HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G29

Project: Fort McClellan | Geologist: Mark Shoemaker/Nicole Badon | Sheet 22 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	203								203
	204								204
	205								205
565									
	206		mdst						206
	207								207
	208								208
	209								209
	210	mdst: Dusky red MUDSTONE and light brown CLAY.							210
560									
	211								211
			mdst						
	212								212
	213								213

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G29

Project: Fort McClellan | Geologist: Mark Shoemaker/Nicole Badon | Sheet 23 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	214								214
	215								215
555									
	216								216
	217								217
	218		mdst						218
	219								219
	220	mdst: Dusky red MUDSTONE and light brown CLAY.							220
550									
	221								221
	222								222
	223								223

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G29

Project: Fort McClellan

Geologist: Mark Shoemaker/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)
	224								224
	225		mdst						225
545									
	226								226
	227								227
	228								Bottom of borehole at 228' bgs 228

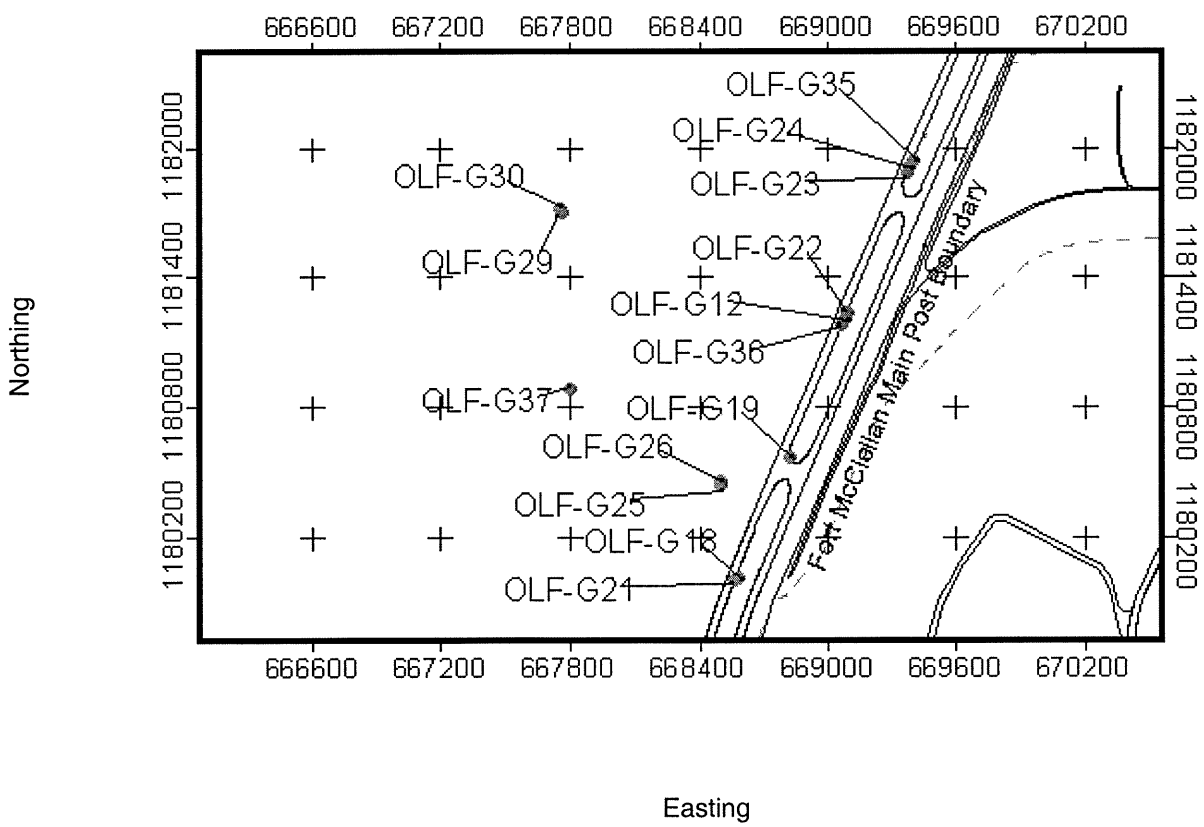
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** OLF-G30
1. Company name: **Shaw Environmental, Inc.**	2. Drill Subcontractor: Miller Drilling/Master Drillers	Sheet 1 of 31 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Glen Bilbrey/Mike Martin/Robert Tillery	6. Mfr. designation of drill: CME-550X/IR-T3W/CME-55
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger, Air Rotary, Triple PQ Coring HSA - 5'x4.25" ID Augers, 2'x2" Steel Split Spoons; PQ - 5'x 4" PQ3 Wireline Core Barrel; AR - 8" ODEX, 7.88" Hammer bit	8. Hole location: Landfill #3, Parcel 80
	9. Surface elevation (feet above mean sea level): 770.92
	10. Date started: 03/18/02 / 11. Date completed: 05/01/02
12. Overburden thickness (feet bgs): 38	15. Depth groundwater encountered (feet bgs): 17
13. Depth drilled into rock (feet bgs): 262	16. Depth to water and elapsed time after drilling completed (feet bgs): NA
14. Total depth of hole (feet bgs): 300	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: 21		
	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	178.35
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	NA	4" Permanent	NA	Badon/Levaas/Shoemaker		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 2 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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 to olive-gray, wet to moist, soft to medium stiff CLAY, some Silt, trace roots, little fine grained, subangular, oxidized, sandstone Gravel.	cl		Organic Vapor = 0.0ppm	Box 9 of 21 (160' to 193.5' bgs)		0 0 5 3	Rec 1.2'/2.0' (0-2' bgs) HSA - Miller Drilling Company - 3/18/02
770	1								
		NA: No recovery.	NA						
	2	NA: No sample collected for lithologic description.	NA						
	3								
	4	cl-ml: Light brown to yellowish orange to light gray, moist, medium stiff CLAY and SILT.	cl-ml		Organic Vapor = 0.0ppm			4 6 6 10	Rec 2.0'/2.0' (4-6' bgs)
	5								
765	6	NA: No sample collected for lithologic description.	NA						
	7								
	8								
	9	cl-ml: Light brown to yellowish orange, moist, SILT and stiff CLAY, little siltstone Gravel.			Organic Vapor = 0.0ppm			4 7 5 7	Rec 2.0'/2.0' (9-11' bgs)
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 3 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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						
760	11	NA: No sample collected for lithologic description.							
	12		NA						
	13								
	14	cl: Light brown to yellowish orange, stiff, moist CLAY, some Silt.			Organic Vapor = 0.0ppm			3 4 5 7	Rec 2.0'/2.0' (14-16' bgs)
	15		cl						
755	16	NA: No sample collected for lithologic description.							
	17								Groundwater encountered at 17' bgs
			NA						
	18								
	19	cl: Light brown to reddish brown, wet, stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			1 4 3 6	Rec 1.8'/2.0' (19-21' bgs)
	20		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 4 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
750	21	NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							
	22		NA						
	23								
	24	cl: Light brown, wet, soft to medium stiff CLAY, some Silt.			Organic Vapor = 0.0ppm			4 12 15 14	Rec 1.7'/2.0' (24-26' bgs)
	25		cl						
745	26	NA: No recovery.	NA						
		NA: No sample collected for lithologic description.							
	27		NA						
	28								
	29	cl: Light brown to greenish gray, wet, medium stiff CLAY, some angular siltstone Gravel, little Silt.	cl		Organic Vapor = 0.0ppm			50/0.4'	Rec 0.4'/0.4' (29-29.4' bgs)
		NA: No sample collected for lithologic description.							
	30		NA						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 5 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
740	31								31
	32		NA						32
	33								33
	34	cl: Light brown, wet, stiff CLAY, some fine to coarse, subangular, siltstone Gravel, little Silt.	cl		Organic Vapor = 0.0ppm			8 20 50/0.3'	Rec 1.3'/1.3' (34-35.3' bgs) 34 PQ Coring - Master Drillers
	35								35
		NA: No sample collected for lithologic description.							
735	36		NA						36
	37								37
	38	sltst: Light brown to greenish gray SILTSTONE, little Clay, some Silt.	sltst		Organic Vapor = 0.0ppm			50/0.3'	Rec 0.3'/0.3' (38-38.3' bgs) 38 ODEX - Miller Drilling Company - 3/20/02 Descriptions from ODEX drill cuttings
		dol: Bluish gray DOLOMITE, some Clay and Silt, wet.							
	39		dol						39
	40	dol: Bluish gray DOLOMITE, some Clay and Silt, wet.			Organic Vapor =				40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 6 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
					0.0ppm				
730	41								41
	42								42
	43								43
	44								44
	45		dol						45
725	46								46
	47								47
	48								48
	49								49
	50	dol: Bluish gray DOLOMITE, some Clay and Silt, wet.			Organic Vapor = 0.0ppm				50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 7 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
720	51								51
	52		dol						52
	53								53
	54	mdst: Reddish brown MUDSTONE, few Clay infilled fractures.							54
	55								55
715	56								56
	57		mdst						57
	58								58
	59								59
	60	mdst: Reddish brown MUDSTONE, few Clay infilled fractures.			Organic Vapor = 0.0ppm				60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 8 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
710	61								
	62		mdst						
	63								
	64								Casing advanced to 65' bgs PQ Coring - Master Drillers
	65	cl: CLAY, light brown, soft, some mudstone Grave. Fractures: 67.35' (near horizontal); 67.6'-67.75' fracture zone (horizontal); 67.85' (near horizontal); 68.0' (fracture zone - vertical and horizontal); 68.4' (horizontal).	cl		Organic Vapor = 0.0ppm	Box 1 of 21 (65.0 to 81.0' bgs)			Run 1 (65.0-69.4' bgs) Ran 4.4' Rec 3.6' Loss 0.8' UL 0.8' Water used ~700 gal, rec 86% RQD 59%
705	66								
	67								
	68	mdst: MUDSTONE, dusky red, moderately hard, weathered, Clay on some fracture faces.	mdst						
	69	NA: No recovery.	NA						
	70	mdst: MUDSTONE, hard, highly weathered, large fractures with soft light brown Clay infill, dusky red. Fractures: 69.4' to 70.3' (multidirectional, fracture zone); 71-71.3' (fracture zone - mostly horizontal); 71.7' and 71.75' (horizontal).						CD 69.4'	Run 2 (69.4-74.4' bgs) Ran 5.0' Rec 2.6' Loss 2.4' UL 2.4' Water used ~900 gal, rec 100% RQD 28%
700	71								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 9 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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		mdst						
	72	NA: No recovery.							
	73		NA						
	74								
		mdst: MUDSTONE, hard, highly weathered very fractured, light brown soft Clay infilled fractures, dusky red, multidirectional fractures.						CD 74.4'	Run 3 (74.4-79.4' bgs) Ran 5.0' Rec 1.5' Loss 3.5' UL 3.4' Water used ~450 gal, rec 93% RQD 0%
	75		mdst						
695	76	NA: No recovery.							
	77		NA						
	78								
	79								
		mdst: MUDSTONE, hard, fractured throughout, dusky red, bluish gray dolomite Gravel toward 82'.						CD 79.3'	Run 4 (79.4-83.1' bgs) Ran 3.7' Rec 2.8' Loss 0.9' UL 1.0' Water used ~485 gal, rec 97% RQD 0%
	80								
690	81		mdst			Box 2			

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 10 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
			mdst			of 21 (81.0 to 96.1' bgs)			
	82	dol: DOLOMITE, very hard, medium dark gray.	dol						82
		NA: No recovery.	NA						
	83	dol: DOLOMITE, hard, moderately weathered, calcite infilled fractures, medium dark gray to dark gray, some iron staining.	dol					CD 83.1'	Run 5 (83.1-83.9' bgs) Ran 0.8' Rec 0.5' Loss 0.3' UL 0.3' Water used ~280 gal, rec 61% RQD 100% 83
		NA: No recovery.	NA						
	84	dol: DOLOMITE, hard, moderately weathered, calcite infilled fractures, some iron staining on fracture faces, fracture zone from 84.9' to 85.3' (broken Gravel with Clay), medium dark gray to dark gray.	dol					CD 83.9'	Run 6 (83.9-88.9' bgs) Ran 5.0' Rec 3.3' Loss 1.7' UL 1.7' Water used ~350 gal, rec 73% RQD 34% 84
	85								85
685	86	sltst: SILTSTONE, moderately hard, moderately weathered, highly fractured, some Clay infilled fractures, dark yellowish orange to dark yellowish brown. Fractures: 85.5' (~45 degree), 85.9'-88.9' (fractured throughout, multidirectional.	sltst						86
	87								87
		NA: Void.							
	88		NA						88
	89	sltst: SILTSTONE, moderately hard, moderately weathered, dark yellowish brown, light gray, few fissile Shale laminations.	sltst					CD 88.9'	Run 7 (88.9-93.9' bgs) Ran 5.0' Rec 2.5' Loss 2.5' UL 2.5' Water used ~475 gal, rec 100% RQD 16% 89
	90	dol: DOLOMITE, hard, moderately weathered, calcite infilled fractures, some iron staining. Fractures: 88.9'-89.7' (fracture zone), 89.7'-90.2' (vertical fracture with calcite infill), 90.2'-90.6' (vertical fracture, iron staining and calcite), 90.6'-93.9' (multiple fractures, vertical and horizontal).							90
680	91		dol						91

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 11 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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.							
	92								92
	93		NA						93
	94	dol: DOLOMITE, hard, moderately weathered, few calcite veins, medium gray, some iron staining, Clay infilled fractures.						CD 93.9'	Run 8 (93.9-98.9' bgs) Ran 5.0' Rec 3.9' Loss 1.1' UL 1.1' Water used ~700 gal, rec 71% RQD 64% 94
	95		dol						95
675	96								96
		sltst: SILTSTONE, moderately hard, slightly weathered, moderate yellowish brown, fracture at 96.1' and 96.3' (~20 degree, Clay infill).	sltst			Box 3 of 21 (96.1 to 105.5' bgs)			
	97	dol: DOLOMITE, hard, moderately weathered, few calcite veins, medium gray, some iron staining, Clay infilled fractures.	dol						97
	98	dol: DOLOMITE, coated with light brown Clay, fracture at 98.7' (~20 degree), hard, moderately weathered, few calcite veins, medium gray, some iron staining, Clay infilled fractures.	dol						98
		NA: No recovery.	NA						
	99	cl: CLAY, light brown, soft, moist, some dolomite Gravel.	cl					CD 98.9'	Run 9 (98.9-100.2' bgs) Ran 1.3' Rec 1.3' Loss 0.0' UL 0.0' Water used ~150 gal, rec 100% RQD 69% 99
	100	dol: DOLOMITE, hard, slightly weathered, few calcite veins, medium gray.	dol						100
		cl: CLAY, stiff to very stiff, moist, light brown, some dolomite and mudstone Gravel.						CD 100.2'	Run 10 (100.2-103.9' bgs) Ran 3.7' Rec 3.7' Loss 0.0' UL 0.0' Water used ~300 gal, rec 43% RQD 86%
670	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 12 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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		cl						102
	103								103
	104	dol: DOLOMITE, hard, moderately weathered, very fractured, some calcite veins, medium gray.	dol					CD 103.9'	Run 11 (103.9-108.9' bgs) Ran 5.0' Rec 2.5' Loss 2.5' UL 2.5' Water used ~250 gal, rec 96% RQD 0% 104
	105	dol: DOLOMITE, hard, moderately weathered, fractured at 104.3 (~20 degree), some calcite veins, some iron staining, medium gray.	dol						105
		mdst: MUDSTONE, moderately hard, moderately weathered, dusky red.	mdst			Box 4 of 21 (105.5 to 117.3' bgs)			
665	106	dol: DOLOMITE, hard, moderately weathered, some calcite veins, some iron staining, medium gray. Fractures: 104.65' to 104.9' (fractured zone, multidirectional).	dol						106
		NA: No recovery.							
	107								107
	108		NA						108
	109	gc: Mudstone GRAVEL and CLAY, dusky red, light brown Clay.	gc					CD 108.9'	Run 12 (108.9-113.9' bgs) Ran 5.0' Rec 3.4' Loss 1.6' UL 1.6' Water used ~400 gal, rec 100% RQD 18% 109
		sltst: SILTSTONE, moderately hard, moderately weathered, moderate yellowish brown.	sltst						
	110	dol: DOLOMITE, hard, moderately weathered, some calcite veins, some iron staining, medium gray.	dol						110
660	111								111
		ss: SANDSTONE, moderately hard,							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 14 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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								
	123								
	124	mdst: MUDSTONE, moderately hard, moderately weathered, highly fractured, light brown Clay infilled fractures. Fractures: 124.1' (multidirectional), 124.3'-125.3' (vertical), 124.5' and 124.7' (~20 degree), 125.2' (near horizontal).	mdst					CD 123.6'	Run 16 (123.9-128.9' bgs) Ran 5.0' Rec 2.2' Loss 2.8' UL 0.0' Water used ~345 gal, rec 99% RQD 0%
	125								
		cl: Light brown, soft, moist CLAY, some mudstone and dolomite Gravel.	cl						
645	126	gc: CLAY and dolomite GRAVEL.	gc					CD 125.8'	
	127	dol: DOLOMITE, hard, moderately weathered, contorted calcite veins, medium gray to medium dark gray, slight iron staining. Fractures: 126.1' to 126.6' (near horizontal, light gray Siltstone on fracture face), 128.1' (near horizontal), 129.0' (~20 degree). Driller noted last 2 feet of run was possibly a void.	dol						
	128								
	129	NA: No recovery.	NA			Box 6 of 21 (129.7 to 141.0' bgs)			Run 17 (128.9-133.9' bgs) Ran 5.0' Rec 3.3' Loss 1.7' UL 3.9' Water used ~350 gal, 71% RQD 32%
	130								
640	131	NA: Void.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 16 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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	dol: DOLOMITE, hard, moderately weathered, intensely fractured, few calcite veins, little iron staining, little Siltstone, medium gray to medium dark gray.							
	144								Run 20 (143.9-148.7' bgs) Ran 4.8' Rec 5.2' Gain 0.4' UL 0.5' Water used ~525 gal, rec 100% RQD 36%
	145								
			dol						
625	146								
	147								
	148								
		NA: No recovery.	NA						
	149	dol-sltst: Interbedded DOLOMITE and SILTSTONE, moderately hard to hard, moderately weathered, some calcite veins, medium dark gray and dark yellowish orange. Fractures: 149.6'-149.7' (fracture zone, broken Dolomite), 151.3' (~20 degree with calcite), 151.4' (iron staining), 151.6' and 152.3' (~45 degree with calcite).						CD 148.7'	Run 21 (148.7-153.7' bgs) Ran 5.0' Rec 4.8' Loss 0.2' UL 0.0' Water used ~650 gal, rec 66% RQD 5%
	150								
620	151								
			dol-sltst			Box 8 of 21 (151.3 to 160' bgs)			
	152								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 17 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	153								
	154	dol-sltst: Interbedded DOLOMITE and SILTSTONE, moderately hard to hard, moderately weathered, some calcite veins, medium dark gray to dark yellowish orange. Fractures: 154.5', 154.7', and 156.7' (~45 degrees), slight iron staining on fracture faces.						CD 153.5'	Run 22 (153.7-158.7' bgs) Ran 5.0' Rec 5.0' Loss 0.0' UL 0.4' Water used ~450 gal, rec 88% RQD 84%
	155								
615	156		dol-sltst						
	157								
	158								
		NA: No recovery.	NA						
	159	dol-sltst: Interbedded DOLOMITE and SILTSTONE, hard, moderately weathered, some calcite veins, medium dark gray to dark gray to dark yellowish orange. Washed out Siltstone at 161.3'. Fractures: 159.4' (~20 degree), 160.6' and 161.3' (~45 degree).						CD 158.9'	Run 23 (158.7-163.7' bgs) Ran 5.0' Rec 3.4' Loss 1.6' Water used ~450 gal, rec 100% RQD 66% CD not recorded
	160								
610	161		dol-sltst						
	162								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 18 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	163	NA: No recovery.	NA						163
	164	dol: DOLOMITE, hard, moderately weathered, some calcite veins, dark yellowish orange, Siltstone at 164' and 164.4' - 164.9' (laminations ~1/2" thick). Fractures: 164.1' and 164.6' (~20 degree).	dol						Run 24 (163.7-167.1' bgs) Ran 3.4' Rec 1.4' Loss 2.0' Water used ~940 gal, rec 100% RQD 64% CD not recorded 164
	165								165
605	166	NA: No recovery.	NA						166
	167								167
		mdst: MUDSTONE, moderately hard, moderately weathered, blackish red, broken and interbedded with light brown, soft Clay.	mdst						Run 25 (167.1-168.9' bgs) Ran 1.8' Rec 0.1' Loss 1.7' Water used ~500 gal, rec 90% RQD 0%
	168	NA: No recovery.	NA						168
	169	NA: No recovery.							Run 26 (168.9-173.9' bgs) Ran 5.0' Rec 0.0' Loss 5.0' Water used ~1175 gal, rec 62% RQD 0% 169
	170								170
600	171		NA						171
	172								172

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 19 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	173								173
	174	NA: No recovery.							Run 27 (173.9-178.8' bgs) Ran 4.9' Rec 0.0' Loss 4.9' UL 4.9' Water used ~1200 gal, rec 81% RQD 0% 174
	175								175
595	176		NA						176
	177								177
	178								178
	179	mdst: MUDSTONE, moderately hard, moderately weathered, broken by coring process, dusky red.	mdst						Run 28 (178.8-181.4' bgs) Ran 2.6' Rec 2.6' Loss 0.0' Water used ~1000 gal, rec 70% RQD 35% 179
	180								180
590	181	dol: DOLOMITE, hard, moderately weathered, few Mudstone laminations near 181.15', medium dark gray.	dol						181
		dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard, moderately weathered. Fractured at 181.35' (~45 degrees), medium dark gray and dusky red.	dol-mdst						Description from ODEX cuttings (181.5-191' bgs)
	182	mdst: Reddish brown MUDSTONE.							182

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 20 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	183								183
	184								184
	185								185
585	186		mdst						186
	187								187
	188								188
	189								189
	190								190
580	191	mdst: MUDSTONE, moderately hard, moderately weathered, fine grained, moderately fractured, trace Siltstone, grayish red to moderate brown, calcite veins throughout. Near horizontal fractures at 191.5', 192.0', 192.3', 192.7'.							Casing advanced to 191' bgs. Run 29 (191.0-193.9' bgs) Ran 2.9' Rec 2.9' Loss 0.0' Water used ~750 gal, rec 766% RQD 34.4% 191
	192		mdst						192

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 21 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	193	mdst-sltst: Interbedded MUDSTONE, SILSTONE, and very fine grained SANDSTONE, gryaish red, yellowish gray, and moderate yellow.	mdst-sltst						193
		mdst: MUDSTONE, moderately hard, moderately weathered, fine grained, grayish red to moderate brown, trace Siltstone, calcite veins throughout, severely pitted. Near horizontal fractures at 193.4' and 193.5'.	mdst			Box 10 of 21 (193.5 to 202.5' bgs)			
	194		dol					CD 193.9'	Run 30 (193.9-199.0' bgs) Ran 5.1' Rec 5.1' Loss 0.0' UL 0.0' Water used ~800 gal, rec 82% RQD 41.2% 194
		dol: DOLOMITE, hard, slightly weathered, very fine grained, medium gray, some interbedded Mudstone, calcite veins throughout.							
	195	dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard to moderately hard, moderately weathered, very fine grained to fine grained, medium gray to grayish red, contorted calcite veins throughout, highly fractured with calcite, Siltstone, or Sandstone infill. Fractures, nearly horizontal at 194.0, 194.6', 194.9', 195.8', 196.1'.	dol-mdst						195
575	196								196
		mdst-sltst: Interbedded MUDSTONE, DOLOMITE, SILTSTONE, and SANDSTONE, calcite veins throughout, nera horizontal fractures at 196.5' and 196.9'.	mdst-sltst						
	197	dol-mdst: Interbedded DOLOMITE and MUDSTONE, grading to predominantly MUDSTONE, near horizontal fractures at 197.7' and 198.2', broken zone at 197.3'.							197
	198		dol-mdst						198
	199	dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard to moderately hard, moderately weathered, very fine grained to fine grained, medium gray, highly fractured with calcite, Siltstone, and Sandstone infill. Clay seam from 201.5- 201.7'. Near horizontal fractures at 200.2', 200.6', 201.5', 202.0'; broken zones at 199.0-199.2', 199.7-199.9', 201.7-201.9'.						CD 199.0'	Run 31 (199.0-202.2' bgs) Ran 3.2' Rec 3.2' Loss 0.0' UL 0.0' Water used ~1300 gal, rec 46% RQD 23.5% 199
	200								200
			dol-mdst						
570	201								201
	202								Run 32 (202.2-202.5' bgs) Ran 0.3' Rec 0.3' Loss 0.0' UL 0.0' Water used ~500 gal, rec 20% 202
								CD 202.4'	
		dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard, slightly weathered, contorted calcite veins, medium gray.	dol-mdst			Box 11 of 21 (202.5		CD 202.5'	Run 33 (202.5-203.7' bgs) Ran 1.2' Rec 1.0' Loss 0.2' UL 0.2'

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 22 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	203	dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard, slightly weathered, moderately fractured with calcite, Siltstone, and Sandstone infill, contorted calcite veins throughout, medium gray. Horizontal fracture at 202.9'.	dol-mdst			to 212.0' bgs)			Water used ~300 gal, rec 0% Run 34 (203.7-203.9' bgs) Ran 0.2' Rec 0.2' Water used 300 gal, rec 0% RQD 100%
		NA: No recovery.	NA					CD 203.7'	
	204	dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard, slightly weathered, moderately fractured with calcite, Siltstone, and Sandstone infill, contorted calcite veins throughout, medium gray.	dol-mdst					CD 203.9' CD 204.0'	Run 35 (203.9-204.0' bgs) Ran 0.1' Rec 0.1' Water used 100 gal, rec 0% RQD 100% Run 36 (204.0-208.8' bgs) Ran 4.8' Rec 4.6' Loss 0.2' UL 0.2' Water used 500 gal, rec 10% RQD 84.8%
	205	dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard to moderately hard, moderately weathered, very fine grained to fine grained, moderately fractured with Mudstone, Siltstone, very fine Sandstone and calcite infill, contorted calcite veins throughout, medium gray to grayish red. Near horizontal fractures at 204.3', 204.6', 204.8', 206.0', 207.2', 208.2'. Bedding is irregular and highly contorted.							
565	206		dol-mdst						
	207								
	208								
		NA: No recovery.	NA						
	209	dol: DOLOMITE, hard, moderately weathered, fine grained, moderately fractured with Mudstone, Siltstone, very fine Sandstone, and calcite infill, contorted calcite veins throughout, medium gray.						CD 208.8'	Run 37 (208.8-213.8' bgs) Ran 5.0' Rec 3.9' Loss 1.1' UL 0.9' Water used 300 gal, rec 0% RQD 61.5%
			dol						
	210								
560	211	mdst: MUDSTONE, moderately hard, highly weathered, very fine grained, broken, trace calcite veins, grayish brown.	mdst						
		cl: Grayish brown CLAY, some Sand, little mudstone Gravel.	cl						
	212	mdst: MUDSTONE, moderately hard, highly weathered, very fine grained, broken, trace calcite veins, grayish brown.	mdst			Box 12 of 21 (212.0 to 222.2' bgs)			
		dol: DOLOMITE, hard, moderately weathered, fine grained, moderately fractured with Mudstone, Siltstone, very fine Sandstone, and calcite infill, contorted calcite veins throughout, medium gray.	dol						
	213								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 23 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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						
	214	dol: DOLOMITE, hard, moderately weathered, fine grained, moderately fractured with Mudstone, Siltstone, very fine Sandstone, and calcite infill, contorted calcite veins throughout, medium gray.	dol					CD 213.6'	Run 38 (213.8-218.1' bgs) Ran 4.3' Rec 4.5' Gain 0.2' UL 0.0' Water used 500 gal, rec 0% RQD 24.4%
	215	mdst: MUDSTONE, moderately hard, highly weathered, very fine grained, intensely fractured, trace calcite veins, grayish brown. Highly weathered to decomposed from 217.5-217.8'. Sandstone lenses from 217.3-217.5' and 217.8-218.1'.							
555	216								
			mdst						
	217								
	218							CD 218.1' CD 218.3'	
		mdst: MUDSTONE, moderately hard, highly weathered, very fine grained, broken, trace calcite veins, grayish brown.	mdst mdst						Run 39 (218.1-218.6' bgs) Ran 0.5' Rec 0.2' Loss 0.3 UL 0.0' Water used 50 gal, rec 0% RQD 0%
	219	mdst: MUDSTONE, moderately hard, highly weathered, very fine grained, broken, trace calcite veins, grayish brown.							Run 40 (218.6-223.6' bgs) Ran 5.0' Rec 5.3' Gain 0.3' UL 0.0' Water used 250 gal, rec 0% RQD 30.2%
	220	dol-mdst: Interbedded DOLOMITE and MUDSTONE, hard to moderately hard, moderately weathered, very fine grained to fine grained, moderately fractured with Mudstone, Siltstone, very fine Sandstone and calcite infill, contorted calcite veins throughout, medium gray to grayish red. Near horizontal fractures at 204.3', 204.6', 204.8', 206.0', 207.2', 208.2'. Bedding is irregular and highly contorted.	dol-mdst						
550	221								
	222					Box 13 of 21 (222.2 to 236.2' bgs)			
	223	mdst: MUDSTONE, moderately hard, highly weathered, very fine grained, broken, trace calcite veins, grayish brown.	mdst						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 24 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		sltst: SILTSTONE, soft, highly weathered, intensely fractured, dark yellowish orange.	sltst						
	224	mdst: Interbedded MUDSTONE and SILTSTONE, moderately hard to soft, highly weathered, very fine grained to fine grained, intensely fractured to broken, grayish brown to dark yellowish orange, bedding is irregular and highly contorted.	mdst					CD 223.6'	Run 41 (223.6-228.6' bgs) Ran 5.0' Rec 3.0' Loss 2.0' UL 2.0' Water used 300 gal, rec 0% RQD 0%
	225								
545	226								
	227	NA: No recovery, possible void.	NA						
	228								
	229	NA: No recovery, possible void.	NA					CD 228.6'	Run 42 (228.6-233.8' bgs) Ran 5.2' Rec 2.3' Loss 2.9' UL 2.9' Water used 200 gal, rec 0% RQD 26.1%
	230								
540	231								
	232	dol-ls: LIMESTONE, hard, highly weathered (pitted), finely crystalline, thin bedding dipping at 45 degrees, highly fractured with Clay and calcite infill, calcite veins throughout, medium gray. Fractures along bedding planes at 231.9' and 232.4'. Grades to DOLOMITE, hard, moderately weathered, finely crystalline, moderately fractured, contorted calcite veins throughout. Broken zones: 233.0-233.6'; vertical calcite infilled fracture from 232.6-233.8'.	dol-ls						
	233								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 25 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	234	dol-ls: DOLOMITE, hard, slightly weathered, finely crystalline, moderately fractured with crystalline calcite and siltstone infill, banded bedding highly contorted to nearly vertical, contorted calcite veins, some iron staining. Grades back into LIMESTONE, hard, highly weathered (pitted), finely crystalline, thin to banded bedding dipping at 45 degrees, highly fractured, Clay and calcite infilled, calcite veins throughout, some iron staining, medium gray.						CD 233.8'	Run 43 (233.8-239.0' bgs) Ran 5.2' Rec 5.2' Loss 0.0' Water used 200 gal, rec 0% RQD 100%
	235								
535	236		dol-ls			Box 14 of 21 (236.2 to 245.2' bgs)			
	237								
	238								
	239	ls: LIMESTONE, hard, highly weathered (pitted), finely crystalline, moderately fractured with crystalline calcite infill, banded bedding nearly vertical at top to nearly horizontal at bottom, some iron staining, breaks along calcite infilled fractures, medium gray. Fractures at 240.0' and 241.5' (20 degrees), 242.4' (30 degrees, slickensides on fracture faces), 243.3' (30 degrees, broken).						CD 239.0'	Run 44 (239.0-244.0' bgs) Ran 5.0' Rec 4.7' Loss 0.3' UL 0.0' Water used 200 gal, rec 0% RQD 100%
	240								
530	241		ls						
	242								
	243								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 26 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	244	ls: LIMESTONE, hard, highly weathered (pitted), finely crystalline, moderately fractured with crystalline calcite infill, banded bedding nearly vertical at top to nearly horizontal at bottom, some iron staining, breaks along calcite infilled fractures, medium gray. Nearly horizontal fractures at 243.9', 244.4', 244.6', 244.7', 245.0', 245.8', 246.7', 247.8'.	ls					CD 243.7'	Run 45 (244.0-249.0' bgs) Ran 5.0' Rec 5.0' Loss 0.0' UL 0.0' Water used 150 gal, rec 0% RQD 65.4%
	245								
525	246	dol: DOLOMITE, hard, slightly weathered, crystalline, moderately fractured with crystalline calcite and siltstone infill, banded bedding, nearly horizontal.	dol			Box 15 of 21 (245.2 to 253.7' bgs)			
	247								
	248	mdst-sltst: MUDSTONE, grayish brown, interbedded with SILTSTONE, dark yellowish orange and medium light gray, moderately hard, slightly weathered, fine grained, laminated, highly contorted bedding. Horizontal fracture at 248.4'.	mdst-sltst						
	249	mdst: MUDSTONE, highly weathered to decomposed.	mdst					CD 248.7'	Run 46 (249.0-253.7' bgs) Ran 4.7' Rec 5.0' Gain 0.3' UL 0.0' Water used 200 gal, rec 0% RQD 70.6%
	250	mdst-sltst: MUDSTONE, grayish brown, interbedded with SILTSTONE, dark yellowish orange and medium light gray, moderately hard, slightly weathered, fine grained, laminated, highly contorted bedding.	mdst-sltst						
520	251								
	252	dol-ls: DOLOMITIC LIMESTONE grading to DOLOMITE, hard, slightly weathered, finely crystalline, moderately fractured filled with calcite, banded bedding, horizontal to 15 degrees, slightly contorted, some rose colored mineralization, contorted calcite veins, medium gray. Fractures: 249.5' (horizontal), 249.8' (horizontal), 250.5' (horizontal), 252.2' (30 degrees), 253.4' (20 degrees), 253.7 (20 degrees).	dol-ls						
	253								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 27 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	254	dol-mdst: Interbedded DOLOMITE and MUDSTONE, banded, dipping 10 degrees to slightly contorted.	dol-mdst			Box 16 of 21 (253.7 to 262.9' bgs)		CD 253.7'	Run 47 (253.7-258.7' bgs) Ran 5.0' Rec 5.0' Loss 0.0' Water used 250 gal, rec 0% RQD 76%
	255	mdst: MUDSTONE, moderately hard, moderately weathered, very fine grained, laminated bedding (horizontal to 10 degrees), moderately fractured, calcite or siltstone infill, contorted calcite veins throughout. Fractures: near horizontal 254.4'-254.6', 254.8'-254.9', 255.2', 255.8', 257.3', 258.3'.							
515	256		mdst						
	257								
	258								
	259	mdst: MUDSTONE, moderately hard, moderately weathered, very fine grained, laminated bedding (horizontal to 10 degrees), moderately to highly fractured, calcite or siltstone infill, some contorted calcite veins throughout. some calcite veins. Fractures: nearly horizontal 259.1', 259.6'-259.7' (broken), 259.9', 260.9', 261.2', 261.6'-261.9' (broken), 262.5', 262.7', 263.5'.						CD 258.7'	Run 48 (258.7-263.4' bgs) Ran 4.7' Rec 4.7' Loss 0.0' UL 0.0' Water used 400 gal, rec 0%
	260								
510	261		mdst						
	262								
	263					Box 17 of 21 (262.9 to 271.1' bgs)			
		mdst: MUDSTONE, moderately hard, moderately weathered, very fine grained, laminated bedding (horizontal to 10 degrees),						CD 263.4'	Run 49 (263.4-268.4' bgs) Ran 5.0' Rec 5.2' Gain 0.2'

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 28 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	264	moderately fractured, calcite or siltstone infill, contorted calcite veins throughout, increasing calcite veins with depth. Fractures: 264.3' (20 degree), 265.3'-265.6' (broken), 266.6' (horizontal).							Water used 400 gal, rec 100% RQD 75% measure CD
	265		mdst						
505	266								
	267								
		mdst: MUDSTONE, becoming highly weathered and broken to decomposed.							
	268		mdst						
		mdst: MUDSTONE, highly weathered and broken to decomposed.							Run 50 (268.4-273.7' bgs) Ran 5.3' Rec 5.1' Loss 0.2' UL 0.0' Water used 300 gal, rec 0% RQD 11.8%
	269		mdst						
	270								
		mdst: MUDSTONE, highly weathered, intensely fractured, calcite infill, highly contorted bedding, calcite veins.							
500	271					Box 18 of 21 (271.1 to 280.4' bgs)			
	272		mdst						
	273								
		mdst: MUDSTONE, moderately hard, slightly weathered, very fine grained, thin to banded						CD 273.7'	Run 51 (273.7-278.7' bgs) Ran 5.0' Rec 5.0'
	274								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 29 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		bedding with interbedded Dolomite and Siltstone, moderately fractured with calcite or siltstone infill, calcite veins, grayish brown. Highly weathered and pitted 277.4'-277.8'. Intermittent seams of Dolomite (274'-275'), intermittent seams of Siltstone (275.2'- 276.3', 277.8'-278.5'. Fracture zone 275.0'-275.3'. Nearly horizontal fractures 276.1', 277.0', 277.3', 278.1', 278.2'.							Loss 0.0' UL 0.0' Water used 350 gal, rec 0% RQD 57.7%
	275								275
495	276		mdst						276
	277								277
	278								278
	279	mdst: MUDSTONE, moderately hard, slightly weathered, very fine grained, thin to banded bedding with interbedded Dolomite and Siltstone, moderately fractured with calcite or siltstone infill, calcite veins, grayish brown.	mdst mdst-ls					CD 278.7'	Run 52 (278.7-283.6' bgs) Ran 4.9' Rec 4.9' Loss 0.0' UL 0.0' Water used 400 gal, rec 0% RQD 42%
		mdst-ls: MUDSTONE grading to LIMESTONE.							
	280	ls: LIMESTONE, moderately hard, highly weathered (pitted), finely crystalline, banded bedding (nearly horizontal), moderately fractured, medium light gray, angular fragments in fractures, some siltstone in fractures, highly contorted calcite veins throughout, most open fractures spaced less than 0.5" apart.							280
490	281					Box 19 of 21 (280.4 to 289.0' bgs)			281
			ls						
	282								282
	283								283
	284	ls: LIMESTONE, moderately hard, highly weathered (pitted), finely crystalline, banded bedding (nearly horizontal), moderately						CD 283.6'	Run 53 (283.6-288.5' bgs) Ran 4.9' Rec 4.7' Loss 0.2' UL 0.0' 284

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 30 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		fractured, medium light gray, angular fragments in fractures, some siltstone in fractures, highly contorted calcite veins throughout, most open fractures spaced less	ls						Water used 350 gal, rec 0%
	285	dol-mdst: Interbedded DOLOMITE and MUDSTONE.	dol-mdst						285
485	286	mdst: MUDSTONE, moderately hard, slightly weathered, very fine grained, thin bedding with intermittent seams of Dolomite, moderately fractured with calcite or siltstone infill, few calcite veins. Broken zones at 285.5', 287.8-288.3'.							286
	287		mdst						287
	288								288
	289	mdst: MUDSTONE, moderately hard, moderately weathered, very fine grained, moderately fractured with siltstone, very fine sandstone, or calcite infill, thin contorted bedding, highly contorted calcite veins throughout, few vugs filled with calcite crystals, grayish brown.	mdst			Box 20 of 21 (289.0 to 296.9' bgs)		CD 288.3'	Run 54 (288.5-293.5' bgs) Ran 5.0' Rec 5.4' Gain 0.4' UL 0.0' Water used 300 gal, rec 0% RQD 57.7% 289
	290								290
480	291	dol-mdst: DOLOMITE, moderately hard, slightly weathered, very fine grained, very thin bedding, unfractured, interbedded with Mudstone, contorted bedding, very light gray.	dol-mdst						291
		dol-mdst: MUDSTONE, moderately hard, moderately weathered, very fine grained, interbedded Dolomite, highly contorted bedding.	dol-mdst						
	292	mdst-sltst: MUDSTONE, DOLOMITE, SILTSTONE, and very fine SANDSTONE, very thinly interbedded, highly contorted, calcite veins throughout, highly fractured to broken.	mdst-sltst						292
	293	mdst: MUDSTONE, soft, highly weathered to decomposed, highly fractured to broken, calcite veins throughout.	mdst						293
	294	mdst: MUDSTONE, soft, highly weathered to decomposed, highly fractured to broken, calcite veins throughout.						CD 293.7'	Run 55 (293.7-298.7' bgs) Ran 5.0' Rec 3.2' Loss 1.8' UL 0.0' Water used 350 gal, rec 0% 294

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G30

Project: Fort McClellan | Geologist: Badon/Levaas/Shoemaker | Sheet 31 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
									RQD 0% Unable to measure CD
	295		mdst						295
475	296								296
	297	mdst: MUDSTONE, soft, highly weathered to decomposed, highly fractured to broken, calcite veins throughout.				Box 21 of 21 (296.9 to 300.0' bgs)			297
	298								298
			mdst						
	299								Run 56 (298.7-300.0' bgs) Ran 1.3' Rec 3.1' Gain 1.8' UL 0.0' Water used 250 gal, rec 0% RQD 64.5% Bottom of borehole at 300' bgs 299
	300								300

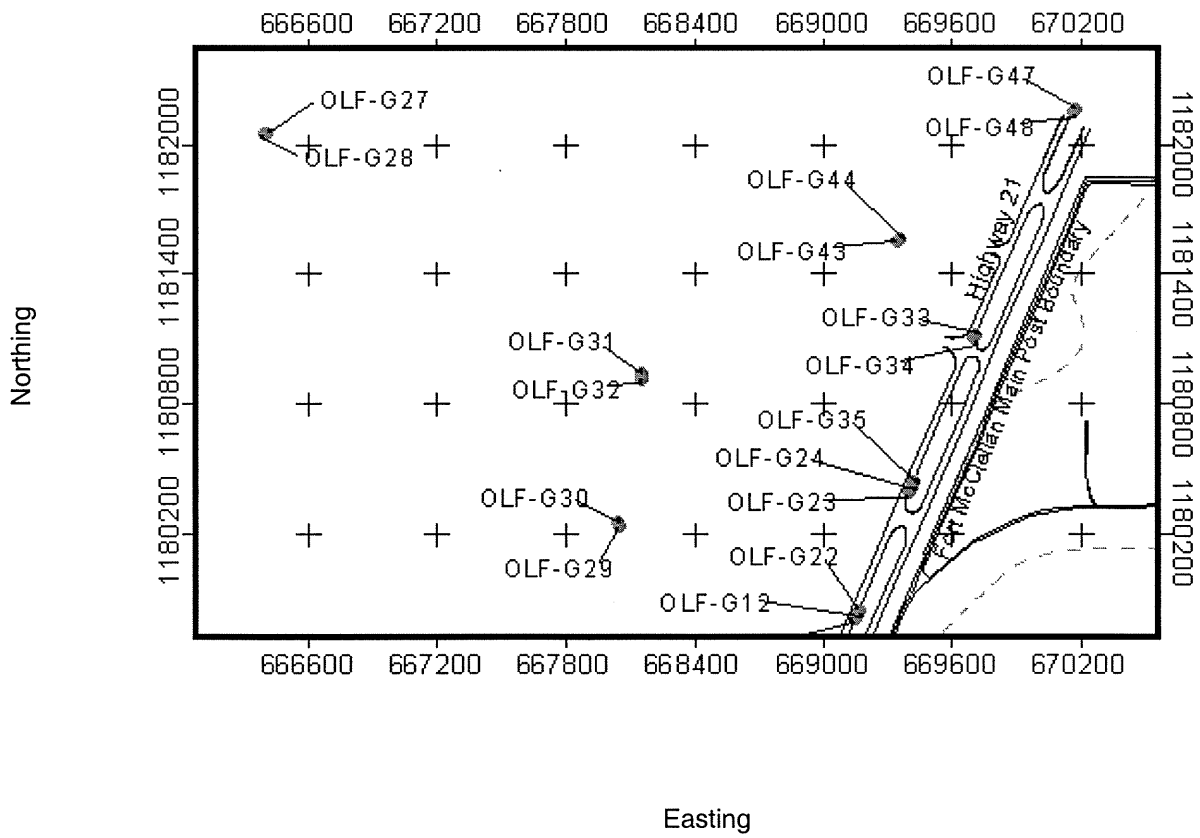
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** OLF-G31
1. Company name: **Shaw Environmental, Inc.**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 24 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Mike Martin	6. Mfr. designation of drill: Ingersoll-Rand T-3
7. Sizes and types of drilling and sampling equipment: Air Rotary AR - 7 7/8" Air Hammer, 8" ODEX bit	8. Hole location: Landfill #3, Parcel 80 9. Surface elevation (feet above mean sea level): 794.25 10. Date started: 04/03/02 — 11. Date completed: 04/09/02
12. Overburden thickness (feet bgs): 82	15. Depth groundwater encountered (feet bgs): 100
13. Depth drilled into rock (feet bgs): 146	16. Depth to water and elapsed time after drilling completed (feet bgs): 111 after 3 days
14. Total depth of hole (feet bgs): 228	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	4" permanent	NA	Mark Shoemaker		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 2 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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: Reddish brown CLAY, some reddish brown mudstone Gravel.			Organic Vapor = 0.0ppm				Air rotary - Miller Drilling Company - 4/3/02 Lithologic descriptions from ODEX cuttings, depths approximate.
	1								
	2								
	3								
	4								
790									
	5		cl						
	6								
	7								
	8								
	9								
785									
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 3 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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: Reddish brown CLAY, some reddish brown mudstone Gravel.							
	11								11
	12								12
	13		cl						13
	14								14
780									
	15								15
	16	mdst: Reddish brown MUDSTONE.							16
	17		mdst						17
	18	cl-ml: Yellowish orange CLAY and SILT, wet.							18
	19		cl-ml						19
775									
	20	cl: Light brown CLAY, some mudstone and							20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 4 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		siltstone Gravel.							
	21								
	22								
	23								
	24								
770									
	25		cl						
	26								
	27								
	28								
	29								
765									
	30	cl: Light brown CLAY, some mudstone and siltstone Gravel.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 5 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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
760									
	35		cl						35
	36								36
	37								37
	38								38
	39								39
755									
	40	cl: Light brown CLAY, some mudstone and siltstone Gravel.							40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 6 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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
750									
	45		cl						45
	46								46
	47								47
	48								48
	49								49
745									
	50	cl: Light brown CLAY, some mudstone and siltstone Gravel.							50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 7 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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
			cl						
	53								53
	54								54
740									
	55	mdst: Reddish brown MUDSTONE, intermittent zones of moist to wet Clay and Silt.							55
	56								56
	57								57
	58								58
	59								59
735									
	60		mdst						60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 8 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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
730									
	65	mdst: Reddish brown MUDSTONE, intermittent zones of moist to wet Clay and Silt.							65
	66								66
	67								67
	68								68
	69								69
725									
	70		mdst						70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 9 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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								
720									
	75	mdst: Reddish brown MUDSTONE, intermittent zones of moist to wet Clay and Silt.							
	76								
	77								
	78		mdst						
	79								
715									
	80								
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 10 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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	dol: Bluish gray DOLOMITE.							82
	83								83
	84								84
710									
	85								85
	86		dol						86
	87								87
	88								88
	89								89
705									
	90	dol: Bluish gray DOLOMITE.							90
	91								91

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 11 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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
700									
	95		dol						95
	96								96
	97								97
	98								98
	99								99
695									
	100	dol: Bluish gray DOLOMITE, broken.			Organic Vapor = 0.0ppm				100
	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 12 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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
690									
	105		dol						105
	106								106
	107								107
	108								108
	109								109
685									
	110	dol: Bluish gray DOLOMITE, broken.							110
	111								111

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 13 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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		dol						112
	113								113
	114								114
680									
	115	mdst: Reddish brown MUDSTONE.							115
	116								116
	117								117
	118								118
	119								119
675									
	120		mdst						120
	121								121

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 14 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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								124
670									
	125	mdst: Reddish brown MUDSTONE.							125
	126								126
	127								127
	128								128
	129								129
665									
	130		mdst						130
	131								131

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 15 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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
660									
	135	mdst: Reddish brown MUDSTONE.							135
	136								136
	137								137
			mdst						
	138								138
	139								139
655									
	140	dol: Bluish gray DOLOMITE.							140
	141								141
	142								142

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 16 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (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		dol						143
	144								144
650									
	145								145
	146	mdst: Reddish brown MUDSTONE.							146
	147								147
	148								148
	149								149
645									
	150		mdst						150
	151								151
	152								152

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 17 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	153								153
	154								154
640									
	155	mdst: Reddish brown MUDSTONE.							155
	156								156
	157								157
	158								158
	159								159
635									
	160		mdst						160
	161								161
	162								162

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 18 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	163								
	164								
630									
	165	mdst: Reddish brown MUDSTONE.							
	166								
	167								
	168								8" steel ODEX casing set at 168' bgs
	169								
625									
	170		mdst						Reaming boring with 7.785" air hammer
	171								
	172								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 19 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	173								173
	174								174
620									
	175	dol: Bluish gray DOLOMITE.							175
	176								176
	177								177
	178								178
	179								179
615									
	180		dol						180
	181								181
	182								182

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 20 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	183								183
	184								184
610									
	185	dol: Bluish gray DOLOMITE.							185
	186								186
	187								187
	188								188
	189								189
605									
	190		dol						190
	191								191
	192								192

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 21 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	193								193
	194								194
600									
	195	dol: Bluish gray DOLOMITE.							195
	196								196
	197								197
	198								198
	199								199
595									
	200		dol		Organic Vapor = 0.0ppm				200
	201								201
	202								202

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 22 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	203								203
	204								204
590									
	205	mdst: Reddish brown MUDSTONE.							205
	206								206
	207								207
	208								208
	209								209
585									
	210		mdst						210
	211								211
	212								212
	213								213

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 23 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	214								214
580									
	215	mdst: Reddish brown MUDSTONE.							215
	216								216
	217								217
	218								218
	219								219
575									
	220								220
	221								221
			mdst						
	222								222
	223								223

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G31

Project: Fort McClellan | Geologist: Mark Shoemaker | Sheet 24 of 24 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	224								224
570									
	225								225
	226								226
	227								227
									Bottom of borehole at 228' bgs
	228								228

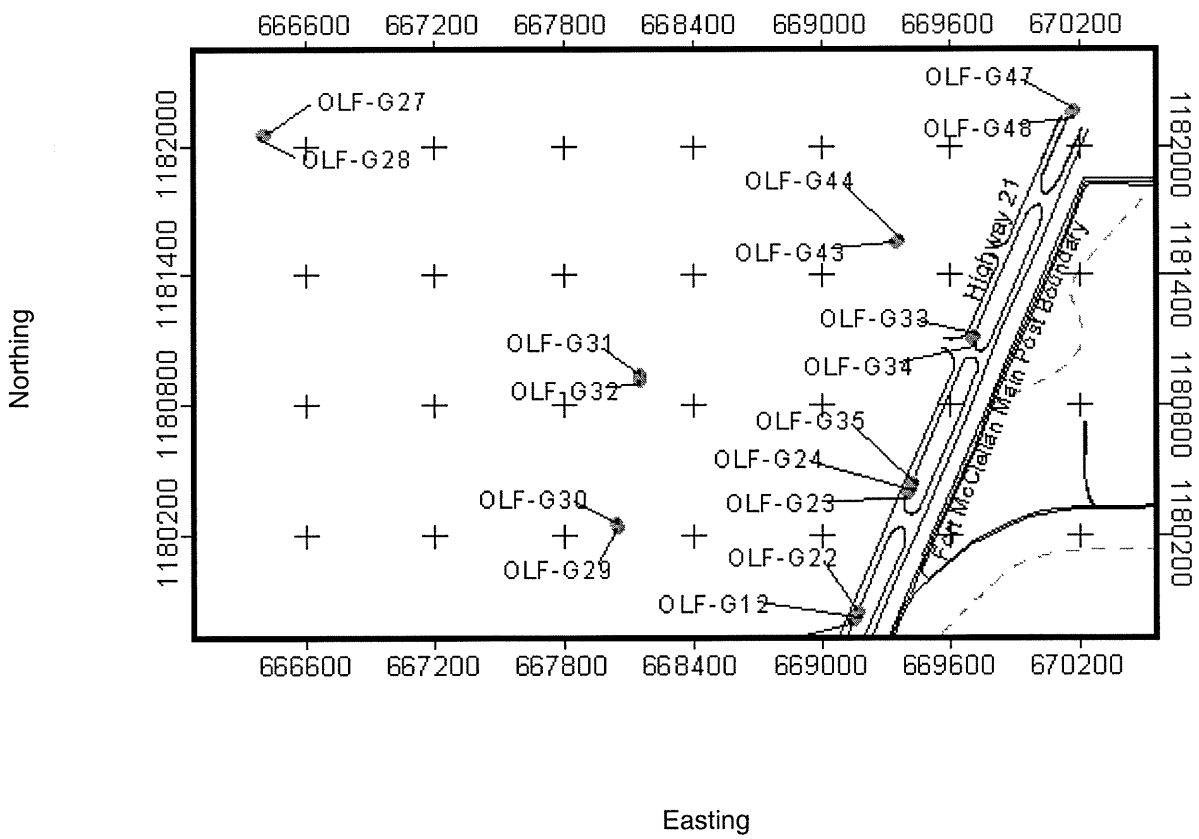
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** OLF-G32
1. Company name: **Shaw Environmental, Inc.**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 31 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Mike Martin	6. Mfr. designation of drill: Ingersoll-Rand T-3
7. Sizes and types of drilling and sampling equipment: Air Rotary 8" ODEX Bit 7 5/8" Tri-cone Roller Bit	8. Hole location: Landfill #3, Parcel 80 9. Surface elevation (feet above mean sea level): 793.64 10. Date started: 03/26/02 — 11. Date completed: 04/09/02
12. Overburden thickness (feet bgs): 82	15. Depth groundwater encountered (feet bgs): 110
13. Depth drilled into rock (feet bgs): 218	16. Depth to water and elapsed time after drilling completed (feet bgs): 115 after 12 hours
14. Total depth of hole (feet bgs): 300	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	4" Permanent	NA	M. Shoemaker		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 2 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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: Yellowish orange to reddish brown CLAY and SILT, some tan siltstone Gravel, increasing quantity with depth.			Organic Vapor = 0.0ppm				Air rotary - Miller Drilling Company - 3/26/02 Lithologic descriptions from odex cuttings, depths approximate.
	1								
	2								
	3								
790									
	4								
	5		cl						
	6								
	7								
	8								
785									
	9								
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 3 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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 reddish brown CLAY and SILT, some tan siltstone Gravel, increasing quantity with depth.							
	11								11
	12								12
	13								13
780									
	14								14
	15		cl						15
	16								16
	17								17
	18								18
775									
	19								19
	20	cl: Yellowish orange to reddish brown CLAY			Organic				20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 4 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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, some tan siltstone Gravel, increasing quantity with depth.			Vapor = 0.0ppm				
	21								21
	22								22
	23								23
770									
	24								24
	25		cl						25
	26								26
	27								27
	28								28
765									
	29								29
	30	cl: Yellowish orange to reddish brown CLAY and SILT, some tan siltstone Gravel,							30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 5 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		increasing quantity with depth.							
	31								31
	32								32
	33								33
760									
	34								34
	35								35
	36		cl						36
	37								37
	38								38
755									
	39								39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 6 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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	mdst: Reddish brown MUDSTONE.							42
	43								43
750									
	44		mdst						44
	45								45
	46								46
	47	cl-ml: Yellowish orange CLAY and SILT, moist to wet.							47
	48								48
745									
	49								49
	50								50

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 7 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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		cl-ml						51
	52								52
	53								53
740									
	54								54
	55	cl-ml: Yellowish orange CLAY and SILT, moist to wet.							55
	56								56
	57								57
	58								58
735									
	59								59
	60		cl-ml						60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 8 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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
730									
	64								64
	65	mdst: Reddish brown MUDSTONE.							65
	66								66
	67		mdst						67
	68								68
725									
	69	cl: Reddish brown CLAY.							69
	70		cl						70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 9 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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
720									
	74								74
	75								75
	76								76
	77								77
	78								78
715									
	79								79
	80								80
	81								81

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 10 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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	dol: Bluish gray DOLOMITE, moderately fractured, some Clay infilled voids.							
	83								
710									
	84								
	85								
	86		dol						
	87								
	88								
705									
	89								
	90	dol: Bluish gray DOLOMITE, moderately fractured, some Clay infilled voids.							
	91								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 11 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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
700									
	94								94
	95		dol						95
	96								96
	97								97
	98								98
695									
	99								99
	100	dol: Bluish gray DOLOMITE, traces of yellowish orange, very fine grained, soft Sandstone.			Organic Vapor = 0.0ppm				8" steel odex casing set at 105' bgs 100
	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 12 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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
690									
	104								104
	105		dol						105
	106								106
	107								107
	108								108
685									
	109								109
	110	dol: Bluish gray DOLOMITE, traces of yellowish orange, very fine grained, soft Sandstone.							Groundwater encountered at 110' bgs 110
	111								111

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 13 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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		dol						112
	113								113
680									
	114								114
	115	mdst: Reddish brown MUDSTONE, some Clay infilled fractures.							115
	116								116
	117								117
	118								118
675									
	119								119
	120		mdst						120
	121								121

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 14 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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
670									
	124								124
	125	mdst: Reddish brown MUDSTONE, some Clay infilled fractures.							125
	126								126
	127								127
	128								128
665									
	129								129
	130		mdst						130
	131								131

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 15 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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
660									
	134								134
	135	mdst: Reddish brown MUDSTONE, some Clay infilled fractures.							135
	136								136
	137								137
	138								138
655									
	139								139
	140		mdst						140
	141								141
	142								142

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 16 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (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								143
650									
	144								144
	145	mdst: Reddish brown MUDSTONE, some Clay infilled fractures. Highly fractured zone from 145' bgs							145
	146								146
	147								147
	148								148
645									
	149								149
	150		mdst						150
	151								151
	152								152

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 17 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	153								153
640									
	154								154
	155	mdst: Reddish brown MUDSTONE, some Clay infilled fractures.							155
	156								156
	157								157
	158								158
635									
	159								159
	160		mdst						160
	161								161
	162								162

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 18 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	163								163
630									
	164								164
	165	mdst: Reddish brown MUDSTONE, some Clay infilled fractures. Large fracture zone at 170' bgs.							165
	166								166
	167								167
	168								168
625			mdst						
	169								169
	170								170
	171								171
	172	dol-mdst-sltst: Interbedded reddish brown MUDSTONE, bluish gray DOLOMITE, and tan SILTSTONE.							172

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 19 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	173								173
620									
	174								174
	175								175
	176								176
	177								177
	178								178
615			dol-mdst-sltst						
	179								179
	180								180
	181								181
	182								182

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 20 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	183								183
610									
	184								184
	185	dol: Bluish gray DOLOMITE, hard.							185
	186								186
	187								187
	188								188
605									
	189								189
	190		dol						190
	191								191
	192								192

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 21 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	193								193
600									
	194								194
	195	dol: Bluish gray DOLOMITE, hard.							195
	196								196
	197								197
	198								198
595			dol						
	199								199
	200	mdst: Reddish brown MUDSTONE.			Organic Vapor = 0.0ppm				200
	201								201
	202								202

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 22 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	203								203
590									
	204								204
	205		mdst						205
	206								206
	207								207
	208								208
585									
	209								209
	210	mdst: Reddish brown MUDSTONE.							210
	211								211
	212								212
	213								213

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 23 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
580									
	214								214
	215		mdst						215
	216								216
	217								217
	218								218
575									
	219								219
	220	mdst: Reddish brown MUDSTONE.							220
	221								221
	222								222
			mdst						
	223								223

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 24 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
570									
	224								224
	225	dol: Bluish gray DOLOMITE, hard.							225
	226								226
	227								227
	228								228
565									
	229								229
	230		dol						230
	231								231
	232								232
	233								233

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 25 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
560									
	234								234
	235	dol: Bluish gray DOLOMITE, hard.							235
	236								236
	237								237
	238								238
555									
	239								239
	240								240
	241								241
	242		dol						242
	243								243

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 26 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
550									
	244								244
	245								245
	246								246
	247								247
	248								248
545									
	249	mdst: Reddish brown MUDSTONE.							249
	250								250
	251								251
	252								252
	253								253
540									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 27 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	254		mdst						254
	255								255
	256								256
	257								257
	258								258
535									
	259								259
	260	mdst: Reddish brown MUDSTONE.							260
	261								261
	262								262
	263								263
530									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 28 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	264								264
	265		mdst						265
	266								266
	267								267
	268								268
525									
	269								269
	270	mdst: Reddish brown MUDSTONE.							270
	271								271
	272								272
	273								273
520									
	274								274

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 29 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	275		mdst						275
	276								276
	277								277
	278								278
515									
	279								279
	280	mdst: Reddish brown MUDSTONE.							280
	281								281
	282								282
	283								283
510									
	284								284

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 30 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	285		mdst						285
	286								286
	287								287
	288								288
505									
	289								289
	290	mdst: Reddish brown MUDSTONE.							290
	291								291
	292								292
	293								293
500									
	294								294

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G32

Project: Fort McClellan | Geologist: M. Shoemaker | Sheet 31 of 31 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	295		mdst						295
	296								296
	297								297
	298								298
495									
	299								299
									Bottom of borehole at 300' bgs
	300								300

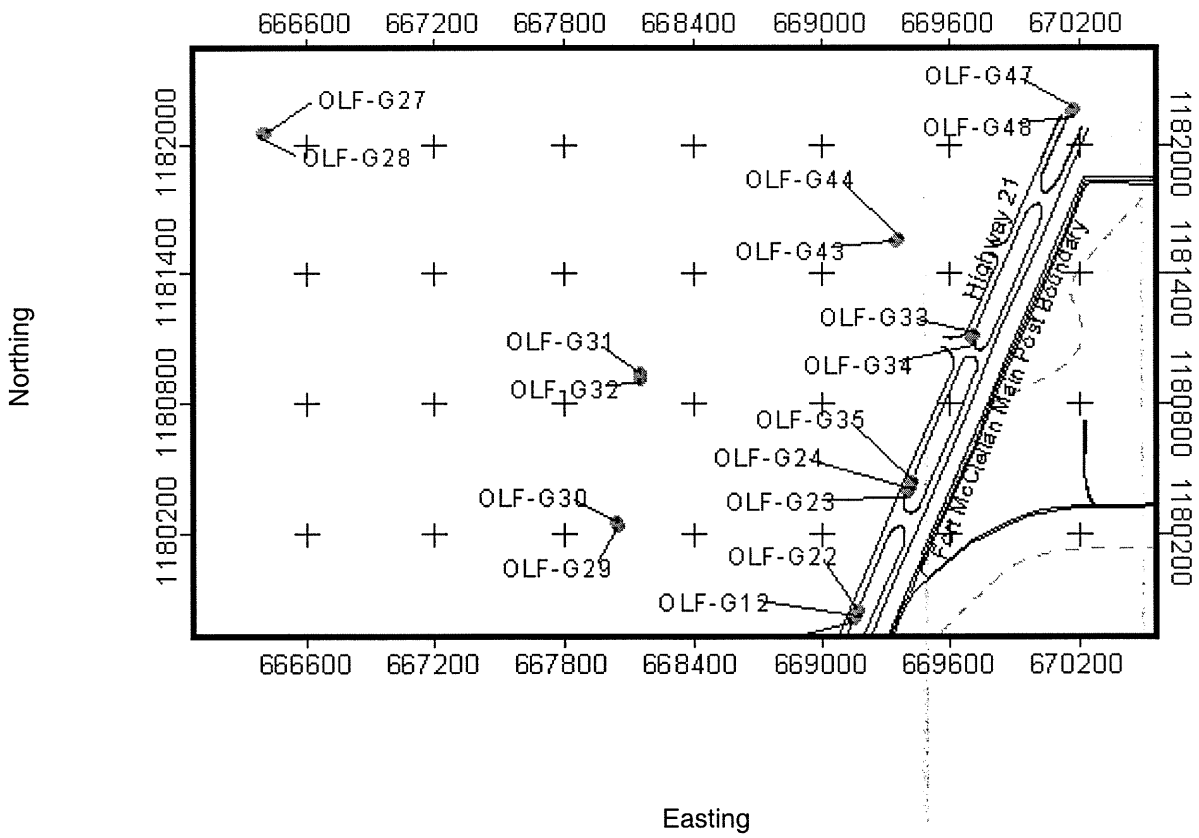
HTRW DRILLING LOG

District: **Mobile USACE**		**HOLE NUMBER** OLF-G33
1. Company name: **Shaw Environmental, Inc.**	2. Drill Subcontractor: Boart Longyear	Sheet 1 of 19 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Bob Erickson	6. Mfr. designation of drill: Rotasonic
7. Sizes and types of drilling and sampling equipment: Sonic RS - 5 5/8" Sonic Core Bit and Barrel	8. Hole location: Landfill #3, Parcel 80 9. Surface elevation (feet above mean sea level): 737.26 10. Date started: 02/10/02 — 11. Date completed: 02/14/02
12. Overburden thickness (feet bgs): >182	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): 66.85 after 5 days
14. Total depth of hole (feet bgs): 182	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	4" Permanent	NA	Adam Day		

LOCATION SKETCH/COMMENTS:



HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 2 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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: Black to brown, moist SILT, trace rounded Sand, trace Organics (grass).	ml						Sonic - Boart Longyear - 2/10/02 Lithologic descriptions from adjacent monitoring well OLF-G34 (0-182' bgs)
		sc: Brown to reddish brown, moist, subrounded quartz SAND, some Clay.	sc						
	1								
		cl: Reddish brown to brown, moist, soft CLAY, some brown to reddish brown mudstone Sand and Gravel.	cl						
	2								
735									
	3								
	4	cl: Reddish brown to brown, moist, soft CLAY, some brown to reddish brown mudstone Sand and Gravel.	cl						
	5								
	6	cl: Reddish brown to brown, moist, soft CLAY, some brown to reddish brown mudstone Sand and Gravel.	cl						
	7	cl: Moist, reddish brown to brown, soft CLAY, trace Silt.	cl						
730									
	8	cl: Moist, reddish brown to brown, soft CLAY, some reddish brown mudstone Sand, Gravel, and Cobbles.	cl						
	9	cl: Dry, reddish brown to brown, soft CLAY, some reddish brown mudstone Sand and Gravel.	cl						
		cl: Moist, reddish brown to brown CLAY, some mudstone Sand and subrounded Cobbles.	cl						
	10								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 3 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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: Reddish brown to brown, moist CLAY, trace Silt, some reddish brown subrounded mudstone Sand and Cobbles.							
	11		cl						11
	12								12
725									
		cl: Reddish brown to brown, moist CLAY, trace Silt, some reddish brown subrounded mudstone Sand and Cobbles.							
	13								13
			cl						
	14								14
	15	cl: Reddish brown to brown, moist CLAY, trace Silt, some reddish brown subrounded mudstone Sand and Cobbles.							15
	16								16
	17								17
720									
	18		cl						18
	19								19
	20								20

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 4 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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		cl						22
715									
	23								23
	24								24
	25	cl: Reddish brown to brown, wet to moist, stiff CLAY, trace Silt, some reddish brown, hard, subrounded mudstone Sand and Cobbles.							25
	26								26
	27								27
710									
			cl						
	28								28
	29								29
	30	cl: Reddish brown to brown, wet to moist, stiff CLAY, trace Silt, some reddish brown, hard,							30

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 5 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
		subrounded mudstone Sand and Cobbles.							
	31								31
	32								32
705									
	33								33
	34		cl						34
	35								35
	36								36
	37								37
700									
	38	cl: Reddish brown to brown, dry to moist, stiff to hard CLAY, trace Silt, some reddish brown, hard, subrounded mudstone Sand and Cobbles, some grayish green to brown to yellowish orange stiff Clay. Laminated from 42.0-42.5'.							38
	39		cl						39
	40								40

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 6 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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
695	42		cl						42
	43								43
	44	cl: Reddish brown to brown, dry to moist, stiff to hard CLAY, trace Silt, some reddish brown, hard, subrounded mudstone Sand and Cobbles.							44
	45		cl						45
	46								46
690	47	cl: Reddish brown to yellowish orange, very stiff, moist CLAY, trace Silt, some reddish brown, hard, subrounded mudstone Sand and Cobbles.							47
	48		cl						48
	49								49
	50	cl: Reddish brown to yellowish orange, very stiff, moist CLAY, trace Silt, some reddish brown and greenish gray, hard, subrounded to subangular mudstone and Claystone Sand and Cobbles.	cl						50
		cl: Reddish brown to yellowish orange, very stiff, moist CLAY, trace Silt, some reddish							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 7 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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	brown and greenish gray, hard, subrounded to subangular mudstone and Claystone Sand and Cobbles.							
	52								
685									
	53								
	54								
	55		cl						
	56								
	57								
680									
	58								
	59								
	60	cl: Reddish brown to yellowish orange, very stiff, moist CLAY, trace Silt, some reddish brown and greenish gray, hard, subrounded to subangular mudstone and Claystone Sand and Cobbles.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 8 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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
675									
	63								63
	64								64
	65		cl						65
	66								66
	67								67
670									
	68								68
	69								69
	70	cl: Reddish brown to yellowish orange, very stiff, moist CLAY, trace Silt, some reddish brown and greenish gray, hard, subrounded to subangular mudstone and Claystone Sand and Cobbles.							70
	71								71

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 9 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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								
665									
	73								
	74								
	75		cl						
	76								
	77								
660									
	78								
	79								
	80	cl: Yellowish orange to reddish brown to gray, very stiff, moist to dry, laminated CLAY, some reddish brown subangular mudstone Sand and Cobbles. Some black discoloration along fracture surface of cobbles.							
	81								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 10 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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
655			cl						
	83								83
	84								84
	85	cl: Yellowish orange to reddish brown to gray, very stiff, moist to wet, laminated CLAY, some reddish brown subangular mudstone Sand and Cobbles.							85
	86								86
	87								87
650			cl						
	88								88
	89								89
	90	gp: Reddish brown, hard, coarse mudstone GRAVEL, some small reddish brown, hard mudstone Cobbles, some reddish brown Clay, black discoloration on fractures in cobbles.	gp						90
		cl: Yellowish orange to reddish brown to gray, very stiff, moist to wet, laminated CLAY, some reddish brown subangular mudstone Sand and Cobbles.							
	91								91

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 11 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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
645									
	93								93
	94								94
	95		cl						95
	96								96
	97								97
640									
	98								98
	99								99
	100	cl: Yellowish orange to reddish brown to gray, very stiff, moist to wet, laminated CLAY, some reddish brown subangular mudstone Sand and Cobbles.							100
	101								101

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 12 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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
635									
	103								103
	104								104
	105		cl						105
	106								106
	107								107
630									
	108								108
	109								109
	110	cl: Yellowish orange to reddish brown to gray, very stiff, moist to wet, laminated CLAY, some reddish brown subangular mudstone Sand and Cobbles.							110
	111		cl						111

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G33

Project: Fort McClellan | Geologist: Adam Day | Sheet 13 of 19 sheets

Elev. (a)	Depth (b)	Description of Materials (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
625									
	113								113
	114								114
	115		cl						115
	116								116
	117								117
620									
	118								118
	119								119
	120	cl: Reddish brown to yellowish orange, dry to moist, stiff, laminated CLAY, some reddish brown hard subangular mudstone Sand and Cobbles.							120
	121		cl						121