

APPENDIX B

BORING LOGS AND WELL CONSTRUCTION LOGS

HTRW DRILLING LOGDistrict: **Mobile USACE**

HOLE NUMBER

FTA-29-GP01

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: **Sammy McDaniel**6. Mfr. designation of drill: **Geoprobe**

7. Sizes and types of drilling and sampling equipment:

Direct Push

DP - 4"x2" Acetate-Lined Sampler

8. Hole location: **11th Chemical Motor Pool Area, Parcel 29**9. Surface elevation (feet above mean sea level): **741.02**10. Date started: **10/01/98**11. Date completed: **10/01/98**12. Overburden thickness (feet bgs): **>9**15. Depth groundwater encountered (feet bgs): **7 Ft**

13. Depth drilled into rock (feet bgs):

16. Depth to water and elapsed time after drilling completed (feet bgs):

14. Total depth of hole (feet bgs): **9**

17. Other water level measurements (specify):

18. Geotechnical samples:

Collected:

Disturbed:

Undisturbed:

19. Total no. of core boxes:

20. Samples for chemical analysis:

VOC

Metals

Other (specify)

Other (specify)

Other (specify)

21. Total core recovery:

X

X

SVOCs

22. Disposition of hole:

Backfilled

Monitoring well

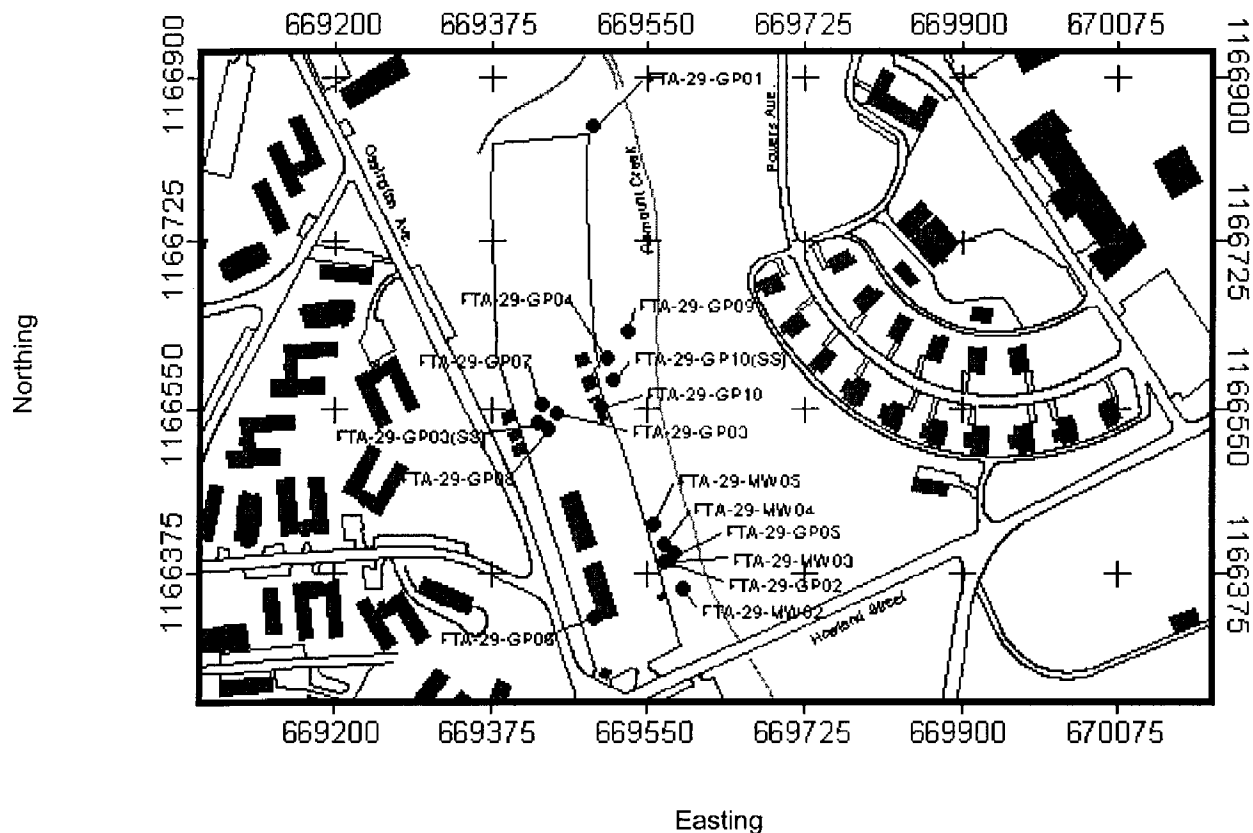
Other (specify)

Geologist:

X

Micro-well

D. Peterman

LOCATION SKETCH/COMMENTS:Project: **Fort McClellan**bgs= below ground surface
NA = Not applicableHole no.: **FTA-29-GP01**

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP01

Project: Fort McClellan

Geologist: D. Peterman

Sheet 2 of 2 sheets

Elev. (a)	Depth (b)	Description of Materials (c)	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow counts (g)	Remarks (h)
	0	cl: CLAY, some Silt, brown, medium plasticity, soft, highly organic with roots and grass, Shale fragments.	cl		Organic Vapor = 0.0ppm		AA0001		Rec 1.0'/1.0' (0-1' bgs)
740	1	cl: CLAY, some Silt, soft, low plasticity, soft, black precipitate.	cl						Rec 2.1'/4.0' (1-5' bgs)
	2	cl: CLAY, some Sand, coarse Quartz grains, slightly damp to wet.	cl						
	3		cl						
	4								
	5	ch: CLAY, very soft, gray, high plasticity, black organic precipitate, Shale fragments at 5.5' , Quartz coarse grains are interbedded, moist to wet at 8.0 ft.							Odor at 4.5' bgs Rec 2.5'/4.0' (5-9' bgs)
735	6		ch				AA0002		
	7								
	8								Moist to wet at 8' bgs Direct push refusal at 9' bgs Bottom of borehole at 9' bgs
	9								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP02

Project: Fort McClellan

Geologist: D. Peterman

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, some Silt, low plasticity, organics, soft, darkish red to brown, increased to medium plasticity w/ depth, minor fine Quartz grains, becoming dark reddish brown, slightly damp, soft at 1.5'.			Organic Vapor = 0.9ppm		AA0003		Rec 1.0'/1.0' (0-1' bgs)
	1				Organic Vapor = 3.4ppm				Rec 3.0'/4.0' (1-5' bgs)
	2		cl		Organic Vapor = 0.0ppm				
	3				Organic Vapor = 0.0ppm				
	4				Organic Vapor = 0.0ppm				
750	5	cl: CLAY, some Silt, medium plasticity, very soft, gray, mottled yellow to orange, slightly damp, organic black precipitate and roots.			Organic Vapor = 4.4ppm				Rec 2.2'/3.0' (5-8' bgs)
	6		cl		Organic Vapor = 69.7ppm		AA0006		Strong odor encountered during augering
	7				Organic Vapor = 79.0ppm				Direct push refusal at 8' bgs
	8	gm: GRAVEL, hard, dry, light gray, little Silt.			Organic Vapor = 0.0ppm			50/2'	Rec 0.1'/0.2' (8-10' bgs)
	9		gm						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP02

Project: Fort McClellan

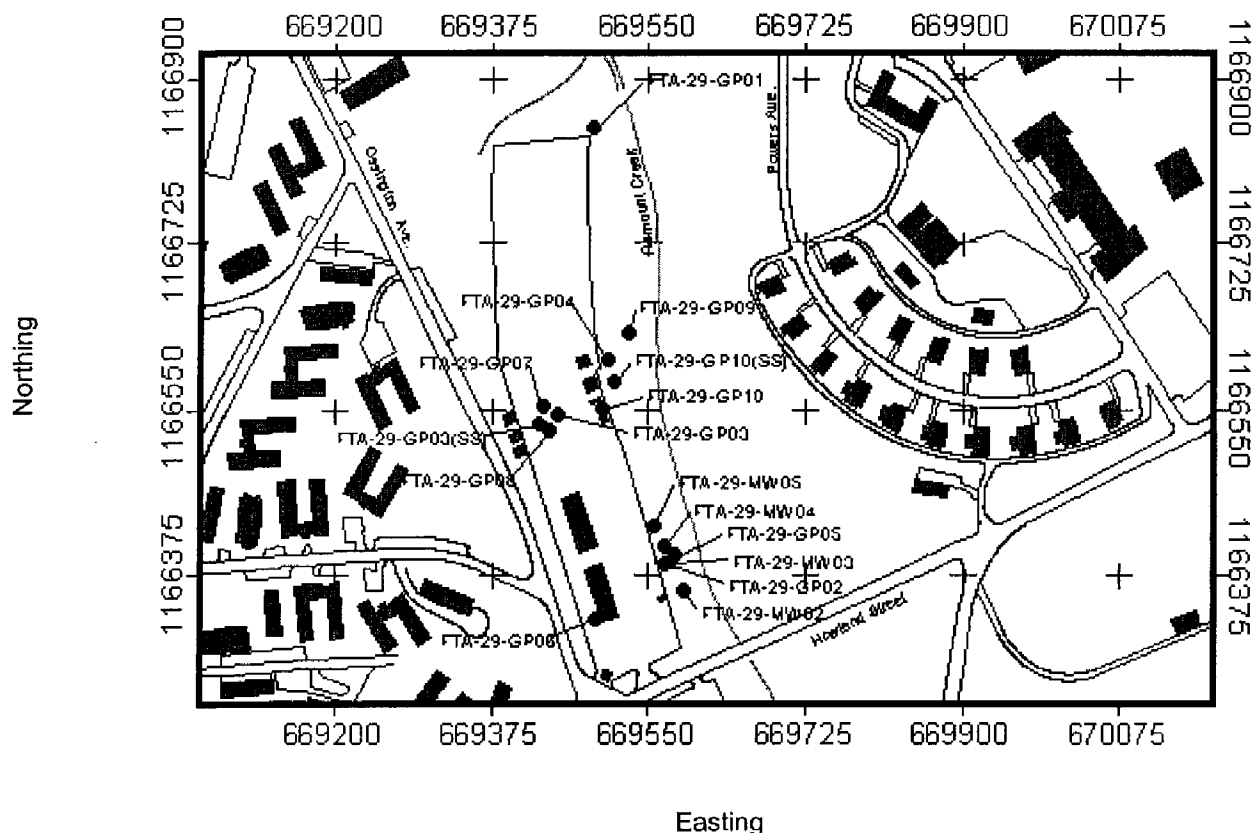
Geologist: D. Peterman

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)
745	10	sh: SHALE, dark gray, wet.	sh		Organic Vapor =			38 50/.5'	Rec 0.6'/1.0' (10-12' bgs) Auger refusal at 10' bgs

HTRW DRILLING LOG		District: Mobile USACE		HOLE NUMBER FTA-29-GP03	
1. Company name: IT Corporation		2. Drill Subcontractor: TEG/MILLER DRILLING		Sheet 1 of 5 sheets	
3. Project: Fort McClellan		4. Location: Calhoun County, Alabama			
5. Name of driller: Sammy McDaniel/Jeff Brownfield		6. Mfr. designation of drill: Geoprobe/CME-85			
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 2"x2" Acetate-Lined Sampler HSA - 5'x8.25" OD Augers, 2'x2" Steel Split Spoons		8. Hole location: 11th Chemical Motor Pool Area, Parcel 29			
		9. Surface elevation (feet above mean sea level): 755.47			
		10. Date started: 09/30/98		11. Date completed: 12/07/98	
12. Overburden thickness (feet bgs): >38		15. Depth groundwater encountered (feet bgs): 29 Ft			
13. Depth drilled into rock (feet bgs):		16. Depth to water and elapsed time after drilling completed (feet bgs):			
14. Total depth of hole (feet bgs): 38		17. Other water level measurements (specify):			
18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes:	
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)
	X	X	X		
21. Total core recovery:					N/A
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:	
		Temporary		D. Peterman/B. Rhodes	

LOCATION SKETCH/COMMENTS:



Project: **Fort McClellan**

bgs= below ground surface
NA = Not applicable

Hole no.: **FTA-29-GP03**

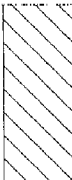
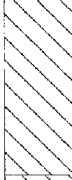
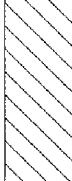
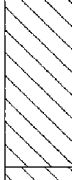
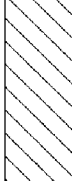
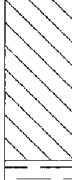
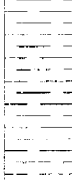
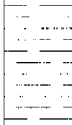
HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP03

Project: Fort McClellan

Geologist: D. Peterman/B. Rhodes

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)
755	0	cl: CLAY, some Silt, low to medium plasticity, medium stiff, slightly damp, mottled reddish brown to yellow, Gravel and Shale, dry, soft.	cl		Organic Vapor = 0.0ppm		AA0007		Rec 2.1'/3.0' (0-3' bgs)
	1	gc: GRAVEL, well sorted (fill), Quartz.	gc		Organic Vapor = 0.0ppm				
	2	cl: CLAY, some Sand, fine to coarse grained, Quartz, organics, "waste water odor".	cl		Organic Vapor = 0.0ppm		AA0008		Direct push refusal at 3' bgs
	3	cl: CLAY, light orange to gray, medium plasticity, medium to coarse grain Gravels (20%), soft, dry	cl		Organic Vapor = 0.0ppm			4 10 12 16	Rec 1.5'/2.0' (3-5' bgs)
	4		cl						
750	5	cl: CLAY, gray, medium plasticity, medium to coarse grain Gravels (20%), soft, dry.	cl		Organic Vapor = 0.0ppm			12 26 46 56	Rec 1.5'/2.0' (5-7' bgs)
	6		cl						
	7	sh: SHALE, gray, weathered, brittle	sh		Organic Vapor = 0.0ppm			28 50	Rec 1.5'/2.0' (7-9' bgs)
	8		sh						
	9	sh: SHALE, gray, weathered, brittle.	sh					23 50	Rec 1.0'/2.0' (9-11' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP03

Project: Fort McClellan

Geologist: D. Peterman/B. Rhodes

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)
745	10		sh		Organic Vapor = 0.0ppm				
	11	NA: No sample collected for lithologic description.							
	12		NA						
	13	sh: SHALE, gray to black, brittle, dry.							Description from HSA drill cuttings (13-38' bgs)
740	14								
	15								
	16								
	17								
	18								
	19								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP03

Project: Fort McClellan

Geologist: D. Peterman/B. Rhodes

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)
735	20		sh						
	21								
	22								
	23								
	24								
	25								
730	26								
	27								
	28	sh: SHALE, black, damp zone at 29'.	sh						
	29	sh: SHALE, black, weathered, dry to damp.							

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP03

Project: Fort McClellan

Geologist: D. Peterman/B. Rhodes

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)
725	30								
	31								
	32								
	33								
	34		sh						
	35								
720	36								
	37								Auger refusal at 38' bgs
	38								Bottom of borehole at 38' bgs

HTRW DRILLING LOGDistrict: **Mobile USACE**

HOLE NUMBER

FTA-29-GP04

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: **Sammy McDaniel**6. Mfr. designation of drill: **Geoprobe**

7. Sizes and types of drilling and sampling equipment:

Direct Push

DP - 2"x2" Acetate-Lined Sampler

8. Hole location: **11th Chemical Motor Pool Area, Parcel 29**9. Surface elevation (feet above mean sea level): **750.88**10. Date started: **09/30/98**11. Date completed: **09/30/98**12. Overburden thickness (feet bgs): **>10**15. Depth groundwater encountered (feet bgs): **8 Ft**

13. Depth drilled into rock (feet bgs):

16. Depth to water and elapsed
time after drilling completed (feet bgs):14. Total depth of hole (feet bgs): **10**

17. Other water level measurements (specify):

18. Geotechnical
samples:

Collected:

Disturbed:

Undisturbed:

19. Total no. of core boxes:

20. Samples for chemical
analysis:

VOC

Metals

Other (specify)

Other (specify)

Other (specify)

21. Total core
recovery:

X

X

X

N/A

22. Disposition of hole:

Backfilled

Monitoring well

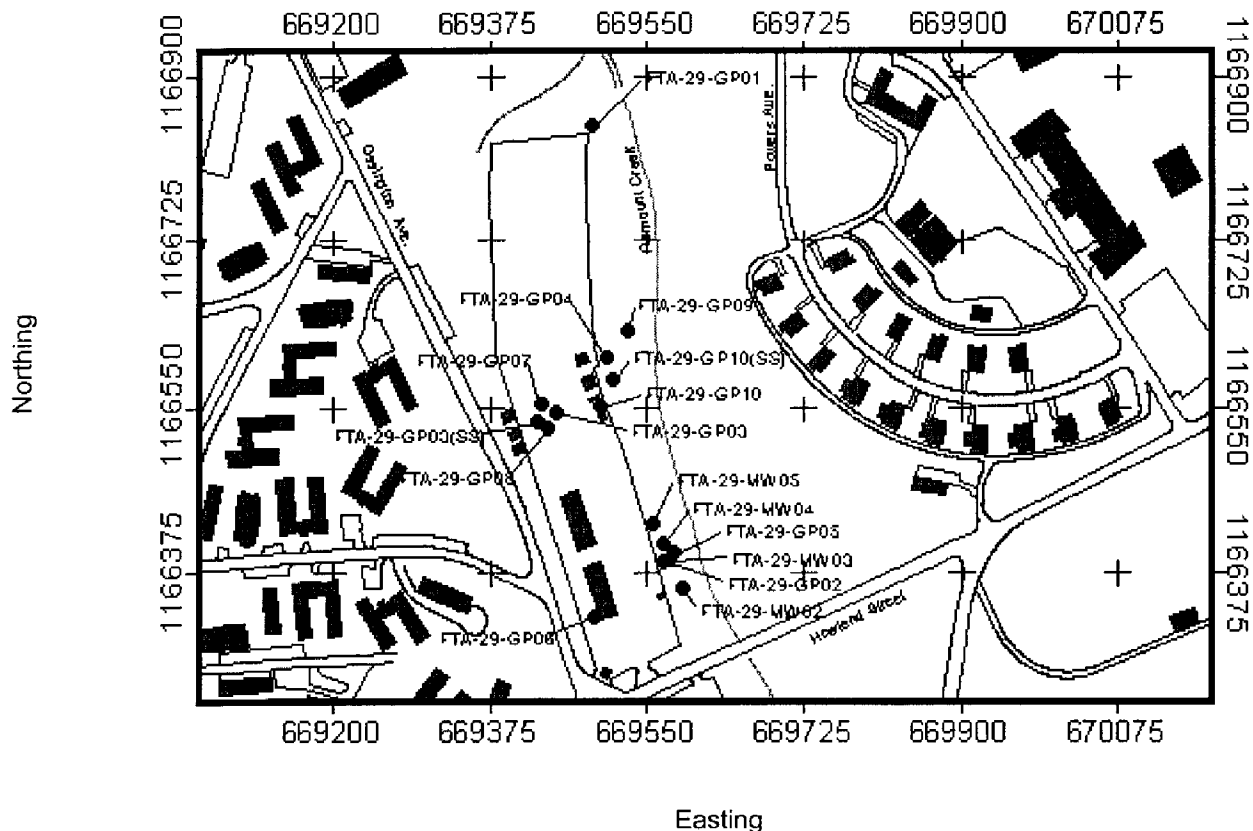
Other (specify)

Geologist:

X

Micro-well

D. PETERMAN

LOCATION SKETCH/COMMENTS:Project: **Fort McClellan**bgs= below ground surface
NA = Not applicableHole no.: **FTA-29-GP04**

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP04

Project: Fort McClellan

Geologist: D. PETERMAN

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)
750	0	cl: CLAY, reddish brown to brown, organic, soft, low to medium plasticity, slightly damp.	cl		Organic Vapor = 0.0ppm		AA0009		Rec 1.0'/1.0' (0-1' bgs)
	1	cl: CLAY, some Silt, friable, dry, low plasticity, shaley fragments, mottled with reddish to gray brown, black organic precipitate, medium stiff to soft.			Organic Vapor = 0.0ppm				Rec 1.8'/4.0' (1-5' bgs)
	2				Organic Vapor = 0.0ppm				
	3		cl		Organic Vapor = 0.0ppm				
	4				Organic Vapor = 0.0ppm				
	5	cl: CLAY, slightly damp to moist, reddish to yellowish brown, platy.			Organic Vapor = 0.0ppm				Rec not logged (5-10' bgs)
745	6				Organic Vapor = 0.0ppm				
	7				Organic Vapor = 0.0ppm				
	8		cl		Organic Vapor = 0.0ppm		AA0010		
	9				Organic Vapor = 0.0ppm				Direct push refusal at 10' bgs Bottom of borehole at 10' bgs

(Continuation Sheet)

HOLE NUMBER: FTA-29-GP04

Fort McClellan

D. PETERMAN

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)
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HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP05

Project: Fort McClellan

Geologist: D. Peterman/B. Rhodes

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, some Silt, low plasticity, slightly damp, soft, coarse Quartz grains, interbedded yellowish brown to brown, Quartzite fragments (.5"-1"), friable.			Organic Vapor = 0.0ppm				Rec 2.8'/4.0' (0-4' bgs)
	1				Organic Vapor = 0.0ppm				
750	2		cl		Organic Vapor = 0.0ppm				
	3				Organic Vapor = 0.0ppm				
	4	cl: CLAY, moist, mottled reddish brown to brown, Shale and Quartzite fragments.			Organic Vapor = 0.0ppm				Rec 1.7'/4.0' (4-8' bgs)
	5				Organic Vapor = 0.0ppm				
	6		cl		Organic Vapor = 0.0ppm				
745	7				Organic Vapor = 0.0ppm				
	8	cl: CLAY, some Silt, red staining, coarse Quartz grains to large fragments interbedded, soft, gravelly.			Organic Vapor = 0.0ppm				Rec 1.3'/2.0' (8-10' bgs)
	9		cl		Organic Vapor = 0.0ppm		AA0011		Direct push refusal at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP05

Project: Fort McClellan

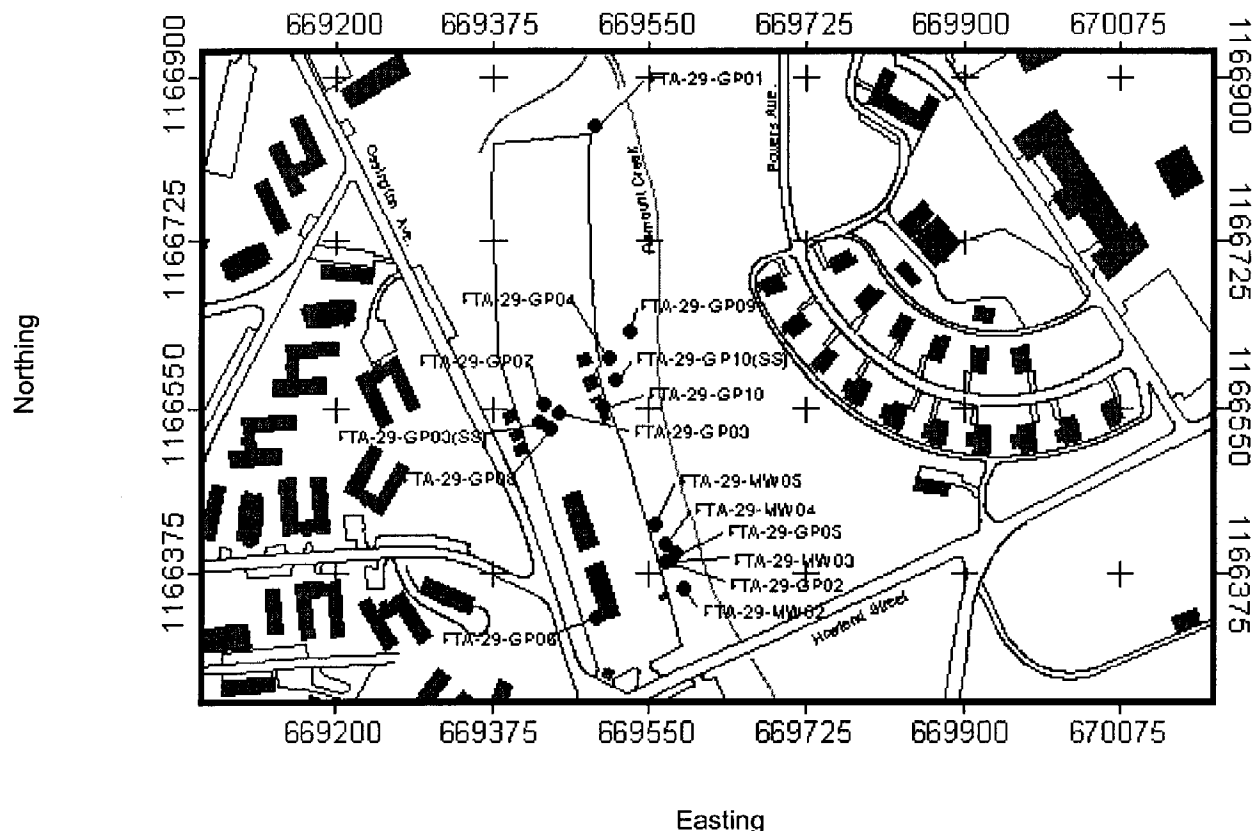
Geologist: D. Peterman/B. Rhodes

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	sh: SHALE, gray, saturated.							Description from HSA drill cuttings
	11		sh						
740	12	sh: SHALE, black, brittle, saturated.			Organic Vapor = 0.0ppm			25 50	Rec 1.0'/1.0' (12-13' bgs)
	13		sh						Description from HSA drill cuttings
	14								
	15								Bottom of borehole at 15' bgs

HTRW DRILLING LOG			District: Mobile USACE		HOLE NUMBER FTA-29-GP06	
1. Company name: IT Corporation			2. Drill Subcontractor: TEG/MILLER DRILLING		Sheet 1 of 5 sheets	
3. Project: Fort McClellan			4. Location: Calhoun County, Alabama			
5. Name of driller: Sammy McDaniel/Doug Bishop			6. Mfr. designation of drill: Geoprobe/CME-550 ATV			
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 2"x2" Acetate-Lined Sampler HSA - 5'x8.25" OD Augers, 2"x2" Steel Split Spoons			8. Hole location: 11th Chemical Motor Pool Area, Parcel 29			
			9. Surface elevation (feet above mean sea level): 761.92			
			10. Date started: 09/30/98		11. Date completed: 12/01/98	
12. Overburden thickness (feet bgs): >32			15. Depth groundwater encountered (feet bgs):			
13. Depth drilled into rock (feet bgs):			16. Depth to water and elapsed time after drilling completed (feet bgs):			
14. Total depth of hole (feet bgs): 32			17. Other water level measurements (specify):			
18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:		19. Total no. of core boxes:	
20. Samples for chemical analysis:	VOC	Metals	Other (specify)		Other (specify)	21. Total core recovery:
	X	X	X			N/A
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)		Geologist:	
		Temporary			D. Peterman	

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: FTA-29-GP06

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP06

Project: Fort McClellan

Geologist: D. Peterman

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: CLAY, dry, medium stiff, low plasticity, mottled, reddish brown to yellowish brown, organic black precipitate.							Rec 2.0'/4.0' (0-4' bgs)
	1								
760	2				Organic Vapor = 0.0ppm				
	3		cl		Organic Vapor = 0.3ppm				
	4								Rec 1.8'/4.0' (4-8' bgs)
	5								
	6	cl: Medium plasticity, CLAY, some Silt, stiff, mottled yellowish brown, dry, petroleum odor, Quartzite and Shale fragments.			Organic Vapor = 1605.0p		AA0012		
755	7		cl		Organic Vapor = 12.6ppm				
	8	cl: Medium stiff, CLAY, shaley at 9.0'-9.4', friable w/depth, Quartzite fragments 0.5"-2".			Organic Vapor = 0.0ppm				Rec 2.0'/2.0' (8-10' bgs)
	9		cl		Organic Vapor = 1.1ppm				Direct push refusal at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP06

Project: Fort McClellan

Geologist: D. Peterman

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	sh: SHALE, dark gray, weathered, dry.	sh					13 22 40 50/.5'	Rec 2.0'/2.0' (9-11' bgs)
	11	NA: No sample collected for lithologic description.	NA						
750	12		NA						
	13								
	14	sh: SHALE, dark gray, weathered, little Quartz, dry.			Organic Vapor = 0.0ppm			25 50/.25'	Rec .5'/1.0' (14-16' bgs)
	15								
	16								Description from HSA drill cuttings (16-32' bgs)
745	17		sh						
	18								
	19	sh: SHALE, dark gray, weathered, dry.			Organic Vapor = 0.0ppm				

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP06

Project: Fort McClellan

Geologist: D. Peterman

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								
	21								
740	22		sh						
	23								
	24								Groundwater encountered at 24' bgs
	25	sh: SHALE, dark gray, weathered, wet.			Organic Vapor = 0.0ppm				
	26								
735	27		sh						
	28								
	29								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP06

Project: Fort McClellan

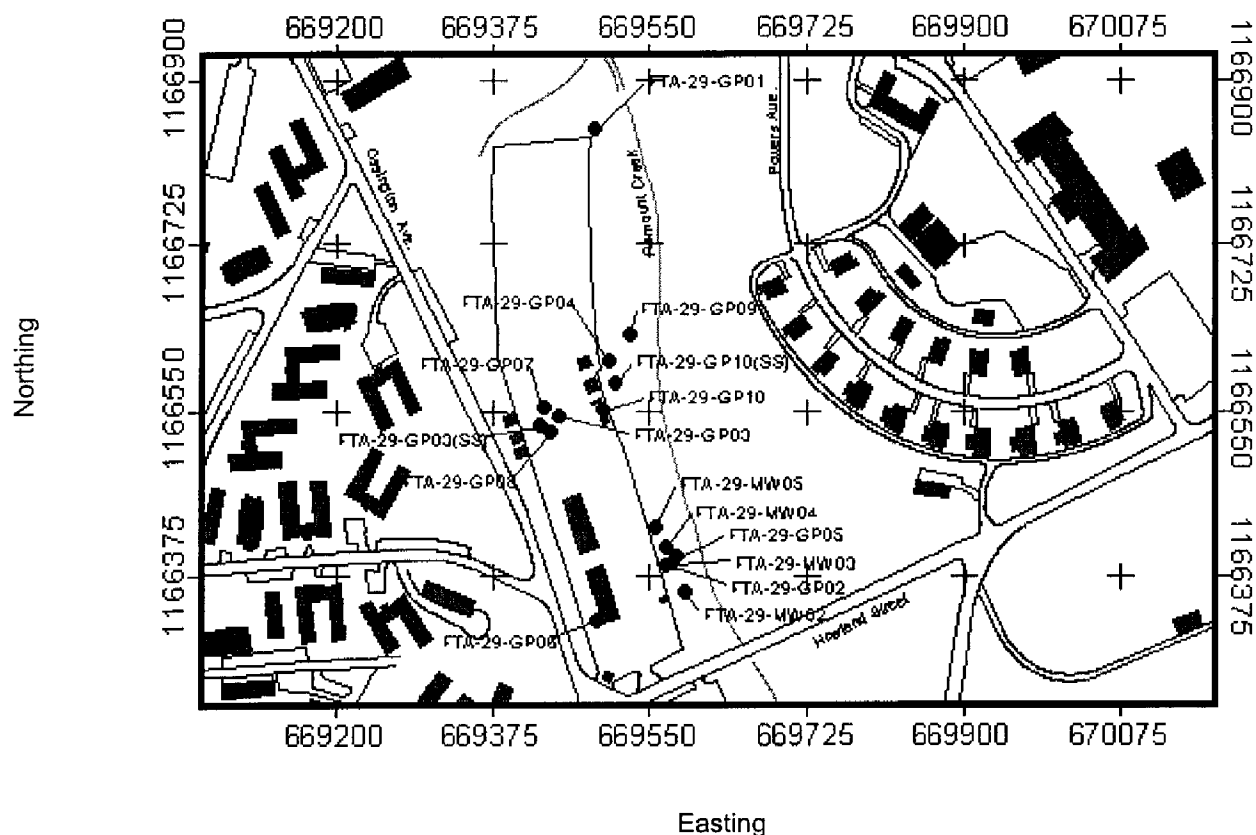
Geologist: D. Peterman

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		sh: SHALE, dark gray, weathered, wet.							
					Organic Vapor = 0.0ppm				
31			sh						TD is 8' below saturated zone
									Bottom of borehole at 32' bgs
730	32								

HTRW DRILLING LOG			District: Mobile USACE		HOLE NUMBER FTA-29-GP07	
1. Company name: IT Corporation			2. Drill Subcontractor: TEG/MILLER DRILLING		Sheet 1 of 5 sheets	
3. Project: Fort McClellan			4. Location: Calhoun County, Alabama			
5. Name of driller: Sammy McDaniel/Doug Bishop			6. Mfr. designation of drill: Geoprobe/CME-550 ATV			
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 2'x2" Acetate-Lined Sampler HSA - 5'x8.25" OD Augers, 2'x2" Steel Split Spoons			8. Hole location: 11th Chemical Motor Pool Area, Parcel 29			
			9. Surface elevation (feet above mean sea level): 756.74			
			10. Date started: 09/30/98		11. Date completed: 12/02/98	
12. Overburden thickness (feet bgs): >30			15. Depth groundwater encountered (feet bgs): 7 Ft			
13. Depth drilled into rock (feet bgs):			16. Depth to water and elapsed time after drilling completed (feet bgs):			
14. Total depth of hole (feet bgs): 30			17. Other water level measurements (specify):			
18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:		19. Total no. of core boxes:	
20. Samples for chemical analysis:	VOC	Metals	Other (specify)		Other (specify)	21. Total core recovery:
	X	X	X			N/A
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)		Geologist:	
	Temporary				D. Peterman	

LOCATION SKETCH/COMMENTS:



Project: **Fort McClellan**

bgs= below ground surface
NA = Not applicable

Hole no.: **FTA-29-GP07**

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP07

Project: Fort McClellan

Geologist: D. Peterman

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)
755	0	cl: GRAVEL and CLAY, reddish brown.	cl						Rec 2.4'/4.0' (0-4' bgs)
	1	cl: CLAY, some Sand, coarse Quartz sand, Quartzite fragments.	cl		Organic Vapor = 0.0ppm				
	2	cl: Weathered QUARTZITE fragments.	cl		Organic Vapor = 1.7ppm				
	3	cl: CLAY, medium tight, medium plasticity, gray.	cl		Organic Vapor = 0.7ppm				
	4	cl: CLAY, stiff, gray to reddish brown.	cl		Organic Vapor = 0.0ppm				Rec 2.1'/4.0' (4-8' bgs)
	5		cl		Organic Vapor = 0.0ppm				
	6	cl: CLAY, damp to moist, soft.	cl		Organic Vapor = 0.0ppm				
750	7		cl		Organic Vapor = 0.0ppm				
	8	cl: Friable, shaley, CLAY, gray to dark gray, low plasticity, grading to a medium stiff, reddish brown at 9.6'-10'.	cl		Organic Vapor = 0.0ppm				Rec 2.2'/2.0' (8-10' bgs)
	9		cl		Organic Vapor = 0.0ppm		AA0013		Direct push refusal at 10' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP07

Project: Fort McClellan

Geologist: D. Peterman

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: Light brown fine SAND and Silt, some Clay, wet to 10.5'	sm		Organic Vapor = 0.0ppm			3 30 50/.5'	Rec 1.3'/1.5' (10-12' bgs)
	11	sh: SHALE, dark gray and light brown, weathered, dry.	sh		Organic Vapor = 0.0ppm				
745	12	NA: No sample collected for lithologic description.	NA						
	13								
	14	sh: SHALE, dark gray and light brown, weathered, dry.			Organic Vapor = 0.0ppm			50/.4'	Rec 0.25'/0.4' (14-16' bgs)
	15								
	16								Description from HSA drill cuttings (16-30' bgs)
740	17		sh						
	18								
	19								

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP07

Project: Fort McClellan

Geologist: D. Peterman

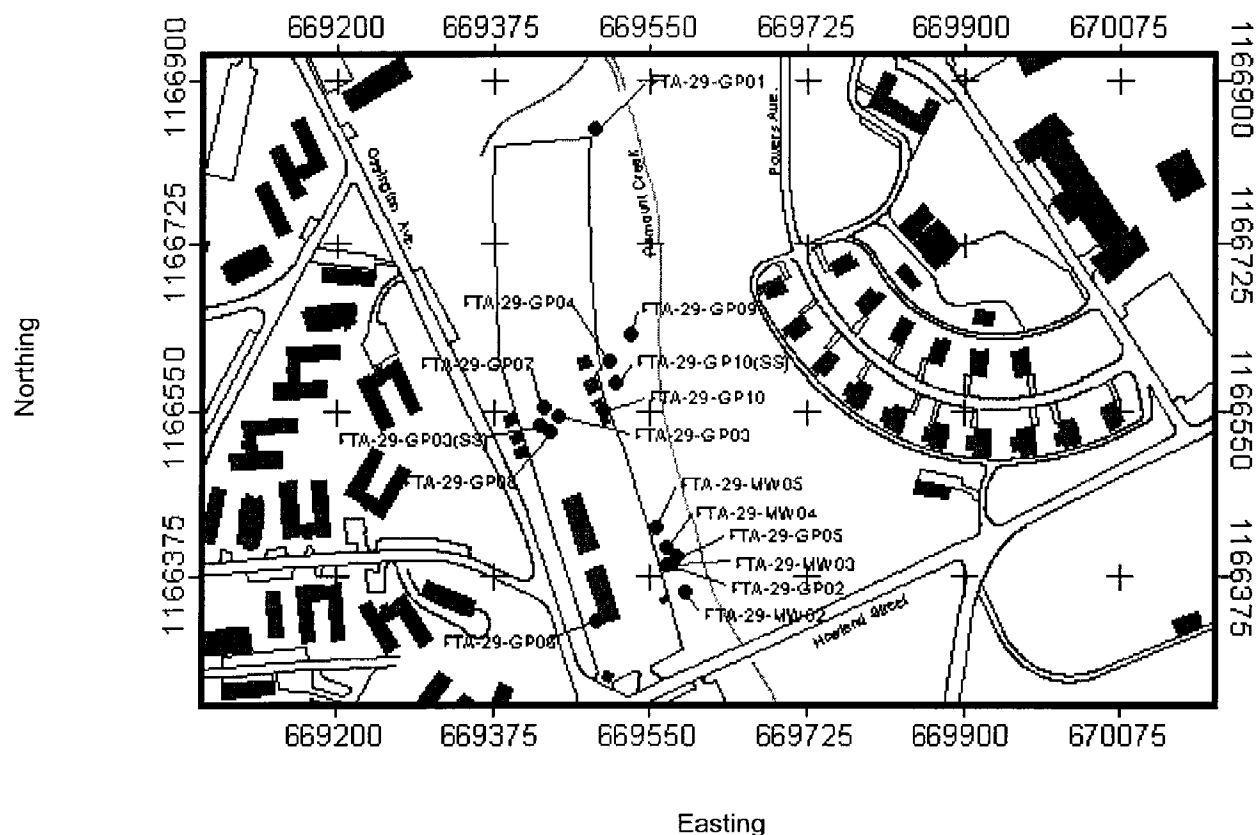
Sheet 4 of 5 sheets

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	sh: SHALE, dark gray and light brown, weathered, dry.			Organic Vapor = 0.0ppm				
	21								
735	22		sh						Cuttings damp at 22' bgs
	23								Water return from auger at 23' bgs
	24								
	25	sh: SHALE, dark gray and light brown, weathered, wet.			Organic Vapor = 0.0ppm				
	26								
730	27		sh						
	28								
	29	sh: SHALE, dark gray and light brown, weathered, wet.	sh						TD 8' below first water Bottom of borehole at 30' bgs

HTRW DRILLING LOG (Continuation Sheet)							HOLE NUMBER: FTA-29-GP07		
Project: Fort McClellan				Geologist: D. Peterman			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)

HTRW DRILLING LOG			District: Mobile USACE		HOLE NUMBER FTA-29-GP08	
1. Company name: IT Corporation			2. Drill Subcontractor: TEG/MILLER DRILLING		Sheet 1 of 5 sheets	
3. Project: Fort McClellan			4. Location: Calhoun County, Alabama			
5. Name of driller: Sammy McDaniel/Doug Bishop			6. Mfr. designation of drill: Geoprobe/CME-550 ATV			
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 2"x2" Acetate-Lined Sampler HSA - 5'x8.25" OD Augers, 2"x2" Steel Split Spoons			8. Hole location: 11th Chemical Motor Pool Area, Parcel 29			
			9. Surface elevation (feet above mean sea level): 757.13			
			10. Date started: 09/30/98		11. Date completed: 12/07/98	
12. Overburden thickness (feet bgs): >38			15. Depth groundwater encountered (feet bgs): 7 Ft, 29 Ft			
13. Depth drilled into rock (feet bgs):			16. Depth to water and elapsed time after drilling completed (feet bgs):			
14. Total depth of hole (feet bgs): 38			17. Other water level measurements (specify):			
18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:		19. Total no. of core boxes:	
20. Samples for chemical analysis:	VOC	Metals	Other (specify)		Other (specify)	21. Total core recovery:
	X	X	X			N/A
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)		Geologist:	
		Temporary			D. Peterman/J. Jenkins	

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: FTA-29-GP08

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP08

Project: Fort McClellan

Geologist: D. Peterman/J. Jenkins

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: CLAY, Quartzite and Shale fragments, reddish brown, soft, damp, low plasticity.			Organic Vapor = 0.0ppm				Rec 2.8'/4.0' (0-4' bgs)
	1		cl						
755	2	cl: CLAY, very stiff, dry, yellowish brown, mottled red staining.							
	3		cl						
	4								Rec 2.9'/4.0' (4-8' bgs)
	5	cl: CLAY, soft, medium plasticity, damp, silty.	cl						Odor (5.2-6' bgs)
	6	cl: CLAY, stiff, mottled reddish brown.							
750	7		cl						PID malfunctioning
	8	cl: CLAY, some Silt, friable, shaley, brittle, black organic precipitate.							Rec 1.7'/2.0' (8-10' bgs)
	9		cl				AA0014		

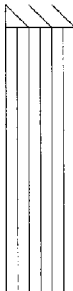
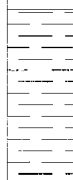
HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP08

Project: Fort McClellan

Geologist: D. Peterman/J. Jenkins

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: Light gray to olive gray, lean SILT, some Clay, dry, bedding structures present.	ml		Organic Vapor = 0.0ppm			19 28 50/.5'	Rec 1.7'/1.5' (10-12' bgs)
	11								
	12	NA: No sample collected for lithologic description.	NA						
	13								
	14	sh: SHALE, dark gray, weathered, dry.	sh						
	15	sh: SHALE, dark gray, weathered, dry.							
	16		sh					50/.2'	Rec 0.1'/0.2' (15-17' bgs)
	17								
	18								
	19								
745									
740									Description from HSA drill cuttings (17-38' bgs)

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP08

Project: Fort McClellan

Geologist: D. Peterman/J. Jenkins

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	sh: SHALE, dark gray, weathered, dry.							
	21								
735	22								
	23		sh						
	24								
	25	sh: SHALE, dark gray, weathered, dry.			Organic Vapor = 0.0ppm				
	26								
730	27								
	28		sh						
	29				Organic Vapor = 0.0ppm				Cuttings damp at 29' bgs

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP08

Project: Fort McClellan

Geologist: D. Peterman/J. Jenkins

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	sh: SHALE, dark gray, weathered, damp.							
	31								
725	32								
	33		sh						
	34								
	35	sh: SHALE, dark gray, weathered, damp.			Organic Vapor = 0.0ppm				
	36								Cuttings wet at 36' bgs
	37		sh						TD 9' below first water
720	37								Bottom of borehole at 38' bgs
	38								

HTRW DRILLING LOGDistrict: **Mobile USACE**

HOLE NUMBER

FTA-29-GP09

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: **Sammy McDaniel**6. Mfr. designation of drill: **Geoprobe**

7. Sizes and types of drilling and sampling equipment:

Direct Push

DP - 2"x2" Acetate-Lined Sampler

8. Hole location: **Chemical Motor Pool Area, Parcel 29**9. Surface elevation (feet above mean sea level): **748.58**10. Date started: **10/01/98**11. Date completed: **10/01/98**12. Overburden thickness (feet bgs): **>11**15. Depth groundwater encountered (feet bgs): **7 Ft**

13. Depth drilled into rock (feet bgs):

16. Depth to water and elapsed time after drilling completed (feet bgs):

14. Total depth of hole (feet bgs): **11**

17. Other water level measurements (specify):

18. Geotechnical samples:

Collected:

Disturbed:

Undisturbed:

19. Total no. of core boxes:

20. Samples for chemical analysis:

VOC

Metals

Other (specify)

Other (specify)

Other (specify)

21. Total core recovery:

X

X

X

N/A

22. Disposition of hole:

Backfilled

Monitoring well

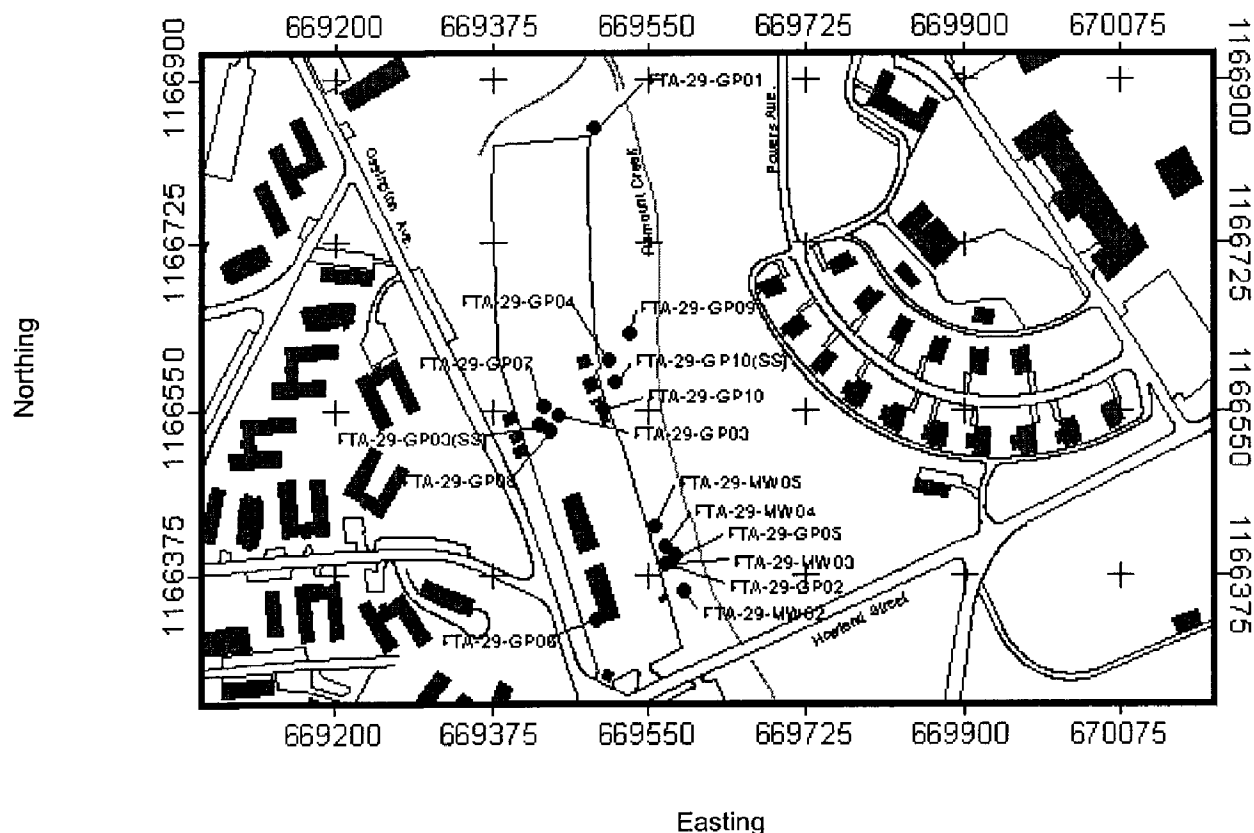
Other (specify)

Geologist:

X

Micro-well

D.Peterman

LOCATION SKETCH/COMMENTS:Project: **Fort McClellan**bgs= below ground surface
NA = Not applicableHole no.: **FTA-29-GP09**

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP09

Project: Fort McClellan

Geologist: D.Peterman

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, some Silt, low plasticity, friable, yellowish brown, organics, dry, Shale fragments, medium stiff with depth.			Organic Vapor = 0.0ppm				Rec 3.2'/4.0' (0-4' bgs)
	1								
	2		cl						
	3								
745	4	ml: SILT, some Clay, high plasticity, very soft, yellowish brown stringers, moist from 6 to 8'.							Rec not logged (4-11' bgs)
	5								
	6		ml				AA0015		
	7								
	8	cl: CLAY, interbedded coarse quartz Sand, reddish staining up to 10', moist to 9'.							
740	9		cl						

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP09

Project: Fort McClellan

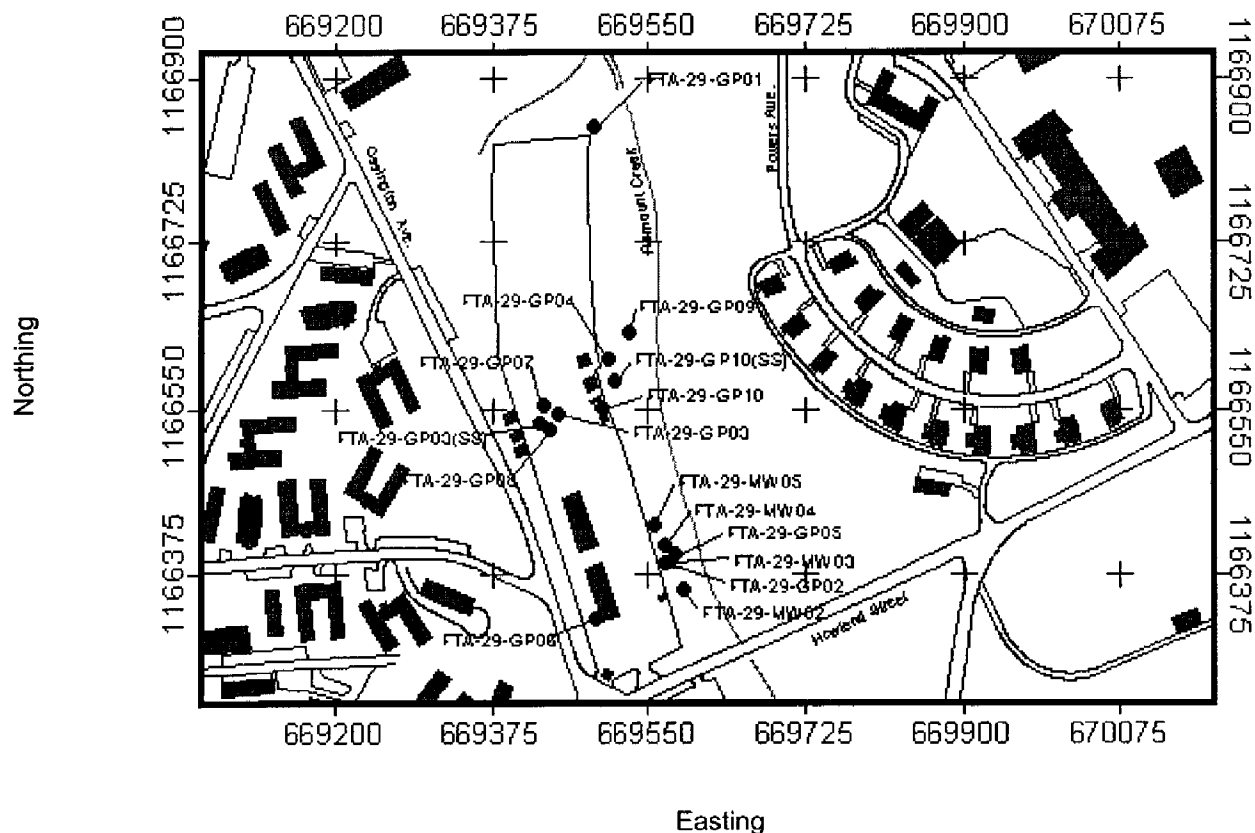
Geologist: D.Peterman

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									Direct push refusal at 11' bgs
11									Bottom of borehole at 11' bgs

HTRW DRILLING LOG		District: Mobile USACE		HOLE NUMBER FTA-29-GP10	
1. Company name: IT Corporation		2. Drill Subcontractor: TEG/ MILLER DRILLING		Sheet 1 of 3 sheets	
3. Project: Fort McClellan		4. Location: Calhoun County, Alabama			
5. Name of driller: Sammy McDaniel/Doug Bishop		6. Mfr. designation of drill: Geoprobe/CME-550 ATV			
7. Sizes and types of drilling and sampling equipment: Direct Push, Hollow Stem Auger DP - 2'x2" Acetate-Lined Sampler HSA - 5'x8.25" OD Augers, 2'x2" Steel Split Spoons		8. Hole location: 11th Chemical Motor Pool Area, Parcel 29			
		9. Surface elevation (feet above mean sea level): 752.66			
		10. Date started: 10/01/98	11. Date completed: 12/07/98		
12. Overburden thickness (feet bgs): >14		15. Depth groundwater encountered (feet bgs): 6 Ft			
13. Depth drilled into rock (feet bgs):		16. Depth to water and elapsed time after drilling completed (feet bgs):			
14. Total depth of hole (feet bgs): 14		17. Other water level measurements (specify):			
18. Geotechnical samples:	Collected:	Disturbed:	Undisturbed:	19. Total no. of core boxes:	
20. Samples for chemical analysis:	VOC	Metals	Other (specify)	Other (specify)	Other (specify)
	X	X	X		
21. Total core recovery:	N/A				
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geologist:	
		Temporary		D. Peterman/J. Jenkins	

LOCATION SKETCH/COMMENTS:



Project: Fort McClellan

bgs= below ground surface
NA = Not applicable

Hole no.: FTA-29-GP10

HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP10

Project: Fort McClellan

Geologist: D. Peterman/J. Jenkins

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: SAND, some Silt, trace Clay, trace coarse grains, low plasticity, reddish brown, dry, Quartzite and Shale fragments, black organic precipitate, friable.			Organic Vapor = 0.0ppm				Rec 3.2'/4.0' (0-4' bgs)
	1								
	2		sm						
750	3								
	4	cl: CLAY, mottled gray to black, Quartz and Shale fragments, dry, friable.	cl				AA0016		Rec 1.0'/1.0' (4-5' bgs)
	5	ch: Greenish gray fat CLAY, some Silt, dry to 5.8' grading to light gray Clay with some fine Sand, damp to wet.	ch		Organic Vapor = 0.0ppm			1 2 1 1	Rec 1.3'/2.0' (5-7' bgs)
	6								
	7	NA: No recovery, rock in tip of spoon.						6 5 3 2	Rec 0.0'/2.0' (7-9' bgs)
745	8		NA						
	9	cl: Light gray CLAY, some fine Sand, wet to 9.8', becoming firm, light brown Clay, some Sand, damp, little Sandstone fragments.			Organic Vapor = 0.0ppm			11 21 28 50/.5'	Rec 1.2'/2.0' (9-11' bgs)

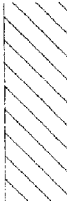
HTRW DRILLING LOG (Continuation Sheet)

HOLE NUMBER: FTA-29-GP10

Project: Fort McClellan

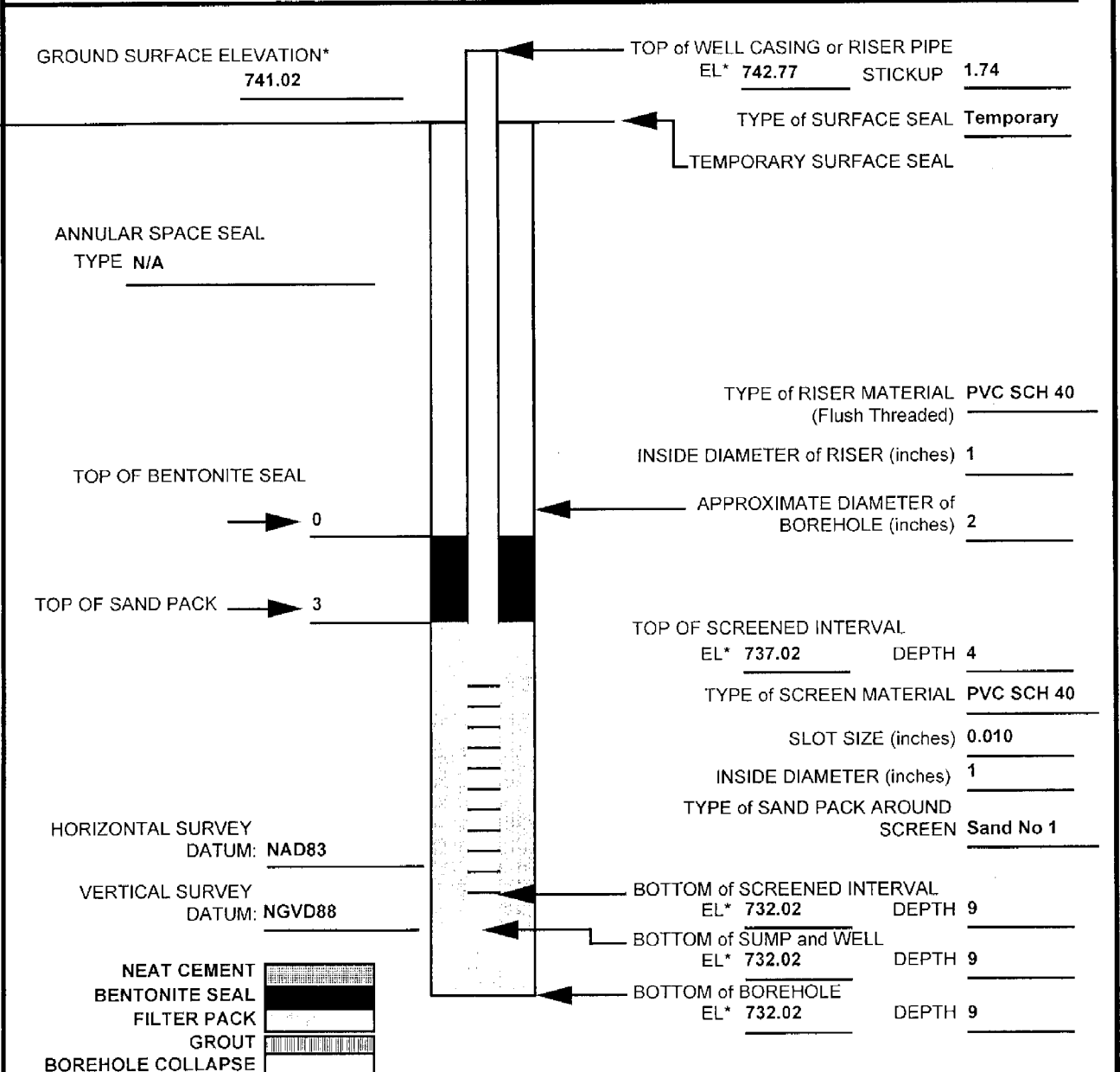
Geologist: D. Peterman/J. Jenkins

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						
	11	NA: No recovery, ROCK (Sandstone fragment) in tip of spoon.			Organic Vapor ≈ 0.0ppm			20 24 18 6	Rec 0.0'/2.0' (11-13' bgs)
	12								
740			NA						
	13								TD 8' below first water
	14								Bottom of borehole at 14' bgs

MONITORING WELL INSTALLATION DETAIL

PROJECT: Fort McClellan, SAD TERC	WELL NO: FTA-29-GP01
LOCATION: Anniston, AL	DRILLING METHOD: Direct Push
CLIENT: USACE Mobile District	INSTALLATION DATE: 10/01/98
CONTRACTOR: TEG	NORTHING: 1169629.78
DRILLER: S. MCDANIELS	EASTING: 666628.93
IT FIELD REPRESENTATIVE: D. PETERMAN	JOB NO: 774645A

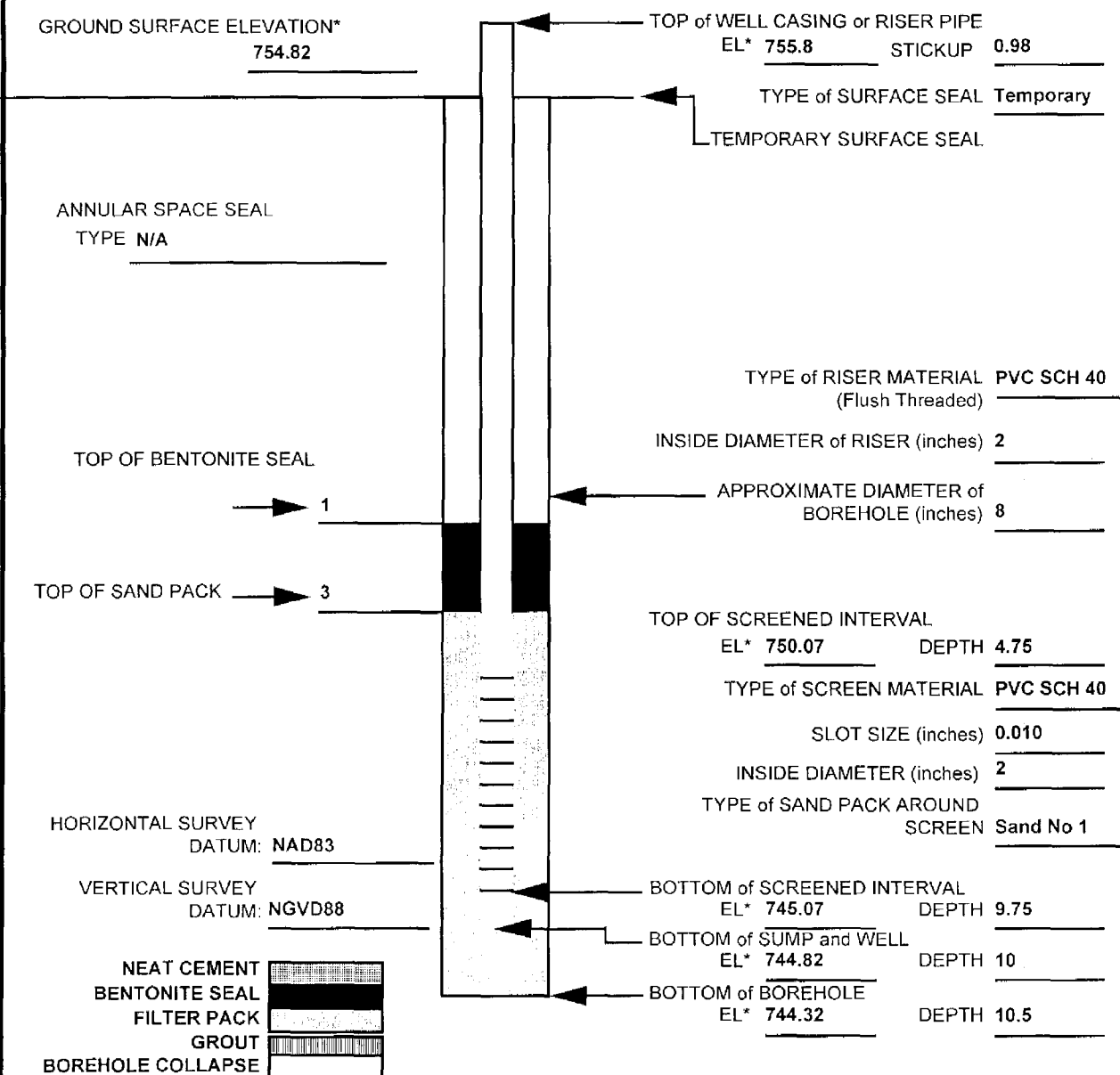


*All elevations (EL) are referenced to MSL.

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: FTA-29-GP02
LOCATION: Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE: 12/14/98
CONTRACTOR: MILLER DRILLING	NORTHING: 1168756.53
DRILLER: D. BISHOP	EASTING: 666776.83
IT FIELD REPRESENTATIVE: J.JENKINS	JOB NO: 774645A



*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

LOCATION: Anniston, AL

CLIENT: USACE Mobile District

CONTRACTOR: MILLER DRILLING

DRILLER: J.BROWNFIELD

IT FIELD REPRESENTATIVE: B.RHODES

WELL NO: FTA-29-GP03

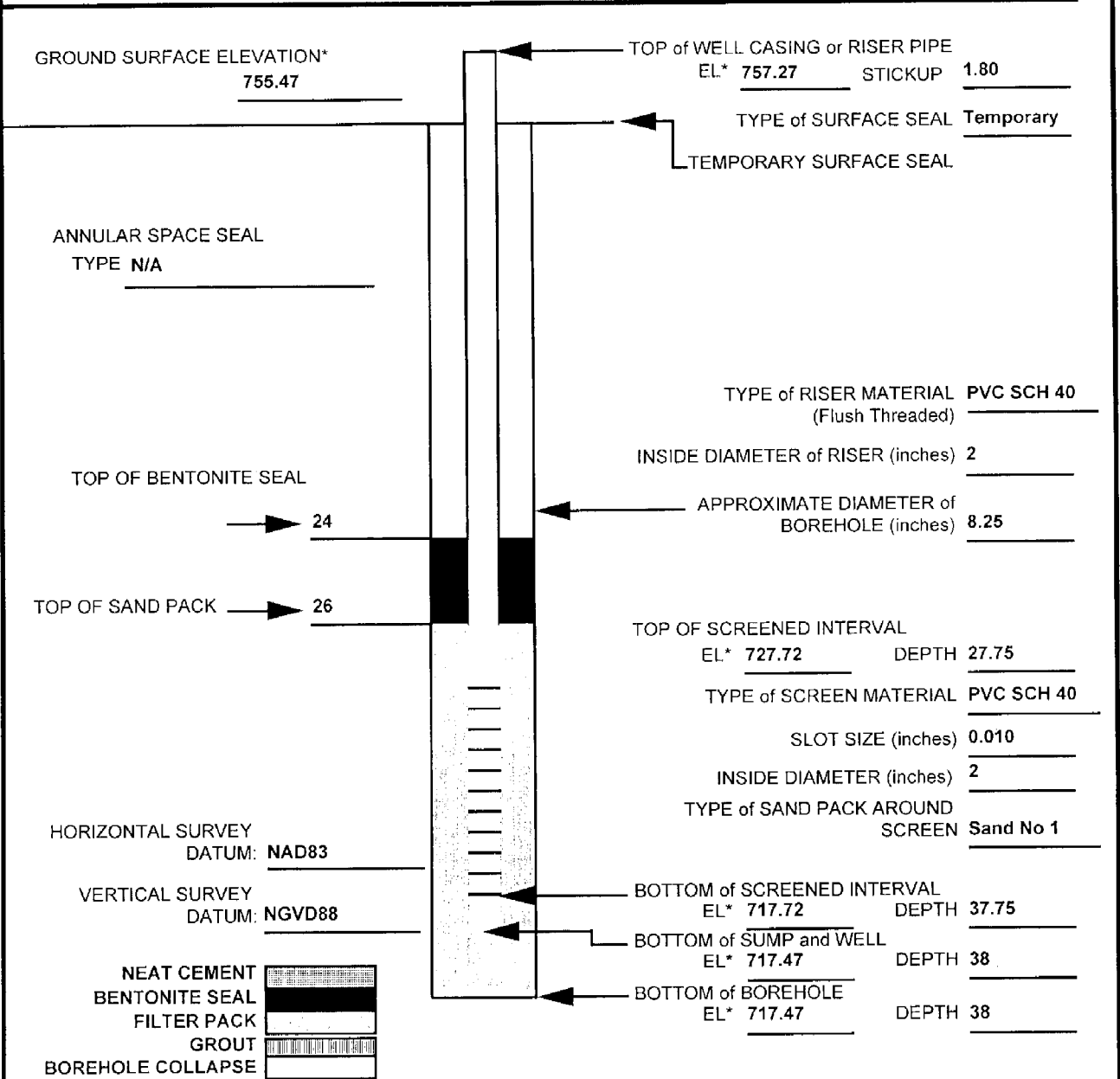
DRILLING METHOD:
Hollow Stem Auger

INSTALLATION DATE: 12/07/98

NORTHING: 1169055.15

EASTING: 666551.12

JOB NO: 774645A

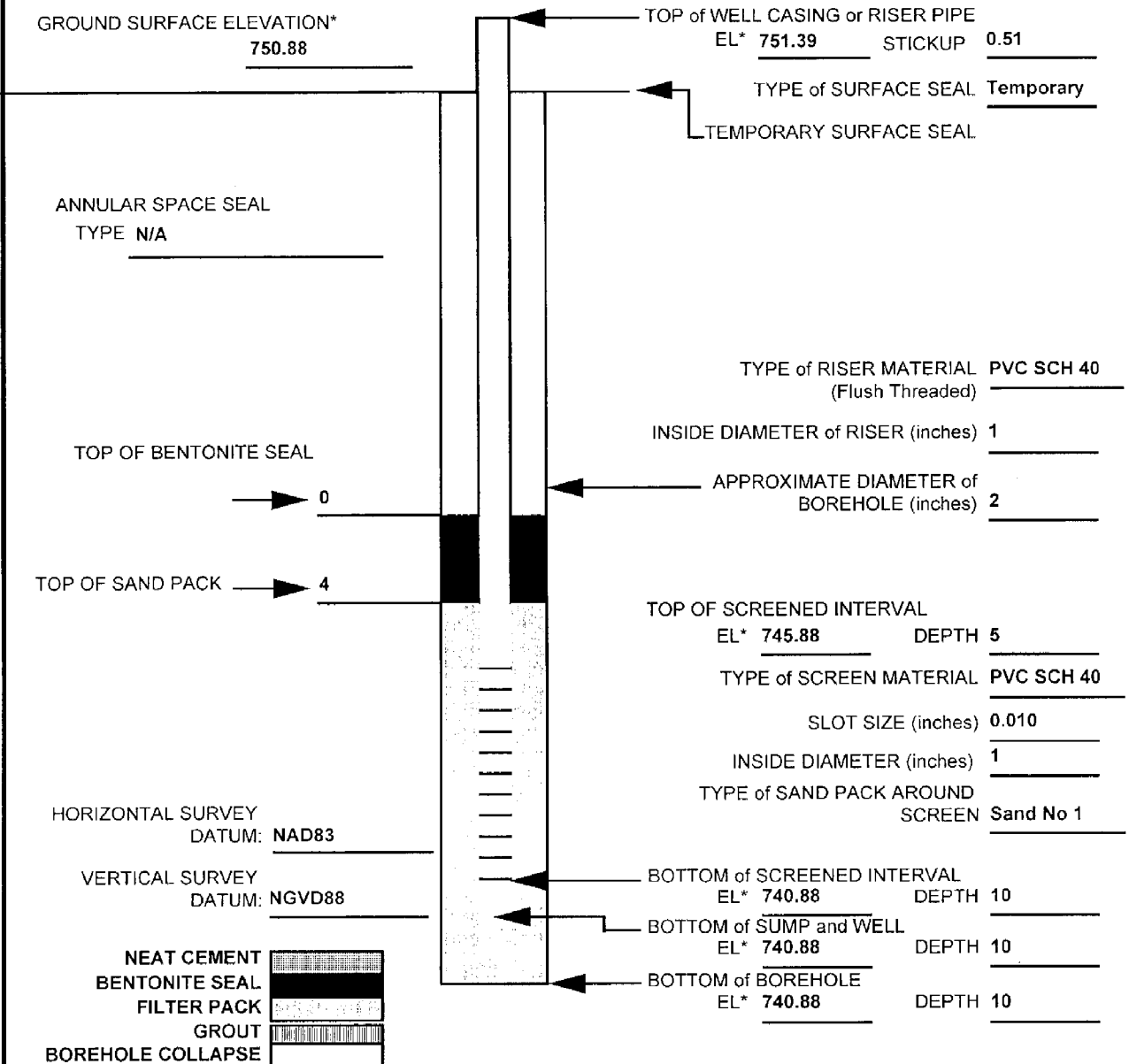


*All elevations (EL) are referenced to MSL.

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: FTA-29-GP04
LOCATION Anniston, AL	DRILLING METHOD: Direct Push
CLIENT: USACE Mobile District	INSTALLATION DATE 09/30/98
CONTRACTOR TEG	NORTHING: 1169161.16
DRILLER: S. MCDANIELS	EASTING: 666659.55
IT FIELD REPRESENTATIVE: D.PETERMAN	JOB NO: 774645A

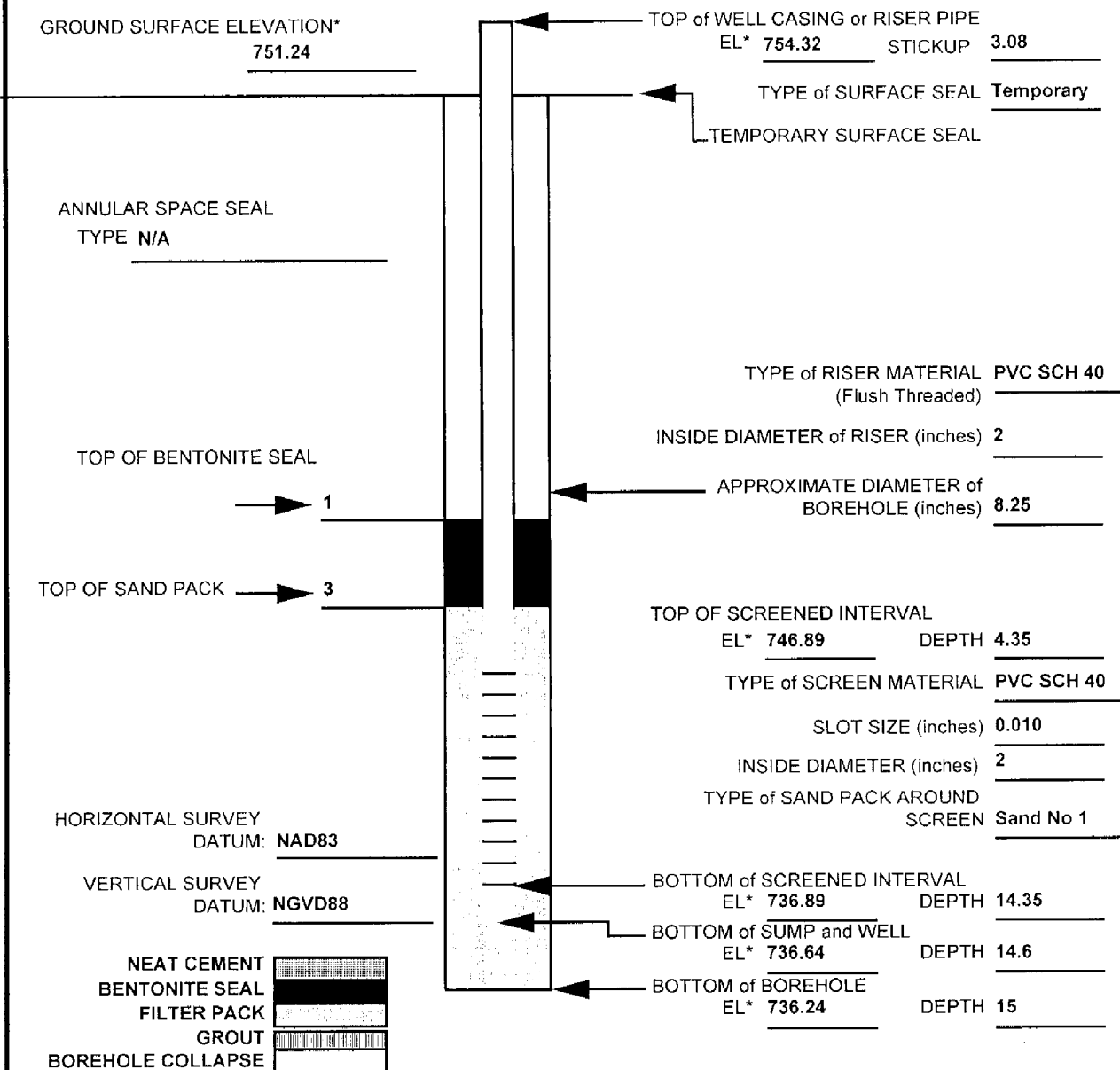


*All elevations (EL) are referenced to MSL.

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: FTA-29-GP05
LOCATION: Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE: 12/07/98
CONTRACTOR: MILLER DRILLING	NORTHING: 1168774.54
DRILLER: J.BROWNFIELD	EASTING: 666801.19
IT FIELD REPRESENTATIVE: B.RHODES	JOB NO: 774645A

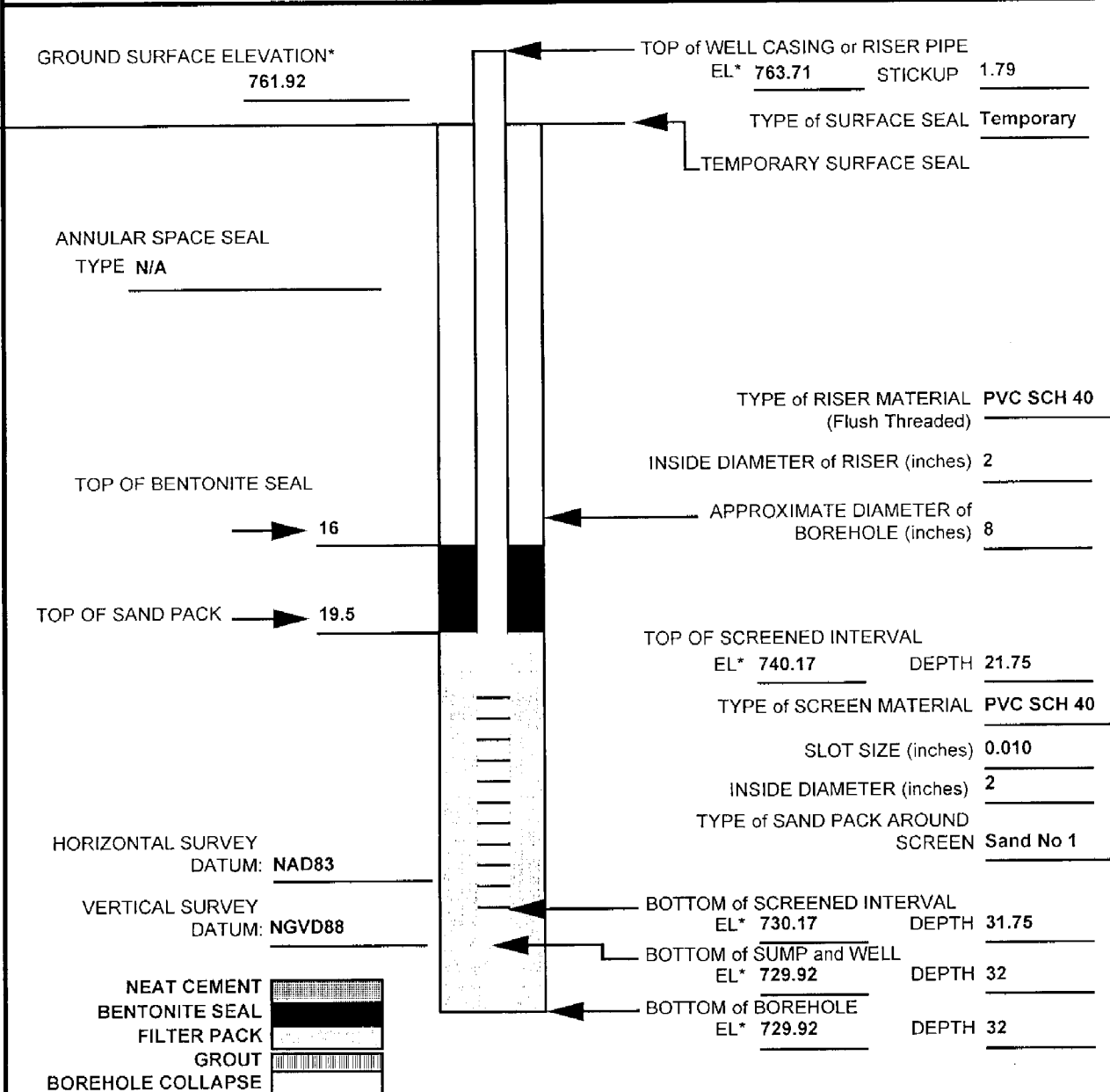


*All elevations (EL) are referenced to MSL.

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: FTA-29-GP06
LOCATION: Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE: 12/01/98
CONTRACTOR: MILLER DRILLING	NORTHING: 1168645.57
DRILLER: D. BISHOP	EASTING: 666631.34
IT FIELD REPRESENTATIVE: J.JENKINS	JOB NO: 774645A

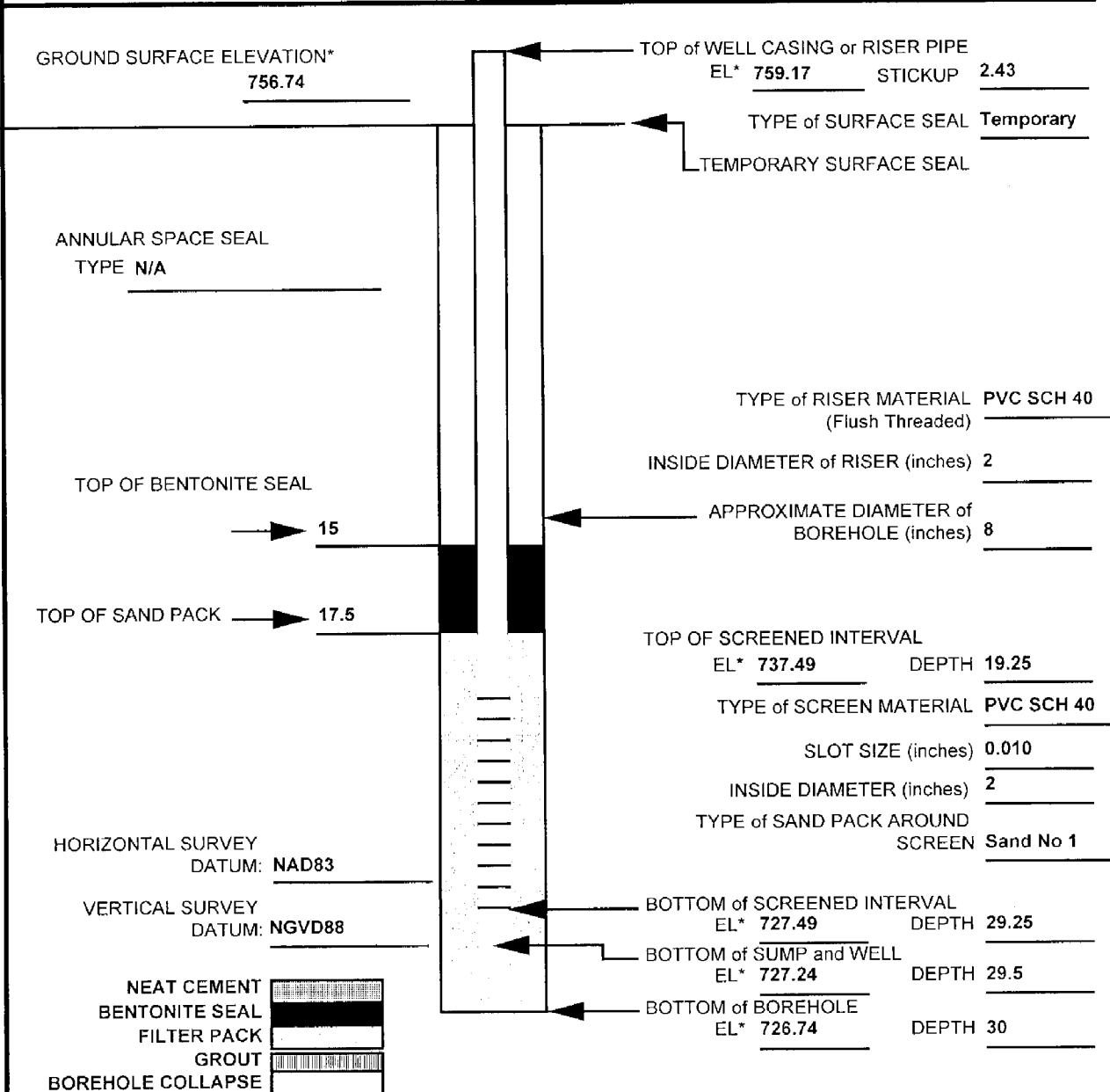


*All elevations (EL) are referenced to MSL.

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: FTA-29-GP07
LOCATION: Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE: 12/02/98
CONTRACTOR: MILLER DRILLING	NORTHING: 1169074.23
DRILLER: D.BISHOP	EASTING: 666519.05
IT FIELD REPRESENTATIVE: J.JENKINS	JOB NO: 774645A

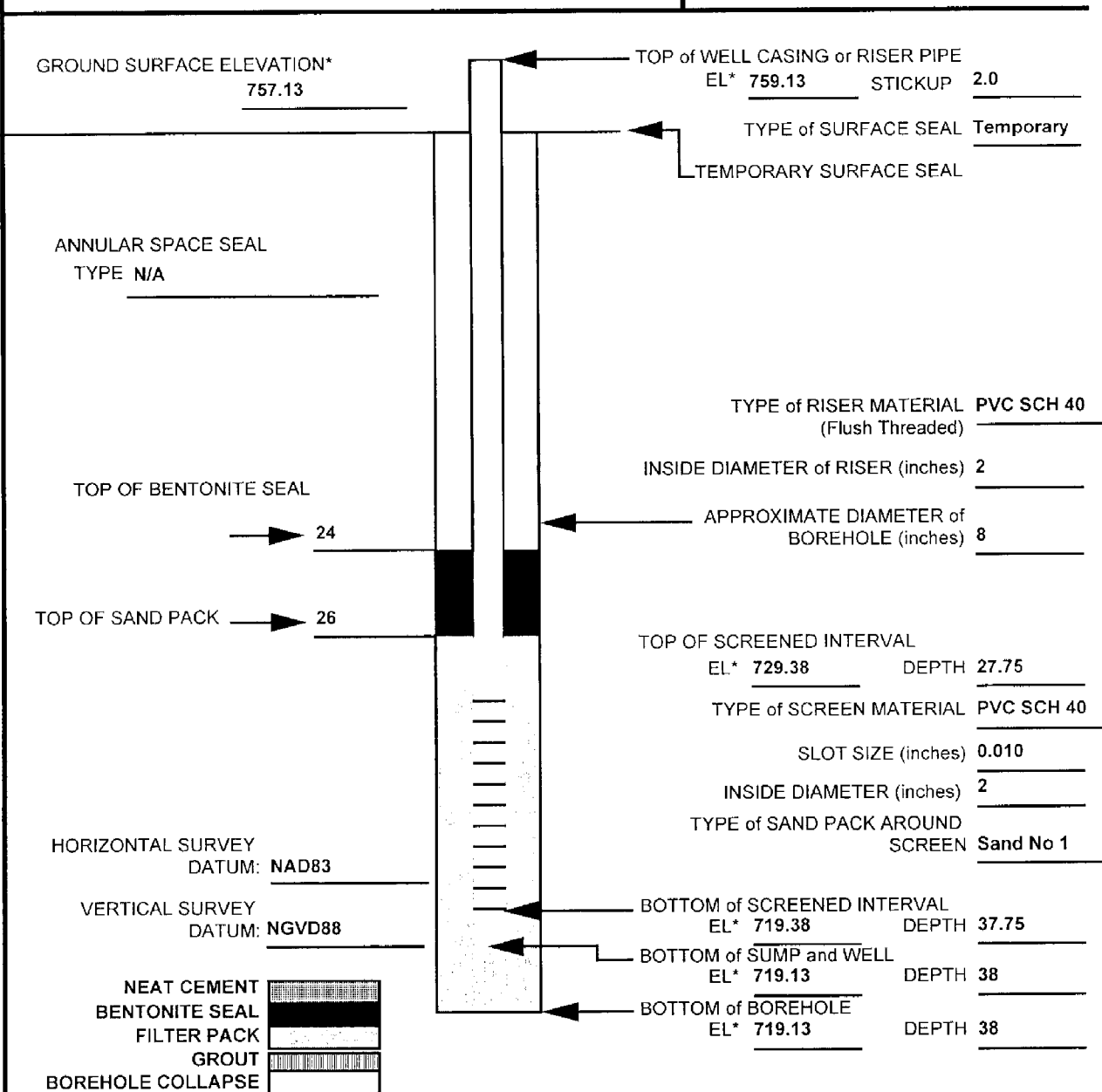


*All elevations (EL) are referenced to MSL.

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: FTA-29-GP08
LOCATION: Anniston, AL	DRILLING METHOD: Hollow Stem Auger
CLIENT: USACE Mobile District	INSTALLATION DATE: 12/07/98
CONTRACTOR: MILLER DRILLING	NORTHING: 1169024.5
DRILLER: D.BISHOP	EASTING: 666535.4
IT FIELD REPRESENTATIVE: J.JENKINS	JOB NO: 774645A

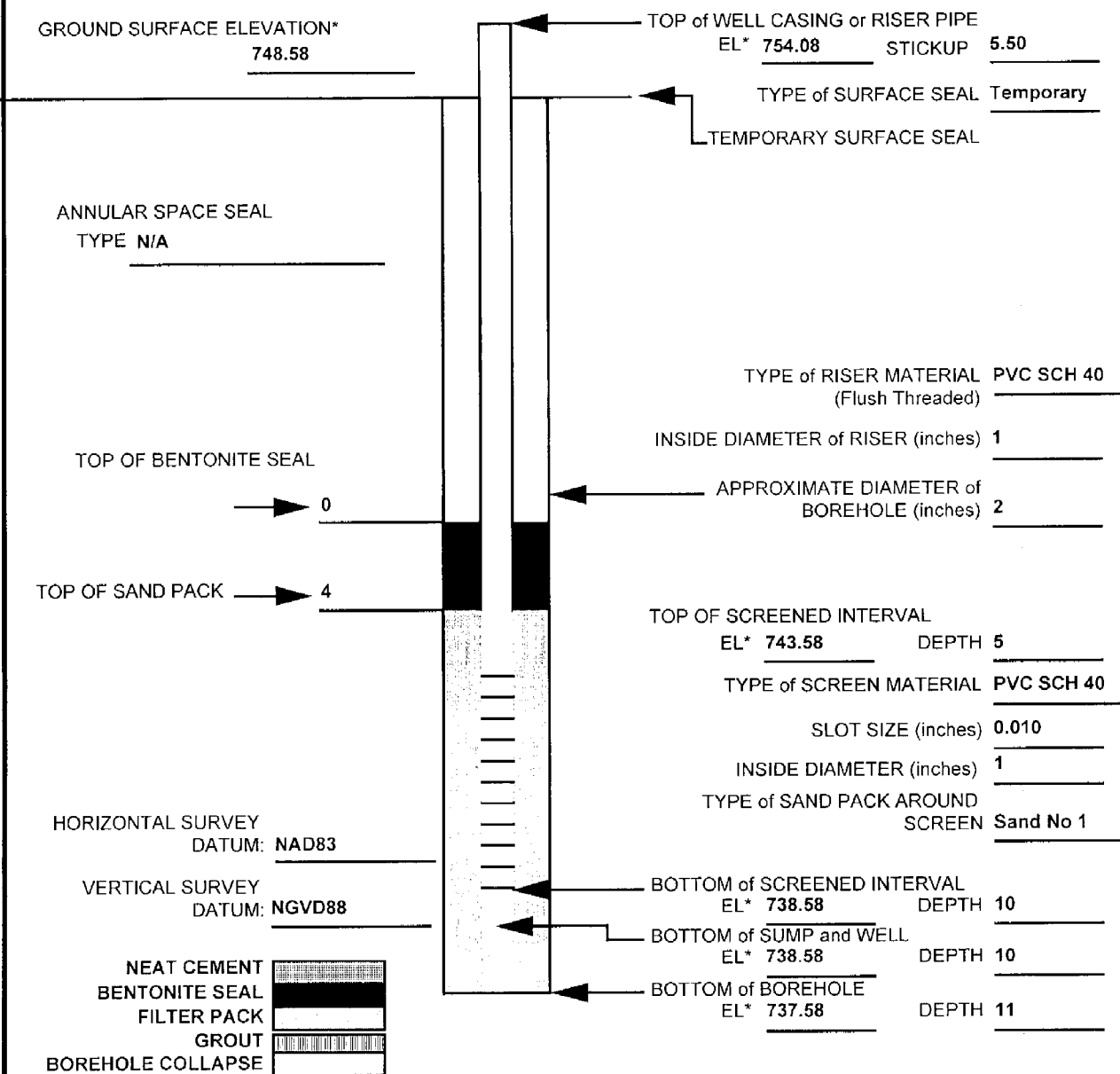


*All elevations (EL) are referenced to MSL.

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: FTA-29-GP09
LOCATION: Anniston, AL	DRILLING METHOD: Direct Push
CLIENT: USACE Mobile District	INSTALLATION DATE: 10/01/98
CONTRACTOR: TEG	NORTHING: 1169213.72
DRILLER: S. MCDANIELS	EASTING: 666704.95
IT FIELD REPRESENTATIVE: D.PETERMAN	JOB NO: 774645A



*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

LOCATION: Anniston, AL

CLIENT: USACE Mobile District

CONTRACTOR: MILLER DRILLING

DRILLER: D. BISHOP

IT FIELD REPRESENTATIVE: J. JENKINS

WELL NO: FTA-29-GP10

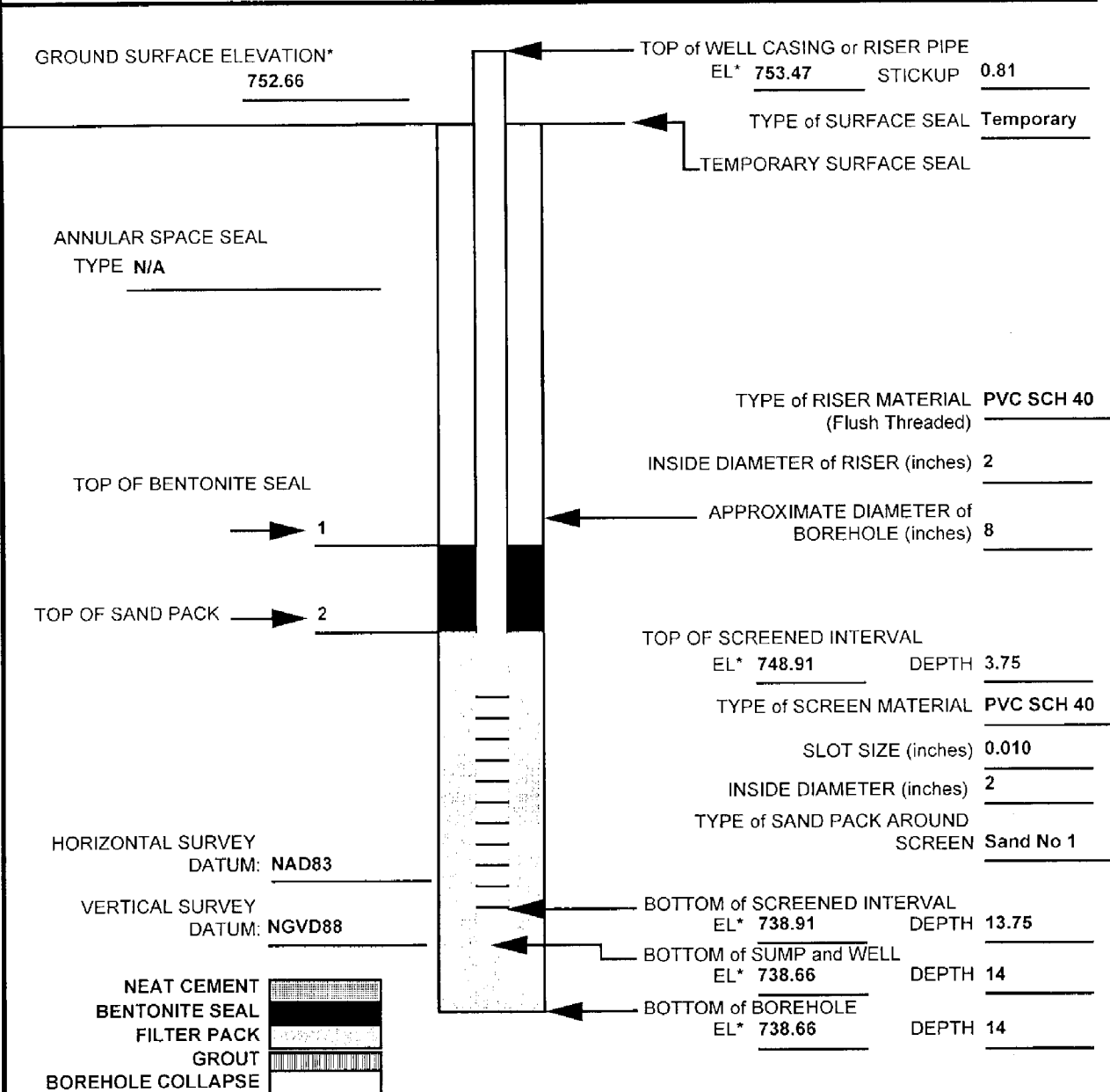
DRILLING METHOD:
Hollow Stem Auger

INSTALLATION DATE: 12/07/98

NORTHING: 1169069.14

EASTING: 666645.24

JOB NO: 774645A



*All elevations (EL) are referenced to MSL.

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