HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G18

Project: Fort McClellan | Geologist: B. Baker | 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)
	10	cl: Silty CLAY, 30% Silt, Sand: 15% medium, 5% granular. 10YR3/6 dark red; varigated light brownish yellow and light gray; moderate plasticity; stiff; moist; no apparent bedding; subrounded.			Organic Vapor = 0.0ppm			4 4 8 7	Rec 1.8'/2.0' (10-12' bgs)
	11								
730	12		cl						
	13								
	14								
	15	ml: SILT, 20% medium Sand. 10YR3/4 dusky red; best fit color actually a purplish red varigated orange, light gray; low plasticity; dense to very dense; moist; fissle; subrounded.			Organic Vapor = 1.0ppm			6 7 12 26	Rec 2.0'/2.0' (15-17' bgs)
	16								
725	17								
	18								
	19								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G18

Project: Fort McClellan | Geologist: B. Baker | 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)
	30	ml: SILT, 20% Sand with very fine grained Sand interbeds. 10YR3/4 dusky red; best fit color actually a purplish red varigated white; low plasticity; very dense; moist; fissle; subrounded.			Organic Vapor = 1.0ppm			4 25 49 50/0.3'	Rec 1.5'/1.8' (30-31.8' bgs)
	31								
710	32								
	33								
	34								
	35		ml		Organic Vapor = 0.0ppm			9 30 50/0.4'	Rec 1.2'/1.4' (35-36.4' bgs)
	36								
705	37								
	38								
	39								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G18

Project: Fort McClellan | Geologist: B. Baker | 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)
	40	ml: SILT, 20% Sand with very fine grained Sand interbeds. 10YR3/4 dusky red; best fit color actually a purplish red, banded yellowish; low plasticity; very dense; moist; fissle; subrounded.			Organic Vapor = 0.0ppm			4 22 45 50/0.4'	Rec 1.2'/1.9' (40-41.9' bgs)
	41								
700	42		ml						
	43								
	44								
	45	ml: SILT, 20% Sand with very fine grained Sand interbeds. 10YR3/4 dusky red; best fit color actually a purplish red, banded tan; low plasticity; very dense; moist; fissle; subrounded.			Organic Vapor = 0.0ppm			15 29 50/0.3'	Rec 1.2'/1.3' (45-46.3' bgs)
	46								
695	47								
	48								
	49								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G18

Project: Fort McClellan | Geologist: B. Baker | 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)
	50				Organic Vapor = 0.0ppm			10 31 50/0.4'	Rec 1.4'/1.4' (50-51.4' bgs)
	51								51
			ml						
690	52								52
	53								53
	54								54
	55				Organic Vapor = 0.0ppm			19 50/0.3'	Rec 0.8'/0.8' (55-55.8' bgs) 55
	56								56
685	57								57
	58								Bottom of borehole at 58.5' bgs 58

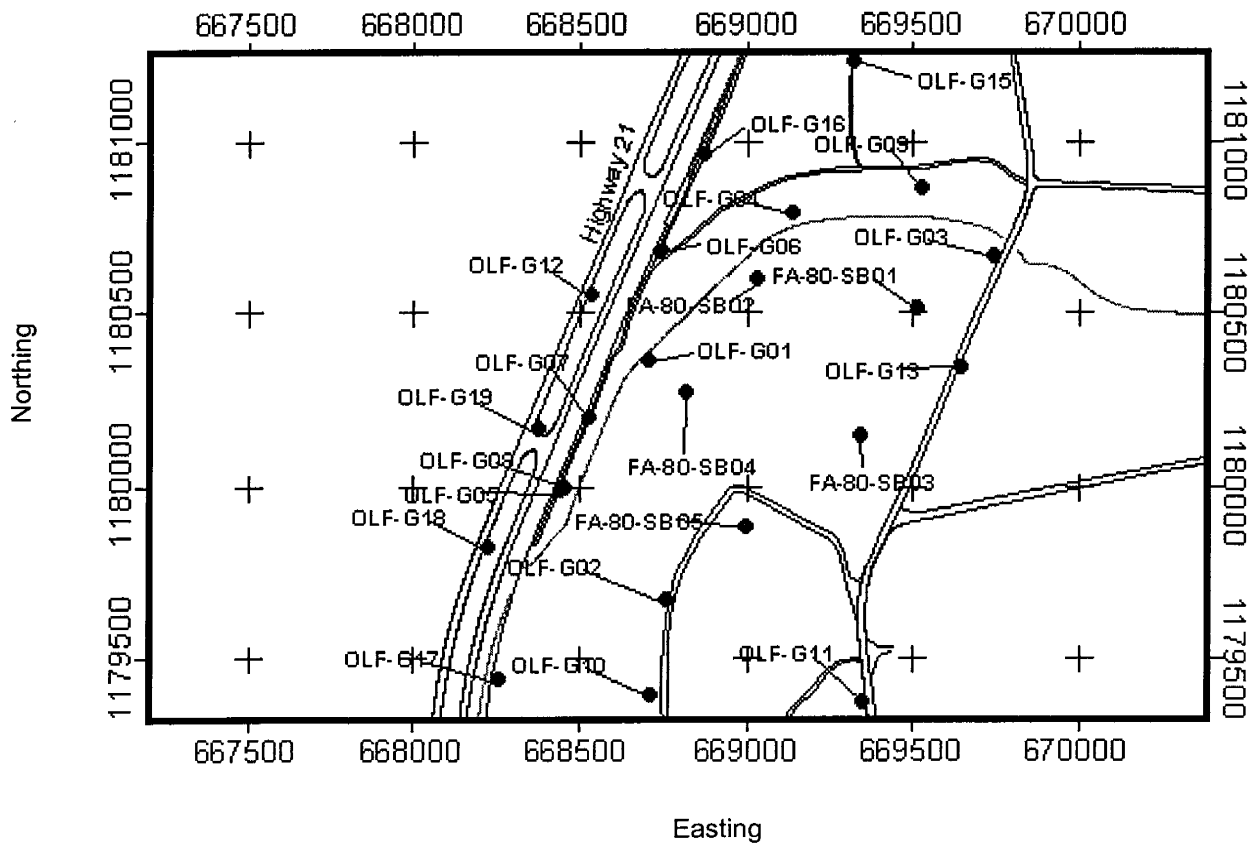
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER OLF-G19
1. Company name: **SAIC**	2. Drill Subcontractor: Christensen Boyles Brothers	Sheet 1 of 9 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Kenneth Kesty	6. Mfr. designation of drill: CME-75
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger	8. Hole location: Landfill #3, Parcel 80
	9. Surface elevation (feet above mean sea level): 744.5
	10. Date started: 03/18/95 / 11. Date completed: 03/21/95
12. Overburden thickness (feet bgs): >71.0	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): 71.0	17. Other water level measurements (specify): NA

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

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: OLF-G19

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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	NA: No samples collected. Geology similar to other wells in area.							
	1								
	2								
	3								
	4		NA						
740									
	5								
	6								
	7								
	8								
	9								
735									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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)
	10								10
	11								11
	12								12
	13								13
	14		NA						14
730									
	15								15
	16								16
	17								17
	18								18
	19								19
725									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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)
	20								20
	21								21
	22								22
	23								23
	24		NA						24
720									
	25								25
	26								26
	27								27
	28								28
	29								29
715									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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)
	30								30
	31								31
	32								32
	33								33
	34								34
710									
	35								35
			NA						
	36								36
	37								37
	38								38
	39								39
705									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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)
	40								
	41								
	42								
	43								
	44		NA						
700									
	45								
	46								
	47								
	48								
	49								
695									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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)
	50								
	51								51
	52								52
	53								53
	54		NA						54
690									
	55								55
	56								56
	57								57
	58								58
	59								59
685									
	60								60

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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
	64		NA						64
680									
	65								65
	66								66
	67								67
	68								68
	69								69
675									
	70								70

HTRW DRILLING LOG (Continuation Sheet)

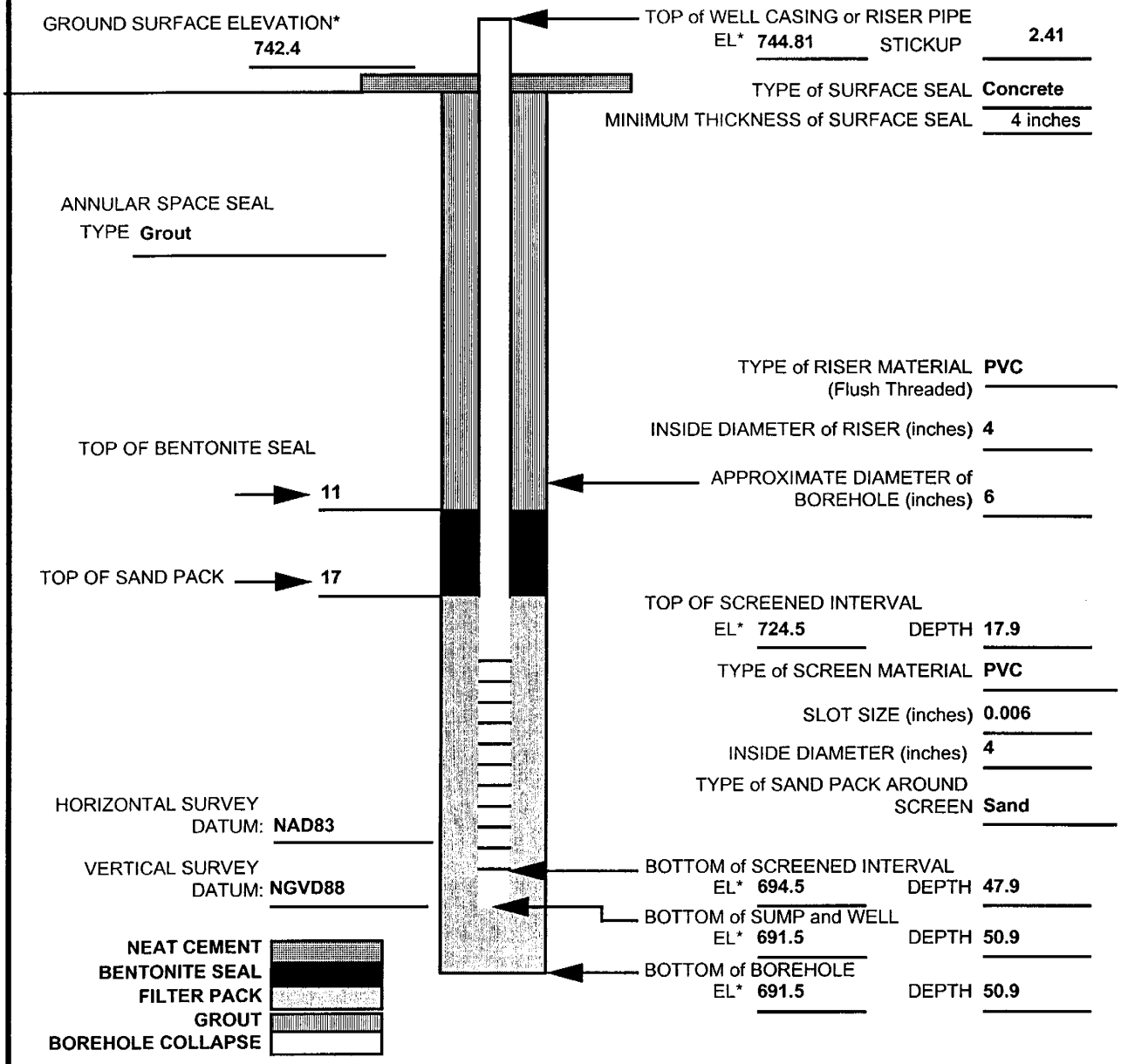
HOLE NUMBER: OLF-G19

Project: Fort McClellan | Geologist: B. Baker | 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		NA						Bottom of borehole at 71' bgs 71

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: OLF-G01
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 06/18/86
CONTRACTOR USAEHA	NORTHING: 1180353.71
DRILLER: Richard Kestner	EASTING: 668708.14
IT FIELD REPRESENTATIVE: David Bayha (USAEHA)	JOB NO: 774645

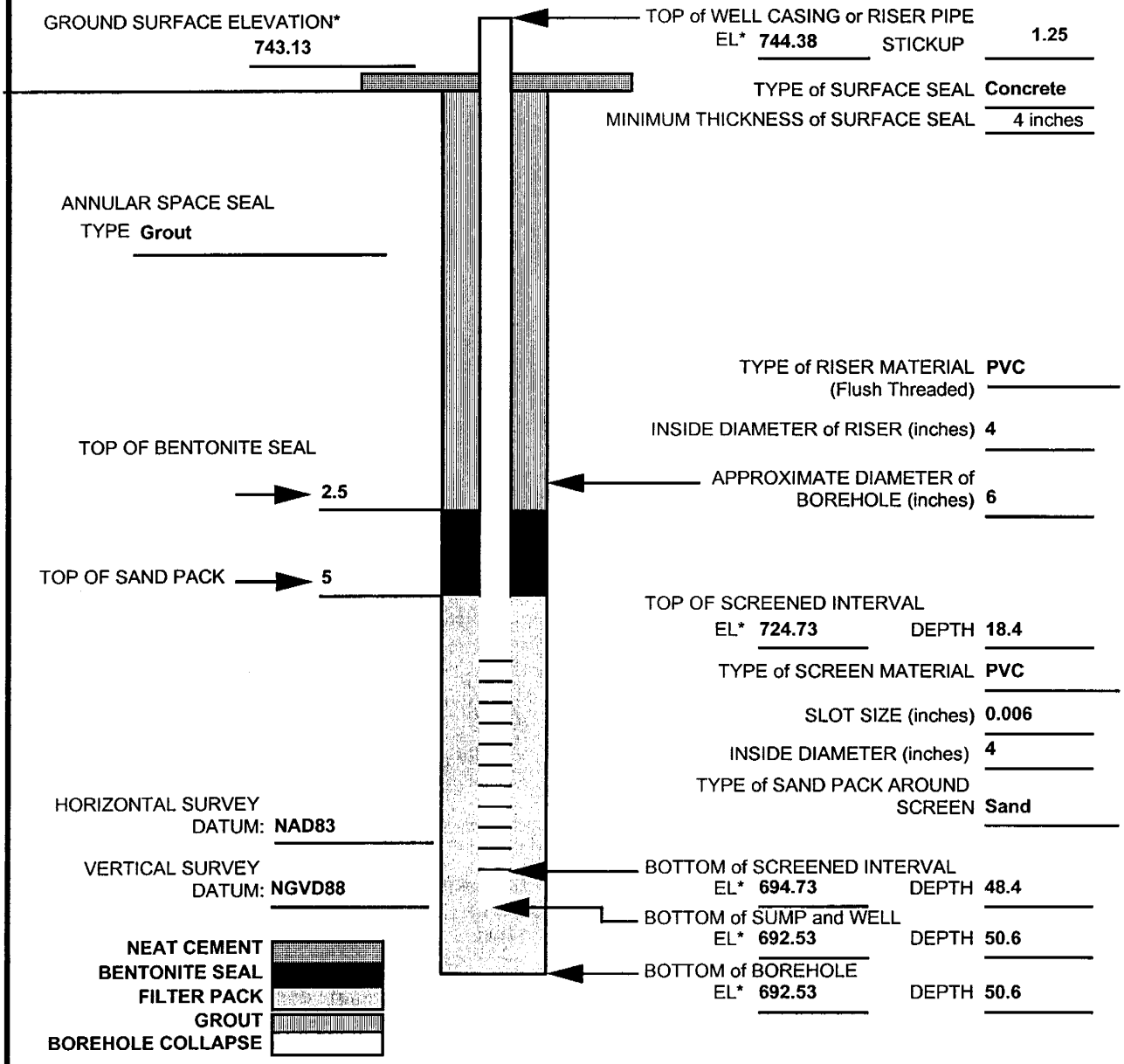


*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: OLF-G02
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 06/18/86
CONTRACTOR USAEHA	NORTHING: 1179665.01
DRILLER: Richard Kestner	EASTING: 668762.09
IT FIELD REPRESENTATIVE: David Bayha (USAEHA)	JOB NO: 774645

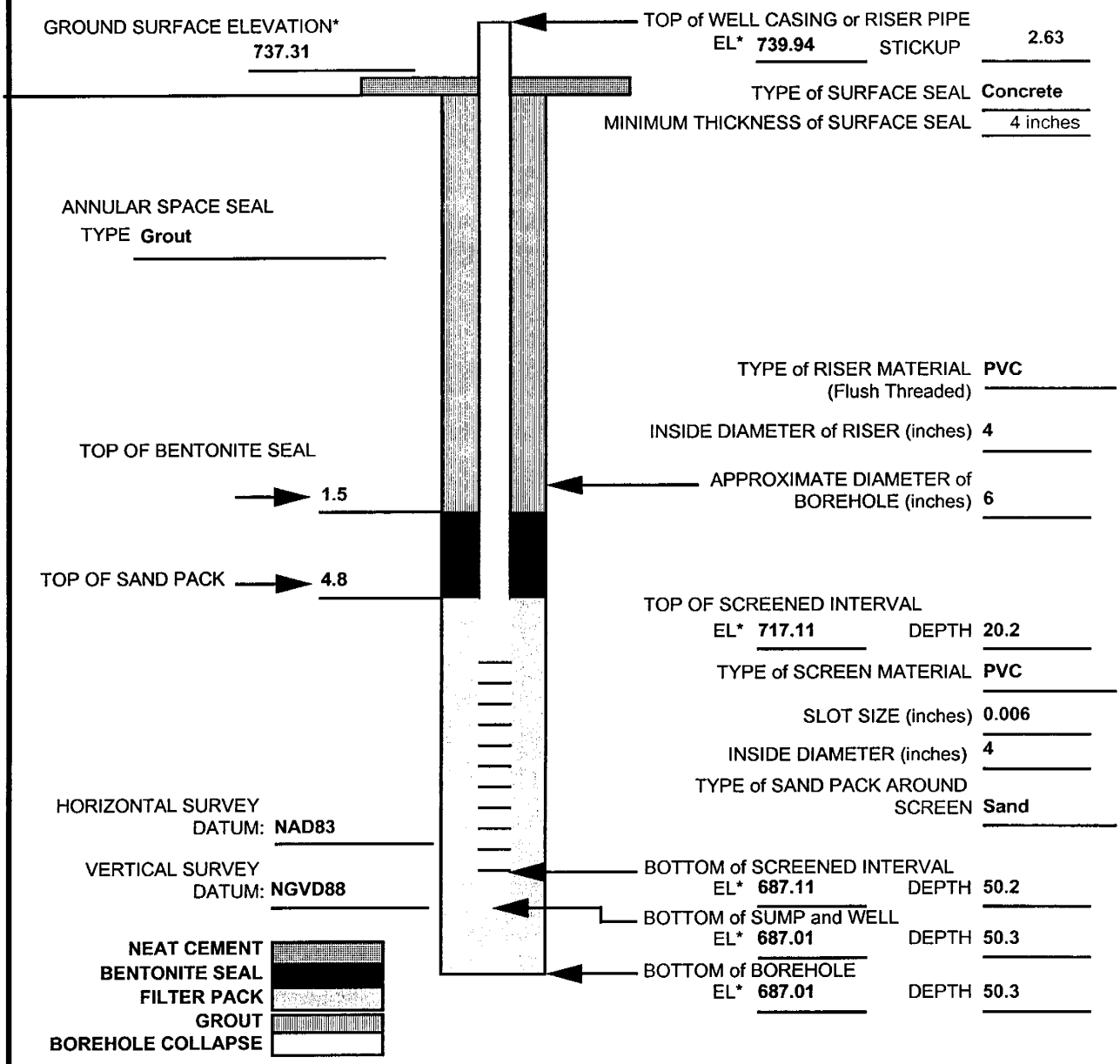


*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	**WELL NO:** OLF-G03
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 06/19/86
CONTRACTOR USAEHA	**NORTHING:** 1180658.97
DRILLER: Richard Kestner	**EASTING:** 669745.95
IT FIELD REPRESENTATIVE: David Bayha (USAEHA)	**JOB NO:** 774645

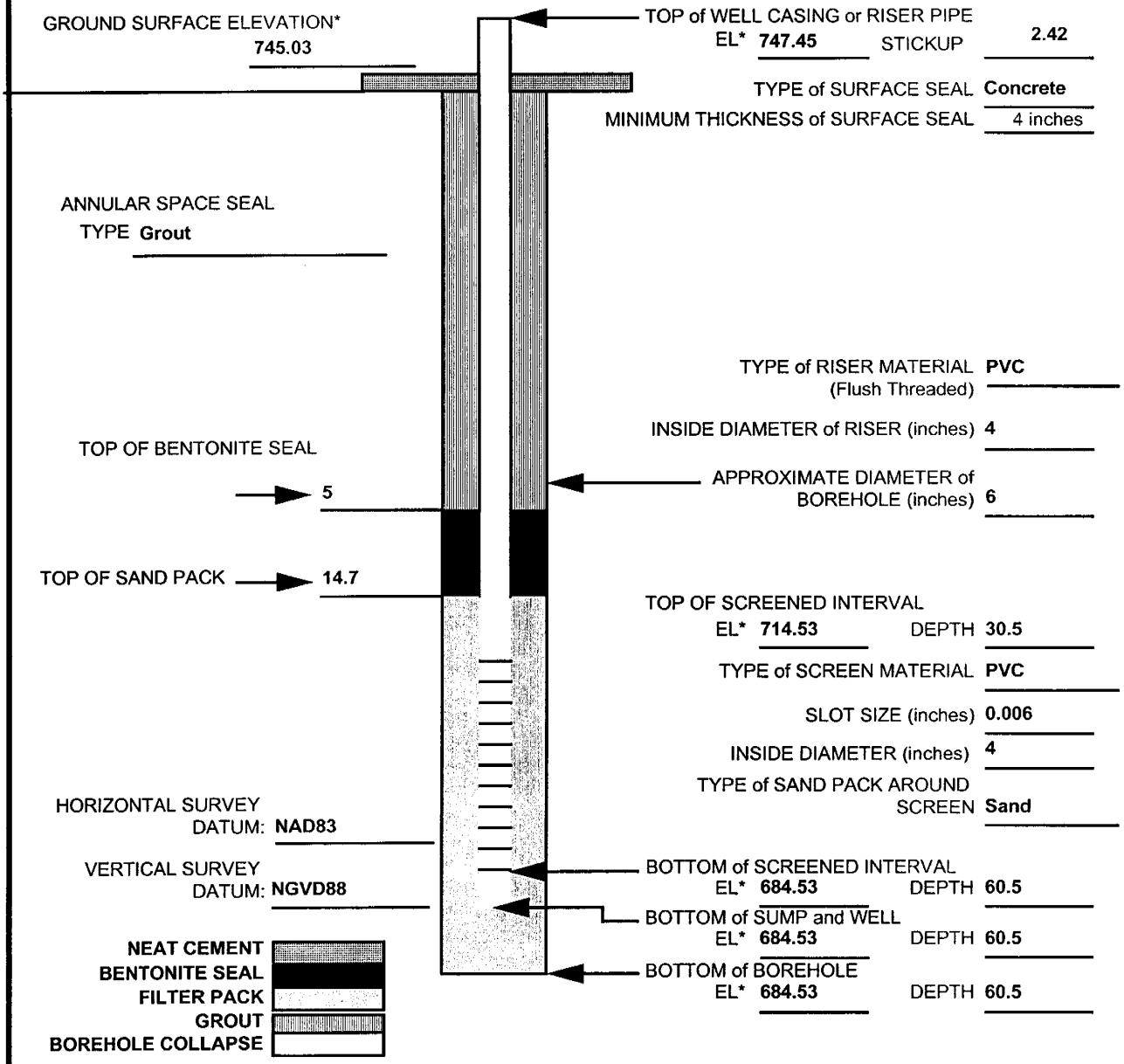


*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	**WELL NO:** OLF-G04
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 06/20/86
CONTRACTOR USAEHA	**NORTHING:** 1180784.01
DRILLER: Richard Kestner	**EASTING:** 669132.61
IT FIELD REPRESENTATIVE: David Bayha (USAEHA)	**JOB NO:** 774645

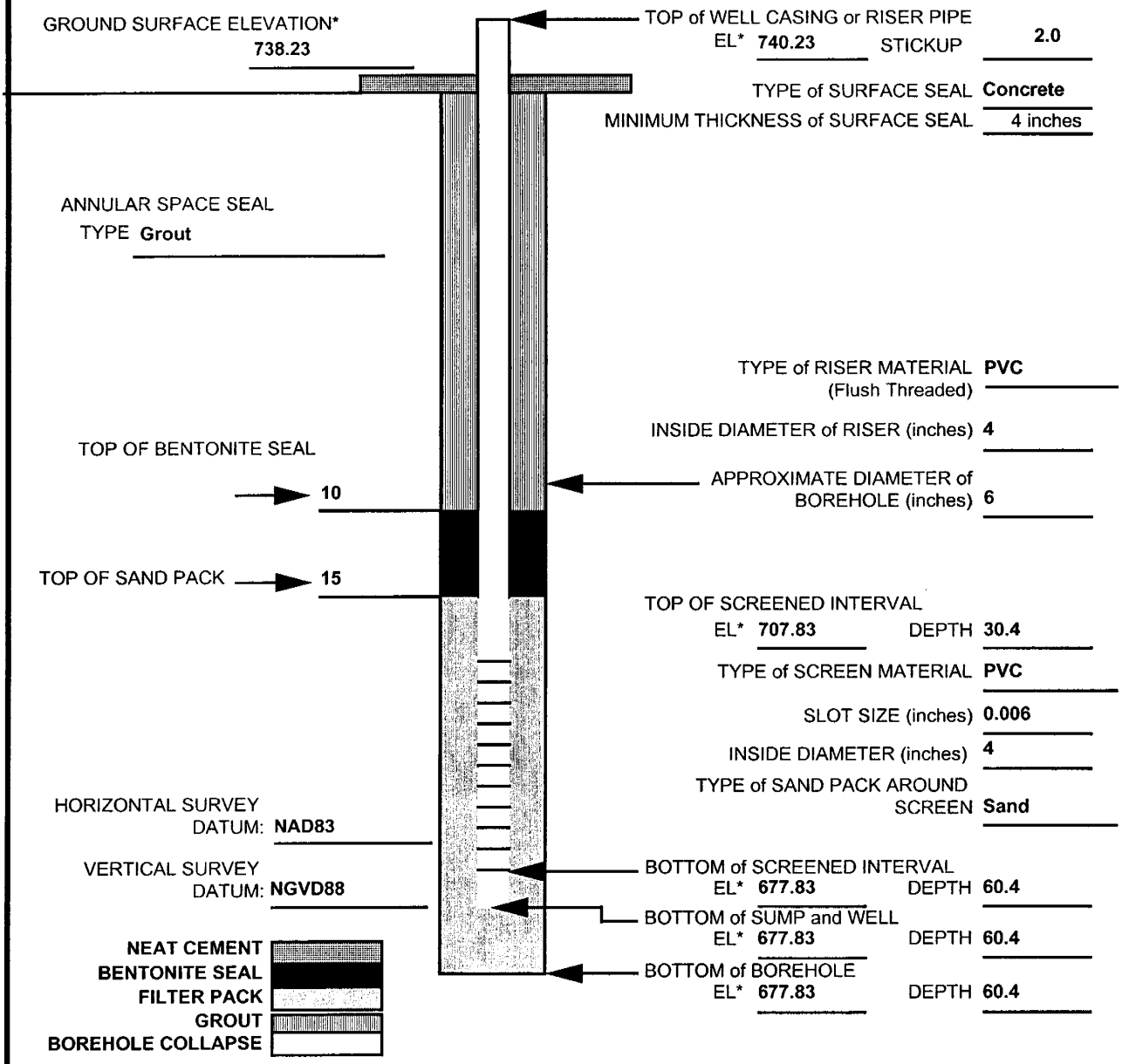


*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: OLF-G05
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 06/21/86
CONTRACTOR USAEHA	NORTHING: 1179983.4
DRILLER: Richard Kestner	EASTING: 668439.23
IT FIELD REPRESENTATIVE: David Bayha (USAEHA)	JOB NO: 774645



*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, SAD TERC	**WELL NO:** OLF-G06
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 04/22/92
CONTRACTOR Environmental Exploration	**NORTHING:** 1180673.06
DRILLER: S. Turner	**EASTING:** 668742.63
IT FIELD REPRESENTATIVE: Wayne Stoner (SAIC)	**JOB NO:** 774645

GROUND SURFACE ELEVATION*
747.78

TOP of WELL CASING or RISER PIPE
EL* 750.06 STICKUP 2.28

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL
49.8

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SAND PACK 54.8

TOP OF SCREENED INTERVAL
EL* 687.78 DEPTH 60

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 677.78 DEPTH 70

BOTTOM of SUMP and WELL
EL* 677.58 DEPTH 70.2

BOTTOM of BOREHOLE
EL* 676.78 DEPTH 71

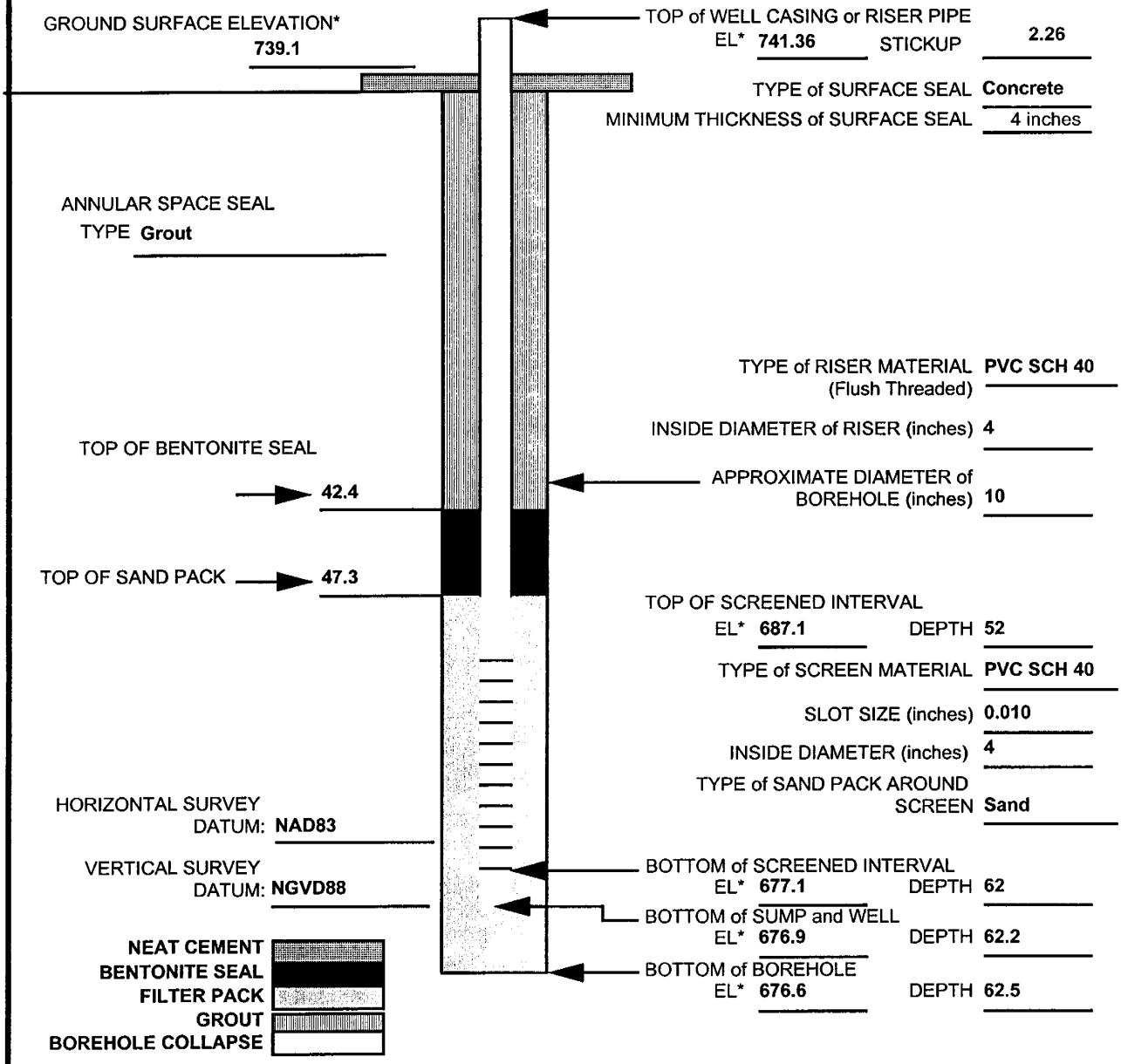
NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*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, SAD TERC	WELL NO: OLF-G07
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 04/21/92
CONTRACTOR Environmental Exploration	NORTHING: 1180194.17
DRILLER: S. Turner	EASTING: 668528.43
IT FIELD REPRESENTATIVE: Wayne Stoner (SAIC)	JOB NO: 774645

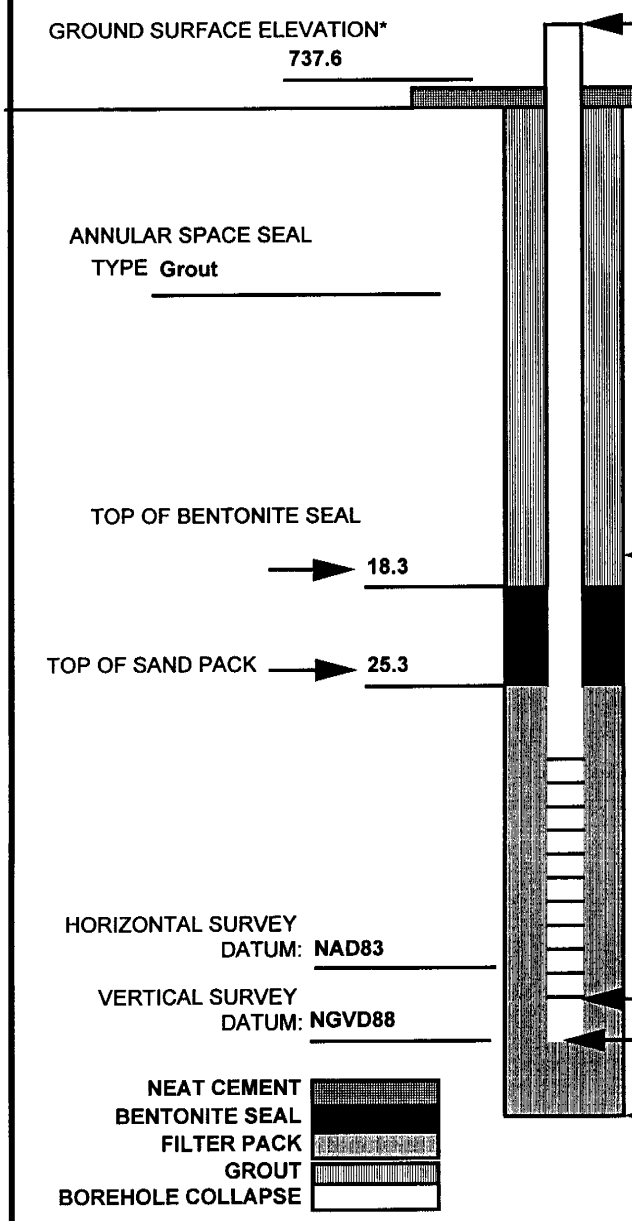


*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: OLF-G08
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 04/28/92
CONTRACTOR Environmental Exploration	NORTHING: 1179991.31
DRILLER: S. Turner	EASTING: 668455.51
FIELD REPRESENTATIVE: Wayne Stoner (SAIC)	JOB NO: 774645



GROUND SURFACE ELEVATION* 737.6

TOP of WELL CASING or RISER PIPE EL* 739.3 STICKUP 1.7

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL 18.3

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SAND PACK 25.3

TOP OF SCREENED INTERVAL EL* 705.3 DEPTH 32.3

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL EL* 695.3 DEPTH 42.3

BOTTOM of SUMP and WELL EL* 695.1 DEPTH 42.5

BOTTOM of BOREHOLE EL* 685.6 DEPTH 52

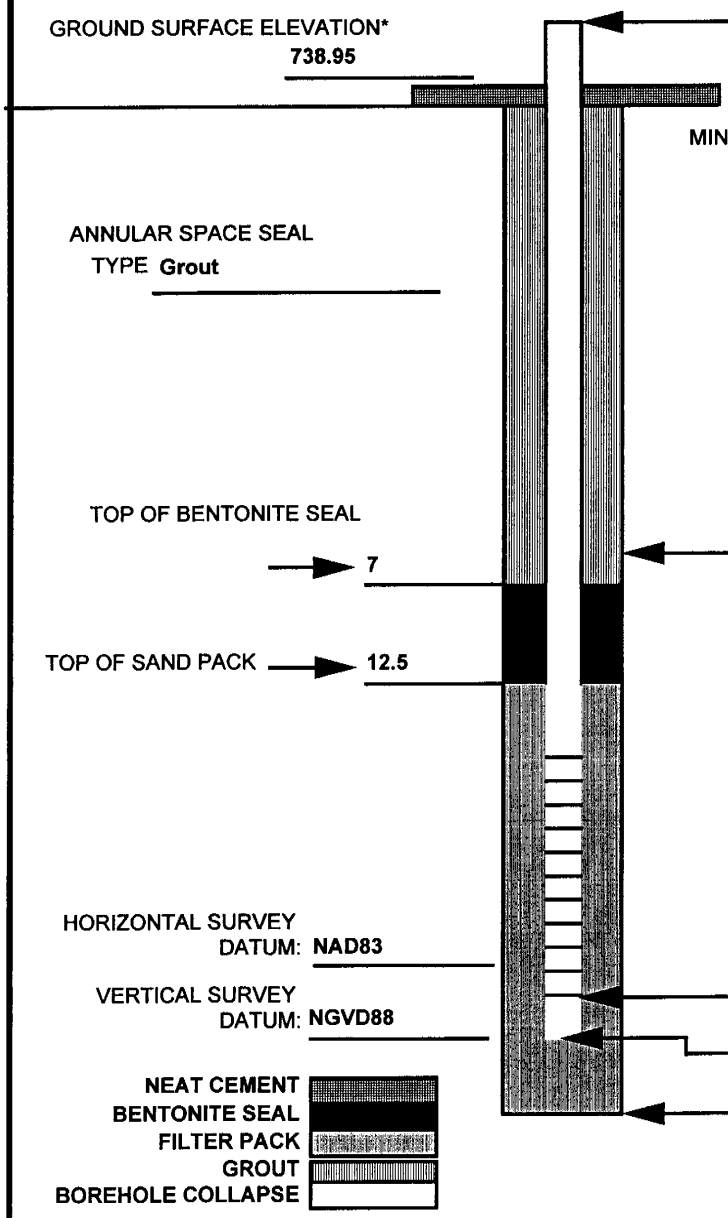
NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*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, SAD TERC	**WELL NO:** OLF-G09
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 04/25/92
CONTRACTOR Environmental Exploration	**NORTHING:** 1180862.14
DRILLER: S. Turner	**EASTING:** 669521.87
FIELD REPRESENTATIVE: Wayne Stoner (SAIC)	**JOB NO:** 774645



GROUND SURFACE ELEVATION*
738.95

TOP of WELL CASING or RISER PIPE
EL* 741.25 STICKUP 2.30

TYPE of SURFACE SEAL Concrete
MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL
7

APPROXIMATE DIAMETER of BOREHOLE (inches) 12

TOP OF SAND PACK 12.5

TOP OF SCREENED INTERVAL
EL* 719.15 DEPTH 19.8

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 709.15 DEPTH 29.8

BOTTOM of SUMP and WELL
EL* 708.95 DEPTH 30

BOTTOM of BOREHOLE
EL* 703.95 DEPTH 35

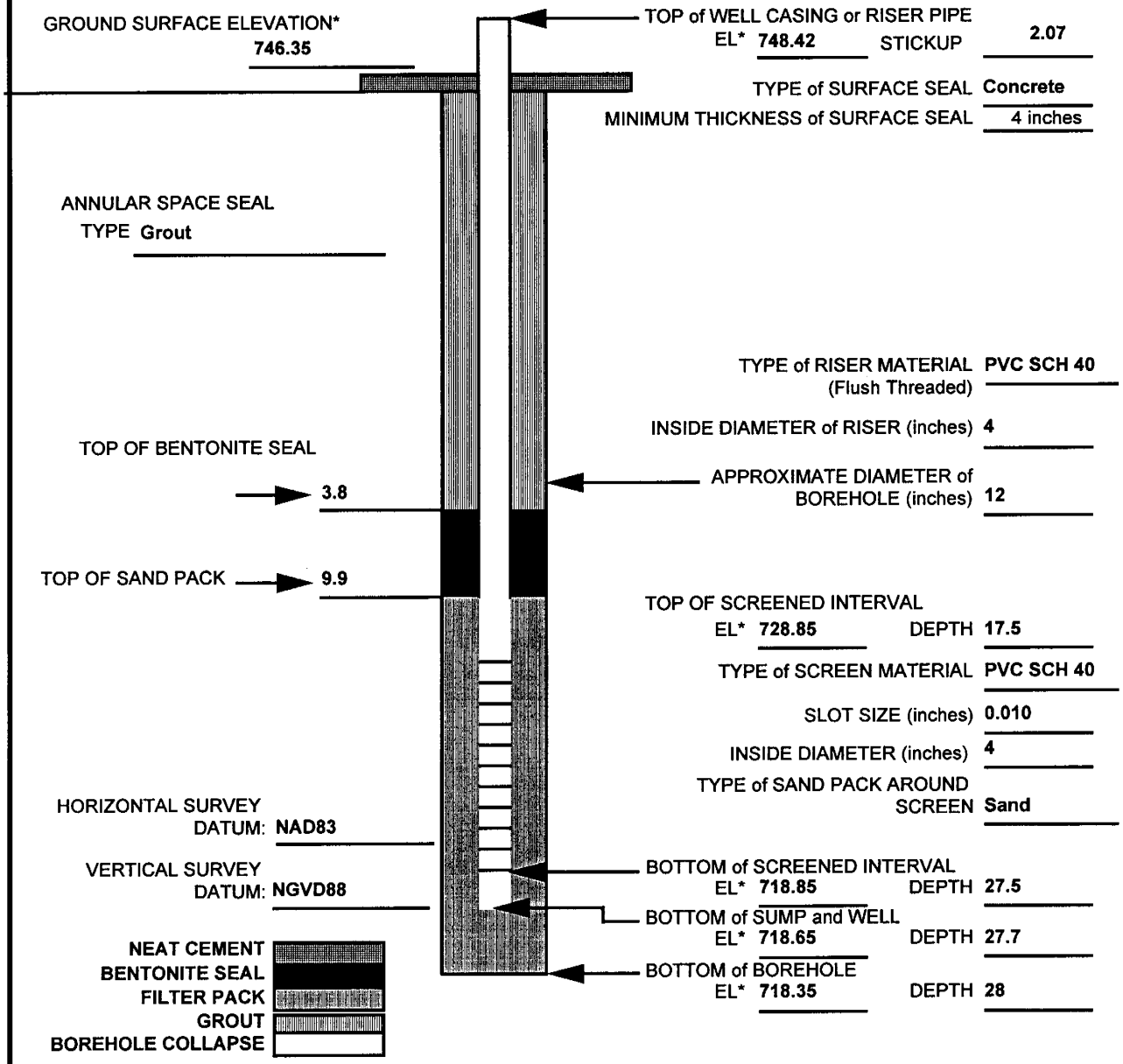
NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*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, SAD TERC	**WELL NO:** OLF-G10
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 04/26/92
CONTRACTOR Environmental Exploration	**NORTHING:** 1179383.37
DRILLER: S. Turner	**EASTING:** 668714.42
FIELD REPRESENTATIVE: Wayne Stoner (SAIC)	**JOB NO:** 774645

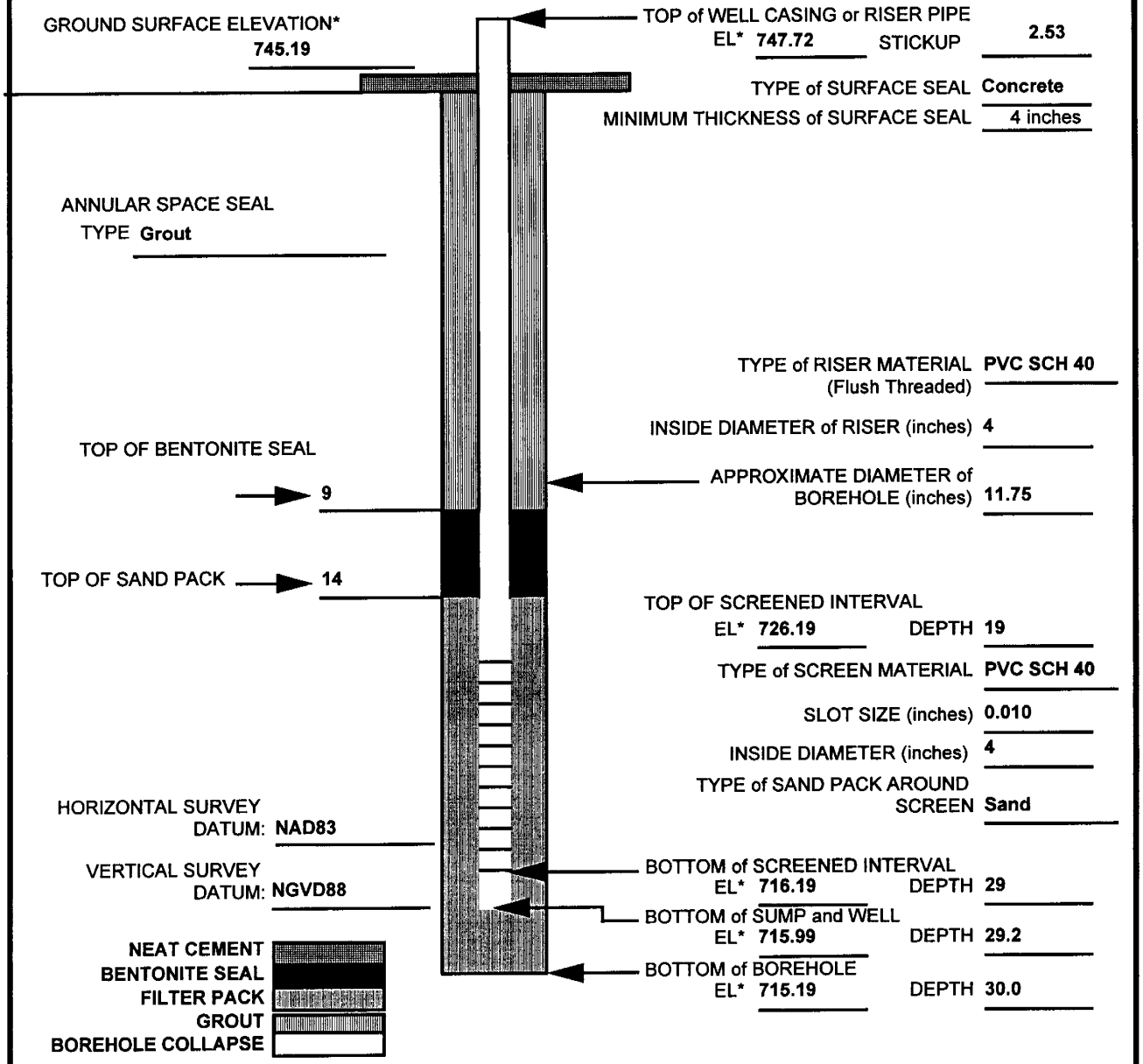


*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: OLF-G11
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 04/17/94
CONTRACTOR Environmental Exploration Inc	NORTHING: 1179364.51
DRILLER: K. Bray	EASTING: 669348.54
FIELD REPRESENTATIVE: C. Houck (SAIC)	JOB NO: 774645



*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, SAD TERC	WELL NO: OLF-G12
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 04/17/95
CONTRACTOR Christensen Boyles Brothers	NORTHING: 1180548.61
DRILLER: K. Kesty	EASTING: 668532.57
FIELD REPRESENTATIVE: B. Baker (SAIC)	JOB NO: 774645

GROUND SURFACE ELEVATION*
745.75

TOP of WELL CASING or RISER PIPE
EL* 745.43 STICKUP N/A

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL
57

APPROXIMATE DIAMETER of BOREHOLE (inches) 7.75

TOP OF SAND PACK 65

TOP OF SCREENED INTERVAL
EL* 670.75 DEPTH 75

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 660.75 DEPTH 85

BOTTOM of SUMP and WELL
EL* 660.5 DEPTH 85.25

BOTTOM of BOREHOLE
EL* 658.75 DEPTH 87.0

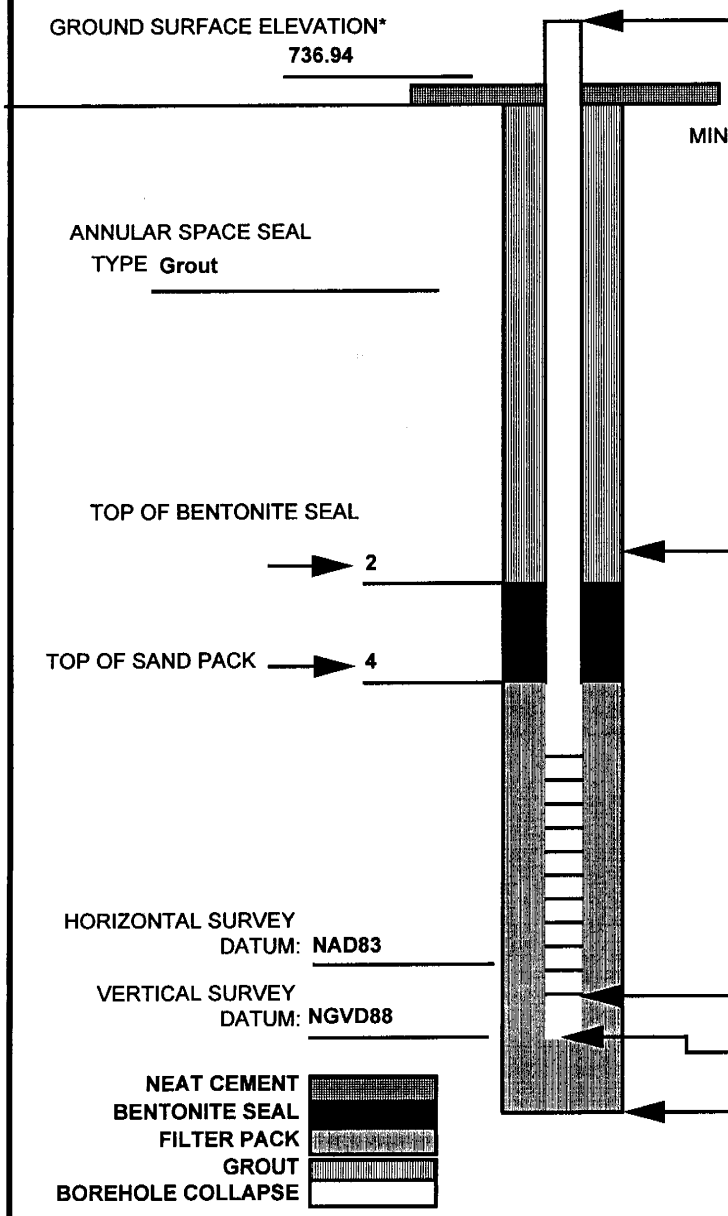
NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*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, SAD TERC	**WELL NO:** OLF-G13
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 04/16/94
CONTRACTOR Environmental Exploration Inc	**NORTHING:** 1180337.27
DRILLER: K. Bray	**EASTING:** 669644.11
FIELD REPRESENTATIVE: C. Houck (SAIC)	**JOB NO:** 774645



GROUND SURFACE ELEVATION*
736.94

TOP of WELL CASING or RISER PIPE
EL* 739.49 STICKUP 2.55

TYPE of SURFACE SEAL Concrete
MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL
2

APPROXIMATE DIAMETER of BOREHOLE (inches) 11.75

TOP OF SAND PACK 4

TOP OF SCREENED INTERVAL
EL* 731.14 DEPTH 5.8

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 721.14 DEPTH 15.8

BOTTOM of SUMP and WELL
EL* 720.94 DEPTH 16.0

BOTTOM of BOREHOLE
EL* 720.94 DEPTH 16.0

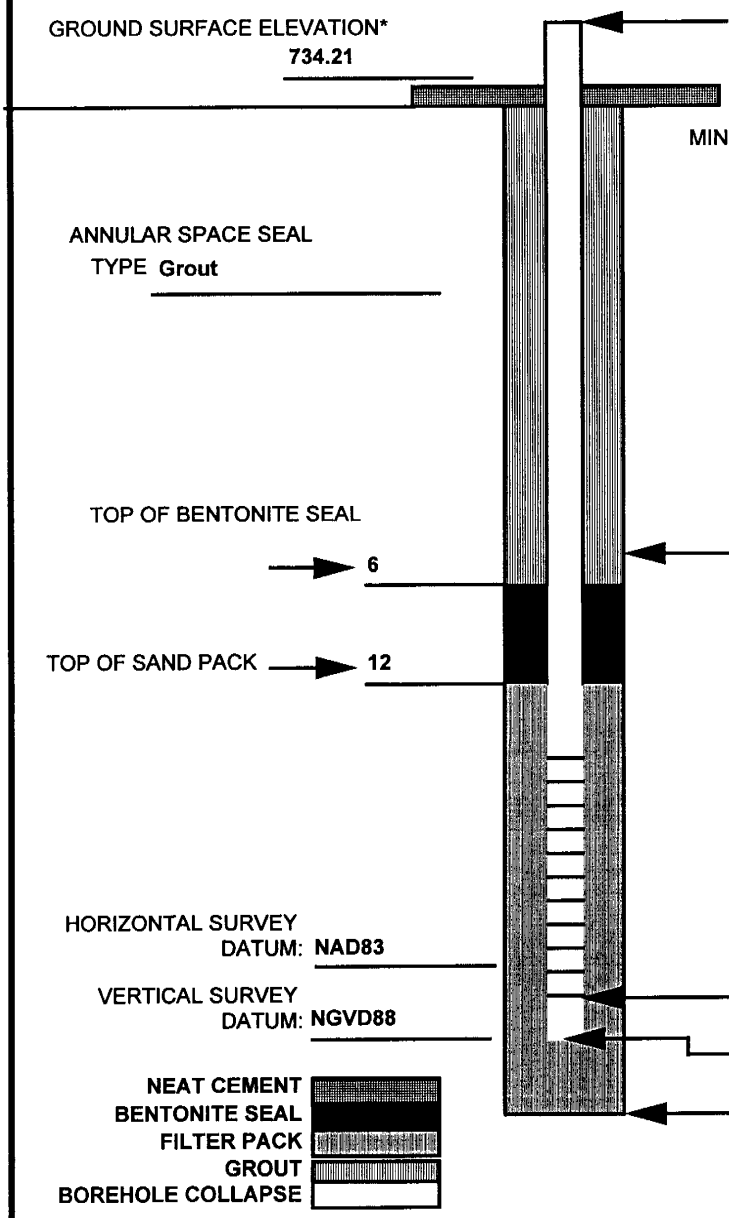
NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*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, SAD TERC	**WELL NO:** OLF-G15
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 04/20/94
CONTRACTOR Environmental Exploration Inc	**NORTHING:** 1181231.34
DRILLER: K. Bray	**EASTING:** 669321.72
FIELD REPRESENTATIVE: C. Houck (SAIC)	**JOB NO:** 774645



GROUND SURFACE ELEVATION* 734.21

TOP of WELL CASING or RISER PIPE EL* 736.78 STICKUP 2.57

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL 6

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.75

TOP OF SAND PACK 12

TOP OF SCREENED INTERVAL EL* 717.21 DEPTH 17

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL EL* 707.21 DEPTH 27

BOTTOM of SUMP and WELL EL* 707.01 DEPTH 27.2

BOTTOM of BOREHOLE EL* 706.21 DEPTH 28.0

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
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, SAD TERC	WELL NO: OLF-G16
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 04/18/94
CONTRACTOR Environmental Exploration Inc	NORTHING: 1180959.14
DRILLER: K. Bray	EASTING: 668870.4
FIELD REPRESENTATIVE: C. Houck (SAIC)	JOB NO: 774645

GROUND SURFACE ELEVATION* 735.99

TOP of WELL CASING or RISER PIPE
EL* 738.51 STICKUP 2.52

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL 15

APPROXIMATE DIAMETER of BOREHOLE (inches) 11.7

TOP OF SAND PACK 20

TOP OF SCREENED INTERVAL
EL* 711.19 DEPTH 24.8

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 701.19 DEPTH 34.8

BOTTOM of SUMP and WELL
EL* 700.99 DEPTH 35.0

BOTTOM of BOREHOLE
EL* 698.99 DEPTH 37.0

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
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, SAD TERC	WELL NO: OLF-G18
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 02/21/95
CONTRACTOR Christensen Boyles Brothers	NORTHING: 1179816.25
DRILLER: R. Bilbrey	EASTING: 668221.39
FIELD REPRESENTATIVE: B. Baker (SAIC)	JOB NO: 774645

GROUND SURFACE ELEVATION*
742.01

TOP of WELL CASING or RISER PIPE
EL* 741.6 STICKUP N/A

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL
34

APPROXIMATE DIAMETER of BOREHOLE (inches) 11.5

TOP OF SAND PACK 42

TOP OF SCREENED INTERVAL
EL* 694.71 DEPTH 47.3

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 684.71 DEPTH 57.3

BOTTOM of SUMP and WELL
EL* 684.01 DEPTH 58

BOTTOM of BOREHOLE
EL* 683.51 DEPTH 58.5

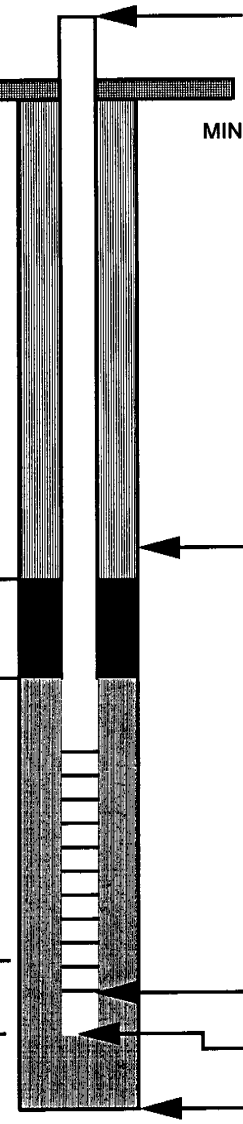
NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*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, SAD TERC	**WELL NO:** OLF-G19
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 03/21/95
CONTRACTOR Christensen Boyles Brothers	**NORTHING:** 1180160.21
DRILLER: K. Kesty	**EASTING:** 668372.65
FIELD REPRESENTATIVE: B. Baker (SAIC)	**JOB NO:** 774645



GROUND SURFACE ELEVATION* 744.5

TOP of WELL CASING or RISER PIPE
EL* 744.08 STICKUP N/A

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL → 42

APPROXIMATE DIAMETER of BOREHOLE (inches) 7.75

TOP OF SAND PACK → 48

TOP OF SCREENED INTERVAL
EL* 686.7 DEPTH 57.8

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 676.7 DEPTH 67.8

BOTTOM of SUMP and WELL
EL* 676.5 DEPTH 68.0

BOTTOM of BOREHOLE
EL* 673.5 DEPTH 71.0

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

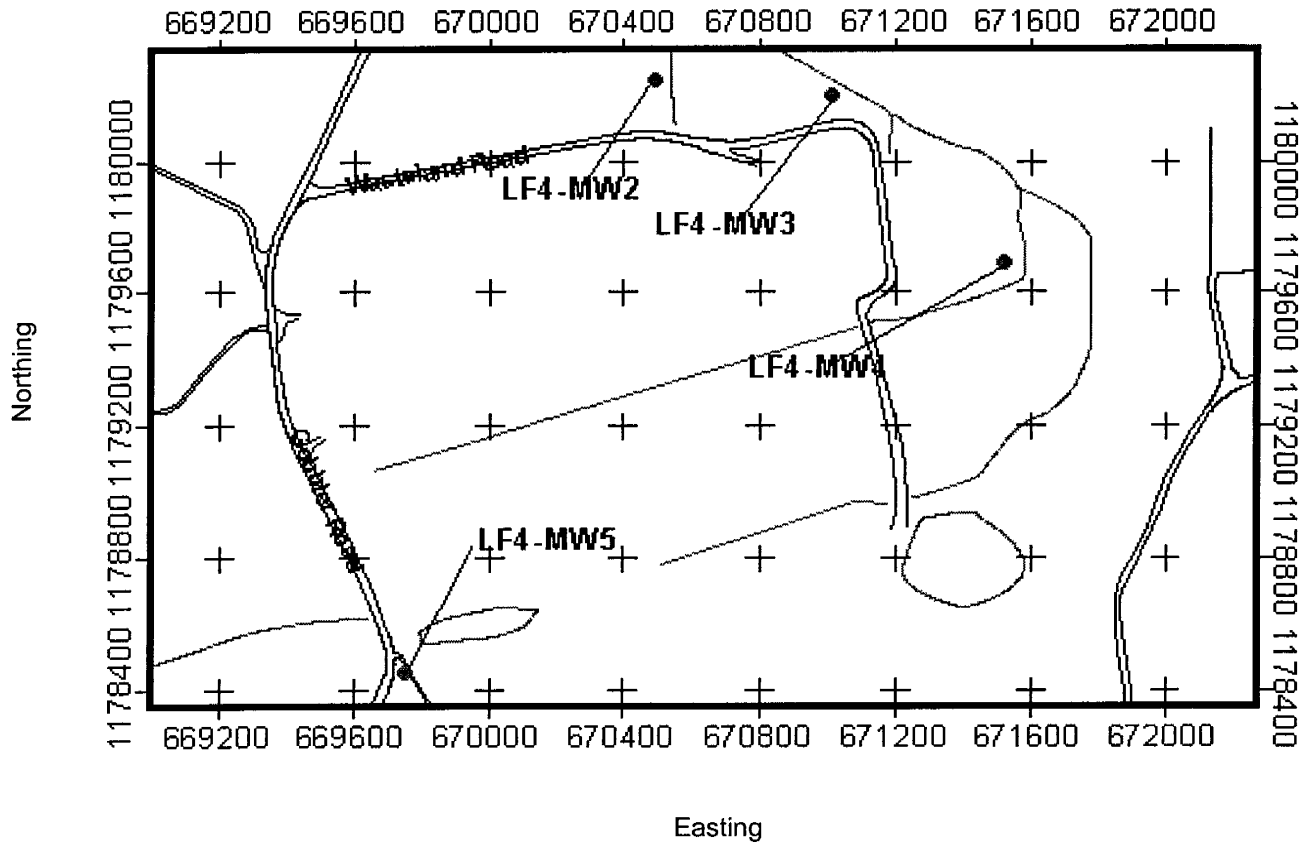
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER LF4-MW1
1. Company name: **ERAS**	2. Drill Subcontractor: Graves Services	Sheet 1 of 6 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Graves	6. Mfr. designation of drill:
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger HSA - 5'x7" and 10" OD Augers	8. Hole location: Landfill #4, Parcels 175 and 81 9. Surface elevation (feet above mean sea level): 737.13 10. Date started: 03/16/94 — 11. Date completed: 03/16/94
12. Overburden thickness (feet bgs): 40	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): 40	17. Other water level measurements (specify): NA

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

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW1

Project: Fort McClellan | Geologist: Bob White | 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: Medium dark gray CLAY, sandy, very slightly moist.							
	1								
735	2		cl						
	3								
	4	cl: Light tan sandy CLAY, dry.							
	5		cl						
	6	cl: Ocher CLAY, dense, slightly sandy, moist.							
730	7								
	8								
	9		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW1

Project: Fort McClellan | Geologist: Bob White | 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)
	10								
	11								
725	12	cl: Yellow ocher CLAY, dense, trace Chert fragments, slightly damp.							
	13								
	14								
	15								Water encountered at 15' bgs
	16								
720	17								
	18								
	19								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW1

Project: Fort McClellan | Geologist: Bob White | 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)
	20								20
	21		cl						21
715	22								22
	23								23
	24								24
	25								25
	26								26
710	27								27
	28								28
	29								29

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW1

Project: Fort McClellan | Geologist: Bob White | 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)
	30	cl: Light gray CLAY, weathered Limestone fragments, wet.							30
	31								31
705	32		cl						32
	33								33
	34								34
	35	cl: Ocher CLAY, dry, Limestone and Shale fragments.							35
	36								36
700	37		cl						37 Hard drilling streak at 37' bgs
	38								38
	39								39
									Bottom of borehole at 40' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW1

Project: Fort McClellan | Geologist: Bob White | 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)
	40	sh: Light green SHALE appears slightly metamophosed (Greenschist facies).							40

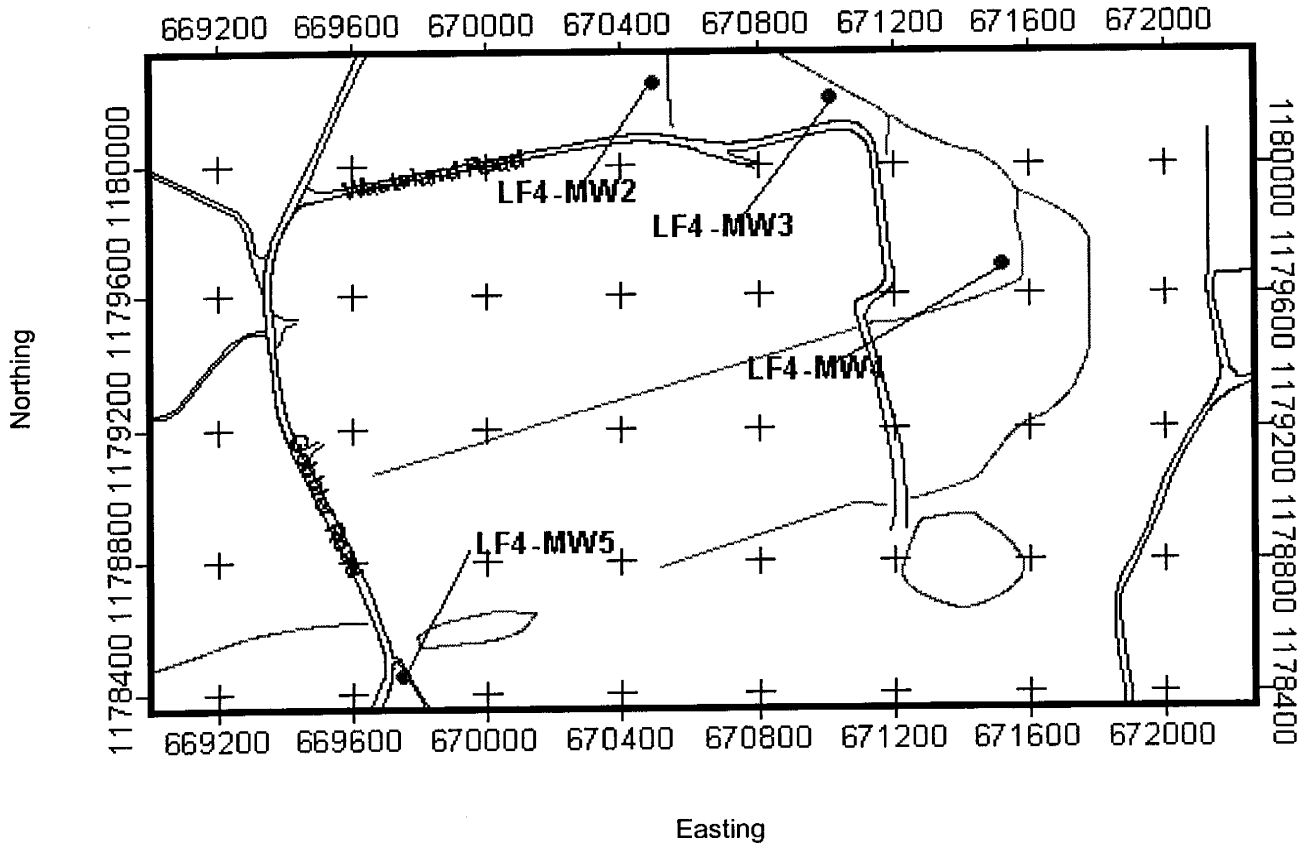
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER LF4-MW2
1. Company name: **ERAS**	2. Drill Subcontractor: Graves Services	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Graves	6. Mfr. designation of drill:
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger HSA - 5'x7" and 10" OD Augers	8. Hole location: Landfill #4, Parcels 175 and 81 9. Surface elevation (feet above mean sea level): 738.5 10. Date started: 03/15/94 — 11. Date completed: 03/16/94
12. Overburden thickness (feet bgs): >40	15. Depth groundwater encountered (feet bgs): 6
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
						NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		X		Bob White		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: LF4-MW2

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW2

Project: Fort McClellan | Geologist: Bob 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	NA: HUMUS, dry.							
	1		NA						
	2	cl: Medium dark gray CLAY, sandy, slightly damp.							
	3								
735									
	4		cl						
	5								
	6	cl: Light greenish gray CLAY, dense, very cohesive.							Very moist at 6' bgs
	7								
	8								
730									
	9								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW2

Project: Fort McClellan

Geologist: Bob 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)
	10								10
	11								11
	12								12
	13								13
725									
	14								14
	15								15
	16								16
	17								17
	18								18
720									
	19								19

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW2

Project: Fort McClellan | Geologist: Bob 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)
	20								20
	21								21
	22								22
	23		cl						23
715									
	24								24
	25								25
	26								26
	27								27
	28								28
710									
	29								29

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW2

Project: Fort McClellan

Geologist: Bob 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)
	30								30
	31								31
	32								32
	33								33
705									
	34								34
	35								35
	36								36
	37								37
	38								38
700									
	39								39
									Bottom of borehole at 40' bgs

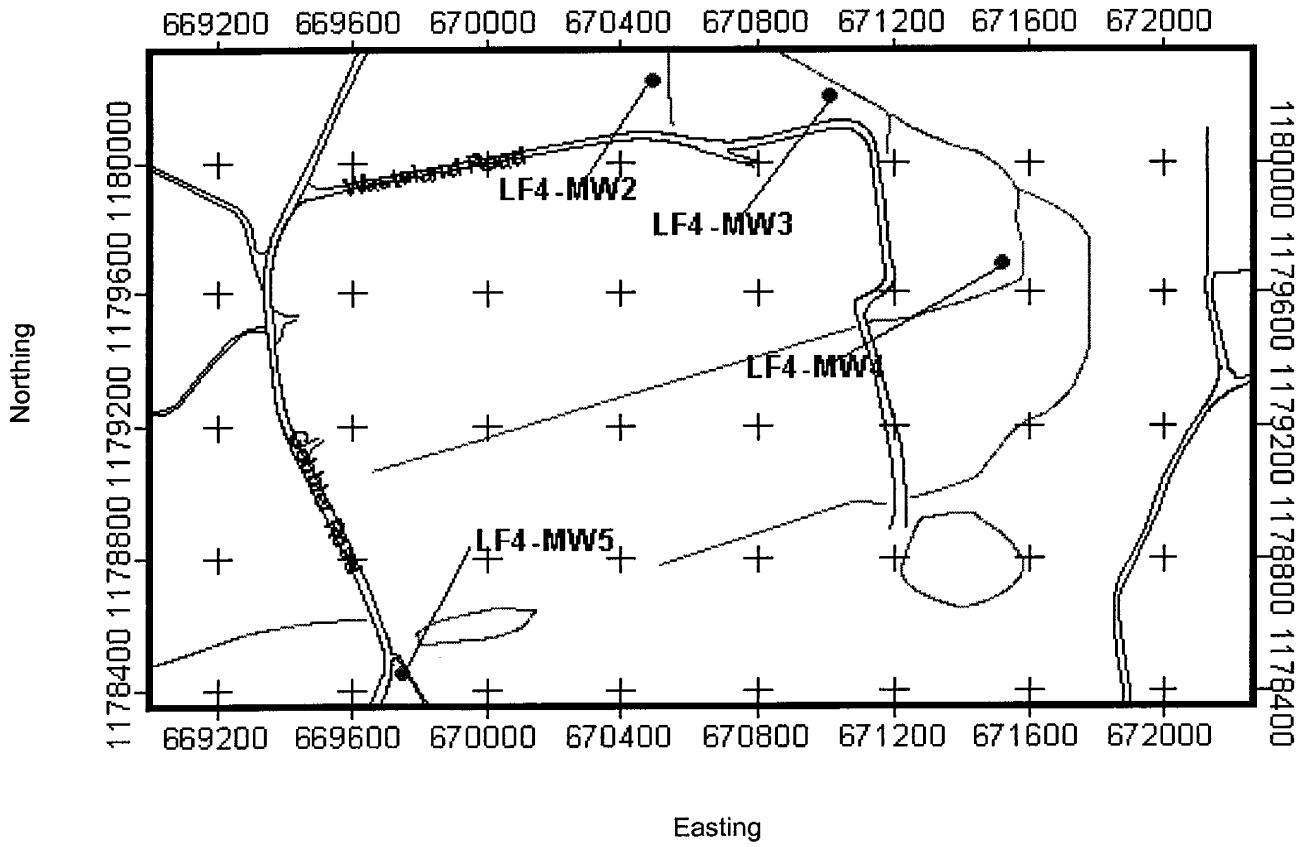
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER LF4-MW3
1. Company name: **ERAS**	2. Drill Subcontractor: Graves Services	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Graves	6. Mfr. designation of drill:
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger HSA - 5'x7" and 10" OD Augers	8. Hole location: Landfill #4, Parcels 175 and 81 9. Surface elevation (feet above mean sea level): 739.78 10. Date started: 03/14/94 — 11. Date completed: 03/14/94
12. Overburden thickness (feet bgs): 31.5	15. Depth groundwater encountered (feet bgs): 12
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): 31.5	17. Other water level measurements (specify): NA

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

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: LF4-MW3

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW3

Project: Fort McClellan | Geologist: Bob 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	cl: Dark yellow CLAY, dry.							
	1								
	2								
	3								
	4								
735	5								
	6		cl						
	7								
	8								
	9								
730									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW3

Project: Fort McClellan | Geologist: Bob 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)
	10								
	11								
	12	cl: CLAY A/A, Gravel, wet.							Water encountered at 12' bgs
	13		cl						
	14	cl: CLAY A/A, very sandy.							
725	15		cl						
	16	cl: CLAY A/A, less sandy, wet.							
	17								
	18								
	19								
720									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW3

Project: Fort McClellan | Geologist: Bob 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)
	20								20
	21								21
	22								22
	23								23
			cl						
	24								24
715									
	25								25
	26								26
	27								27
	28								28
	29								29
710									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW3

Project: Fort McClellan | Geologist: Bob 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)
	30								30
	31								31
		ls: Light gray finely crystalline Limestone.							Bottom of borehole at 31.5'

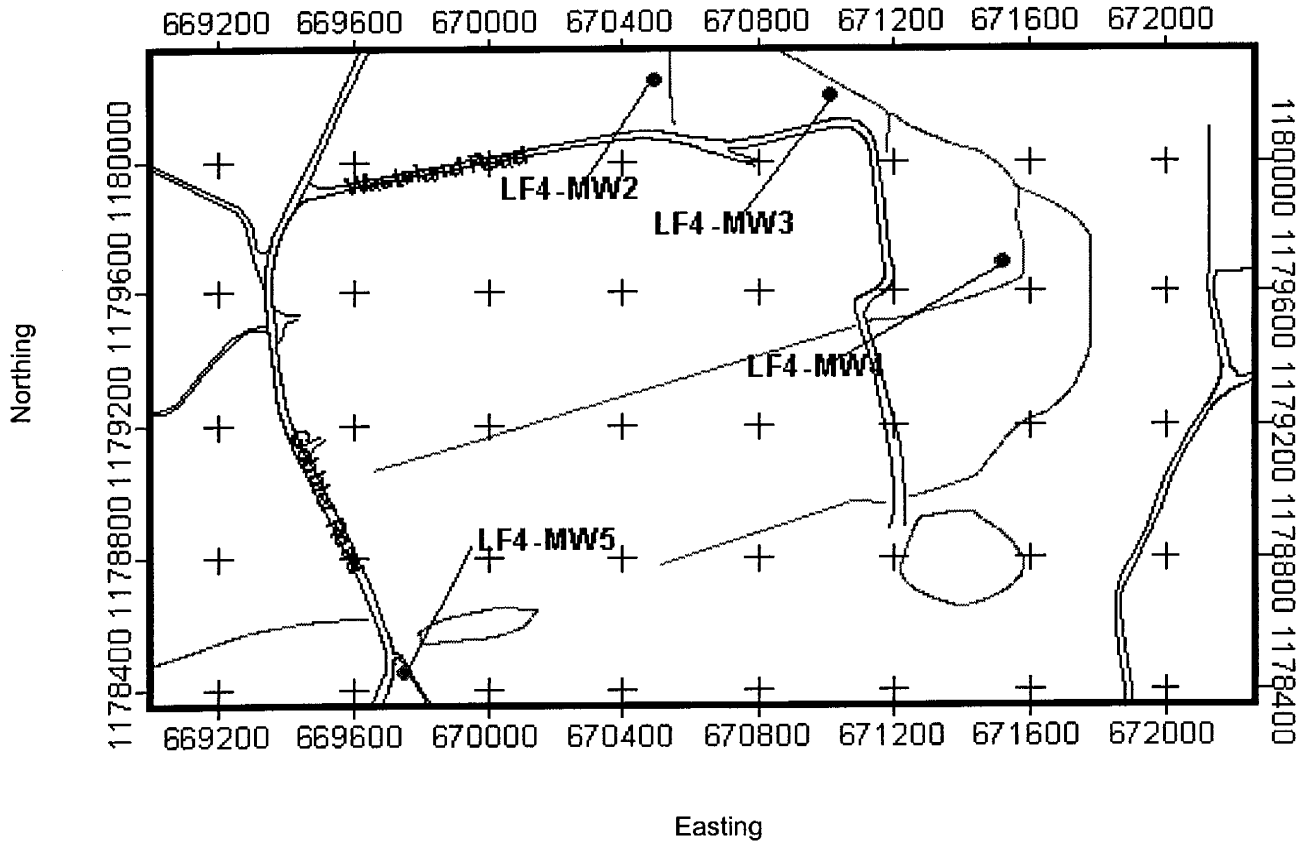
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER LF4-MW4
1. Company name: **ERAS**	2. Drill Subcontractor: Graves Services	Sheet 1 of 4 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Graves	6. Mfr. designation of drill:
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger HSA - 5'x7" and 10" OD Augers	8. Hole location: Landfill #4, Parcels 175 and 81 9. Surface elevation (feet above mean sea level): 743.35 10. Date started: 03/17/94 — 11. Date completed: 03/17/94
12. Overburden thickness (feet bgs): 25	15. Depth groundwater encountered (feet bgs): 6
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
						NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		X		Bob White		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: LF4-MW4

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW4

Project: Fort McClellan | Geologist: Bob 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	topsoil: Soil and fill material.	tops						
	3	cl: Medium gray CLAY, sandy, moist.	cl						
740									
	6	cl: Yellowish tan CLAY, sandy, moist.							Water encountered at 6' bgs
735									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW4

Project: Fort McClellan | Geologist: Bob 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)
	10								10
	11								11
	12								12
	13								13
730									
	14								14
	15								15
			cl						
	16								16
	17								17
	18								18
725									
	19								19

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW4

Project: Fort McClellan | Geologist: Bob 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)
	20								20
	21								Hard drilling streaks (weathered bedrock) at 21' bgs 21
	22								22
	23								23
720									
	24								24
	25	sh: Medium to dark brown SHALE, very silty, Limestone laminations							Bottom of borehole at 25' bgs 25

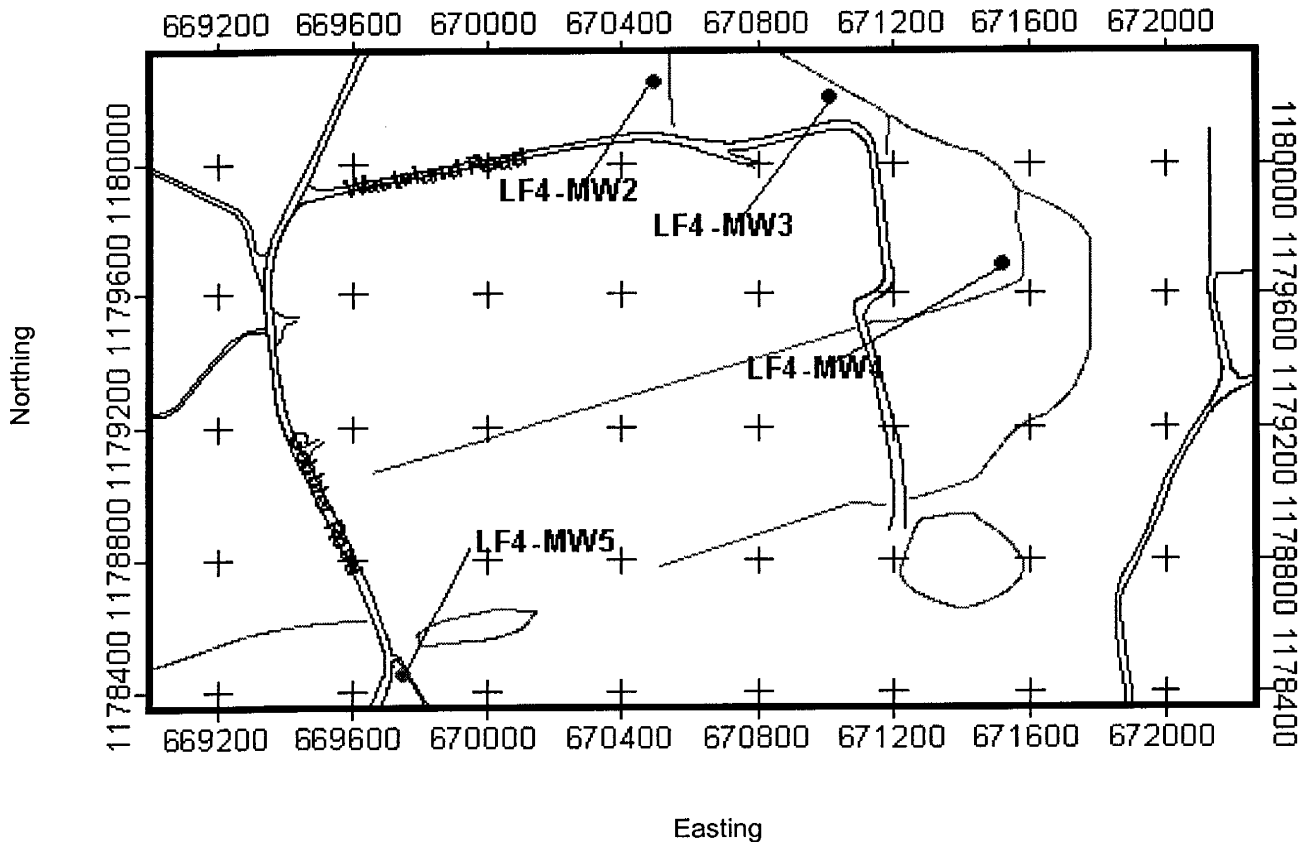
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER LF4-MW5
1. Company name: **ERAS**	2. Drill Subcontractor: Graves Services	Sheet 1 of 5 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Graves	6. Mfr. designation of drill:
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger HSA - 5'x7" and 10" OD Augers	8. Hole location: Landfill #4, Parcels 175 and 81 9. Surface elevation (feet above mean sea level): 753.32 10. Date started: 03/21/94 — 11. Date completed: 03/21/94
12. Overburden thickness (feet bgs): >40	15. Depth groundwater encountered (feet bgs): 12
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
						NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		X		Bob White		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: LF4-MW5

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW5

Project: Fort McClellan | Geologist: Bob 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	topsoil: SOIL.	tops						
	1	cl: Medium dark red CLAY, sandy, Chert fragments.	cl						
	2								
	3								
750									
	4								
	5								
	6								
	7	cl: Orangish red CLAY, numerous Chert fragments.							
	8								
745									
	9								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW5

Project: Fort McClellan | Geologist: Bob 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)
	10								
	11								
	12		cl						Water encountered at 12' bgs
	13								
740									
	14								
	15								
	16								
	17	cl: Tan CLAY, Chert fragments, moist.							
	18								
735									
	19		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: LF4-MW5

Project: Fort McClellan | Geologist: Bob 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)
	20								20
	21								21
	22	cl: Light tan CLAY, dense, no Sand.							22
	23								23
730									
	24								24
	25								25
	26								26
	27								27
			cl						
	28								28
725									
	29								29

HTRW DRILLING LOG (Continuation Sheet)

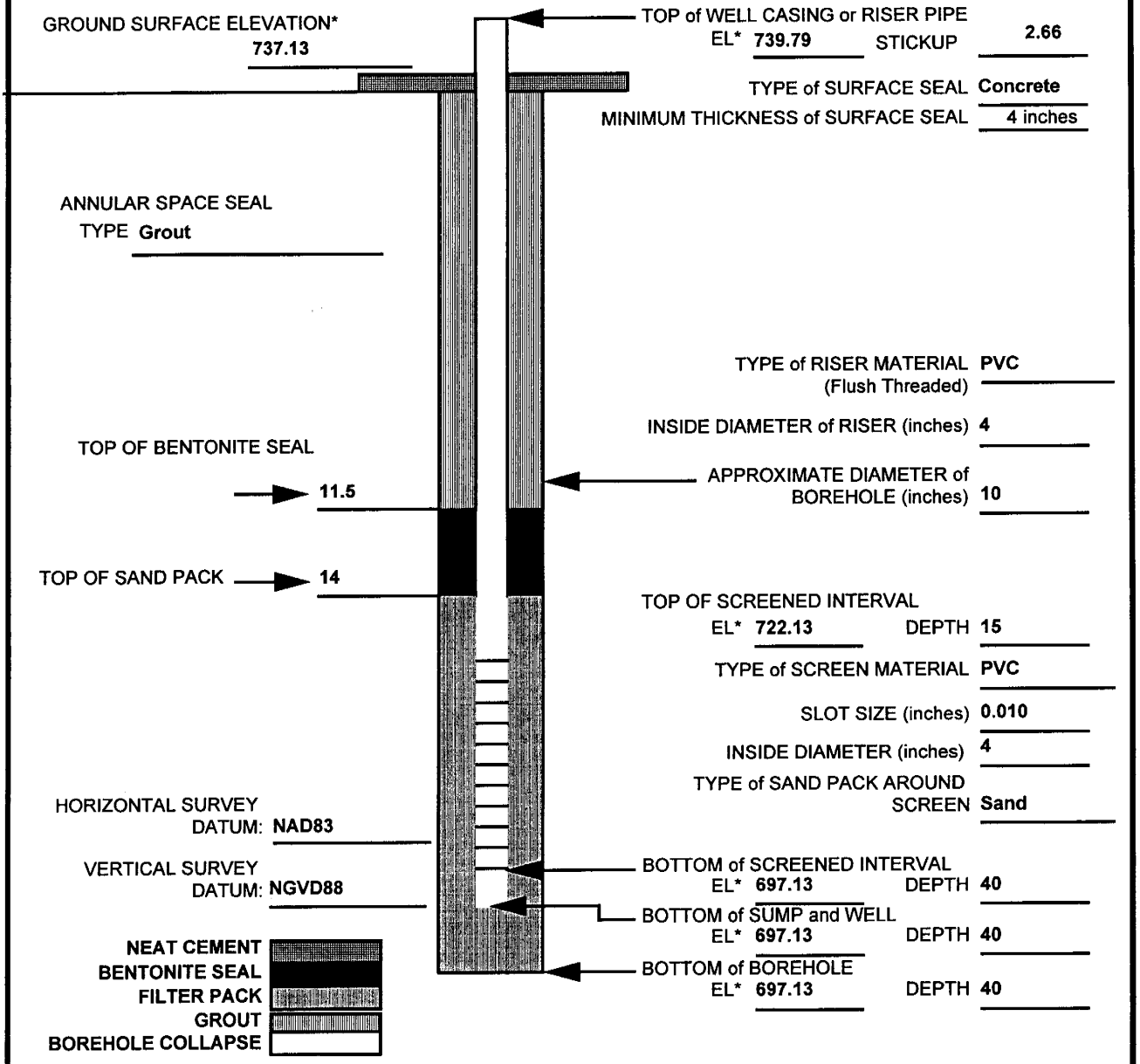
HOLE NUMBER: LF4-MW5

Project: Fort McClellan | Geologist: Bob 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)
	30								30
	31								31
	32								32
	33	cl: Light brown CLAY, dense, wet, Shale fragments.							33
720									
	34								34
	35								35
	36								36
			cl						
	37								37
	38								38
715									
	39								39
									Bottom of borehole at 40' bgs

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	**WELL NO:** LF4-MW1
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 03/16/94
CONTRACTOR GRAVES SERVICES	**NORTHING:** 1180041.4
DRILLER: GRAVES	**EASTING:** 669625.24
FIELD REPRESENTATIVE: BOB WHITE (ERAS)	**JOB NO:** 774645



*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, SAD TERC	WELL NO: LF4-MW2
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 03/15/94
CONTRACTOR GRAVES SERVICES	NORTHING: 1180244.71
DRILLER: GRAVES	EASTING: 670492.08
FIELD REPRESENTATIVE: BOB WHITE (ERAS)	JOB NO: 774645

GROUND SURFACE ELEVATION*
738.5

TOP of WELL CASING or RISER PIPE
EL* 738.5 STICKUP N/A

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL
2.5

APPROXIMATE DIAMETER of BOREHOLE (inches) 7

TOP OF SAND PACK 5

TOP OF SCREENED INTERVAL
EL* 732.5 DEPTH 6

TYPE of SCREEN MATERIAL PVC

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 702.5 DEPTH 36

BOTTOM of SUMP and WELL
EL* 702.5 DEPTH 36

BOTTOM of BOREHOLE
EL* 698.5 DEPTH 40

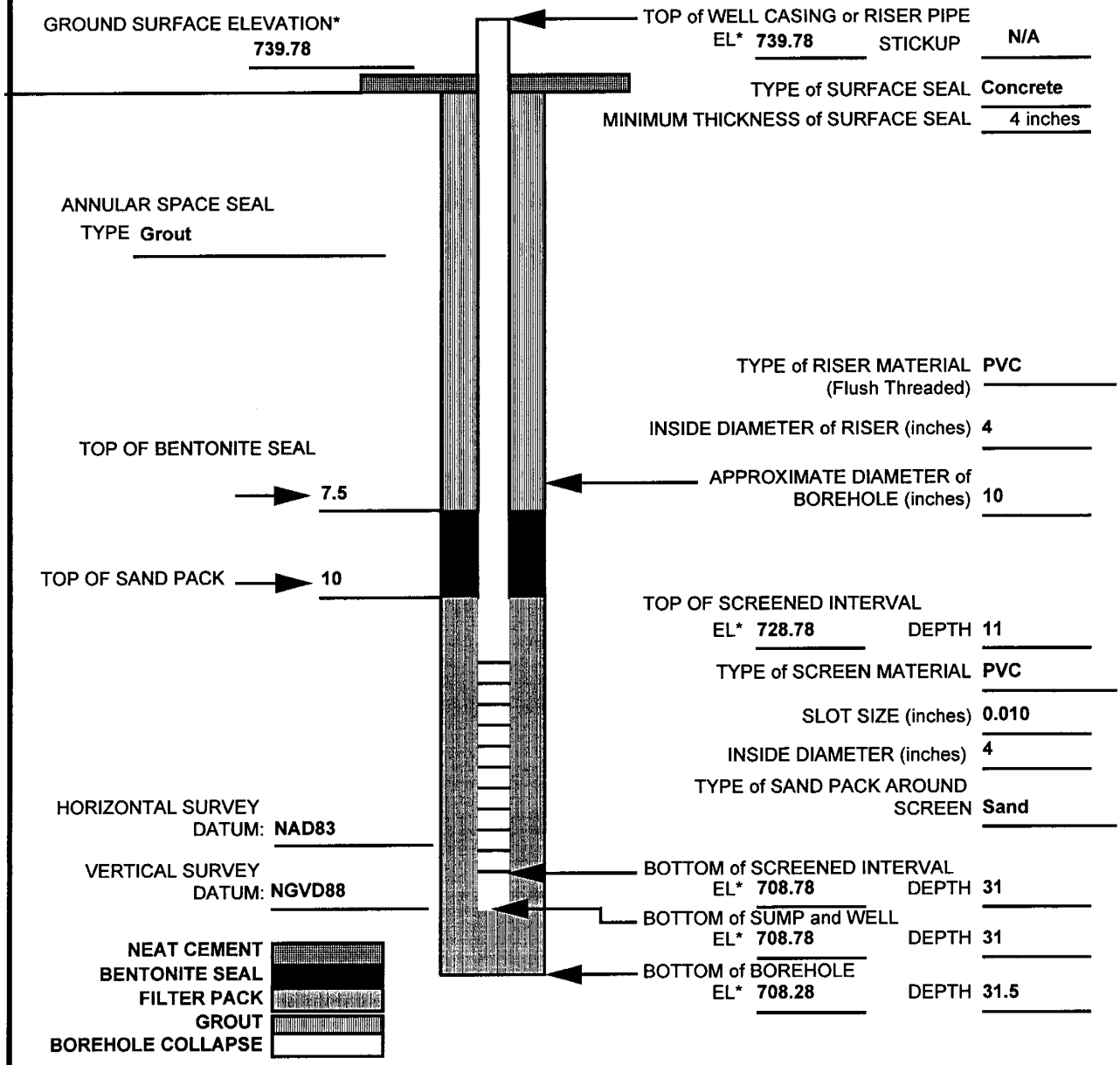
NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*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, SAD TERC	WELL NO: LF4-MW3
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 03/14/95
CONTRACTOR GRAVES SERVICES	NORTHING: 1180197.72
DRILLER: GRAVES	EASTING: 671013.48
FIELD REPRESENTATIVE: BOB WHITE (ERAS)	JOB NO: 774645

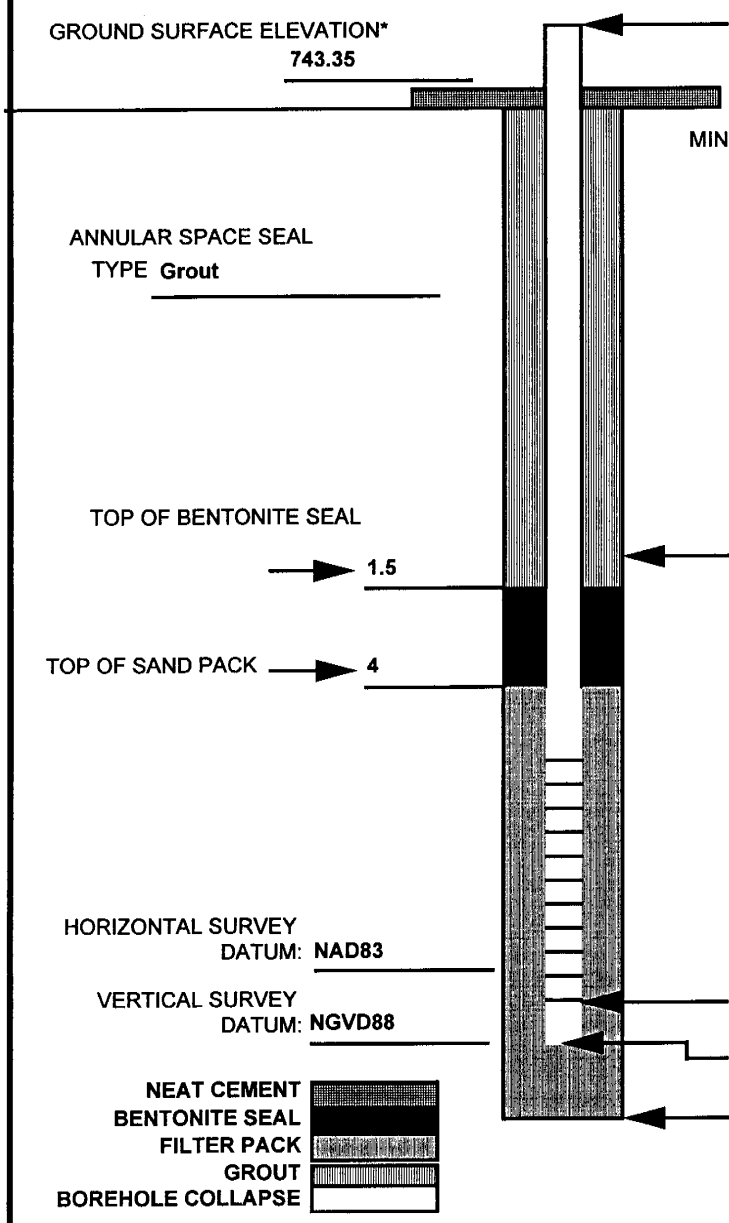


*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: LF4-MW4
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 03/17/94
CONTRACTOR GRAVES SERVICES	NORTHING: 1179683.62
DRILLER: GRAVES	EASTING: 671522.79
FIELD REPRESENTATIVE: BOB WHITE (ERAS)	JOB NO: 774645



GROUND SURFACE ELEVATION* 743.35

TOP of WELL CASING or RISER PIPE EL* 743.35 STICKUP N/A

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL 1.5

APPROXIMATE DIAMETER of BOREHOLE (inches) 10

TOP OF SAND PACK 4

TOP OF SCREENED INTERVAL EL* 738.35 DEPTH 5

TYPE of SCREEN MATERIAL PVC

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL EL* 718.35 DEPTH 25

BOTTOM of SUMP and WELL EL* 718.35 DEPTH 25

BOTTOM of BOREHOLE EL* 718.35 DEPTH 25

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
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, SAD TERC	**WELL NO:** LF4-MW5
LOCATION Anniston, AL	**DRILLING METHOD:** Hollow Stem Auger
CLIENT: USACE Mobile District	**INSTALLATION DATE** 03/21/94
CONTRACTOR GRAVES SERVICES	**NORTHING:** 1178445.5
DRILLER: GRAVES	**EASTING:** 669747.69
FIELD REPRESENTATIVE: BOB WHITE (ERAS)	**JOB NO:** 774645

GROUND SURFACE ELEVATION*
753.32

TOP of WELL CASING or RISER PIPE
EL* 753.32 STICKUP N/A

TYPE of SURFACE SEAL Concrete

MINIMUM THICKNESS of SURFACE SEAL 4 inches

ANNULAR SPACE SEAL
TYPE Grout

TYPE of RISER MATERIAL (Flush Threaded) PVC

INSIDE DIAMETER of RISER (inches) 4

TOP OF BENTONITE SEAL
6

APPROXIMATE DIAMETER of BOREHOLE (inches) 7

TOP OF SAND PACK 9

TOP OF SCREENED INTERVAL
EL* 741.32 DEPTH 12

TYPE of SCREEN MATERIAL PVC

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 4

TYPE of SAND PACK AROUND SCREEN Sand

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 721.32 DEPTH 32

BOTTOM of SUMP and WELL
EL* 721.32 DEPTH 32

BOTTOM of BOREHOLE
EL* 713.32 DEPTH 40

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.

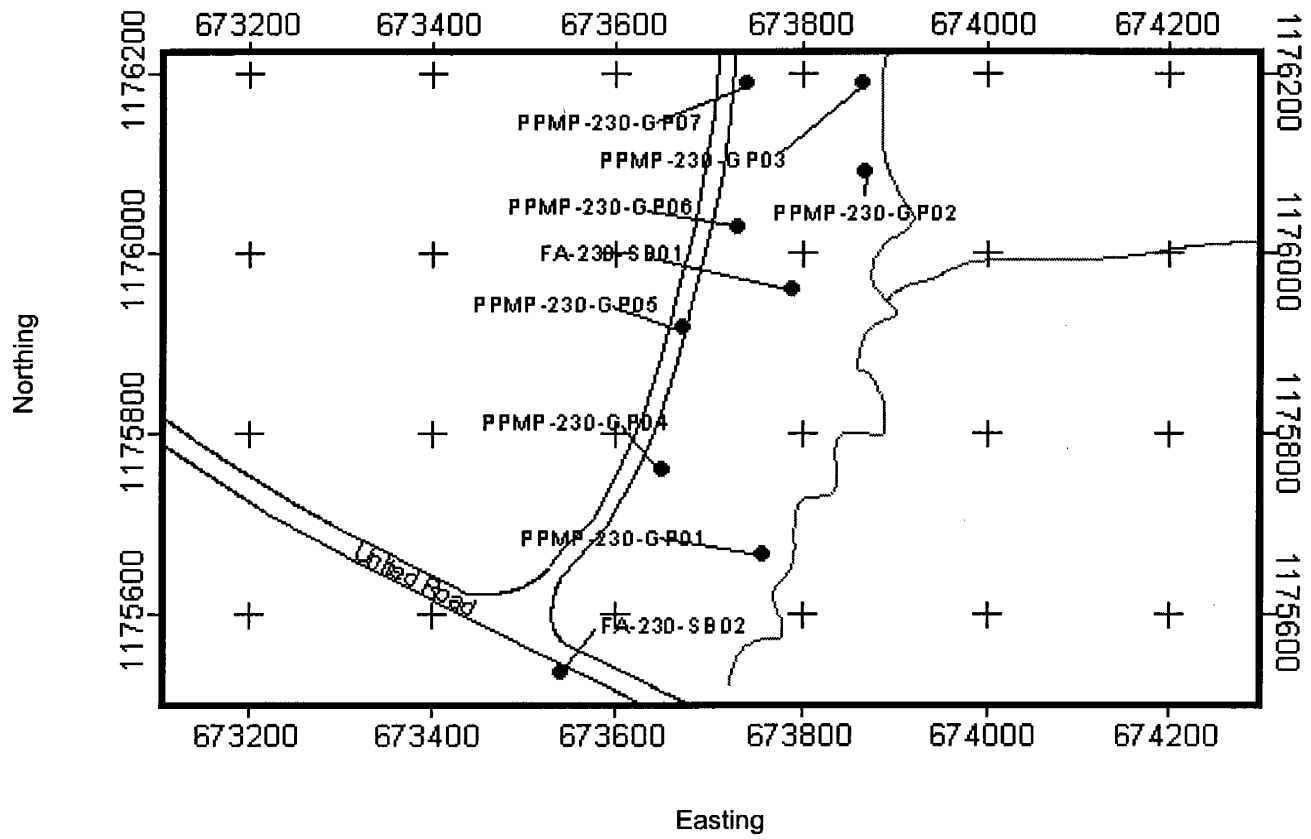
All depths and heights are given in feet and are referenced to the ground surface.

HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-230-GP01
1. Company name: **IT Corporation**	2. Drill Subcontractor: TEG / Milller Drilling Company	Sheet 1 of 2 sheets
3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**	
5. Name of driller: Bill Murphy/Ken Gobell	6. Mfr. designation of drill: Geoprobe/CME-550X	
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP- 4' x 2" acetate-lined sampler HSA- 5' x 4.25' ID Augers, 2'x 2" steel split spoons	8. Hole location: Fill Area N of Landfill 2, Parcel 230 9. Surface elevation (feet above mean sea level): 803.45 10. Date started: 02/09/99	11. Date completed: 02/25/99
12. Overburden thickness (feet bgs): >5	15. Depth groundwater encountered (feet bgs): 3	
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 1.86 after 30 minutes	
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		Temp		J. Messer, K. Arnold		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-230-GP01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP01

Project: Fort McClellan | Geologist: J. Messer, K. Arnold | 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: Brownish gray SILT, trace roots, some Clay.	ml		Organic Vapor = 40.4ppm		KCC0001 KCC0002 KCC0003		Rec 1.0'/1.0' (0-1' bgs)
	1	sm: Grayish brown SAND, some Silt, some Gravel, very wet at 3' bgs.	sm		Organic Vapor = 0.0ppm		KCC0004		Rec 2.3'/3.0' (1-4' bgs)
800	2								
	3								
	4	sm: Gray orange, wet SAND mixed with large Chert nodules, little Silt, low plasticity.	sm						Direct push refusal at 4' bgs. Description from HSA cuttings Auger refusal at 5' bgs Bottom of borehole at 5' bgs
	5								

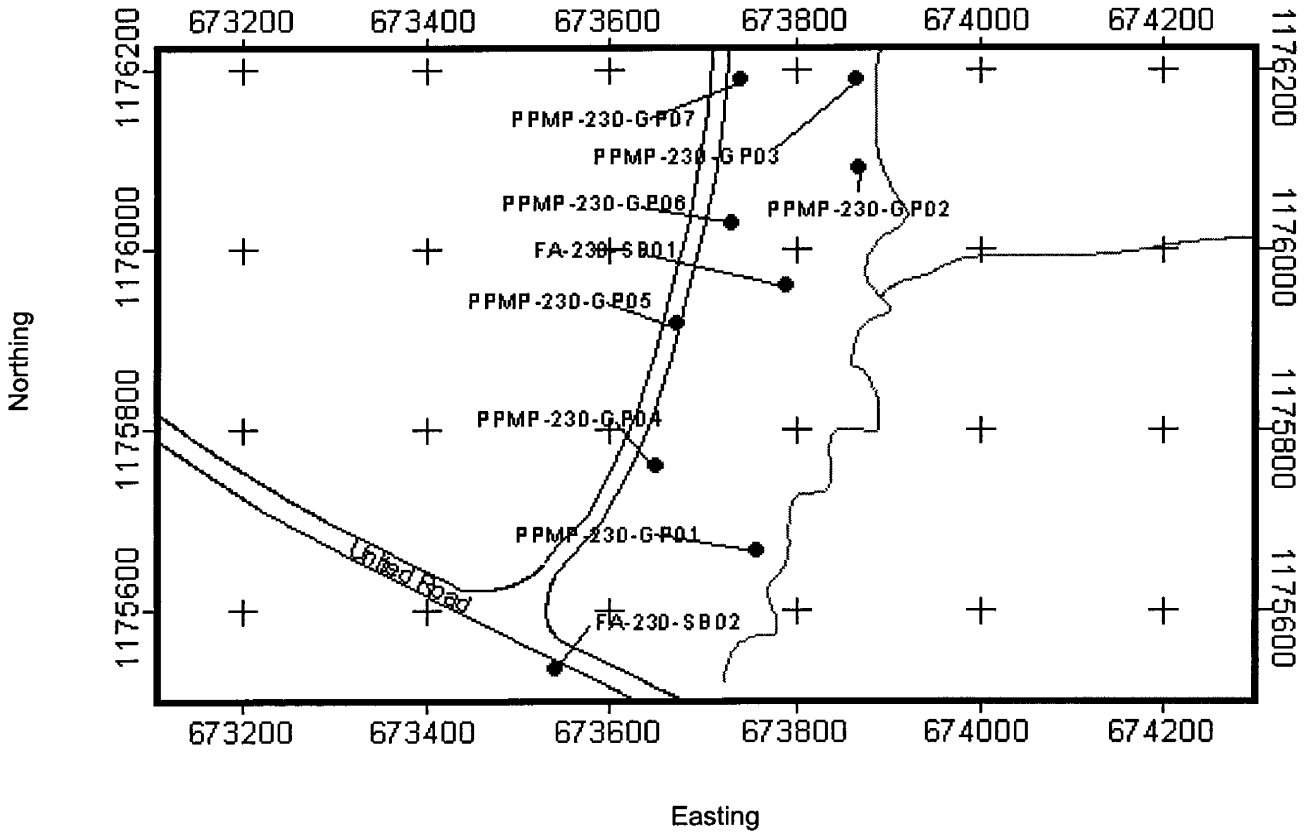
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-230-GP02
1. Company name: **IT Corporation**	2. Drill Subcontractor: TEG / Miller Drilling Company	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Bill Murphy/Ken Gobell	6. Mfr. designation of drill: Geoprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP- 4' x 2" acetate-lined sampler HSA- 5'x4.25' ID Augers, 2'x2" steel split spoons	8. Hole location: Fill Area N of Landfill 2, Parcel 230 9. Surface elevation (feet above mean sea level): 811.12 10. Date started: 02/09/99 — 11. Date completed: 02/10/99
12. Overburden thickness (feet bgs): >16	15. Depth groundwater encountered (feet bgs): 5.5
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 6 after 1/2 hour
14. Total depth of hole (feet bgs): 16	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		Temp		J.Messer, M. Giles		

LOCATION SKETCH/COMMENTS:



bgs= below ground surface
NA = Not applicable

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP02

Project: Fort McClellan | Geologist: J.Messer, M. Giles | 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	sm: Yellowish red to light brown SAND, with trace roots, some Silt.	sm		Organic Vapor = 0.0ppm		KCC0005		Rec 1.0'/1.0' (0-1' bgs)
810	1				Organic Vapor = 0.0ppm				Rec 1.9'/2.0' (1-3' bgs)
	2								
		gw: Tan, poorly sorted, coarse SAND.	gw						
	3	sm: Red to light brown SAND, some Silt, some Gravel.	sm		Organic Vapor = 0.0ppm		KCC0006		Rec 2.1'/3.0' (3-6' bgs)
	4								
	5								
805	6	NA: No Recovery.							Direct push boring terminated at 6' bgs due to 5.5' bgs water table.
	7								
	8								
	9								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP02

Project: Fort McClellan | Geologist: J.Messer, M. Giles | 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)
	10	sm: Soft, SAND, some Silt, tan, wet.							Description from HSA cuttings
800	11								
	12								
	13		sm						
	14								
	15								Auger refusal at 16' bgs Bottom of borehole at 16' bgs
	16								

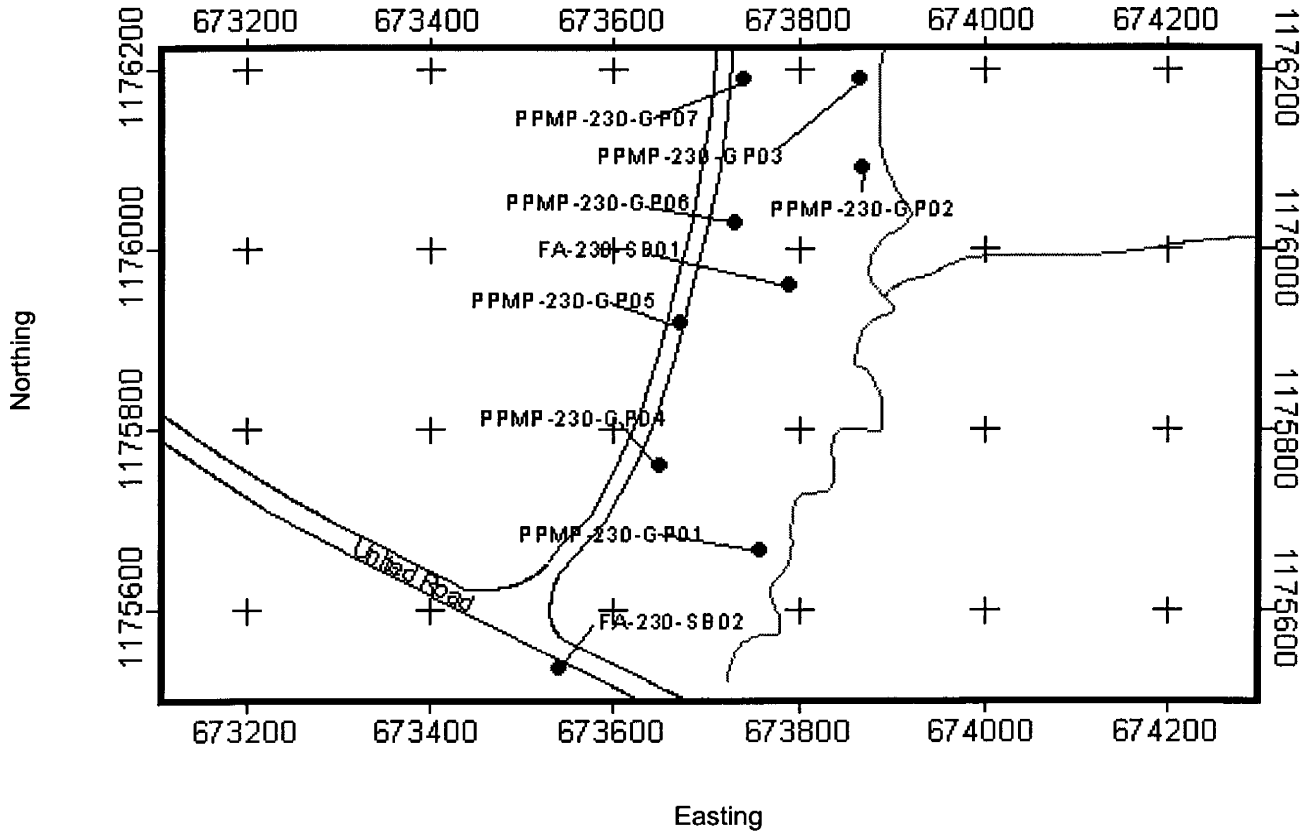
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-230-GP03
1. Company name: **IT Corporation**	2. Drill Subcontractor: TEG / Miller Drilling Company	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Bill Murphy/Ken Gobell	6. Mfr. designation of drill: Geoprobe/CME-550X
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP- 4' x 2" acetate-lined sampler HSA- 5'x4.25' ID Augers, 2'x2" steel split spoons.	8. Hole location: Fill Area N of Landfill 2, Parcel 230 9. Surface elevation (feet above mean sea level): 812.12 10. Date started: 02/09/99 — 11. Date completed: 02/16/99
12. Overburden thickness (feet bgs): >9	15. Depth groundwater encountered (feet bgs): 5.5
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 2.9
14. Total depth of hole (feet bgs): 9	17. Other water level measurements (specify): NA

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		Temp		J. Messer, K. Arnold		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-230-GP03

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP03

Project: Fort McClellan | Geologist: J. Messer, K. Arnold | Sheet 2 of 2 sheets

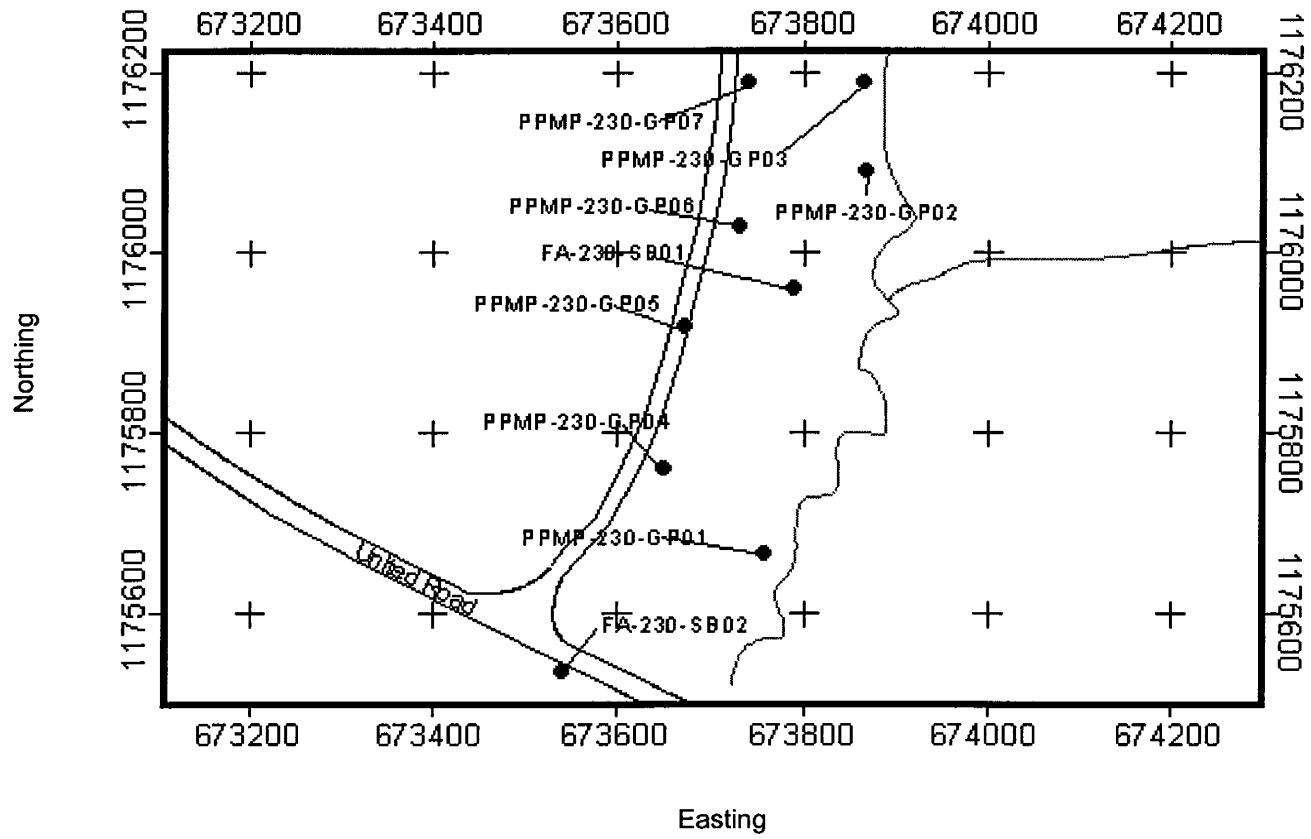
Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	sm: Light gray SAND, some Silt, trace roots.	sm		Organic Vapor = 16.3ppm		KCC0007		Rec 1.0'/1.0' (0-1' bgs)
	1				Organic Vapor = 0.0ppm				Rec 1.7'/2.0' (1-3' bgs)
		sp: Tan to light brown, poorly sorted SAND, coarse grained, with little to no fines, some Gravel.	sp						
810	2								
	3								Rec 2.0'/3.0 (3-6' bgs)
	4						KCC0008		
	5				Organic Vapor = 2.1ppm				
	6	sm: SAND, wet , cuttings.	sm						Direct push boring terminated at 6' bgs due to water table at 5.5' bgs
805	7								
	8								Auger refusal at 9' bgs Bottom of borehole at 9' bgs
	9								

HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-230-GP04
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 2 sheets
3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**	
5. Name of driller: Harry Huntoon	6. Mfr. designation of drill: Geoprobe	
7. Sizes and types of drilling and sampling equipment: Direct push 4' x 2" acetate-lined sampler	8. Hole location: Fill Area N of Landfill 2, Parcel 230	
	9. Surface elevation (feet above mean sea level): 831.493	
	10. Date started: 02/24/99	11. Date completed: 02/24/99
12. Overburden thickness (feet bgs): >8	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): 8	17. Other water level measurements (specify): NA	

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	X			K. Arnold		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-230-GP04

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP04

Project: Fort McClellan | Geologist: K. Arnold | 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	sc: Black, mottled brown Chert, Clay and Sand.	sc		Organic Vapor = 0.0ppm		KCC0009		Hand Auger (0-1' bgs)
830	1	sc: Black, mottled brown, CHERT, CLAY, and SAND.	sc		Organic Vapor = 0.0ppm				Rec 1.5'/2.0' (1-3' bgs)
	2								
	3	ml: Black, mottled brown CLAY and SILT, dry.	ml		Organic Vapor = 0.0ppm				Rec 1.0'/2.0' (3-5' bgs)
	4								
	5	gw: Black, mottled brown, large chunks of QUARTZ, Brick, dry (FILL).	gw		Organic Vapor = 0.0ppm		KCC0010		Rec 1.0'/2.0' (5-7' bgs)
825	6								
	7	ml: Backfill, SILT, some Clay, mottled brown, wet at 7.5'.	ml		Organic Vapor = 0.0ppm				Rec 0.8'/1.0' (7-8' bgs) Direct push refusal at 8' bgs Bottom of borehole 8' bgs
	8								

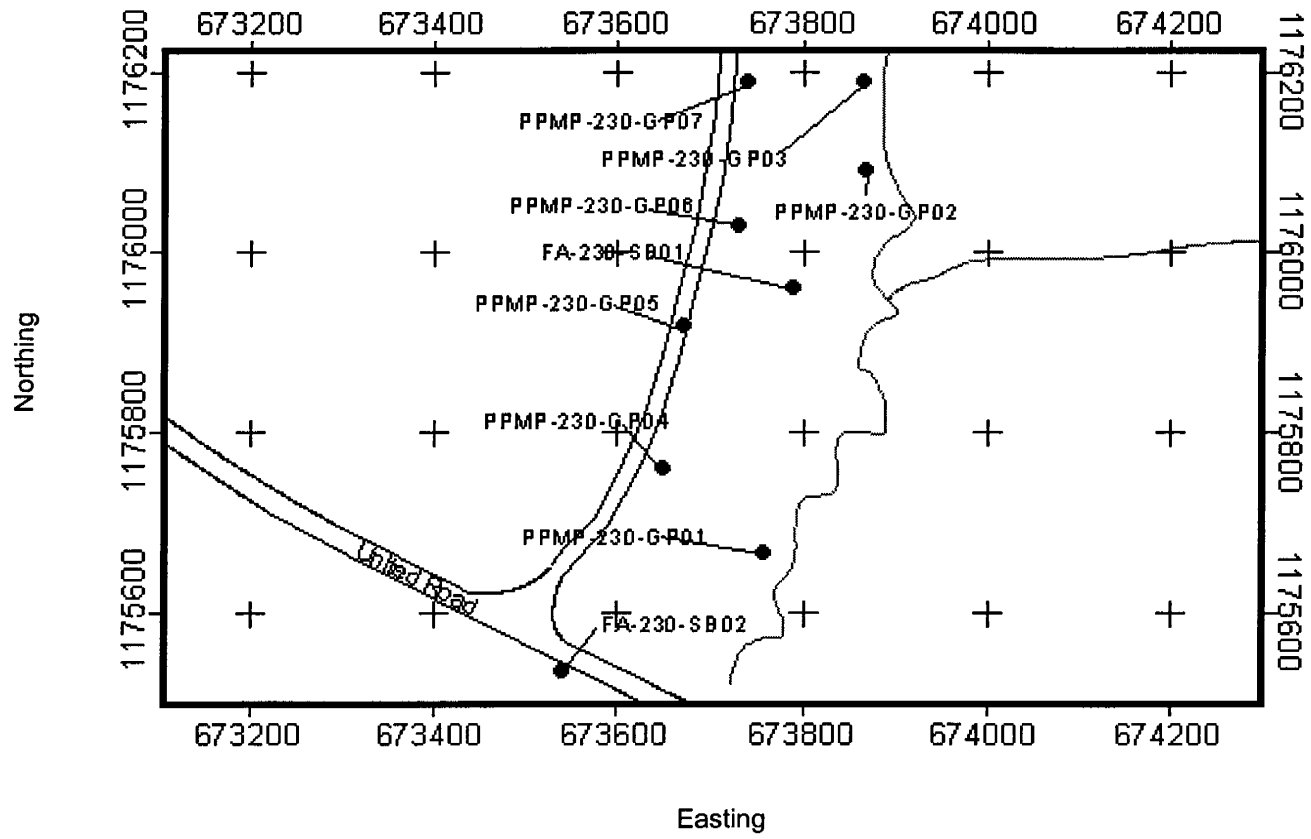
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-230-GP05
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Harry Huntoon	6. Mfr. designation of drill: Geoprobe
7. Sizes and types of drilling and sampling equipment: Direct Push 4' x 2" acetate-lined sampler.	8. Hole location: Fill Area N of Landfill 2, Parcel 230 9. Surface elevation (feet above mean sea level): 832.962 10. Date started: 02/25/99 — 11. Date completed: 02/25/99
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	X			K. Arnold		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-230-GP05

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP05

Project: Fort McClellan | Geologist: K. Arnold | 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: SILT, some CLAY, mottled brown, low plasticity, large fragments of chert.	ml		Organic Vapor = 0.0ppm		KCC0011		Hand Auger (0-1' bgs)
	1	ml: SILT, some Clay, mottled brown, low plasticity, large chunks of Chert.	ml		Organic Vapor = 0.0ppm				Rec 1.7'/2.0' (1-3' bgs)
830	3	sm: SAND, some Silt, mottled brown, low plasticity.	sm						Rec 1.7'/2.0' (3-5' bgs)
	5	sm: SAND, some Silt mixed with Chert nodules, mottled brown, white, dry.	sm				KCC0012		Direct push refusal at 6' bgs Bottom of borehole at 6' bgs
	6								

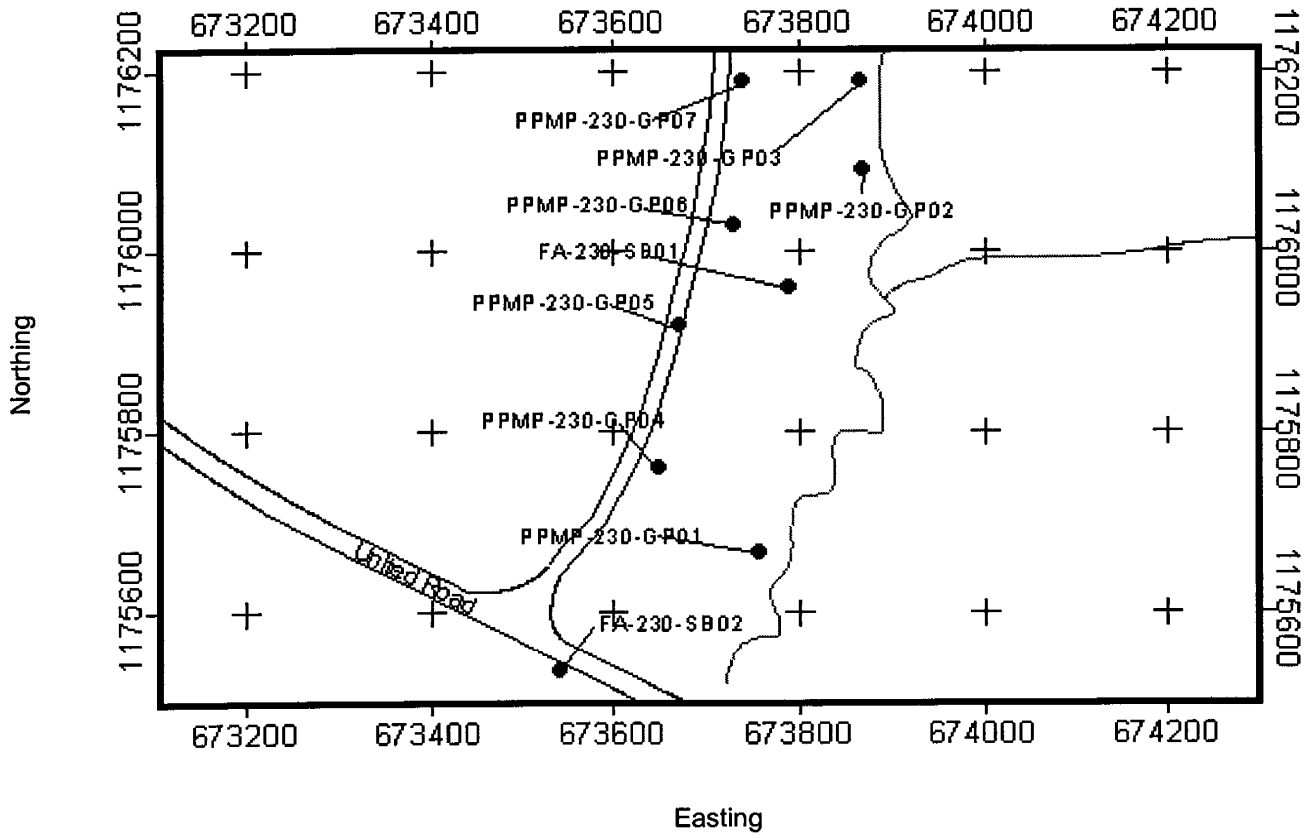
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-230-GP06
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Harry Huntoon	6. Mfr. designation of drill: Geoprobe
7. Sizes and types of drilling and sampling equipment: Direct Push 4' x 2" acetate-lined sampler	8. Hole location: Fill Area N of Landfill 2, Parcel 230 9. Surface elevation (feet above mean sea level): 832.180 10. Date started: 02/24/99 — 11. Date completed: 02/24/99
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	X			K. Arnold		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-230-GP06

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP06

Project: Fort McClellan | Geologist: K. Arnold | 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: CLAY, with SAND, mottled brown, black, large fragments of Chert, backfill.	cl		Organic Vapor = 0.0ppm		KCC001		Rec 1.5'/2.0' (0-2' bgs)
830	2	ml: SILT, some Clay and Gravel large fragments of chert, mottled brown, red.	ml		Organic Vapor = 0.0ppm				Rec 1.7'/2.0' (2-4' bgs)
	4	NA: Large fragments of QUARTZ, backfill material.	NA		Organic Vapor = 0.0ppm				Rec 1.3'/2.0' (4-6' bgs)
	6	ml: Mottled brown SILT and CLAY, backfill, little plasticity.	ml		Organic Vapor = 0.0ppm				Rec 1.3'/2.0' (6-8' bgs)
825	8	ml: Mottled brown SILT and CLAY, large Chert nodules with Quartz, low plasticity.	ml		Organic Vapor = 0.0ppm				Rec 1.0'/2.0' (8-10' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP06

Project: Fort McClellan | Geologist: K. Arnold | 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)
	10	gm: CHERT, mottled brown, white, orange, yellow, backfill, dry.	gm		Organic Vapor = 0.0ppm		KCC0014		Rec 1.0'/2.0' (10-12' bgs) 10
	11								11
									Terminated direct push at 12' bgs Bottom of borehole at 12' bgs
	12								12

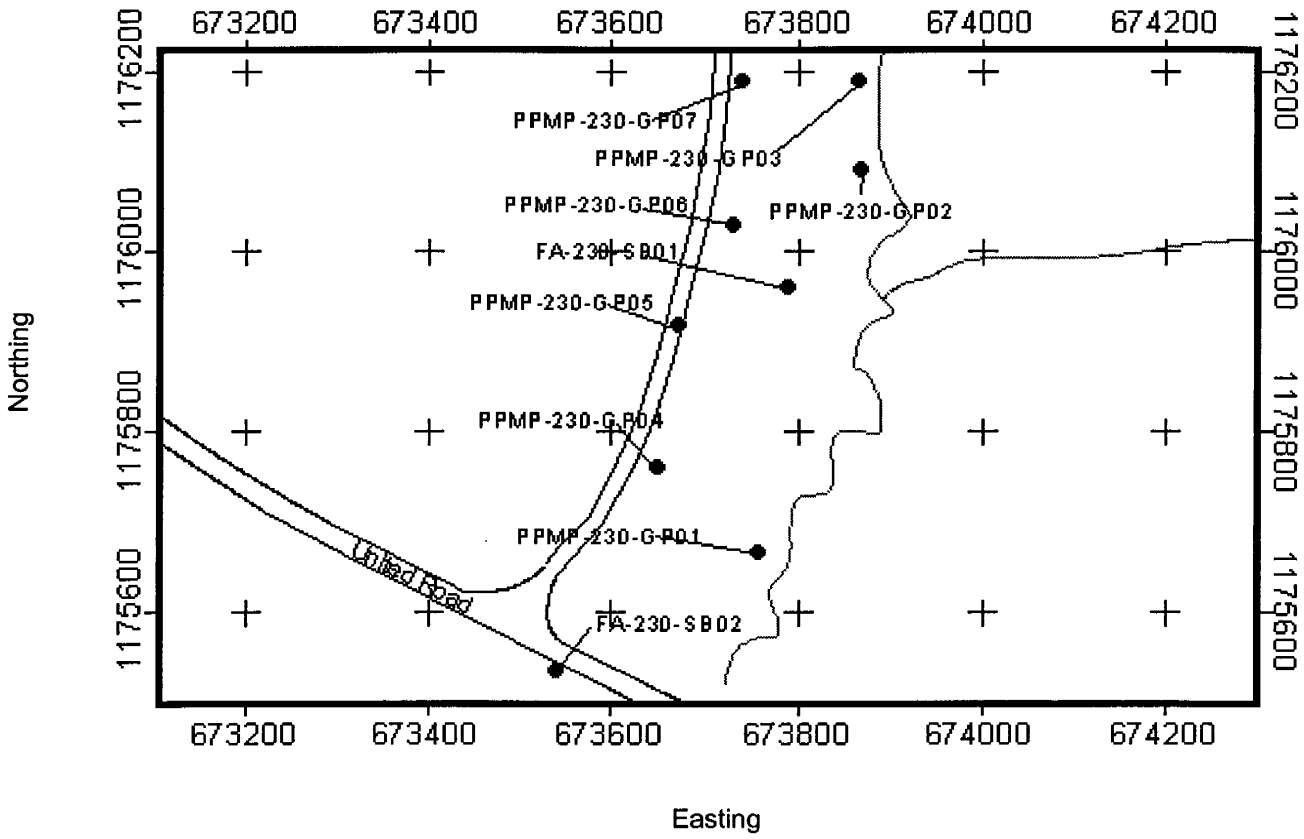
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-230-GP07
1. Company name: **IT Corporation**	2. Drill Subcontractor: TEG	Sheet 1 of 3 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: Bill Murphy	6. Mfr. designation of drill: Geoprobe
7. Sizes and types of drilling and sampling equipment: Direct Push 4' x 2" acetate-lined sampler	8. Hole location: Fill Area N of Landfill 2, Parcel 230 9. Surface elevation (feet above mean sea level): 829.399 10. Date started: 02/09/99 — 11. Date completed: 02/09/99
12. Overburden thickness (feet bgs): >12	15. Depth groundwater encountered (feet bgs): 10.5
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	X			J. Messer		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-230-GP07

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP07

Project: Fort McClellan | Geologist: J. Messer | 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	sc: Red to light brown SAND, some Clay, some Gravel.	sc		Organic Vapor = 0.0ppm		KCC0015		Rec 1.0'/1.0' (0-1' bgs)
	1				Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (1-3' bgs)
		sm: Alternating red to dark brown SAND, some Silt, some Gravel, turning dark brown at 4' and turning to a light brown with depth.							
	2								
	3				Organic Vapor = 0.0ppm				Rec 2.7'/3.0' (3-6' bgs)
	4		sm						
825									
	5								
	6				Organic Vapor = 0.0ppm				Rec 2.4'/3.0' (6-9' bgs)
	7	cl: Brownish gray CLAY, some Sand.	cl						
		sm: Brownish SAND, some Silt, wet at 11' bgs.							
	8						KCC0016		
	9				Organic Vapor = 0.0ppm				Rec 2.3'/3.0' (9-12' bgs)
820									

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-230-GP07

Project: Fort McClellan

Geologist: J. Messer

Sheet 3 of 3 sheets

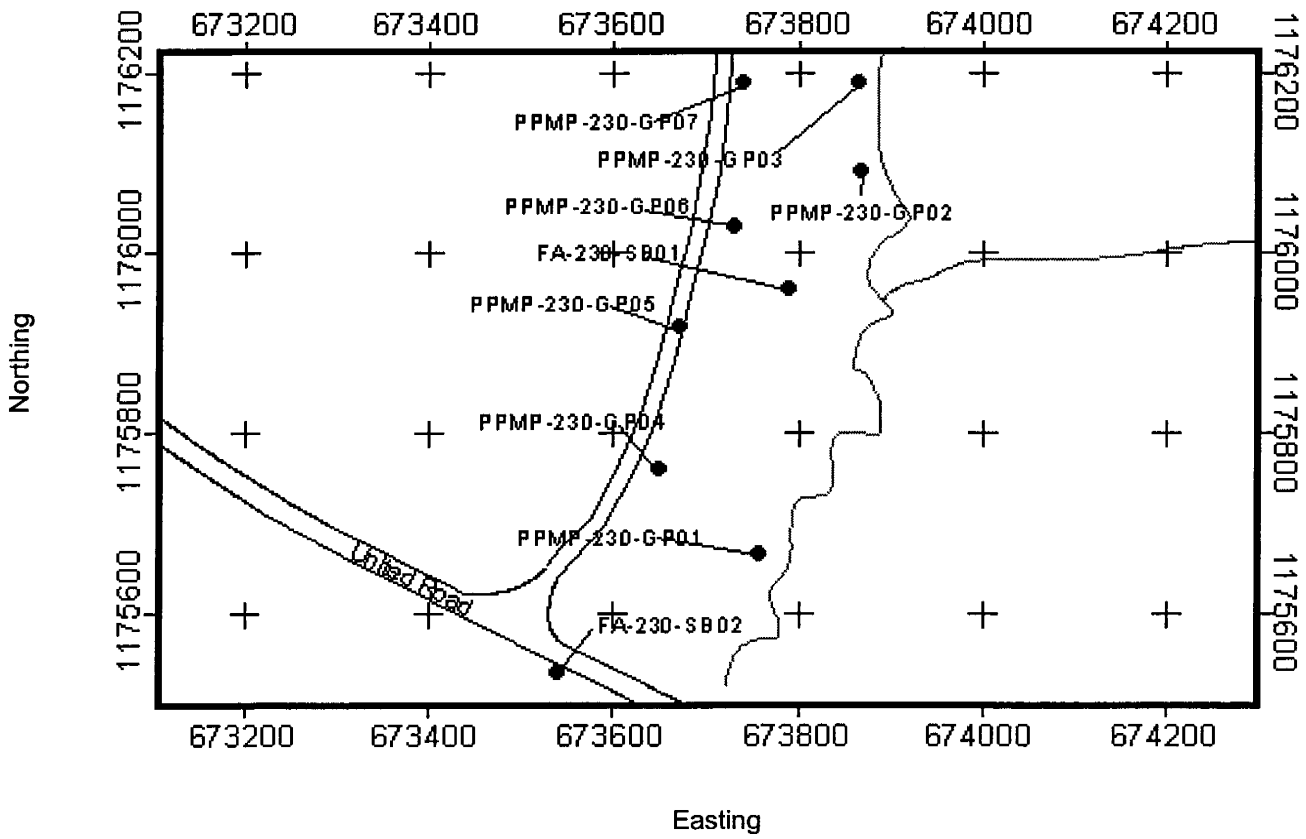
Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	10		sm						10
	11								11
	12								Direct push boring terminated at 12' bgs Bottom of borehole at 12' bgs 12

HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER FA-230-SB01
1. Company name: **IT Corporation**	2. Drill Subcontractor: Miller Drilling Company	Sheet 1 of 3 sheets
3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**	
5. Name of driller: Ken Gobell	6. Mfr. designation of drill: CME-550X	
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 2'x3" Acetate-Lined Sampler	8. Hole location: Fill Area N of Landfill 2, Parcel 230	
	9. Surface elevation (feet above mean sea level): 829.1	
	10. Date started: 03/30/00	11. Date completed: 03/30/00
12. Overburden thickness (feet bgs): >18	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): 18	17. Other water level measurements (specify): NA	

18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes: NA		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs, Nitroaromatics	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	X			Denton Hill		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: FA-230-SB01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FA-230-SB01

Project: Fort McClellan | Geologist: Denton Hill | 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: Light brown to yellowish orange CLAY, medium to fine grain Sand, trace Roots, Ash, FILL.	cl		Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (0-2' bgs)
	1								
	2				Organic Vapor = 389ppm				Rec 0.5'/2.0' (2-4' bgs)
	3	cl: Light brown to yellowish orange CLAY, medium to fine grain Sand, trace Roots. Ash, Concrete, FILL.	cl						
825	4	sc: Light brown to yellowish orange, medium to fine grain SAND and CLAY, Black Ash, Brick, FILL.	sc		Organic Vapor = 11.2ppm				Rec 1.5'/2.0' (4-6' bgs)
	5								
	6	sc: Light brown to yellowish orange, medium to fine grain SAND and CLAY, Black Ash, Brick, Glass, Burnt Wood, FILL.	sc		Organic Vapor = 130ppm				Rec 1.0'/2.0' (6-8' bgs)
	7								
	8	cl: Light brown to yellowish-orange CLAY, some medium to fine Sand, Ash, FILL.	cl		Organic Vapor = 222ppm				Rec 2.0'/2.0' (8-10' bgs)
820	9								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FA-230-SB01

Project: Fort McClellan | Geologist: Denton Hill | 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)
	10	cl: Light brown to yellowish orange CLAY, some medium to fine Sand, Brick, Ash, FILL.	cl		Organic Vapor = 107ppm				Rec 0.5'/2.0' (10-12' bgs)
	11								
	12	cl: Olive gray CLAY, some medium to fine Sand, Brick , Ash, Burnt Wood, FILL.	cl		Organic Vapor = 40.1ppm				Rec 2.0'/2.0' (12-14' bgs)
	13								
815	14				Organic Vapor = 7.2ppm				Rec 2.0'/2.0' (14-16' bgs)
	15	sc: Olive gray medium SAND, trace Clay (Native).	sc				DD0019		
	16	sc: Olive gray medium to fine SAND, trace Clay.	sc		Organic Vapor = 1.2ppm				Rec 2.0'/2.0' (16-18' bgs)
	17								
	18								Boring terminated at 18' bgs Bottom of borehole at 18' bgs

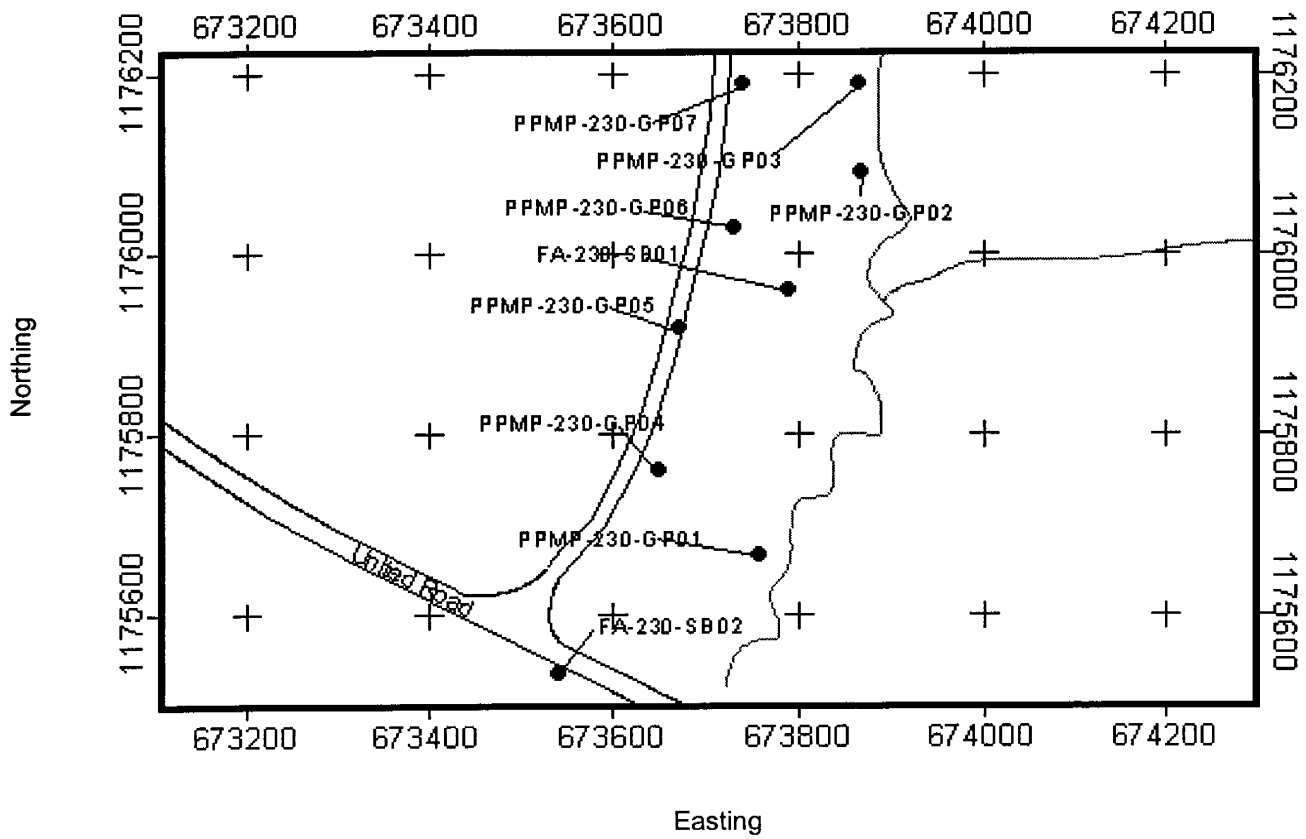
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER FA-230-SB02
1. Company name: **IT Corporation**	2. Drill Subcontractor: TEG	Sheet 1 of 2 sheets

3. Project: Fort McClellan	4. Location: **Calhoun County, Alabama**
5. Name of driller: S. McDaniel	6. Mfr. designation of drill: Megaprobe
7. Sizes and types of drilling and sampling equipment: Direct Push DP - 2'x2" Acetate-Lined Sampler	8. Hole location: Fill Area N of Landfill 2, Parcel 230 9. Surface elevation (feet above mean sea level): Unknown 10. Date started: 12/08/00 — 11. Date completed: 12/08/00
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
						NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
	X		Posthole	L.O' Hare / J. Tarr		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: FA-230-SB02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FA-230-SB02

Project: Fort McClellan

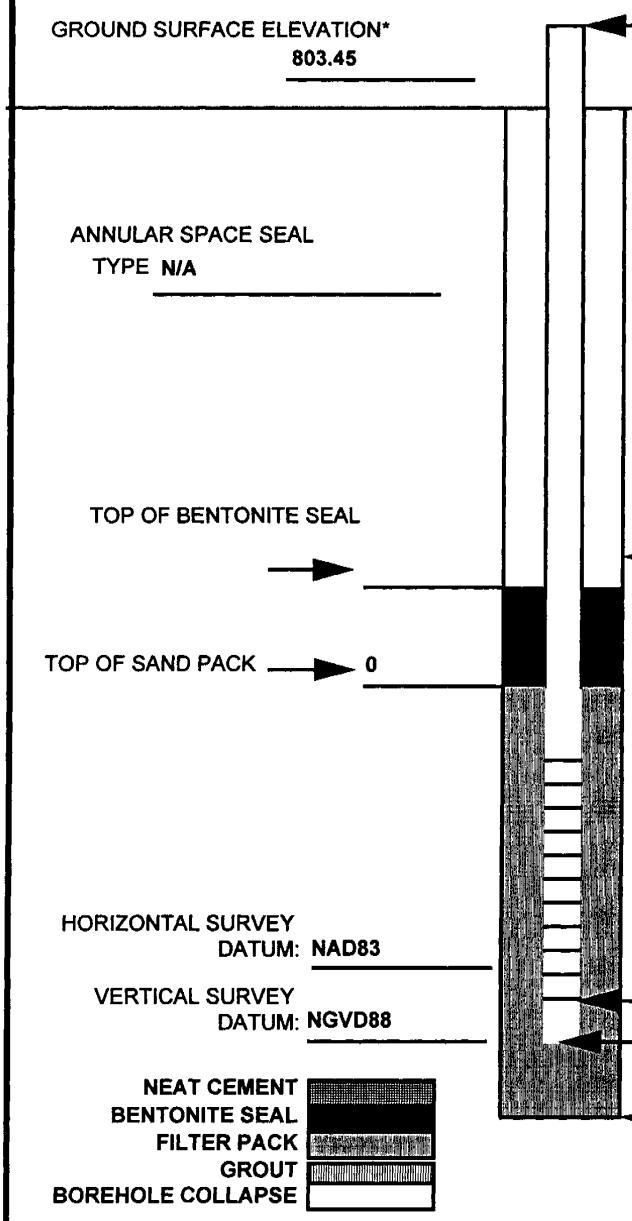
Geologist: L.O' Hare / J. Tarr

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	0	cl: Reddish brown to dark brown soft moist CLAY, little Silt, trace fine Sand, trace quartz rich subangular Gravel.	cl						Rec 1.0'/3.0' (0-3' bgs)
	1								
	2								
	3	ml: Brownish gray soft moist SILT, some fine to coarse Sand, little coarse subangular Gravel, trace Clay.	ml						Rec 1.3'/2.0' (3-5' bgs)
	4								
5	5								Bottom of borehole at 5' bgs

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: PPMP-230-GP01
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 02/25/99
CONTRACTOR MILLER DRILLING CO.	NORTHING: 1175663.52
DRILLER: K. GOBELL, H. HUNTON	EASTING: 673754.23
IT FIELD REPRESENTATIVE: K. ARNOLD	JOB NO: 774645



GROUND SURFACE ELEVATION* 803.45

TOP of WELL CASING or RISER PIPE EL* 805.12 STICKUP 1.67

TYPE of SURFACE SEAL Temporary

TEMPORARY SURFACE SEAL

ANNULAR SPACE SEAL TYPE N/A

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 2

TOP OF BENTONITE SEAL

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SAND PACK 0

TOP OF SCREENED INTERVAL EL* 802.45 DEPTH 1

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 2

TYPE of SAND PACK AROUND SCREEN Sand No 1

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL EL* 799.14 DEPTH 4.31

BOTTOM of SUMP and WELL EL* 798.45 DEPTH 5

BOTTOM of BOREHOLE EL* 798.45 DEPTH 5

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
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, SAD TERC	WELL NO: PPMP-230-GP02
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 02/10/99
CONTRACTOR MILLER DRILLING CO	NORTHING: 1176089.46
DRILLER: K. GOBELL	EASTING: 673868.04
IT FIELD REPRESENTATIVE: M. GILES	JOB NO: 774645

GROUND SURFACE ELEVATION* 811.12

TOP of WELL CASING or RISER PIPE
EL* 812.17 STICKUP 1.05

TYPE of SURFACE SEAL Temporary

TEMPORARY SURFACE SEAL

ANNULAR SPACE SEAL
TYPE N/A

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 2

TOP OF BENTONITE SEAL 0

APPROXIMATE DIAMETER of BOREHOLE (inches) 8.5

TOP OF SAND PACK 1.5

TOP OF SCREENED INTERVAL
EL* 807.12 DEPTH 4

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 2

TYPE of SAND PACK AROUND SCREEN Sand No 1

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 797.12 DEPTH 14

BOTTOM of SUMP and WELL
EL* 796.82 DEPTH 14.3

BOTTOM of BOREHOLE
EL* 795.12 DEPTH 16

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
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, SAD TERC	WELL NO: PPMP-230-GP03
LOCATION Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE 02/16/99
CONTRACTOR MILLER DRILLING CO.	NORTHING: 1176188.64
DRILLER: K. GOBELL	EASTING: 673865.27
IT FIELD REPRESENTATIVE: K. ARNOLD	JOB NO: 774645

GROUND SURFACE ELEVATION*
812.12

TOP of WELL CASING or RISER PIPE
EL* 814.24 STICKUP 2.12

TYPE of SURFACE SEAL Temporary

TEMPORARY SURFACE SEAL

ANNULAR SPACE SEAL
TYPE N/A

TYPE of RISER MATERIAL (Flush Threaded) PVC SCH 40

INSIDE DIAMETER of RISER (inches) 2

TOP OF BENTONITE SEAL
0

APPROXIMATE DIAMETER of BOREHOLE (inches) 8

TOP OF SAND PACK 1

TOP OF SCREENED INTERVAL
EL* 808.92 DEPTH 3.2

TYPE of SCREEN MATERIAL PVC SCH 40

SLOT SIZE (inches) 0.010

INSIDE DIAMETER (inches) 2

TYPE of SAND PACK AROUND SCREEN Sand No 1

HORIZONTAL SURVEY DATUM: NAD83

VERTICAL SURVEY DATUM: NGVD88

BOTTOM of SCREENED INTERVAL
EL* 803.92 DEPTH 8.2

BOTTOM of SUMP and WELL
EL* 803.67 DEPTH 8.45

BOTTOM of BOREHOLE
EL* 803.12 DEPTH 9

NEAT CEMENT
BENTONITE SEAL
FILTER PACK
GROUT
BOREHOLE COLLAPSE

*All elevations (EL) are referenced to MSL.

All depths and heights are given in feet and are referenced to the ground surface.

Parce'
Groundwater Well Development Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

SITE ID: LOCATION ID: PPMP-230-GP01 (Well Number) Static Water Level: 2.49' ft

Target Purge Volume: _____ gal WELL DEPTH: 5.72' (ft from TOC) Well Casing Diameter: (opt) 2" Recovery Depth: _____

Date 1998 19	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
10 MAR	10 : 50	—	2.49	—	—	—	—	—	—	NA	MS	Starting point
"	10 : 50	1.2	too low	≈0.5	—	—	—	—	—	"	MS	Tan, muddy Stop/well dry
"	11 : 10	—	2.78	—	—	—	—	—	—	"	MS	Restart
	11 : 11	—	too low	≈0.5						"	MS	Tan muddy Stop/Well dry
	12 : 00	bailer	2.8	~~0.5~~	15.7	6.77	8.62	999	1.02	"	MS	Tan muddy
	12 : 05	bailer	too low	0.3	15.7	6.79	.816	999	3.51	"		Tan mudd, Bailed dry
	12 : 1									"		
	:									"		
	:									"		
	:									"		
	:									"		

Parcel 230
Groundwater Well Development Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

TE ID: LOCATION ID: PPMP-230-GP02 (Well Number) Static Water Level: 2.31 ft

arget Purge Volume: _____ gal WELL DEPTH: 14.5 (ft from TOC) Well Casing Diameter: (opt) 2" Recovery Depth: _____

Date 9 1998	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
11 Mar 99	11:10		2.31	—	—	—	—	—	—		MG	surge for 5 minutes
	11:25		2.31	2.5	—	—	—	—	—			brown muddy
	11:30		10.73	3.5	13.4	6.51	.427	999	11.61			brown muddy dry after 2 min.
	11:54		2.7	6	14	6.18	.406	999	11.29			brown muddy
	11:59		7.15	8.25	13.4	6.04	.411	999	10.45			brown muddy
	12:04		12.8	11	13	6.13	.428	999	10.61			brown muddy
	12:07		dry	12.75	13.1	6.21	.426	999	11.61			brown muddy
	12:33		5.0	—	—	—	—	—	—			surge for 5 minutes
	12:40		5.0	14.25	13.7	6.12	.393	999	1.89			brown muddy dry after 5 min.
	13:12		3.0	—	—	—	—	—	—			lift pump 1.5
	13:12		3.0	16.20	13.2	5.98	3.97	999	1.9			muddy brown

recreated from field notes
K. Hunter 11/28/01

Parcel

Groundwater Well Development Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

SITE ID: LOCATION ID: PPMP-230-GP02 (Well Number) Static Water Level: 2.31 ft

Target Purge Volume: _____ gal WELL DEPTH: 14.5 (ft from TOC) Well Casing Diameter: (opt) 2" Recovery Depth: _____

Date 1998	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
11 Mar 99	13:17	.45	7.65	1.75/18	13.0	5.99	.403	961	2.1	N/A	ML	pump dry after 4 min
	13:48	—	3.0	—	13.7	6.02	.4	999	0.74	N/A	ML	Recharged
	13:48	.45		2.75/20.75								
	13:53	.41	4.9	1.25/22	13.3	6.05	.413	999	4.71	N/A	ML	dry after 3'
	13:55	—	—	—	—	—	—	—	—	N/A	ML	Lift pump 1.5'
	14:21	—	3.0	—	—	—	—	—	—	N/A	ML	Recharged
	14:21	.5	3.0	2.5/24.5	13.2	6.01	.405	999	1.2	N/A	ML	
	14:25	.33	3.29	1/25.5	13.0	6.05	.414	999	1.9			pump dry after 3'
	14:30	—	—	—	—	—	—	—	—	N/A	ML	Lift pump 1.5
	14:44	.55	3.0	2.75/28.25	13.0	5.97	.404	999	3.1	N/A	ML	pump dry after 5min
	14:50											Lift pump 1.5

Parcel

Groundwater Well Development Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

SITE ID: **LOCATION ID:** PPMP-230-GP02 **(Well Number)** **Static Water Level:** 2.31 ft

Target Purge Volume: _____ gal **WELL DEPTH:** 14.5 (ft from TOC) **Well Casing Diameter: (opt)** 2" **Recovery Depth:** _____

Date 1998	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
11 Jan 99	15 : 13	—	3.3	—	—	—	—	—	—	N/A	MR	Recharge
	15 : 17		3.0	2.5/30.75	13.1	5.95	.402	8.72 ~~943~~	6.1	N/A	ML	Clearing, dry after 5' min
	15 : 25	L/hr	~~8.9~~ is	up								
	:											
	:											
	:											
	:											
	:											
	:											
	:											
	:											

Parcel

Groundwater Well Development Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

SITE ID: LOCATION ID: PPMP-230-GP03 (Well Number) Static Water Level: 4.16 ft

Target Purge Volume: _____ gal WELL DEPTH: 4.88 (ft from TOC) Well Casing Diameter: (opt) 2 Recovery Depth: _____

Date 1998	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
10 Mar	13:08		4.16		—	—	—	—	—	N/A	MR	Start w/ pump
	13:10	0.75	too low	1.5	—	—	—	—	—	"	MR	brown, muddy pump dry
	13:22	0.75	4.04	1.5	17.5	7.22	.869	999	7.93	N/A	MR	"
	13:34	0.75	4.12	1.5	16.8	7.11	.705	999	2.61	N/A	MR	brown, clearing slightly
	13:40	—	—	—	—	—	—	—	—	—	MR	Surge well for 5 minutes
	13:47		4.11	1.6	16.2	7.08	.574	999	8.80	N/A	MR	brown muddy pump dry
	13:50	—	too low		—	—	—	—	—			pump dry
	13:57	0.4	4.15	1.2	16.2	6.95	.461	999	8.65	N/A	MR	brown muddy pumped dry
	14:00		too low									pumped dry
	14:05	0.55	4.2/dry	1.1	16.4	6.9	.429	999	8.68	N/A	MR	pumped dry after 2min
	14:14	0.5	~~dry~~ 4.2/dry	1	16.8	6.88	.414	999	3.1	N/A	MR	"

Parce'
Groundwater Well Development Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

SITE ID: **LOCATION ID:** PPMP-230-CP03 (Well Number) **Static Water Level:** 4.18 ft

Target Purge Volume: _____ gal **WELL DEPTH:** 9.88 (ft from TOC) Well Casing Diameter: (opt) 2" **Recovery Depth:** _____

Date 1998	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
	14:17	—	—	—	—	—	—	—	—	N/A	MR	Surge Well 5 min
	14:23	1.0	4.18/dry	3	16.1	6.9	.348	999	0.54	N/A	MR	pump dry after 3 min
	14:35	0.67	4.1/dry	2	15.2	6.52	.260	692	1.48	N/A	MR	pumped dry after 3 min
	14:43	0.4	4.1/dry	1.6	15.1	6.55	2.44	696	9.04	N/A	MR	pumped dry after 4 min
	14:53	—	—	—	—	—	—	—	—	N/A	MR	Surged Well 5 min
	14:54	0.5	4.1/	3.5	15.8	6.7	.278	999	2.82	N/A	MR	pumped dry after brown mud
	15:02	0.5	8.05/	2.0	15.3	6.58	.231	999	1.25	N/A	MR	pumped dry after 11 min
	15:15	.45	3.9/	2.25	15.3	6.4	.185	.273	1.67	N/A	MR	Clearing slightly
	15:20	.45	8.05/	2.25	15.1	6.42	.186	1068	0.91	N/A	MR	"
	15:25	.45	8.60/	2.25	15.2	6.4	.186	1180	1.79	N/A	MR	"
	15:30	.45	9.1/pump in my	2.25	15.3	6.37	.181	1189	2.00	N/A	MR	pump dry @ 1531

Parcel

Groundwater Well Development Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

SITE ID: LOCATION ID: PRMP-230-GP03 (Well Number) Static Water Level: 3.87 ft

Target Purge Volume: _____ gal WELL DEPTH: 988 (ft from TOC) Well Casing Diameter: (opt) 2" Recovery Depth: _____

Date 1998	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
	15:45	0.5	3.87	2.5	15.3	6.28	.162	880	5.25	N/A	TMA	Lift pump up on pt
	15:50	0.5	5.8	2.5	15.2	6.32	.167	631	1.20	N/A	TMA	cleaning, 4
	15:55	0.5	6.25	2.5	15	6.29	.163	352	9.38	N/A	TMA	tube is clear
	16:00	0.4	7.62	2.0	15.1	6.32	.163	320	9.41	N/A	TMA	clear
	16:05	0.5	6.87'	2.5	15.1	6.31	.161	225	5.83	N/A	TMA	
	16:10	0.5	7.02	2.5	15.0	6.3	.16	192	7.07	N/A	TMA	
	16:15	0.5	7.13	2.5	15.0	6.29	.16	210	5.06	N/A	TMA	
	16:30	0.45	3.95	2.25	14.7	6.28	.159	198	6.9	N/A	TMA	
	16:35	0.45	6.05	2.25	14.6	6.23	.16	354	9.03	N/A	TMA	
	16:40	0.45	7.82	2.25	14.6	6.26	.16	297	8.41	N/A	TMA	
	16:45	0.45	7.18	2.25	14.7	6.21	.159	241	7.61	N/A	TMA	

Groundwater Wel evelopment Log

Fort McClellan , Alabama

PROJECT: 774645 COST CODE: 01020300 DELIVERY ORDER CK05

SITE ID: LOCATION ID: PPMP-230-GP03 (Well Number) Static Water Level: 7.81 ft

Target Purge Volume: _____ gal WELL DEPTH: ~~7.81~~ 9.88 (ft from TOC) Well Casing Diameter: (opt) 2" Recovery Depth: _____

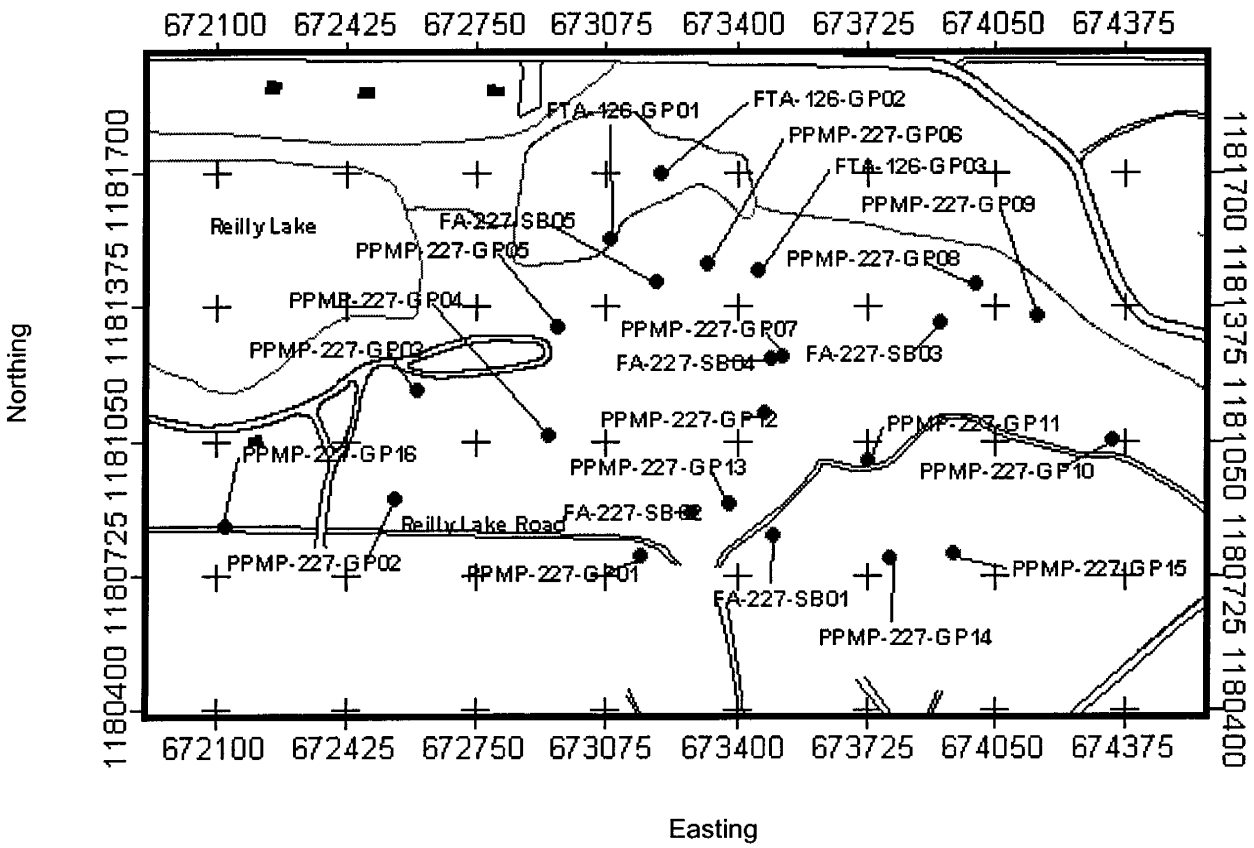
Date 1998	Time 24hr	Purge Rate (gal/min)	Dynamic H2O Level (ft)	Volume Purged (gl)	Temp C°	pH	Cond. mMhos/cm	Turbidity (NTU)	Dissolved oxygen (mg/L)	Redox (mV)	Prepared By:	Water Description
	16:50	0.45	7.81	2.25	1.46	6.24	.16	239	7.1	N/A	MD	
	16:55	0.4	7.6	2.0	1.48	6.22	.159	222	6.9	N/A	MG	Stopped
	:											
	:											
	:											
	:											
	:											
	:											
	:											
	:											
	:											

HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-227-GP01
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: Ken Gobell	6. Mfr. designation of drill: CME-550X	
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger; 5' X 4.25" Augers, 2"x 2" steel split spoons	8. Hole location: Fill Area East of Reilly Airfield, Parcel 227	
	9. Surface elevation (feet above mean sea level): 751.83	
	10. Date started: 02/08/99	11. Date completed: 02/08/99
12. Overburden thickness (feet bgs): >34	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): 18.6 after 1/2 hour	
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		Temp		Michael Giles		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-227-GP01

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-227-GP01

Project: Fort McClellan | Geologist: Michael Giles | 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: Soft SAND, some Silt, medium to fine grained, moist, dark brown.	sm		Organic Vapor = 0.0ppm			2 4 3 5	Rec 1.4'/2.0' (0-2' bgs)
	1								
		ch: Soft CLAY, some Silt, medium to high plasticity, dark brown, moist.	ch						
750	2				Organic Vapor = 0.0ppm			2 2 4 7	Rec 2.0'/2.0' (2-4' bgs)
	3								
		ml: Semi-firm SILT, low plasticity, brown to yellowish brown, slightly moist.	ml						
	4				Organic Vapor = 0.0ppm			7 8 10 14	Rec 2.0'/2.0' (4-6' bgs)
	5								
	6				Organic Vapor = 0.0ppm			10 14 24 17	Rec 2.0'/2.0' (6-8' bgs)
745	7								
	8				Organic Vapor = 0.0ppm			8 14 17 17	Rec 2.0'/2.0' (8-10' bgs)
	9								
		sm: Semi-loose SAND, some Silt, some Gravel, medium to fine grain, yellowish brown, dry; Gravel is 1/4" to 1".							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-227-GP01

Project: Fort McClellan | Geologist: Michael Giles | 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)
	10		sm		Organic Vapor = 0.0ppm			11 16 19 20	Rec 1.4'/2.0' (10-12' bgs)
	11						KB0001		
		ml: Firm to hard SILT, low plasticity, brown, dry, small tan and black specks.							
740	12								
	13								
	14				Organic Vapor = 0.0ppm			2 8 14 12	Rec 1.4'/2.0' (14-16' bgs)
	15								
	16								
735	17								
			ml						
	18								
	19				Organic Vapor = 0.0ppm			3 4 9 7	Rec 2.0'/2.0' (19-21' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-227-GP01

Project: Fort McClellan | Geologist: Michael Giles | 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)
	20	ml: Firm to hard SILT, low plasticity, brown, dry, small tan and black specks.			Organic Vapor = 0.0ppm				
	21								
730	22		ml						
	23								
	24	ch: Firm CLAY, some Silt, medium to high plasticity, reddish brown, slightly moist to wet, small Pebbles.			Organic Vapor = 0.0ppm			1 3 3 5	Rec 0.6'/2.0' (24-26' bgs)
	25								
	26		ch						
725	27								
	28								
	29	ch: Firm CLAY, some Silt, medium to high plasticity, reddish brown, slightly moist to wet, small Pebbles.			Organic Vapor = 0.0ppm			2 1 2 4	Rec 1.8'/2.0' (29-31' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-227-GP01

Project: Fort McClellan | Geologist: Michael Giles | 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)
	30								30
	31								31
			ch						
720	32								32
	33								33
									Bottom of borehole at 34' bgs
	34								34

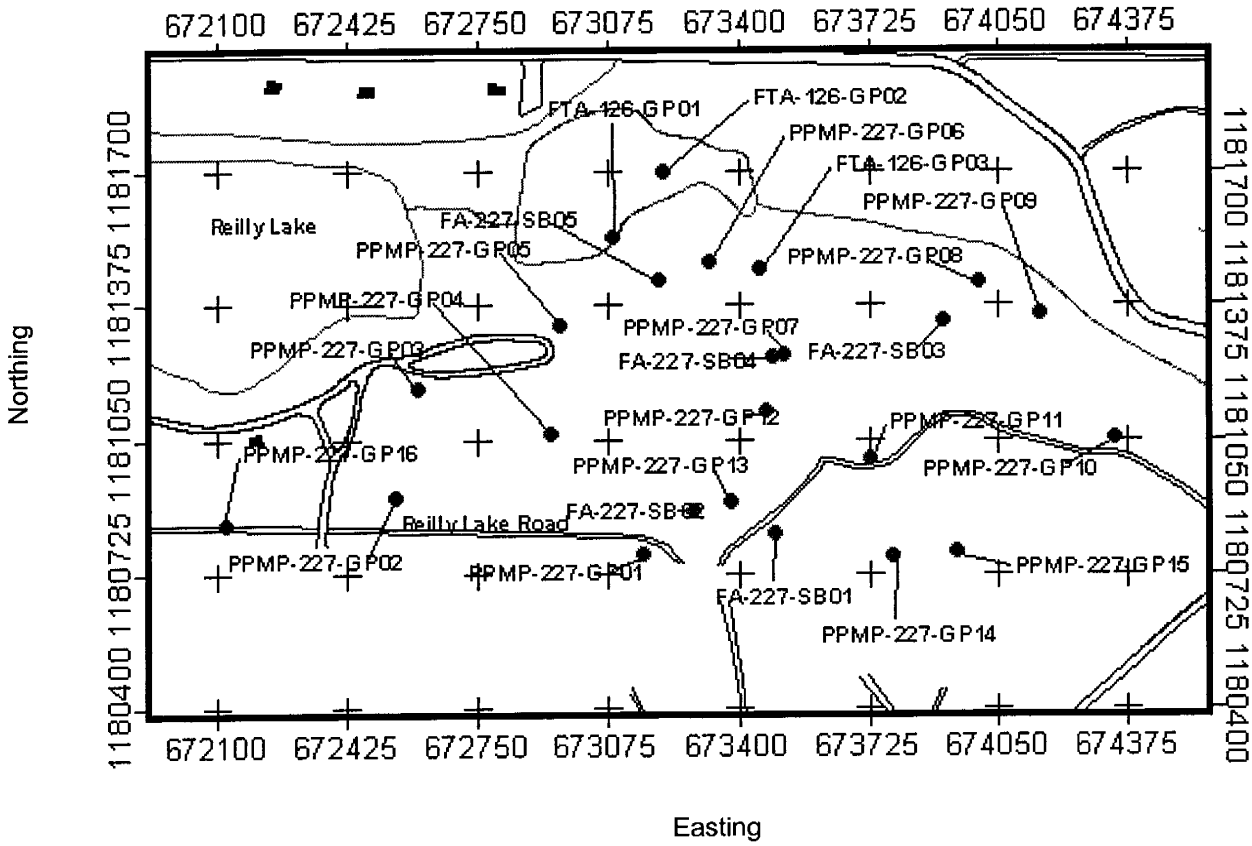
HTRW DRILLING LOG

District: **Mobile USACE**		HOLE NUMBER PPMP-227-GP02
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: Doug Bishop	6. Mfr. designation of drill: CME-75
7. Sizes and types of drilling and sampling equipment: Hollow Stem Auger 5' x 4.25" ID Augers, 2' x 2" steel split spoons	8. Hole location: Fill Area East of Reilly Airfield, Parcel 227 9. Surface elevation (feet above mean sea level): 747.55 10. Date started: 02/03/99 — 11. Date completed: 02/04/99
12. Overburden thickness (feet bgs): >30	15. Depth groundwater encountered (feet bgs): 25
13. Depth drilled into rock (feet bgs): 0	16. Depth to water and elapsed time after drilling completed (feet bgs): 22.9 after 14 hours
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		
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:
	X, SVOCs	X	PCBs	CL Herbs	CL/OP Pests	NA
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:		
		Temp		Michael Giles		

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: PPMP-227-GP02

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-227-GP02

Project: Fort McClellan | Geologist: Michael Giles | 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: Soft to semi-firm SILT, low plasticity, brown, slightly moist.			Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (0-2' bgs)
	1								
	2				Organic Vapor = 5.0ppm			4 6 10 11	Rec 2.0'/2.0' (2-4' bgs)
745									
	3								
	4		ml		Organic Vapor = 0.0ppm			2 5 9 12	Rec 0.6'/2.0' (4-6' bgs)
	5								
	6				Organic Vapor = 0.0ppm			11 11 14 19	Rec 2.0'/2.0' (6-8' bgs)
	7								
740									
	8				Organic Vapor = 6.1ppm			3 9 10 12	Rec 2.0'/2.0' (8-10' bgs)
	9	sc: Semi-firm SAND, some Clay and 1/4" Gravel, yellowish brown to brown, slightly moist, occasional black spots.	sc				KB0002		

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: PPMP-227-GP02

Project: Fort McClellan | Geologist: Michael Giles | 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)
	10	ml: Firm to very firm SILT, low plasticity, brown, slightly moist, occasional layers of Chert, black material infilling old cracks.			Organic Vapor = 0.0ppm			5 9 9 1	Rec 2.0'/2.0' (10-12' bgs)
	11								
	12								
735									
	13								
	14								
	15				Organic Vapor = 0.0ppm			6 8 13 15	Rec 2.0'/2.0' (15-17' bgs)
	16								
	17								
730			ml						
	18								
	19								