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 24.1 ~16 hours
14. Total depth of hole (feet bgs): 35	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: N.Badon/N.Muloshi/A.Barnes		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW08

Project: Fort McClellan | Geologist: N.Badon/N.Muloshi/A.Barnes | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
995	0	ml: Brown soft moist SILT, some Clay, some fine to medium Sand, little coarse subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JM0020		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown soft moist CLAY, some Silt, some coarse subrounded Gravel, little medium Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.2'/3.0' (1-4' bgs)
	2								
	3								
	4	cl: Yellowish orange medium stiff moist CLAY, some Silt, some medium to coarse Sand, little coarse subangular Gravel.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (4-7' bgs)
	5								
990	6						JM0021		
	7	NA: No sample collected for lithologic description.							Direct push refusal at 7' bgs
	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW08

Project: Fort McClellan | Geologist: N.Badon/N.Muloshi/A.Barnes | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
985									
	11		NA						
	12								
	13								
	14								
	15	gc: Yellowish-orange, subangular coarse GRAVEL, some fine Sand, trace Silt and Clay.	gc		Organic Vapor = 0.7ppm			9 8 16 22	Rec 2.0'/2.0' (15-17' bgs)
980									
	16	ml: Light yellowish orange SILT and CLAY, trace fine Sand, dry.	ml						
	17	NA: No sample collected for lithologic description.							
	18		NA						
	19								
	20	cl-ml: Light yellowish orange SILT and CLAY,			Organic			50/0.5'	Rec 0.5'/0.5' (20-20.5' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW08

Project: Fort McClellan | Geologist: N.Badon/N.Muloshi/A.Barnes | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		dry.	cl-ml		Vapor = 7.2ppm				
975		NA: No sample collected for lithologic description.							
	21		NA						
	22								
	23								
	24								
	25	sp: Very light gray fine to coarse SAND, some fine to coarse Gravel, dry.	sp		Organic Vapor = 20.1ppm			50/0.5'	Rec 0.5'/0.5' (25-25.5' bgs)
970		NA: No sample collected for lithologic description.							
	26		NA						
	27								
	28								
	29								
	30	gp: Very light gray coarse fine GRAVEL and SILT and CLAY.	gp		Organic Vapor			50/0.5'	Rec 0.5'/0.5' (30-30.5' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-117Q-MW08

Project: Fort McClellan | Geologist: N.Badon/N.Muloshi/A.Barnes | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
965		NA: No sample collected for lithologic description.			= 1.4ppm				
	31								31
	32								32
			NA						
	33								33
	34								34
									Goundwater encountered at 35' bgs Hollow stem auger refusal at 35' bgs Bottom of borehole at 35' bgs
	35								35

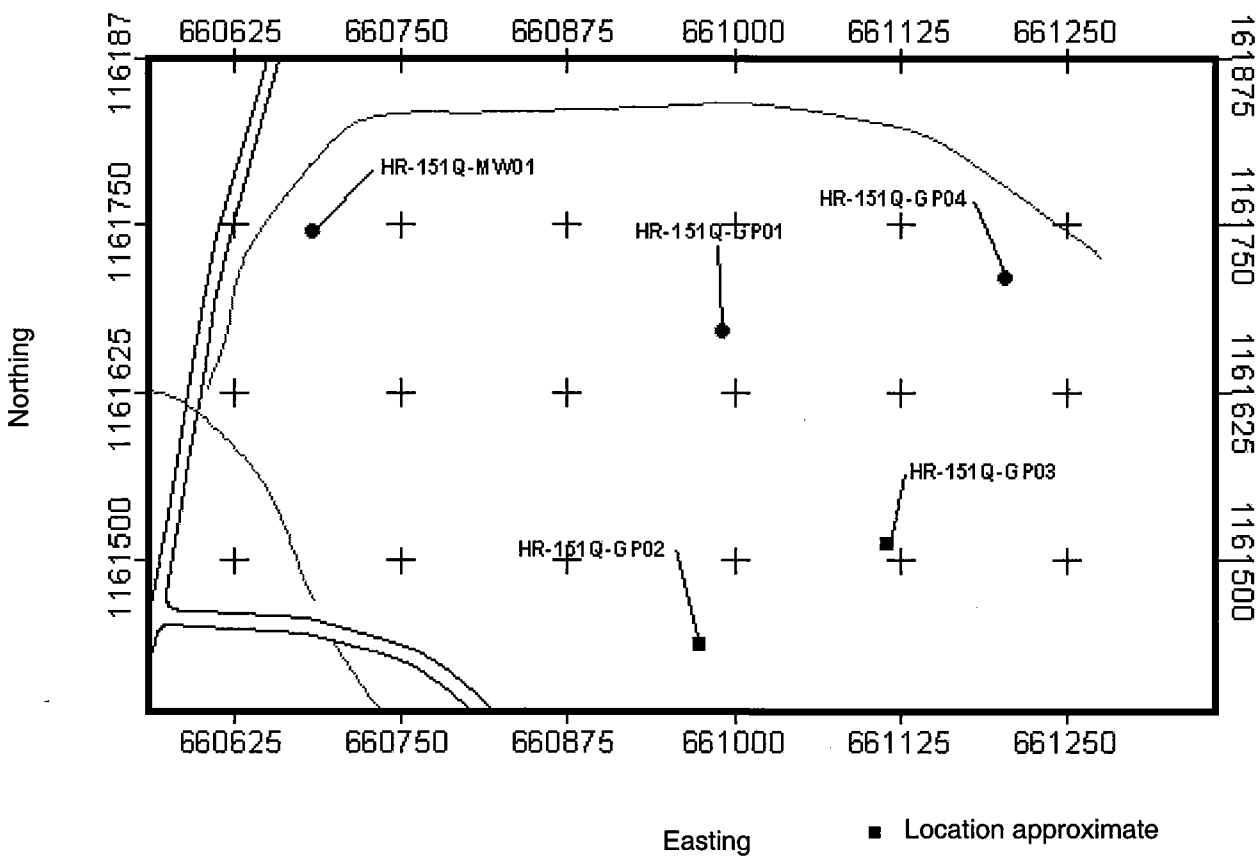
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-151Q-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP -4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 151Q 9. Surface elevation (feet above mean sea level): 846.75 10. Date started: 12/13/00 — 11. Date completed: 12/13/00
12. Overburden thickness (feet bgs): >5	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-GP01

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft moist SILT, some fine to medium Sand, little coarse subrounded Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JP0003		Rec 1.0'/1.0' (0-1' bgs)
	1	cl-ml: Medium brown to reddish orange, medium stiff moist CLAY and SILT, some coarse subrounded Gravel, some medium to coarse Sand.	cl-ml		Organic Vapor = 0.0ppm				Rec 1.2'/3.0' (1-4' bgs)
845									
	2								
	3								
	4	cl: Yellowish orange medium stiff soft dry CLAY, some Silt, some medium to coarse Sand.	cl		Organic Vapor = 0.0ppm		JP0004		Rec 1.0'/1.0' (4-5' bgs)
	5								Direct push refusal at 5' bgs Bottom of borehole at 5' bgs

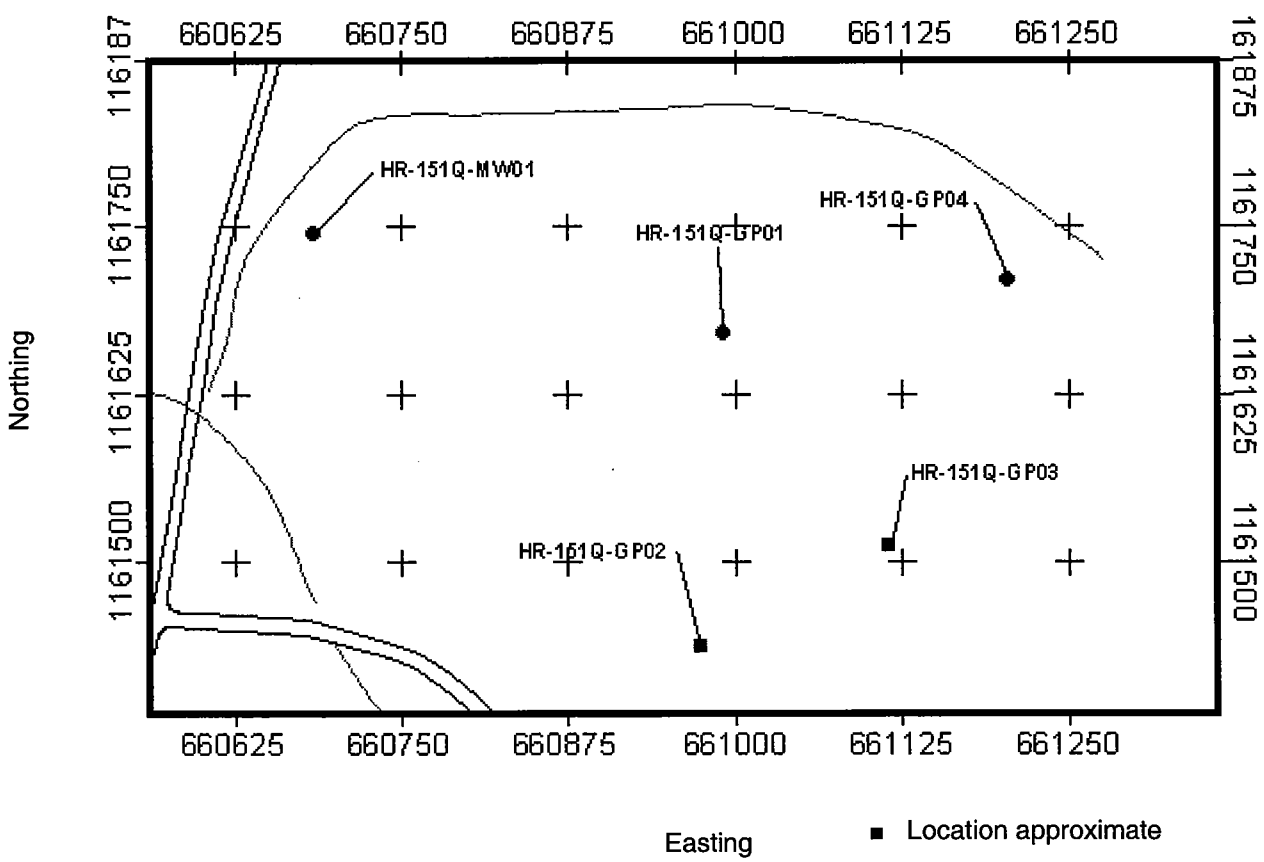
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-151Q-GP02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Hand Auger
7. Sizes and types of drilling and sampling equipment: Hand Auger	8. Hole location: Ranges West of Iron Mountain Road, Parcel 151Q
	9. Surface elevation (feet above mean sea level): approximately 875
	10. Date started: 04/10/01 / 11. Date completed: 04/10/01
12. Overburden thickness (feet bgs): >2	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 2	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Cuttings	NA	NA	Leslie O'Hare		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-GP02

Project: Fort McClellan | Geologist: Leslie O'Hare | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
875	0	ml: Dark brown, dry SILT, some quartz-rich coarse, subangular Gravel.	ml		Organic Vapor = 0.0ppm		JP0005		Boring hand augered.
	1	sw: Light brown, slightly moist, fine to coarse SAND, little Silt, some quartz-rich subangular Gravel.	sw		Organic Vapor = 0.0ppm		JP0006 JP0007		Hand auger refusal at 2' bgs Bottom of borehole at 2' bgs
	2								

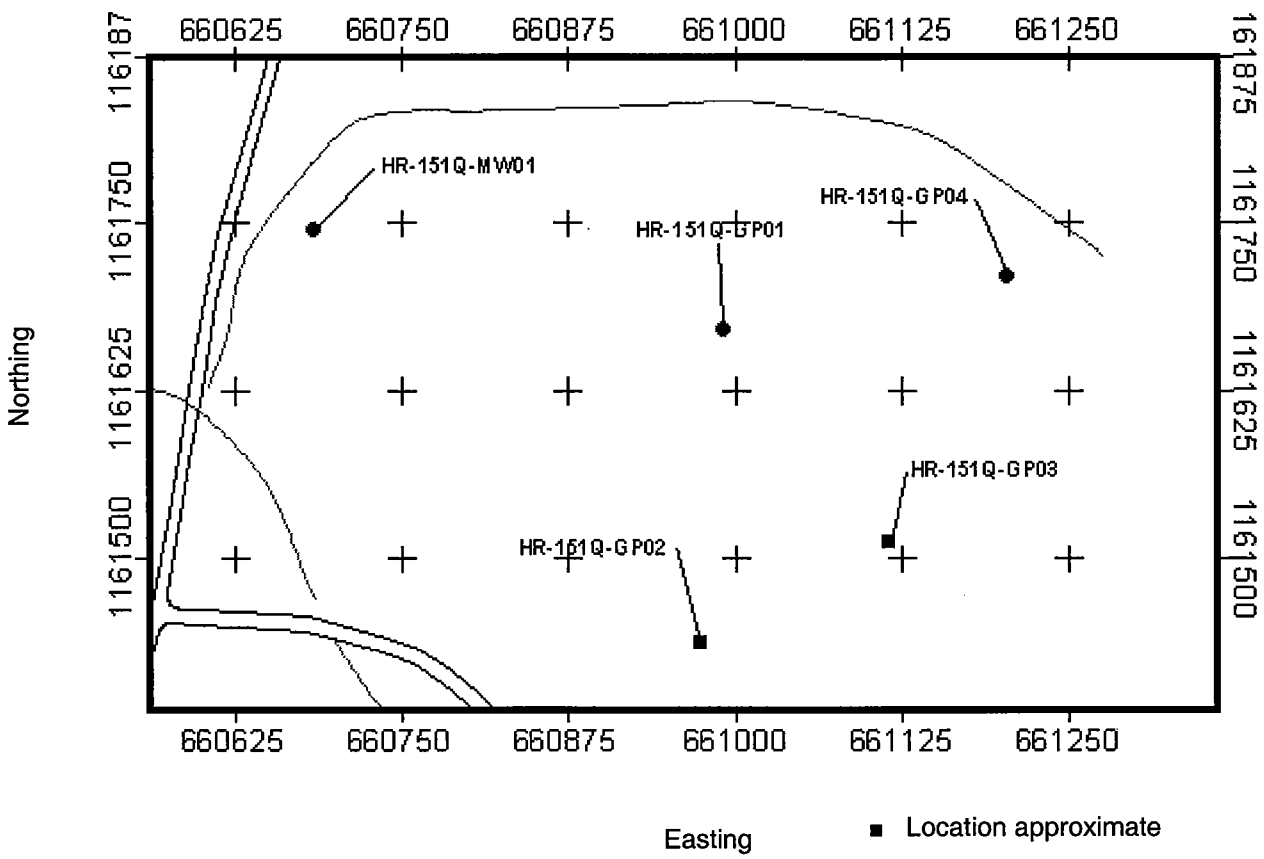
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-151Q-GP03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Hand Auger
7. Sizes and types of drilling and sampling equipment: Hand Auger	8. Hole location: Ranges West of Iron Mountain Road, Parcel 151Q
	9. Surface elevation (feet above mean sea level): approximately 908
	10. Date started: 04/10/01 / 11. Date completed: 04/10/01
12. Overburden thickness (feet bgs): >3	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 3	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Cuttings	NA	NA	Leslie O'Hare		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-GP03

Project: Fort McClellan | Geologist: Leslie O'Hare | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown, soft SILT, some fine to coarse Sand, some coarse quartz-rich, subangular Gravel.	ml		Organic Vapor = 0.0ppm		JP0008		Boring hand augered
	1								
	2	sc: Light brown, slightly moist, fine to coarse SAND, some quartz-rich, subangular, coarse Gravel, little Clay, trace organics.	sc		Organic Vapor = 0.0ppm		JP0009		Hand auger refusal at 3' bgs Bottom of borehole at 3' bgs
905	3								

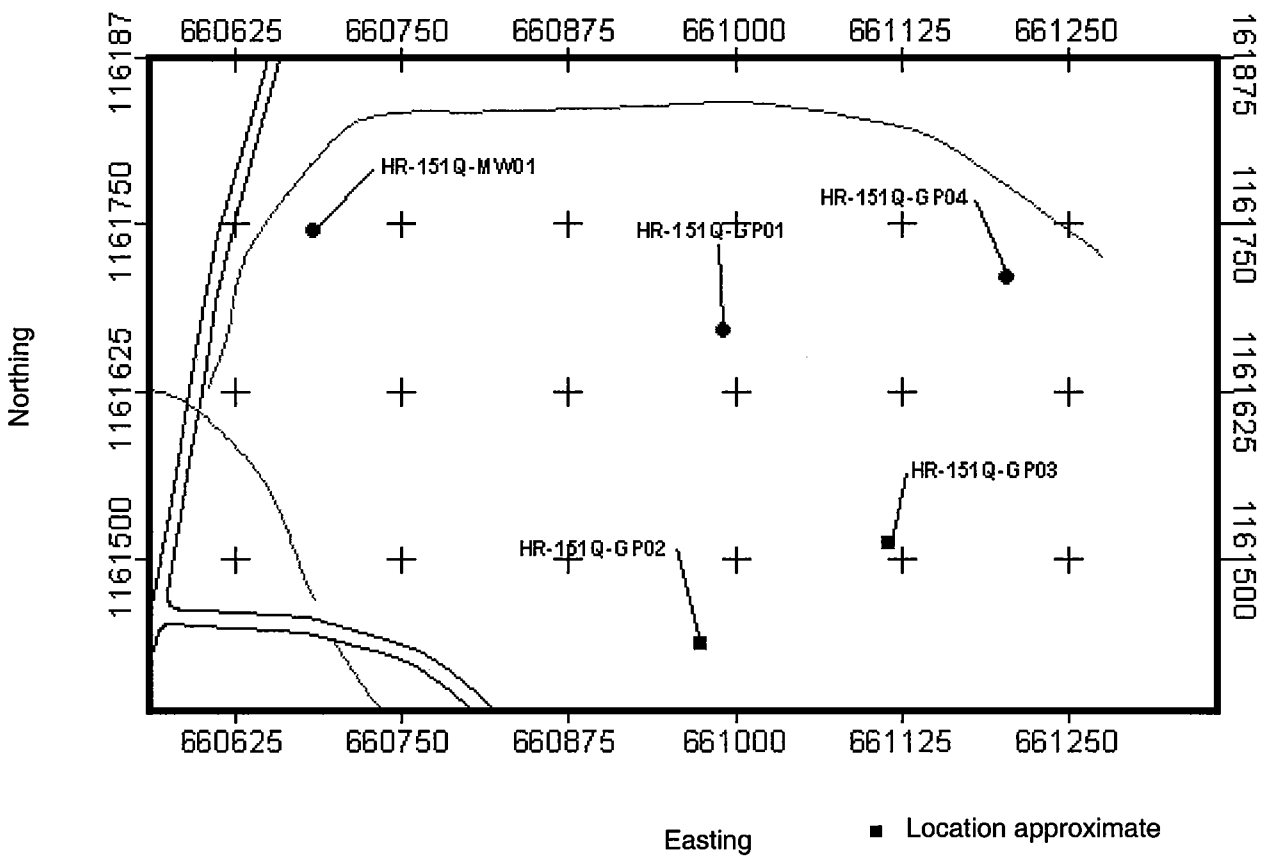
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-151Q-GP04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 151Q 9. Surface elevation (feet above mean sea level): 911.54 10. Date started: 12/11/00 — 11. Date completed: 12/11/00
12. Overburden thickness (feet bgs): >3	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 3	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-GP04

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown, soft, moist SILT, some Clay, some coarse, subrounded Gravel, some medium Sand, trace organics.	ml		Organic Vapor = 0.0ppm		JP0010		Rec 1.0'/1.0' (0-1' bgs)
910	1	ml: Medium brown to light brown, soft, moist SILT, some medium to coarse Sand, some Clay.	ml		Organic Vapor = 0.0ppm		JP0011 JP0012 JP0013		Rec 0.6'/2.0' (1-3' bgs)
	2								
	3								Direct push refusal at 3' bgs Bottom of borehole at 3' bgs

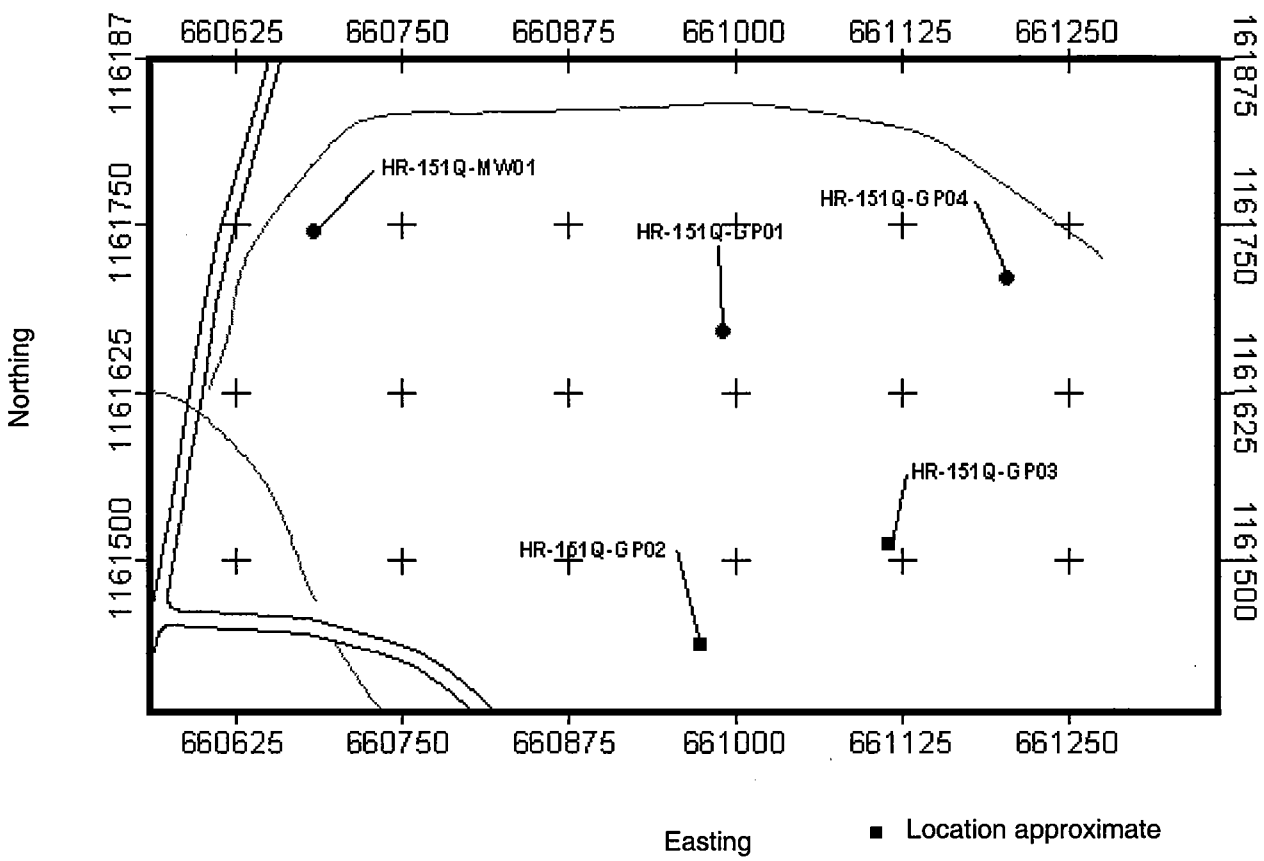
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-151Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 7 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Bruce Goodrich	6. Mfr. designation of drill: Strataprobe/Mobile B-57
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 151Q 9. Surface elevation (feet above mean sea level): 815.21 10. Date started: 12/14/00 — 11. Date completed: 01/31/01
12. Overburden thickness (feet bgs): >54.0	15. Depth groundwater encountered (feet bgs): 43
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 54.0	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	N.Badon/L.O'Hare/S.White		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-MW01

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/S.White | Sheet 2 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
815	0	ml: Dark Brown, slightly moist soft SILT, some medium to coarse Sand, trace subrounded quartz-rich fine to coarse Gravel, trace roots.	ml		Organic Vapor = 3.0ppm		JP0001		Rec 1.0'/1.0' (0-1' bgs)
	1	sm: Light brown, medium dense, moist, medium to coarse SAND, little Silt.	sm		Organic Vapor = 0.0ppm				Rec 2.5'/3.0' (1-4' bgs)
	2								
	3								
	4	sm: Light brown to yellowish orange dry medium dense fine to coarse SAND, some Silt, trace fine subrounded quartz-rich Gravel.	sm		Organic Vapor = 0.0ppm				Rec 3.5'/4.0' (4-8' bgs)
810	5								
	6								
	7								
	8	sp: Tan white to reddish brown to yellowish orange, medium to coarse loose SAND, some subrounded to angular quartz-rich fine to coarse Gravel.			Organic Vapor = 0.0ppm				Rec 3.8'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-MW01

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/S.White | Sheet 3 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
805			sp						
	11						JP0002		
	12								Bottom of direct push hole at 12' bgs
		NA: No sample collected for lithologic description.	NA						
	13	sp: Grayish brown grading to reddish brown, fine to medium, loose to medium dense, damp SAND, trace Clay, trace Silt, trace coarse Sand, trace subrounded quartz Gravel.	sp					3 6 16 31	Rec 1.5'/2.0' (13-15' bgs)
	14	ml: Grayish white dry hard SILT, trace fine Sand.	ml						
		NA: No sample collected for lithologic description.							
	15								
800									
	16		NA						
	17								
	18	sm: Grayish white SILT grading to grayish white, medium dense, damp, medium SAND, little Clay, trace coarse Sand and Silt.						2 19 40 50/0.3'	Rec 1.8'/1.8' (18-19.8' bgs)
	19		sm						
	20	NA: No sample collected for lithologic description.							
795									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-MW01

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/S.White | Sheet 4 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
			NA						
	22								22
	23	sc: Grayish white, medium dense, damp fine to medium SAND, little Clay, trace Silt, trace coarse Sand.	sc					50/0.5'	Rec 0.5'/0.5' (23-23.5' bgs) 23
		NA: No sample collected for lithologic description.							
	24								24
	25								25
790									
			NA						
	26								26
	27								27
	28	ml: Reddish brown and grayish white mottled, hard, dry SILT, some to little Clay, trace fine Sand.	ml					50/0.5'	Rec 0.5'/0.5' (28-28.5' bgs) 28
		NA: No sample collected for lithologic description.							
	29								29
	30								30
785									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-MW01

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/S.White | Sheet 5 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
	33	sm: Grayish white, dense, damp, fine SAND, some Silt, trace Clay, trace medium Sand.	sm					7 21 30 50/0.3'	Rec 1.8'/1.8' (33-34.8' bgs)
	34								
780	35	NA: No sample collected for lithologic description.	NA						
	36								
	37								
	38	sm: Grayish white, dense, damp, fine SAND, some Silt, trace Clay, trace medium Sand.	sm					25 30 50/0.3'	Rec 1.3/1.3' (38-39.3' bgs)
	39								
		NA: No sample collected for lithologic description.							
775	40								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-MW01

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/S.White | Sheet 6 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	sp: Grayish white, dense, wet, fine to medium SAND, little to trace Silt, trace Clay.						9 24 30 50/0.3'	Groundwater encountered at 43' bgs Rec 1.8'/1.8' (43-44.8' bgs)
	44		sp						
	45	NA: No sample collected for lithologic description.							
770									
	46								
	47								
	48								
	49		NA						
	50								
765									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-151Q-MW01

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/S.White | Sheet 7 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52								52
	53	sm: Pinkish gray fine to medium, medium dense, wet SAND little Silt, trace Clay	sm					25 50/0.5'	Rec 1.0'/1.0' (53-54' bgs) 53
	54								Bottom of borehole at 54' bgs 54

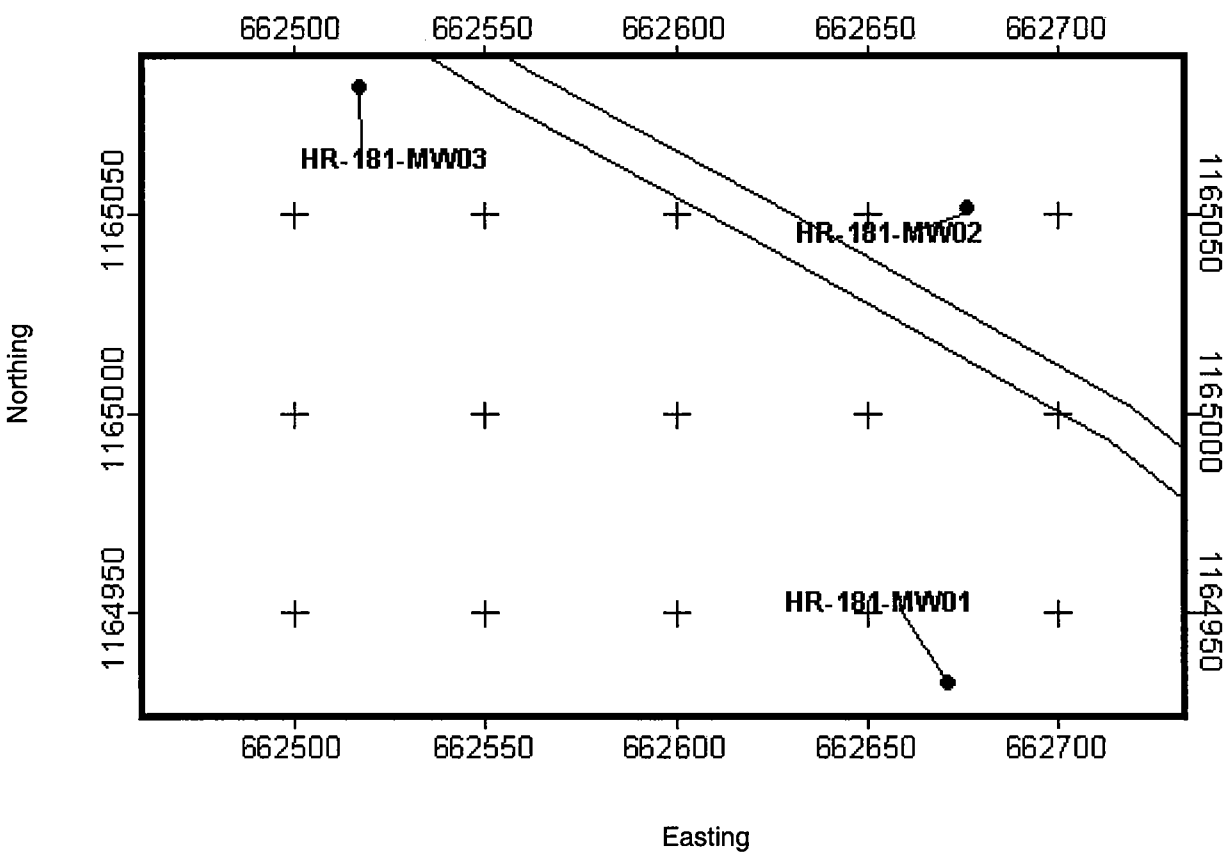
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-181-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Mike Martin/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X/Ingersoll Rand 97
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger, Air Rotary DP -4'x2" Acetate-Lined Sampler/AR -6.25" Tricone Roller Bit HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 181 9. Surface elevation (feet above mean sea level): 884.48 10. Date started: 02/07/01 — 11. Date completed: 03/26/01
12. Overburden thickness (feet bgs): 72.0	15. Depth groundwater encountered (feet bgs): 64
13. Depth drilled into rock (feet bgs): 0.8	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 72.8	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	Yes	Yes	Explosives	Perchlorate	SVOCs	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	N.Badon/K.Hunter/D.Allan/G.Robertson		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson | Sheet 2 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown medium stiff moist SILT, some medium to coarse Sand, little fine subangular Gravel, trace Clay, trace roots.	ml		Organic Vapor = 0.0ppm		RB0001		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown medium sitff moist SILT, some Clay, little medium to coarse Sand, trace fine subangular Gravel.	ml		Organic Vapor = 0.0ppm				Rec 2.7'/3.0' (1-4' bgs)
	2								
	3								
	4	sm: Light gray to light brown medium stiff, medium to coarse SAND, some Silt, little fine subangular Gravel.	sm		Organic Vapor = 0.0ppm		RB0002 RB0003		Rec 2.6'/2.0' (4-6' bgs)
880									
	5								
	6	NA: No sample collected for lithologic description	NA						Direct push refusal at 6' bgs
	7								
	8	sm: Yellowish orange, fine SAND, little Silt, trace quartz rich Gravel, trace Clay, dry.	sm		Organic Vapor = 0.0ppm			11 25 26 27	Rec 2.0'/2.0' (8-10' bgs)
	9								
875									
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson | Sheet 3 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11		NA						
	12								
	13	sp: Very pale yellowish green, fine SAND, trace Silt, trace quartz rich Gravel, dry.	sp		Organic Vapor = 0.0ppm			1 1 10 25	Rec 1.2'/2.0' (13-15' bgs)
	14								
870		NA: No recovery.	NA						
	15	NA: No sample collected for lithologic description.							
	16		NA						
	17								
	18	sp: Very pale yellowish green fine SAND, trace Silt, trace quartz rich Gravel, dry	sp		Organic Vapor = 0.0ppm			5 29 50/0.5'	Rec 1.0'/1.5' (18-19.5' bgs)
	19	NA: No recovery.	NA						
865		NA: No sample collected for lithologic description.							
	20								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson | Sheet 4 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21		NA						
	22								
	23	sp: Very pale yellowish green fine SAND, trace Silt, trace quartz rich Gravel, dry.	sp		Organic Vapor = 0.0ppm			20 33 30 38	Rec 1.5'/2.0' (23-25' bgs)
	24								
860		NA: No recovery.	NA						
	25	NA: No sample collected for lithologic description	NA						
	26								
	27								
	28	sp: Pale yellow to light gray stiff, fine to medium SAND, trace Silt, trace medium subangular Gravel, dry.	sp		Organic Vapor = 0.0ppm			23 33 33 33	Rec 2.0'/2.0' (28-30' bgs)
	29								
855									
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson | Sheet 5 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
	33	sp: Off white to light brown, stiff fine SAND, trace Silt, dry.	sp		Organic Vapor = 0.0ppm			4 24 26 33	Rec 1.4'/2.0' (33-35' bgs)
	34								
850		NA: No recovery.	NA						
	35	NA: No sample collected for lithologic description.							
	36		NA						
	37								
	38	sp: White to pinkish brown stiff, fine to medium SAND, trace Silt, dry	sp		Organic Vapor = 0.0ppm			12 48 50/0.5'	Rec 1.0'/1.5' (38-39.5' bgs)
	39	NA: No recovery.	NA						
845		NA: No sample collected for lithologic description.	NA						
	40								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson | Sheet 6 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	sm: Light brown very stiff SAND, some Silt, little fine to coarse subangular Gravel, dry.	sm		Organic Vapor = 0.0ppm			16 30 36 40	Rec 2.0'/2.0' (43-45' bgs)
840	44								
	45	NA: No sample collected for lithologic description.	NA						
	46								
	47								
	48	sm: Off white, mottled pink, very stiff, fine to medium SAND, some Silt, little medium to coarse subrounded quartz rich Gravel, dry.	sm		Organic Vapor = 0.0ppm			37 32 50/0.5'	Rec 1.5'/1.5' (48-49.5' bgs)
835	49	NA: No sample collected for lithologic description.	NA						
	50	sm: Off white, SAND, fine grained, some Silt, poorly graded, dry.							Description from air rotary drill cuttings 50-72.8' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan

Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52								52
	53								53
	54								54
830									
	55		sm						55
	56								56
	57								57
	58								58
	59								59
825									
	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson | Sheet 8 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62		sm						62
	63								63
	64	sm: Off white to orangish brown, fine SAND, some Silt, poorly graded, moist to wet.							Groundwater encountered at 64' bgs 64
820									
	65								65
	66								66
	67								67
	68		sm						68
	69								69
815									
	70								70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW01

Project: Fort McClellan

Geologist: N.Badon/K.Hunter/D.Allan/G.Robertson

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
	72	ss: SANDSTONE, hard, highly weathered, fine to occasionally medium grained, well sorted, some Silt.	ss						72 Bottom of borehole at 72.8' bgs

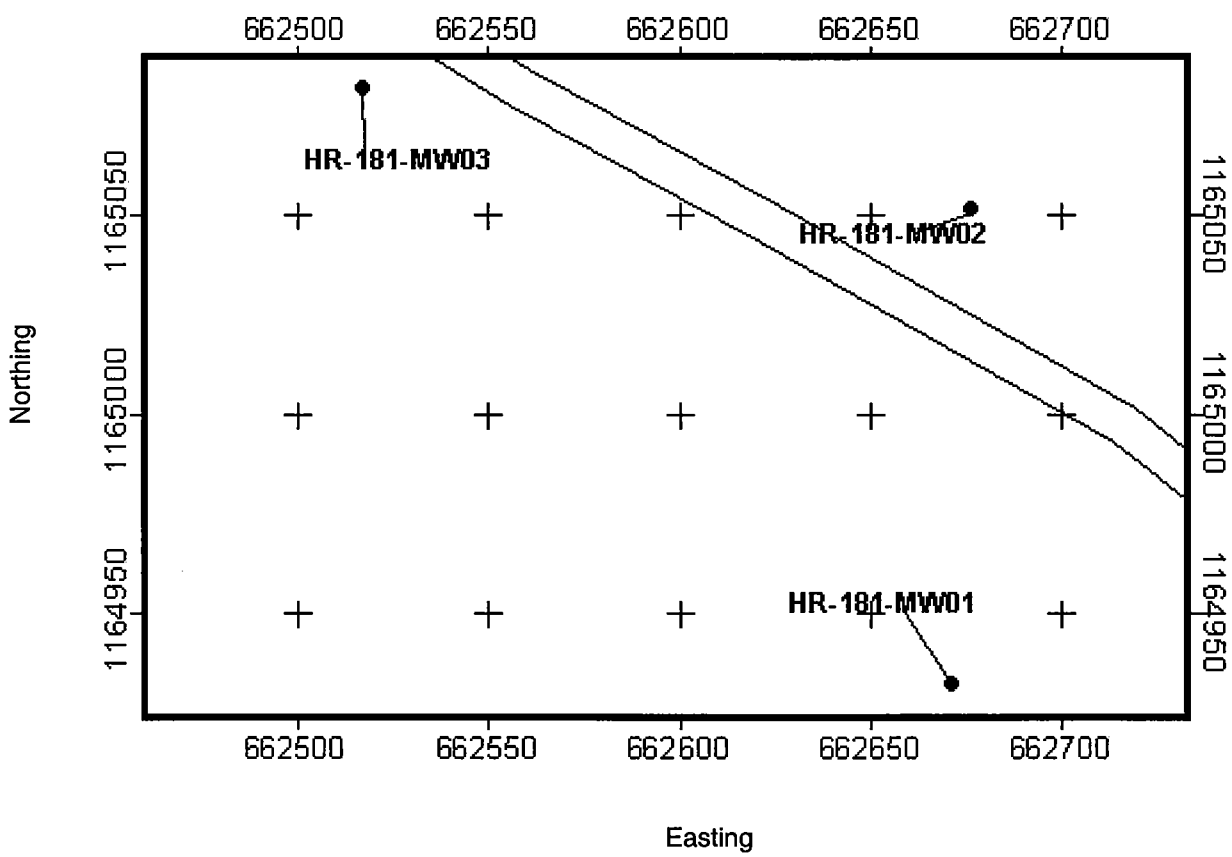
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-181-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 7 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25"ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 181 9. Surface elevation (feet above mean sea level): 867.96 10. Date started: 02/06/01 — 11. Date completed: 03/16/01
12. Overburden thickness (feet bgs): 59.0	15. Depth groundwater encountered (feet bgs): 49
13. Depth drilled into rock (feet bgs): 0.1	16. Depth to water and elapsed time after drilling completed (feet bgs): 45.9 ~24 hours
14. Total depth of hole (feet bgs): 59.1	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	Yes	Yes	Explosives	Perchlorate	SVOCs	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	K.Hunter/N. Badon/D.Allan		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW02

Project: Fort McClellan | Geologist: K.Hunter/N. Badon/D.Allan | Sheet 2 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Medium to light brown soft moist SAND, some Silt, little medium to coarse subangular Gravel, trace organics (roots)	sm		Organic Vapor = 0.0ppm		RB0005		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown medium stiff CLAY, some Silt, little medium to coarse Sand, trace fine subangular Gravel.	cl		Organic Vapor = 0.0ppm				Rec 1.3'/3.0' (1-4' bgs)
	2								
865	3								
	4	ml: Light brown stiff moist SILT, some Clay, little fine to coarse Sand, trace medium subangular Gravel.	ml		Organic Vapor = 0.0ppm		RB0006		Rec 3.0'/3.0' (4-7' bgs)
	5								
	6								
	7	NA: No sample collected for lithologic description.	NA						Direct push refusal at 7' bgs
860	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW02

Project: Fort McClellan | Geologist: K.Hunter/N. Badon/D.Allan | Sheet 3 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
	12		NA						12
855	13								13
	14	gw: Light gray fine to coarse GRAVEL and yellowish orange fine to coarse SAND, some Silt, moist.	gw		Organic Vapor = 0.0ppm			42 50/0.4'	Rec 0.9'/0.9' (14-14.9' bgs) 14
	15	NA: No sample collected for lithologic description.							15
	16								16
	17		NA						17
850	18								18
	19	ml: Yellowish orange, dark gray and light gray SILT, little fine Gravel, little fine to coarse Sand, trace Clay, dry.			Organic Vapor = 0.0ppm			27 27 50/0.3'	Rec 1.3'/1.3' (19-20.3' bgs) 19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW02

Project: Fort McClellan | Geologist: K.Hunter/N. Badon/D.Allan | Sheet 4 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			ml						
	21								21
		NA: No sample collected for lithologic description.							
	22								22
			NA						
845	23								23
	24	ml: Yellowish orange, dark gray and light gray SILT, little fine Gravel, little fine to coarse Sand, trace Clay, dry.	ml		Organic Vapor = 0.0ppm			49 50/0.3'	Rec 0.8'/0.8' (24-24.8' bgs) 24
	25	NA: No sample collected for lithologic description.							25
	26								26
	27		NA						27
840	28								28
	29	ml: Yellowish orange, dark gray and light gray SILT, little fine Gravel, little fine to coarse Sand, trace Clay, dry.	ml		Organic Vapor = 0.0ppm			49 50/0.3'	Rec 0.8'/0.8' (29-29.8' bgs) 29
	30	NA: No sample collected for lithologic description.							30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW02

Project: Fort McClellan | Geologist: K.Hunter/N. Badon/D.Allan | Sheet 5 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
	32		NA						32
835	33								33
	34	ml: Yellowish orange, dark gray and light gray SILT, little fine Gravel, little fine to coarse Sand, trace Clay, dry.	ml		Organic Vapor = 0.0ppm			50/0.4'	Rec 0.4'/0.4' (34-34.4' bgs) 34
		NA: No sample collected for lithologic description.							
	35								35
	36								36
			NA						
	37								37
830	38								38
	39	sm: Olive gray fine SAND, some Silt, trace fine Gravel, dry.	sm		Organic Vapor = 0.0ppm			50/0.4'	Rec 0.4'/0.4' (39-39.4' bgs) 39
		NA: No sample collected for lithologic description.							
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW02

Project: Fort McClellan | Geologist: K.Hunter/N. Badon/D.Allan | Sheet 6 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
			NA						
	42								42
825	43								43
	44	sm: Olive gray fine SAND, some Silt, trace fine Gravel moist.	sm		Organic Vapor = 0.0ppm			44 50/0.3'	Rec 0.8'/0.8' (44-44.8' bgs) 44
	45	NA: No sample collected for lithologic description.							45
	46								46
	47		NA						47
820	48								48
	49	sm: Olive gray fine SAND, some Silt, trace fine Gravel very moist.	sm		Organic Vapor = 0.0ppm			40 45 50/0.4	Groundwater encountered at 49' bgs Rec 1.4'/1.4' (49-50.4' bgs) 49
	50	NA: No sample collected for lithologic description.							50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW02

Project: Fort McClellan | Geologist: K.Hunter/N. Badon/D.Allan | Sheet 7 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52		NA						52
815	53								53
	54	gm: Olive gray fine to coarse SAND, some fine to coarse quartz rich Gravel, trace Silt, wet.	gm		Organic Vapor = 0.0ppm			47 50/0.2'	Rec 0.7/0.7' (54-54.7' bgs) 54
	55	NA: No sample collected for lithologic description.							55
	56								56
	57		NA						57
810	58								58
	59	sh: Grayish Black, very hard, very fine grained SHALE.						50/0.1'	Rec 0.1'/0.1' (59-59.1' bgs) Bottom of borehole at 59.1' bgs 59

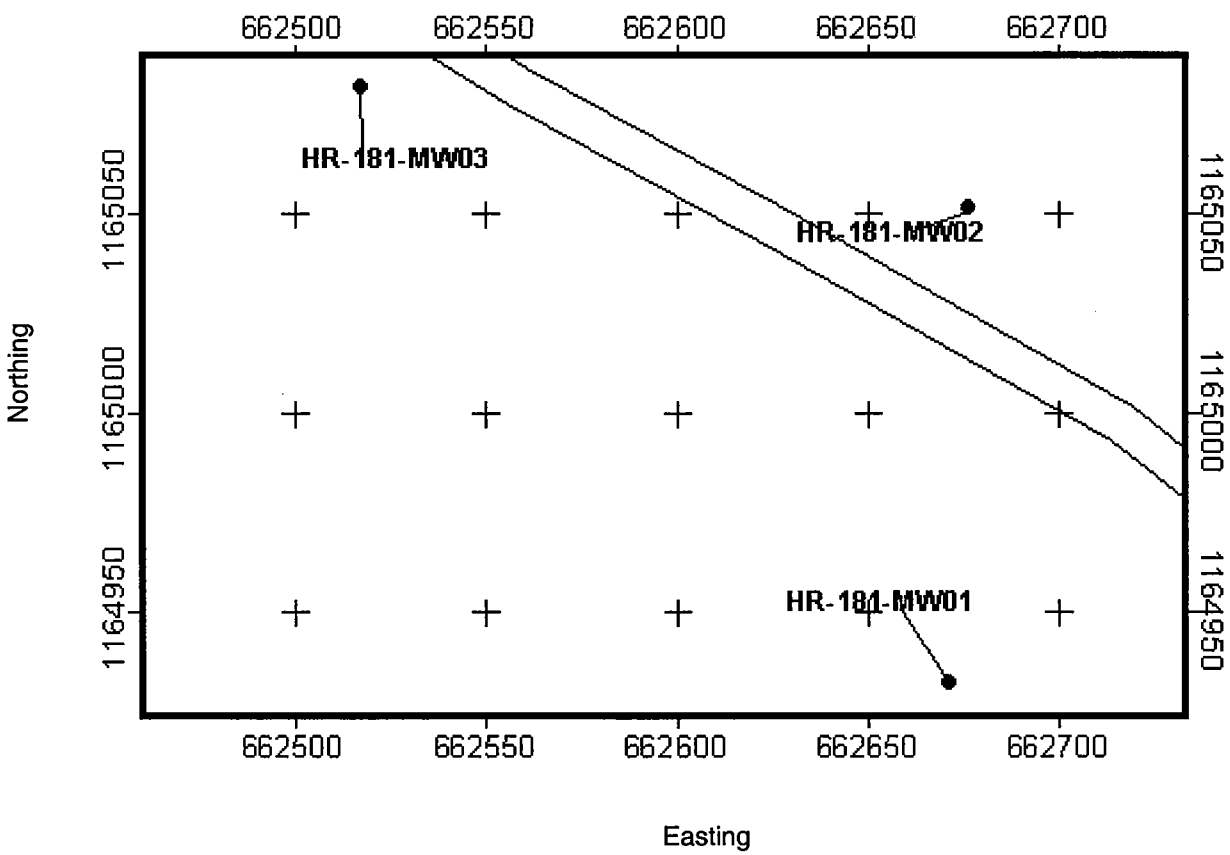
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-181-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 181 9. Surface elevation (feet above mean sea level): 862.46 10. Date started: 02/06/01 — 11. Date completed: 03/06/01
12. Overburden thickness (feet bgs): >50	15. Depth groundwater encountered (feet bgs): 14
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 50	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	Yes	Yes	Explosives	Perchlorate	SVOCs	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	K.Hunter/A.Barnes		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-181-MW03

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW03

Project: Fort McClellan | Geologist: K.Hunter/A.Barnes | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft moist SILT, some fine to coarse Sand, trace medium to coarse subrounded Gravel, trace organics (roots).	ml		Organic Vapor = 0.0ppm		RB0007		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown stiff moist CLAY, some Silt, little medium to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.6'/3.0' (1-4' bgs)
860	2								
	3								
	4	ml: Medium reddish brown stiff SILT, some Clay, little fine to coarse Sand, trace fine to coarse Gravel.	ml		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
855	7						RB0008		
	8	cl: Reddish brown CLAY, sitff, little Silt, little fine to coarse quartizite Gravel, trace fine grained Sand.	cl		Organic Vapor = 0.0ppm			2 3 8 10	Direct push refusal at 8' bgs Rec 2.0'/2.0' (8-10' bgs)
	9	cl: Yellowish orange to reddish brown CLAY, some fine grained Sand, little Silt, trace fine quartizite Gravel.	cl						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW03

Project: Fort McClellan | Geologist: K.Hunter/A.Barnes | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								
	12		NA						
850									
	13								
									Groundwater encountered at 14.0' bgs
	14	sp: Off white fine grained SAND and CLAY, little Silt, slightly moist.	sp		Organic Vapor = 0.0ppm			10 15 17 26	Rec 2.0'/2.0' (14-16' bgs)
		cl: Off white CLAY, slightly moist.	cl						
	15	sp: Yellowish orange, reddish brown, off white fine grained SAND, little Silt, trace Clay, moist.	sp						
		sp: Off white to yellowish orange fine grained SAND moist.	sp						
	16	NA: No sample collected for lithologic description.							
	17								
845									
	18		NA						
	19								
	20	cl: Reddish brown CLAY, some Silt little fine			Organic			4 12 16	Rec 2.0'/2.0' (20-22' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW03

Project: Fort McClellan | Geologist: K.Hunter/A.Barnes | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		grained Sand, dry.	cl		Vapor = 0.0ppm			18	
		cl: Medium purple, off white, yellowish orange, reddish brown, dry, stiff, CLAY.	cl						
	21	cl-sp: Yellowish orange CLAY interbedded with off white fine grained SAND, slightly moist.	cl-sp						
		sp: Off white to yellowish orange fine grained SAND, moist.	sp						
	22	NA: No sample collected for lithologic description.							
840									
	23		NA						
	24								
	25	cl: Yellowish orange CLAY, stiff dry, little Silt, trace fine grained Sand and quartzite Gravel.	cl		Organic Vapor = 0.0ppm			9 10 14 18	Rec 2.0'/2.0' (25-27' bgs)
		CL: light tan very stiff dry CLAY.							
	26		cl						
	27	cl-ml: Yellowish orange off white CLAY and Silt, trace fine grained Sand, dry.	cl-ml						
835		NA: No sample collected for lithologic description.							
	28		NA						
	29								
	30	cl-ml: Yellowish orange CLAY and Silt, dry	cl-ml		Organic Vapor			7 13 21 20	Rec 2.0'/2.0' (30-32' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW03

Project: Fort McClellan | Geologist: K.Hunter/A.Barnes | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sp: Off white to white fine grained SAND, trace Silt and Clay.	sp		= 0.0ppm				
		sm-sc: Off white to white, tan CLAY, Silt and fine grained Sand.	sm-sc						
	31	cl: Off white, white, pale pink, very stiff dry CLAY.	cl						
	32	NA: No sample collected for lithologic description							
830									
	33		NA						
	34								
	35	cl: Tan to off white CLAY, little Silt, trace fine grained Sand, slightly moist.	cl		Organic Vapor = 0.0ppm			5 7 28 30	Rec 2.0'/2.0' (35-37' bgs)
		cl: Off white CLAY dry.	cl						
	36	sp: Off white to medium purple, fine grained SAND, little Clay slightly moist.	sp						
		cl: Off white to pale purple CLAY, trace Silt, dry	cl						
	37	NA: No sample collected for lithologic description							
825									
	38		NA						
	39								
	40	cl: Off white to tan dry, hard CLAY, trace Silt.	cl					7 11 28 35	Rec 2.0'/2.0' (40-42' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-181-MW03

Project: Fort McClellan | Geologist: K.Hunter/A.Barnes | Sheet 6 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl: Off white dry hard CLAY, little fine grained Sand	cl		Organic Vapor = 0.0ppm				
	41	cl: Medium purple dry hard CLAY.	cl						41
	42	NA: No sample collected for lithologic description.							42
820									
	43		NA						43
	44								44
	45	cl: Medium purple, off white tan, yellowish orange, dry, hard CLAY, trace Silt, trace fine grained Sand.			Organic Vapor = 0.0ppm			5 23 50/0.5'	Rec 1.5'/1.5' (45-46.5' bgs) 45
	46		cl						46
		NA: No sample collected for lithologic description.							
	47								47
815									
	48								48
			NA						
	49								49
	50								Bottom of borehole at 50' bgs 50

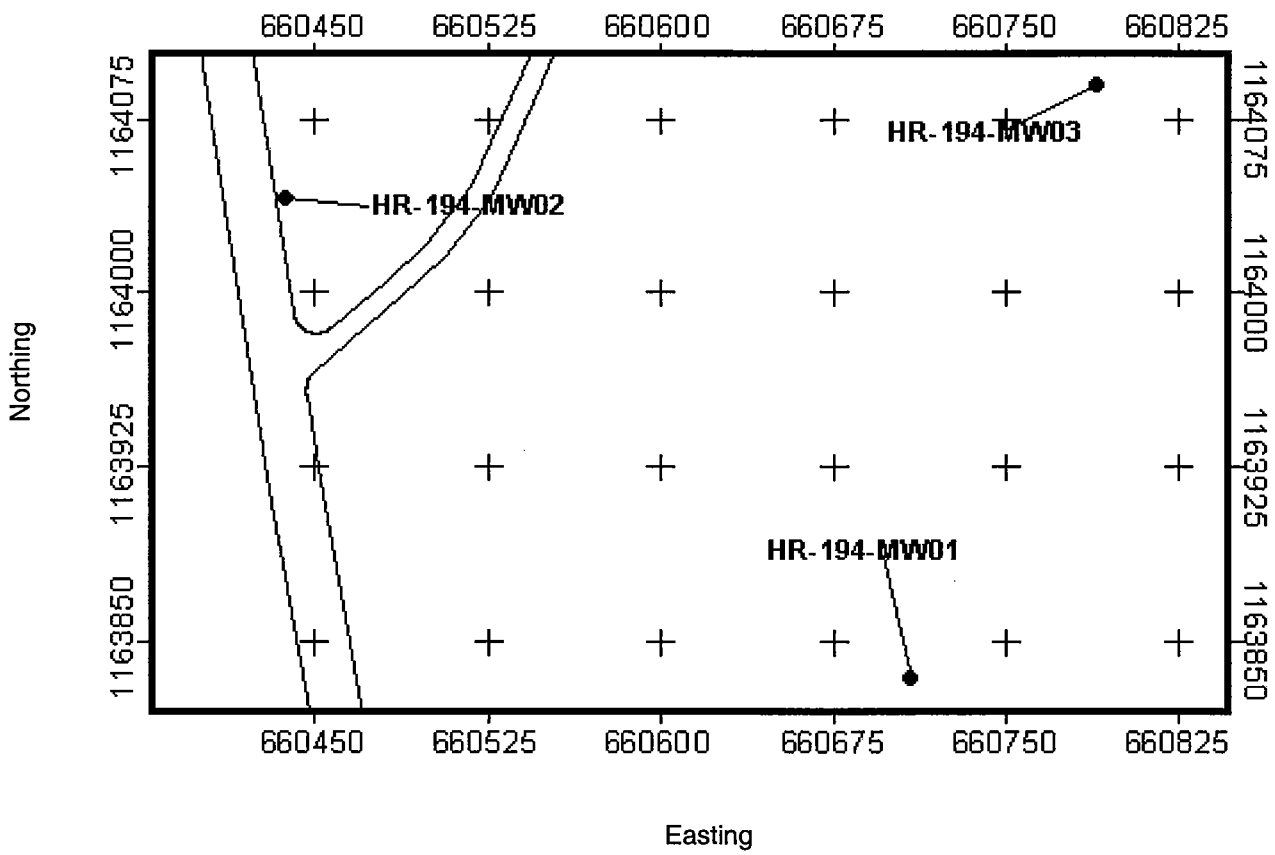
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-194-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 194 9. Surface elevation (feet above mean sea level): 832.68 10. Date started: 02/06/01 — 11. Date completed: 03/01/01
12. Overburden thickness (feet bgs): 82.5	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0.2	16. Depth to water and elapsed time after drilling completed (feet bgs): 82 ~ 24 hours
14. Total depth of hole (feet bgs): 82.7	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	Yes	Yes	Explosives	Perchlorate	SVOCs	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	K.Hunter/N.Badon/D.Allan		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-194-MW01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown soft moist SILT, some medium to coarse Sand, little medium to coarse subrounded Gravel.	ml		Organic Vapor = 0.0ppm		RC0001		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Reddish brown, very stiff moist CLAY, some Silt, trace medium to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.2'/3.0' (1-4' bgs)
	2								
830									
	3								
	4	cl: Light brown very stiff moist CLAY, some Silt, trace fine to medium Sand.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
825									
	8	cl: Light brown, very stiff, moist CLAY, some Silt, trace fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	9						RC0002		
	10								Direct push refusal at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								
	12		NA						
820									
	13								
	14	cl: Light red brown to yellowish orange very stiff CLAY, little subrounded quartz-rich fine to coarse Sand, dry.			Organic Vapor = 0.0ppm			7 10 10 20	Rec 2.0'/2.0' (14-16' bgs)
	15		cl						
	16	NA: No sample collected for lithologic description.							
	17								
815			NA						
	18								
	19	cl: Light red brown to yellowish orange very stiff CLAY, little subrounded quartz-rich fine to coarse Sand, dry.			Organic Vapor = 0.0ppm			6 9 9 17	Rec 2.0'/2.0' (19-21' bgs)
	20		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21	NA: No sample collected for lithologic description.							
	22								
810			NA						
	23								
	24	cl: Light red brown to yellowish orange very stiff CLAY, little subrounded quartz-rich fine to coarse Sand, dry.			Organic Vapor = 0.0ppm			6 8 10 14	Rec 2.0'/2.0' (24-26' bgs)
	25		cl						
	26	NA: No sample collected for lithologic description.							
	27								
805			NA						
	28								
	29	cl: Light red brown to yellowish orange very stiff CLAY, little subrounded quartz-rich fine to coarse Sand, dry.			Organic Vapor = 0.0ppm			5 5 6 9	Rec 2.0'/2.0' (29-31' bgs)
	30		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							
	32								
800			NA						
	33								
	34	cl: Light red brown to yellowish orange very stiff CLAY, little subrounded quartz-rich fine to coarse Sand, dry.			Organic Vapor = 0.0ppm			4 6 5 7	Rec 2.0'/2.0' (34-36' bgs)
	35		cl						
	36	NA: No sample collected for lithologic description.							
	37								
795			NA						
	38								
	39	cl: Light red brown to yellowish orange medium stiff to soft CLAY, trace subrounded quartz-rich fine to coarse Sand, trace fine Gravel, dry.			Organic Vapor = 0.0ppm			3 4 6 9	Rec 2.0'/2.0' (39-41' bgs)
	40		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41	NA: No sample collected for lithologic description.							
	42		NA						
790									
	43								
	44	cl: Light red brown to yellowish orange medium stiff to soft, plastic CLAY, trace subrounded quartz-rich fine to coarse Sand, trace fine Gravel, dry.			Organic Vapor = 0.0ppm			4 5 5 9	Rec 2.0'/2.0' (44-46' bgs)
	45		cl						
	46	NA: No sample collected for lithologic description.							
	47		NA						
785									
	48								
	49	cl: Light red brown to yellowish orange medium stiff to soft, plastic CLAY, trace subrounded quartz-rich fine to coarse Sand, trace fine Gravel, dry.			Organic Vapor = 0.0ppm			5 4 5 7	Rec 2.0'/2.0' (49-51' bgs)
	50		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
	52		NA						
780									
	53								
	54	sm: Greenish gray to yellowish orange SILT and fine SAND, some Clay, dry.			Organic Vapor = 0.0ppm			18 12 27 43	Rec 2.0'/2.0' (54-56' bgs)
	55		sm						
	56	NA: No sample collected for lithologic description.							
	57								
775			NA						
	58								
	59	sm: Greenish gray dolomitic SILT and fine SAND, some dolomitic Gravel, dry.	sm		Organic Vapor = 0.0ppm			47 50/0.1'	Rec 0.6'/0.6' (59-59.6' bgs)
	60	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								
	62		NA						
770									
	63								
	64	sm: Greenish gray dolomitic SILT and fine SAND, dry.	sm		Organic Vapor = 0.0ppm			10 13 37 47	Rec 0.8'/2.0' (64-66' bgs)
	65	NA: No recovery.	NA						
	66	NA: No sample collected for lithologic description.							
	67								
765			NA						
	68								
	69	sm: Greenish gray to yellowish orange dolomitic SILT and SAND, some dolomitic Gravel, dry.	sm		Organic Vapor = 0.0ppm			50 50/0.3'	Rec 0.8'/0.8' (69-69.8' bgs)
	70	NA: No sample collected for lithologic description.							
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
	72		NA						
760									
	73								
	74	sm: Greenish gray to yellowish orange dolomitic SILT and fine SAND, some fine to coarse dolomitic Gravel, dry.			Organic Vapor = 0.0ppm			29 31 24 25	Rec 2.0'/2.0' (74-76' bgs)
	75		sm						
	76	NA: No sample collected for lithologic description.							
	77								
755			NA						
	78								
	79	sm: Greenish gray to yellowish orange dolomitic SILT and fine SAND, some fine to coarse dolomitic Gravel, dry.						80 47 43 50	Rec 2.0'/2.0' (79-81' bgs)
	80		sm						
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW01

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.	NA						Auger refusal on competent bedrock at 82.5' bgs
	82								82
									Rec 0.2'/0.2' (82.5-82.7' bgs)
									Bottom of borehole at 82.7' bgs
750		dol: DOLOMITE, light gray, reacts with 10% HCl when powdered.	dol					50/0.2'	

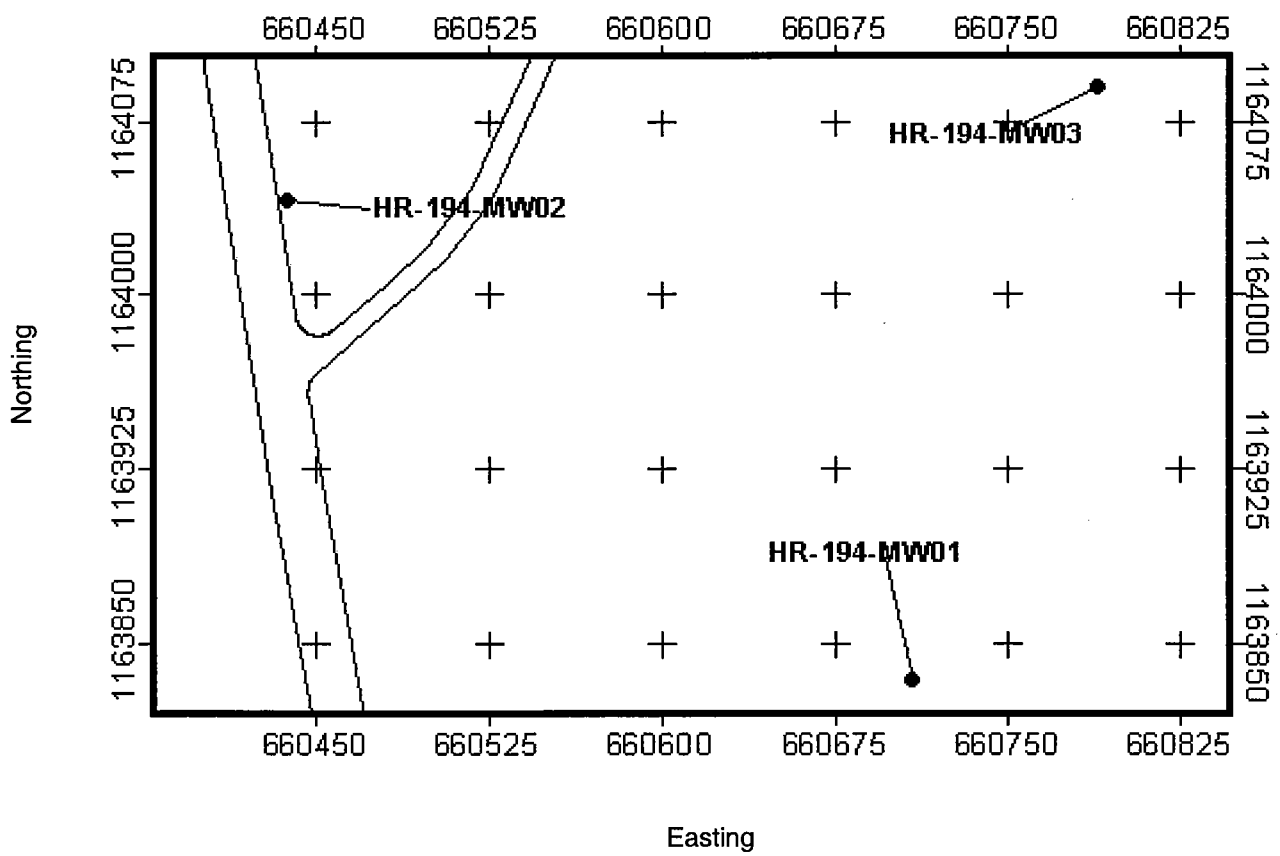
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-194-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/MDC/Bowser Morner	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Clete Sanders/Dennis Sink	6. Mfr. designation of drill: Strataprobe/B57 Mobile/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" OD Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 194 9. Surface elevation (feet above mean sea level): 820.43 10. Date started: 02/06/01 — 11. Date completed: 03/01/01
12. Overburden thickness (feet bgs): 64	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0.05	16. Depth to water and elapsed time after drilling completed (feet bgs): Dry ~24 hours
14. Total depth of hole (feet bgs): 64.05	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	Yes	Yes	Explosives	Perchlorate	SVOCs	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	N.Badon/K.Hunter/D.Allan		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW02

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
820	0	ml: Reddish brown soft moist SILT, some fine to medium Sand, little Clay, trace medium subrounded Gravel.	ml		Organic Vapor = 0.0ppm		RC0003		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Dark reddish brown medium stiff moist CLAY, some Silt, trace fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/3.0' (1-4' bgs)
	2								
	3								
	4	cl: Dark reddish brown very stiff moist CLAY, some Silt, little fine to medium Sand.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
815	5								
	6		cl						
	7								
	8	cl: Dark reddish brown very stiff CLAY, some Silt, little medium to coarse Sand, trace fine subangular Gravel.			Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	9		cl				RC0004		
	10								Direct push refusal at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW02

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
810		NA: No sample collected for lithologic description.							
	11		NA						
	12								
	13	cl: Light red brown and yellowish orange stiff CLAY, some medium to coarse Sand, trace fine subangular quartz-rich Gravel, dry.			Organic Vapor = 0.0ppm			2 7 11 14	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
805									
	16		NA						
	17								
	18	cl: Light red brown to yellowish orange stiff CLAY, some to medium to coarse Sand, trace subangular quartz-rich Gravel, dry.			Organic Vapor = 0.0ppm			4 9 13 24	Rec 2.0'/2.0' (18-20' bgs)
	19		cl						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW02

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
800		description.							
	21		NA						
	22								
	23	cl: Light red brown to yellowish orange medium stiff CLAY, some partially decomposed subangular to subrounded Gravel, slightly moist.			Organic Vapor = 0.0ppm			6 10 14 15	Rec 2.0'/2.0' (23-25' bgs)
	24		cl						
	25	NA: No sample collected for lithologic description.							
795									
	26		NA						
	27								
	28	cl: Light red brown to yellowish orange medium stiff CLAY, some medium Sand, little subangular quartz-rich Gravel, slightly moist.			Organic Vapor = 0.0ppm			7 10 18 24	Rec 2.0'/2.0' (28-30' bgs)
	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW02

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
790									
	31		NA						
	32								
	33	cl: Light red brown to yellowish orange medium stiff CLAY, some medium Sand, little subrounded quartz-rich Gravel, partially decomposed in places, slightly moist.	cl		Organic Vapor = 0.0ppm			11 15 17 20	Rec 1.8'/2.0' (33-35' bgs)
	34								
	35	NA: No recovery.	NA						
785		NA: No sample collected for lithologic description.							
	36		NA						
	37								
	38	cl: Light red brown to yellowish orange medium stiff CLAY, some subrounded to subangular quartz-rich fine to coarse Gravel, some quartz-rich coarse Sand, very plastic.	cl		Organic Vapor = 0.0ppm			4 7 11 22	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							
780									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW02

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						B57 Auger refusal at 41.5' bgs, continued with CME 550X.
	42	cl: Light red brown to yellowish orange medium stiff CLAY, some subrounded to subangular quartz-rich fine to coarse Gravel, some quartz-rich coarse Sand, very plastic.	cl		Organic Vapor = 0.0ppm			17 20 36 50	Rec 1.6'/1.6' (41.5-43.1' bgs)
	43	cl: Light red brown to yellowish orange, medium stiff CLAY, some subrounded quartz-rich Gravel, partially decomposed in places, very plastic.	cl		Organic Vapor = 0.0ppm			7 10 11 11	Rec 1.9'/2.0' (43.1-45.1' bgs)
	44								
	45	NA: No sample collected for lithologic description.							
775	46								
	47		NA						
	48								
	49	cl: Light red brown to yellowish orange, soft CLAY, some subrounded quartz-rich Gravel, partially decomposed in places, very plastic.			Organic Vapor = 0.0ppm			5 4 4 3	Rec 2.0'/2.0' (49-51' bgs)
770	50		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW02

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
	52		NA						
	53								
	54	cl: Light red brown to yellowish orange, soft CLAY, some medium to coarse Sand, some subrounded quartz-rich Gravel, partially decomposed in places, very plastic.			Organic Vapor = 0.0ppm			4 3 3 3	Rec 2.0'/2.0' (54-56' bgs)
765	55		cl						
	56	NA: No sample collected for lithologic description.							
	57		NA						
	58								
	59	ml: White SILT, dry.	ml		Organic Vapor = 0.0ppm			1 1 1 1	Rec 2.0'/2.0' (59-60' bgs)
		cl: Light red brown to yellowish orange, very soft CLAY, trace subrounded fine Gravel.							
760	60		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW02

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 8 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61	NA: No sample collected for lithologic description.							61
	62		NA						62
	63								63 Rec 0.05/0.05 (64-64.05' bgs) Auger refusal at 64' bgs on bedrock Bottom of borehole at 64.05' bgs
	64	dol: DOLOMITE.	dol						64

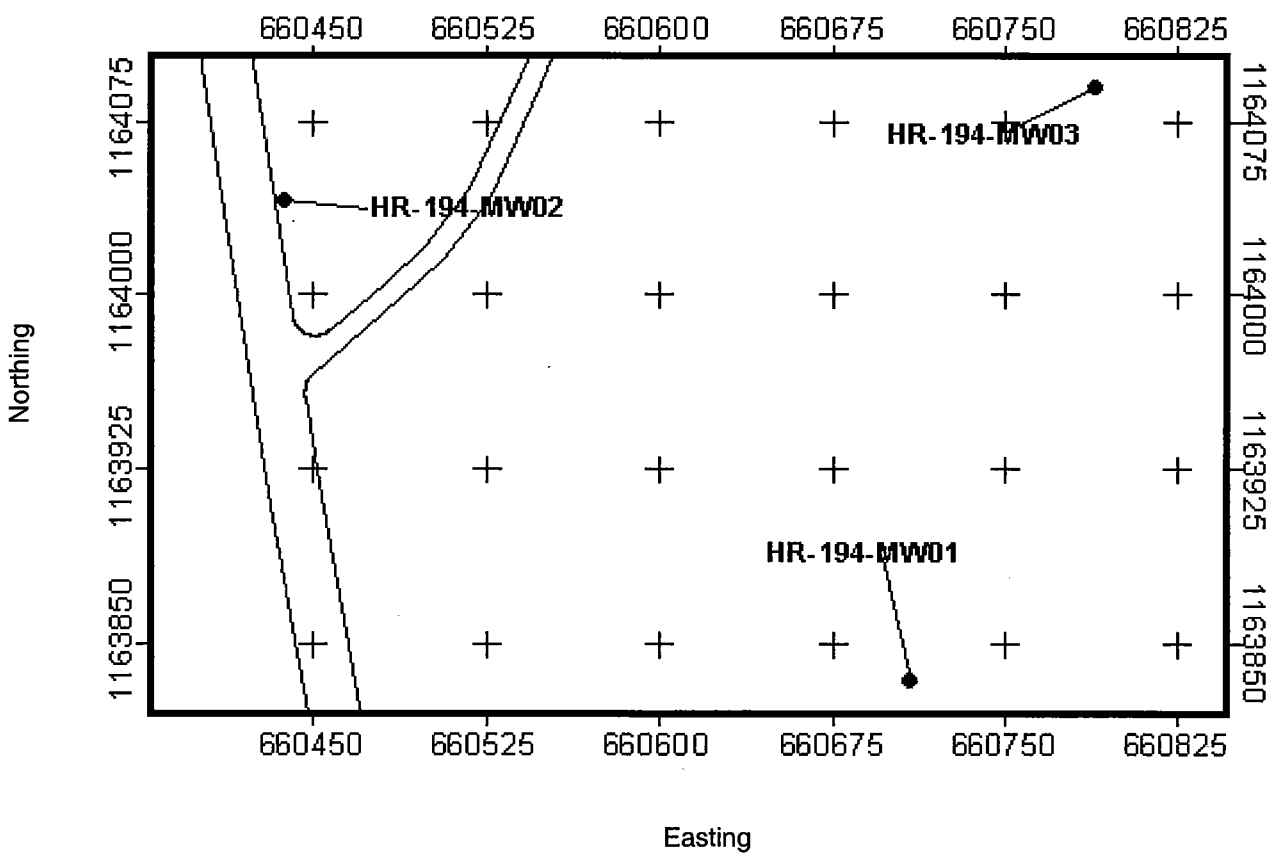
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-194-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 194 9. Surface elevation (feet above mean sea level): 820.25 10. Date started: 02/06/01 — 11. Date completed: 03/02/01
12. Overburden thickness (feet bgs): 89.5	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 1.5	16. Depth to water and elapsed time after drilling completed (feet bgs): Dry ~48 hours
14. Total depth of hole (feet bgs): 91	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	Yes	Yes	Explosives	Perchlorate	SVOCs	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	K.Hunter/N.Badon/D.Allan		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
820	0	ml: Medium brown soft moist SILT, some medium to coarse Sand, little fine to coarse subangular Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		RC0005		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Medium brown SILT, some fine to medium Sand, little Clay.	ml		Organic Vapor = 0.0ppm				Rec 1.9'/3.0' (1-4' bgs)
	2								
	3								
	4	ml: Light brown stiff moist SILT, some fine to medium Sand, little Clay, trace fine subangular Gravel.	ml		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
815	5								
	6								
	7								
	8	ml: Light brown very stiff moist SILT, some medium to coarse Sand, little Clay, trace fine subangular Gravel.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
810			ml						
	11						RC0006 RC0007		
									Direct push refusal at 12' bgs
	12	NA: No sample collected for lithologic description.							
	13		NA						
	14	cl: Yellowish orange, medium stiff CLAY, some quartz-rich subrounded to subangular Gravel, trace medium Sand, trace Silt, Damp.			Organic Vapor = 0.0ppm			12 14 16 15	Rec 2.0'/2.0' (14-16' bgs)
	15		cl						
805									
	16	NA: No sample collected for lithologic description.							
	17								
			NA						
	18								
	19	cl-ml: Light red brown to yellowish orange, very stiff CLAY and SILT, trace fine to medium Sand, damp.			Organic Vapor = 0.0ppm			7 9 10 12	Rec 2.0'/2.0' (19-21' bgs)
	20		cl-						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
800			ml						
	21	NA: No sample collected for lithologic description.							
	22		NA						
	23								
	24	cl-ml: Light red brown to yellowish orange, very stiff CLAY and SILT, some fine to medium Sand, damp.			Organic Vapor = 0.0ppm			5 8 8 10	Rec 2.0'/2.0' (24-26' bgs)
	25		cl-ml						
795									
	26	NA: No sample collected for lithologic description.							
	27		NA						
	28								
	29	cl-ml: Light red brown to yellowish orange, very stiff CLAY and SILT, some fine to medium Sand, some fine to medium grained quartz sandstone Gravel, damp.	cl-ml		Organic Vapor = 0.0ppm			6 6 6 6	Rec 0.7'/2.0' (29-31' bgs)
		NA: No recovery.							
	30								
790			NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							
	32		NA						
	33								
	34	cl-ml: Light red brown to yellowish orange, very stiff CLAY and SILT, some fine to coarse quartz-rich Sand, some quartz-rich fine to coarse Gravel, damp.	cl-ml		Organic Vapor = 0.0ppm			6 8 8 9	Rec 0.7'/2.0' (34-36' bgs)
		NA: No recovery.							
785	35		NA						
	36	NA: No sample collected for lithologic description.							
	37		NA						
	38								
	39	cl-ml: Light red brown to yellowish orange, medium stiff CLAY and SILT, some fine to coarse quartz-rich Sand, some partially decomposed quartz-rich fine Gravel, damp.			Organic Vapor = 0.0ppm			3 5 5 7	Rec 2.0'/2.0' (39-41' bgs)
780	40		cl-ml						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41	NA: No sample collected for lithologic description.							
	42		NA						
	43								
	44	cl: Light red brown to yellowish orange, very stiff CLAY, some Silt, some fine to coarse quartz-rich Sand, some partially decomposed fine Gravel, damp.			Organic Vapor = 0.0ppm			4 4 5 8	Rec 2.0'/2.0' (44-46' bgs)
775	45		cl						
	46	NA: No sample collected for lithologic description.							
	47		NA						
	48								
	49	cl: Light red brown to yellowish orange, very stiff CLAY, some SILT, some fine to coarse quartz-rich Sand, some partially decomposed fine Gravel, damp.	cl		Organic Vapor = 0.0ppm			5 6 6 7	Rec 0.6'/2.0' (49-51' bgs)
		NA: No recovery.							
770	50		NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
	52		NA						
	53								
	54	cl: Light red brown to yellowish orange, stiff CLAY, some fine to coarse quartz-rich Sand, some fine to coarse partially decomposed quartz-rich Gravel, trace Silt, damp.	cl		Organic Vapor = 0.0ppm			3 6 6 8	Rec 1.7'/2.0' (54-56' bgs)
765	55								
		NA: No recovery.	NA						
	56	NA: No sample collected for lithologic description.							
	57		NA						
	58								
	59	cl: Light red brown to yellowish orange, medium stiff CLAY, some fine to coarse quartz-rich Sand, some fine to coarse partially decomposed quartz-rich Gravel, damp.	cl		Organic Vapor = 0.0ppm			2 3 3 4	Rec 2.0'/2.0' (59-61' bgs)
760	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61	NA: No sample collected for lithologic description.	NA						
	62								
	63								
	64	cl: Light red brown to yellowish orange, medium stiff CLAY, some fine to coarse quartz-rich Sand, some fine to coarse partially decomposed quartz-rich Gravel, damp.	cl		Organic Vapor = 0.0ppm			5 5 6 9	Rec 2.0'/2.0' (64-66' bgs)
755	65								
	66	NA: No sample collected for lithologic description.	NA						
	67								
	68								
	69	cl: Light red brown to yellowish orange, medium stiff CLAY, some fine to coarse quartz-rich Sand, some fine to coarse partially decomposed quartz-rich Gravel, damp.	cl		Organic Vapor = 0.0ppm			5 6 5 8	Rec 1.8'/2.0' (69-71' bgs)
750	70								
	71	NA: No recovery.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71	NA: No sample collected for lithologic description.	NA						
	72		NA						
	73								
	74	cl: Light red brown to yellowish orange, medium stiff CLAY, some fine to coarse quartz-rich Sand, some fine to coarse partially decomposed quartz-rich Gravel, trace Silt, damp.			Organic Vapor = 0.0ppm			5 6 7 8	Rec 2.0'/2.0' (74-76' bgs)
745	75		cl						
	76	NA: No sample collected for lithologic description.							
	77		NA						
	78								
	79	cl: Light red brown to yellowish orange, medium stiff CLAY, some fine to coarse, partially decomposed Sand, trace Silt, damp.						6 10 10 10	Recovery not recorded (79-81' bgs)
740	80		cl						
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-194-MW03

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/D.Allan | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	82		NA						
	83								
	84	cl: Light red brown to yellowish orange, medium stiff CLAY, some fine to coarse partially decomposed Sand, trace Silt, damp.			Organic Vapor = 0.0ppm			5 5 5 9	Rec 2.0'/2.0' (84-86' bgs)
735	85		cl						
	86	NA: No sample collected for lithologic description.							
	87		NA						
	88								
	89	cl: Light red brown to yellowish orange, medium stiff CLAY, some fine to coarse partially decomposed Sand, trace Silt, damp.	cl		Organic Vapor = 0.0ppm			49 50/0.3'	Rec 0.8'/0.8' (89-89.8' bgs)
		dol: DOLOMITE, light Gray, reacts with HCl when powdered.	dol						Top of bedrock 89.5' bgs
730	90	NA: No sample collected for lithologic description.	NA						Bottom of borehole at 91.0' bgs
	91								

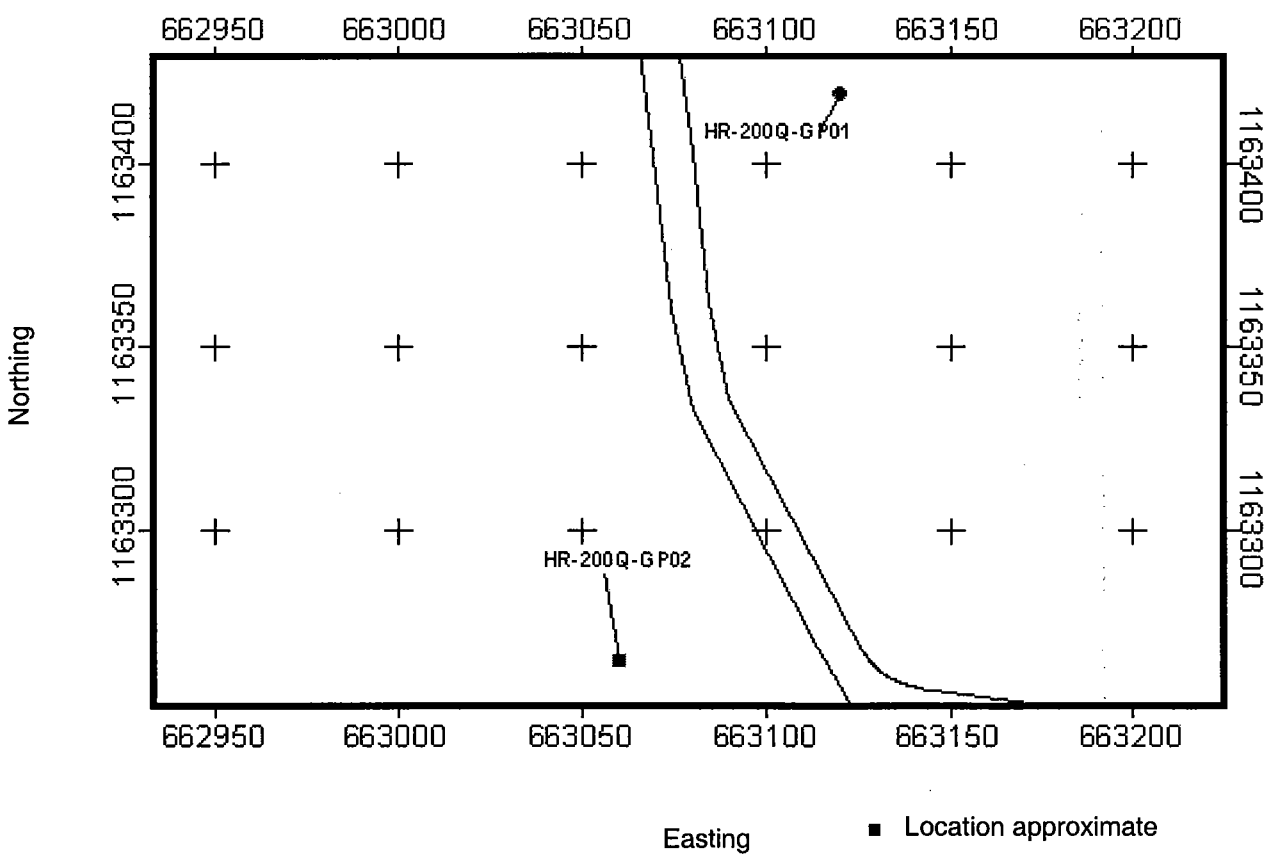
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-200Q-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 200Q 9. Surface elevation (feet above mean sea level): 917.38 10. Date started: 03/28/01 — 11. Date completed: 03/28/01
12. Overburden thickness (feet bgs): >4	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 4	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon/Leslie O'Hare		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-200Q-GP01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-200Q-GP01

Project: Fort McClellan | Geologist: Nicole Badon/Leslie O'Hare | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Light brown moist soft CLAY, little Silt, trace quartz-rich subrounded Gravel, trace organics.	cl		Organic Vapor = 0.0ppm		JQ0001		Rec 2.5'/4.0' (0-4' bgs)
	1								
	2								
915									
	3						JQ0002 JQ0005		
	4								Direct push refusal at 4' bgs Bottom of borehole at 4' bgs

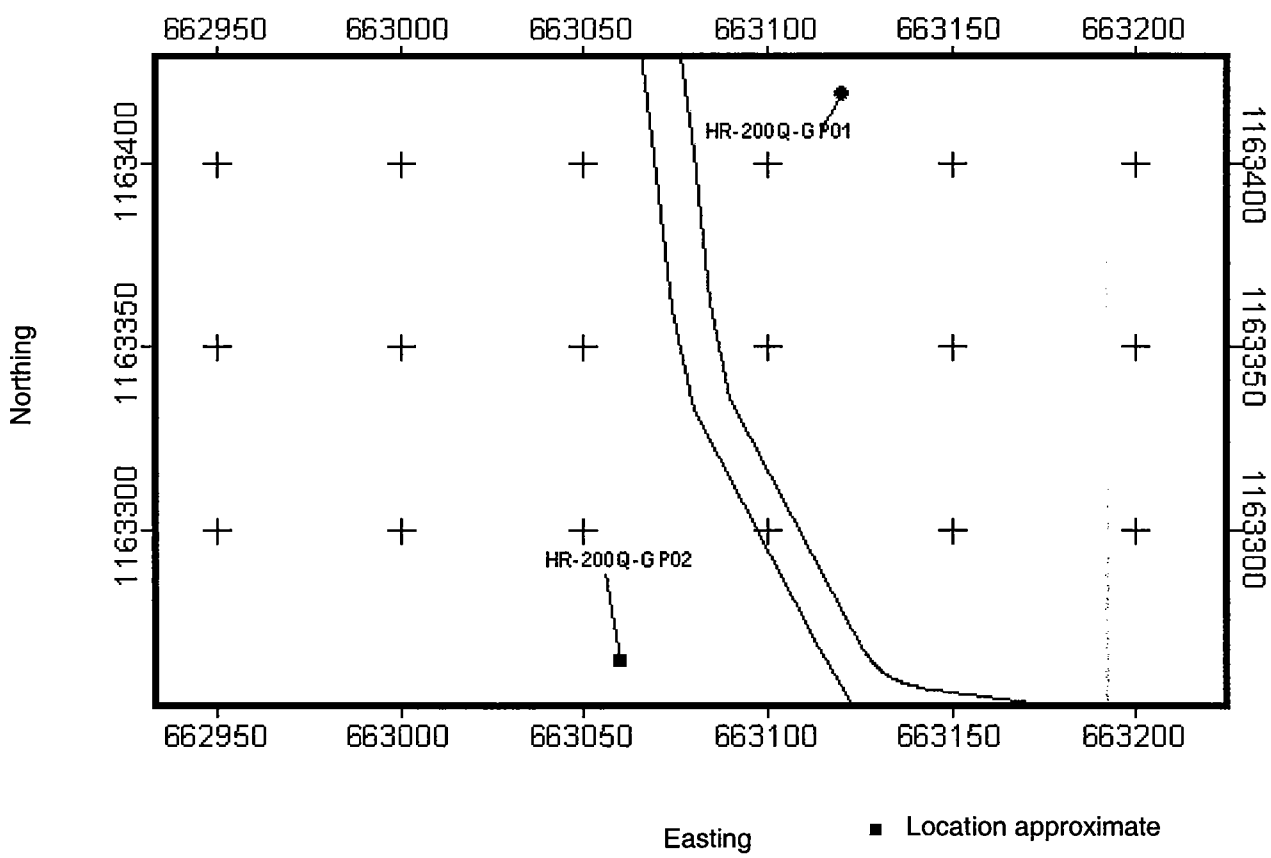
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-200Q-GP02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 200Q 9. Surface elevation (feet above mean sea level): 1112 10. Date started: 03/28/01 — 11. Date completed: 03/28/01
12. Overburden thickness (feet bgs): >5	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon/Leslie O'Hare		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-200Q-GP02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-200Q-GP02

Project: Fort McClellan | Geologist: Nicole Badon/Leslie O'Hare | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl-ml: Light brown CLAY and SILT, little fine to coarse Sand, little quartz-rich Gravel, trace roots, moist.	cl-ml		Organic Vapor = 0.0ppm		JQ0003		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown medium stiff CLAY, little fine to coarse Sand, little quartz-rich Gravel, trace Silt, moist.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
1110	2								
	3								
	4	cl: Yellowish orange mottled light brown stiff CLAY, trace medium Sand, trace quartz-rich Gravel.	cl		Organic Vapor = 0.0ppm		JQ0004		Rec 1.0'/1.0' (4-5' bgs)
	5								Direct push refusal at 5' bgs Bottom of borehole at 5' bgs

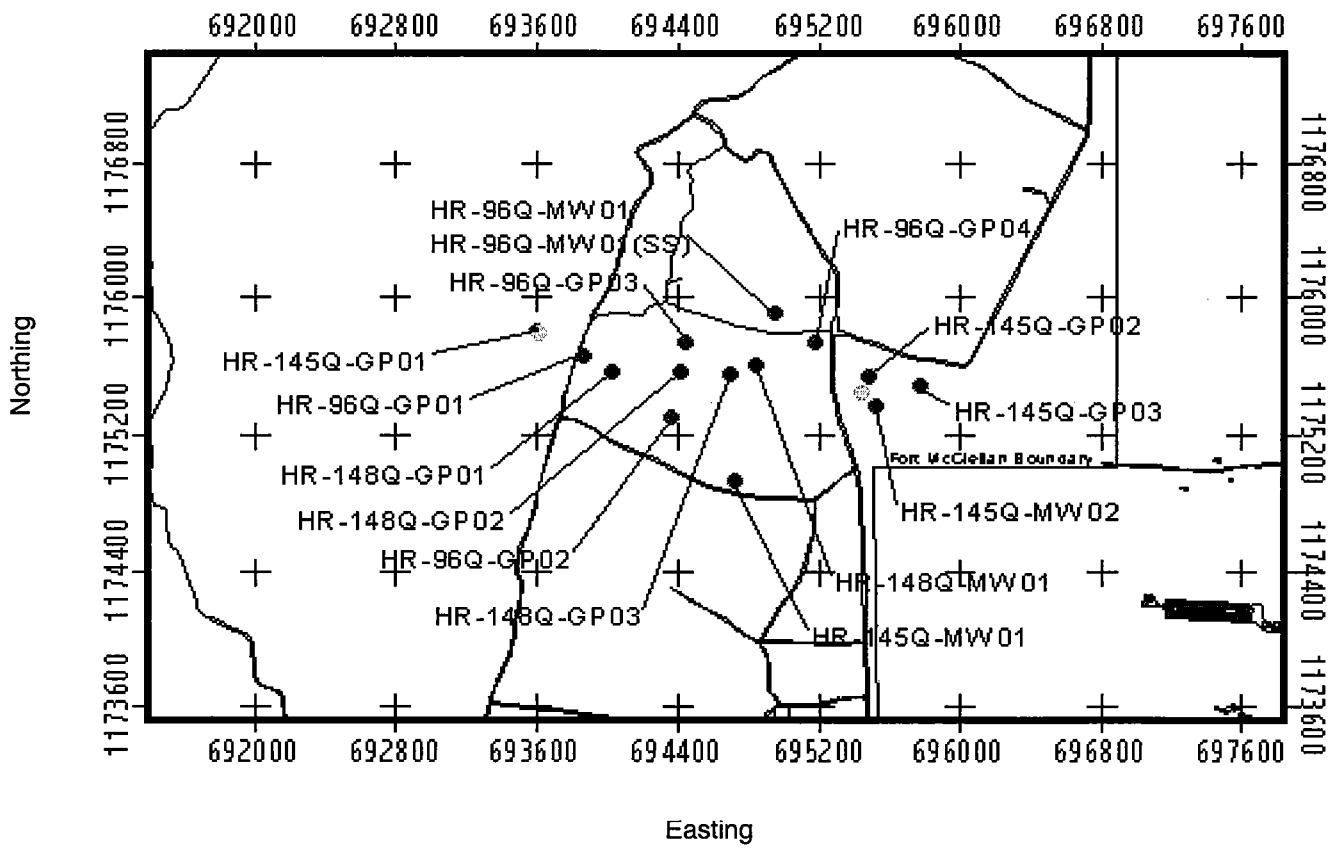
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-201Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 201Q 9. Surface elevation (feet above mean sea level): 841.79 10. Date started: 12/12/00 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): >45	15. Depth groundwater encountered (feet bgs): 30
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 23 ~41 hours
14. Total depth of hole (feet bgs): 45	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft moist SILT, some Clay, some fine to medium Sand, little coarse, subrounded Gravel.	ml		Organic Vapor = 0.0ppm		JR0001		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown soft moist SILT, some Clay, some fine to medium Sand, little coarse subrounded Gravel.	ml		Organic Vapor = 0.0ppm				Rec 1.6'/3.0' (1-4' bgs)
840	2								
	3								
	4	cl: Yellowish orange very stiff moist CLAY, some Silt, some coarse Sand.	cl		Organic Vapor = 1.8ppm		JR0002		Rec 3.0'/3.0' (4-7' bgs)
	5								
	6								
835	7	NA: No sample collected for lithologic description.	NA						Direct push refusal at 7' bgs
	8	sm: Yellowish orange to light brown mottled, slightly moist SAND and SILT, some fine to coarse Gravel, red oxidation stains.	sm		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	9	cl: Reddish brown CLAY, some Silt, dry.	cl						
	10	cl: Light gray CLAY, dry	cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								11
830									
	12								12
			NA						
	13								13
	14								14
	15	cl: Reddish orange to brown CLAY, slightly moist.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (15-17' bgs) 15
		sw: Medium to dark pink fine to medium SAND, dry.							
	16		sw						16
825									
	17	NA: No sample collected for lithologic description.							17
	18								18
			NA						
	19								19
	20	sw: Medium to dark pink fine to medium			Organic				Rec 1.9'/2.0' (20-22' bgs) 20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		SAND, slightly moist.			Vapor = 0.0ppm				
	21		sw						21
820									
	22	NA: No recovery.	NA						22
		NA: No sample collected for lithologic description.							
	23								23
			NA						
	24								24
	25	sw: Light pink, fine to coarse SAND, moist.	sw		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (25-27' bgs) 25
	26	sw: Light gray, fine to coarse SAND, moist.	sw						26
815									
	27	NA: No sample collected for lithologic description.							27
	28								28
			NA						
	29								29
	30								Groundwater encountered at 30' bgs 30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
810	32								32
	33								33
	34								34
	35		NA						35
	36								36
805	37								37
	38								38
	39								39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW01

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 6 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
800	42								42
			NA						
	43								43
	44								44
									Bottom of borehole at 45' bgs
	45								45

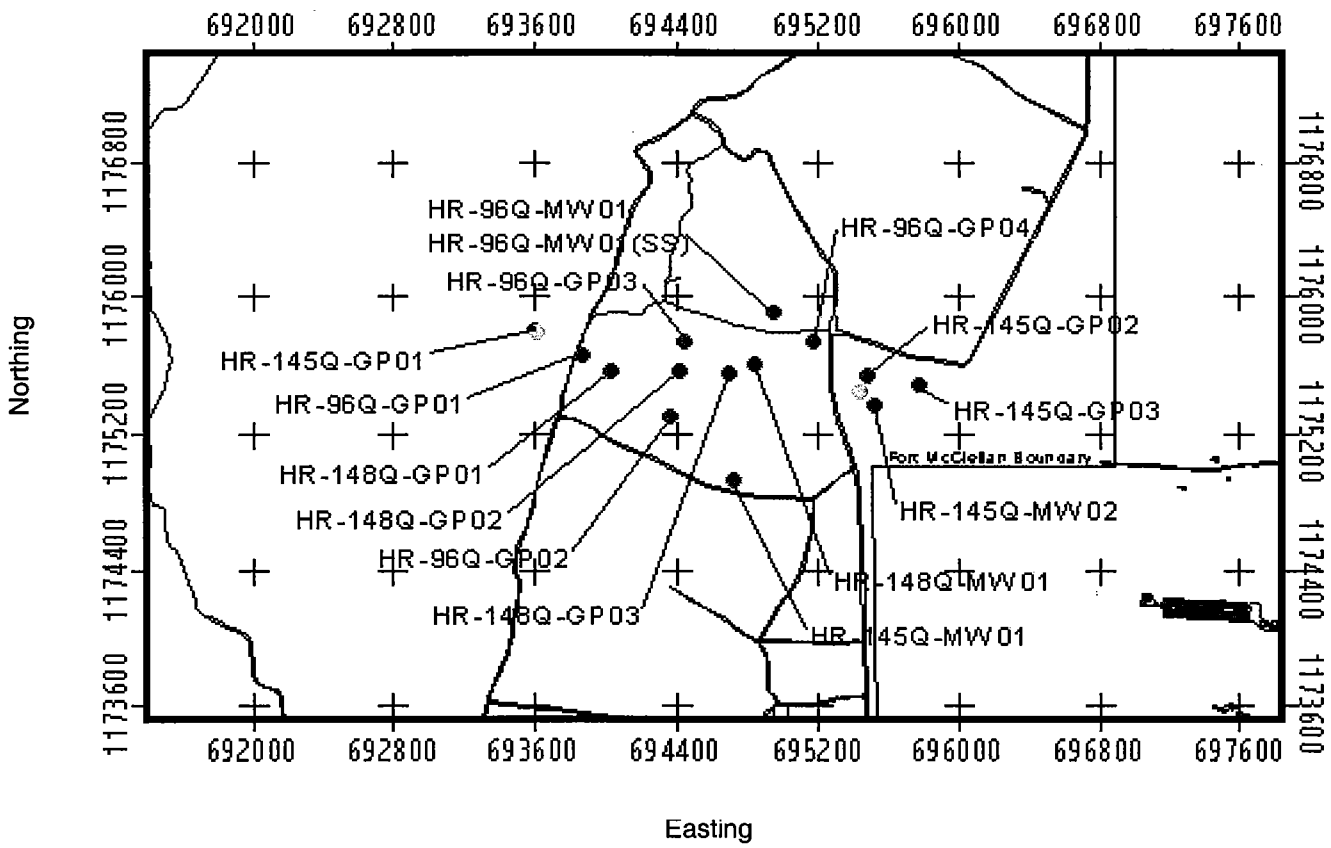
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-201Q-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 201Q 9. Surface elevation (feet above mean sea level): 863.16 10. Date started: 12/12/00 — 11. Date completed: 01/30/01
12. Overburden thickness (feet bgs): >50	15. Depth groundwater encountered (feet bgs): 35
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 35.9 ~24 hours
14. Total depth of hole (feet bgs): 50	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/April Barnes		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-201Q-MW02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Brown soft moist SILT, some medium to coarse Sand, some Clay, little coarse subrounded Gravel.	ml		Organic Vapor = 0.0ppm		JR0003		Rec 1.0'/1.0' (0-1' bgs)
	1	sm: Yellowish orange medium stiff moist medium to coarse SAND, some Clay, some Silt, little coarse subangular Gravel.	sm		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
	2								
860	3								
	4	cl: Yellowish orange to light brown stiff moist CLAY, some medium to coarse Sand, some coarse subangular Gravel, little Silt.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
855	8	cl: Reddish brown medium stiff moist CLAY, some Silt.	cl		Organic Vapor = 0.0ppm		JR0004 JR0005		Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							Direct push refusal at 10' bgs
	11								11
	12		NA						12
850	13								13
	14								14
	15	cl-ml: Light brown to reddish brown very stiff CLAY and SILT, dry, some Sand, some subrounded coarse Gravel .	cl-ml		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (15-17' bgs) 15
	16	cl: Reddish brown to light gray, very stiff, dry CLAY.	cl						16
	17	NA: No sample collected for lithologic description.							17
845	18								18
	19		NA						19
	20	cl-ml: Reddish brown, very stiff, dry CLAY and			Organic				Rec 2.0'/2.0' (20-22' bgs) 20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		SILT.	cl-ml		Vapor = 0.0ppm				
		cl: Reddish brown to light gray, very stiff, dry CLAY							
	21		cl						21
	22	NA: No sample collected for lithologic description							22
	23								23
840			NA						
	24								24
	25	cl: Reddish brown to light gray to yellowish orange mottled, dry, very stiff CLAY, trace Silt.			Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (25-27' bgs) 25
	26		cl						26
	27	NA: No sample collected for lithologic description.							27
	28								28
835			NA						
	29								29
	30	cl: Reddish brown to light gray mottled, very stiff, dry CLAY, some Silt.			Organic Vapor				Rec 1.5'/1.5' (30-31.5' bgs) 30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		cl		= 0.0ppm				
		NA: No sample collected for lithologic description.							
	32								
	33								
830			NA						
	34								
	35	sc: Light brown to medium pink, slightly moist, fine to medium SAND, some Clay, some fine to coarse subrounded Gravel.	sc		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (35-37' bgs) Groundwater encountered at 35' bgs
	36								
		sw: Yellowish orange fine to medium moist SAND, some subrounded fine to coarse Gravel.	sw						
	37	NA: No sample collected for lithologic description.							
	38								
825			NA						
	39								
	40	sw: Medium pink, light gray, yellowish orange mottled fine to medium SAND and subrounded fine to coarse GRAVEL, moist.			Organic Vapor =				Rec 1.7'/2.0' (40-42' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-201Q-MW02

Project: Fort McClellan | Geologist: Nicole Badon/April Barnes | Sheet 6 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		SW		0.0ppm				41
		NA: No recovery.	NA						
	42	NA: No sample collected for lithologic description.							42
	43								43
820									
	44								44
	45								45
	46		NA						46
	47								47
	48								48
815									
	49								49
	50								Bottom of borehole at 50' bgs 50

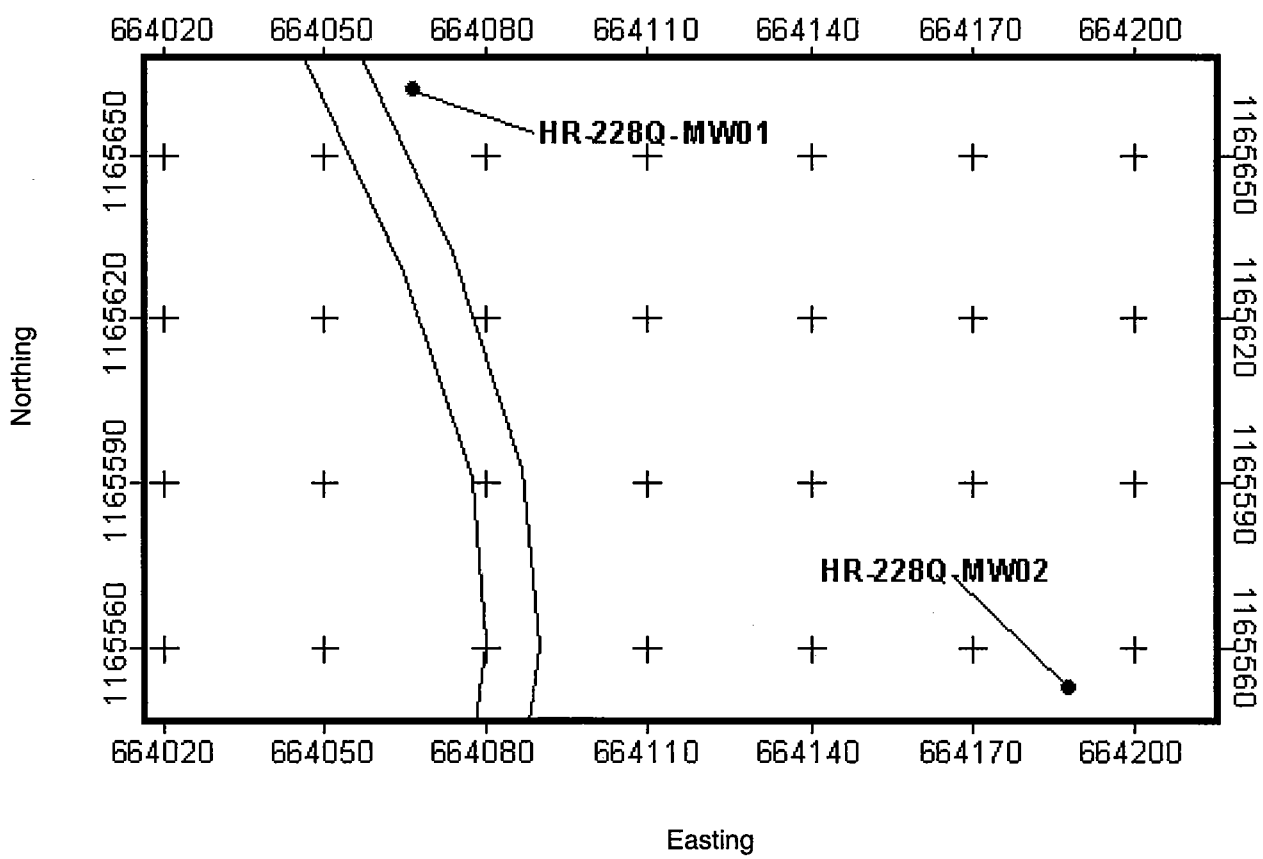
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-228Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 228Q 9. Surface elevation (feet above mean sea level): 841.17 10. Date started: 03/29/01 — 11. Date completed: 04/05/01
12. Overburden thickness (feet bgs): >65	15. Depth groundwater encountered (feet bgs): 50
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 65	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L.O' Hare/N.Badon/J.Dendy		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW01

Project: Fort McClellan | Geologist: L.O' Hare/N.Badon/J.Dendy | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist SILT, some Clay, little coarse Sand, trace organics.	ml		Organic Vapor = 0.0ppm		JS0001		Rec 2.4'/4.0' (0-4' bgs)
840	1	cl: Light brown moist soft CLAY, liitle fine to coarse Sand.							
	2		cl						
	3								
	4	cl: Light brown medium stiff slightly moist CLAY.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
835	6		cl						
	7						JS0002		
	8	NA: No sample collected for lithologic description.							Direct push refusal at 8' bgs
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW01

Project: Fort McClellan | Geologist: L.O' Hare/N.Badon/J.Dendy | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
830	11								
	12								
	13	cl: Reddish brown medium stiff CLAY, some fine to coarse Sand, little Silt.			Organic Vapor = 0.0ppm			5 5 6 11	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
825	16								
			NA						
	17								
	18	cl: Reddish brown medium stiff CLAY, some fine to coarse Sand, little Silt.			Organic Vapor = 0.0ppm			5 6 7 11	Rec 2.0'/2.0' (18-20' bgs)
	19		cl						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW01

Project: Fort McClellan | Geologist: L.O' Hare/N.Badon/J.Dendy | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
820	21		NA						
	22								
	23	cl: Black and reddish brown medium stiff CLAY, some fine to coarse Sand, little Silt.	cl		Organic Vapor = 0.0ppm			5 6 8 12	Rec 2.0'/2.0' (23-25' bgs)
	24								
	25	NA: No sample collected for lithologic description.	NA						
815	26								
	27								
	28	cl: Reddish brown soft to medium stiff CLAY, little fine to coarse Sand.	cl		Organic Vapor = 0.0ppm			3 5 6 10	Rec 2.0'/2.0' (28-30' bgs)
	29								
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW01

Project: Fort McClellan | Geologist: L.O' Hare/N.Badon/J.Dendy | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
810	31		NA						
	32								
	33	cl: Reddish brown soft to medium stiff CLAY, little fine to coarse Sand.	cl		Organic Vapor = 0.0ppm			5 6 6 10	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
805	36								
	37								
	38	cl: Light brown soft to medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			4 4 6 10	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW01

Project: Fort McClellan | Geologist: L.O' Hare/N.Badon/J.Dendy | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
800	41		NA						
	42								
	43	cl: Light brown soft to medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			4 6 6 10	Rec 2.0'/2.0' (43-45' bgs)
	44								
	45	NA: No sample collected for lithologic description.	NA						
795	46								
	47								
	48	cl: Light brown, dark brown and black medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			6 6 7 10	Rec 2.0'/2.0' (48-50' bgs)
	49								
	50	NA: No sample collected for lithologic description.							Groundwater encountered at 50' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW01

Project: Fort McClellan | Geologist: L.O' Hare/N.Badon/J.Dendy | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
790	51		NA						
	52								
	53	cl: Light brown, dark brown and black medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			5 5 8 12	Rec 2.0'/2.0' (53-55' bgs)
	54								
	55	NA: No sample collected for lithologic description.	NA						
785	56								
	57								
	58	cl: Light brown medium stiff CLAY, some white to gray fine to coarse angular chert Gravel, little fine to coarse Sand.	cl		Organic Vapor = 0.0ppm			6 6 7 14	Rec 2.0'/2.0' (58-60' bgs)
	59								
	60	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW01

Project: Fort McClellan | Geologist: L.O' Hare/N.Badon/J.Dendy | Sheet 8 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
780	61		NA						61
	62								62
	63	cl: Light brown medium stiff CLAY, some white to gray fine to coarse angular chert Gravel, little fine to coarse Sand.	cl		Organic Vapor = 0.0ppm			2 2 2 2	Rec 0.5'/2.0' (63-65' bgs) 63
		NA: No sample collected for lithologic description.							
	64		NA						Well set at 64' due to 1' cave in 64
									Auger refusal at 65' bgs on dolomite.
	65								Bottom of borehole at 65' bgs 65

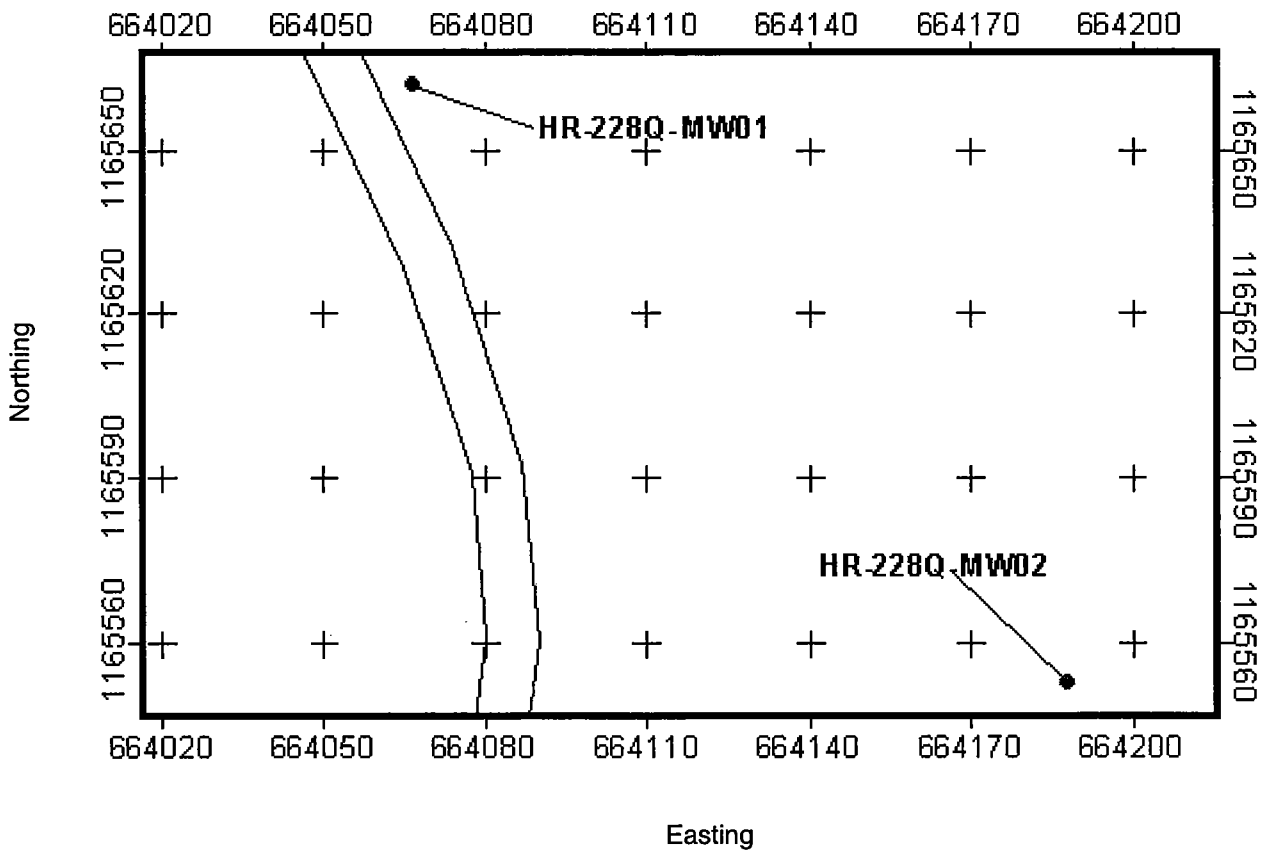
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-228Q-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 228Q 9. Surface elevation (feet above mean sea level): 818.82 10. Date started: 03/28/01 — 11. Date completed: 04/05/01
12. Overburden thickness (feet bgs): >83	15. Depth groundwater encountered (feet bgs): 73
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 83	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O' Hare/N. Badon/J. Dendy		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-228Q-MW02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Light brown very moist soft CLAY, some fine to coarse Sand, trace Silt.	cl		Organic Vapor = 0.0ppm		JS0003		Rec 4.0'/4.0' (0-4' bgs)
	1								
	2								
	3								
815	4	cl: Light brown dry stiff CLAY.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (4-7' bgs)
	5								
	6						JS0004		
	7	NA: No sample collected for lithological description.							Direct push refusal at 7' bgs
	8								
810	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	11								
	12								
	13	cl: Reddish brown medium stiff CLAY, some fine to coarse subrounded Sand, little rounded fine to coarse Gravel, little Silt.			Organic Vapor = 0.0ppm			7 7 10 13	Rec 2.0'/2.0' (13-15' bgs)
805	14		cl						
	15	NA: No sample collected for lithologic description.							
	16								
			NA						
	17								
	18	cl: Reddish brown medium stiff CLAY, some rounded fine to coarse Gravel, some fine to coarse subrounded Sand, little Silt.			Organic Vapor = 0.0ppm			5 9 8 11	Rec 2.0'/2.0' (18-20' bgs)
800	19		cl						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								
			NA						
	22								
	23	cl: Reddish brown medium stiff CLAY, some rounded fine to coarse Gravel, some fine to coarse subrounded Sand, little Silt.			Organic Vapor = 0.0ppm			5 6 7 11	Rec 2.0'/2.0' (23-25' bgs)
795	24		cl						
	25	NA: No sample collected for lithologic description.							
	26								
			NA						
	27								
	28	cl: Light brown and reddish brown medium stiff CLAY, some angular coarse Gravel, little angular fine to coarse Sand.			Organic Vapor = 0.0ppm			3 9 11 11	Rec 2.0'/2.0' (28-30' bgs)
790	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
	33	cl: Light brown and reddish brown medium stiff CLAY, some angular fine to coarse claystone Gravel, little Silt.			Organic Vapor = 0.0ppm			7 7 9 15	Rec 2.0'/2.0' (33-35' bgs)
785	34		cl						
	35	NA: No sample collected for lithologic description.							
	36		NA						
	37								
	38	cl: Light brown and reddish brown medium stiff CLAY, some angular fine to coarse claystone Gravel, little Silt.			Organic Vapor = 0.0ppm			5 7 10 12	Rec 2.0'/2.0' (38-40' bgs)
780	39		cl						
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	cl: Light brown medium stiff CLAY, little Silt, little hard white fractured chert at 45.0'.			Organic Vapor = 0.0ppm			3 6 9 22	Rec 2.0'/2.0' (43-45' bgs)
775	44		cl						
	45	NA: No sample collected for lithologic description.							
	46		NA						
	47								
	48	cl: Light brown medium stiff CLAY, some angular white chert fine to coarse Gravel, little Silt, moist at 50'.			Organic Vapor = 0.0ppm			6 8 13 20	Rec 2.0'/2.0' (48-50' bgs)
770	49		cl						
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						
	52								
	53	cl: Light brown medium stiff CLAY, some angular white chert fine to coarse Gravel, little Silt.			Organic Vapor = 0.0ppm			5 8 9 14	Rec 2.0'/2.0' (53-55' bgs)
765	54		cl						
	55	NA: No sample collected for lithologic description.							
	56		NA						
	57								
	58	cl: Light brown, moist to wet, medium stiff CLAY, some angular fine to coarse white quartz Gravel, little fine Sand.			Organic Vapor = 0.0ppm			8 8 8 15	Rec 2.0'/2.0' (58-60' bgs)
760	59		cl						
	60	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		NA						
	62								
	63	cl: Light brown, moist to wet, medium stiff CLAY, some angular fine to coarse white quartz Gravel, little fine Sand.			Organic Vapor = 0.0ppm			8 11 11 20	Rec 2.0'/2.0' (63-65' bgs)
755	64		cl						
	65	NA: No sample collected for lithologic description.							
	66		NA						
	67								
	68	cl: Light brown moist to wet medium stiff CLAY, some angular fine to coarse quartz Gravel, some fine to coarse angular Sand.			Organic Vapor = 0.0ppm			3 5 12 13	Rec 2.0'/2.0' (68-70' bgs)
750	69		cl						
	70	NA: No sample collected for lithologic description.							
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan | Geologist: L. O' Hare/N. Badon/J. Dendy | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
			NA						
	72								72
									Groundwater encountered at 73' bgs
	73	cl: Light brown and black moist to wet CLAY, some fine to coarse Sand, little angular fine to coarse quartz Gravel.			Organic Vapor = 0.0ppm			5 7 10 16	Rec 2.0'/2.0' (73-75' bgs) 73
745	74		cl						74
	75	NA: No sample collected for lithologic description.							75
	76								76
			NA						
	77								77
	78	cl: Light brown to dark brown wet soft CLAY, some angular fine to coarse quartz Gravel, some fine to coarse Sand.			Organic Vapor = 0.0ppm			0 6 8 10	Rec 2.0'/2.0' (78-80' bgs) 78
740	79		cl						79
	80	NA: No sample collected for lithologic description.							80
	81								81

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-228Q-MW02

Project: Fort McClellan

Geologist: L. O' Hare/N. Badon/J. Dendy

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	82								82
	83								Bottom of borehole at 83' bgs 83

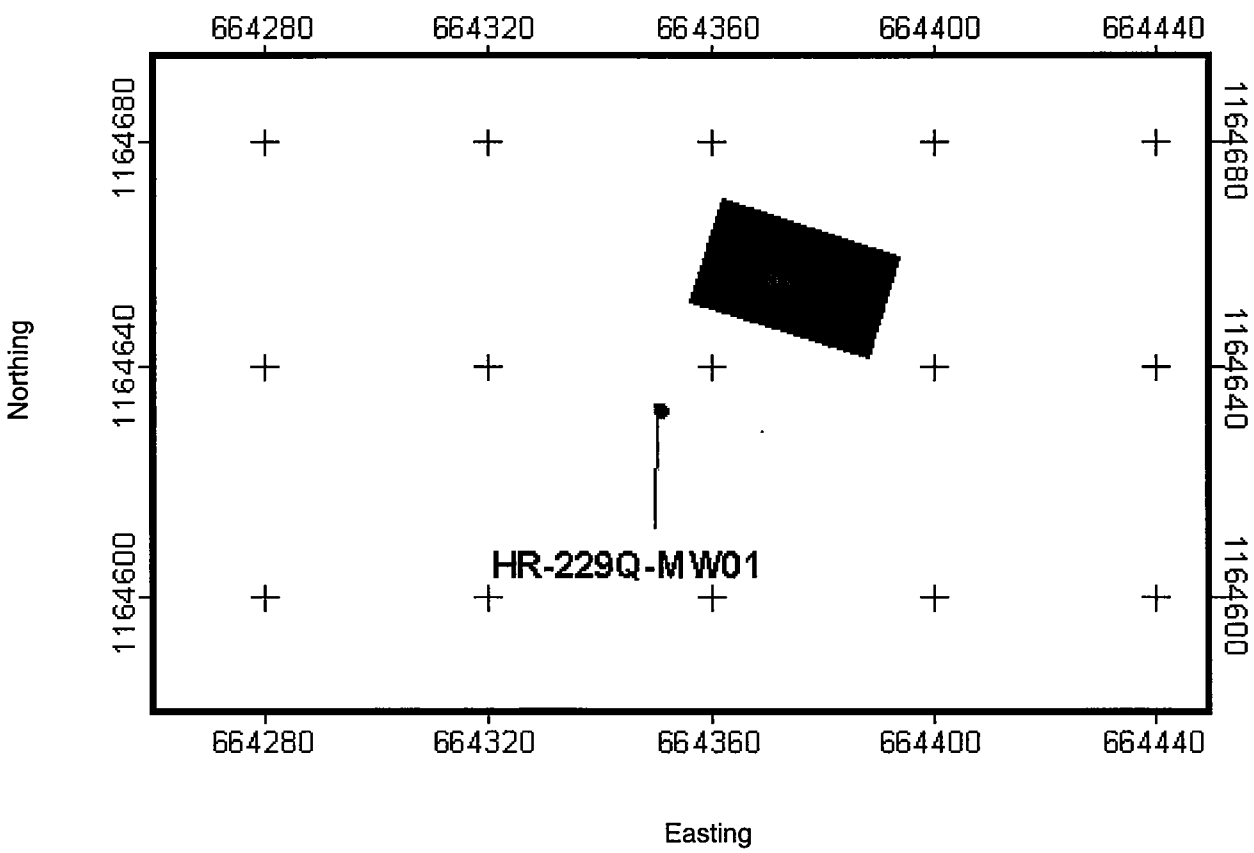
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-229Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Todd Neel	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 229Q-X 9. Surface elevation (feet above mean sea level): 859.84 10. Date started: 03/21/01 / 11. Date completed: 04/06/01
12. Overburden thickness (feet bgs): 88	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0.1	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 88.1	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L. O'Hare/N. Badon/D. Mayton		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist SILT, some Clay, little fine Sand, trace organics.	ml		Organic Vapor = 0.0ppm				Rec 3.0'/4.0' (0-4' bgs)
		cl: Light brown moist soft CLAY, little fine Sand.	cl				JT0001		
	1								
	2								
	3								
	4	cl: Light brown medium stiff slightly moist CLAY.	cl		Organic Vapor = 0.0ppm		JT0002		Rec 2.0'/2.0' (4-6' bgs)
855	5								
	6	NA: No sample collected for lithologic description.							Direct push refusal at 6' bgs
	7								
	8								
	9		NA						
850	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11								11
	12								12
	13	cl: Dry reddish brown, hard CLAY, trace subangular to subrounded fine Gravel, trace Silt.	cl		Organic Vapor = 0.0ppm			7 10 11 16	Rec 2.0'/2.0' (12.5-14.5' bgs) 13
	14								14
845	15	NA: No sample collected for lithologic description.	NA						15
	16								16
	17								17
	18								18
	19	cl: Dry to damp yellowish orange to reddish brown CLAY, trace Silt.			Organic Vapor = 0.0ppm			6 10 13 17	Rec 2.0'/2.0' (19-21' bgs) 19
840	20		cl						20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21	NA: No sample collected for lithologic description.							
	22		NA						
	23								
	24	cl: Dry to damp yellowish orange to light brown very stiff CLAY, trace Silt.			Organic Vapor = 0.0ppm			4 9 13 16	Rec 2.0'/2.0' (24-26' bgs)
835	25		cl						
	26	NA: No sample collected for lithologic description.							
	27		NA						
	28								
	29	cl: Dry yellowish orange CLAY.			Organic Vapor = 0.0ppm			6 7 13 15	Rec 2.0'/2.0' (29-31' bgs)
830	30		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							
	32		NA						
	33								
	34	cl: Dry to damp yellowish orange medium stiff CLAY, trace subangular fine Gravel.			Organic Vapor = 0.0ppm			6 10 11 13	Rec 2.0'/2.0' (34-36' bgs)
825	35		cl						
	36	NA: No sample collected for lithologic description.							
	37		NA						
	38								
	39	cl: Dry, yellowish orange medium stiff CLAY, trace subangular fine Gravel.			Organic Vapor = 0.0ppm			6 10 13 16	Rec 2.0'/2.0' (39-41' bgs)
820	40		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41	NA: No sample collected for lithologic description.							
	42		NA						
	43								
	44	cl: Dry, yellowish orange very stiff CLAY.			Organic Vapor = 0.0ppm			5 9 11 15	Rec 2.0'/2.0' (44-46' bgs)
815	45		cl						
	46	NA: No sample collected for lithologic description.							
	47		NA						
	48								
	49	cl: Dry, yellowish orange, very stiff CLAY, trace Silt, trace subangular fine Gravel.			Organic Vapor = 0.0ppm			5 8 10 11	Rec 2.0'/2.0' (49-51' bgs)
810	50		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.	NA						
	52								
	53								
	54	cl: Dry to damp yellowish orange medium stiff CLAY, trace subangular fine Gravel, trace fine Sand, trace Silt.	cl		Organic Vapor = 0.0ppm			4 4 5 8	Rec 2.0'/2.0' (54-56' bgs)
805	55								
	56	NA: No sample collected for lithologic description.	NA						
	57								
	58								
	59	cl: Dry to damp yellowish orange medium stiff CLAY, trace fine Sand.	cl		Organic Vapor = 0.0ppm			5 5 7 7	Rec 2.0'/2.0' (59-61' bgs)
800	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61	NA: No sample collected for lithologic description.	NA						
	62								
	63								
	64	cl: Dry to damp yellowish orange medium stiff CLAY, trace fine to coarse Gravel, trace fine Sand.	cl		Organic Vapor = 0.0ppm			4 5 7 10	Rec 2.0'/2.0' (64-66' bgs)
795	65								
	66	NA: No sample collected for lithologic description.	NA						
	67								
	68								
	69	cl: Very moist yellowish orange soft CLAY, trace fine Sand.	cl		Organic Vapor = 0.0ppm			1 1 1 1	Rec 2.0'/2.0' (69-71' bgs)
790	70								
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71	NA: No sample collected for lithologic description.							
	72		NA						
	73								
	74	cl: Very moist yellowish orange CLAY, little fine to coarse Gravel, trace medium Sand.			Organic Vapor = 0.0ppm			1 4 6 6	Rec 2.0'/2.0' (74-76' bgs)
785	75		cl						
	76	NA: No sample collected for lithologic description.							
	77		NA						
	78								
	79	cl: Very moist yellowish orange soft CLAY trace subrounded Gravel, trace medium Sand.			Organic Vapor = 0.0ppm			1 1 1 1	Rec 2.0'/2.0' (79-81' bgs)
780	80		cl						
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-229Q-MW01

Project: Fort McClellan | Geologist: L. O'Hare/N. Badon/D. Mayton | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	82		NA						82
	83								83
	84	cl: Very moist yellowish orange CLAY, trace Gravel.	cl		Organic Vapor = 0.0ppm			5 7 6 6	Rec 0.5'/2.0' (84-86' bgs) 84
775		NA: No recovery							
	85		NA						85
	86	NA: No sample collected for lithologic description.							86
	87		NA						87
									Auger refusal at 88' bgs Bottom of borehole at 88.1' bgs
	88	dol: Light gray to light pink DOLOMITE.	dol					50/0.1'	Rec 0.1'/0.1' (88-88.1' bgs) 88

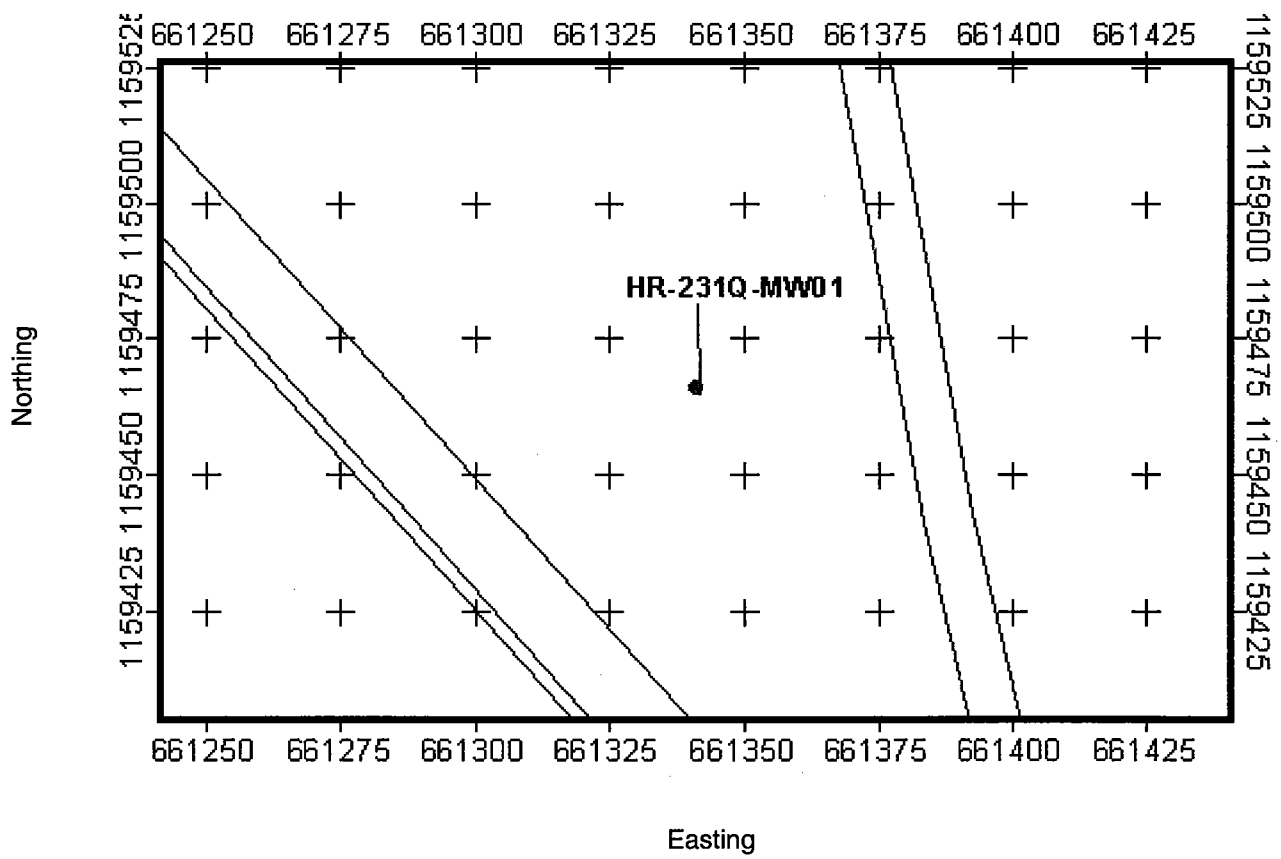
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-231Q-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 10 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 231Q 9. Surface elevation (feet above mean sea level): 1012.56 10. Date started: 03/19/01 — 11. Date completed: 04/11/01
12. Overburden thickness (feet bgs): 84	15. Depth groundwater encountered (feet bgs): Unknown
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 84	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	N. Badon/L. O' Hare/A. Barnes		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 2 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light to medium brown SILT, some fine to medium Sand, little fine to coarse subangular Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		JU0001 JU0002		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown medium stiff SILT, some Clay, little medium to coarse Sand, trace fine subangular Gravel, moist.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/3.0' (1-4' bgs)
1010	2								
	3								
	4	cl: Light brown stiff CLAY, some Silt, trace medium to coarse Sand, moist.	cl		Organic Vapor = 0.0ppm		JU0003		Rec 1.5'/2.0' (4-6' bgs)
	5								
	6	NA: No sample collected for lithologic description.							Direct push refusal at 6' bgs
	7								
1005	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 3 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	11								11
	12								12
1000									
	13								13
	14	cl: Yellowish orange soft CLAY, little Silt, trace fine Sandstone Gravel, dry.	cl		Organic Vapor = 0.0ppm			18 34 50/0.5'	Rec 1.5'/1.5' (14-15.5' bgs) 14
	15								15
		NA: No sample collected for lithologic description.							
	16								16
	17								17
995									
			NA						
	18								18
	19								19
	20	cl: Yellowish orange dry stiff CLAY, trace Silt.			Organic			18 26	Rec 1.8'/1.8' (20-21.8' bgs) 20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 4 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
					Vapor = 0.0ppm			23 50/0.3'	
	21		cl						
	22	NA: No sample collected for lithologic description.							
990									
	23		NA						
	24								
	25	cl: Yellowish orange to light brown CLAY, little Silt, trace fine subangular quartizite Gravel, dry.	cl		Organic Vapor = 0.0ppm			25 50/0.5'	Rec 1.0'/1.0' (25-26' bgs)
	26	NA: No sample collected for lithologic description.							
	27								
985									
	28		NA						
	29								
	30	cl: Yellowish orange CLAY, some fine to coarse quartzite subangular Gravel, dry.	cl		Organic Vapor			50/0.3'	Rec 0.3'/0.3' (30-30.3' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 5 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.			= 0.0ppm				
	31								31
	32								32
980			NA						
	33								33
	34								34
	35	cl: Yellowish orange dry CLAY, little fine quartzite Gravel, trace Silt.	cl		Organic Vapor = 0.0ppm			50/0.1'	Rec 0.1'/0.1' (35-35.1' bgs) 35
		NA: No sample collected for lithologic description.							
	36								36
	37								37
975			NA						
	38								38
	39								39
	40	sw: Yellowish orange fine to medium SAND, little Silt, dry.	sw		Organic Vapor =			50/0.5'	Rec 0.5'/0.5' (40-40.5' bgs) 40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 6 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.			0.0ppm				
	41								41
	42								42
970			NA						
	43								43
	44								44
	45	sc: Yellowish orange, off white, light pink CLAY and fine SAND, interbedded, some Silt, dry,	sc		Organic Vapor = 0.0ppm			18 23 50/0.5'	Rec 1.5'/1.5' (45-46.5' bgs) 45
	46	sw: Yellowish orange, off white fine to coarse SAND, dry.	sw						46
		NA: No sample collected for lithologic description.							
	47								47
965			NA						
	48								48
	49	cl: Yellowish orange Stiff, dry CLAY.	cl		Organic Vapor = 0.0ppm			14 16 22 31	Rec 2.0'/2.0' (49-51' bgs) 49
	50	cl: Reddish brown, stiff, dry CLAY.	cl						50
		cl: White, stiff, dry CLAY.	cl						
			cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 7 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl: Medium pink stiff, dry CLAY.							
	51	ml: Medium pink SILT, little Clay, dry.	ml						
		NA: No sample collected for lithologic description.							
	52								
960			NA						
	53								
	54	ml: Yellowish orange, off white, medium pink, dark pink, light brown, dry SILT.			Organic Vapor = 0.0ppm			18 25 50/0.5'	Rec 1.5'/1.5' (54-55.5' bgs)
			ml						
	55								
		NA: No sample collected for lithologic description.							
	56								
	57								
			NA						
955									
	58								
	59	ml: Light yellowish orange SILT, trace fine Sand, dry.			Organic Vapor = 0.0ppm			24 50/0.5'	Rec 1.0'/1.0' (59-60' bgs)
			ml						
	60	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 8 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
	62		NA						62
950									
	63								63
	64	cl: Medium pink, off white yellowish orange, dry CLAY.	cl		Organic Vapor = 0.0ppm			8 24 50/0.5'	Rec 1.5'/1.5' (64-65.5' bgs) 64
		sm: Yellowish orange fine to coarse SAND, some Silt, dry.	sm						
	65								65
		NA: No sample collected for lithologic description.							
	66								66
	67		NA						67
945									
	68								68
	69	sw: Off white fine to coarse SAND.	sw		Organic Vapor = 0.0ppm			50/0.1'	Rec 0.1'/0.1' (69-69.1' bgs) 69
		NA: No sample collected for lithologic description.							
	70								70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 9 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
			NA						
	72								
940									
	73								
	74	sw: Medium pink to off white, fine to coarse SAND, fine sandstone Gravel, dry.	sw		Organic Vapor = 0.0ppm			50/0.1'	Rec 0.1'/0.1' (74-74.1' bgs)
		NA: No sample collected for lithologic description.							
	75								
	76								
			NA						
	77								
935									
	78								
	79	sw: Off white fine SAND, little Silt, little fine to coarse Sandstone Gravel, dry.	sw		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (79-79.5' bgs)
		NA: No sample collected for lithologic description.							
	80								
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-231Q-MW01

Project: Fort McClellan | Geologist: N. Badon/L. O' Hare/A. Barnes | Sheet 10 of 10 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	82								82
930									
	83								83
									Auger refusal at 84' bgs Bottom of borehole at 84' bgs
	84	gp: Coarse Sandstone GRAVEL, dry.	gp					50/0.1'	Rec 0.1'/0.1' (84-84.1' bgs) 84

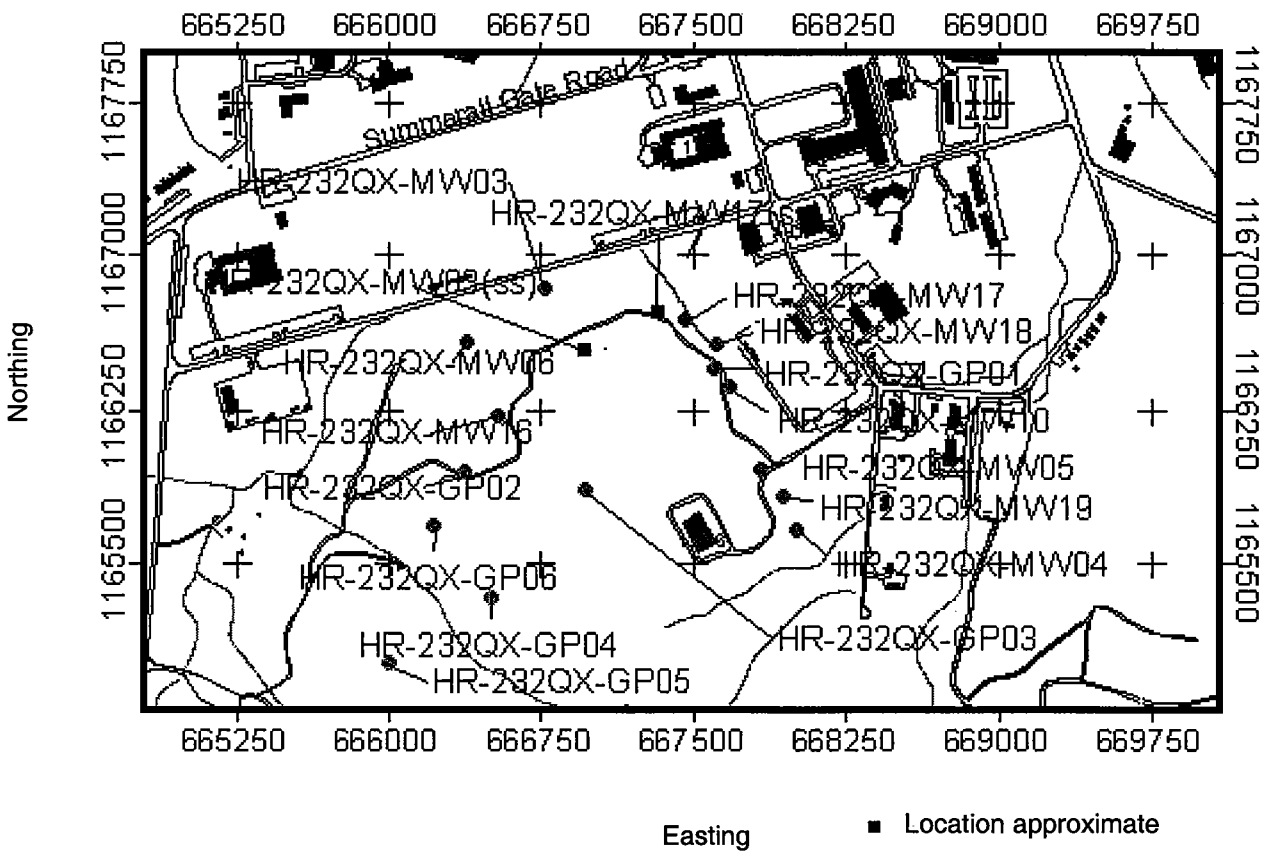
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-232QX-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 838.41 10. Date started: 01/29/01 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): >10	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 10	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project:	Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-GP01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-GP01

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown soft moist SILT, some medium to coarse SAND, little subrounded Gravel, trace Clay, trace roots.	ml		Organic Vapor = 0.0ppm		ECC0041		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown stiff moist CLAY, little coarse Sand, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 2.6'/3.0' (1-4' bgs)
	2								
	3								
835									
	4	cl: Light orange stiff slightly moist CLAY, some fine Sand, little fine subangular Gravel, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
	8	cl: Light orange stiff dry CLAY, little medium to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
830									
	9						ECC0042		Direct push refusal at 10' bgs
	10								Bottom of borehole at 10' bgs

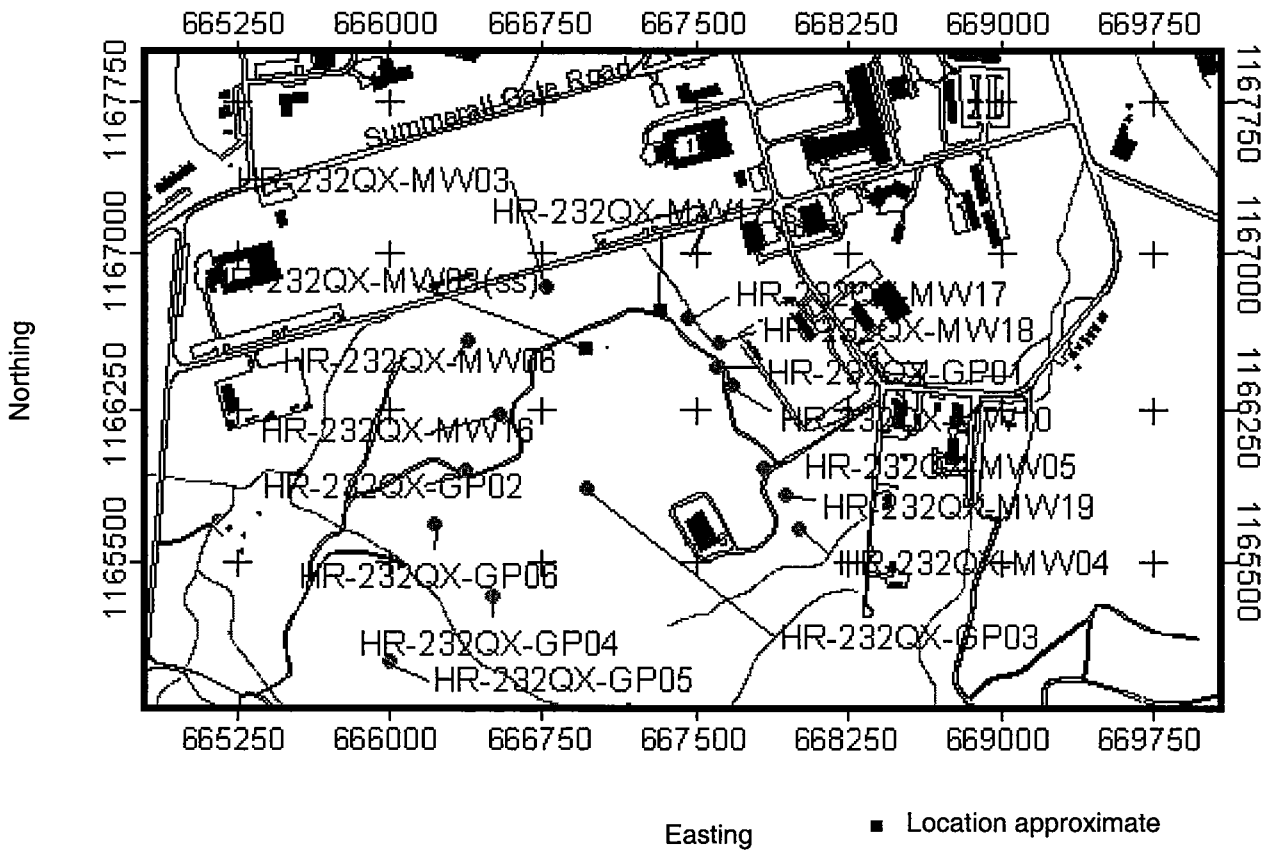
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-GP02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Montain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 879.94 10. Date started: 02/02/01 — 11. Date completed: 02/02/01
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 12	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-GP02	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-GP02

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Brown soft moist SILT, some fine to coarse Sand, little fine to coarse subrounded Gravel, trace Clay.	ml		Organic Vapor = 0.0ppm		ECC0043		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Yellowish orange, stiff, moist CLAY, some Silt, little fine to coarse Sand, trace medium subangular Gravel.	cl		Organic Vapor = 0.0ppm				Rec 2.5'/3.0' (1-4' bgs)
	2								
	3								
	4	cl: Light brown mottled light gray stiff CLAY, some Silt, trace fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 3.8'/4.0' (4-8' bgs)
875	5								
	6								
	7								
	8	cl: Light brown mottled gray very stiff slightly moist CLAY, little Silt, trace fine Sand.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
870	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-GP02

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			cl				ECC0044 ECC0045		
	11								11
	12								Bottom of borehole at 12' bgs 12

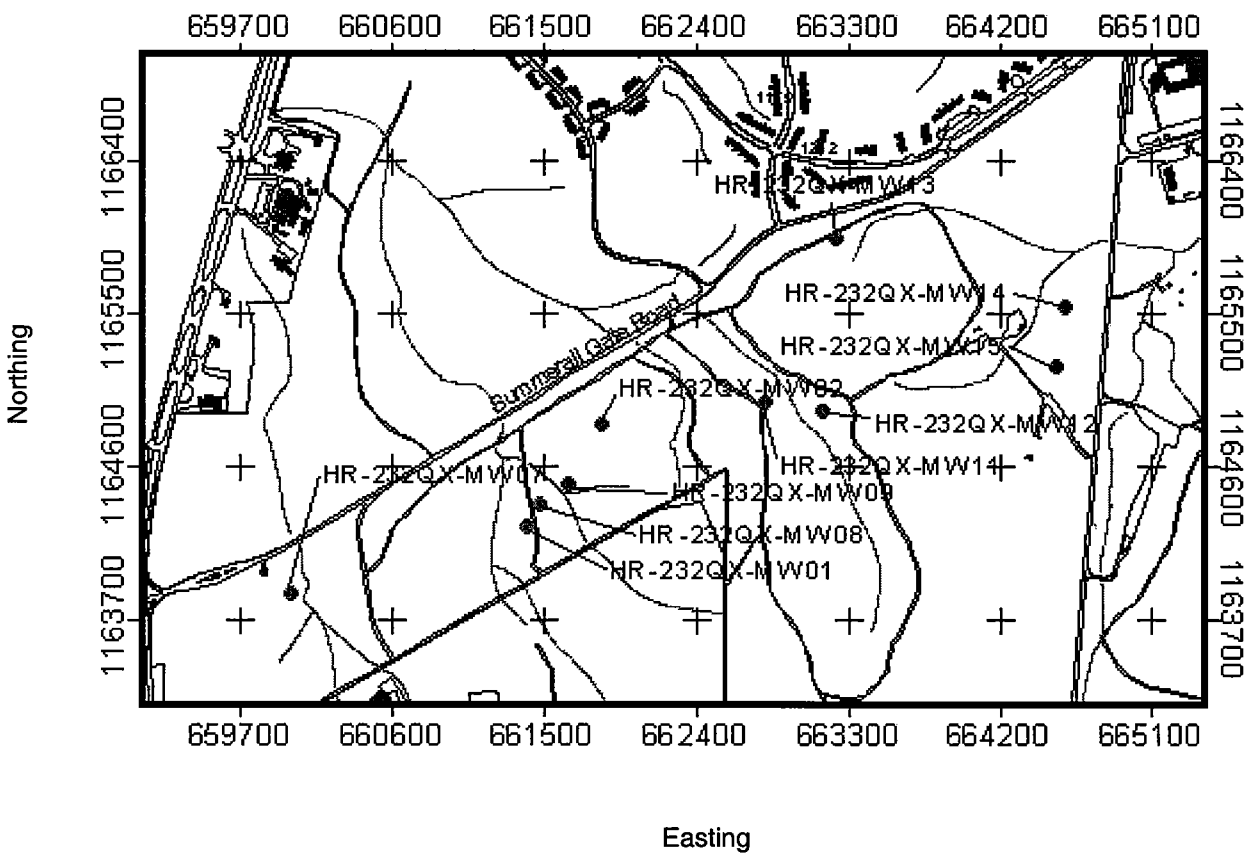
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-232QX-MW01
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 831.45 10. Date started: 02/06/01 — 11. Date completed: 03/01/01
12. Overburden thickness (feet bgs): >66	15. Depth groundwater encountered (feet bgs): 56
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 36.4 ~4 days
14. Total depth of hole (feet bgs): 66	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Deborah Allan		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

Project: Fort McClellan

Hole no.: HR-232QX-MW01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown soft moist SILT, some fine to coarse Sand, trace medium subangular Gravel, trace organics (roots).	ml		Organic Vapor = 0.0ppm		ECC0001		Rec 1.0'/1.0' (0-1' bgs)
830	1	ml: Yellowish brown stiff, moist SILT, some medium to coarse Sand, trace fine subangular Gravel.	ml		Organic Vapor = 0.0ppm				Rec 2.4'/3.0' (1-4' bgs)
	2	cl: Yellowish brown stiff moist CLAY, some fine to medium Sand, little Silt, trace medium subangular Gravel.	cl						
	3								
	4	sw: Off white mottled light brown, very stiff, moist, medium to coarse SAND, little Silt, trace Clay, trace fine subangular Gravel.	sw		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
825	6								
	7						ECC0002		
	8	sw: Pale yellowish orange to pale light brown, medium to coarse SAND, some quartz-rich fine Gravel, trace Silt, moist.	sw		Organic Vapor = 0.0ppm			15 25 25 28	Direct push refusal at 8' bgs Rec 1.6'/2.0' (8-10' bgs)
	9								
		NA: No recovery.	NA						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sw: Light brown to moderate orange pink medium to coarse SAND, trace Silt, damp to moist.	sw		Organic Vapor = 0.0ppm			5 7 7 8	Rec 1.1'/2.0' (10-12' bgs)
	11								
820		NA: No recovery.	NA						
	12	NA: No sample collected for lithologic description.							
	13		NA						
	14	sm: Very pale orange with pale red purple staining, fine to medium SAND, some Silt, damp to moist.	sm		Organic Vapor = 0.0ppm			12 13 20 37	Rec 1.7'/2.0' (14-16' bgs)
	15								
		NA: No recovery.	NA						
	16	NA: No sample collected for lithologic description.							
815									
	17		NA						
	18								
	19	sm: Very pale orange with pale red purple staining, fine to medium SAND, some Silt, damp to moist.	sm		Organic Vapor = 0.0ppm			10 16 17 23	Rec 2.0'/2.0' (19-21' bgs)
	20								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl: Very pale yellowish gray, very stiff CLAY, dry.	cl						
	21	NA: No sample collected for lithologic description.							
810									
	22		NA						
	23								
	24	cl: Very pale yellowish gray, very stiff CLAY, dry.	cl		Organic Vapor = 0.0ppm			12 14 10 20	Rec 1.5'/2.0' (24-26' bgs)
		gm: Pale greenish yellow fine SAND and fine to coarse chert GRAVEL, dry.	gm						
	25	cl: Very pale yellowish gray, very stiff CLAY, dry.	cl						
		gm: Pale greenish yellow fine SAND and fine to coarse chert GRAVEL, dry.	gm						
		NA: No recovery.	NA						
	26	NA: No sample collected for lithologic description.							
805									
	27		NA						
	28								
	29	cl: Very pale yellowish gray, very stiff CLAY, dry.	cl		Organic Vapor = 0.0ppm			17 25 49 50/0.3'	Rec 1.6'/1.8' (29-30.8' bgs)
	30								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No recovery.	NA						
	31	NA: No sample collected for lithological description.							31
800									
	32		NA						32
	33								33
	34	cl: Very pale yellowish gray, very stiff CLAY, dry.	cl		Organic Vapor = 0.0ppm			30 36 39 42	Rec 1.6'/2.0' (34-36' bgs) 34
	35								35
		NA: No recovery.	NA						
	36	NA: No sample collected for lithologic description.							36
795									
	37		NA						37
	38								38
	39	cl: Very pale yellowish gray with yellowish orange and pale red purple staining, hard CLAY, dry.	cl		Organic Vapor = 0.0ppm			15 26 39 50/0.4'	Rec 1.7'/1.9' (39-40.9' bgs) 39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No recovery.	NA						
	41	NA: No sample collected for lithologic description.							
790									
	42		NA						
	43								
	44	cl: Very pale yellowish gray hard CLAY, dry.			Organic Vapor = 0.0ppm			12 13 13 17	Rec 1.7'/2.0' (44-46' bgs)
	45		cl						
		NA: No recovery.	NA						
	46	NA: No sample collected for lithologic description.							
785									
	47		NA						
	48								
	49	cl: Very pale yellowish gray hard CLAY, dry.	cl		Organic Vapor = 0.0ppm			15 16 26 36	Rec 0.5'/2.0' (49-51' bgs)
		NA: No recovery.							
	50		NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
780									
	52		NA						
	53								
	54	cl: Very pale yellowish gray hard CLAY, dry.						11 13 25 31	Rec 1.7'/2.0' (54-56'bgs)
	55		cl						
		gw: Olive gray fine to coarse chert GRAVEL, some coarse chert Sand, wet.	gw						
	56	NA: No recovery.	NA						Groundwater encountered at 56' bgs
		NA: No sample collected for lithologic description.							
775									
	57		NA						
	58								
	59	cl: Very pale yellowish gray, hard CLAY, very moist.						20 16 15 15	Rec 1.5'/2.0' (59-61' bgs)
			cl						
	60	gp: Yellowish orange coarse chert SAND and fine chert GRAVEL, little Silt, little Clay, wet.	gp						
		NA: No recovery.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW01

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 8 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61	NA: No sample collected for lithologic description.	NA						61
770									
	62		NA						62
	63								63
	64	gc: Yellowish orange, very stiff CLAY and fine to coarse quartz-rich GRAVEL, little Sand, trace Silt.	gc		Organic Vapor = 0.0ppm			9 19 21 34	Rec 1.5'/2.0 (64-66' bgs) 64
	65								65
	66	NA: No recovery.	NA						Bottom of borehole at 66' bgs 66

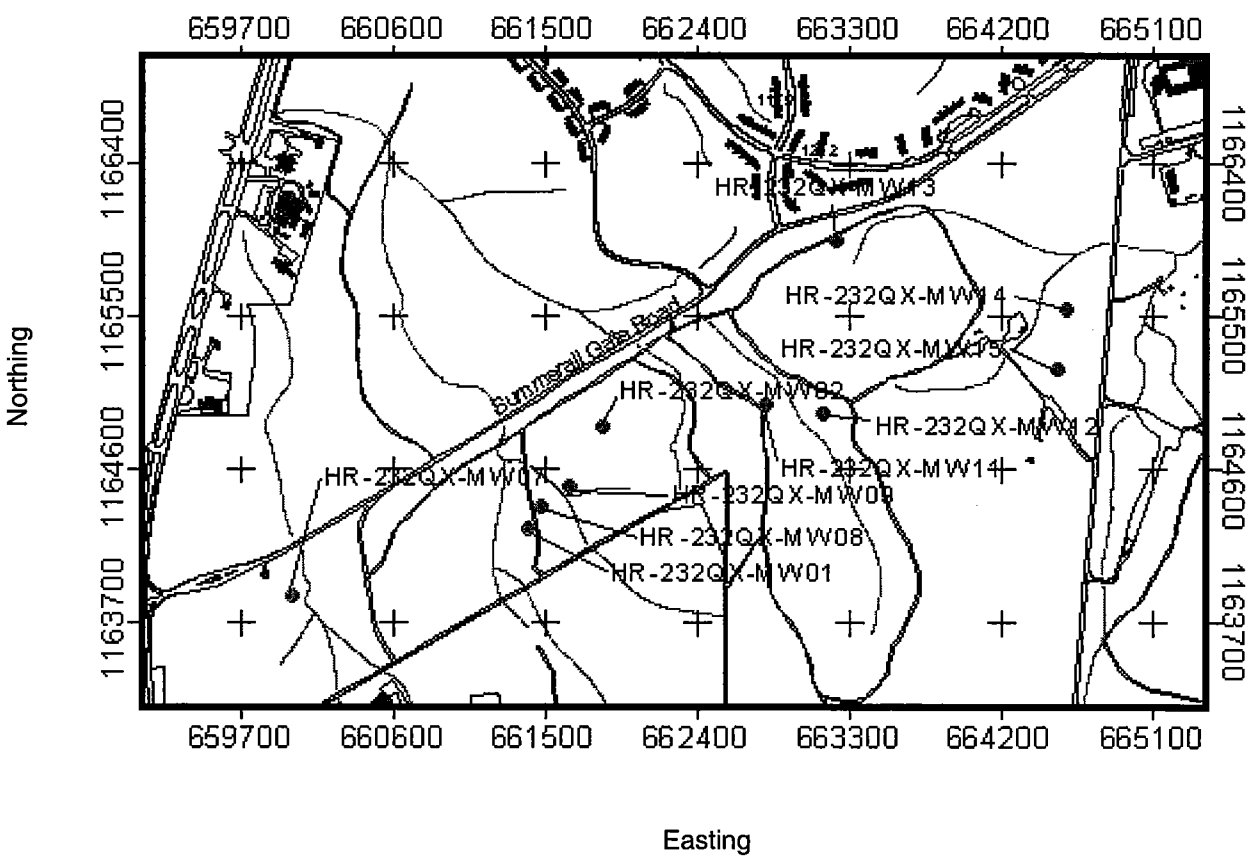
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW02
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 849.28 10. Date started: 02/05/01 — 11. Date completed: 03/16/01
12. Overburden thickness (feet bgs): >66	15. Depth groundwater encountered (feet bgs): 54
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 47.1 ~3 days
14. Total depth of hole (feet bgs): 66	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Deborah Allan		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-232QX-MW02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW02

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown soft moist SILT, some fine to medium Sand, little medium to coarse subrounded Gravel, trace organics (roots).	ml		Organic Vapor = 0.0ppm		ECC0003		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown to gray SILT, some medium to coarse Sand, little Clay.	ml		Organic Vapor = 0.2ppm		ECC0004		Rec 2.5'/3.0' (1-4' bgs)
845	4	ml: Light brown stiff moist SILT, some medium to coarse Sand, little Clay.	ml		Organic Vapor = 0.0ppm				Rec 3.8'/4.0' (4-8' bgs)
840	8	ml: Light gray, medium stiff to soft, fine to medium SILT, some fine subangular Gravel, little fine Sand.	ml		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	10								Direct push refusal at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW02

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								11
	12		NA						12
	13								13
	14	ml: Mottled light gray and light brown SILT, some Sand, little fine to coarse Gravel, dry.	ml		Organic Vapor = 0.0ppm			25 49 50/0.4'	Rec 1.2'/1.4' (14-15.4' bgs) 14
835									
	15								15
		NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							
	16								16
	17		NA						17
	18								18
	19	ml: Light brown to yellowish orange SILT, little Sand, little fine to coarse Gravel, little Clay, dry.	ml		Organic Vapor = 0.0ppm			24 29 17 15	Rec 2.0'/2.0' (19-21' bgs) 19
830									
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW02

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21	NA: No sample collected for lithologic description.							
	22		NA						
	23								
825	24	cl: Light red-brown to yellowish orange, stiff CLAY, little Silt, trace Sand, trace Gravel, dry.	cl		Organic Vapor = 0.0ppm			7 9 9 9	Rec 1.2'/2.0' (24-26' bgs)
	25	NA: No recovery.	NA						
	26	NA: No sample collected for lithologic description.							
	27		NA						
	28								
820	29	ml: Light gray to light brown SILT, little Sand, trace Gravel, trace Clay.	ml		Organic Vapor = 0.0ppm			16 16 16 19	Rec 1.5'/2.0' (29-31' bgs)
	30								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW02

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No recovery.	NA						
	31	NA: No sample collected for lithologic description.							
	32		NA						
	33								
	34	ml: Light brown to yellowish orange SILT, some Clay, trace Gravel, trace Sand, dry.	ml		Organic Vapor = 0.0ppm			7 6 6 8	Rec 1.5'/2.0' (34-36' bgs)
815	35								
		NA: No recovery.	NA						
	36	NA: No sample collected for lithologic description.							
	37		NA						
	38								
	39	NA: No recovery.	NA					50/0.3'	Rec 0.0'/0.3' (39-39.3' bgs)
810		NA: No sample collected for lithologic description.							
	40								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW02

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43								
805	44	cl: Yellowish orange, stiff CLAY, some Silt, trace fine to coarse quartz-rich Sand, dry.	cl		Organic Vapor = 0.0ppm			6 12 12 18	Rec 1.4'/2.0' (44-46' bgs)
	45								
		NA: No recovery.	NA						
	46	NA: No sample collected for lithologic description.							
	47		NA						
	48								
800	49	cl: Yellowish orange stiff CLAY, little Silt, trace fine to coarse quartz-rich Sand, trace Gravel, moist.	cl		Organic Vapor = 0.0ppm			12 18 23 32	Rec 1.0'/2.0' (49-51' bgs)
	50	NA: No recovery.	NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW02

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.	NA						
	52								
	53								
	54	gp: Dark gray, angular, hard, very fine grained weathered shale GRAVEL, some fine to coarse Sand, trace Silt, wet.	gp		Organic Vapor = 0.0ppm			23 25 28 42	Groundwater encountered at 54' bgs Rec 1.0'/2.0' (54-56' bgs)
795									
	55	NA: No recovery.	NA						
	56	NA: No sample collected for lithologic description.	NA						
	57								
	58								
	59	cl: Yellowish orange stiff CLAY, little Silt, trace fine to coarse quartz-rich Sand, trace Gravel, moist.	cl		Organic Vapor = 0.0ppm			10 12 17 24	Rec 2.0'/2.0' (59-61' bgs)
790									
	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW02

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 8 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61	NA: No sample collected for lithologic description.	NA						
	62								
	63								
	64	cl: Yellowish orange stiff CLAY, little Silt, trace fine to coarse quartz-rich Sand, trace Gravel, moist.	cl		Organic Vapor = 0.0ppm			7 8 8 13	Rec 1.0'/2.0' (64-66' bgs)
785									
	65	NA: No recovery.	NA						
	66								Bottom of borehole at 66' bgs

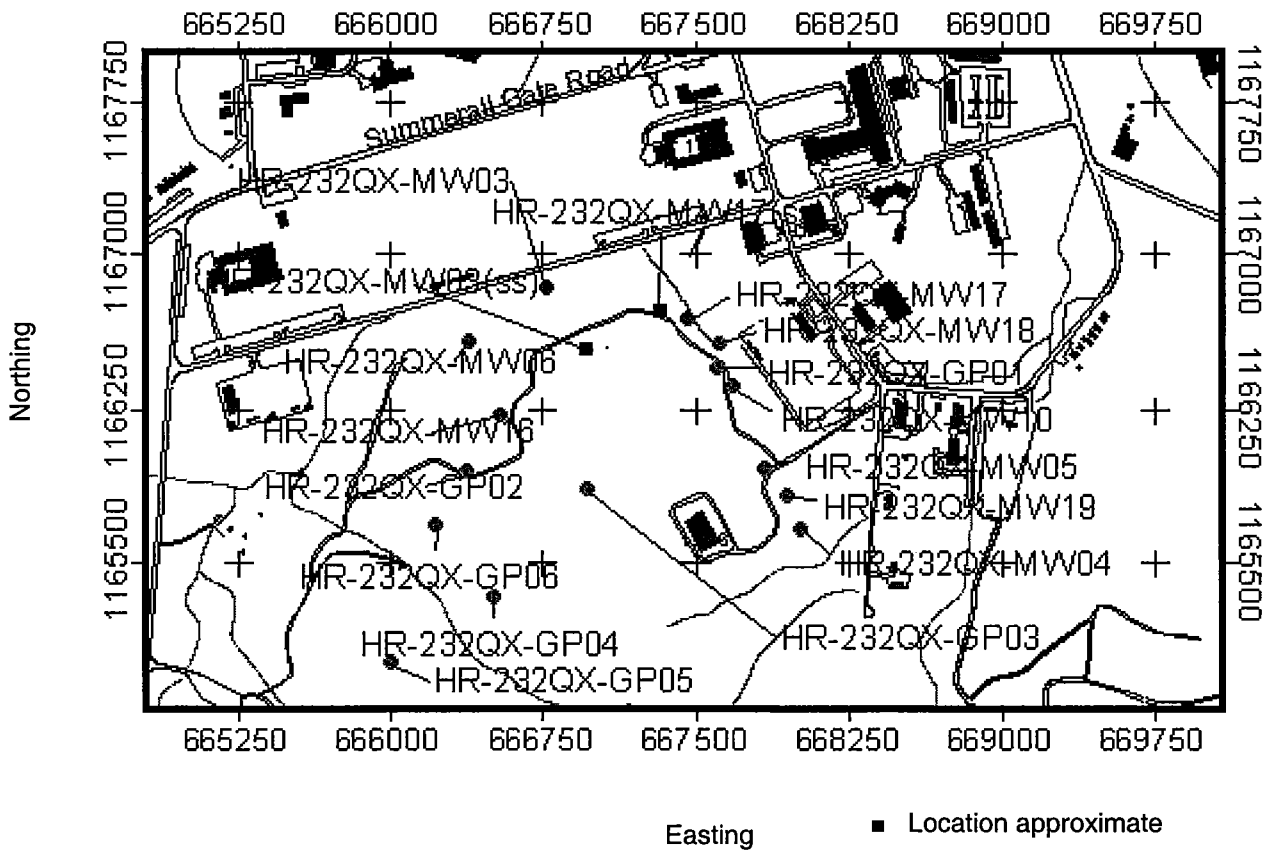
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW03(SS)
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): approximately 867 10. Date started: 01/29/01 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 12	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project:	Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW03(SS)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW03(SS)

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft moist SILT, some fine to medium Sand, little fine to coarse Gravel, little roots.	ml		Organic Vapor = 0.0ppm		ECC0005		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Yellowish orange stiff moist CLAY, little fine Gravel.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
865	2								
	3								
	4	cl: Yellowish orange stiff slightly moist CLAY, some Silt, little fine subrounded Gravel.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
860	7								
	8	cl: Light yellow stiff slightly moist CLAY, some Silt, little fine subangular Gravel.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW03(SS)

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl						11
							ECC0006		
855	12								Bottom of borehole at 12' bgs 12

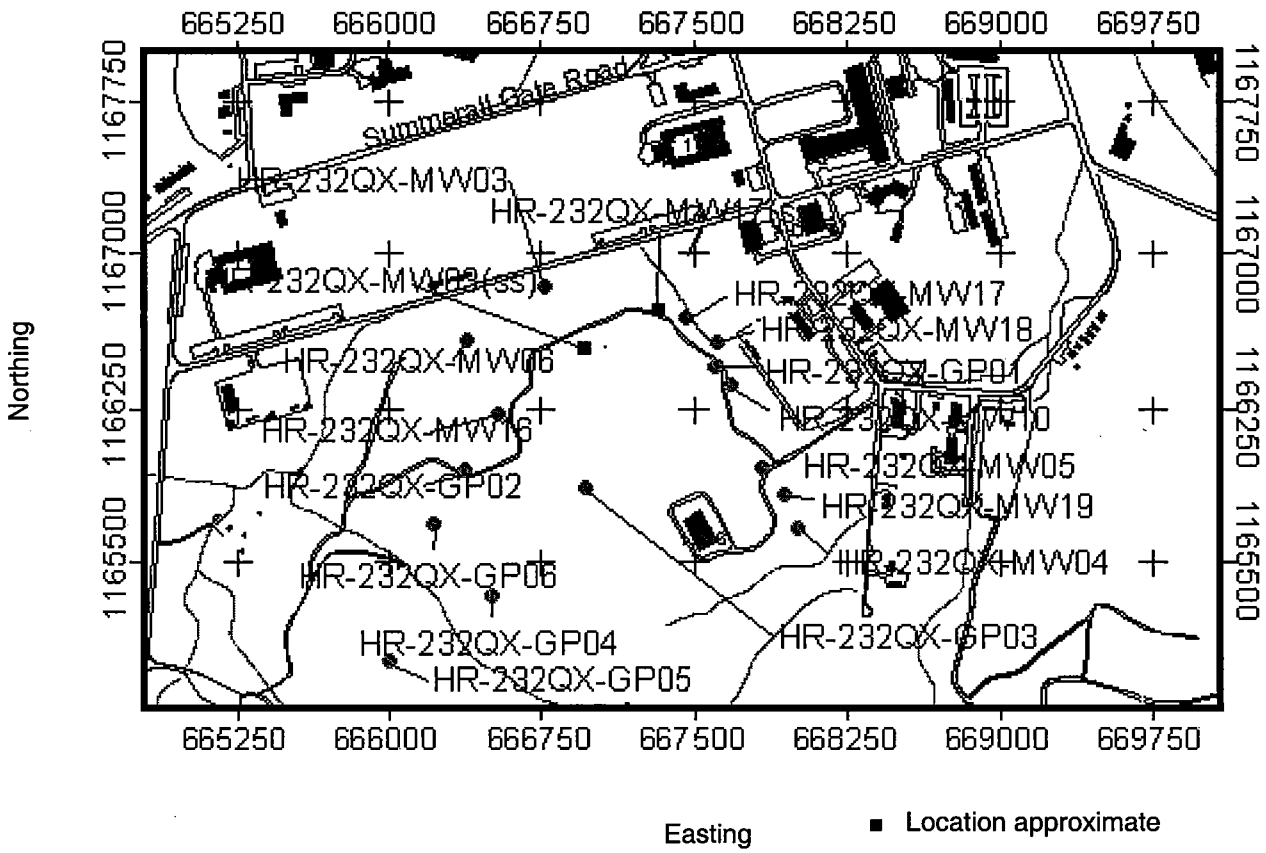
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW03
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Kevin Warren	6. Mfr. designation of drill: CME-550X
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 802.09 10. Date started: 02/05/01 — 11. Date completed: 02/05/01
12. Overburden thickness (feet bgs): 18	15. Depth groundwater encountered (feet bgs): 18
13. Depth drilled into rock (feet bgs): 16	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 34	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	NA	NA	NA	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Jonathan Remo		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW03	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW03

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	NA: No sample collected for lithologic description.			Organic Vapor = 0.0ppm				Note: 400' NW of direct push location
	1								
800	2		NA						
	3								
	4	cl: Stiff, brown to yellowish brown CLAY, dry.			Organic Vapor = 0.0ppm		22 26 33 39		Rec 2.0'/2.0' (4-6' bgs)
	5		cl						
	6	NA: No sample collected for lithologic description.							
795	7		NA						
	8	cl: Stiff, light gray mottled light brown CLAY.			Organic Vapor = 0.0ppm		27 33 40 45		Rec 2.0'/2.0' (8-10' bgs)
	9		cl						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW03

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11		NA						11
790	12								12
	13	cl: Stiff, reddish brown CLAY, moist. Noted pieces of weathered gray shale in with clay.			Organic Vapor = 0.0ppm		6 8 11 18		Rec 2.0'/2.0' (13-15' bgs) 13
	14		cl						14
	15	NA: No sample collected for lithologic description.							15
	16		NA						16
785	17								17
									Groundwater encountered at 18' bgs
	18	sh: Loose, soft highly weathered gray SHALE, wet.			Organic Vapor = 0.0ppm		4 3 4 4		Rec 2.0'/2.0' (18-20' bgs) 18
	19		sh						19
	20	NA: No sample collected for lithologic							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW03

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21		NA						
780	22								
	23	sh: Loose, highly weathered gray SHALE, wet.			Organic Vapor = 0.0ppm		3 3 3 3		Rec 2.0'/2.0' (23-25' bgs)
	24		sh						
	25	NA: No sample collected for lithologic description.							
	26		NA						
775	27								
	28	sh: Dense, gray to black SHALE, wet. Noted veins of calcite throughout shale.	sh		Organic Vapor = 0.0ppm		18 27 31 38		Rec 1.0'/2.0' (28-30' bgs)
	29	NA: No recovery.	NA						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW03

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
770	32		NA						32
	33								33
	34								Bottom of borehole at 34' bgs 34

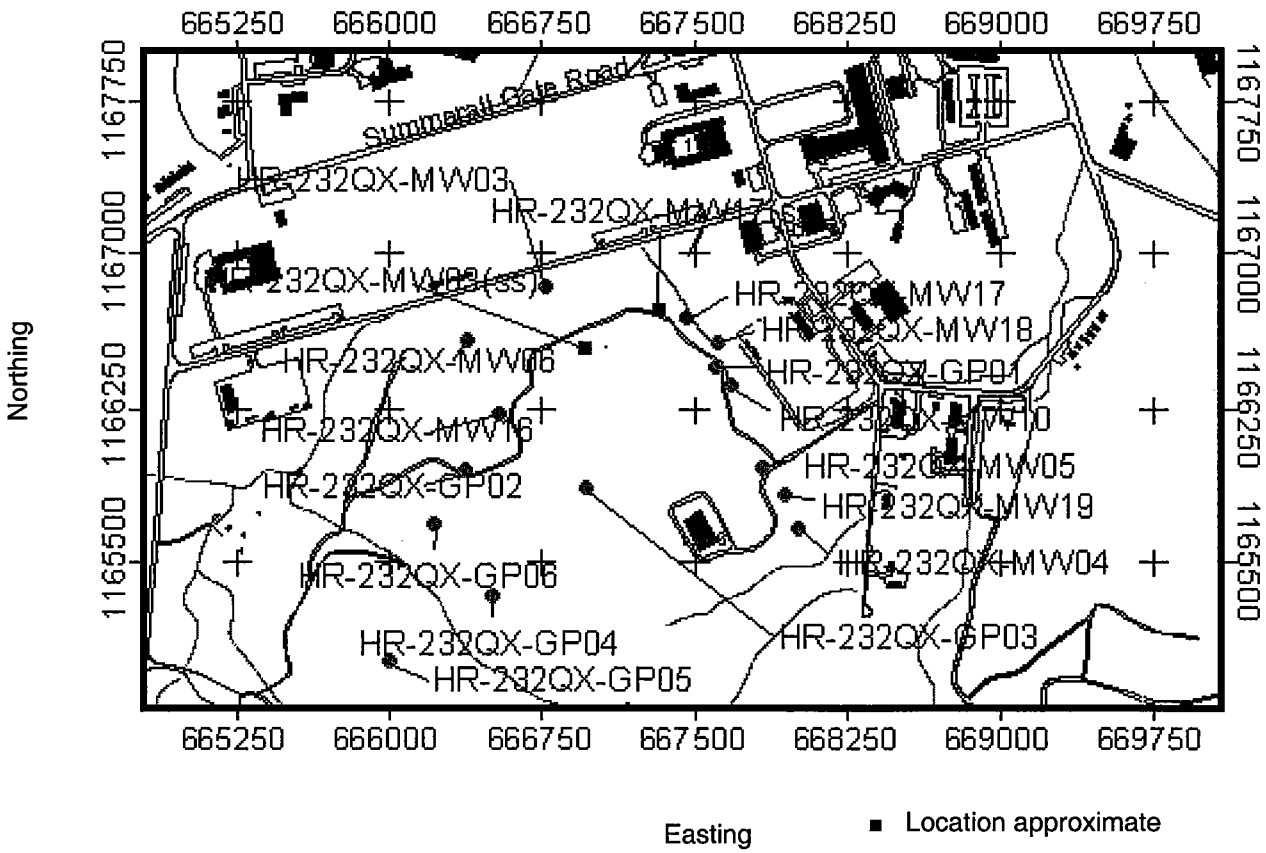
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW04
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Kevin Warren	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 868.14 10. Date started: 01/30/01 — 11. Date completed: 02/05/01
12. Overburden thickness (feet bgs): 48	15. Depth groundwater encountered (feet bgs): 60
13. Depth drilled into rock (feet bgs): 19.5	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 67.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	K.Hunter/N.Badon/J.Remo		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

Hole no.: HR-232QX-MW04

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW04

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Remo | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown soft moist SILT, some medium to coarse Sand, little Clay, trace medium to coarse subrounded Gravel.	ml		Organic Vapor = 0.0ppm		ECC0007		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Reddish brown medium stiff moist CLAY, some Silt, little medium to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/3.0' (1-4' bgs)
865	3								
	4	cl: Reddish brown stiff moist CLAY, some Silt, little medium to coarse Sand, trace fine subangular Gravel.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
860	8	cl: Reddish brown stiff moist CLAY, some Silt, little medium to coarse Sand, trace coarse sandstone Gravel.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW04

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Remo | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			cl						
	11								11
							ECC0008		
									Direct push terminated at 12' bgs
	12	NA: No sample collected for lithologic description.							12
			NA						
	13	cl: Reddish brown to light brown stiff CLAY, little Sand, damp.			Organic Vapor = 0.0ppm			7 10 14 19	Rec 2.0'/2.0' (13-15' bgs) 13
855									
	14		cl						14
	15	NA: No sample collected for lithologic description.							15
	16								16
			NA						
	17								17
	18	cl: Reddish brown to light brown stiff CLAY, some Sand, dry.			Organic Vapor = 0.0ppm			9 13 15 19	Rec 2.0'/2.0' (18-20' bgs) 18
850									
	19		cl						19
	20	NA: No sample collected for lithologic							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW04

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Remo | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21		NA						
	22								
845	23	ml: Reddish brown to light brown stiff SILT, some Clay, little Sand, dry. Noted several fine grained quartz Sandstone fragments, degree of weather variable.	ml		Organic Vapor = 0.0ppm			7 9 8 10	Rec 2.0'/2.0' (23-25' bgs)
	24								
	25	NA: No sample collected for lithologic description.							
	26		NA						
	27								
840	28	cl: Reddish brown stiff CLAY, some Sand, little Silt, damp. Noted a few fragments of quartz and quartz Sandstone.	cl		Organic Vapor = 0.0ppm			4 3 5 7	Rec 2.0'/2.0' (28-30' bgs)
	29								
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW04

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Remo | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
835	33	cl: Reddish brown stiff CLAY, some fine sandstone and quartz Gravel, little Sand, trace Silt, damp. Noted weathered gray Shale fragments in shoe of spoon.	cl		Organic Vapor = 0.0ppm			6 7 9 11	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
	36								
	37								
830	38	sm: White to tan weathered fine grained SANDSTONE, dense, dry.	sm		Organic Vapor = 0.0ppm			9 15 20 25	Rec 1.0'/2.0' (38-40' bgs)
	39	NA: No recovery.	NA						
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW04

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Remo | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
825	43	cl-sm: Reddish brown to light brown stiff CLAY and white to tan to gray, fine grained weathered SANDSTONE, damp. Noted small iron concretions in Sandstone.	cl/sm		Organic Vapor = 0.0ppm			10 12 12 18	Rec 2.0'/2.0' (43-45' bgs)
	44								
	45	NA: No sample collected for lithologic description.	NA						
	46								
	47								
820	48	sh: Weathered gray to black SHALE, medium dense, dry. Noted small iron concretions in Shale.	sh		Organic Vapor = 0.0ppm			6 9 11 12	Rec 2.0'/2.0' (48-50' bgs)
	49								
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW04

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Remo | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						
	52								
815	53	sh: Highly weathered gray to black SHALE, medium dense, damp.	sh		Organic Vapor = 0.0ppm			10 10 12 12	Rec 2.0'/2.0' (53-55' bgs)
	54								
	55	NA: No sample collected for lithologic description.	NA						
	56								
	57								
810	58	sh: Weathered gray to black SHALE, medium dense, moist.	sh		Organic Vapor = 0.0ppm			8 8 8 15	Rec 2.0'/2.0' (58-60' bgs)
	59								
	60	NA: No sample collected for lithologic description.							Groundwater encountered at 60' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW04

Project: Fort McClellan | Geologist: K.Hunter/N.Badon/J.Remo | Sheet 8 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		NA						
	62								
805	63	sh: Weathered gray to black SHALE dense, wet. Noted chert nodules.	sh		Organic Vapor = 0.0ppm			10 10 20 25	Rec 2.0'/2.0' (63-65' bgs)
	64								
	65	NA: No sample collected for lithologic description.							
	66		NA						
	67								Auger refusal at 67.5' bgs Bottom of borehole at 67.5'

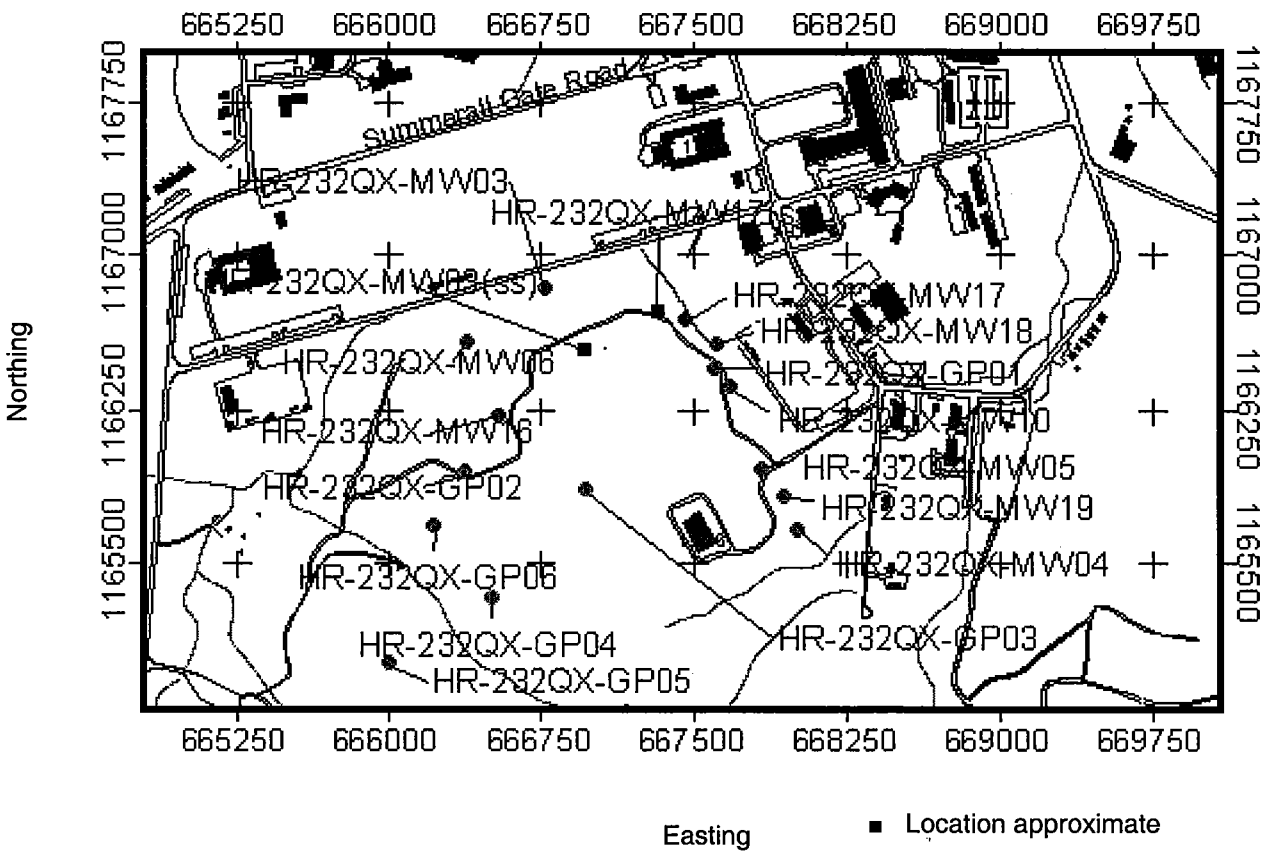
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW05
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 7 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Eddy Hopper	6. Mfr. designation of drill: Strataprobe/Mobile B-59
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 857.85 10. Date started: 01/22/01 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): 45	15. Depth groundwater encountered (feet bgs): 53
13. Depth drilled into rock (feet bgs): 15	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 60	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist: N.Badon/L.O'Hare/A.Barnes		
	NA	2" Permanent	NA			

LOCATION SKETCH/COMMENTS:



■ Location approximate

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW05

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/A.Barnes | Sheet 2 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Orange-red soft moist CLAY, some Silt, some fine to medium Sand, trace roots.	cl		Organic Vapor = 0.0ppm		ECC0009		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Reddish orange stiff moist CLAY, trace Silt, trace fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.8'/3.0' (1-4' bgs)
855	2								
	3								
	4	cl: Reddish orange stiff moist CLAY, trace Silt, trace coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
850	8	cl: Reddish orange stiff moist CLAY, trace Silt, trace medium Sand.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (8-11' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW05

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/A.Barnes | Sheet 3 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
							ECC0010		
	11	NA: No sample collected for lithologic description.							Direct push refusal at 11' bgs
	12								12
845	13		NA						13
	14								14
	15	cl: Light brown to yellowish orange mottled, very stiff, dry CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			12 44 50/0.5'	Rec 1.5'/1.5' (15-16.5' bgs) 15
	16	sh: Light gray to dark gray, dry, slightly laminated, weathered SHALE.	sh						16
	17	NA: No sample collected for lithologic description.							17
840	18								18
	19		NA						19
	20	sh: Yellowish orange, light gray to dark gray,			Organic			4 12	Rec 1.6'/2.0' (20-22' bgs) 20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW05

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/A.Barnes | Sheet 4 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		dry, slightly laminated, weathered SHALE, red oxidation stains.	sh		Vapor = 0.0ppm			45 50/0.5'	
	21								21
		NA: No recovery.	NA						
	22	NA: No sample collected for lithologic description.							22
835	23		NA						23
	24								24
	25	sh: Yellowish orange, light gray to dark gray, dry, slightly laminated weathered SHALE, red oxidation stains.			Organic Vapor = 0.0ppm			15 31 33 38	Rec 2.0'/2.0' (25-27' bgs) 25
	26		sh						26
	27	NA: No sample collected for lithologic description.							27
830	28		NA						28
	29								29
	30	sh: Yellowish orange, light gray to dark gray, dry, slightly lamintated weathered SHALE, red			Organic Vapor			12 25 31 35	Rec 1.4'/2.0' (30-32' bgs) 30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW05

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/A.Barnes | Sheet 5 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		oxidation stains.	sh		= 0.0ppm				
	31								31
		NA: No recovery.	NA						
	32	NA: No sample collected for lithologic description.							32
825	33								33
			NA						
	34								34
	35	sh: Yellowish orange, light gray to dark gray, dry, slightly lamintated, weathered SHALE, red oxidation stains.	sh		Organic Vapor = 0.0ppm			13 35 50 50/0.5'	Rec 1.2'/2.0' (35-37' bgs) 35
	36								36
		NA: No recovery.	NA						
	37	NA: No sample collected for lithologic description.							37
820	38								38
			NA						
	39								39
	40	sh: Yellowish orange, light gray to dark gray, dry, slightly laminated, weathered SHALE, red oxidation stains.			Organic Vapor =			15 32 50/0.5'	Rec 1.4'/1.5' (40-41.5' bgs) 40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW05

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/A.Barnes | Sheet 6 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			sh		0.0ppm				
	41	sh: Dark gray to yellowish orange, dry, slightly laminated SHALE.	sh						
		NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							
	42								
815	43								
			NA						
	44								
	45	sh: Yellowish orange, light gray to dark gray, dry, slightly laminated, weathered SHALE.	sh		Organic Vapor = 0.0ppm			9 7 21 26	Rec 1.5'/2.0' (45-47' bgs)
	46	sh: Dark gray to yellowish orange, dry, slightly laminated SHALE.	sh						
		NA: No recovery.	NA						
	47	NA: No sample collected for lithologic description.							
810	48								
			NA						
	49								
	50	sh: Dark gray to yellowish orange, dry, slightly laminated SHALE.	sh		Organic Vapor = 0.0ppm			50 50/0.1'	Rec 0.6'/0.6' (50-50.6' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW05

Project: Fort McClellan | Geologist: N.Badon/L.O'Hare/A.Barnes | Sheet 7 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
	52								
805	53								Groundwater encountered at 53' bgs
			NA						
	54								
	55	sh: Dark gray, hard SHALE.	sh		Organic Vapor = 0.0ppm			42 50/0.5'	Rec 0.2'/1.0' (55-56' bgs)
		NA: No recovery.	NA						
	56	NA: No sample collected for lithologic description.							
	57								
800	58		NA						
	59								
	60								Bottom of borehole at 60' bgs

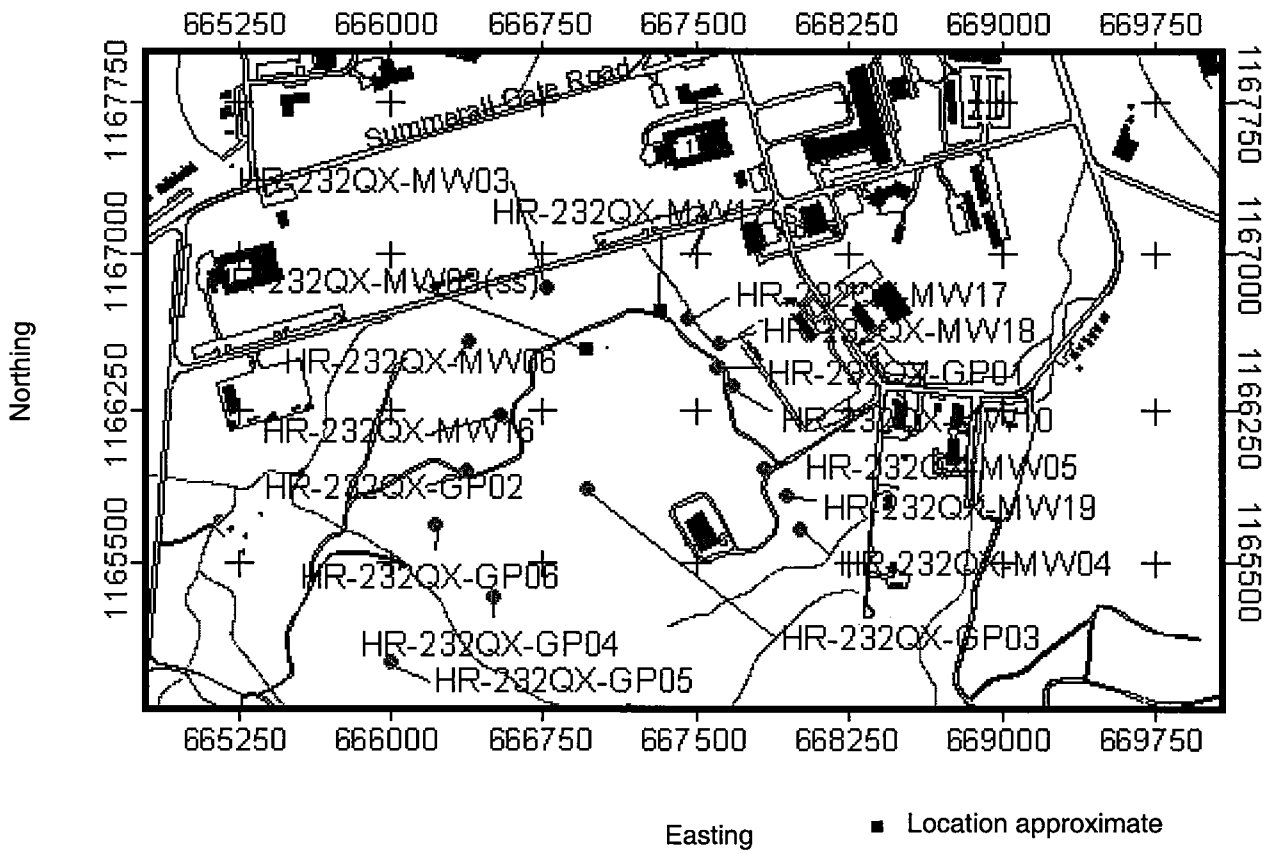
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW06
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Todd Neel	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 791.70 10. Date started: 02/19/01 — 11. Date completed: 04/05/01
12. Overburden thickness (feet bgs): >33	15. Depth groundwater encountered (feet bgs): 23
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 10.1 ~24 hours
14. Total depth of hole (feet bgs): 33	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L.O'Hare/N.Badon/D.Mayton		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW06	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW06

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/D.Mayton | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown soft moist SILT, some fine to coarse Sand, some organics.	ml		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (0-4' bgs)
		cl: Light brown, soft to medium stiff, moist CLAY, some fine to coarse Sand, trace quartz-rich coarse Gravel.					ECC0011		
	1								
790									
	2		cl						
	3								
	4	cl: Light brown soft moist CLAY, some fine to coarse Sand, some coarse to fine subangular quartz-rich Gravel, trace black shale Gravel.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6		cl						
785									
	7								
	8	cl: Light brown soft to medium stiff moist CLAY, some fine to coarse Sand, little fine to coarse quartz-rich subangular Gravel.	cl		Organic Vapor = 0.0ppm		ECC0012		Rec 1.0'/1.0' (8-9' bgs)
	9	NA: No sample collected for lithologic description.	NA						Direct push refusal at 9' bgs
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW06

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/D.Mayton | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		cl: Moist reddish brown medium stiff CLAY, little subangular fine to coarse limestone and quartzite Gravel, trace broken up sandstone Gravel, low plasticity.	cl		Organic Vapor = 0.0ppm			5 8 18 12	Rec 2.0'/2.0' (10-12' bgs)
	11								11
780									
	12	NA: No sample collected for lithologic description.	NA						12
	13								13
	14								14
	15	cl: Dry light brown CLAY, trace Silt, highly weathered shale Gravel present, low plasticity.	cl		Organic Vapor = 0.0ppm			20 40 50/0.4'	Rec 1.4'/1.4' (15-16.4' bgs) 15
	16								16
775		NA: No sample collected for lithologic description.	NA						
	17								17
	18	sh: Moist, brown highly weathered SHALE.	sh		Organic Vapor = 0.0ppm			16 20 26 35	Rec 2.0'/2.0' (18-20' bgs) 18
	19								19
	20	NA: No sample collected for lithologic							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW06

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/D.Mayton | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								
770			NA						
	22								
									Groundwater encountered at 23' bgs
	23	sh: Wet, brown to black weathered SHALE.	sh		Organic Vapor = 0.0ppm			50/0.4'	Rec 0.4'/0.4' (23-23.4' bgs)
		NA: No sample collected for lithologic description.							
	24								
	25								
	26								
765									
	27								
	28		NA		Organic Vapor = 0.0ppm				
	29								
	30								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW06

Project: Fort McClellan

Geologist: L.O'Hare/N.Badon/D.Mayton

Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								31
760									
	32								32
									Auger refusal at 33.0' bgs Bottom of borehole at 33' bgs
	33								33

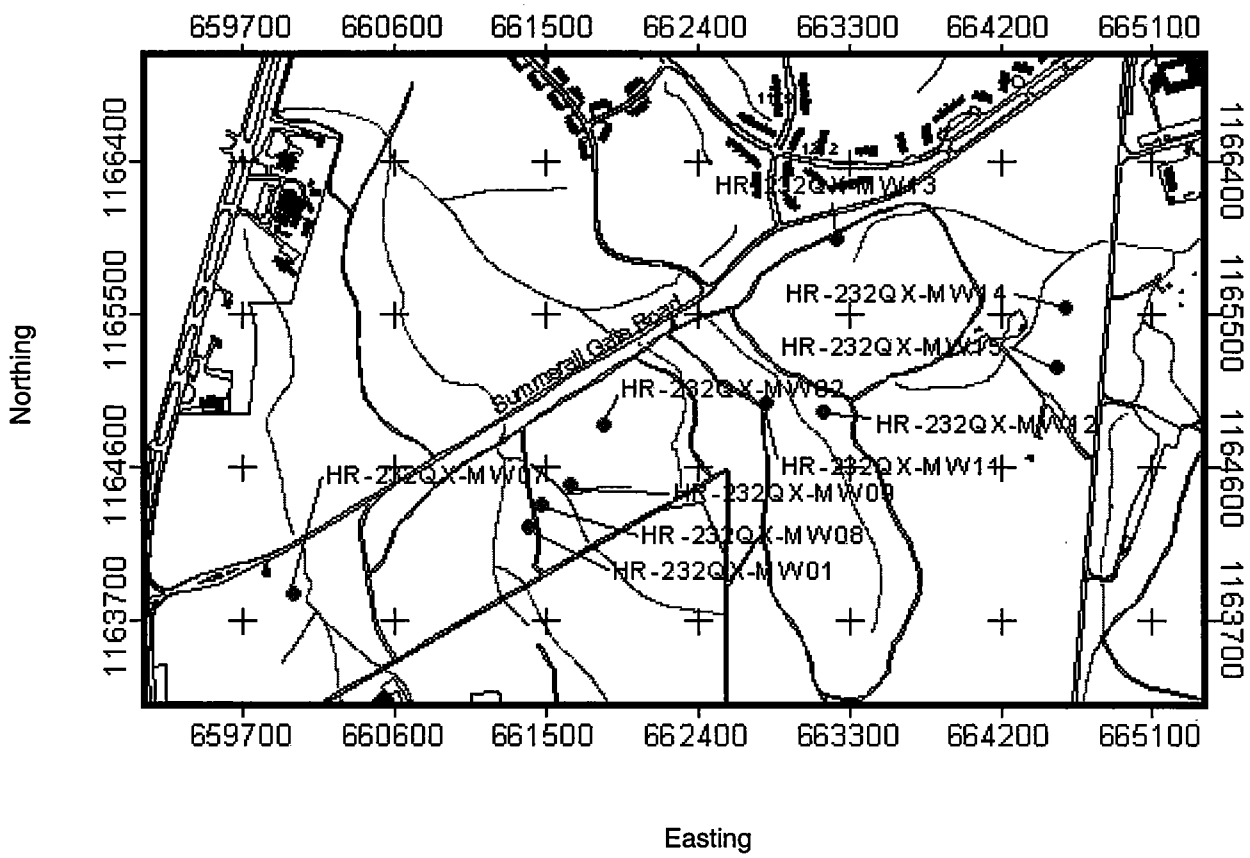
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER HR-232QX-MW07
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Ken Gobell	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 780.33 10. Date started: 02/28/01 — 11. Date completed: 04/10/01
12. Overburden thickness (feet bgs): >25	15. Depth groundwater encountered (feet bgs): 15
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 25	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/April Barnes		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW07

Project: Fort McClellan | Geologist: Leslie O'Hare/April Barnes | Sheet 2 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
780	0	ml: Dark brown moist SILT, trace fine Sand, trace Organics.	ml		Organic Vapor = 0.0ppm				Rec 2.6'/4.0' (0-4' bgs)
		cl: Brown moist soft CLAY, trace fine Sand, trace fine subrounded quartz-rich Gravel.	cl				ECC0013		
	1								
	2								
	3								
	4	cl: Light brown slightly moist soft CLAY, little subangular coarse to fine quartz-rich Gravel, little fine to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (4-6' bgs)
775	5								
	6	cl: Light brown moist stiff CLAY, little quartz-rich subangular coarse to fine Gravel, trace fine to coarse Sand.	cl		Organic Vapor = 0.0ppm		ECC0014		Rec 1.0'/1.0' (6-7' bgs)
	7	NA: No sample collected for lithologic description	NA						Direct push refusal at 7' bgs
	8	cl: Reddish brown, yellowish orange, off white mottled, dry stiff CLAY, little fine weathered quartzite Gravel, trace Silt.	cl		Organic Vapor = 0.0ppm			5 9 10 12	Rec 2.0'/2.0' (8-10' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW07

Project: Fort McClellan | Geologist: Leslie O'Hare/April Barnes | Sheet 3 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
770		NA: No sample collected for lithologic description.							
	11								
	12		NA						
	13								
	14								
	15								Groundwater encountered at 15' bgs
765		cl: Reddish brown moist, soft CLAY, little fine weathered quartzite Gravel.	cl		Organic Vapor = 0.0ppm			3 5 9 12	Rec 2.0'/2.0' (15-17' bgs)
	16								
	17	NA: No sample collected for lithologic description.							
	18		NA						
	19								
	20	cl: Reddish brown, yellowish orange, dark			Organic			3 5 7 9	Rec 2.0'/2.0' (20-22' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW07

Project: Fort McClellan | Geologist: Leslie O'Hare/April Barnes | Sheet 4 of 4 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
760		brown mottled CLAY, moist, soft.	cl		Vapor = 0.0ppm				
		cl: Reddish brown, soft moist CLAY, little weathered quartzite Gravel.							
	21		cl						21
	22	NA: No sample collected for lithologic description.							22
	23								23
			NA						
	24								24
	25								Bottom of borehole at 25' bgs 25

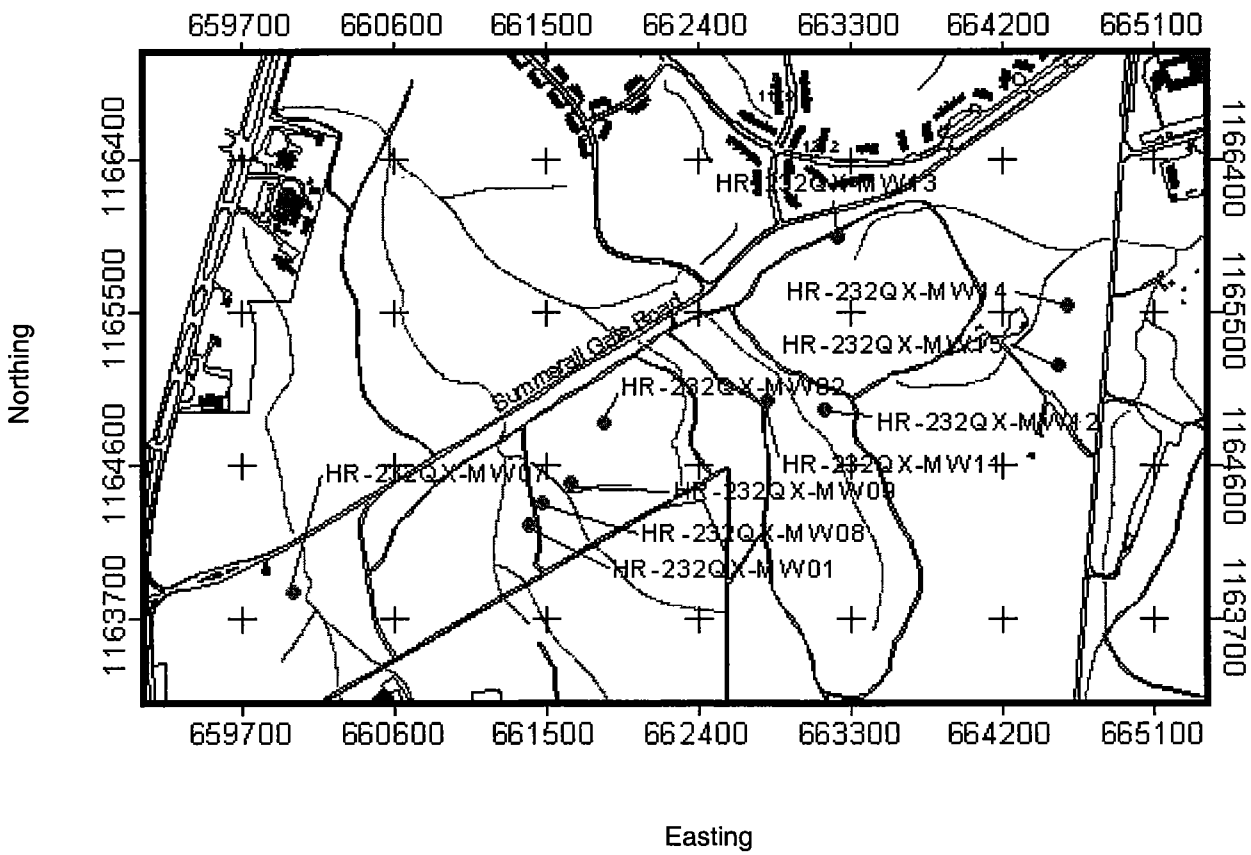
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW08
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 12 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 827.90 10. Date started: 02/06/01 — 11. Date completed: 03/02/01
12. Overburden thickness (feet bgs): >106	15. Depth groundwater encountered (feet bgs): 94
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 22.85 ~24 hours
14. Total depth of hole (feet bgs): 106	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Deborah Allan		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-232QX-MW08

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 2 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown, soft, moist SILT, some fine to medium Sand, little coarse subrounded Gravel.	ml		Organic Vapor = 0.0ppm		ECC0015 ECC0016		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown medium stiff moist SILT, some fine to coarse Sand, little Clay, trace medium to coarse sandstone Gravel.	ml		Organic Vapor = 0.0ppm				Rec 1.4'/3.0' (1-4' bgs)
825	3								
	4	ml: Light brown, stiff, moist SILT, some medium to coarse Sand, little Clay, trace coarse sandstone Gravel.	ml		Organic Vapor = 0.0ppm				Rec 2.8'/4.0' (4-8' bgs)
820	8	cl: Off white mottled light brown stiff moist CLAY, trace Silt.	cl		Organic Vapor = 0.0ppm		ECC0018		Rec 2.0'/2.0' (8-10' bgs)
	10								Direct push refusal at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 3 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								
	12		NA						
815	13								
	14	cl: Very pale orange, occasional purple staining, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			8 12 12 25	Rec 2.0'/2.0' (14-16' bgs)
	15		cl						
	16	NA: No sample collected for lithologic description.							
	17								
			NA						
810	18								
	19	cl: Very pale orange, occasional purple staining, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			12 23 25 27	Rec 2.0'/2.0' (19-21' bgs)
	20		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 4 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21	NA: No sample collected for lithologic description.							
	22		NA						
805	23								
	24	cl: Very pale orange, occasional purple staining, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			14 16 25 23	Rec 2.0'/2.0' (24-26' bgs)
	25		cl						
	26	NA: No sample collected for lithologic description.							
	27		NA						
800	28								
	29	cl: Very pale orange, occasional purple staining, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			10 16 20 20	Rec 2.0'/2.0' (29-31' bgs)
	30		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 5 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							
	32		NA						
795	33								
	34	cl: Very pale orange, occasional purple staining, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			13 25 27 49	Rec 2.0'/2.0' (34-36' bgs)
	35		cl						
	36	NA: No sample collected for lithologic description.							
	37		NA						
790	38								
	39	cl: Very pale orange, occasional purple staining, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			15 28 28 29	Rec 2.0'/2.0' (39-41' bgs)
	40		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 6 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41	NA: No sample collected for lithologic description.							
	42		NA						
785	43								
	44	cl: Very pale orange, occasional purple staining, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			9 19 21 31	Rec 2.0'/2.0' (44-46' bgs)
	45		cl						
	46	NA: No sample collected for lithologic description.							
	47		NA						
780	48								
	49	cl: Very pale orange and pinkish gray, very stiff to hard CLAY, stained light red to moderate red in places, dry to very slightly moist.			Organic Vapor = 0.0ppm			10 14 20 30	Rec 2.0'/2.0' (49-51' bgs)
	50		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 7 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51	NA: No sample collected for lithologic description.							
	52		NA						
775	53								
	54	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, dry to very slightly moist.	cl		Organic Vapor = 0.0ppm			12 18 27 30	Rec 1.6'/2.0' (54-56' bgs)
	55								
		NA: No recovery.	NA						
	56	NA: No sample collected for lithologic description.							
	57		NA						
770	58								
	59	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, dry to very slightly moist.	cl		Organic Vapor = 0.0ppm			6 12 20 42	Rec 2.0'/2.0' (59-61' bgs)
	60								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 8 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61	NA: No sample collected for lithologic description.							
	62		NA						
765	63								
	64	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, dry to very slightly moist.	cl		Organic Vapor = 0.0ppm			23 37 50/0.4'	Rec 1.4'/1.4' (64-65.4' bgs)
	65								
		NA: No sample collected for lithologic description.							
	66								
	67		NA						
760	68								
	69	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, dry to very slightly moist.	cl		Organic Vapor = 0.0ppm			18 18 18 20	Rec 1.4'/2.0' (69-71' bgs)
	70								
		NA: No recovery.	NA						
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 9 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71	NA: No sample collected for lithologic description.							
	72		NA						
755	73								
	74	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			11 13 13 25	Rec 2.0'/2.0' (74-76' bgs)
	75		cl						
	76	NA: No sample collected for lithologic description.							
	77		NA						
750	78								
	79	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, dry to very slightly moist.			Organic Vapor = 0.0ppm			10 10 13 20	Rec 2.0'/2.0' (79-81' bgs)
	80		cl						
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 10 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	82		NA						
745	83								
	84	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, dry to slightly moist.			Organic Vapor = 0.0ppm			18 25 30 50	Rec 2.0'/2.0' (84-86' bgs)
	85		cl						
	86	NA: No sample collected for lithologic description.							
	87		NA						
740	88								
	89	cl: Pinkish gray and light to moderate red, very stiff to hard CLAY, very dry.			Organic Vapor = 0.0ppm			20 28 49 50/0.2'	Rec 1.7'/1.7' (89-90.7' bgs)
	90		cl						
	91	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 11 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92		NA						
735	93								
	94	cl: Grayish orange, pink and very pale orange, medium stiff CLAY, trace Silt, moist to damp.	cl		Organic Vapor = 0.0ppm			30 40 50/0.3'	Groundwater encountered at 94' bgs Rec 1.3'/1.3' (94-95.3' bgs)
	95								
	96	NA: No sample collected for lithologic description.	NA						
	97								
730	98								
	99	ml: Yellowish gray, medium dense SILT, trace fine Sand, moist.	ml		Organic Vapor = 0.0ppm			10 23 30 42	Rec 1.4'/2.0' (99-101' bgs)
	100								
		NA: No recovery.	NA						
	101	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW08

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 12 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	102								102
			NA						
725	103								103
	104	sm: Yellowish gray, medium dense, fine to medium SAND, little Silt, trace Clay, moist.	sm		Organic Vapor = 0.0ppm			8 11 10 15	Rec 1.4'/2.0' (104-106' bgs) 104
	105								105
		NA: No recovery.	NA						Bottom of borehole at 106' bgs
	106								106

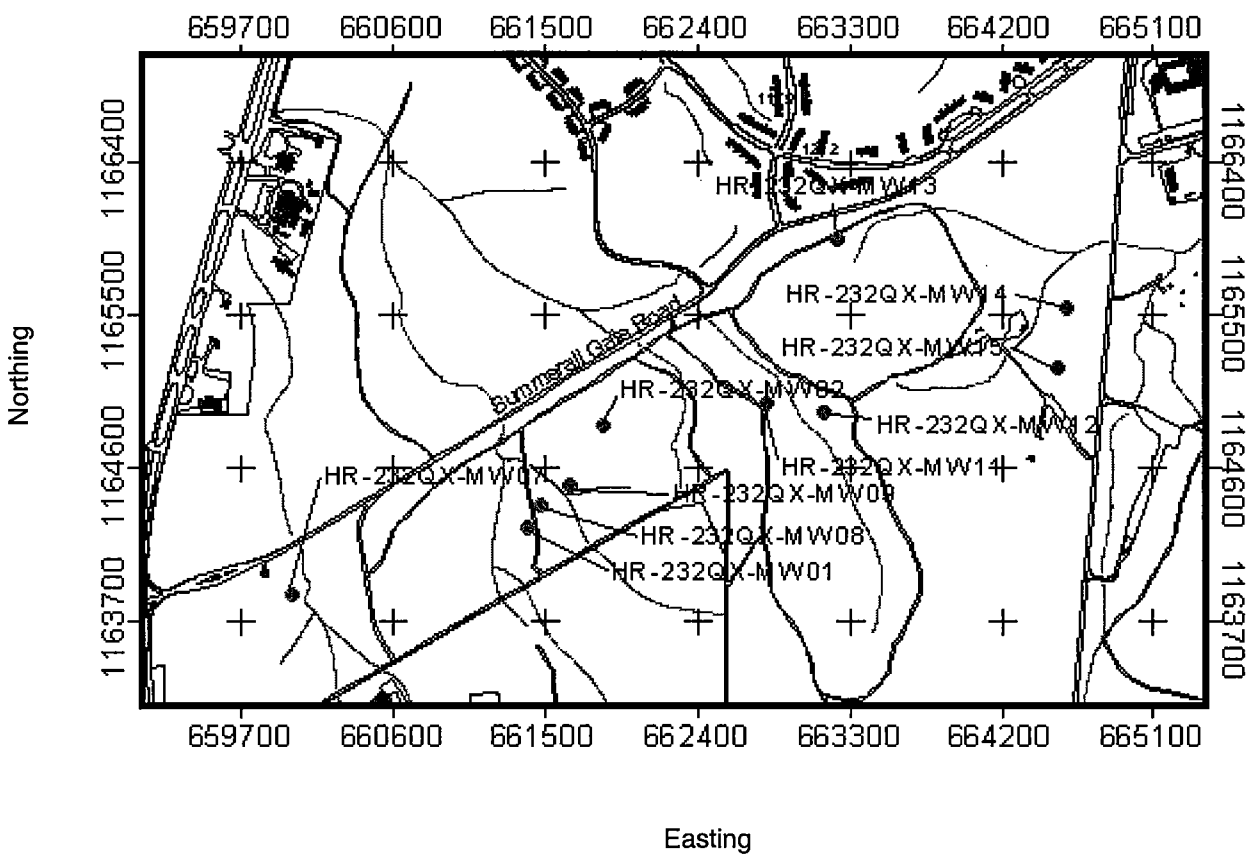
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW09
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 818.09 10. Date started: 02/06/01 — 11. Date completed: 03/02/01
12. Overburden thickness (feet bgs): >36	15. Depth groundwater encountered (feet bgs): 25.4
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 2.75 ~7 days
14. Total depth of hole (feet bgs): 36	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	N.Badon/K.Hunter/D.Allan		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-232QX-MW09

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW09

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown soft, moist, SILT, some fine to medium Sand, little coarse subangular Gravel, trace organics (roots).	ml		Organic Vapor = 0.0ppm		ECC0019		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Light brown medium stiff SILT, some Clay, little fine to medium Sand.	ml		Organic Vapor = 0.0ppm				Rec 2.7'/3.0' (1-4' bgs)
815	3								
	4	ml: Yellowish orange medium stiff SILT, some fine to coarse Sand, little Clay.	ml		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7	cl: Yellowish orange, medium stiff moist CLAY, trace Silt.	cl						
810	8	cl: Light brown, mottled light gray, stiff moist CLAY, trace Silt.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW09

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			cl						
	11						ECC0020		
									Direct push terminated at 12' bgs
	12	NA: No sample collected for lithologic description.							
805	13		NA						
	14	cl: Mottled pale to moderate reddish brown, yellowish orange and white, very stiff CLAY, dry.			Organic Vapor = 0.0ppm			7 10 11 15	Rec 2.0'/2.0' (14-16' bgs)
	15		cl						
	16	NA: No sample collected for lithologic description.							
	17								
			NA						
800	18								
	19	cl: Mottled pale to moderate reddish brown, yellowish orange and white, hard CLAY, dry.			Organic Vapor = 0.0ppm			13 17 27 34	Rec 2.0'/2.0' (19-21' bgs)
	20		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW09

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21	NA: No sample collected for lithologic description.							
	22		NA						
795	23								
	24	cl: Mottled pale to moderate reddish brown, yellowish orange and white, hard CLAY, dry.	cl		Organic Vapor = 0.0ppm			9 10 12 28	Rec 2.0'/2.0' (24-26' bgs)
	25								
		sm: Very pale orange fine, very loose SAND, some Silt, wet.	sm						Groundwater encountered at 25.4' bgs
	26	NA: No sample collected for lithologic description.							
	27		NA						
790	28								
	29	sm: Very pale orange, fine, very loose to medium dense SAND, some Silt, wet.						10 10 9 17	Rec 2.0'/2.0' (29-31' bgs)
	30		sm						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW09

Project: Fort McClellan | Geologist: N.Badon/K.Hunter/D.Allan | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							31
	32		NA						32
785	33								33
	34	sm: Very pale orange to fine, very loose to medium dense SAND, some Silt, wet.						15 16 17 20	Rec 2.0'/2.0' (34-36' bgs) 34
	35		sm						35
	36	cl-ml: Mottled purple and pale gray CLAY and SILT, damp.	cl-ml						Bottom of borehole at 36' bgs 36

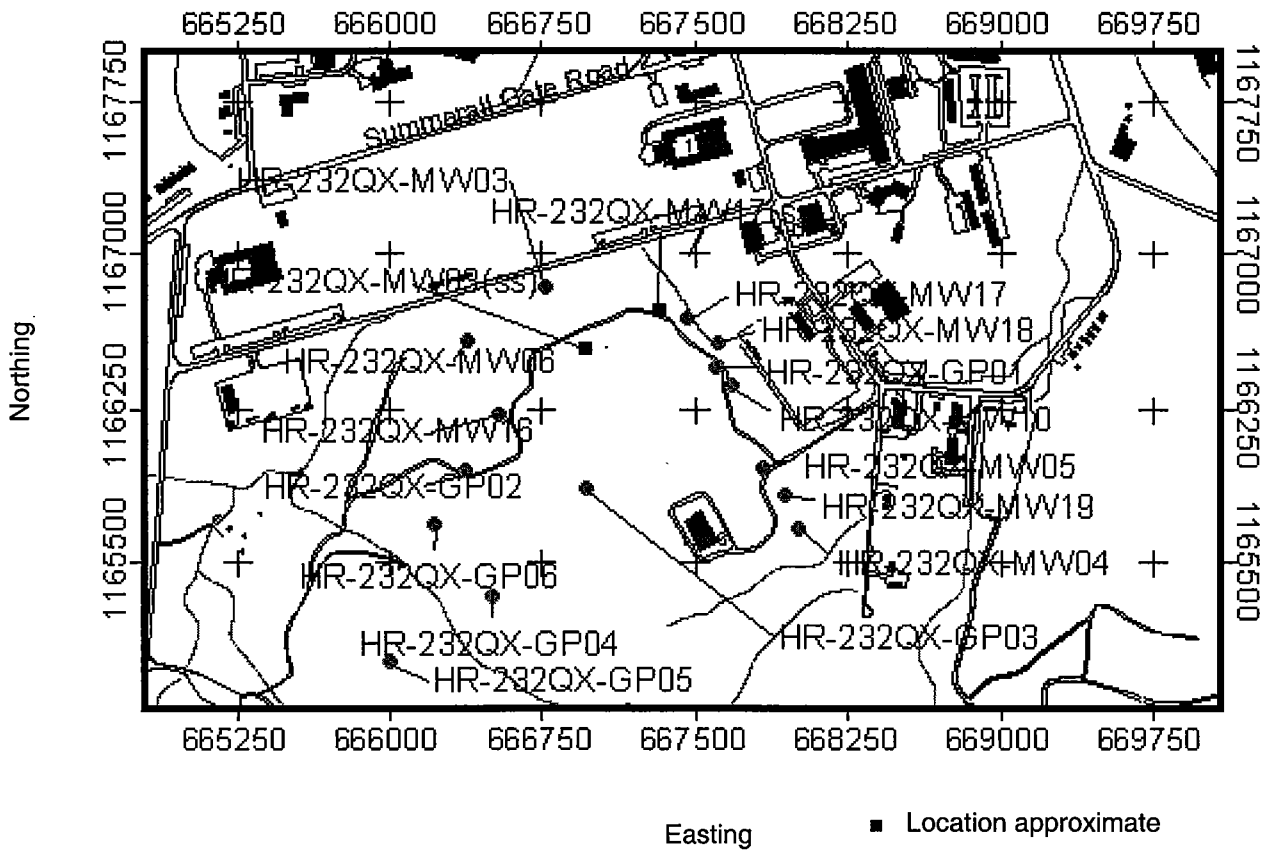
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW10
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Kevin Warren	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 830.63 10. Date started: 01/25/01 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): 6	15. Depth groundwater encountered (feet bgs): 38
13. Depth drilled into rock (feet bgs): 38	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 44	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Jonathan Remo		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW10	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW10

Project: Fort McClellan | Geologist: Nicole Badon/Jonathan Remo | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
830	0	ml: Dark brown soft moist SILT, some fine to medium Sand, trace fine subangular Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		ECC0021		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown stiff moist to dry CLAY, some Silt, trace medium to coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.5'/3.0' (1-4' bgs)
	2								
	3								
	4	cl: Light orange stiff dry CLAY, some medium to coarse Sand, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (4-6' bgs)
	5								
825							ECC0022		
	6	NA: No sample collected for lithologic description.	NA						Direct push refusal at 6' bgs
	7								
	8								
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW10

Project: Fort McClellan | Geologist: Nicole Badon/Jonathan Remo | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sh: Weathered gray to black SHALE, moist.	sh		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (10-10.5' bgs)
820		sh: Weathered gray to black SHALE, damp.							Description from HSA drill cuttings (10.5-44' bgs)
	11								11
	12								12
	13								13
	14								14
	15		sh						15
815									
	16								16
	17								17
	18								18
	19								19
	20	sh: Weathered gray to black SHALE, dry.							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW10

Project: Fort McClellan | Geologist: Nicole Badon/Jonathan Remo | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
810									
	21								21
	22								22
			sh						
	23								23
	24								24
	25	sh: Weathered black SHALE, dry.							25
805									
	26								26
	27								27
			sh						
	28								28
	29								29
	30	sh: Weathered black SHALE, dry.							30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW10

Project: Fort McClellan | Geologist: Nicole Badon/Jonathan Remo | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
800									
	31								31
	32								32
	33								33
	34		sh						34
	35								35
795									
	36								36
	37								37
	38	sh: Weathered black SHALE, wet.							38 Groundwater encountered at 38' bgs
	39		sh						39
	40	sh: Black weathered SHALE, wet.							40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW10

Project: Fort McClellan

Geologist: Nicole Badon/Jonathan Remo

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
790									
	41								41
	42		sh						42
	43								43
	44								Auger refusal at 44' bgs Bottom of borehole at 44' bgs 44

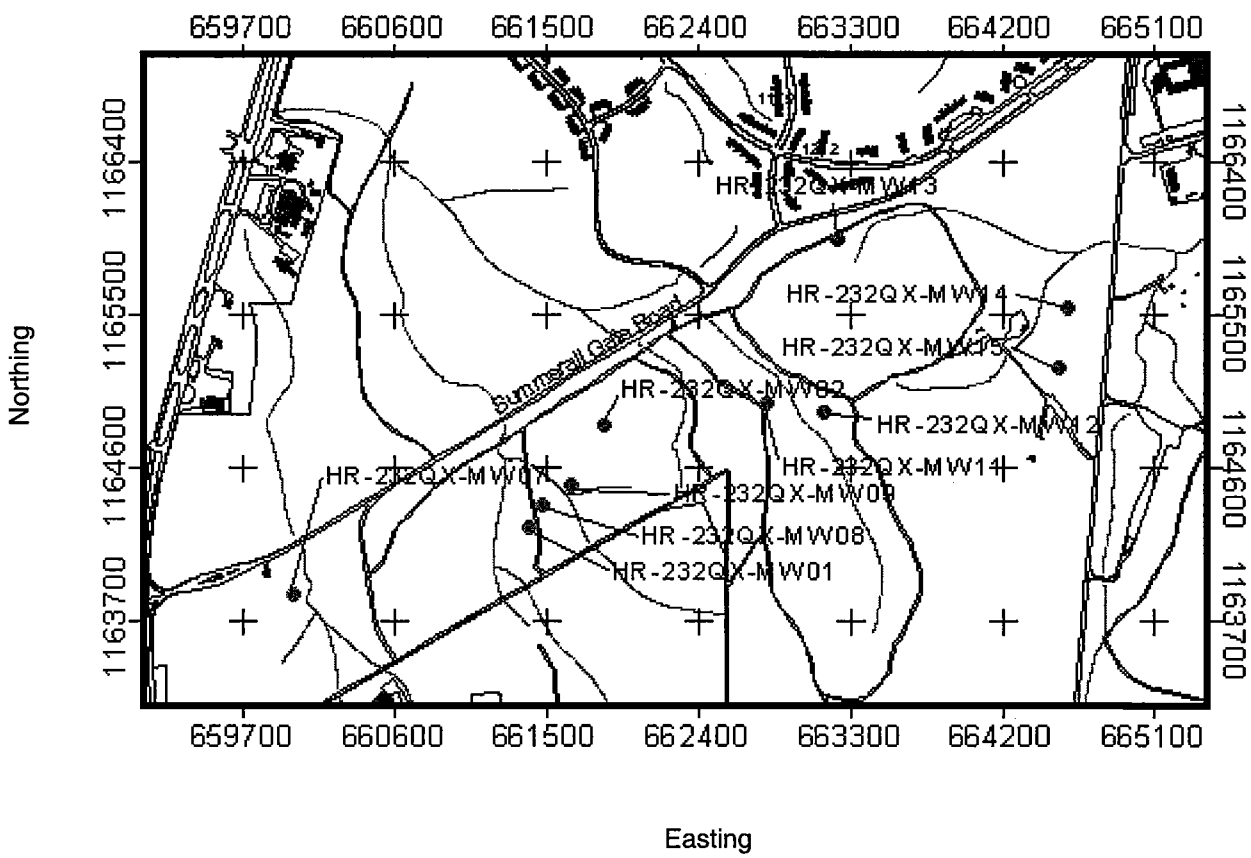
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW11
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Bowser Morner	Sheet 1 of 7 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Dennis Sink	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 872.24 10. Date started: 02/05/01 — 11. Date completed: 03/16/01
12. Overburden thickness (feet bgs): >60	15. Depth groundwater encountered (feet bgs): 49
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 60	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Deborah Allan		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW11

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 2 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown soft moist SILT, some fine to coarse Sand, little coarse subrounded Gravel, trace organics (roots).	ml		Organic Vapor = 0.0ppm		ECC0023		Rec 1.0'/1.0' (0-1' bgs)
	1	ml: Yellowish orange, soft, moist SILT, some Clay, little fine to medium Sand, trace fine subrounded Gravel.	ml		Organic Vapor = 0.0ppm				Rec 1.6'/3.0' (1-4' bgs)
870	2								
	3								
	4	cl: Light brown very stiff moist CLAY, some Silt, little fine Sand, trace medium to coarse subangular Gravel.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
865	7						ECC0024		
	8	NA: No sample collected for lithologic description.							Direct push refusal at 8' bgs
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW11

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 3 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		NA						11
	12								12
860									
	13								13
	14	cl: Very pale yellowish gray, hard CLAY, trace Silt, trace chert Gravel, dry.	cl		Organic Vapor = 0.0ppm			50/0.2'	Rec 0.2'/0.2' (14-14.2' bgs) 14
		NA: No sample collected for lithologic description.							
	15								15
	16								16
			NA						
	17								17
855									
	18								18
	19	cl: Pale grayish pink, hard CLAY, little chert Gravel, trace Silt, dry.	cl		Organic Vapor = 0.0ppm			49 50/0.2'	Rec 0.7'/0.7' (19-19.7' bgs) 19
		NA: No sample collected for lithologic description.							
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW11

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 4 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								
	22		NA						
850									
	23								
	24	cl: Pale grayish pink, hard CLAY, little chert Gravel, trace Silt, dry.	cl		Organic Vapor = 0.0ppm			50/0.2'	Rec 0.2'/0.2' (24-24.2' bgs)
		NA: No sample collected for lithologic description.							
	25								
	26								
			NA						
	27								
845									
	28								
	29	sm: Grayish orange pink fine SAND, some Silt, trace Clay, dry.			Organic Vapor = 0.0ppm			45 49 49 50	Rec 2.0'/2.0' (29-31' bgs)
	30		sm						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW11

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 5 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31	NA: No sample collected for lithologic description.							
840	32		NA						
	33								
	34	NA: No recovery.	NA					50/0.1'	Rec 0.0'/0.1' (34-34.1' bgs)
		NA: No sample collected for lithologic description.							
	35								
	36		NA						
835	37								
	38								
	39	NA: No recovery.	NA					50/0'	Rec 0.0'/0.0' (39' bgs)
		NA: No sample collected for lithologic description.							
	40								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW11

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 6 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								41
830	42		NA						42
	43								43
	44	gw: Yellowish orange and light gray quartzite GRAVEL and fine to coarse quartzite SAND, little Silt, dry.	gw		Organic Vapor = 0.0ppm			50/0.3'	Rec 0.3'/0.3' (44-44.3' bgs) 44
		NA: No sample collected for lithologic description.							
	45								45
	46								46
			NA						
825	47								47
	48								48
	49	gw: Light gray and yellowish orange fine SAND and light gray quartzite GRAVEL, little Silt, wet.	gw		Organic Vapor = 0.0ppm			48 50/0.3'	Groundwater encountered at 49' bgs Rec 0.8'/0.8' (49-49.8' bgs) 49
	50	NA: No sample collected for lithologic description.							50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW11

Project: Fort McClellan | Geologist: Nicole Badon/Deborah Allan | Sheet 7 of 7 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
820	52		NA						52
	53								53
	54	sm: Olive gray fine SAND, some Silt, little quartz-rich Gravel, trace Clay, very moist.	sm		Organic Vapor = 0.0ppm			49 50/0.2'	Rec 0.7'/0.7' (54-54.7' bgs) 54
	55	NA: No sample collected for lithologic description.							55
	56								56
815	57		NA						57
	58								58
	59	sm: Olive gray fine SAND, some Silt, little quartz-rich Gravel, trace Clay, very moist.	sm		Organic Vapor = 0.0ppm			50/0.4'	Rec 0.4'/0.4' (59-59.4' bgs) 59
		NA: No sample collected for lithologic description.	NA						Bottom of borehole at 60' bgs
	60								60

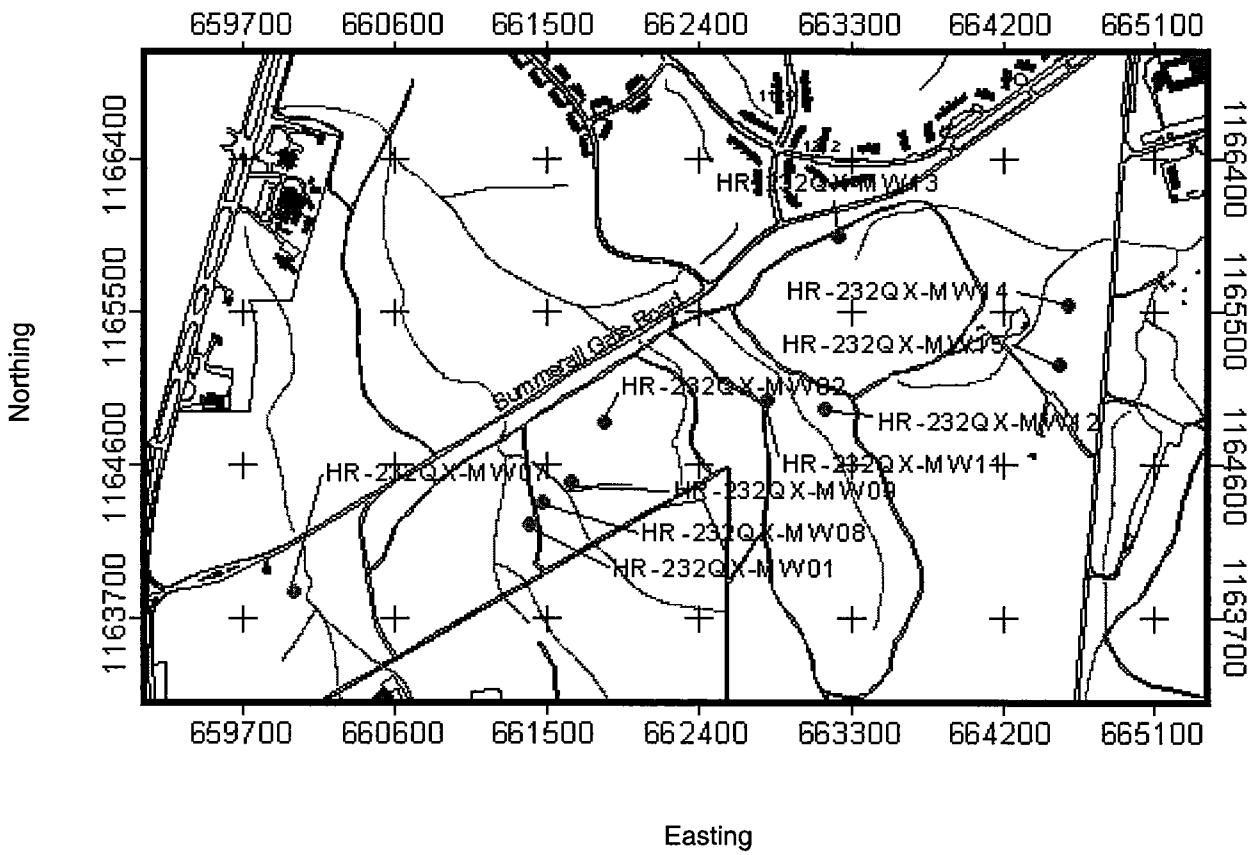
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW12
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Darren Hunter/Todd Neel	6. Mfr. designation of drill: Strataprobe/CME-750X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 866.71 10. Date started: 03/21/01 — 11. Date completed: 04/11/01
12. Overburden thickness (feet bgs): >74.5	15. Depth groundwater encountered (feet bgs): Not Enountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 74.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Leslie O'Hare/Dennis Mayton		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 2 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist SILT, some Clay.	ml		Organic Vapor = 0.0ppm				Rec 3.0'/4.0' (0-4' bgs)
		cl: Light brown moist medium stiff CLAY, little subrounded fine to coarse Gravel.					ECC0025		
	1								
865									
	2		cl						
	3								
	4	cl: Light brown mottled light gray and black dry stiff CLAY, little weathered shale Gravel.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6		cl						
860									
	7								
	8	cl: Light brown mottled light gray, dry, stiff CLAY, trace coarse Sand.			Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 3 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl						11
855							ECC0026		Direct push terminated at 12' bgs
	12	NA: No recovery.	NA						12
		cl: Dry, light brown to reddish brown medium stiff CLAY, trace Silt.			Organic Vapor = 0.0ppm			4 6 11 14	Rec 2.0'/2.0' (12.5-14.5' bgs)
	13		cl						13
	14								14
		NA: No sample collected for lithologic description.							
	15								15
	16		NA						16
850									
	17								17
	18	cl: Dry, light reddish brown medium stiff CLAY, trace subrounded fine Gravel, trace Silt.			Organic Vapor = 0.0ppm			3 4 8 10	Rec 2.0'/2.0' (18-20' bgs) 18
	19		cl						19
	20	NA: No sample collected for lithologic							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 4 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								
845			NA						
	22								
	23	cl: Dry, yellowish orange to light reddish brown CLAY, trace Silt.			Organic Vapor = 0.0ppm			6 10 11 14	Rec 2.0'/2.0' (23-25' bgs)
	24		cl						
	25	NA: No sample collected for lithologic description.							
	26								
840			NA						
	27								
	28	cl: Dry, light grayish yellow to light brown stiff CLAY, trace Silt.			Organic Vapor = 0.0ppm			6 8 12 6	Rec 2.0'/2.0' (28-30' bgs)
	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 5 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31								
835			NA						
	32								
	33	cl: Dry, light brown stiff CLAY, trace Silt.			Organic Vapor = 0.0ppm			6 9 9 16	Rec 2.0'/2.0' (33-35' bgs)
	34		cl						
	35	NA: No sample collected for lithologic description.							
	36								
830			NA						
	37								
	38	cl: Dry, light brown very stiff CLAY, trace Silt, trace subangular fine Gravel.			Organic Vapor = 0.0ppm			6 8 9 11	Rec 2.0'/2.0' (38-40' bgs)
	39		cl						
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 6 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41								
825			NA						
	42								
	43	cl: Dry to damp, light brown, very stiff CLAY.			Organic Vapor = 0.0ppm			4 6 9 11	Rec 2.0'/2.0' (43-45' bgs)
	44		cl						
	45	NA: No sample collected for lithologic description.							
	46								
820			NA						
	47								
	48	cl: Light brown stiff CLAY, trace fine Sand.			Organic Vapor = 0.0ppm			5 5 6 8	Rec 1.5'/2.0' (48-50' bgs)
	49		cl						
		NA: No recovery.	NA						
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 7 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								
815			NA						
	52								
	53	cl: Dry, light brown to yellowish orange CLAY.			Organic Vapor = 0.0ppm			5 6 7 8	Rec 1.5'/2.0' (53-55' bgs)
	54		cl						
		NA: No recovery.	NA						
	55	NA: No sample collected for lithologic description.							
	56								
810			NA						
	57								
	58	cl: Damp yellowish orange medium stiff CLAY, trace subangular fine Gravel.			Organic Vapor = 0.0ppm			3 6 10 12	Rec 1.5'/2.0' (58-60' bgs)
	59		cl						
		NA: No recovery.	NA						
	60	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 8 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		NA						
805									
	62								
	63	cl: Damp, yellowish orange medium stiff CLAY, trace subangular fine Gravel.	cl		Organic Vapor = 0.0ppm			4 5 8 9	Rec 1.5'/2.0' (63-65' bgs)
	64								
		NA: No recovery.	NA						
	65	NA: No sample collected for lithologic description.							
	66		NA						
800									
	67								
	68	cl: Dry, yellowish orange stiff CLAY.	cl		Organic Vapor = 0.0ppm			4 9 14 19	Rec 1.5'/2.0' (68-70' bgs)
	69								
		NA: No recovery.	NA						
	70	NA: No sample collected for lithologic description.							
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW12

Project: Fort McClellan | Geologist: Leslie O'Hare/Dennis Mayton | Sheet 9 of 9 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								71
795			NA						
	72								72
	73	cl: Dry, yellowish orange CLAY, trace fine Sand.	cl		Organic Vapor = 0.0ppm			7 10 16 50/0'	Rec 1.5'/1.5' (73-74.5' bgs) 73
	74	sp: Yellowish orange medium SAND, trace Silt.	sp ss						Split spoon and auger refusal at 74.5 bgs 74 Bottom of borehole at 74.5' bgs

ss: Dark gray, hard, fine grained angular SANDSTONE (did not react with HCl).

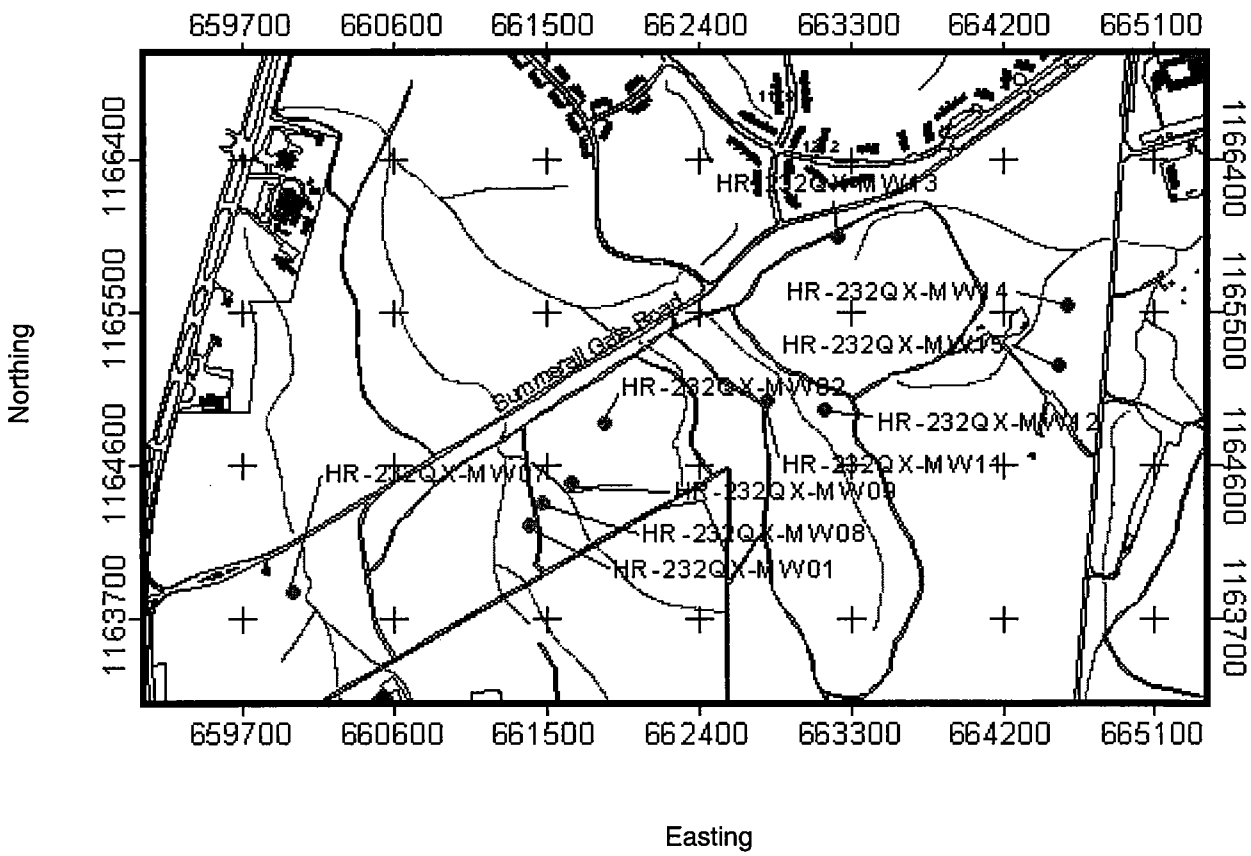
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW13
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Todd Neel	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 874.01 10. Date started: 03/13/01 — 11. Date completed: 04/05/01
12. Overburden thickness (feet bgs): >69	15. Depth groundwater encountered (feet bgs): Not Encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 69	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L.O'Hare/N.Badon/J.Dendy		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW13

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: Dark brown to light brown moist medium stiff CLAY, little Silt, little quartz rich subrounded fine to coarse Gravel, trace organics.	cl		Organic Vapor = 0.0ppm		ECC0027		Rec 2.7'/4.0' (0-4' bgs)
	1								
	2								
	3								
870	4	cl: Light brown to light gray, dry very stiff CLAY, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 3.6'/4.0' (4-8' bgs)
	5								
	6								
	7						ECC0028		
	8	cl: Light brown, very stiff CLAY, some Silt, trace fine sand, dry.	cl		Organic Vapor = 0.0ppm				Direct push refusal at 8' bgs Rec 2.0'/2.0' (8-10' bgs)
865	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW13

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11		NA						
	12								
	13	cl: Light brown stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			11 16 15 22	Rec 2.0'/2.0' (13-15' bgs)
860	14		cl						
	15	NA: No sample collected for lithologic description.							
	16		NA						
	17								
	18	cl: Light brown stiff CLAY, some Silt, little fine Sand.			Organic Vapor = 0.0ppm			6 9 14 18	Rec 1.5'/2.0' (18-20' bgs)
855	19		cl						
		NA: No recovery.	NA						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW13

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21								
			NA						
	22								
	23	cl: Light brown stiff to very stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			5 13 17 21	Rec 2.0'/2.0' (23-25' bgs)
850	24		cl						
	25	NA: No sample collected for lithologic description.							
	26								
			NA						
	27								
	28	cl: Light brown, light purple, and white platy stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			5 9 12 13	Rec 2.0'/2.0' (28-30' bgs)
845	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW13

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
	33	cl: Light brown, light purple and white platy stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			7 12 12 15	Rec 2.0'/2.0' (33-35' bgs)
840	34		cl						
	35	NA: No sample collected for lithologic description.							
	36		NA						
	37								
	38	cl: Light brown stiff platy CLAY, some Silt.			Organic Vapor = 0.0ppm			10 15 14 22	Rec 2.0'/2.0' (38-40' bgs)
835	39		cl						
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW13

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
	43	cl: Light brown slightly moist, stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			7 12 12 18	Rec 2.0'/2.0' (43-45' bgs)
830	44		cl						
	45	NA: No sample collected for lithologic description.							
	46		NA						
	47								
	48	cl: Light brown stiff platy CLAY, some Silt.	cl		Organic Vapor = 0.0ppm			5 13 26 19	Rec 2.0'/2.0' (48-50' bgs)
825	49	cl: Purple, medium stiff, fissile, friable, argillaceous weathered shale (weathered to CLAY).	cl						
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW13

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						
	52								
	53	cl: Light brown wet CLAY, some angular hard purple Shale.	cl		Organic Vapor = 0.0ppm			5 9 9 11	Rec 1.6'/2.0' (53-55' bgs)
820	54								
		NA: No recovery.	NA						
	55	NA: No sample collected for lithologic description.							
	56		NA						
	57								
	58	cl: Light brown dry CLAY and hard gravel sized Clay clasts, some Silt.	cl		Organic Vapor = 0.0ppm			30 17 18 32	Rec 2.0'/2.0' (58-60' bgs)
815	59								
	60	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW13

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 8 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61		NA						
	62								
	63	cl: Light brown, moist to wet, medium stiff CLAY, some hard gravel sized Clay clasts, some Silt.			Organic Vapor = 0.0ppm			9 9 9 10	Rec 2.0'/2.0' (63-65' bgs)
810	64		cl						
	65	NA: No sample collected for lithologic description.							
	66		NA						
	67								
	68	sw: Brown well sorted fine moist SAND.	sw		Organic Vapor = 0.0ppm			9 50/0.5'	Rec 1.0'/1.0' (68-69' bgs)
	69								Auger refusal at 69' bgs Bottom of borehole at 69' bgs

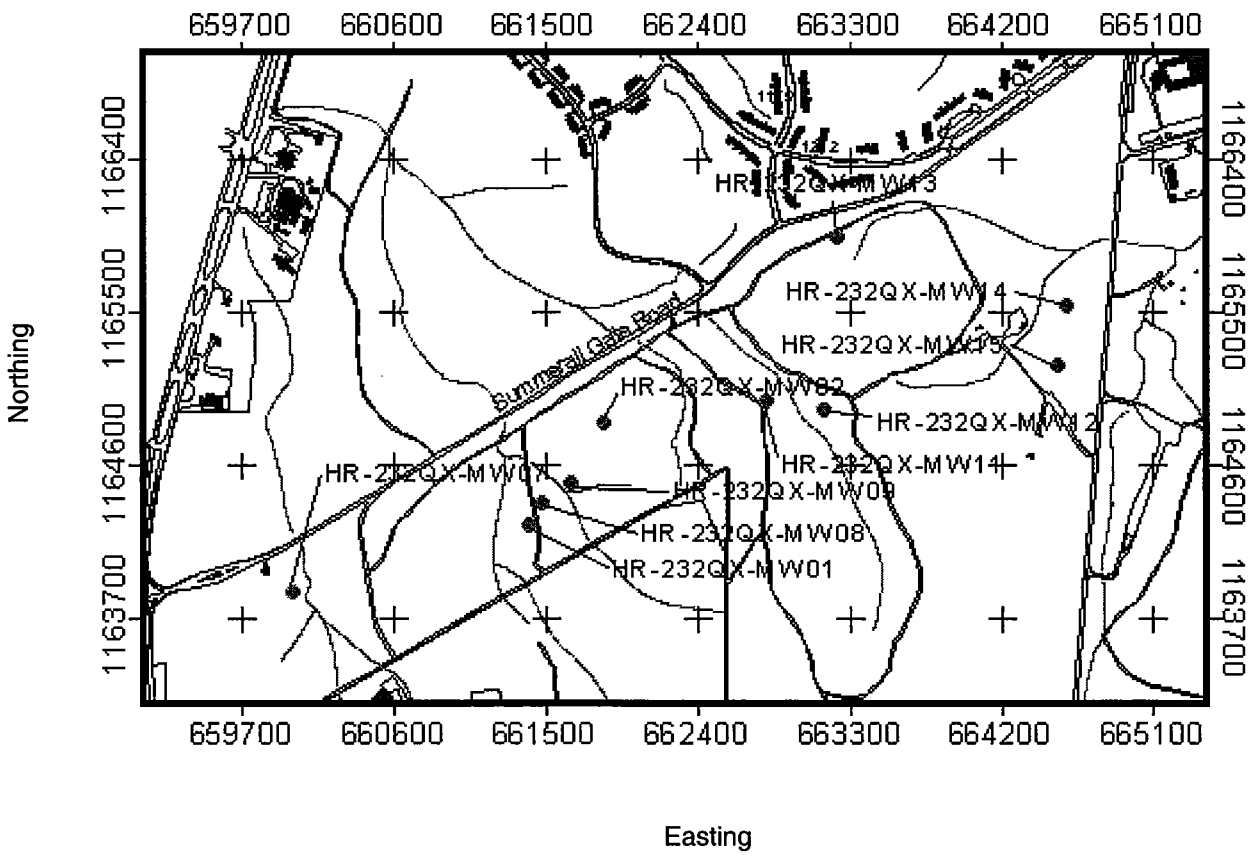
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW14
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Don White	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 820.97 10. Date started: 03/30/01 — 11. Date completed: 04/04/01
12. Overburden thickness (feet bgs): >43	15. Depth groundwater encountered (feet bgs): 32
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 43	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	L.O'Hare/N.Badon/J.Dendy		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-232QX-MW14

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW14

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 2 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Dark brown moist SILT, some Clay, little fine to coarse Sand, trace organics.	ml		Organic Vapor = 0.0ppm		ECC0029		Rec 4.0'/4.0' (0-4' bgs)
820	1	cl: Light brown to dark brown to light gray slightly moist medium stiff CLAY, little Silt.	cl		Organic Vapor = 0.0ppm				
	2								
	3								
	4	cl: Light brown slightly moist stiff CLAY, some quartz-rich Gravel, trace fine to coarse Sand.	cl		Organic Vapor = 0.0ppm		ECC0030		Rec 2.0'/2.0' (4-6' bgs)
	5								
815	6	NA: No sample collected for lithologic description.							Direct push refusal at 6' bgs
	7								
	8								
	9		NA						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW14

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 3 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
810	11								
	12								
	13	cl: Reddish brown soft CLAY, some fine to coarse Sand, little subrounded sandstone Cobble.	cl		Organic Vapor = 0.0ppm			4 7 10 11	Rec 1.5'/2.0' (13-15' bgs)
	14								
		NA: No recovery.	NA						
	15	NA: No sample collected for lithologic description.							
805	16		NA						
	17								
	18	cl: Reddish brown and yellow soft moist CLAY, some fine to coarse Sand, little coarse subrounded Gravel, little subrounded sandstone Cobble.	cl		Organic Vapor = 0.0ppm			6 5 8 10	Rec 1.8'/2.0' (18-20' bgs)
	19								
	20	NA: No recovery.	NA						
		NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW14

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 4 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
800	21								
			NA						
	22								
	23	cl: Reddish brown and yellow soft moist CLAY, some fine to coarse Sand, little coarse subrounded Gravel, little subrounded sandstone Cobble.			Organic Vapor = 0.0ppm			4 5 5 5	Rec 2.0'/2.0' (23-25' bgs)
	24		cl						
	25	NA: No sample collected for lithologic description.							
795	26								
			NA						
	27								
	28	cl: Reddish brown and yellow soft moist CLAY, some fine to coarse Sand, little coarse subrounded Gravel, little subrounded sandstone Cobble.			Organic Vapor = 0.0ppm			4 5 5 4	Rec 2.0'/2.0' (28-30' bgs)
	29		cl						
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW14

Project: Fort McClellan | Geologist: L.O'Hare/N.Badon/J.Dendy | Sheet 5 of 6 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
790	31		NA						
	32								Groundwater encountered at 32' bgs
	33	cl: Reddish brown and yellow moist CLAY, some fine to coarse subrounded Gravel, little subrounded sandstone Cobble.	cl		Organic Vapor = 0.0ppm			6 6 7 10	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
785	36								
	37								
	38	cl: Wet, reddish brown and yellow CLAY, some fine to coarse subrounded Gravel, little subrounded sandstone Cobble.	cl		Organic Vapor = 0.0ppm			7 7 8 16	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW14

Project: Fort McClellan

Geologist: L.O'Hare/N.Badon/J.Dendy

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
780	41								41
			NA						
	42								42
									Bottom of borehole at 43' bgs'
	43								43

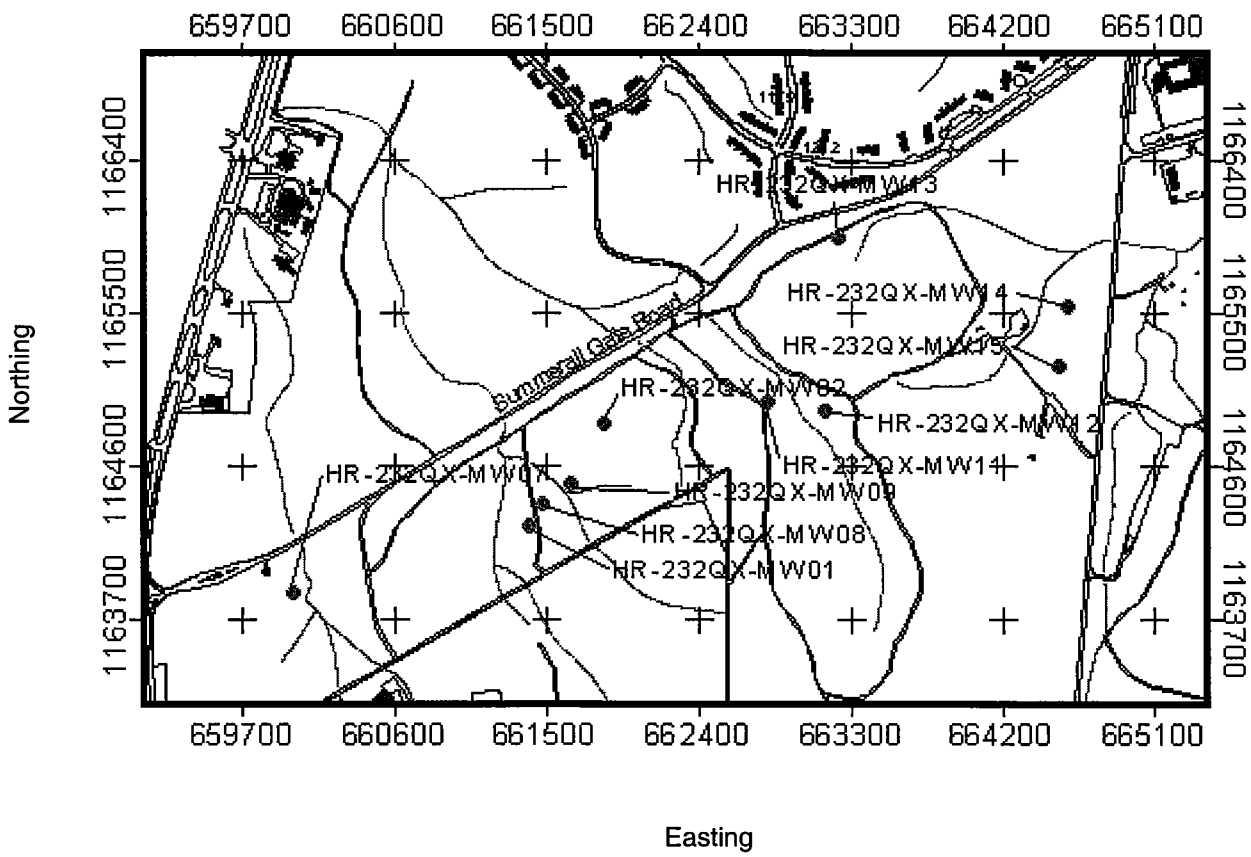
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW15
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 12 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: S.McDaniel/D.White/R.Tullier	6. Mfr. designation of drill: Strataprobe/CME-550X/Ingersoll Rand 97
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger, Air Rotary DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoon	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 832.99 10. Date started: 02/02/01 — 11. Date completed: 05/01/01
12. Overburden thickness (feet bgs): >109.5	15. Depth groundwater encountered (feet bgs): 81.1
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 78.2 ~24 hours
14. Total depth of hole (feet bgs): 109.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Badon/Dendy/O'Hare/Mayton		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: HR-232QX-MW15

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 2 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown medium stiff moist SILT, some medium to coarse Sand, little Clay, trace fine to medium subrounded Gravel.	ml		Organic Vapor = 0.0ppm		ECC0031		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown medium stiff moist CLAY, little Silt, trace fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 3.0'/3.0' (1-4' bgs)
	2								
830	3								
	4	ml: Light brown stiff moist SILT, some Clay, little fine to coarse Sand.	ml		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
825	8	ml: Light brown stiff moist SILT, some Clay, little fine to coarse Sand, trace fine subangular Gravel.			Organic Vapor = 0.0ppm				Rec 3.8'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 3 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			ml				ECC0032		
	11								
									Direct push terminated at 12' bgs
	12	NA: No sample collected for lithologic description.	NA						
820	13	cl: Reddish brown medium stiff CLAY, some fine to coarse rounded Sand, little fine to coarse subrounded Gravel.			Organic Vapor = 0.0ppm			7 10 10 12	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
	16		NA						
	17								
815	18	cl: Light brown soft CLAY, little fine to coarse rounded Sand, little fine to coarse subrounded Gravel.			Organic Vapor = 0.0ppm			5 5 5 6	Rec 2.0'/2.0' (18-20' bgs)
	19		cl						
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 4 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.							
	21		NA						
	22								
810	23	cl: Light brown and gray soft CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			2 4 3 6	Rec 2.0'/2.0' (23-25' bgs)
	24								
	25	NA: No sample collected for lithologic description.							
	26		NA						
	27								
805	28	cl: Light brown and gray soft CLAY, little Silt.	cl		Organic Vapor = 0.0ppm			5 6 8 7	Rec 2.0'/2.0' (28-30' bgs)
	29								
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 5 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
	32								
800	33	cl: Reddish brown and yellow medium stiff CLAY, some angular fine Gravel, little fine to coarse subrounded Sand.	cl		Organic Vapor = 0.0ppm			5 6 9 11	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
	36								
	37								
795	38	cl: Light brown and white medium stiff CLAY, little subangular fine to coarse Gravel, little Silt, moist.	cl		Organic Vapor = 0.0ppm			6 6 8 9	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 6 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
	42								
790	43	cl: Light brown and white medium stiff CLAY, little subangular fine to coarse Gravel, little Silt, moist.	cl		Organic Vapor = 0.0ppm			6 4 6 8	Rec 2.0'/2.0' (43-45' bgs)
	44								
	45	NA: No sample collected for lithologic description.	NA						
	46								
	47								
785	48	cl: Light brown medium stiff CLAY, little angular weathered coarse chert Gravel, little Silt.	cl		Organic Vapor = 0.0ppm			6 8 10 14	Rec 2.0'/2.0' (48-50' bgs)
	49								
	50	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 7 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51		NA						
	52								
780	53	cl: Light brown medium stiff CLAY, little angular weathered coarse chert Gravel, little Silt.	cl		Organic Vapor = 0.0ppm			5 6 7 12	Rec 2.0'/2.0' (53-55' bgs)
	54								
	55	NA: No sample collected for lithologic description.							
	56		NA						
	57								
775	58	cl: Light brown medium stiff CLAY, little angular weathered coarse chert Gravel, little Silt.	cl		Organic Vapor = 0.0ppm			5 6 7 10	Rec 2.0'/2.0' (58-60' bgs)
	59								
	60	NA: No sample collected for litholgoic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 8 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								
			NA						
	62								
770	63	cl: Reddish brown and gray, hard dry CLAY, little Silt, slightly laminated.			Organic Vapor = 0.0ppm			6 11 32 42	Rec 2.0'/2.0' (63-65' bgs)
	64		cl						
	65	NA: No sample collected for lithologic description.							
	66								
			NA						
	67								
765	68	cl: Light brown hard dry CLAY, little Silt.			Organic Vapor = 0.0ppm			10 23 28 36	Rec 2.0'/2.0' (68-70' bgs)
	69		cl						
	70	NA: No sample collected for lithologic description.							
	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 9 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	71								
			NA						
	72								
760	73	cl: Light brown hard dry CLAY, little Silt.			Organic Vapor = 0.0ppm			10 13 14 14	Rec 2.0'/2.0' (73-75' bgs)
	74		cl						
	75	cl: Yellowish orange stiff CLAY, little Silt.							Description from air rotary drill cuttings (75-109.5' bgs)
	76								
	77								
755	78								
			cl						
	79								
	80								
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 10 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	82	sh: Dark gray SHALE, highly weathered.							
750	83								
	84								
	85								
	86		sh						
	87								
745	88								
	89								
	90								
	91								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 11 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	92								92
740	93								93
	94								94
	95								95
	96		sh						96
	97								97
735	98								98
	99								99
	100	NA: No recovery.							100
	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW15

Project: Fort McClellan | Geologist: Badon/Dendy/O'Hare/Mayton | Sheet 12 of 12 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	102								102
730	103								103
	104								104
			NA						
	105								105
	106								106
	107								107
725	108								108
	109								109
									Bottom of borehole at 109.5' bgs

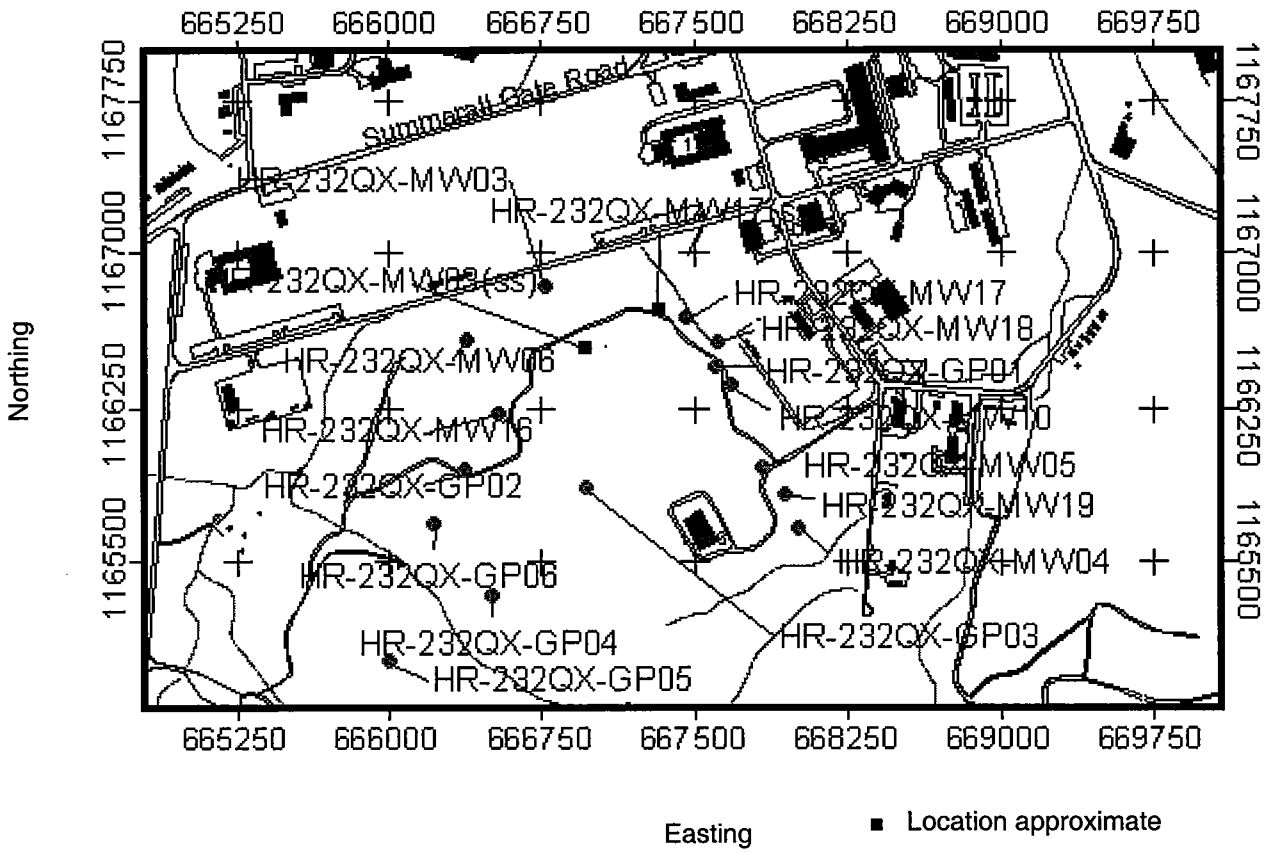
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW16
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Kevin Warren	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 851.76 10. Date started: 01/29/01 — 11. Date completed: 02/02/01
12. Overburden thickness (feet bgs): 40	15. Depth groundwater encountered (feet bgs): 35
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 40	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Jonathon Remo		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW16	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW16

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown soft moist SILT, some medium to coarse Sand, trace fine to medium subrounded Gravel.	ml		Organic Vapor = 0.0ppm		ECC0033		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light brown stiff moist CLAY, little Silt, trace fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.5'/3.0' (1-4' bgs)
850	2								
	3								
	4	cl: Light brown stiff moist CLAY, little Silt, trace fine Sand.	cl		Organic Vapor = 0.0ppm				Rec 3.6'/4.0' (4-8' bgs)
	5								
	6								
845	7								
	8	cl: Light brown very stiff slightly moist CLAY, little Silt.			Organic Vapor = 0.0ppm				Rec 3.5'/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW16

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl				ECC0034		
840	12								Direct push terminated at 12' bgs
		NA: No sample collected for lithologic description.							
	13		NA						
	14								
	15	cl: Reddish brown to gray stiff CLAY, damp. Noted some chert fragments in spoon.	cl		Organic Vapor = 0.0ppm			35 50/0.5'	Rec 1.0'/1.0' (15-16' bgs)
	16	NA: No sample collected for lithologic description.							
835	17								
	18		NA						
	19								
	20	cl: Reddish brown to gray stiff CLAY.			Organic			41	Rec 1.0'/1.0' (20-21' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW16

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			cl		Vapor = 0.0ppm			50/0.5'	
	21	NA: No sample collected for lithologic description.							
830									
	22								
	23		NA						
	24								
	25	cl: Reddish brown to gray, stiff CLAY. Angular pieces of chert and limestone in spoon.	cl		Organic Vapor = 0.0ppm			45 50/0.5'	Rec 1.0'/1.0' (25-26' bgs)
	26	NA: No sample collected for lithologic description.							
825									
	27								
	28		NA						
	29								
	30	cl: Reddish brown to gray, stiff CLAY, dry. Angular pieces of chert and limestone in			Organic Vapor			41 50/0.5'	Rec 1.0'/1.0' (30-31' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW16

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		spoon.	cl		= 0.0ppm				
	31	NA: No sample collected for lithologic description.							31
820									
	32								32
	33		NA						33
	34								34
									Groundwater encountered at 35' bgs
	35	cl: Reddish brown to brown stiff CLAY, wet. Angular pieces of chert and limestone in spoon.	cl		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (35-35.5' bgs) 35
		NA: No sample collected for lithologic description.							
	36								36
815									
	37								37
			NA						
	38								38
	39								39
									Auger refusal at 40' bgs Bottom of borehole at 40' bgs
	40								40

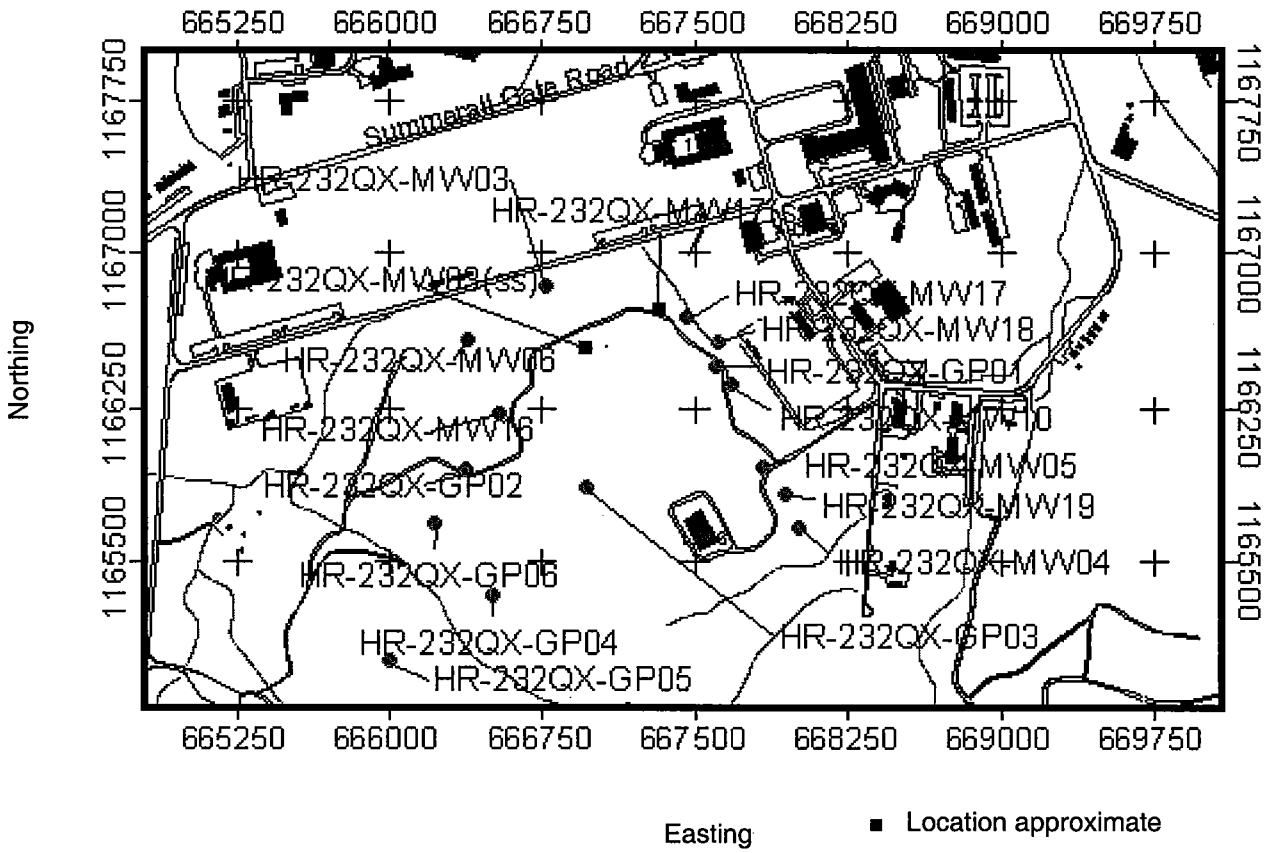
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW17
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Kevin Warren	6. Mfr. designation of drill: CME-550X
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 813.98 10. Date started: 02/01/01 — 11. Date completed: 02/02/01
12. Overburden thickness (feet bgs): 4	15. Depth groundwater encountered (feet bgs): 35.5
13. Depth drilled into rock (feet bgs): 31.5	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 35.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	NA	NA	NA	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Jonathan Remo		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW17	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW17

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	NA: No sample collected for lithologic description.	NA						Note: 120' SE of direct push location
	1								
	2								
	3								
810	4	sh: Dense, stiff, light brown to gray to black, weathered SHALE, dry.	sh		Organic Vapor = 0.0ppm			7 15 18 19	Rec 2.0'/2.0' (4-6' bgs)
	5								
	6	NA: No sample collected for lithologic description.	NA						
	7								
	8	sh: Very dense, weathered, gray to black SHALE, dry.	sh		Organic Vapor = 0.0ppm			15 25 30 41	Rec 2.0'/2.0' (8-10' bgs)
805	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW17

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		NA: No sample collected for lithologic description.							
	11								
			NA						
	12								
	13	sh: Very dense, stiff weathered gray to black SHALE, damp.	sh		Organic Vapor = 0.0ppm			22 50/0.5'	Rec 1.0'/1.0' (13-14' bgs)
800	14	NA: No sample collected for lithologic description.							
	15								
	16		NA						
	17								
	18	sh: Very dense, stiff, weathered gray to black SHALE, damp, noted iron staining throughout Shale.	sh		Organic Vapor = 0.0ppm			37 50/0.5'	Rec 1.0'/1.0' (18-19' bgs)
795	19	NA: No sample collected for lithologic description.							
	20								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW17

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21		NA						
	22								
	23	sh: Very dense, loose, weathered black SHALE, dry, iron staining throughout Shale.	sh		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (23-23.5' bgs)
		NA: No sample collected for lithologic description.							
790	24								
	25								
	26		NA						
	27								
	28	sh: Very dense, weathered gray to black carbonaceous SHALE.	sh		Organic Vapor = 0.0ppm			45 50/0.5'	Rec 1.0'/1.0' (28-29' bgs)
785	29	NA: No sample collected for lithologic description.							
	30								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW17

Project: Fort McClellan | Geologist: Jonathan Remo | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						31
	32								32
	33	sh: Very dense, loose weathered black SHALE, damp, noted calcite veins.	sh		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (33-33.5' bgs) 33
		NA: No sample collected for lithologic description.							
780	34		NA						34
	35								Groundwater encountered at 35.5' bgs Auger refusal at 35.5' bgs 35 Bottom of borehole at 35.5' bgs

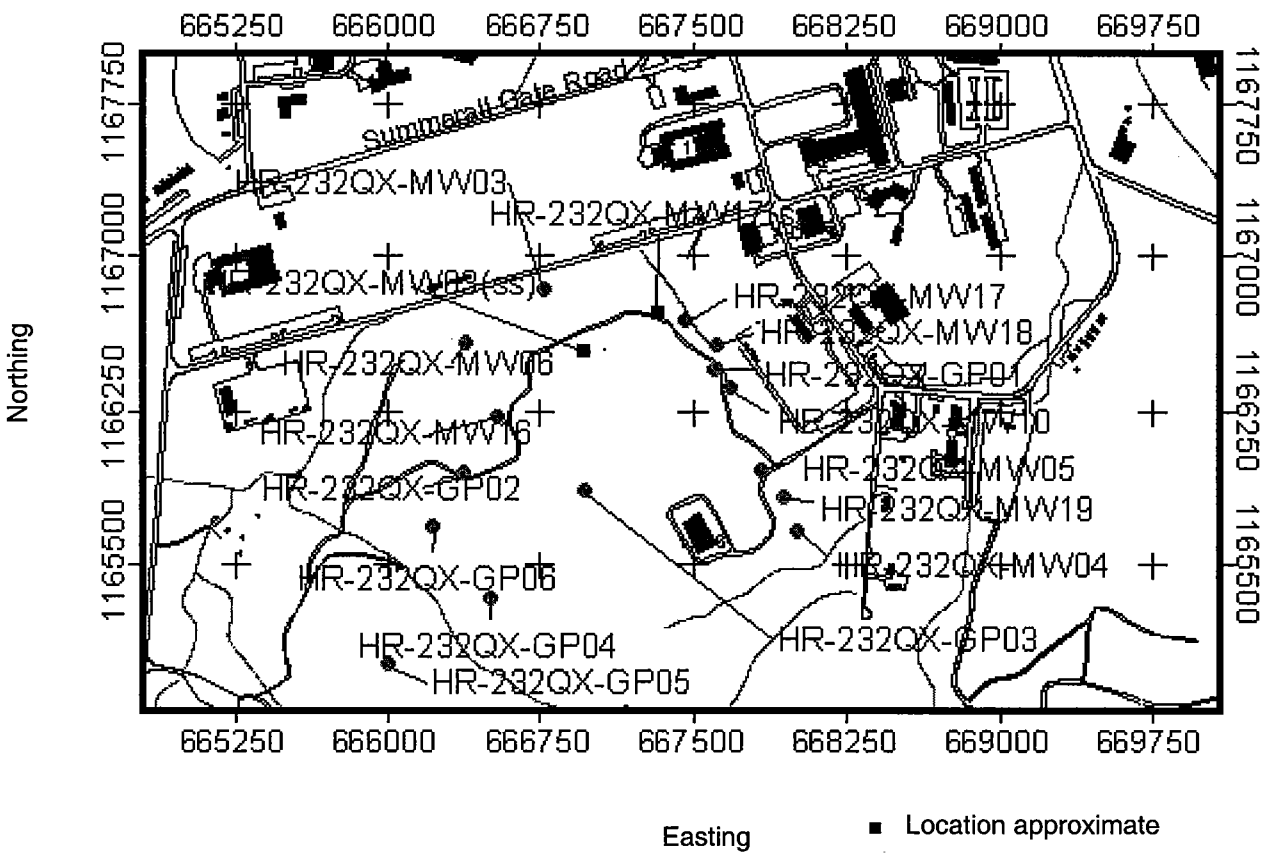
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW17(SS)
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel	6. Mfr. designation of drill: Strataprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 4'x2" Acetate-Lined Sampler	8. Hole location: Ranges West of iron Moiuntain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): approximately 823 10. Date started: 01/29/01 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): Not encountered
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 12	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	Bentonite	NA	NA	Nicole Badon		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW17(SS)	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW17(SS)

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 2 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl-ml: Dark brown to orange red SILT and CLAY, little fine to medium Sand, trace roots.	cl-ml		Organic Vapor = 0.0ppm		ECC0035		Rec 2.5/4.0' (0-4' bgs)
	1								
	2								
820	3								
	4	cl: Orange-yellow, very stiff, moist CLAY, little fine to medium Sand.	cl		Organic Vapor = 0.0ppm				Rec 3.3/4.0' (4-8' bgs)
	5								
	6								
	7								
815	8	cl: Orange-yellow, very stiff, moist CLAY, little fine to medium Sand, trace subrounded Gravel.			Organic Vapor = 0.0ppm				Rec 4.0/4.0' (8-12' bgs)
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW17(SS)

Project: Fort McClellan | Geologist: Nicole Badon | Sheet 3 of 3 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	11		cl						11
							ECC0036		
	12								Bottom of borehole 12' bgs 12

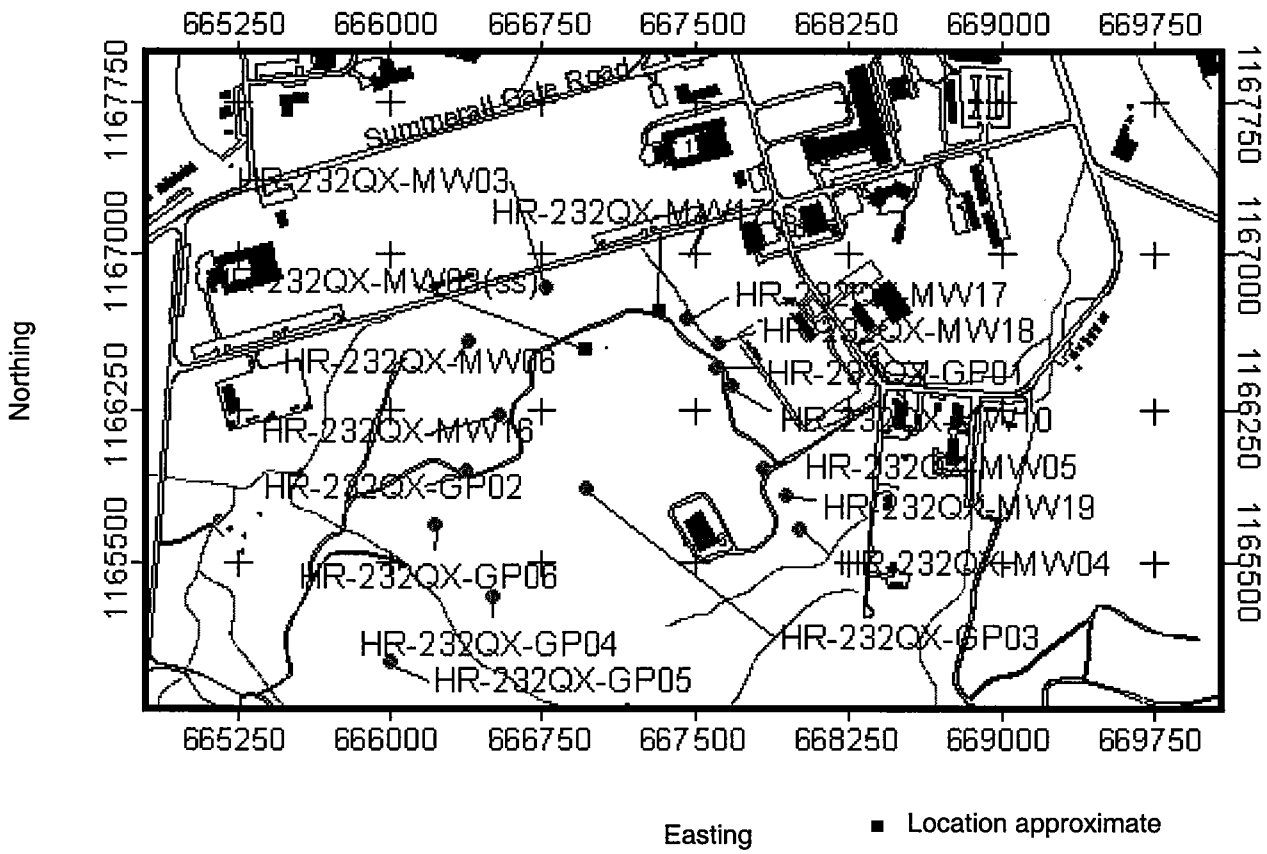
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW18
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Kevin Warren	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 824.03 10. Date started: 01/25/01 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): >37.5	15. Depth groundwater encountered (feet bgs): 33
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 37.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Jonathon Remo		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan	bgs= below ground surface NA = Not applicable	ss=direct push sample location, associated well offset	Hole no.: HR-232QX-MW18	

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW18

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 2 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Medium brown, moist, soft SILT, some fine to medium Sand, trace subangular Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		ECC0037		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Light orange stiff, moist CLAY, little Coarse Sand, trace Silt.	cl		Organic Vapor = 0.0ppm				Rec 2.3'/3.0' (1-4' bgs)
	2								
	3								
820	4	cl: Light orange to off-white, stiff, moist CLAY, some coarse Sand.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7						ECC0038		
	8	NA: No sample collected for lithologic description.	NA		Organic Vapor = 0.0ppm				Direct push refusal at 8' bgs
815	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW18

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 3 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sh: Weathered gray to black SHALE, dry. Noted iron staining in sample.	sh		Organic Vapor = 0.0ppm			50/0.5'	Rec 0.5'/0.5' (10-10.5' bgs)
		sh: Weathered gray to black SHALE, dry.							Description from HSA drill cuttings (10.5-37.5' bgs)
	11								11
	12								12
	13								13
810	14								14
	15		sh						15
	16								16
	17								17
	18								18
805	19								19
	20	sh: Weathered gray to black SHALE, dry.							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW18

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 4 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	21								21
	22								22
			sh						
	23								23
800	24								24
	25	sh: Weathered black SHALE.							25
	26								26
	27								27
			sh						
	28								28
795	29								29
	30	sh: Weathered black SHALE, dry.							30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW18

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 5 of 5 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		sh						31
	32								32
	33	sh: Weathered black SHALE, wet.							33 Groundwater encountered at 33' bgs
790	34								34
	35		sh						35
	36								36
	37								37 Auger refusal at 37.5' bgs Bottom of borehole at 37.5' bgs

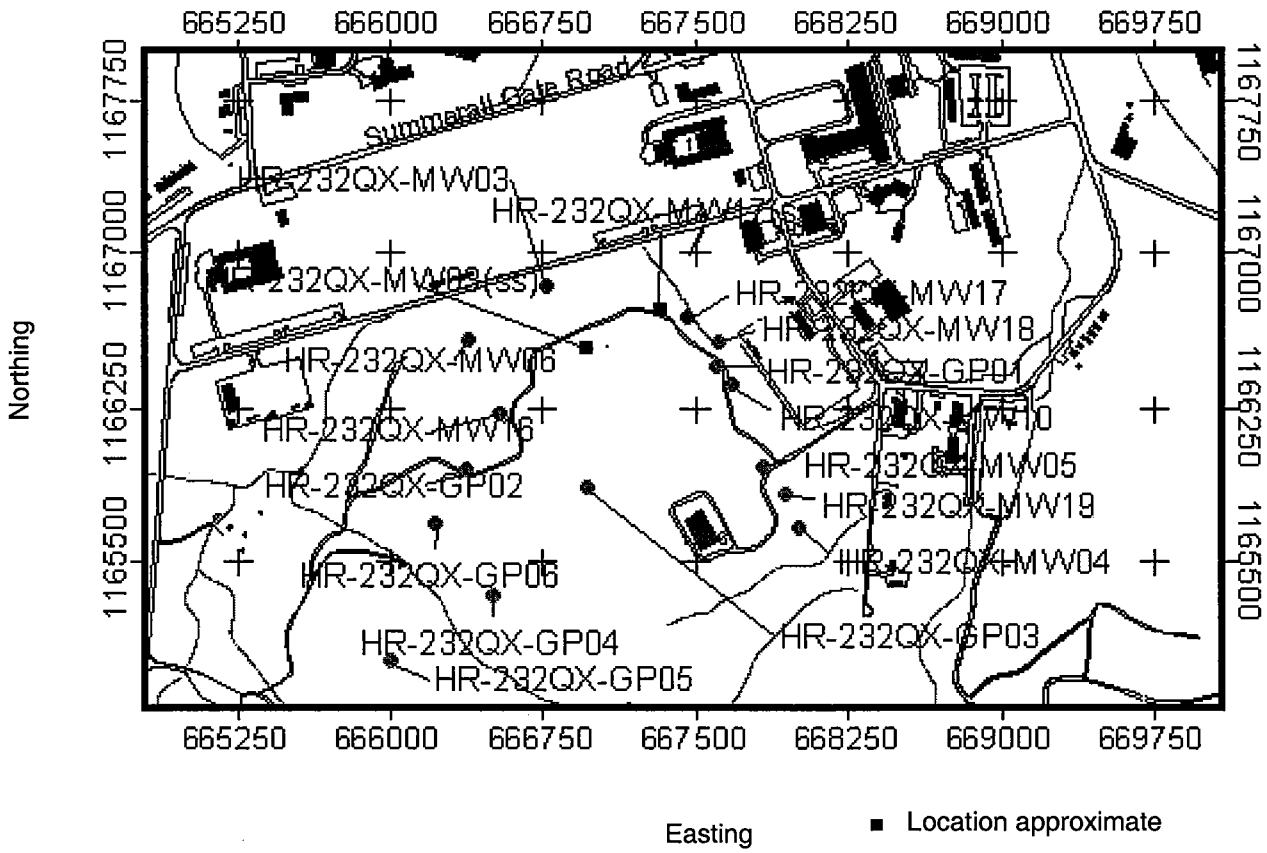
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** HR-232QX-MW19
1. Company name: **IT Corporation**	2. Drill Subcontractor: ESN/Miller Drilling Company	Sheet 1 of 8 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Sammy McDaniel/Kevin Warren	6. Mfr. designation of drill: Strataprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 4'x2" Acetate-Lined Sampler HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons	8. Hole location: Ranges West of Iron Mountain Road, Parcel 232QX 9. Surface elevation (feet above mean sea level): 857.29 10. Date started: 01/22/01 — 11. Date completed: 01/29/01
12. Overburden thickness (feet bgs): 43	15. Depth groundwater encountered (feet bgs): 58
13. Depth drilled into rock (feet bgs): 20.5	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 63.5	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
	NA	NA	NA			
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	NA	Yes	Explosives	Perchlorate	NA	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	2" Permanent	NA	Nicole Badon/Jonathon Remo		

LOCATION SKETCH/COMMENTS:



■ Location approximate

Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

ss=direct push sample location, associated well offset

Hole no.: HR-232QX-MW19

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW19

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 2 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	ml: Light brown soft moist SILT, some fine to medium Sand, trace fine subangular Gravel, trace roots.	ml		Organic Vapor = 0.0ppm		ECC0039		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: Reddish orange medium stiff to stiff moist CLAY, trace fine subrounded Gravel, trace fine to medium Sand.	cl		Organic Vapor = 0.0ppm				Rec 2.8'/3.0' (1-4' bgs)
855	2								
	3								
	4	cl: Reddish orange stiff moist CLAY, trace medium to coarse Sand, trace fine subrounded Gravel.	cl		Organic Vapor = 0.0ppm				Rec 4.0'/4.0' (4-8' bgs)
	5								
	6								
	7								
850							ECC0040		
	8	NA: No sample collected for lithologic description.			Organic Vapor = 20.2ppm				Direct push refusal at 8' bgs
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW19

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 3 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			NA						
	11								
	12								
845									
	13	cl: Stiff reddish brown CLAY, little Sand, mottled light brown. Noted quartz fragments in spoon.			Organic Vapor = 23.1ppm			10 13 16 18	Rec 2.0'/2.0' (13-15' bgs)
	14		cl						
	15	NA: No sample collected for lithologic description.							
	16								
			NA						
	17								
840									
	18	cl: Stiff, brown to reddish brown CLAY, some Sand, moist.			Organic Vapor = 41.2ppm			7 10 11 13	Rec 2.0'/2.0' (18-20' bgs)
	19								
	20	NA: No sample collected for lithologic							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW19

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 4 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		description.	NA						
	21								
	22								
835									
	23	cl: Medium stiff, reddish brown CLAY, little Sand, moist, mottled light brown.	cl		Organic Vapor = 102.5ppm			6 7 9 10	Rec 2.0'/2.0' (23-25' bgs)
	24								
	25	NA: No sample collected for lithologic description.	NA						
	26								
	27								
830									
	28	cl: Stiff, reddish brown to brown CLAY, trace Sand, damp. Noted manganese grains and nodules in spoon.	cl		Organic Vapor = 54.3ppm			8 10 11 15	Rec 2.0'/2.0' (28-30' bgs)
	29								
	30	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW19

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 5 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	31		NA						
825	32								
	33	cl: Stiff, reddish brown CLAY, little Sand, trace fine Gravel, mottled light brown, damp. Noted areas of manganese grains and nodules.	cl		Organic Vapor = 103ppm			6 8 10 15	Rec 2.0'/2.0' (33-35' bgs)
	34								
	35	NA: No sample collected for lithologic description.	NA						
	36								
820	37								
	38	cl: Medium stiff brown to reddish brown CLAY, some Sand, moist. Noted more manganese nodules.	cl		Organic Vapor = 270ppm			5 7 8 10	Rec 2.0'/2.0' (38-40' bgs)
	39								
	40	NA: No sample collected for lithologic description.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW19

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 6 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	41		NA						
815	42								
	43	sh: Loose weathered black to gray SHALE, very dense, dry.	sh		Organic Vapor = 245ppm			42 50/0.5'	Rec 1.0'/1.0' (43-44' bgs)
	44	sh: Weathered black to gray SHALE.							Description from HSA drill cuttings (44-63.5' bgs)
	45								
	46								
810	47		sh						
	48								
	49								
	50								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW19

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 7 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	51								51
	52								52
805									
	53								53
	54								54
	55		sh						55
	56								56
	57								57
800									
	58								58 Groundwater encountered at 58' bgs
	59								59
	60	sh: Weathered gray to black SHALE.							60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: HR-232QX-MW19

Project: Fort McClellan | Geologist: Nicole Badon/Jonathon Remo | Sheet 8 of 8 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	61								61
			sh						
	62								62
795									
	63								63
									Bottom of borehole at 63.5'

WELL CONSTRUCTION LOGS

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

WELL NO: HR-73Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 30-MAR-01
NORTHING: 1165007.06
EASTING: 663389.19
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 891.71

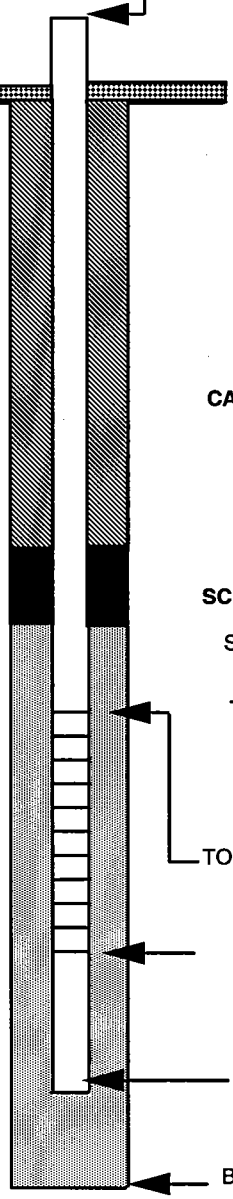
TOP of WELL CASING or RISER PIPE
EL* 893.79 STICKUP 2.08

SURFACE SEAL

TYPE of SURFACE SEAL	MINIMUM THICKNESS
Concrete	4 inches

ANNULAR SPACE SEAL TYPE

Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	70
Sand No 0	78

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	80

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 802.71 DEPTH 89

BOTTOM of SCREENED INTERVAL
EL* 772.71 DEPTH 119

BOTTOM of SUMP and WELL
EL* 772.71 DEPTH 119

BOTTOM of BOREHOLE
EL* 772.71 DEPTH 119

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

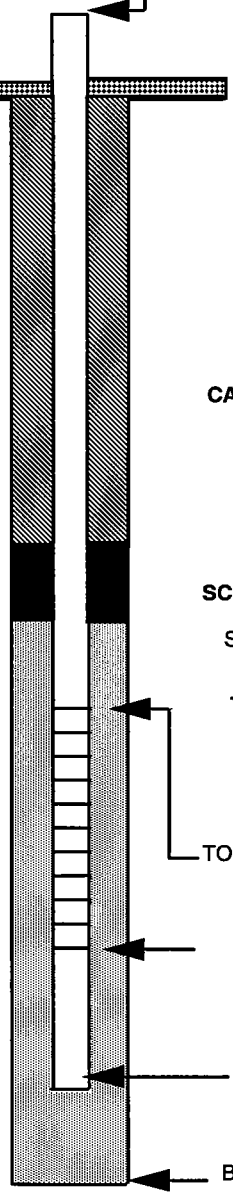
WELL NO: HR-73Q-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 15-MAR-01
NORTHING: 1165199.73
EASTING: 663803.55
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 848.22

TOP of WELL CASING or RISER PIPE
EL* 850.23 STICKUP 2.01

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches): 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 26

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 29

TOP OF SCREENED INTERVAL
EL* 816.22 DEPTH 32

BOTTOM of SCREENED INTERVAL
EL* 796.22 DEPTH 52

BOTTOM of SUMP and WELL
EL* 796.22 DEPTH 52

BOTTOM of BOREHOLE
EL* 796.22 DEPTH 52

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

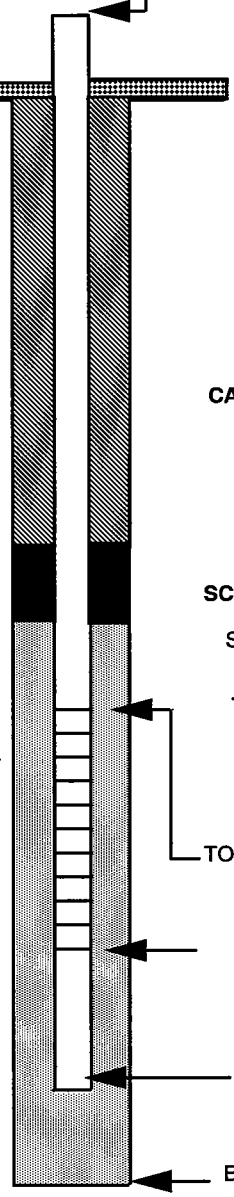
WELL NO: HR-73Q-MW03
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 05-APR-01
NORTHING: 1164386.21
EASTING: 663550.48
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 947.49

TOP of WELL CASING or RISER PIPE
EL* 949.47 STICKUP 1.98

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 61

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 66

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 876.49 DEPTH 71

BOTTOM of SCREENED INTERVAL
EL* 861.49 DEPTH 86

BOTTOM of SUMP and WELL
EL* 861.49 DEPTH 86

BOTTOM of BOREHOLE
EL* 861.49 DEPTH 86

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

WELL NO: HR-73Q-MW04
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 15-MAY-01
NORTHING: 1164843.65
EASTING: 664031.63
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 848.35

TOP of WELL CASING or RISER PIPE
EL* 847.83 STICKUP N/A

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 27.5

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 30.5

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 814.35 DEPTH 34

BOTTOM of SCREENED INTERVAL
EL* 799.35 DEPTH 49

BOTTOM of SUMP and WELL
EL* 799.35 DEPTH 49

BOTTOM of BOREHOLE
EL* 799.35 DEPTH 49

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Co
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

WELL NO: HR-91Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 23-MAR-01
NORTHING: 1163474.91
EASTING: 663077.55
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1073.29

TOP of WELL CASING or RISER PIPE
EL* 1075.35 STICKUP 2.06

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 12

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 14.8

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 1053.29 DEPTH 20

BOTTOM of SCREENED INTERVAL
EL* 1033.29 DEPTH 40

BOTTOM of SUMP and WELL
EL* 1033.29 DEPTH 40

BOTTOM of BOREHOLE
EL* 1033.29 DEPTH 40

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

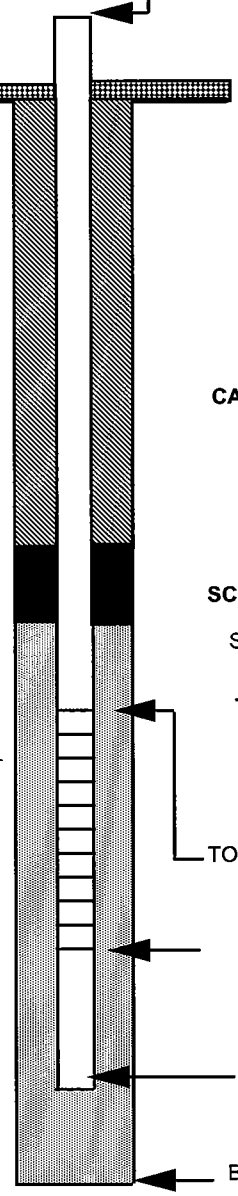
WELL NO: HR-91Q-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 19-APR-01
NORTHING: 1163637.82
EASTING: 662566.88
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 973.92

TOP of WELL CASING or RISER PIPE
EL* 973.79 STICKUP N/A

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 12

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 15

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 955.92 DEPTH 18

BOTTOM of SCREENED INTERVAL
EL* 945.92 DEPTH 28

BOTTOM of SUMP and WELL
EL* 945.92 DEPTH 28

BOTTOM of BOREHOLE
EL* 945.92 DEPTH 28

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Robert Tullier
IT FIELD REPRESENTATIVE: L. O'Hare/ D. Mayton

WELL NO: HR-91Q-MW03
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 01-MAY-01
NORTHING: 1163333.66
EASTING: 663599.51
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1052.98

TOP of WELL CASING or RISER PIPE
EL* 1054.91 STICKUP 1.93

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	57
Sand No 0	62

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	64

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 986.23 DEPTH 66.75

BOTTOM of SCREENED INTERVAL
EL* 966.23 DEPTH 86.75

BOTTOM of SUMP and WELL
EL* 965.98 DEPTH 87

BOTTOM of BOREHOLE
EL* 965.98 DEPTH 87

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Robert Tullier
IT FIELD REPRESENTATIVE: L. O'Hare

WELL NO: HR-91Q-MW04
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 01-MAY-01
NORTHING: 1163330.39
EASTING: 663964.69
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 985.98

TOP of WELL CASING or RISER PIPE
EL* 988.03 STICKUP 2.05

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	072
Sand No 0	117

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	120

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 861.23 DEPTH 124.75

BOTTOM of SCREENED INTERVAL
EL* 841.23 DEPTH 144.75

BOTTOM of SUMP and WELL
EL* 840.98 DEPTH 145

BOTTOM of BOREHOLE
EL* 840.98 DEPTH 145

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

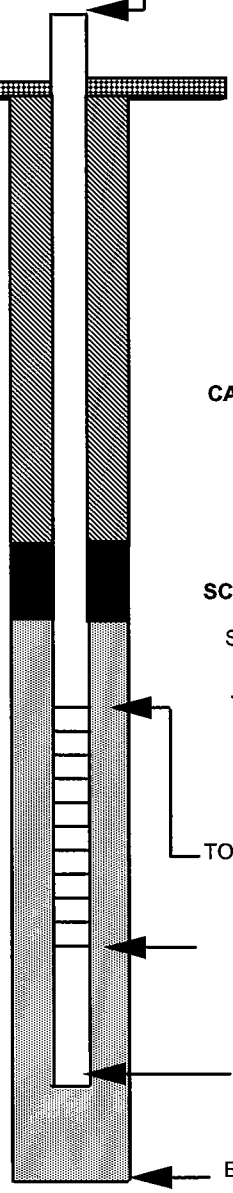
WELL NO: HR-91Q-MW05
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 17-MAY-01
NORTHING: 1162744.99
EASTING: 662556.9
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1042.55

TOP of WELL CASING or RISER PIPE
EL* 1042.03 STICKUP N/A

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 36

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 39

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 1000.55 DEPTH 42

BOTTOM of SCREENED INTERVAL
EL* 980.55 DEPTH 62

BOTTOM of SUMP and WELL
EL* 980.55 DEPTH 62

BOTTOM of BOREHOLE
EL* 980.55 DEPTH 62

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Ken Gobell
IT FIELD REPRESENTATIVE: Dennis Mayton

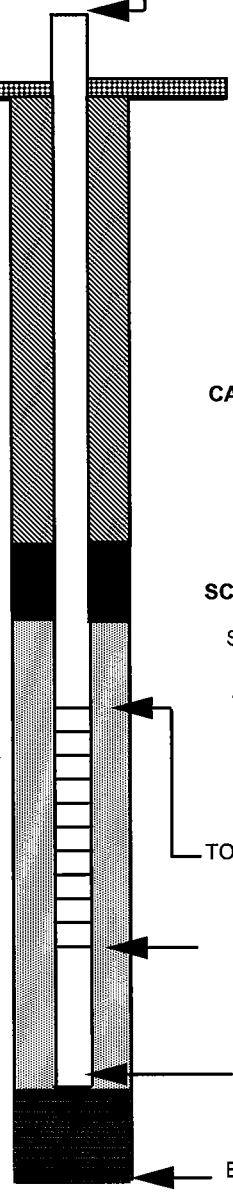
WELL NO: HR-91Q-MW06
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 27-MAR-01
NORTHING: 1163565.53
EASTING: 664569.28
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 866.77

TOP of WELL CASING or RISER PIPE
EL* 868.24 STICKUP 1.47

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 12

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 17.6

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 844.02 DEPTH 22.75

BOTTOM of SCREENED INTERVAL
EL* 824.02 DEPTH 42.75

BOTTOM of SUMP and WELL
EL* 823.77 DEPTH 43

BOTTOM of BOREHOLE
EL* 822.77 DEPTH 44

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Ken Gobell
IT FIELD REPRESENTATIVE: Dennis Mayton

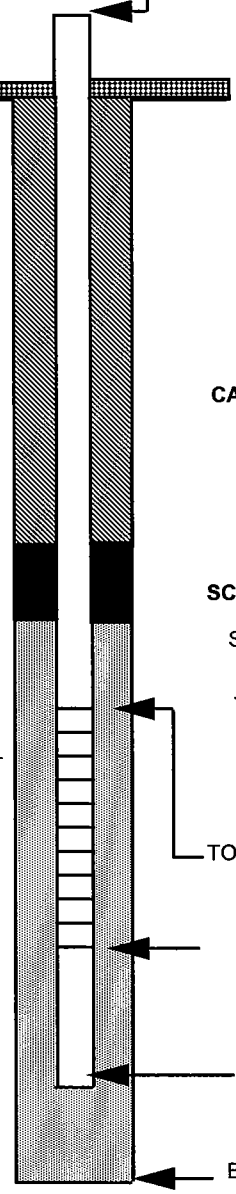
WELL NO: HR-91Q-MW07
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 28-MAR-01
NORTHING: 1163336.7
EASTING: 664470.76
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 873.8

TOP of WELL CASING or RISER PIPE
EL* 875.86 STICKUP 2.06

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 8

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 14.7

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 855.05 DEPTH 18.75

BOTTOM of SCREENED INTERVAL
EL* 835.05 DEPTH 38.75

BOTTOM of SUMP and WELL
EL* 834.8 DEPTH 39

BOTTOM of BOREHOLE
EL* 834.8 DEPTH 39

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Mike Martin
IT FIELD REPRESENTATIVE: George Robertson

WELL NO: HR-91Q-MW08
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 23-MAR-01
NORTHING: 1162591.79
EASTING: 664616.49
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 873.1

TOP of WELL CASING or RISER PIPE
EL* 872.85 STICKUP N/A

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 6.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 13.4

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 19.5

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 848.4 DEPTH 24.7

BOTTOM of SCREENED INTERVAL
EL* 833.4 DEPTH 39.7

BOTTOM of SUMP and WELL
EL* 833.2 DEPTH 39.9

BOTTOM of BOREHOLE
EL* 833.2 DEPTH 39.9

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

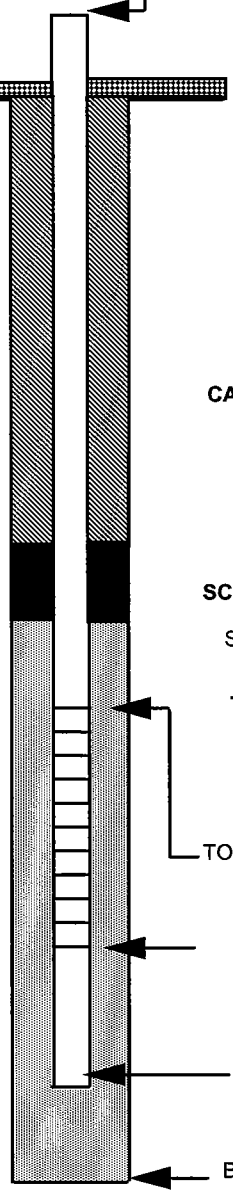
WELL NO: HR-91Q-MW09
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 14-MAR-01
NORTHING: 1161944.59
EASTING: 664504.77
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 903.31

TOP of WELL CASING or RISER PIPE
EL* 902.95 STICKUP N/A

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 15.5

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 19.7

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 878.31 DEPTH 25

BOTTOM of SCREENED INTERVAL
EL* 858.31 DEPTH 45

BOTTOM of SUMP and WELL
EL* 858.31 DEPTH 45

BOTTOM of BOREHOLE
EL* 858.31 DEPTH 45

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Ken Gobell
IT FIELD REPRESENTATIVE: Nicole Badon

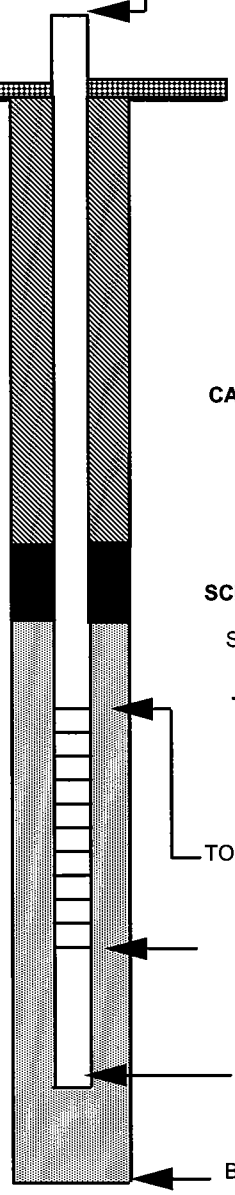
WELL NO: HR-115Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 25-JAN-01
NORTHING: 1161819.38
EASTING: 660363.94
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 803.53

TOP of WELL CASING or RISER PIPE
EL* 805.78 STICKUP 2.25

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Bentonite



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 1

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 3

TOP OF SCREENED INTERVAL
EL* 795.73 DEPTH 7.8

BOTTOM of SCREENED INTERVAL
EL* 775.73 DEPTH 27.8

BOTTOM of SUMP and WELL
EL* 775.53 DEPTH 28

BOTTOM of BOREHOLE
EL* 775.53 DEPTH 28

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: B. Goodrich
IT FIELD REPRESENTATIVE: S. White

WELL NO: HR-115Q-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 24-JAN-01
NORTHING: 1161657.8
EASTING: 660446.95
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 806.54

TOP of WELL CASING or RISER PIPE
EL* 808.78 STICKUP 2.24

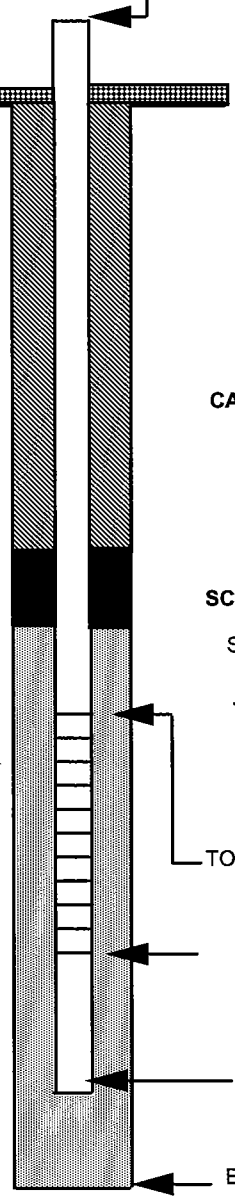
SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Bentonite

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 9.65

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 12.0



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 791.89 DEPTH 14.65

BOTTOM of SCREENED INTERVAL
EL* 776.89 DEPTH 29.65

BOTTOM of SUMP and WELL
EL* 776.54 DEPTH 30

BOTTOM of BOREHOLE
EL* 776.54 DEPTH 30

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: B. Goodrich
IT FIELD REPRESENTATIVE: S. White

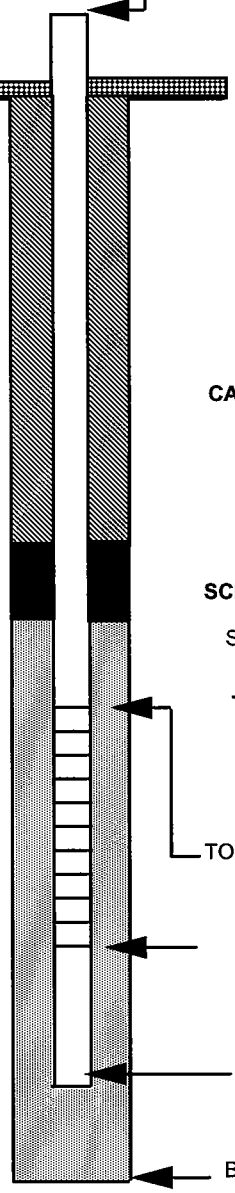
WELL NO: HR-115Q-MW03
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 01-FEB-01
NORTHING: 1161527.82
EASTING: 660361.16
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 816.14

TOP of WELL CASING or RISER PIPE
EL* 818.09 STICKUP 1.95

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Bentonite



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 16.2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 19.0

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 796.19 DEPTH 19.95

BOTTOM of SCREENED INTERVAL
EL* 781.19 DEPTH 34.95

BOTTOM of SUMP and WELL
EL* 780.94 DEPTH 35.2

BOTTOM of BOREHOLE
EL* 779.14 DEPTH 37

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drlling Company
DRILLER: Ken Gobell
IT FIELD REPRESENTATIVE: Nicole Badon

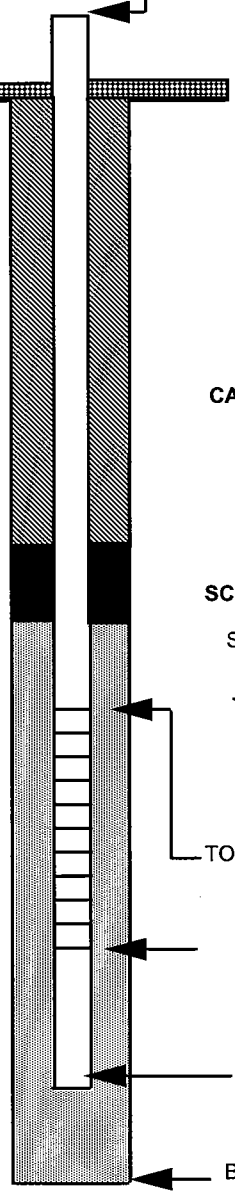
WELL NO: HR-115Q-MW04
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 24-JAN-01
NORTHING: 1161328.3
EASTING: 660354.22
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 826.09

TOP of WELL CASING or RISER PIPE
EL* 828.26 STICKUP 2.17

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Bentonite



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 18

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 21

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 801.09 DEPTH 25

BOTTOM of SCREENED INTERVAL
EL* 786.09 DEPTH 40

BOTTOM of SUMP and WELL
EL* 786.09 DEPTH 40

BOTTOM of BOREHOLE
EL* 786.09 DEPTH 40

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: B. Goodrich
IT FIELD REPRESENTATIVE: S. White

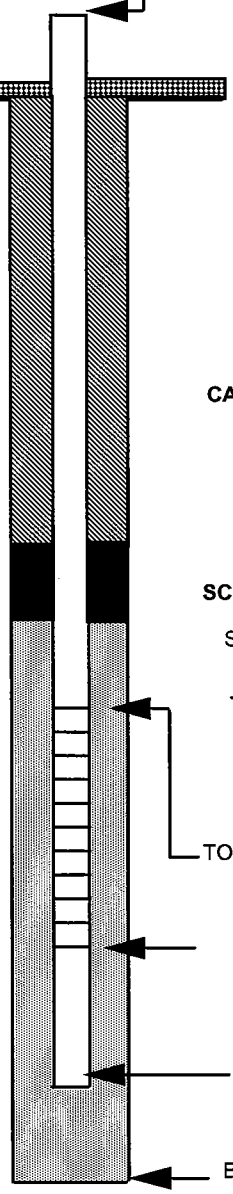
WELL NO: HR-115Q-MW05
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 26-JAN-01
NORTHING: 1161519.28
EASTING: 660531.57
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 817.63

TOP of WELL CASING or RISER PIPE
EL* 819.86 STICKUP 2.23

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 51

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 54

TOP OF SCREENED INTERVAL
EL* 761.03 DEPTH 56.6

BOTTOM of SCREENED INTERVAL
EL* 741.03 DEPTH 76.6

BOTTOM of SUMP and WELL
EL* 740.73 DEPTH 76.9

BOTTOM of BOREHOLE
EL* 740.13 DEPTH 77.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: R. McNiel
IT FIELD REPRESENTATIVE: S. White

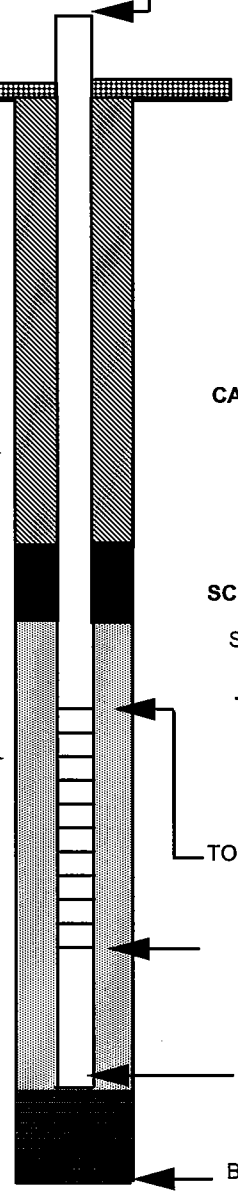
WELL NO: HR-116Q-MW01
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 14-MAY-01
NORTHING: 1159831.94
EASTING: 661249
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 959.98

TOP of WELL CASING or RISER PIPE
EL* 962.09 STICKUP 2.11

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 6

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 41.1

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 44.2

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 909.12 DEPTH 50.86

BOTTOM of SCREENED INTERVAL
EL* 889.12 DEPTH 70.86

BOTTOM of SUMP and WELL
EL* 888.78 DEPTH 71.2

BOTTOM of BOREHOLE
EL* 887.98 DEPTH 72

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

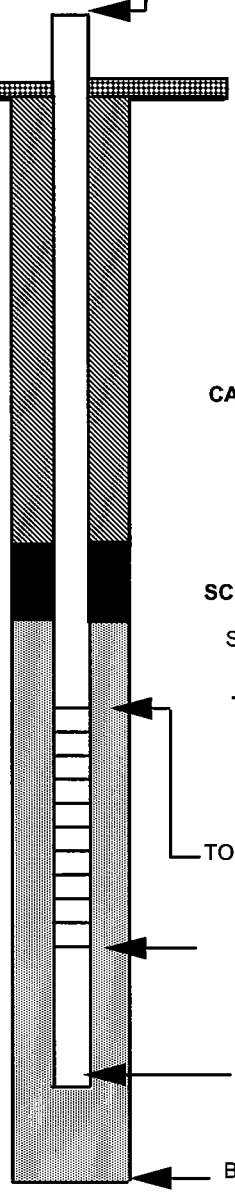
WELL NO: HR-116Q-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 08-FEB-01
NORTHING: 1159331.7
EASTING: 661549.08
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1021.07

TOP of WELL CASING or RISER PIPE
EL* 1023.15 STICKUP 2.08

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 53

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 58

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 957.07 DEPTH 64

BOTTOM of SCREENED INTERVAL
EL* 937.07 DEPTH 84

BOTTOM of SUMP and WELL
EL* 937.07 DEPTH 84

BOTTOM of BOREHOLE
EL* 937.07 DEPTH 84

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: B. Goodrich
IT FIELD REPRESENTATIVE: S. White

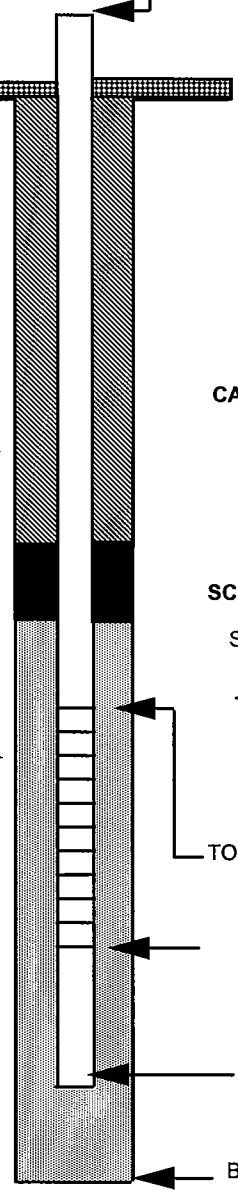
WELL NO: HR-116Q-MW03
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 23-JAN-01
NORTHING: 1160867.56
EASTING: 662286.67
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 888.2

TOP of WELL CASING or RISER PIPE
EL* 890.07 STICKUP 1.87

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 9

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 7

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 10

TOP OF SCREENED INTERVAL
EL* 875.6 DEPTH 12.6

BOTTOM of SCREENED INTERVAL
EL* 860.6 DEPTH 27.6

BOTTOM of SUMP and WELL
EL* 860.2 DEPTH 28

BOTTOM of BOREHOLE
EL* 860.2 DEPTH 28

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Mike Martin
IT FIELD REPRESENTATIVE: George Robertson

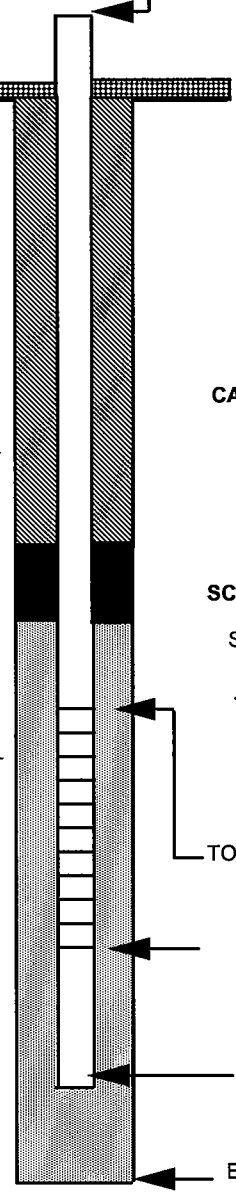
WELL NO: HR-116Q-MW04
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 30-MAR-01
NORTHING: 1161117.89
EASTING: 664776.06
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 911.42

TOP of WELL CASING or RISER PIPE
EL* 913.41 STICKUP 1.99

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 6.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 19.1

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 24.5

TOP OF SCREENED INTERVAL
EL* 882.42 DEPTH 29

BOTTOM of SCREENED INTERVAL
EL* 862.42 DEPTH 49

BOTTOM of SUMP and WELL
EL* 862.22 DEPTH 49.2

BOTTOM of BOREHOLE
EL* 862.22 DEPTH 49.2

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: R. McNeil
IT FIELD REPRESENTATIVE: G. Robertson

WELL NO: HR-116Q-MW05
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 07-FEB-01
NORTHING: 1161660.86
EASTING: 664402.45
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 923.67

TOP of WELL CASING or RISER PIPE
EL* 925.66 STICKUP 1.99

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 6.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 41.2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 48

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 870.17 DEPTH 53.5

BOTTOM of SCREENED INTERVAL
EL* 850.17 DEPTH 73.5

BOTTOM of SUMP and WELL
EL* 849.87 DEPTH 73.8

BOTTOM of BOREHOLE
EL* 788.67 DEPTH 135

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Co
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

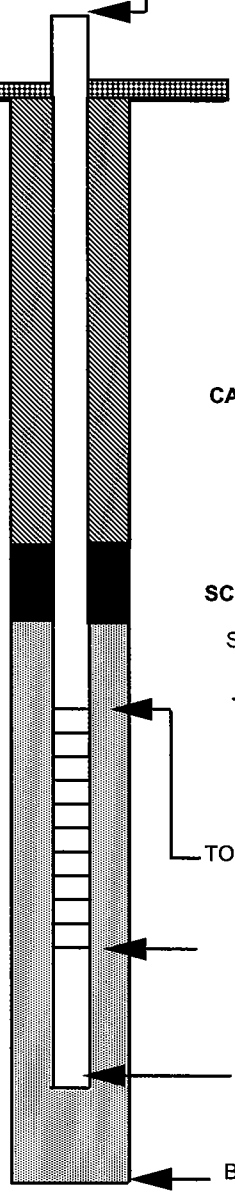
WELL NO: HR-116Q-MW06
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 27-FEB-01
NORTHING: 1159573.4
EASTING: 661592.44
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 997.76

TOP of WELL CASING or RISER PIPE
EL* 999.85 STICKUP 2.09

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches): 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 21.5

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 24.95

TOP OF SCREENED INTERVAL
EL* 967.76 DEPTH 30

BOTTOM of SCREENED INTERVAL
EL* 947.76 DEPTH 50

BOTTOM of SUMP and WELL
EL* 947.76 DEPTH 50

BOTTOM of BOREHOLE
EL* 900.76 DEPTH 97

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Mike Martin
IT FIELD REPRESENTATIVE: George Robertson

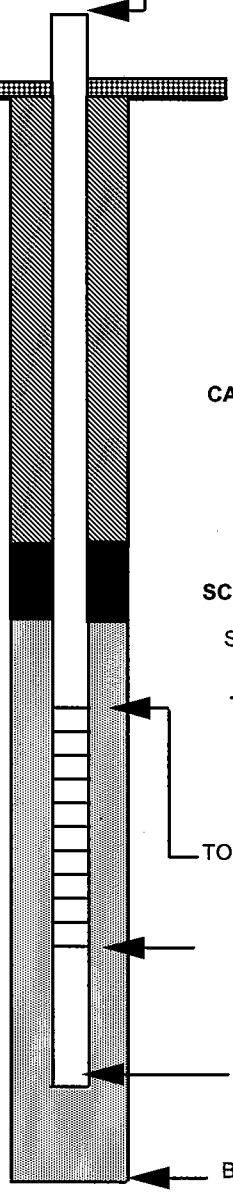
WELL NO: HR-116Q-MW07
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 11-APR-01
NORTHING: 1160508.14
EASTING: 662406.59
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 967.61

TOP of WELL CASING or RISER PIPE
EL* 969.61 STICKUP 2.00

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 6.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 18.8

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 22.8

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 940.21 DEPTH 27.4

BOTTOM of SCREENED INTERVAL
EL* 920.21 DEPTH 47.4

BOTTOM of SUMP and WELL
EL* 920.01 DEPTH 47.6

BOTTOM of BOREHOLE
EL* 920.01 DEPTH 47.6

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

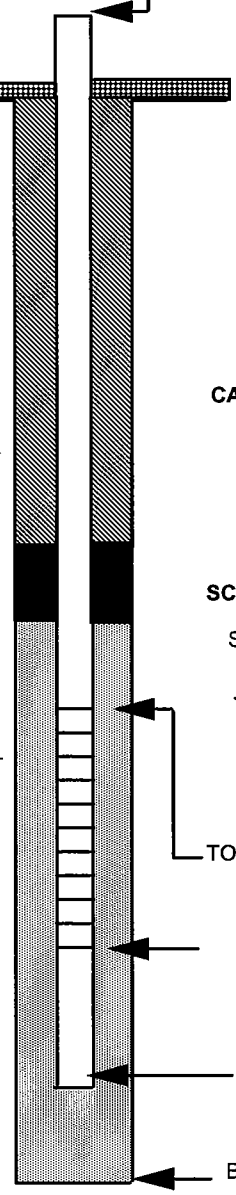
WELL NO: HR-116Q-MW08
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 03-MAY-01
NORTHING: 1160163.97
EASTING: 662277.53
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 913.71

TOP of WELL CASING or RISER PIPE
EL* 915.6 STICKUP 1.89

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches): 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 31.0

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 34

TOP OF SCREENED INTERVAL
EL* 876.71 DEPTH 37

BOTTOM of SCREENED INTERVAL
EL* 856.71 DEPTH 57

BOTTOM of SUMP and WELL
EL* 856.71 DEPTH 57

BOTTOM of BOREHOLE
EL* 856.71 DEPTH 57

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: James Dendy

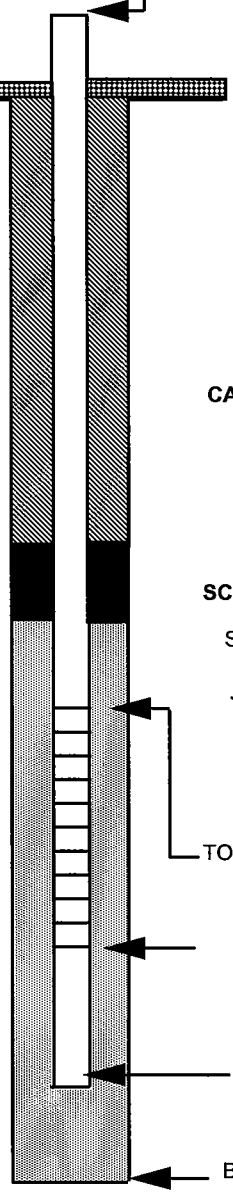
WELL NO: HR-116Q-MW09
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 03-MAY-01
NORTHING: 1159923.48
EASTING: 662323.45
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 925.26

TOP of WELL CASING or RISER PIPE
EL* 926.89 STICKUP 1.63

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 28.0

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 32

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 890.76 DEPTH 34.5

BOTTOM of SCREENED INTERVAL
EL* 870.76 DEPTH 54.5

BOTTOM of SUMP and WELL
EL* 870.76 DEPTH 54.5

BOTTOM of BOREHOLE
EL* 870.76 DEPTH 54.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

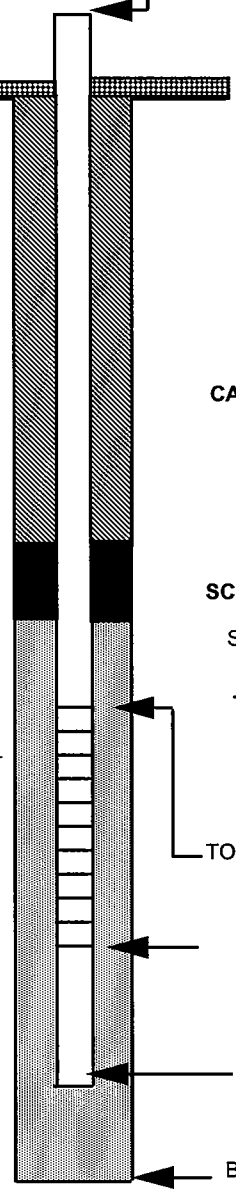
WELL NO: HR-116Q-MW10
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 15-FEB-01
NORTHING: 1159805.75
EASTING: 662637.83
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 970.03

TOP of WELL CASING or RISER PIPE
EL* 971.53 STICKUP 1.5

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 73.3

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 78

TOP OF SCREENED INTERVAL
EL* 886.03 DEPTH 84

BOTTOM of SCREENED INTERVAL
EL* 866.03 DEPTH 104

BOTTOM of SUMP and WELL
EL* 866.03 DEPTH 104

BOTTOM of BOREHOLE
EL* 866.03 DEPTH 104

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

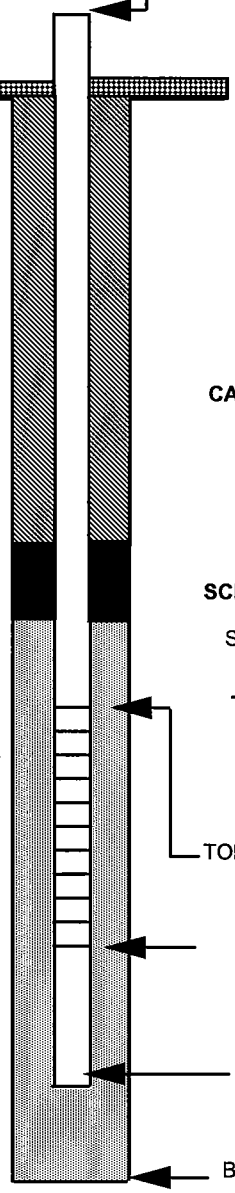
WELL NO: HR-116Q-MW11
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 19-APR-01
NORTHING: 1159605.65
EASTING: 662348.57
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 975.35

TOP of WELL CASING or RISER PIPE
EL* 977.29 STICKUP 1.94

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 5.5

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 8.5

TOP OF SCREENED INTERVAL
EL* 963.35 DEPTH 12

BOTTOM of SCREENED INTERVAL
EL* 953.35 DEPTH 22

BOTTOM of SUMP and WELL
EL* 953.35 DEPTH 22

BOTTOM of BOREHOLE
EL* 953.35 DEPTH 22

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: James Dendy

WELL NO: HR-116Q-MW12
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 03-MAY-01
NORTHING: 1160528.3
EASTING: 663308.14
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 986.68

TOP of WELL CASING or RISER PIPE
EL* 988.6 STICKUP 1.92

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 15

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 18

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 965.68 DEPTH 21

BOTTOM of SCREENED INTERVAL
EL* 950.68 DEPTH 36

BOTTOM of SUMP and WELL
EL* 950.68 DEPTH 36

BOTTOM of BOREHOLE
EL* 950.68 DEPTH 36

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: R McNeil
IT FIELD REPRESENTATIVE: G. Robertson

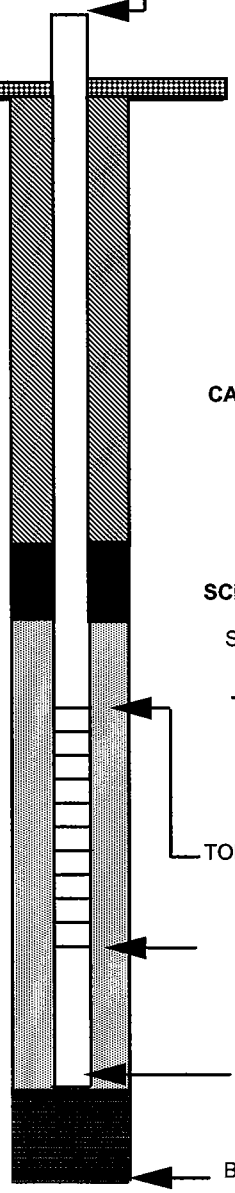
WELL NO: HR-116Q-MW13
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 07-FEB-01
NORTHING: 1159976.76
EASTING: 665030.01
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1073.96

TOP of WELL CASING or RISER PIPE
EL* 1076.28 STICKUP 2.32

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 7.88

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 47.0

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 53.9

TOP OF SCREENED INTERVAL
EL* 1014.56 DEPTH 59.4

BOTTOM of SCREENED INTERVAL
EL* 994.56 DEPTH 79.4

BOTTOM of SUMP and WELL
EL* 994.26 DEPTH 79.7

BOTTOM of BOREHOLE
EL* 993.46 DEPTH 80.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Mark Thomas
IT FIELD REPRESENTATIVE: George Robertson

WELL NO: HR-116Q-MW14
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 22-FEB-01
NORTHING: 1159278.08
EASTING: 664937.53
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1130.51

TOP of WELL CASING or RISER PIPE
EL* 1132.42 STICKUP 1.91

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 6.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 76

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 81.4

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 1042.51 DEPTH 88

BOTTOM of SCREENED INTERVAL
EL* 1022.51 DEPTH 108

BOTTOM of SUMP and WELL
EL* 1022.31 DEPTH 108.2

BOTTOM of BOREHOLE
EL* 1022.31 DEPTH 108.2

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

WELL NO: HR-116Q-MW15
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 12-FEB-01
NORTHING: 1161653.96
EASTING: 662505.54
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1051.03

TOP of WELL CASING or RISER PIPE
EL* 1052.82 STICKUP 1.79

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 41

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 44.9

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 1000.03 DEPTH 51

BOTTOM of SCREENED INTERVAL
EL* 980.03 DEPTH 71

BOTTOM of SUMP and WELL
EL* 980.03 DEPTH 71

BOTTOM of BOREHOLE
EL* 980.03 DEPTH 71

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Co
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

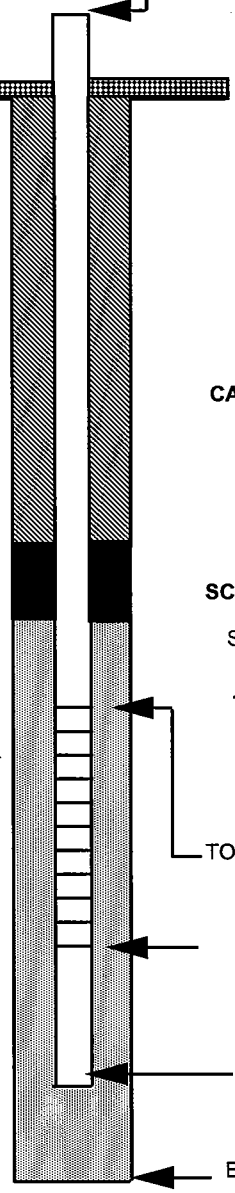
WELL NO: HR-117Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 17-APR-01
NORTHING: 1161091.37
EASTING: 661328.53
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 847.48

TOP of WELL CASING or RISER PIPE
EL* 849.35 STICKUP 1.87

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 3.5

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 6.5

TOP OF SCREENED INTERVAL
EL* 839.48 DEPTH 8

BOTTOM of SCREENED INTERVAL
EL* 829.48 DEPTH 18

BOTTOM of SUMP and WELL
EL* 829.48 DEPTH 18

BOTTOM of BOREHOLE
EL* 829.48 DEPTH 18

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Co
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

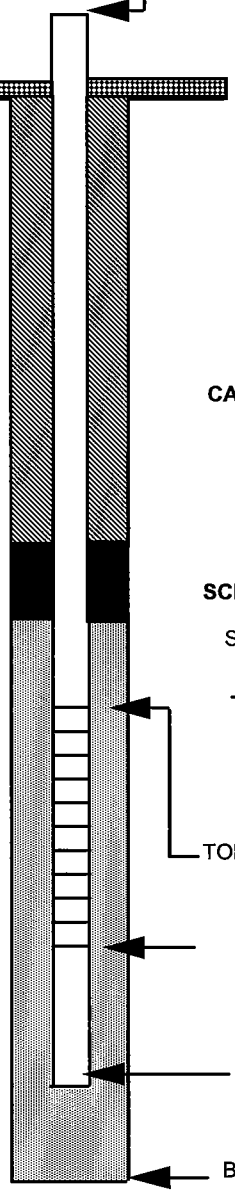
WELL NO: HR-117Q-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 04-MAY-01
NORTHING: 1160812.78
EASTING: 661139.75
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 904.7

TOP of WELL CASING or RISER PIPE
EL* 906.89 STICKUP 2.19

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 9.5

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 12.5

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 888.7 DEPTH 16

BOTTOM of SCREENED INTERVAL
EL* 878.7 DEPTH 26

BOTTOM of SUMP and WELL
EL* 878.7 DEPTH 26

BOTTOM of BOREHOLE
EL* 878.7 DEPTH 26

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

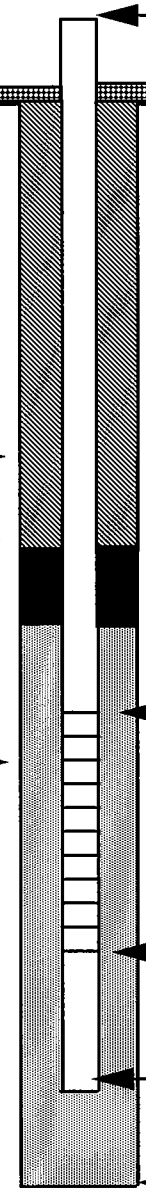
WELL NO: HR-117Q-MW03
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 21-FEB-01
NORTHING: 1161375.07
EASTING: 660654.14
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 831.66

TOP of WELL CASING or RISER PIPE
EL* 833.58 STICKUP 1.92

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 33.5

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 38

TOP OF SCREENED INTERVAL
EL* 787.66 DEPTH 44

BOTTOM of SCREENED INTERVAL
EL* 757.66 DEPTH 74

BOTTOM of SUMP and WELL
EL* 757.66 DEPTH 74

BOTTOM of BOREHOLE
EL* 757.66 DEPTH 74

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Bruce Goodrich
IT FIELD REPRESENTATIVE: G. Robertson/ N. Muloshi

WELL NO: HR-117Q-MW04
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 05-FEB-01
NORTHING: 1160814.23
EASTING: 660245.95
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 838.98

TOP of WELL CASING or RISER PIPE
EL* 841.06 STICKUP 2.08

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 16

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 19.4

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 817.28 DEPTH 21.7

BOTTOM of SCREENED INTERVAL
EL* 802.28 DEPTH 36.7

BOTTOM of SUMP and WELL
EL* 802.08 DEPTH 36.9

BOTTOM of BOREHOLE
EL* 802.08 DEPTH 36.9

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

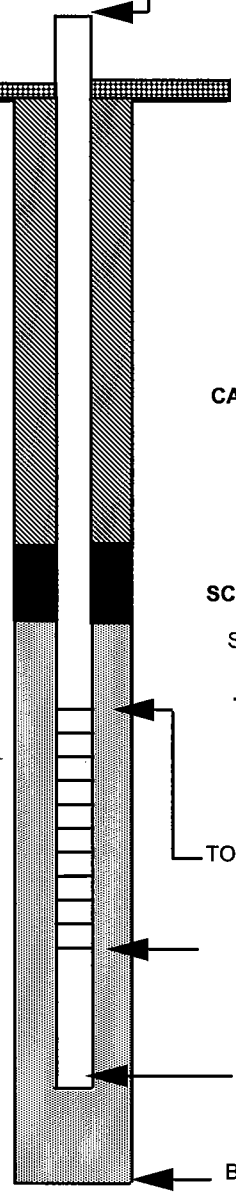
WELL NO: HR-117Q-MW05
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 19-FEB-01
NORTHING: 1161296.64
EASTING: 660662.13
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 838.87

TOP of WELL CASING or RISER PIPE
EL* 840.37 STICKUP 1.50

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 75

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 80

TOP OF SCREENED INTERVAL
EL* 753.87 DEPTH 85

BOTTOM of SCREENED INTERVAL
EL* 723.87 DEPTH 115

BOTTOM of SUMP and WELL
EL* 723.87 DEPTH 115

BOTTOM of BOREHOLE
EL* 723.87 DEPTH 115

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Co.
DRILLER: Don White
IT FIELD REPRESENTATIVE: James Dendy

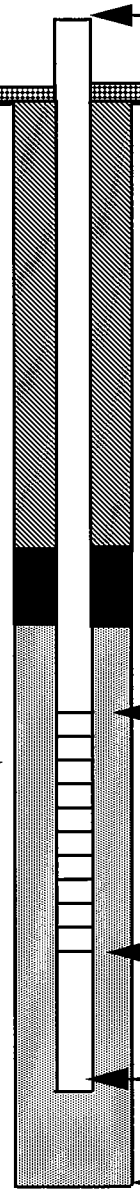
WELL NO: HR-117Q-MW06
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 15-MAY-01
NORTHING: 1160992.5
EASTING: 661710
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 861.11

TOP of WELL CASING or RISER PIPE
EL* 863.17 STICKUP 2.06

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 14

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 17

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 841.11 DEPTH 20

BOTTOM of SCREENED INTERVAL
EL* 831.11 DEPTH 30

BOTTOM of SUMP and WELL
EL* 831.11 DEPTH 30

BOTTOM of BOREHOLE
EL* 831.11 DEPTH 30

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Mark Thomas
IT FIELD REPRESENTATIVE: George Robertson

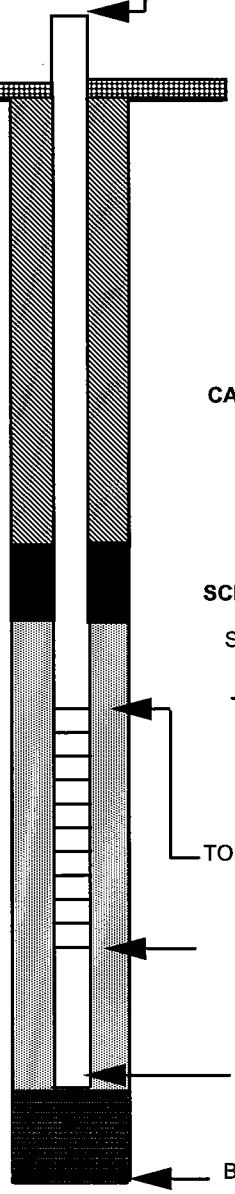
WELL NO: HR-117Q-MW07
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 21-MAR-01
NORTHING: 1160199.73
EASTING: 660727.02
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 918.16

TOP of WELL CASING or RISER PIPE
EL* 920.27 STICKUP 2.11

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 6.25

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	80.4
Sand No 0	86.7

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	88.8

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 821.56 DEPTH 96.6

BOTTOM of SCREENED INTERVAL
EL* 801.56 DEPTH 116.6

BOTTOM of SUMP and WELL
EL* 801.36 DEPTH 116.8

BOTTOM of BOREHOLE
EL* 800.16 DEPTH 118

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Co
DRILLER: Ken Gobell
IT FIELD REPRESENTATIVE: Nick Muloshi/ April Barnes

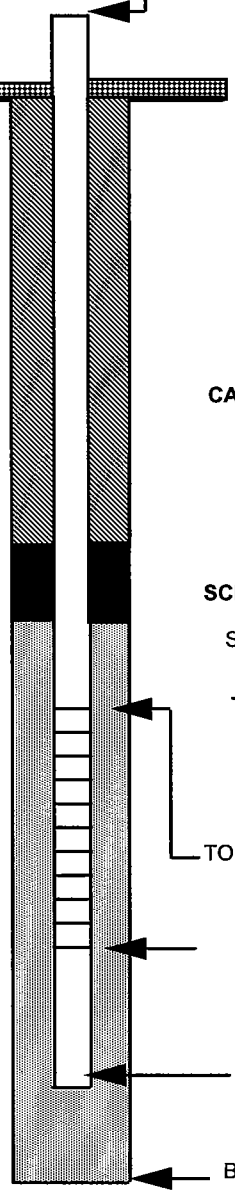
WELL NO: HR-117Q-MW08
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-FEB-01
NORTHING: 1162204.07
EASTING: 662083.15
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 995.54

TOP of WELL CASING or RISER PIPE
EL* 997.39 STICKUP 1.85

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches): 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 6.5

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 9.5

TOP OF SCREENED INTERVAL
EL* 980.54 DEPTH 15

BOTTOM of SCREENED INTERVAL
EL* 960.54 DEPTH 35

BOTTOM of SUMP and WELL
EL* 960.54 DEPTH 35

BOTTOM of BOREHOLE
EL* 960.54 DEPTH 35

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: B. Goodrich
IT FIELD REPRESENTATIVE: S. White

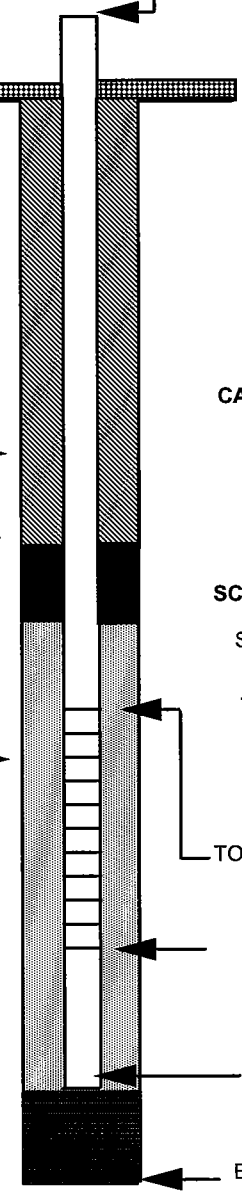
WELL NO: HR-151Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 31-JAN-01
NORTHING: 1161743.77
EASTING: 660683.79
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 815.21

TOP of WELL CASING or RISER PIPE
EL* 817.33 STICKUP 2.12

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 27.15

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 30.0

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 781.86 DEPTH 33.35

BOTTOM of SCREENED INTERVAL
EL* 761.86 DEPTH 53.35

BOTTOM of SUMP and WELL
EL* 761.21 DEPTH 54

BOTTOM of BOREHOLE
EL* 761.21 DEPTH 54.0

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Mike Martin
IT FIELD REPRESENTATIVE: George Robertson

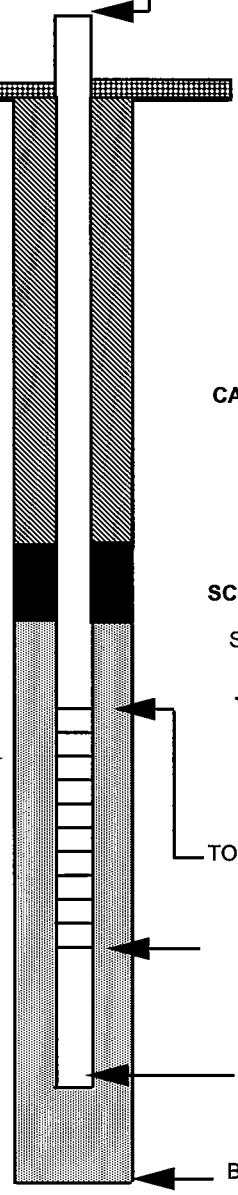
WELL NO: HR-181-MW01
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 26-MAR-01
NORTHING: 1164931.68
EASTING: 662670.84
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 884.48

TOP of WELL CASING or RISER PIPE
EL* 886.54 STICKUP 2.06

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	35.9
Sand No 0	42.1

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	43.6

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 831.98 DEPTH 52.5

BOTTOM of SCREENED INTERVAL
EL* 811.98 DEPTH 72.5

BOTTOM of SUMP and WELL
EL* 811.68 DEPTH 72.8

BOTTOM of BOREHOLE
EL* 811.68 DEPTH 72.8

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

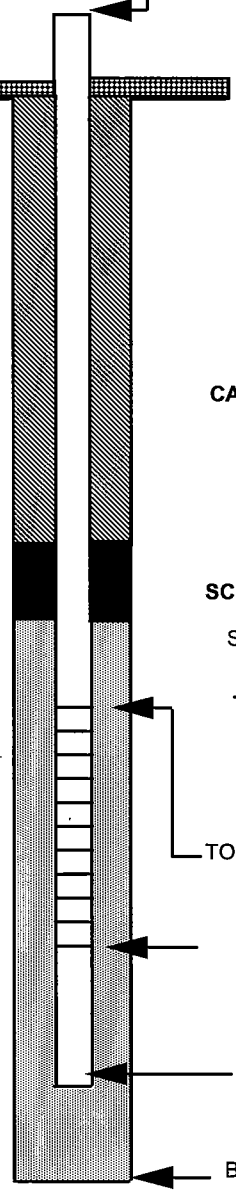
WELL NO: HR-181-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 16-MAR-01
NORTHING: 1165050.89
EASTING: 662676.09
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 867.96

TOP of WELL CASING or RISER PIPE
EL* 870.18 STICKUP 2.22

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 34

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 39

TOP OF SCREENED INTERVAL
EL* 823.96 DEPTH 44

BOTTOM of SCREENED INTERVAL
EL* 808.96 DEPTH 59

BOTTOM of SUMP and WELL
EL* 808.96 DEPTH 59

BOTTOM of BOREHOLE
EL* 808.86 DEPTH 59.1

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

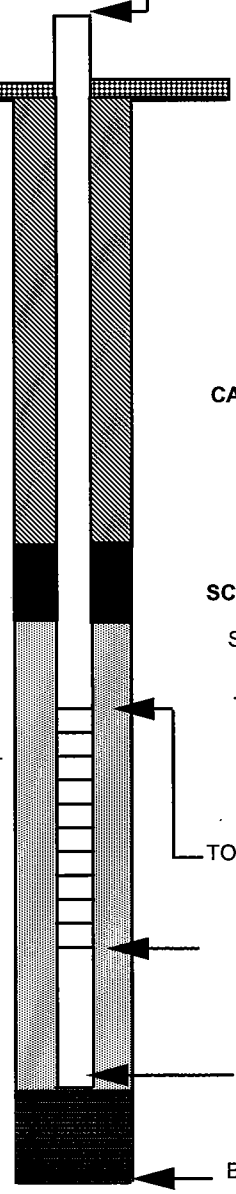
WELL NO: HR-181-MW03
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 06-MAR-01
NORTHING: 1165081.81
EASTING: 662517.05
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 862.46

TOP of WELL CASING or RISER PIPE
EL* 864.57 STICKUP 2.11

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 9.1

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 13.0

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 844.46 DEPTH 18

BOTTOM of SCREENED INTERVAL
EL* 824.46 DEPTH 38

BOTTOM of SUMP and WELL
EL* 824.46 DEPTH 38

BOTTOM of BOREHOLE
EL* 812.46 DEPTH 50

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

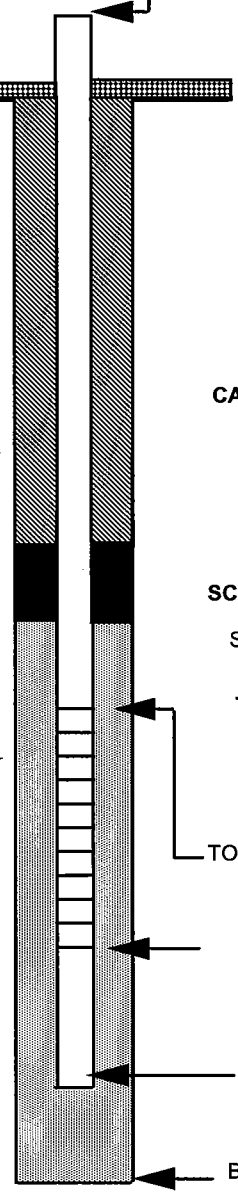
WELL NO: HR-194-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 01-MAR-01
NORTHING: 1163833.12
EASTING: 660708.28
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 832.68

TOP of WELL CASING or RISER PIPE
EL* 834.71 STICKUP 2.03

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 52.5

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 57.5

TOP OF SCREENED INTERVAL
EL* 770.18 DEPTH 62.5

BOTTOM of SCREENED INTERVAL
EL* 750.18 DEPTH 82.5

BOTTOM of SUMP and WELL
EL* 750.18 DEPTH 82.5

BOTTOM of BOREHOLE
EL* 749.98 DEPTH 82.7

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

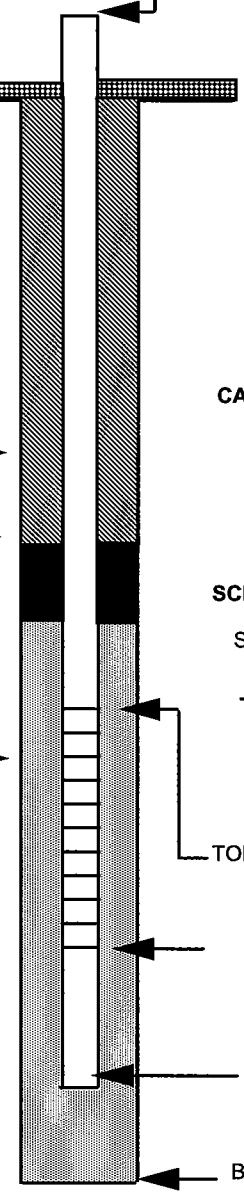
WELL NO: HR-194-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 01-MAR-01
NORTHING: 1164039.83
EASTING: 660436.5
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 820.43

TOP of WELL CASING or RISER PIPE
EL* 822.43 STICKUP 2.00

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 34

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 39

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 776.43 DEPTH 44

BOTTOM of SCREENED INTERVAL
EL* 756.43 DEPTH 64

BOTTOM of SUMP and WELL
EL* 756.38 DEPTH 64.05

BOTTOM of BOREHOLE
EL* 756.38 DEPTH 64.05

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: D. Sink
IT FIELD REPRESENTATIVE: D. Allan

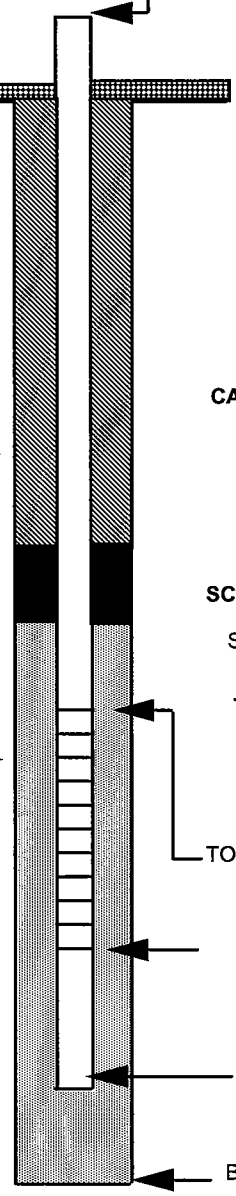
WELL NO: HR-194-MW03
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-MAR-01
NORTHING: 1164089.92
EASTING: 660789.05
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 820.25

TOP of WELL CASING or RISER PIPE
EL* 822.03 STICKUP 1.78

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 61

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 66

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 749.25 DEPTH 71

BOTTOM of SCREENED INTERVAL
EL* 729.25 DEPTH 91

BOTTOM of SUMP and WELL
EL* 729.25 DEPTH 91

BOTTOM of BOREHOLE
EL* 729.25 DEPTH 91

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

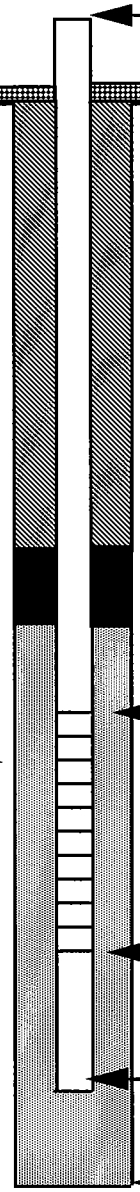
WELL NO: HR-201Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 29-JAN-01
NORTHING: 1162372.46
EASTING: 660515.7
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 841.79

TOP of WELL CASING or RISER PIPE
EL* 843.39 STICKUP 1.60

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 16.3

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 20.3

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 816.79 DEPTH 25

BOTTOM of SCREENED INTERVAL
EL* 796.79 DEPTH 45

BOTTOM of SUMP and WELL
EL* 796.79 DEPTH 45

BOTTOM of BOREHOLE
EL* 796.79 DEPTH 45

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

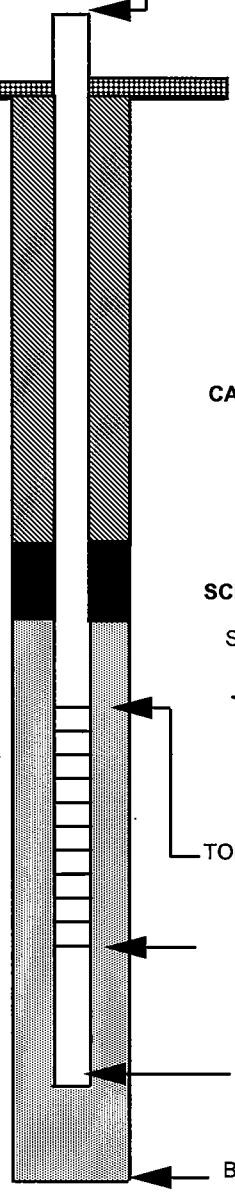
WELL NO: HR-201Q-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 30-JAN-01
NORTHING: 1162559.55
EASTING: 660786.52
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 863.16

TOP of WELL CASING or RISER PIPE
EL* 865.33 STICKUP 2.17

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 20

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 24

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 833.16 DEPTH 30

BOTTOM of SCREENED INTERVAL
EL* 813.16 DEPTH 50

BOTTOM of SUMP and WELL
EL* 813.16 DEPTH 50

BOTTOM of BOREHOLE
EL* 813.16 DEPTH 50

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

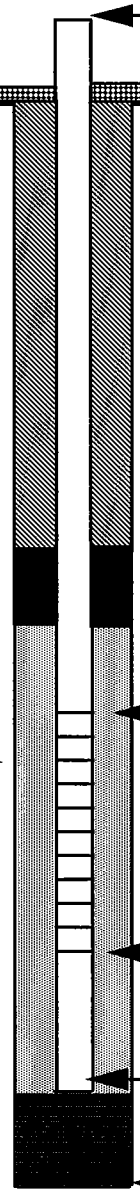
WELL NO: HR-228Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 05-APR-01
NORTHING: 1165662.02
EASTING: 664066.3
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 841.17

TOP of WELL CASING or RISER PIPE
EL* 842.79 STICKUP 1.62

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	36.0
Sand No 0	38

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	41.0

TOP OF SCREENED INTERVAL
EL* 797.17 DEPTH 44

BOTTOM of SCREENED INTERVAL
EL* 777.17 DEPTH 64

BOTTOM of SUMP and WELL
EL* 777.17 DEPTH 64

BOTTOM of BOREHOLE
EL* 776.17 DEPTH 65

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Co
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

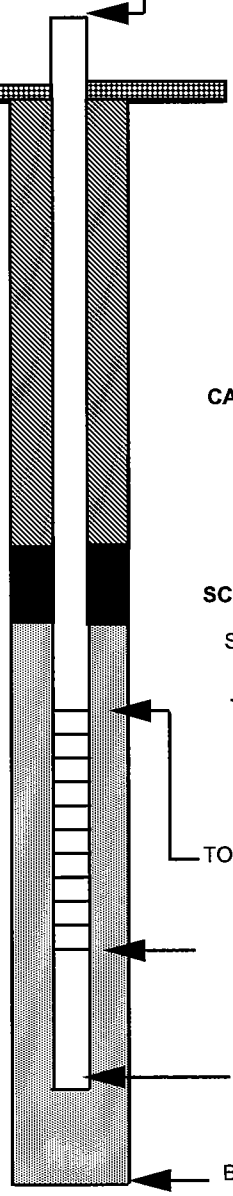
WELL NO: HR-228Q-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-APR-01
NORTHING: 1165552.49
EASTING: 664187.88
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 818.82

TOP of WELL CASING or RISER PIPE
EL* 820.86 STICKUP 2.04

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	54
Sand No 0	57

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	62

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 755.82 DEPTH 63

BOTTOM of SCREENED INTERVAL
EL* 735.82 DEPTH 83

BOTTOM of SUMP and WELL
EL* 735.82 DEPTH 83

BOTTOM of BOREHOLE
EL* 735.82 DEPTH 83

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Todd Neel
IT FIELD REPRESENTATIVE: Dennis Mayton

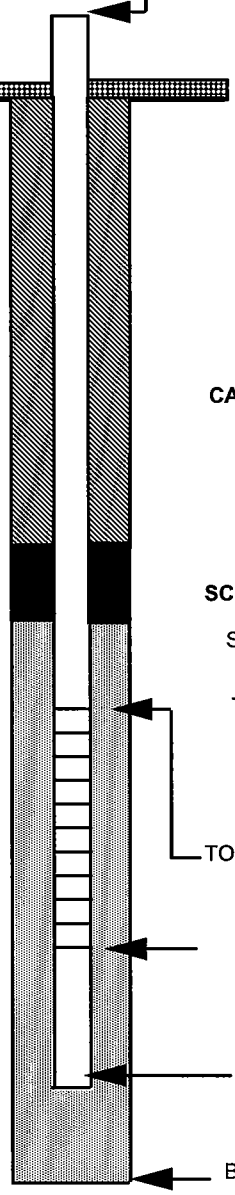
WELL NO: HR-229Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 06-APR-01
NORTHING: 1164632.28
EASTING: 664351.06
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 859.84

TOP of WELL CASING or RISER PIPE
EL* 862 STICKUP 2.16

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	56
Sand No 0	61.1

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	63

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 792.09 DEPTH 67.75

BOTTOM of SCREENED INTERVAL
EL* 772.09 DEPTH 87.75

BOTTOM of SUMP and WELL
EL* 771.84 DEPTH 88

BOTTOM of BOREHOLE
EL* 771.84 DEPTH 88

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

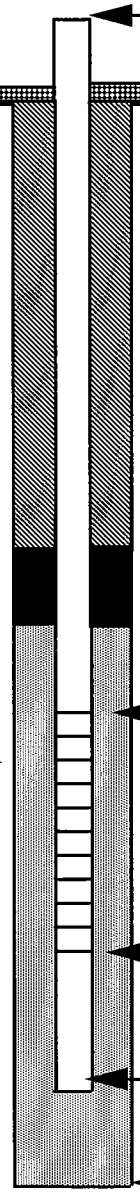
WELL NO: HR-231Q-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 11-APR-01
NORTHING: 1159465.51
EASTING: 661341.18
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 1012.56

TOP of WELL CASING or RISER PIPE
EL* 1014.62 STICKUP 2.06

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 55

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 59.5

TOP OF SCREENED INTERVAL
EL* 948.56 DEPTH 64

BOTTOM of SCREENED INTERVAL
EL* 928.56 DEPTH 84

BOTTOM of SUMP and WELL
EL* 928.56 DEPTH 84

BOTTOM of BOREHOLE
EL* 928.56 DEPTH 84

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

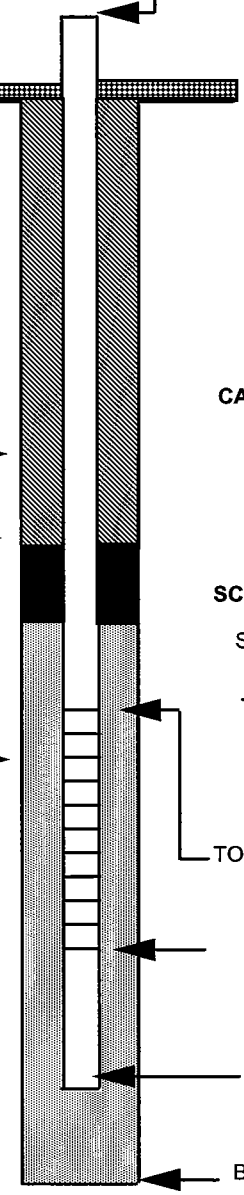
WELL NO: HR-232QX-MW01
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 01-MAR-01
NORTHING: 1164235.27
EASTING: 661400.92
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 831.45

TOP of WELL CASING or RISER PIPE
EL* 833.49 STICKUP 2.04

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 41

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 46

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 780.45 DEPTH 51

BOTTOM of SCREENED INTERVAL
EL* 765.45 DEPTH 66

BOTTOM of SUMP and WELL
EL* 765.45 DEPTH 66

BOTTOM of BOREHOLE
EL* 765.45 DEPTH 66

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

WELL NO: HR-232QX-MW02
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 16-MAR-01
NORTHING: 1164835.13
EASTING: 661844.34
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 849.28

TOP of WELL CASING or RISER PIPE
EL* 851.24 STICKUP 1.96

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 40

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 44

TOP OF SCREENED INTERVAL
EL* 799.28 DEPTH 50

BOTTOM of SCREENED INTERVAL
EL* 784.28 DEPTH 65

BOTTOM of SUMP and WELL
EL* 784.28 DEPTH 65

BOTTOM of BOREHOLE
EL* 783.28 DEPTH 66

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Kevin Warren
IT FIELD REPRESENTATIVE: Jonathan Remo

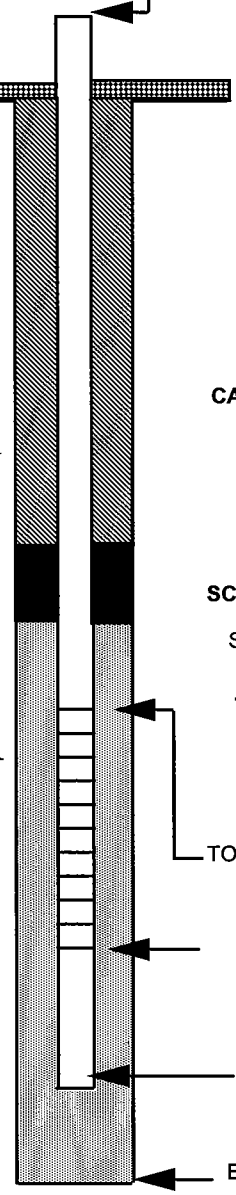
WELL NO: HR-232QX-MW03
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 05-FEB-01
NORTHING: 1166821.54
EASTING: 666772.03
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 802.09

TOP of WELL CASING or RISER PIPE
EL* 804.13 STICKUP 2.04

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 8.5

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 10

TOP OF SCREENED INTERVAL
EL* 788.09 DEPTH 14

BOTTOM of SCREENED INTERVAL
EL* 768.09 DEPTH 34

BOTTOM of SUMP and WELL
EL* 768.09 DEPTH 34

BOTTOM of BOREHOLE
EL* 768.09 DEPTH 34

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Kevin Warren
IT FIELD REPRESENTATIVE: Jonathan Remo

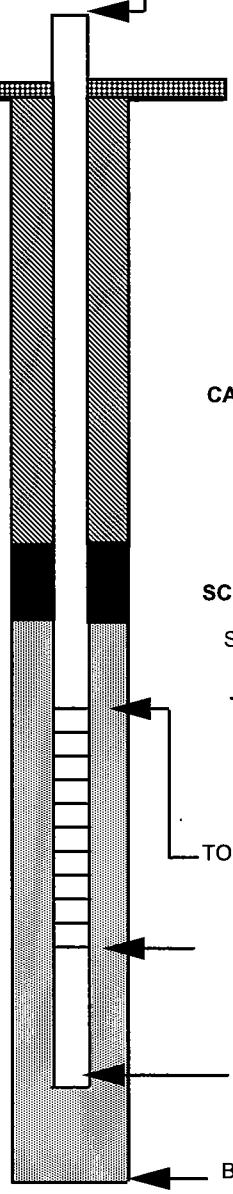
WELL NO: HR-232QX-MW04
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 05-FEB-01
NORTHING: 1165646.63
EASTING: 668002.96
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 868.14

TOP of WELL CASING or RISER PIPE
EL* 869.93 STICKUP 1.79

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 42

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 45

TOP OF SCREENED INTERVAL
EL* 815.64 DEPTH 52.5

BOTTOM of SCREENED INTERVAL
EL* 800.64 DEPTH 67.5

BOTTOM of SUMP and WELL
EL* 800.64 DEPTH 67.5

BOTTOM of BOREHOLE
EL* 800.64 DEPTH 67.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Eddy Hooper
IT FIELD REPRESENTATIVE: L.O' Hare/ A. Barnes

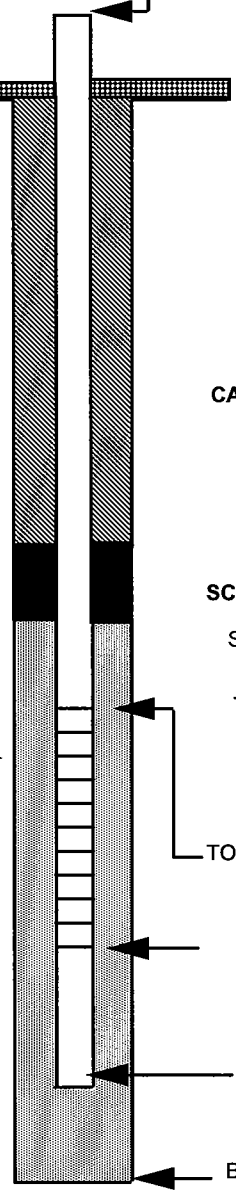
WELL NO: HR-232QX-MW05
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 29-JAN-01
NORTHING: 1165941.48
EASTING: 667829.76
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 857.85

TOP of WELL CASING or RISER PIPE
EL* 859.79 STICKUP 1.94

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches): 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 37.1

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 41

TOP OF SCREENED INTERVAL
EL* 813.15 DEPTH 44.7

BOTTOM of SCREENED INTERVAL
EL* 798.15 DEPTH 59.7

BOTTOM of SUMP and WELL
EL* 797.85 DEPTH 60

BOTTOM of BOREHOLE
EL* 797.85 DEPTH 60

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Todd Neel
IT FIELD REPRESENTATIVE: Dennis Mayton

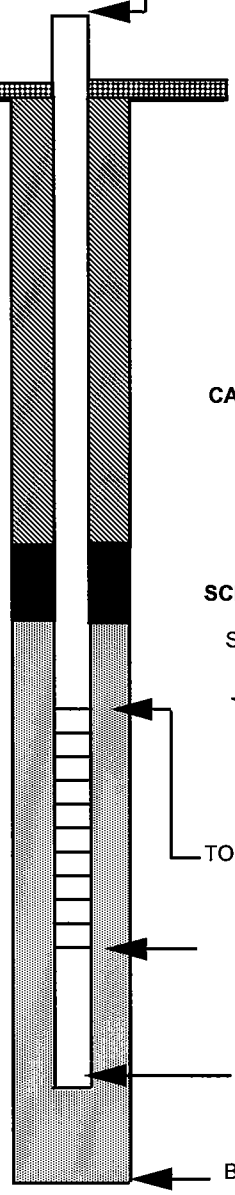
WELL NO: HR-232QX-MW06
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-MAR-01
NORTHING: 1166560.09
EASTING: 666380.69
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 791.7

TOP of WELL CASING or RISER PIPE
EL* 790.97 STICKUP N/A

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 8

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 14

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 773.7 DEPTH 18

BOTTOM of SCREENED INTERVAL
EL* 758.7 DEPTH 33

BOTTOM of SUMP and WELL
EL* 758.7 DEPTH 33

BOTTOM of BOREHOLE
EL* 758.7 DEPTH 33

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: K. Gobell
IT FIELD REPRESENTATIVE: A. Barnes

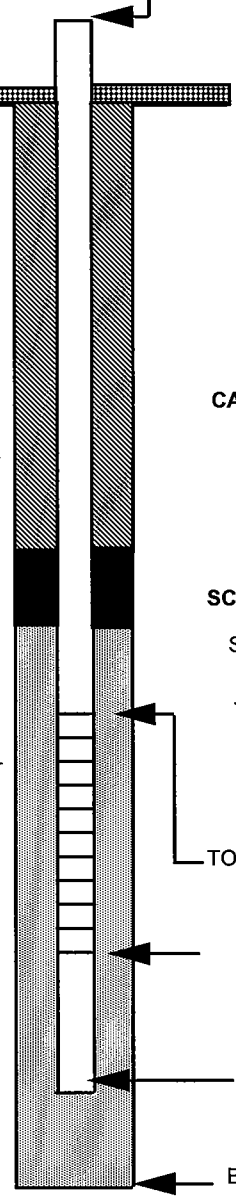
WELL NO: HR-232QX-MW07
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 01-MAR-01
NORTHING: 1163835.59
EASTING: 659988.68
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 780.33

TOP of WELL CASING or RISER PIPE
EL* 782.37 STICKUP 2.04

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 1

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 5

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 770.33 DEPTH 10

BOTTOM of SCREENED INTERVAL
EL* 755.33 DEPTH 25

BOTTOM of SUMP and WELL
EL* 755.33 DEPTH 25

BOTTOM of BOREHOLE
EL* 755.33 DEPTH 25

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

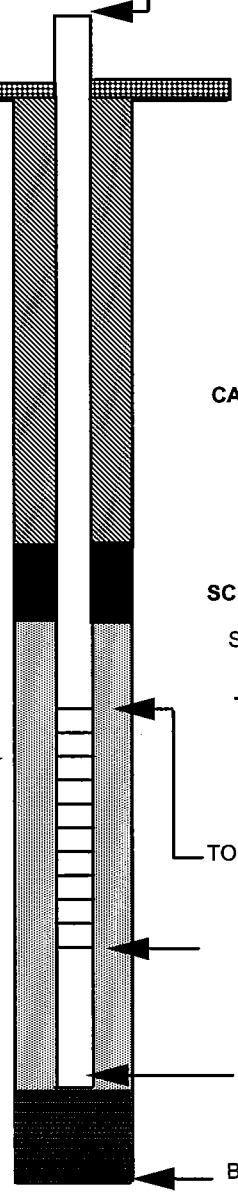
WELL NO: HR-232QX-MW08
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-MAR-01
NORTHING: 1164368.01
EASTING: 661472.32
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 827.9

TOP of WELL CASING or RISER PIPE
EL* 830.05 STICKUP 2.15

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 78

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 83

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 739.9 DEPTH 88

BOTTOM of SCREENED INTERVAL
EL* 724.9 DEPTH 103

BOTTOM of SUMP and WELL
EL* 724.9 DEPTH 103

BOTTOM of BOREHOLE
EL* 721.9 DEPTH 106

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Debroah Allan

WELL NO: HR-232QX-MW09
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-MAR-01
NORTHING: 1164486.62
EASTING: 661650.69
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 818.09

TOP of WELL CASING or RISER PIPE
EL* 820.61 STICKUP 2.52

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 10

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 15

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 797.59 DEPTH 20.5

BOTTOM of SCREENED INTERVAL
EL* 782.59 DEPTH 35.5

BOTTOM of SUMP and WELL
EL* 782.59 DEPTH 35.5

BOTTOM of BOREHOLE
EL* 782.09 DEPTH 36

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Kevin Warren
IT FIELD REPRESENTATIVE: Jonathan Remo

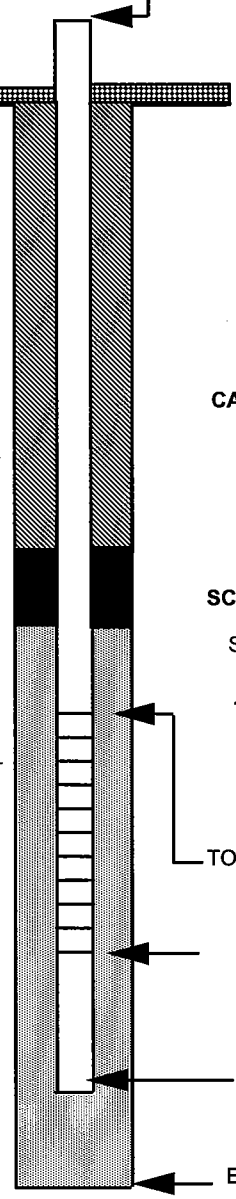
WELL NO: HR-232QX-MW10
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 29-JAN-01
NORTHING: 1166344.09
EASTING: 667673.42
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 830.63

TOP of WELL CASING or RISER PIPE
EL* 832.97 STICKUP 2.34

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 22

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 25

TOP OF SCREENED INTERVAL
EL* 801.63 DEPTH 29

BOTTOM of SCREENED INTERVAL
EL* 786.63 DEPTH 44

BOTTOM of SUMP and WELL
EL* 786.63 DEPTH 44

BOTTOM of BOREHOLE
EL* 786.63 DEPTH 44

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Bowser Morner
DRILLER: Dennis Sink
IT FIELD REPRESENTATIVE: Deborah Allan

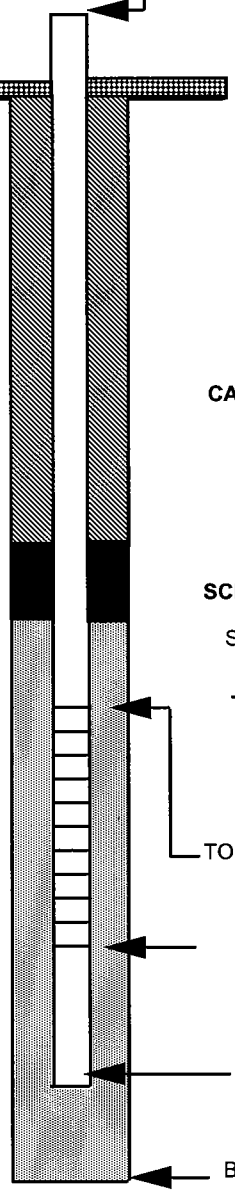
WELL NO: HR-232QX-MW11
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 16-MAR-01
NORTHING: 1164962.55
EASTING: 662800.4
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 872.24

TOP of WELL CASING or RISER PIPE
EL* 874.39 STICKUP 2.15

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 35

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 40

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 827.24 DEPTH 45

BOTTOM of SCREENED INTERVAL
EL* 812.24 DEPTH 60

BOTTOM of SUMP and WELL
EL* 812.24 DEPTH 60

BOTTOM of BOREHOLE
EL* 812.24 DEPTH 60

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Darren Hunter
IT FIELD REPRESENTATIVE: Dennis Mayton

WELL NO: HR-232QX-MW12
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 11-APR-01
NORTHING: 1164908.13
EASTING: 663144.17
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 866.71

TOP of WELL CASING or RISER PIPE
EL* 868.52 STICKUP 1.81

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout
Natural Material

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	36.5
Sand No 0	44

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	48.25

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 812.46 DEPTH 54.25

BOTTOM of SCREENED INTERVAL
EL* 792.46 DEPTH 74.25

BOTTOM of SUMP and WELL
EL* 792.21 DEPTH 74.5

BOTTOM of BOREHOLE
EL* 792.21 DEPTH 74.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Todd Neel
IT FIELD REPRESENTATIVE: J. Dendy

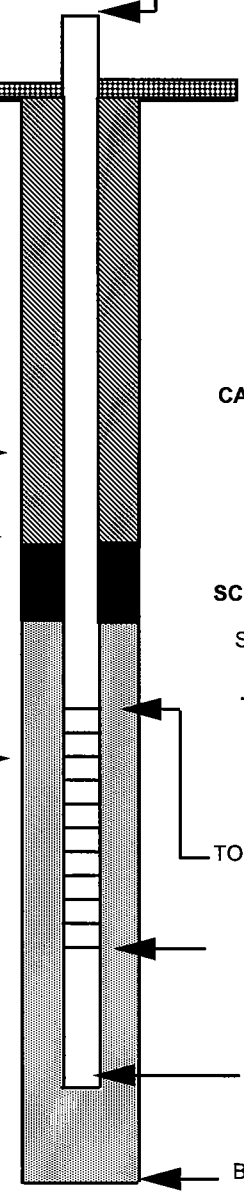
WELL NO: HR-232QX-MW13
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 16-MAR-01
NORTHING: 1165930.52
EASTING: 663217.62
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 874.01

TOP of WELL CASING or RISER PIPE
EL* 876.34 STICKUP 2.33

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 42.8

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 45

TOP OF SCREENED INTERVAL
EL* 825.01 DEPTH 49

BOTTOM of SCREENED INTERVAL
EL* 805.01 DEPTH 69

BOTTOM of SUMP and WELL
EL* 805.01 DEPTH 69

BOTTOM of BOREHOLE
EL* 805.01 DEPTH 69

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Don White
IT FIELD REPRESENTATIVE: J. Dendy

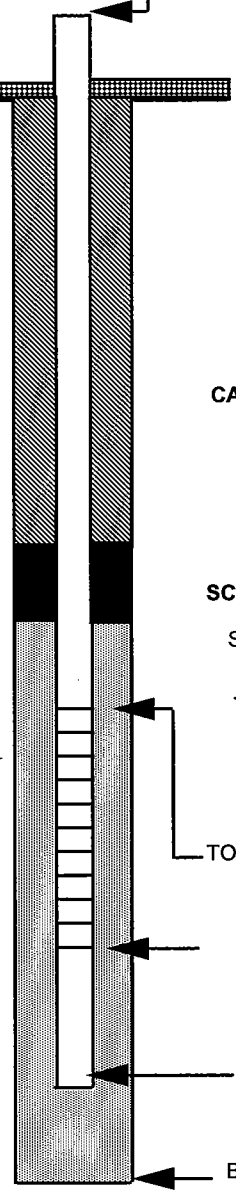
WELL NO: HR-232QX-MW14
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 04-APR-01
NORTHING: 1165521.47
EASTING: 664588.71
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 820.97

TOP of WELL CASING or RISER PIPE
EL* 822.99 STICKUP 2.02

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches): 8

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 23

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 25

TOP OF SCREENED INTERVAL
EL* 792.97 DEPTH 28

BOTTOM of SCREENED INTERVAL
EL* 777.97 DEPTH 43

BOTTOM of SUMP and WELL
EL* 777.97 DEPTH 43

BOTTOM of BOREHOLE
EL* 777.97 DEPTH 43

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Robert Tullier
IT FIELD REPRESENTATIVE: D. Mayton/ L. O Hare

WELL NO: HR-232QX-MW15
DRILLING METHOD: Air Rotary
INSTALLATION DATE: 01-MAY-01
NORTHING: 1165167.9
EASTING: 664538.69
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 832.99

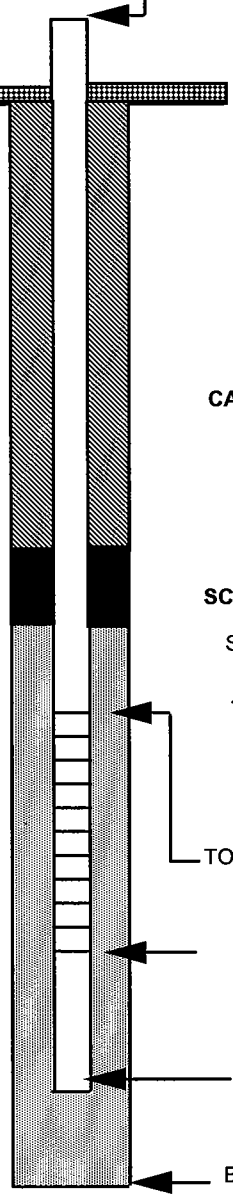
TOP of WELL CASING or RISER PIPE
EL* 834.99 STICKUP 2.00

SURFACE SEAL

TYPE of SURFACE SEAL	MINIMUM THICKNESS
Concrete	4 inches

ANNULAR SPACE SEAL TYPE

Grout



APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SEAL

SEAL MATERIAL	SEAL START DEPTH
Bentonite	76.2
Sand No 0	82.3

FILTER PACK

TYPE of SAND PACK AROUND SCREEN	TOP OF SAND PACK
Sand No 1	86.3

CASING

TYPE of RISER MATERIAL (Flush Threaded)	INSIDE DIAMETER of RISER (inches)
PVC SCH 40	2

SCREEN

TYPE of SCREEN MATERIAL	SLOT SIZE (inches)	INSIDE DIAMETER (inches)
PVC SCH 40	0.010	2

TOP OF SCREENED INTERVAL
EL* 743.74 DEPTH 89.25

BOTTOM of SCREENED INTERVAL
EL* 723.74 DEPTH 109.25

BOTTOM of SUMP and WELL
EL* 723.49 DEPTH 109.5

BOTTOM of BOREHOLE
EL* 723.49 DEPTH 109.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Kevin Warren
IT FIELD REPRESENTATIVE: Jonathan Remo

WELL NO: HR-232QX-MW16
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-FEB-01
NORTHING: 1166209.44
EASTING: 666539.26
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 851.76

TOP of WELL CASING or RISER PIPE
EL* 853.63 STICKUP 1.87

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 16

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 21

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

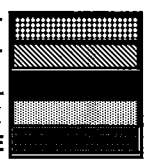
SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 826.76 DEPTH 25

BOTTOM of SCREENED INTERVAL
EL* 811.76 DEPTH 40

BOTTOM of SUMP and WELL
EL* 811.76 DEPTH 40

BOTTOM of BOREHOLE
EL* 811.76 DEPTH 40



*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Kevin Warren
IT FIELD REPRESENTATIVE: Jonathan Remo

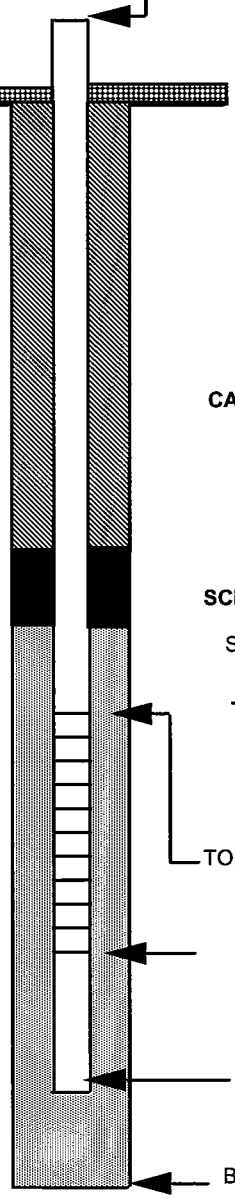
WELL NO: HR-232QX-MW17
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 02-FEB-01
NORTHING: 1166673.91
EASTING: 667459.7
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 813.98

TOP of WELL CASING or RISER PIPE
EL* 816.15 STICKUP 2.17

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout



CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 19

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 21.5

TOP OF SCREENED INTERVAL
EL* 788.48 DEPTH 25.5

BOTTOM of SCREENED INTERVAL
EL* 778.48 DEPTH 35.5

BOTTOM of SUMP and WELL
EL* 778.48 DEPTH 35.5

BOTTOM of BOREHOLE
EL* 778.48 DEPTH 35.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling Company
DRILLER: Kevin Warren
IT FIELD REPRESENTATIVE: Jonathan Remo

WELL NO: HR-232QX-MW18
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 29-JAN-01
NORTHING: 1166546.99
EASTING: 667606.52
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 824.03

TOP of WELL CASING or RISER PIPE
EL* 826.2 STICKUP 2.17

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 16

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 19

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 801.53 DEPTH 22.5

BOTTOM of SCREENED INTERVAL
EL* 786.53 DEPTH 37.5

BOTTOM of SUMP and WELL
EL* 786.53 DEPTH 37.5

BOTTOM of BOREHOLE
EL* 786.53 DEPTH 37.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan
LOCATION: Anniston, AL
CLIENT: USACE Mobile District
CONTRACTOR: Miller Drilling
DRILLER: Kevin Warren
IT FIELD REPRESENTATIVE: Jonathan Remo

WELL NO: HR-232QX-MW19
DRILLING METHOD: Hollow Stem Auger
INSTALLATION DATE: 29-JAN-01
NORTHING: 1165808.22
EASTING: 667938.11
HORIZONTAL SURVEY DATUM: NAD83
VERTICAL SURVEY DATUM: NAVD88
JOB NO: 796887

GROUND SURFACE ELEVATION* 857.29

TOP of WELL CASING or RISER PIPE
EL* 859.67 STICKUP 2.38

SURFACE SEAL
TYPE of SURFACE SEAL: Concrete
MINIMUM THICKNESS: 4 inches

ANNULAR SPACE SEAL TYPE
Grout

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.25

TOP OF SEAL
SEAL MATERIAL: Bentonite
SEAL START DEPTH: 37.2

FILTER PACK
TYPE of SAND PACK AROUND SCREEN: Sand No 1
TOP OF SAND PACK: 40.2

CASING
TYPE of RISER MATERIAL (Flush Threaded): PVC SCH 40
INSIDE DIAMETER of RISER (inches): 2

SCREEN
TYPE of SCREEN MATERIAL: PVC SCH 40
SLOT SIZE (inches): 0.010
INSIDE DIAMETER (inches): 2

TOP OF SCREENED INTERVAL
EL* 814.09 DEPTH 43.2

BOTTOM of SCREENED INTERVAL
EL* 794.09 DEPTH 63.2

BOTTOM of SUMP and WELL
EL* 793.79 DEPTH 63.5

BOTTOM of BOREHOLE
EL* 793.79 DEPTH 63.5

NEAT CEMENT
GROUT
BENTONITE SEAL
FILTER PACK
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.
All depths and heights are given in feet and are referenced to the ground surface.

WELL ABANDONMENT FORMS

9/21/02

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Well Abandonment Form

Project: FTMC South Atlantic Division TERC	Well Number: HR-73-MW02
Client: USACE Mobile District	Well Coordinates: N 1165199.73 E 663803.55
Project No. 796887	
Start Date: 9/20/02 — Date Completed: 9/20/02	Prepared By: NICOLE BADON — Reference Point for Measurements: BGS
Well Type: (circle one) Residuum; Bedrock; Temporary; Other _____	NOTES: Well Construction Summary from monitoring well logs

BEFORE ABANDONMENT

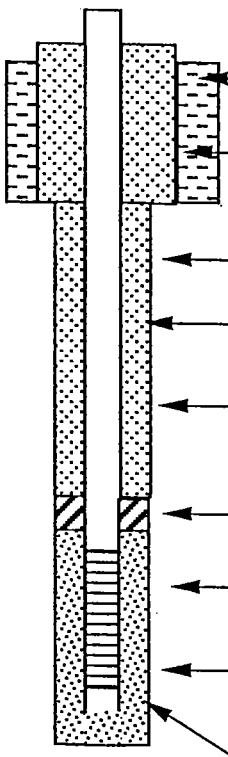
WELL CONSTRUCTION SUMMARY

Well No. HR-73-MW02	Well Location/Parcel: RWEMR/73
Total Depth (feet): 52	Drilled By: Don White
Date Completed: 16-Mar-01	Ground Elevation: 848.22
	TOC Elevation: 850.23

AFTER ABANDONMENT:

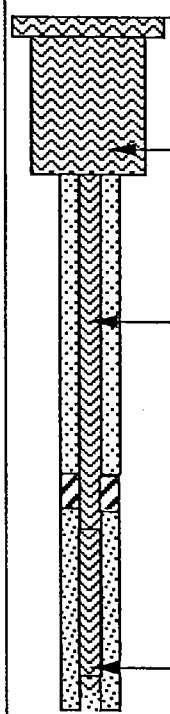
	NO	YES	N/A
Concrete Pad Removed		✓	
Protective Posts Removed		✓	
Outer Casing Removed			✓
Flush Mount Removed			✓

Disposition of Well Materials: CONSTRUCTION ROLLOFF



DOWNHOLE DEPTHS

		TOP	BOTTOM
CONDUCTOR HOLE DIA N/A		N/A	
OUTER CASING	TYPE N/A, I.D. ↓, O.D. ↓	N/A	N/A
BOREHOLE DIA 8"		0	52
TYPE OF BACKFILL MATERIAL N/A		N/A	↓
WELL CASING	TYPE Sch 40 PVC, I.D. 2", O.D. N/A	-2.01	32
SEAL TYPE bentonite		26	29
FILTER PACK #1 Sand		29	52
SCREEN	TYPE Sch 40 PVC, I.D. 2", O.D. N/A	32	52
SUMP	TYPE N/A, I.D. N/A, O.D. N/A	N/A	↓



SURFACE COMPLETION: N/A

DEPTH TO WELL CASING 2'

ABANDONMENT MATERIAL
TYPE bentonite cement grout
VOLUME USED 1.17 ft³
Manufacturer DSI (bentonite)
SOUTHDOWN CEMENT

TOTAL DEPTH OF ABANDONMENT MATERIAL 52

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COMPLETED
Dennis Mgr 8/7/01

Well Abandonment Form

Project: FTMC South Atlantic Division TERC	Well Number: HR-73Q-MW04
Client: USACE Mobile District	Well Coordinates:
Project No. 773191	N NM E NM
Start Date: 7/25/01 — Date Completed: 7/26/01	Prepared By: J. Remo — Reference Point for Measurements: Ground Surface
Well Type: (circle one) Residuum; Bedrock; Temporary; Other_____	NOTES: Well information from well installtion log.

BEFORE ABANDONMENT

WELL CONSTRUCTION SUMMARY

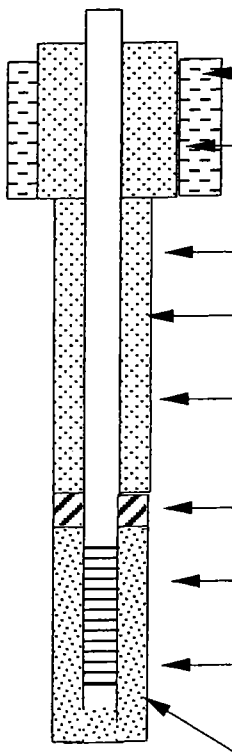
Well No. HR-73Q-MW04	Well Location/ Parcel: HR-73Q
Total Depth (feet): 49.0 BGS	Drilled By: Don White
Date Completed: 5/15/01	Ground Elevation: NM
	TOC Elevation: NM

AFTER ABANDONMENT:

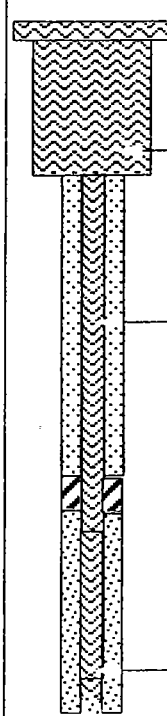
	NO	YES	N/A
Concrete Pad Removed		X	
Protective Posts Removed			X
Outer Casing Removed			X
Flush Mount Removed		X	

Disposition of Well Materials:_____

* DOWNHOLE DEPTHS



		TOP	BOTTOM
CONDUCTOR HOLE DIA	NA	-	-
OUTER CASING TYPE	NA	-	-
I.D. - O.D. -			
BOREHOLE DIA	8"	0	49
TYPE OF BACKFILL MATERIAL	Bentonite Cement Grout	0	27.5
WELL CASING TYPE	Schedual 40 PVC	0	39.0
I.D. 2 O.D. -			
SEAL TYPE	Bentonite	27.5	30.5
FILTER PACK	No #1 Filter Sand	39.0	49.0
SCREEN TYPE	Schedual 40 PVC	39.0	49.0
I.D. 2" O.D. -			
SUMP TYPE	NA	-	-
I.D. - O.D. -			



SURFACE COMPLETION: NA

DEPTH TO WELL CASING 2'

ABANDONMENT MATERIAL
TYPE Neat grout
VOLUME USED ~~6.3~~ ft³
Manufacturer — 1.0

TOTAL DEPTH OF ABANDONMENT MATERIAL 49.0

Notes:

NA = Not Applicable

BGS = Below Ground Surface

* = All Downhole Depths below Ground surface

NM = Not measured

Neat grout consists of Portland type II Cement, bentonite and potable water.

COMPLETED
CRW 2/14/03

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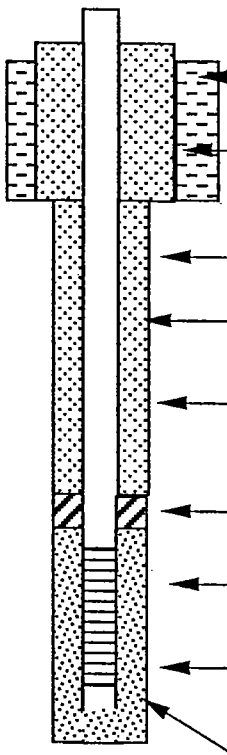
Well Abandonment Form

Project: FTMC South Atlantic Division TERC	Well Number: HR-91Q-MW06
Client: USACE Mobile District	Well Coordinates: (N) 1163565.53 (E) 664569.28
Project No.	
Start Date: 02-13-2003 / Date Completed: 02-13-2003	Prepared By: Wil Burns / Reference Point for Measurements: TOC
Well Type: (circle one) (Residuum) Bedrock Temporary Other NA	NOTES: NA

BEFORE ABANDONMENT

WELL CONSTRUCTION SUMMARY

Well No. MW06	Well Location/ Parcel: HR-91Q-MW06
Total Depth (feet): 44'	Drilled By: ~~MC~~ MDC
Date Completed: 03-27-2001	Ground Elevation: 867.73
	TOC Elevation: 868.33

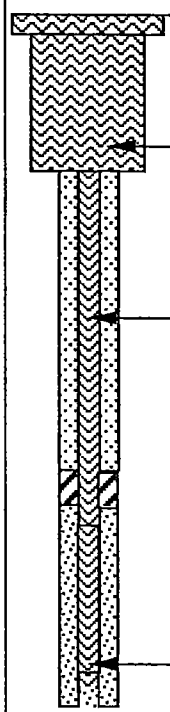


	DOWNHOLE DEPTHS TOP	BOTTOM
CONDUCTOR HOLE DIA NA	NA	
OUTER CASING TYPE NA I.D. ___ O.D. ___	NA	
BOREHOLE DIA 8"	0'	44'
TYPE OF BACKFILL MATERIAL Portland Cement	0'	12'
WELL CASING TYPE PVC I.D. 2" O.D. —	2' ags	22.75' bgs
SEAL TYPE Bentonite	12'	17.6'
FILTER PACK #1 sand	17.6'	43'
SCREEN TYPE Sch. 40 0.010" I.D. 2" O.D. —	22.75'	43'
SUMP TYPE End Cap I.D. 2" O.D. —	43'	43'

AFTER ABANDONMENT:

	NO	YES	N/A
Concrete Pad Removed	✓		
Protective Posts Removed	✓		
Outer Casing Removed			✓
Flush Mount Removed			✓

Disposition of Well Materials: ~~Cont~~ CRW
Left in place



SURFACE COMPLETION: N/A

DEPTH TO WELL CASING 2' ags

ABANDONMENT MATERIAL
TYPE Portland Cement
VOLUME USED 10 gal
Manufacturer Southdown

TOTAL DEPTH OF ABANDONMENT MATERIAL 43.2'

Figure AC-1

9/24/02

IT CORPORATION
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COPY

Well Abandonment Form

Project: FTMC South Atlantic Division TERC	Well Number: HR-229-MW01
Client: USACE Mobile District	Well Coordinates: N 1164632.28 E 664351.6
Project No. 796887	
Start Date: 9/13/02 / Date Completed: 9/13/02	Prepared By: Kyle Wilson / Reference Point for Measurements: Ground Surface
Well Type: (circle one) Residuum, Bedrock, Temporary, Other ____	NOTES:

BEFORE ABANDONMENT

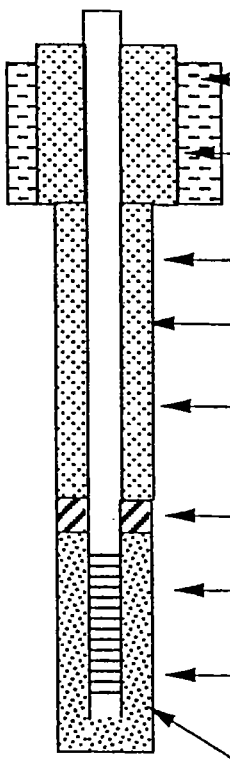
WELL CONSTRUCTION SUMMARY

Well No. HR-229-MW01	Well Location/ Parcel: 229
Total Depth (feet): 88	Drilled By: Todd Neil
Date Completed: 4/6/01	Ground Elevation: 859.84
	TOC Elevation: 862

AFTER ABANDONMENT:

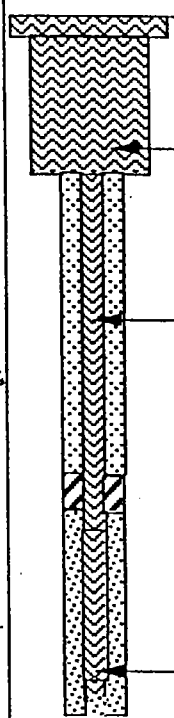
	NO	YES	N/A
Concrete Pad Removed		✓	
Protective Posts Removed		✓	
Outer Casing Removed		✓	
Flush Mount Removed			✓

Disposition of Well Materials: CONSTRUCTION ROLLOFF



	DOWNHOLE DEPTHS TOP	BOTTOM
CONDUCTOR HOLE DIA NA	—	—
OUTER CASING TYPE NA, I.D. ____ O.D. ____	—	—
BOREHOLE DIA 8	0	88
TYPE OF BACKFILL MATERIAL Grout	0	56
WELL CASING TYPE Sch 40 PVC, I.D. 2, O.D. ____	-2.16 ABG	67.75
SEAL TYPE Bentonite Pellets	56	63
FILTER PACK #1 Sand	63	88
SCREEN TYPE Sch 40 PVC, I.D. 2, O.D. ____	67.75	87.75
SUMP TYPE EndCap, I.D. 2, O.D. ____	87.75	88

ABG - Above Ground Surface



SURFACE COMPLETION: NA

DEPTH TO WELL CASING 2'55

ABANDONMENT MATERIAL
TYPE Grout
VOLUME USED 1.97 ft³
Manufacturer DSI high yield Bentonite & Portland Type II Cement

TOTAL DEPTH OF ABANDONMENT MATERIAL 88'

Figure AC-1

9/24/02

IT CORPORATION
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COPY

Well Abandonment Form

Project: FTMC South Atlantic Division TERC	Well Number: HR-232-MW14
Client: USACE Mobile District	Well Coordinates: N 1165521.47 E 664588.71
Project No. 796887	
Start Date: 9/13/02 — Date Completed: 9/13/02	Prepared By: Kyle Wilson — Reference Point for Measurements: Ground Surface
Well Type: (circle one) Residuum; Bedrock; Temporary; Other _____	NOTES:

BEFORE ABANDONMENT

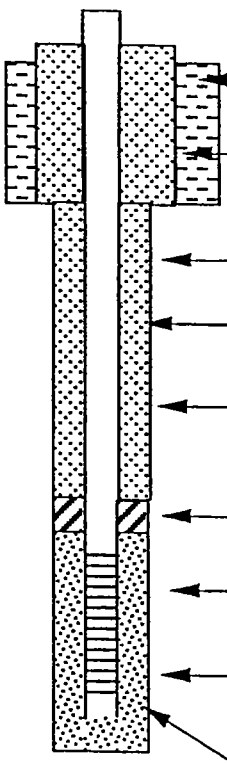
WELL CONSTRUCTION SUMMARY

Well No. HR-232-MW14	Well Location/ Parcel: 232
Total Depth (feet): 43	Drilled By: Don White
Date Completed: 4/14/01	Ground Elevation: 820.77
	TOC Elevation: 822.95

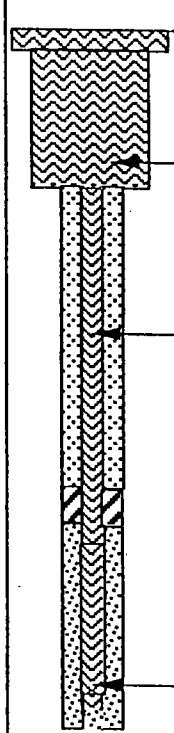
AFTER ABANDONMENT:

	NO	YES	N/A
Concrete Pad Removed		✓	
Protective Posts Removed		✓	
Outer Casing Removed		✓	
Flush Mount Removed			✓

Disposition of Well Materials: CONSTRUCTION ROLLOFF



	DOWNHOLE DEPTHS TOP	BOTTOM
CONDUCTOR HOLE DIA NA	—	—
OUTER CASING TYPE NA, I.D. ____ O.D. ____	—	—
BOREHOLE DIA 8	0	43
TYPE OF BACKFILL MATERIAL Grout	0	25
WELL CASING TYPE Sch 40 PVC, I.D. 2 O.D. ____	~2.02	28
SEAL TYPE Bentonite	23	25
FILTER PACK #1 Sand	25	43
SCREEN TYPE Sch 40 PVC, I.D. 2 O.D. ____	28	43
SUMP TYPE End cap, I.D. 2 O.D. ____	43	43



SURFACE COMPLETION: NA

DEPTH TO WELL CASING 2' bgs

ABANDONMENT MATERIAL
TYPE Grout
VOLUME USED .95 ft³
Manufacturer DSI - Bentonite + Portland type II cement

TOTAL DEPTH OF ABANDONMENT MATERIAL 43

IT CORPORATION
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COMPLETED
Denni [illegible]

Well Abandonment Form

Project: FTMC South Atlantic Division TERC	Well Number: HR-232QX-mw15
Client: USACE Mobile District	Well Coordinates: N NM E NM
Project No. 796887	
Start Date: 7/27/01 — Date Completed: 7/27/01	Prepared By: J. Remo — Reference Point for Measurements: Ground Surface
Well Type: (circle one) Residuum; Bedrock; Temporary; Other _____	NOTES: well information taken from monitoring well installation log.

BEFORE ABANDONMENT

WELL CONSTRUCTION SUMMARY

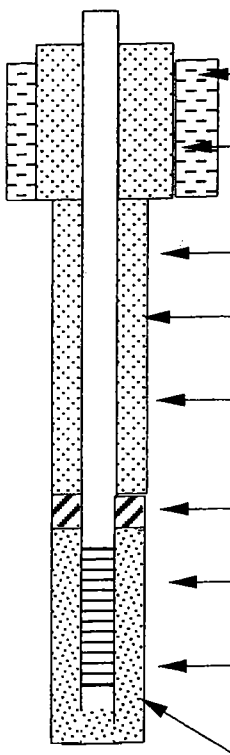
Well No. HR-232QX-mw15	Well Location/ Parcel:
Total Depth (feet): 109.5	Drilled By: Robert Tuller
Date Completed: 5/1/01	Ground Elevation: NM
	TOC Elevation: NM

AFTER ABANDONMENT:

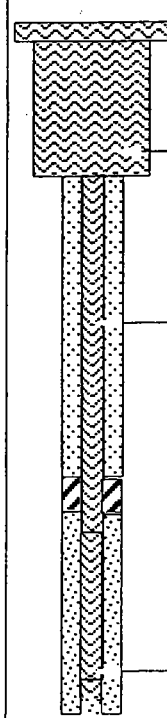
	NO	YES	N/A
Concrete Pad Removed		X	
Protective Posts Removed		X	
Outer Casing Removed			X
Flush Mount Removed			X

Disposition of Well Materials: _____

* DOWNHOLE DEPTHS



		TOP	BOTTOM
CONDUCTOR HOLE DIA	NA	—	—
OUTER CASING TYPE	NA	—	—
I.D. NA O.D. NA			
BOREHOLE DIA	8"	0	109.5
TYPE OF BACKFILL MATERIAL	Bentonite-Cement	0	76.2
WELL CASING TYPE	NA	—	—
I.D. — O.D. —			
SEAL TYPE	Bentonite	76.2	82.3
FILTER PACK	No #1 Filter Sand	82.3	109.5
SCREEN TYPE	Schedual 40 PVC	89.25	109.25
I.D. 2" O.D. —			
SUMP TYPE	NA	—	—
I.D. — O.D. —			



SURFACE COMPLETION: NA

DEPTH TO WELL CASING 2'

ABANDONMENT MATERIAL
TYPE Neat Grout
VOLUME USED < ~~9.2~~ ft³
Manufacturer — 2.5

TOTAL DEPTH OF ABANDONMENT MATERIAL 109.5

Notes:

NA = Not Applicable

BGS = Below Ground Surface

* = All Downhole Depths below Ground surface

Neat grout consists of Portland type II Cement, bentonite and potable water.

NM = Not Measured