FORT McCLELLAN
REMEDIAL INVESTIGATION REPORT

VOLUME III

APPENDICES D THROUGH G

Submitted to:

U.S. Army Environmental Center
SFIM-AEC-IRA
Aberdeen Proving Ground, Maryland 21010-5401

Submitted by:

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SAIC Project No. 01-0827-03-6520-012

August 1995

APPENDIX D

DRILLING/WELL CONSTRUCTION/WELL DEVELOPMENT RECORDS

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Table D–1. Summary of RI Well Development – Fort McClellan/Pelham Range

Site	Well #	Date		Temperature		Conductance (uS/cm)		pH		Clarity		Vol Removed
		Start	End	Start	End	Start	End	Start	End	Start	End	(gals)
Range L	RL–G01	19 Jun 94	1 Jul 94	73.5	65.9	358	40	7.7	6.9	muddy	clear	170
	RL–G02	1 Dec 94	5 Dec 94	59.4	63.4	406	267	7.6	6.2	v. silty	sl. turbid	765
	RL–G03	29 Nov 94	3 Dec 94	60.2	60.0	347	232	6.7	7.8	clear	clear	570
	RL–G04	31 Jan 95	4 Feb 95	58.4	49.5	681	179	6.8	8.1	v. muddy	clear	300
	RL–G05	31 Jan 95	4 Feb 95	56.7	50.4	429	225	7.5	8.3	v. muddy	v. muddy	300
	RL–G06											
	RL–G07											
Landfill #1	LF1–G01	2 May 94	11May 94	72.9	72.2	19	209	8.1	6.2	muddy	clear	645
	LF1–G02	3 May 94	14 May 94	63.8	65.2	811	812	7.2	6.6	v. cloudy	clear	645
	LF1–G03	29 Apr 94	13 May 94	71.8	64.3	549	654	7.0	6.8	v. cloudy	clear	284
	LF1–G04	30 Apr 94	2 May 94	74.5	59.4	597	770	10.7	7.5	clear	sl turbid	510
Background	BK–G06	20 Apr 94	2 May 94	65.1	60.8	54	31	5.8	6.1	v. muddy	clear	345
Area T–24A	T24A–G01	6 Jul 94	20 Jul 94	75.8	67.8	7400	200	13.6	6.5	cloudy	clear	500
	T24A–G02	19 Nov 94	4 Dec 94	64.3	63.8	313	175	9.0	6.7	v. cloudy	clear	145
	T24A–G03	6 Jul 94	17 Jul 94	71.7	64.6	137	70	7.5	6.9	v. cloudy	clear	275
Range J	RJ–G05											
	RJ–G06	17 Dec 94	8 Jan 95	61.2	57.9	228	184	7.8	8.1	v. silty	clear	3600
	RJ–G07	21 Dec 94	5 Jan 95	57.4	55.2	292	205	6.8	8.0	v.muddy	clear	240
Area T–38	T38–G05	8 Jun 94	21 Jun 94	72.3	66.3	893	52	8.5	4.5	v. cloudy	clear	350
	T38–G06	2 Jul 94	13 Jul 94	80.0	73.7	549	66	10.9	8.1	muddy	muddy, silt	520
	T38–G07	3 Jun 94	19 Jun 94	71.4	69.7	1060	42	10.9	5.8	v. muddy	clear	490
	T38–G08	1 Jun 94	9 Jun 94	68.4	66.1	637	802	7.7	5.5	v. muddy	clear	300
	T38–G09	19 Feb 95	15 Mar 95	60.8	64.8	170	677	7.3	6.1	clear	clear	168
Landfill #3	OLF–G01*	13 Nov 94	17 Nov 94	59.7	59.8	40	30	8.5	8.6	susp. fines	sl. cloudy	150
	OLF–G03*	11 Nov 94	17 Nov 94	62.7	63.3	343	450	7.5	5.8	v. muddy	v.cloudy	275
	OLF–G05*	17 Nov 94	19 Nov 94	62.7	58.4	74	78	6.7	4.6	v.muddy	opaque	293
	OLF–G11	25 Apr 94	2 May 94	68.9	60.2	118	104	5.8	5.3	v.cloudy	clear	240
	OLF–G12	21 Mar 95	6 Apr 95	66.4	64.9	632	145	8.1	5.4	clear	clear	890
	OLF–G13	21 Apr 94	2 Jun 94	64.5	69.5	254	69	4.3	4.7	sl. cloudy	Clear–yellow tin	136
	OLF–G15	28 Apr 94	15 May 94	71.2	65.8	41	21	6.1	5.4	cloudy	clear	350
	OLF–G16	28 Apr 94	2 Jun 94	67.9	71.4	30	30	5.5	5.3	v. muddy	v. muddy	45
	OLF–G17	12 Jul 94	16 Jul 94	73.7	68.7	224	162	6.3	7.1	silty	v sl. tint	395
	OLF–G18	1 Mar 95	14 Mar 95	56.6	68.2	537	93	12.6	5.9	v.muddy	clear	170
	OLF–G19	28 Mar 95	22 Apr 95	65.8	76.4	764	75	8.0	5.3	clear	clear	810
Old Water Hole	OWH–G01	9 Mar 95	20 Apr 95	60.3	73.2	1990	421	13.7	8.6	clear	clear	440
	OWH–G02											
	OWH–G03	22 Feb 95	16 Mar 95	63.4	64.2	1417	141	12.8	6.8	v.cloudy	opaque	250
	OWH–G04	12 Apr 95	21 Apr 95	61.3	67.0	1988	338	12.0	8.0	clear	clear	1475
	OWH–G05	6 Apr 95	19 Apr 95	63.2	64.2	961	178	10.3	8.4	clear	sl. cloudy	1000.0

* Wells OLF–G01, OLF–G03, OLF–G05 installed by USAEHA (1986) redeveloped by SAIC.

SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

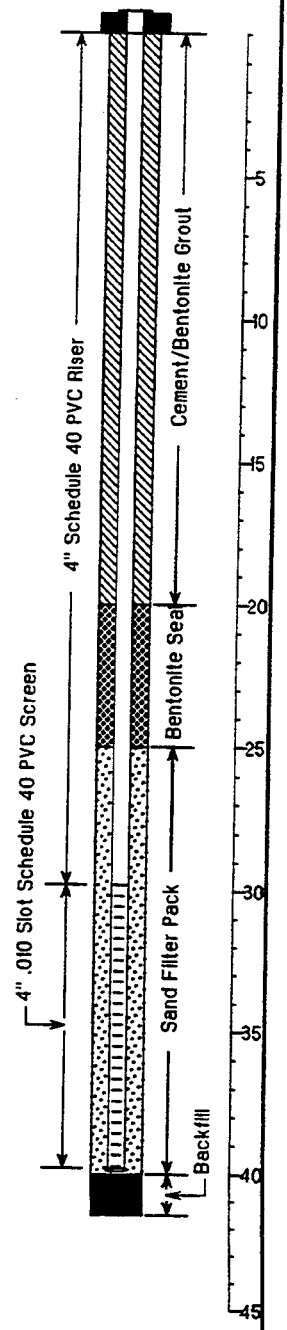
Site Location: Landfill #1
Northing (ft): 1170252.89
Easting (ft): 508707.95
Groundwater Elev. (ft): 768.69
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: LF1-G01
Start/Finish Date: 04-27-94/04-28-94
Well Completion Depth (ft): 40.0
Drilled Depth (ft): 41.5
Surface Elevation (ft): 796.36
Top of Casing Elevation (ft): 796.00

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	NA		Grass Fill.					
	CL		Clay, 30-40% Silt, <10% Gravels (< 2mm.). 7.5YR 6/6 reddish yellow; firm; dry	NR	5-8-10-25	1	SS	NR
5	ML		Silt, 10-30% Clay, <10% Gravels (<2mm.). 10YR6/4 light brown; firm; dry; slight cementation	0/0	13-26-28-28	2	SS	2.0
				0/0	10-16-26-28	3	SS	2.0
10	NA		Weathered Shale, <10% Gravels, bedding intact; 10R6/6 brownish yellow; hard; decomposed; dry; iron stainings	NR	8-18-13-50/5	4	SS	1.9
				NR	28-50/5	5	SS	.92
15				NR	18-21-28-39	6	SS	2.0
20				NR	7-19-43-50/5	7	SS	1.9
25				NR	8-18-39-50	8	SS	NR
30			Weathered Shale/quartz content, 10-20% Silt, <10% Clays, granular sized, sands (fine-med.). increasing in gravity; partial cementation	NR	19-38-50/5	9	SS	NR
35				0/0	19-50/4	10	SS	NR
				NR	19-50	11	SS	NR
40			Shale. 2.5YR4/0 dark gray; friable; some rust staining; serpantine; gloss; waxy feel; friable; dry	0/0	12-50/3	12	SS	NR
45			*Bottom of Boring at 41.5 feet*					

Note:NR=Not Recorded, NA=Not Applicable
SS=Split Spoon, Borehole Diameter=11.75"

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

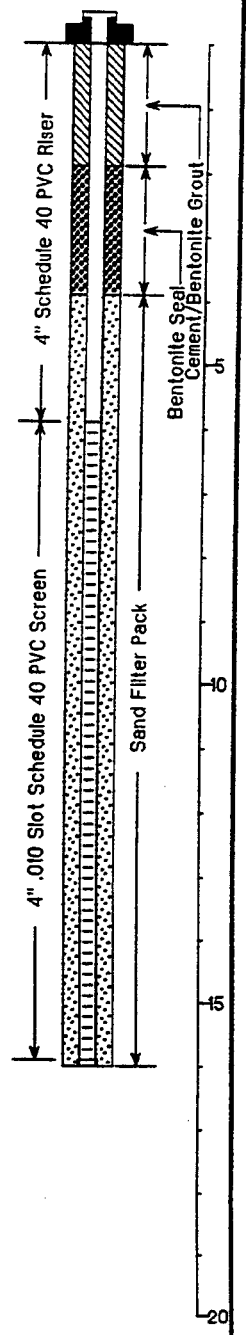
Site Location: Landfill #1
Northing (ft): 1170088.91
Easting (ft): 509407.03
Groundwater Elev. (ft): 743.37
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: LF1-G02
Start/Finish Date: 04-29-94/04-29-94
Well Completion Depth (ft): 16.0
Drilled Depth (ft): 16.0
Surface Elevation (ft): 743.53
Top of Casing Elevation (ft): 743.53

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	CL		Clay, 4% organic/root, 1% Gravels. 7.5YR 6/6 reddish yellow varigated light gray; moderate plasticity; stiff; moist; subangular	2/0	2-4-7-10	1	SS	1.9
5	CL		Clay, 6 to 25% Organics. 7.5YR6/6 reddish yellow varigated light gray; moderate plasticity; firm; no structure	1/0	2-2-4-4	2	SS	1.2
	CL			NR	2-2-4-5	3	SS	0.8
	CL		Clay, 15-20% fine-med. Sand. 7.5YR7/1 lt. gray, varigated reddish yellow; moderate plasticity; stiff; moist; subangular; no structure	1/0	4-6-6-13	4	SS	1.5
10	CL		Sandy Clay, 25% fine Sand. Gley 5B5/1 greenish gray varigated reddish yellow; moderate plasticity; stiff; moist; subangular; no structure	0/0	4-5-6-8	5	SS	0.8
	NA		Shale. 10YR4/2 Dark grayish brown; soft; moderately cemented; friable; weathered; highly fractured; fissle;	NR	5-6-8-12	6	SS	1.6
15	NA		Shale, increasing quartz granules (5%). 10YR 4/2 dark grayish brown; hard; friable; slightly weathered; moderate primary permeability; moderate fractured; iron-staining; hard	0/0	8-20-20/5	7	SS	.71
20			*Bottom of Boring at 16.0 feet*					

Note:Not Recorded, NA=Not Applicable
SS=Split Spoon, Borehole Diameter=11.75"

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

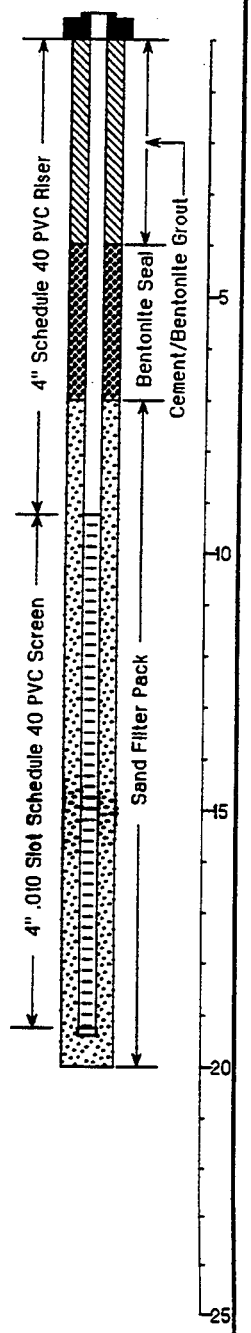
Site Location: Landfill #1
Northing (ft): 1169686.95
Easting (ft): 509162.01
Groundwater Elev. (ft): 737.57
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: LF1-G03
Start/Finish Date: 04-19-94/04-19-94
Well Completion Depth (ft): 22.0
Drilled Depth (ft): 24.0
Surface Elevation (ft): 739.97
Top of Casing Elevation (ft): 742.41

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	NA		Organic Overburden.					
	CL		Clay, 40% Silt. 5Y5/4 olive; soft; moist	0/0	1-5-3-7	1	SS	2.0
	ML		Clay, 20% Silt, <10% coarse sand to gravels. 5Y4/4 olive; soft; moist	0/0	2-3-5-6	2	SS	2.0
5	CL		Silt, 20-30% Gravels to coarse sands. 5Y3/2 dark olive gray; soft; slightly moist; partial cementation; fissle	NR	2-3-6-16	3	SS	2.0
			Clay, 20% Silt; <10% red chert Gravel. 5Y5/6 olive; plastic; firm; moist					
	ML		Clay, 10-30% Silt with Organics (roots). 5Y5/6 olive; mod. plasticity; olive; moist	0/0	4-10-50/5.5	4	SS	1.5
			Silt, 10-30% fine to coarse Sand, <10% Clay. 7.5YR3/0 very dark gray hard; dry	NR	12-50/5	5	SS	.67
10	NA		Bedrock-Shale. 5YR5/2 redish gray consolidated; waxy texture; fissle; weathered; dry to slightly moist; (easily broken with fingers.)	0/0	36-50/3	6	SS	.75
				0/0	15-50/4	7	SS	.83
15								
20			Less weathered Shale, more competent. 2.5YR3/0 very dark gray.	NR	50/0	8	SS	NR
			Bottom of Boring at 20.0 feet					

Note:NR=Not Recorded, NA=Not Applicable
SS=Split Spoon, Borehole Diameter=1L75"

Well Const. As-Built



SOIL BORING/WELL LOG

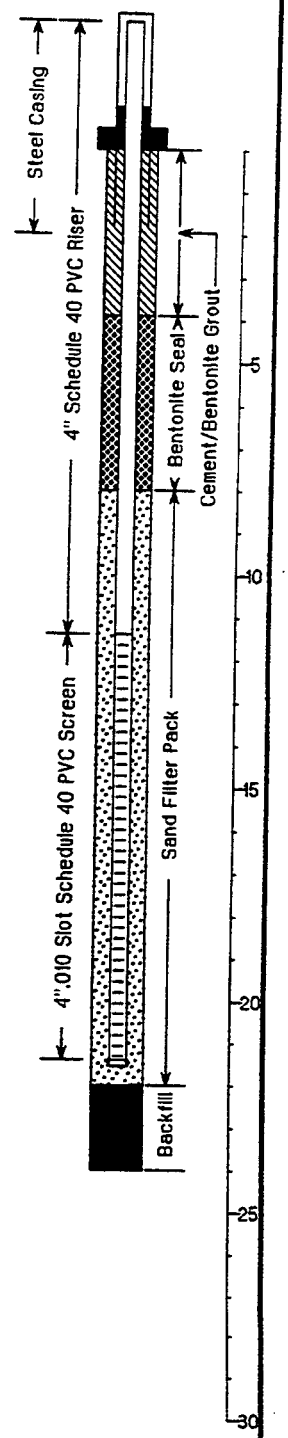
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

Site Location: Landfill #1
Northing (ft): 1169559.63
Easting (ft): 509655.74
Groundwater Elev. (ft): 734.17
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: LF1-G04
Start/Finish Date: 04-26-94/04-26-94
Well Completion Depth (ft): 22.0
Drilled Depth (ft): 24.0
Surface Elevation (ft): 756.18
Top of Casing Elevation (ft): 758.60

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	NA		Organic Overburden.					
	GC		Gravel, pebbles (10-35mm), with Clay, poorly sorted; firm; slightly moist	NR	2-6-12-16	1	SS	2.0
	CL		Clay, Silt (20-30%). 5Y6/1 gray; low plasticity; firm; slightly moist	NR	2-3-4-6	2	SS	2.0
5	ML		Silt, <10% Clay. 10YR5/4 yellowish brown; firm; slightly moist	NR	3-6-10-16	3	SS	2.0
			Silt and Clay, <10% Gravel, (6-10 mm). 5YR6/1 gray; firm; moist; angular	NR	8-12-17-22	4	SS	2.0
10			Weathered shale, fine sand and silt. 10YR5/4 yellowish brown; to 10YR5/3 partial cementation; friable; decomposed material; some iron staining at 13; wet at 13-14'	NR	10-12-16-18	5	SS	2.0
				NR	6-9-11-12	6	SS	NR
				NR	6-8-30-50/3	7	SS	2.0
15	NA		Shale. 10YR 2/1 Black; friable; iron staining					
20								
25			*Bottom of Boring at 24.0 feet*					
30			*Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, Borehole Diameter=11.75"*					

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

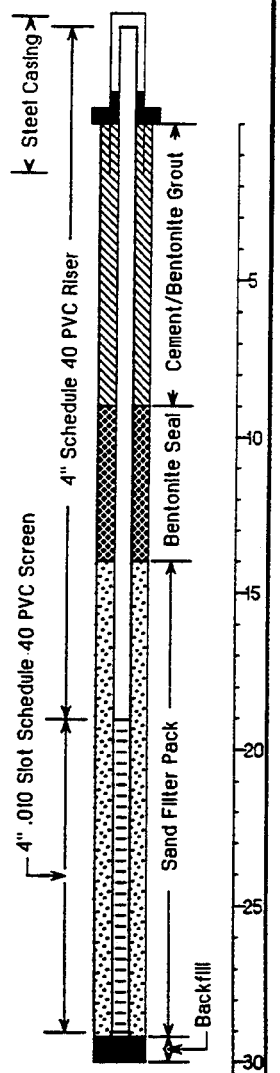
Site Location: Old Landfill #3
Northing (ft): 117929.44
Easting (ft): 513171.51
Groundwater Elev. (ft): 724.46
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-G11
Start/Finish Date: 04-17-94
Well Completion Depth (ft): 29.2
Drilled Depth (ft): 30.0
Surface Elevation (ft): 744.61
Top of Casing Elevation (ft): 747.11

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	NA		Surface Grass.					
	GC		Gravel, 10-30% Clay and Silt, <10% fine Sand. loose; moderately sorted; slightly moist; well rounded	0/0	2-3-5-6	1	SS	1.6
5	ML		Silt, 30% Clay. 7.5YR5/4 brown to 7.5YR4/6 strong brown; firm; slightly moist	0/0	2-4-6-12	2	SS	2.0
	CL		Clay, 20% Silt. 10YR6/8 brownish yellow; firm; moist	0/0	2-2-6-12	3	SS	1.8
10	ML		Silt. 2.5Y6/4 light redish brown; dry; partial cementation; organics; fissle characteristics					
	CL		Silt, 40% Clay. 7.5yr4/6 strong brown; stiff; moist	NR	2-6-12-16	4	SS	2.0
15	ML		Clay, 20% Silt. 7.5yr5/6 strong brown; stiff; moist					
	NA		Silt, <10% Clay. 2.5R5/2 grayish brown mottled; firm; dry	0/0	5-15-21-21	5	SS	2.0
20	ML		Shale. 5y5/1 gray; fissle; hard; weathered Silt, 10% Clay. 7.5YR6/6 reddish yellow; firm to hard; moist; partially cement					
	NA CL		Shale. 5Y5/1 gray; fractured; highly decomposed; weathered; dry	0/0	4-5-7-7	6	SS	2.0
25	ML CL NA ML		Clay, 20% Silt. 7.5YR6/2 pinkish gray; firm; moist Silt, <10% fine Sand. 7.5YR5/4 brown; soft; slightly moist					
	CL GC ML		Clay, 20% Silt. 7.5YR5/4 brown; firm	NR	3-3-11-21	7	SS	2.0
30			Shale, weathered highly decomposed Silt matrix					
			Silt, <10% Clay. firm; dry					
35			Clay, 20% Silt, <10% Gravel. 7.5YR5/4 brown; soft; moist; angular					
			Gravel, fine to coarse Sand, with Clay. 7.5YR6/0 gray; firm; slightly moist					
			Silt, <10% Clay. 10YR6/8 brownish yellow; soft					
40			Silt. partial cementation; hard; dry					
			Bottom of Boring at 30 feet					

Note:NR=Not Recorded, NA=Not Applicable
SS=Split Spoon, Borehole Diameter=11.75"

Well Const. As-Built



SOIL BORING/WELL LOG

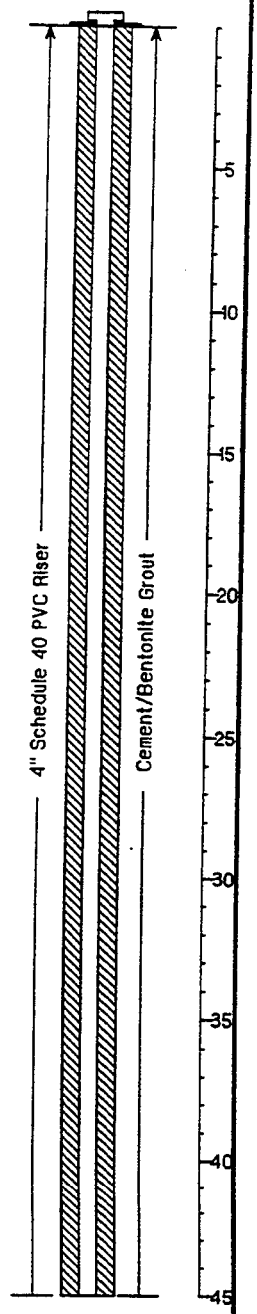
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers Inc.
Driller: Kenneth Kesty
Drill Rig: Model B-61

Site Location: Old Landfill #3
Northing (ft): 1180476.24
Easting (ft): 512356.29
Groundwater Elev. (ft): 680.04
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-612
Start/Finish Date: 03-13-95/04-17-95
Well Completion Depth (ft): 87
Drilled Depth (ft): 87
Surface Elevation (ft): 743.53
Top of Casing Elevation (ft): 743.88

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
5	ML		Silt, 20% very fine Sand. 10R3/6 dark red. very dense; moist; low plasticity, trace of light brownish yellow fine sand; subrounded; slightly fissile	0/0	33	1	SS	1.5
10			Silt, 20% very fine Sand. 10R3/6 dark red. very dense; moist; low plasticity; Same as above with trace of light gray very fine sand.	0/0	52	2	SS	1.6
15			Sandy Silt, 35% very fine Sand. 10R3/6 dark red; very dense; moist; low plasticity interbeds of light brownish yellow very fine sand; subrounded; fissile	0/0	75	3	SS	1.7
20			Sandy Silt, 35% very fine Sand, 10YR7/4 very pale brown; very dense; moist; low to moderate plasticity, bottom 4" of sample is wet, trace of light gray clay, subrounded	0/0	50	4	SS	1.6
25			Sandy Silt, 40% very fine sand. 10YR7/4 very pale brown; very dense; dry; low plasticity; fissile, subrounded	0/0	50/6"	5	SS	2.0
30			Sandy Silt, 25% very fine sand. 10YR3/6 dark red; very dense; moist; low plasticity, fissile with a trace of white and brownish yellow sand, subrounded	0/0	50/6"	6	SS	0.7
35			Silt, 20% very fine sand. 10YR3/6 dark red; very dense; moist; low plasticity; fissile with a trace of light brownish yellow sand, subrounded	0/0	50/4"	7	SS	0.9
40			Silt, 20% very fine Sand. 10YR3/6 dark red; very dense; moist; low plasticity; Same as above	0/0	50/3"	8	SS	0.4
45								

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers Inc.
Driller: Kenneth Kesty
Drill Rig: Model B-61

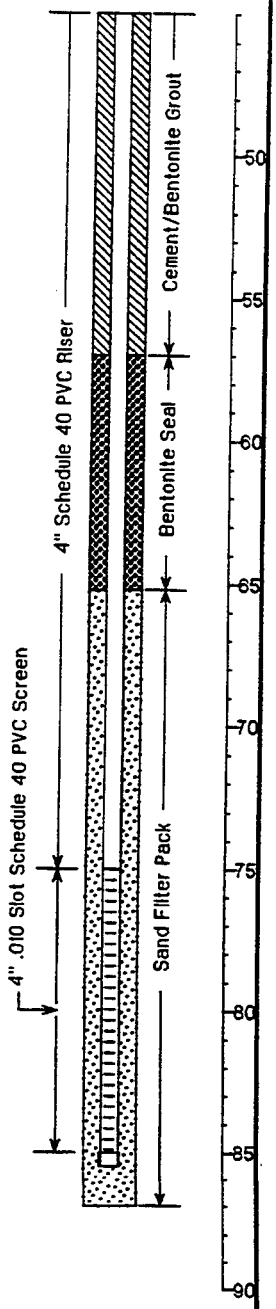
Site Location: Old Landfill #3
Northing (ft): 1180476.24
Easting (ft): 512356.29
Groundwater Elev. (ft): 680.04
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-G12
Start/Finish Date: 03-13-95/04-17-95
Well Completion Depth (ft): 87
Drilled Depth (ft): 87
Surface Elevation (ft): 743.53
Top of Casing Elevation (ft): 743.88

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	ML		Silt, 15% very fine Sand. 10YR3/6 dark red; very dense; moist; low plasticity; trace of light brownish yellow silt, subrounded. At 47ft BGS cuttings began balling up with moisture	0/0	50/3"	9	SS	1.0
50			Silt. 15% very fine Sand. 10YR3/6 dark red; very dense; moist; low plasticity; Same as above	0/0	50/4"	10	SS	1.2
55			Sandy Silt. Sand: 30% very fine, 5% Coarse. 10YR3/6 dark red; very dense; moist; low plasticity; slightly fissile; subrounded	0/0	50/3"	11	SS	0.3
60			Top .6ft=Silt, 15% very fine Sand. 10YR3/6 dark red; very dense; moist; low plasticity; slightly fissile subrounded. Bottom 1ft=silt, 10YR7/8 Yellow, MnO2 veining/filled fractures, subrounded	0/0	42	12	SS	1.6
65	NA		Shale; 5Y6/2 light olive gray; very hard; thinly bedded, moderately cemented, texture very fine, fissile, moderately weathered, fracture,	0/0	50/2"	13	SS	0.2
70	SM		Silty Sand, very fine, 40% Silt, 2.5YR6/4 weak red; very dense; moist; low plasticity; thinly bedded light red, gray silty sand subrounded, sandstone fragments present <5%	0/0	50/3"	14	SS	1.0
75			Silty Sand, 40% Silt. 2.5YR6/4 weak red; very dense; moist; low plasticity; Same as sample #14 with gravel present approx 10%	0/0	50/2"	15	SS	0.5
80								
85								
90			Botom of boring at 87 feet					

Note:NR=Not Recorded, NA=Not Applicable, SS=Split Spoon, NS=Not Screened, Borehole Diameter 7 3/4"

Well Const. As-Built



SOIL BORING/WELL LOG

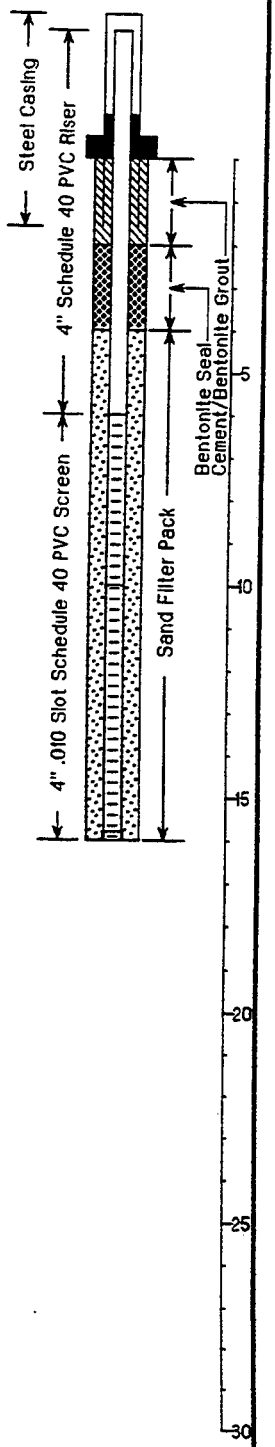
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

Site Location: Old Landfill #3
Northing (ft): 1180299.12
Easting (ft): 513477.75
Groundwater Elev. (ft): 731.90
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-G13
Start/Finish Date: 04-16-94
Well Completion Depth (ft): 16.0
Drilled Depth (ft): 16.0
Surface Elevation (ft): 736.94
Top of Casing Elevation (ft): 739.49

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	CL		Silty Clay, 20% silt. 7.5YR4/4 dark brown; soft	0/0	3-2 -4-6	1	SS	1.8
			Sandy Clay, 10-30% Gravel. 7.5YR6/0 gray; soft; moist	0/0	3-6-5-7	2	SS	1.9
5	SM		Silty Clay, 20% Silt. 7.5YR3/0 very dark gray; soft, moist					
	SC		61% Silty Sand, 37% Clay, 2% Gravel. 7.5YR6/0 gray; soft; wet					
			Clay, 10-30% fine Sand, <10% Silt. 10YR7/1 light gray; increasing sand gradient; moist	0/0	2-2-4-7	3	SS	2.0
10	SP / CL		Clayey Sand, 10-30% fine sand, <10 Gravels, 10YR7/2 light gray; moist					
	ML		Fine Sand, <10% Clay, 5YR8/1 white					
			Sandy Clay. 10YR8/1 white					
15			Silt, <10% Clay. 10YR4/2 weak red	0/0	2-2-2-2	4	SS	1.5
			Bottom of boring at 16 feet					
			Note: NR=Not Recorded, NA=Not Applicable, SS=Split Spoon, Borehole Diameter=11.75"					
20								
25								
30								

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

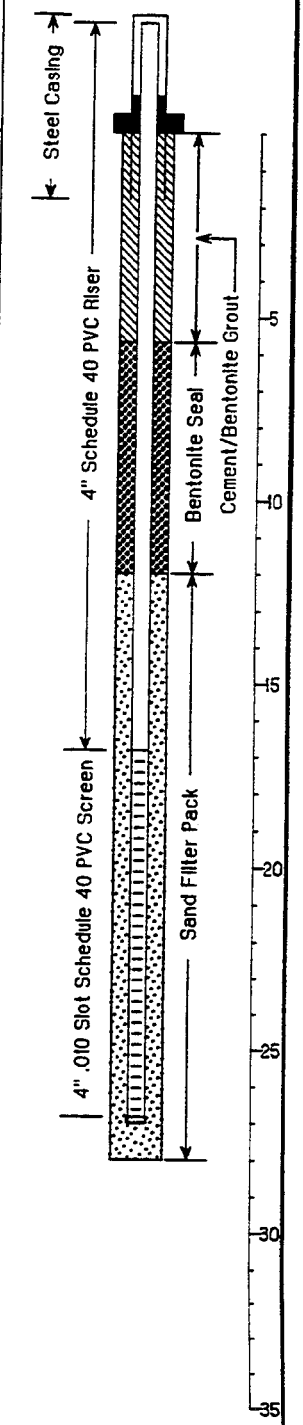
Site Location: Old Landfill #3
Northing (ft): 1181158.78
Easting (ft): 513146.43
Groundwater Elev. (ft): 717.49
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-G15
Start/Finish Date: 04-20-94
Well Completion Depth (ft): 28.0
Drilled Depth (ft): 28.0
Surface Elevation (ft): 732.92
Top of Casing Elevation (ft): 735.45

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	ML		Silt. 5YR3/4 dark reddish brown; soft; slightly moist	0/0	2-2-3-4	1	SS	1.6
	CL		Clay, 20% Silt. 5YR5/8 yellowish red; slight plasticity; soft; moist	0/0	4-6-8-11	2	SS	2.0
5			Clay, 40% Silt. 5YR5/8 yellowish red; soft; slightly moist	0/0	3-5-7-8	3	SS	2.0
			Clay, 20% Silt,<10% Gravel (10-20cm). 7.5YR5/8 strong brown; firm; slightly moist; angular	NR	2-3-4-3	4	SS	2.0
	ML		Silt, 10-30% Clay. 7.5YR6/6 redish yellow; soft; moist	NR	3-3-4-6	5	SS	2.0
10			Clay, 20% Silt. 10YR6/8 brownish yellow; firm; slight plasticity; moist	NR	3-3-5-10	6	SS	2.0
	CL		Clay, <10% Silt. 10YR7/8 yellow; firm; some plasticity; moist	NR	6-6-6-7	7	SS	2.0
15			Clay, 10-30% Silt. 5YR5/4 redish brown; firm; moist; slight cementation; interbedded laminates of organics (decomposed);	NR	3-5-5-6	8	SS	NR
	ML		Clay, 10-30% Silt. 7.5YR5/8 strong brown; no plasticity; soft; slighty moist	0/0	2-3-4-5	9	SS	2.0
	CL		Silt, 10-30% Clay and fine Sands. 7.5YR6/8 reddish yellow; soft; laminates of alternating silt and sand; soft	0/0	2-2-2-2	10	SS	2.0
20			Clay; <10% Silt. soft; plastic; laminates of partical cemented silts.	NR	1-1-1-2	11	SS	NR
	ML		Clay, 40% Gravel (20-30mm). 5YR4/6 yellowish red with 10YR6/8 brownish yellow gravel; soft; plastic; moist to wet; angular; quartzite					
25			Silt, 10-30% Clay. 10YR7/6 yellow; soft; moist; partial cementation					
	CL		Clay, 10-30 Silt. 10YR7/6 yellow; firm; slightly moist; laminates of partially cemented organic material (black) and silts	0/0	5-6-7-10	12	SS	2.0
30			*Bottom of Boring at 28 feet*					
35								

Note=NR=Not Recorded, NA=Not Applicable
SS=Split Spoon, Borehole Diameter=8.75"

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

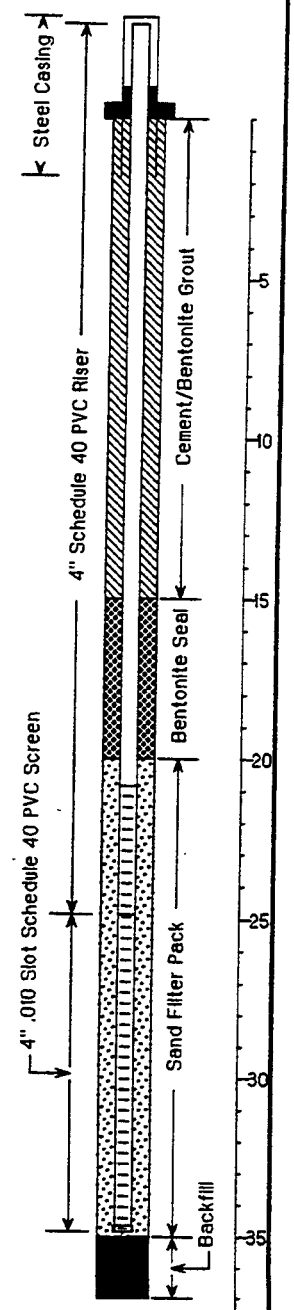
Site Location: Old Landfill #3
Northing (ft): 1180886.81
Easting (ft): 512694.55
Groundwater Elev. (ft): 701.39
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-G16
Start/Finish Date: 04-18-94
Well Completion Depth (ft): 35.0
Drilled Depth (ft): 37.0
Surface Elevation (ft): 735.31
Top of Casing Elevation (ft): 737.80

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	NA		Surface Grassy. organic loess					
	ML		Silt, 7.5YR3/2 dark brown; soft; moist; some organics; roots	0/0	2-4-7-11	1	SS	2.0
5			Silt, 40% Clay. 7.5YR5/8 strong brown; firm; slightly moist	NR	2-3-5-6	2	SS	2.0
10	CL		Clay, 40% Silt. 7.5YR4/6 strong brown; firm; moist	NR	3-5-6-7	3	SS	1.8
15			Silt, <10% fine Sands. 5R4/3 reddish brown; dry; slight cementation	0/0	2-3-6-8	4	SS	2.0
20			Silt, <10% Clay and Gravel (<2cm.). 10YR4/3 dark brown; soft; moist	0/0	6-8-12-20	5	SS	NR
25	ML		Silt. 10R3/4 weak red ; hard; dry; slight cementation;	0/0	7-16-17-22	6	SS	NR
30			Silt, <10% Clay. 2.5YR3/4 reddish brown; soft; moist	0/0	2-2-4-2	7	SS	1.0
35			Silt, 20% Clay. 7.5R4/2 reddish brown; firm; dry; partial cementation; fracturesw/black organics in fractures; fissle	0/0	1-1-1-9	8	SS	1.0
40			*Bottom of boring at 37 feet*					

Note:NR=Not Recorded; NA=Not Applicable
SS=Split Spoon; Borehole Diameter=11.7"

Well Const. As-Built



SOIL BORING/WELL LOG

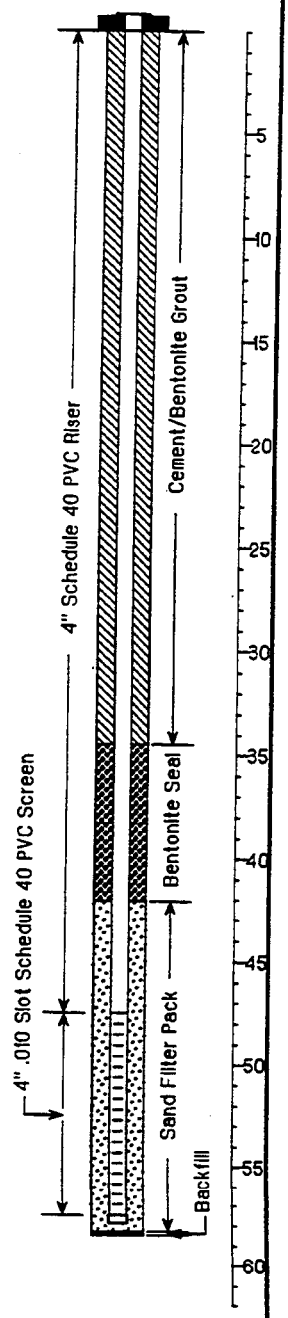
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Ricky Bilbrey
Drill Rig: CME Model 75

Site Location: Old Landfill #3
Northing (ft): 1179743.99
Easting (ft): 512044.54
Groundwater Elev. (ft): 697.82
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-G18
Start/Finish Date: 02-20-95/02-21-95
Well Completion Depth (ft): 58.3
Drilled Depth (ft): 58.5
Surface Elevation (ft): 740.83
Top of Casing Elevation (ft): 740.81

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
5	CL		Sandy Clay, 30% Sand: 20% coarse, 10% medium, 5% roots 10YR5/8 yellowish brown; moderate plasticity; medium; moist; no apparent bedding; subangular; road gravel at bottom of spoon-2%	0/0	9-10-3-4	1	SS	0.5
10				0/0	4-4-8-7	2	SS	1.8
15	ML		Silty Clay, 30% Silt, Sand: 15% medium, 5% grannular. 10R3/6 dark red; varigated light brownish yellow and light gray; moderate plasticity; stiff; moist; no apparent bedding; subrounded	1ppm/0	6-7-12-26	3	SS	2.0
20			Silt, 20% medium Sand, 10YR3/4 Dusky Red; best fit color acutualy a a purplish red varigated orange, light gray; low plasticity; dense; Silt; moist; fissle; subrounded	0/0	12-24-38-50/5"	4	SS	2.0
25			Same as above, very dense					
			Same as above with very fine grained Sand interbeds, 20% Sand, very dense	1ppm/0	10-21-30-36	5	SS	1.5
30			Same as above. varigated white, very dense	1ppm/0	4-25-49-50/4"	6	SS	1.5
35			Same as above	0/0	9-30-50/5"	7	SS	1.2
40			Same as above. banded yellowish; very dense	0/0	4-22-45-50/5"	8	SS	1.2
45			Same as above. banded tan; very dense	0/0	15-29-50/4"	9	SS	1.2
50			Same as above; very dense	0/0	10-31-50/5"	10	SS	1.5
55			Same as above .1-58.5 *Bottom of boring at 58.5 feet*	0/0	19-50/3"	11	SS	0.8
60			*Note: NR=Not Recorded, NA=Not Applicable SS=Split Spoon, Borehole Diameter=11.5"*					

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Kenneth Kesty
Drill Rig: CME Model 75

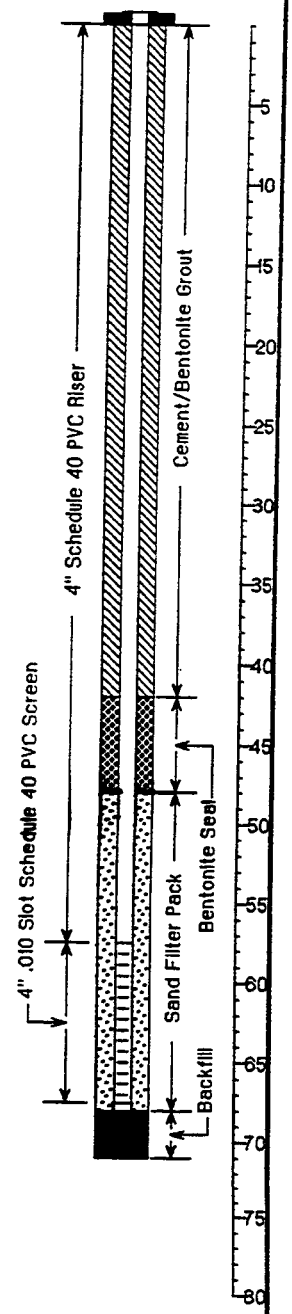
Site Location: Old Landfill #3
Northing (ft): 1180087.97
Easting (ft): 512195.91
Groundwater Elev. (ft): 692.87
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OLF-G19
Start/Finish Date: 03-18-95/03-21-95
Well Completion Depth (ft): 68.0
Drilled Depth (ft): 71.0
Surface Elevation (ft): 742.79
Top of Casing Elevation (ft): 742.30

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80			No Samples collected. Geology similar to other wells in area.					
			Bottom of boring at 71'					

Note: NR=Not Recorded, NA=Not Applicable
SS=Split Spoon, Borehole Diameter=7.3/4"

Well Const. As-Built



SOIL BORING/WELL LOG

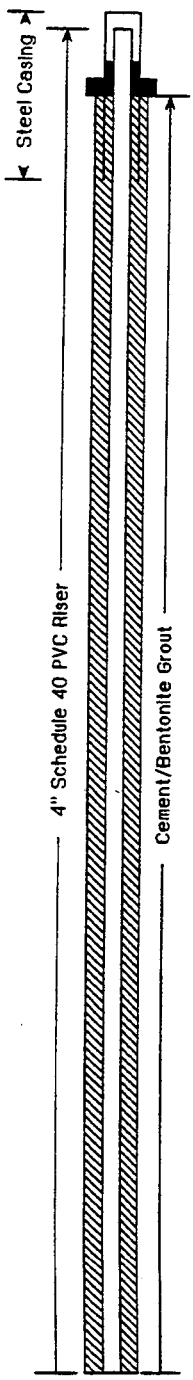
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Vickie Metcalfe
Drilling Co.: Environmental Exploration Inc.
Driller: Jim Willis
Drill Rig: CME Model B-57

Site Location: T38
Northing (ft): 1173730.30
Easting (ft): 518429.81
Groundwater Elev. (ft): 937.56
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G05
Start/Finish Date: 06-04-94/06-05-94
Well Completion Depth (ft): 64.00
Drilled Depth (ft): 67.00
Surface Pad Elevation (ft): 989.27
Top of Casing Elevation (ft): 991.01

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL		Sandy Clay, 25% medium to coarse sand, 1% quartz grannules. 10R3/6 dark red and 2.5YR4/8 red varigated yellow and white; moderate plasticity; firm; moist; subangular; no structure	0.03	0.07	0.02	5	SS-1	2.0
				0.03	0.06	0.06	12	SS-2	2.0
5			Clay, 0 to 15% coarse Sand. 5YR5/8 yellowish red, varigated moderate yellowish brown and 7.5YR6/6 reddish yellow, mottled light yellowish brown; moderate; plasticity; stiff; moist; subangular; no structure	0.03	0.05	0.01	11	SS-3	1.7
10				0.00	0.01	0.07	13	SS-4	1.3
15			Clayey Sand, 47% very fine to very coarse Sand, 35% Clay, 16% Silt, 7.5YR6/6 reddish yellow; varigated; white and reddish orange; moderate plasticity, moist; subangular; no structure	0.03	0.00	0.07	7	SS-5	1.4
	SC			0.00	0.00	0.07	64	SS-6	1.2
20	SP		Clayey Sand, medium grained Sand. 7.5YR8/2 dark brown and pinkish white and 2.5YR5/4 light olive brown; slightly cemented; well sorted; fissle; friable; very dense; moist; subangular; no structure	NS	NS	NS	50/3"	SS-7	0.3
25	SC		Sand, coarse grained, 20 to 30% Clay, 3 to 10% MnO2. 2.5YR6/8 red varigated white; partially cemented white sandstone fragments, moderately to poorly sorted; loose; moist; subangular; no structure	NS	NS	NS	10	SS-8	2.0
30				NS	NS	NS	9	SS-9	2.0
35	CL		Sandy Clay, 35% medium to coarse Sand; 2% MnO2. 10YR6/6 brownish yellow; low plasticity; poorly sorted; soft; moist; subangular; no structure	NS	NS	NS	4	SS-10	2.0

Well Const. As-Built



SOIL BORING/WELL LOG

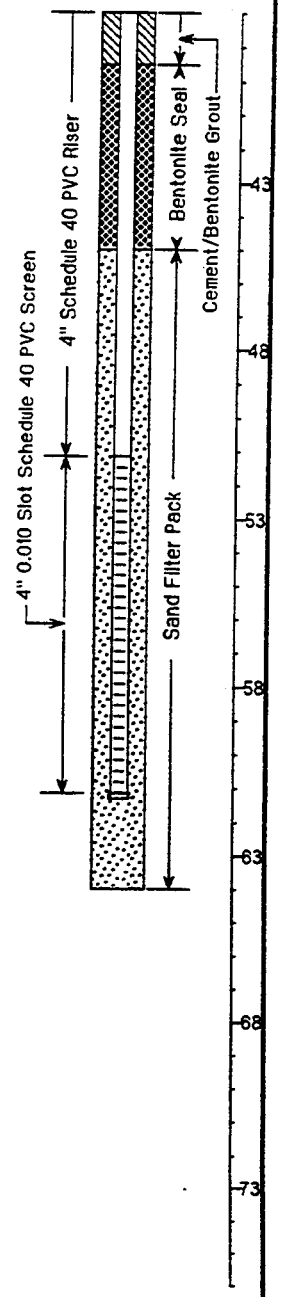
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Vickie Metcalfe
Drilling Co.: Environmental Exploration Inc.
Driller: Jim Willis
Drill Rig: CME Model B-57

Site Location: T38
Northing (ft): 1173730.30
Easting (ft): 518429.81
Groundwater Elev. (ft): 937.56
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-605
Start/Finish Date: 06-04-94/06-05-94
Well Completion Depth (ft): 64.00
Drilled Depth (ft): 67.00
Surface Pad Elevation (ft): 989.27
Top of Casing Elevation (ft): 991.01

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL								
43	SW		Sand, medium grained. 7.5YR6/6 reddish yellow; moderately cemented Sandstone; well sorted; not friable; medium; subangular; no structure	NS	NS	NS	17	SS-11	2.0
48	CL		Clay, 10% quartz fragments, 3%MnO2, 2-inch interbedded brown sand medium to coarse grained at 46'. 10YR6/6 brownish yellow moderate placticity; poorly sorted; stiff; moist; angular	NS	NS	NS	10	SS-12	2.0
53			Sandy Clay, 30% medium to coarse Sand, 0 to 10% cemented Sandstone fragments. 10YR7/6 to 10YR8/6 yellow varigated yellowish brown, light gray; reddish brown and gray; low plasticity; soft to medium; moist angular; saprolitic	NS	NS	NS	3	SS-13	2.0
58				NS	NS	NS	8	SS-14	1.0
63			Clay, 20% medium grained Sand. Hue light gray, whisp brownish yellow and mottled grayish white; low plasticity; stiff to very stiff; moist; subangular; saprolitic	NS	NS	NS	15	SS-15	1.4
68			Sandy clay medium to coarse grained. 10YR6/8 brownish yellow; low plasticity; moderately sorted; very stiff; moist; subangular	NS	NS	NS	24	SS-16	2.0
			Sand, medium to coarse grained. 10YR6/8 brownish yellow; low plasticity; moderately sorted; medium; moist subangular						
			Bottom of boring at 67.0 feet						
73			*Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened, Borehole Diameter=11.75", Well was installed at another location about 20 feet away but lithology for 1st borehole was used. OVA, LEL, H2S readings were 0%, 0ppm, and 0%, respectively, unless otherwise noted.*						

Well Const. As-Built



SOIL BORING/WELL LOG

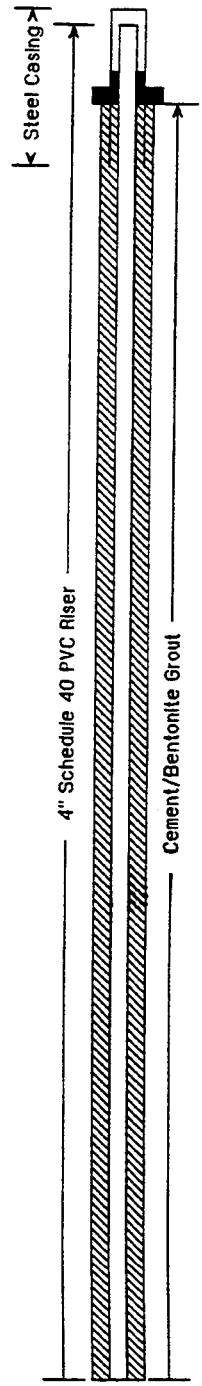
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Vickie Metcalfe
Drilling Co.: Well Drilling Inc.
Driller: John Sims
Drill Rig: IngersollRand T3W

Site Location: T38
Northing (ft): 1173699.16
Easting (ft): 518797.26
Groundwater Elev. (ft): 922.50
Drilling Method: Air Rotary
Sampling Method: Grab

Monitoring Well No.: T38-G06
Start/Finish Date: 06-28-94/06-28-94
Well Completion Depth (ft): 80.00
Drilled Depth (ft): 80.00
Surface Pad Elevation (ft): 985.82
Top of Casing Elevation (ft): 987.79

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL		Clayey Sand, 61% very fine to very coarse sand, 21% Silt, 16% Clay, 2% Gravel. 10R3/6 dark red; moderate plasticity; very stiff; moist; subangular; no structure	0.00	0.03	0.00	17	SS-1	2.0
5	SC		Clay Sand, 30% Clay, interbedded medium Sand. 10YR8/8 yellow varigated dark red and light red to 10YR6/8 brownish yellow; poorly sorted; very stiff; moist; subangular; no structure	0.00	0.01	0.00	19	SS-2	0.8
10				0.00	0.01	0.00	20	SS-3	1.0
15				0.00	0.00	0.00	19	SS-4	1.2
20	NA		Moderately cemented Sandstone, very pale brown; small fragments recovered; hard	NS	NS	NS	50/1"	SS-5	0.8
25	CL		Sandy Clay, 45% medium grained sand. 30% weathered sandstone; moderatel cemented. 10YR6/8 brownish yellow, varigated light gray; low to moderate plasticity; poorly sorted; very stiff; moist; subangular	NS	NS	NS	17	SS-6	1.0
30				NS	NS	NS	29	SS-7	0.7
35			Clay, 15% medium Sand to granules, 5% quartz Sandstone fragments. 5YR5/8 red varigated brownish yellow; moderately plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	21	SS-8	1.4
40				NS	NS	NS	13	SS-9	1.6

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Vickie Metcalfe
Drilling Co.: Well Drilling Inc.
Driller: John Sims
Drill Rig: IngersollRand T3W

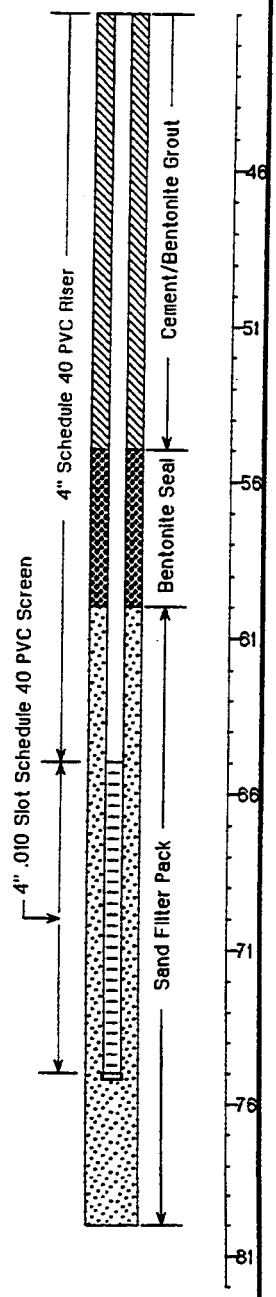
Site Location: T38
Northing (ft): 1173699.16
Easting (ft): 518797.26
Groundwater Elev. (ft): 922.50
Drilling Method: Air Rotary
Sampling Method: Grab

Monitoring Well No.: T38-G06
Start/Finish Date: 06-28-94/06-28-94
Well Completion Depth (ft): 80.00
Drilled Depth (ft): 80.00
Surface Pad Elevation (ft): 985.82
Top of Casing Elevation (ft): 987.79

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL		Clay, 15% medium Sand, 5% quartz sandstone fragments. 5YR5/8 yellowish red varigated brownish yellow; moderate plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	13	SS-9	1.6
46				NS	NS	NS	16	SS-10	1.7
51			Core barrel sample 3" recovered, arkasic Sandstone with black weathered surface and red iron staining; possible bolder, move to hole 10 away and begin drilling again. Description will begin at 50.1 of other hole.	NS	NS	NS	15	SS-11	1.2
	ML		Clayey Sand,very fine to very coarse Sand, 28% Clay, 27% Silt 5% MnO2. 7.5 YR6/8 reddish yellow, mottled light gray and black; low plasticity; poorly sorted; very stiff; compact; moist; subangular; no structure	NS	NS	NS	50/5"	SS-12	1.0
56									
61	CL		Sandy Silt, 35% medium to coarse grained Sand, 10% Sandstone. 10YR3/6 dark red; low placticity; poorly sorted; very compact; moist; subangular; no structure	NS	NS	NS	10	SS-13	0.6
66			Sand Clay, 45% medium Sand to granule 7.5YR5/6 strong brown, varigated varigated reddish brown; low plasticity; poorly sorted; stiff; subangular; no structure	NS	NS	NS	11	SS-14	1.0
71			Sandy Clay, 30% medium Sand to grannules, 5% Sandstone fragments. 7.5YR5/6 strong brown; low plasticity; poorly sorted; stiff; moist; subangular; no structure						
76									
81			*Bottom of boring at 80 feet*						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS= Not Screened, Borehole Diameter=10.58" OVA=0ppm, LEL=0%, H2S=0ppm in all intervals.

Well Const. As-Built



SOIL BORING/WELL LOG

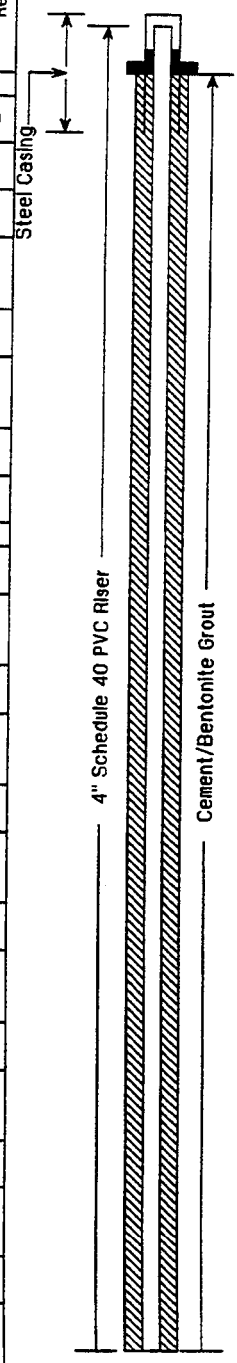
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Environmental Exploration, Inc.
Driller: Jason Roberts
Drill Rig: CME Model #75

Site Location: T38
Northing (ft): 1173528.57
Easting (ft): 518884.27
Groundwater Elev. (ft): 920.46
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G07
Start/Finish Date: 05-23-94/05-26-94
Well Completion Depth (ft): 97.0
Drilled Depth (ft): 97.0
Surface Pad Elevation (ft): 1001.44
Top of Casing Elevation (ft): 1003.19

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	ML		Sandy Silt, 40% medium to very coarse sand, 3% granules, 3% sandstone fragments. 10R4/8 Red, varigated brownish yellow; low plasticity; poorly sorted; hard; moist; subangular; no structure. OVA=0ppm	0.02	0.01	0.08	34	SS-1	2.0
5	SM		Silt Sand, medium to coarse Sand, 25% Silt. 7.5YR6/6 reddish yellow varigated red and pinkish white to 7.5YR5/6 strong brown; moderately to poorly sorted; very dense; moist; subangular; no structure. OVA=0ppm	0.00	0.00	0.00	53	SS-2	1.2
10				0.00	0.00	0.06	18	SS-3	1.4
15	SC		Clayey Sand, medium to coarse Sand, 25 to 35% Clay, 5 to 10% Sandstone fragments, 3% grannular size grain. 10YR7/8 yellow varigated red and pinkish white; poorly sorted; medium to dense; moist; subangular; no structure OVA=0ppm	0.00	0.00	0.04	13	SS-4	1.6
				0.00	0.00	0.05	44	SS-5	1.8
20	CL		Sandy Clay, 35% coarse Sand, 5% sandstone fragments; 5YR5/8 yellowish red varigated red; low plasticty; poorly sorted; hard; firm; moist; subangular; no structure. OVA goes down at 20 feet to 99 feet.	NS	NS	NS	31	SS-6	1.2
25				NS	NS	NS	8	SS-7	1.0
30			Sandy Clay, 25% to 35% medium to very coarse Sand, 0 to 10% Sandstone fragments. 10R5/8 red varigated brownish yellow and 7.5YR6/8 reddish yellow varigated light gray; moderate plasticity; poorly sorted; firm; moist; subangular; no structure	NS	NS	NS	7	SS-8	1.5
35	ML		Sandy Silt, 40% medium Sand to granules. 2.5YR5/6 Red; low plasticity; poorly sorted; stiff; medium; subangular; no structure	NS	NS	NS	13	SS-9	0.5
40	CL		Clay, 15% medium Sand to granules. 2.5YR5/6 red and 5YR5/8 yellowish red; moderate plasticity poorly sorted; medium to stiff; moist; subangular; no structure	NS	NS	NS	7	SS-10	2.0
45				NS	NS	NS	8	SS-11	2.0
50			Sandy Clay, 40% medium to very coarse Sand, 10% Sandstone fragments. 5Yr5/8 yellowish red; low plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	18	SS-12	1.0

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Environmental Exploration, Inc.
Driller: Jason Roberts
Drill Rig: CME Model #75

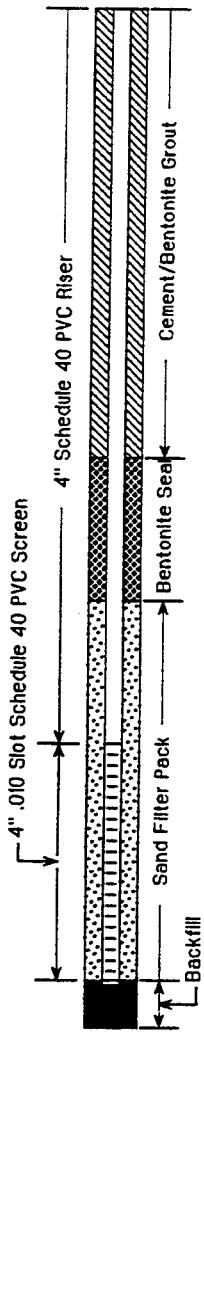
Site Location: T38
Northing (ft): 1173528.57
Easting (ft): 518884.27
Groundwater Elev. (ft): 920.46
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G07
Start/Finish Date: 05-23-94/05-26-94
Well Completion Depth (ft): 97.0
Drilled Depth (ft): 97.0
Surface Pad Elevation (ft): 1001.44
Top of Casing Elevation (ft): 1003.19

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL			NS	NS	NS	13	SS-13	2.0
59	SW		Sand, fine to very coarse Sand granules, 10% Silt, 10% fine Sandy Mn02 10YR8/4 very pale brown; poorly sorted; medium; dry; subangular; no structure						
	CL		Sandy Clay, 30% medium to coarse Sand, 5% sandstone fragments. 7.5YR5/8 strong brown varigated brownish yellow; low plasticity; poorly sorted; very stiff; firm; moist; subangular; no structure	NS	NS	NS	18	SS-14	2.0
64	SC			NS	NS	NS	15	SS-15	2.0
69	CL		Clayey Sand, 30% Clay, medium to coarse Sand; 10YR6/6 Brownish yellow reddish orange, light gray and dark yellowish brown varigated yellow; poorly sorted; medium; moist; subangular; no structure	NS	NS	NS	13	SS-16	NR
74			Sandy Clay, 30 to 40% medium Sand to granules. 0 to 10% Sandstone fragments; 5YR5/8 yellowish red and 5YR6/8 reddish yellow varigated light brownish yellow; low plasticity; poorly sorted; stiff to very stiff; moist; subangular; no structure	NS	NS	NS	30	SS-17	2.0
79	SP		Sand, medium to coarse grained, 10% Silt, 5% Sandstone fragments. 10YR6/6 yellow varigated reddish yellow; moderately sorted medium; dry; subangular; no structure;	NS	NS	NS	23	SS-18	2.0
84	CL		Sandy Clay, 40% medium to very coarse Sand. 10YR8/6 yellow varigated strong brown; low plasticity; poorly sorted; stiff to hard; moist; subangular; no structure	NS	NS	NS	32	SS-19	2.0
89				NS	NS	NS	11	SS-20	2.0
94				NS	NS	NS	37	SS-21	2.0
99	SC		Clayey Sand, 40% very fine ti very coarse Sand, 27% Sandstone fragments, 22% Silt; 11% Clay. 10YR5/6 yellowish brown varigated red and 7.5YRr/6 strong brown mottled yellow; low to moderate plasticity; poorly to very poorly sorted; hard; moist; subangular; no structure	NS	NS	NS	NR	SS-22	1.5
104			*Bottom of boring at 99 feet*						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened, Borehole Diameter=11.75"

Well Const. As-Built



SOIL BORING/WELL LOG

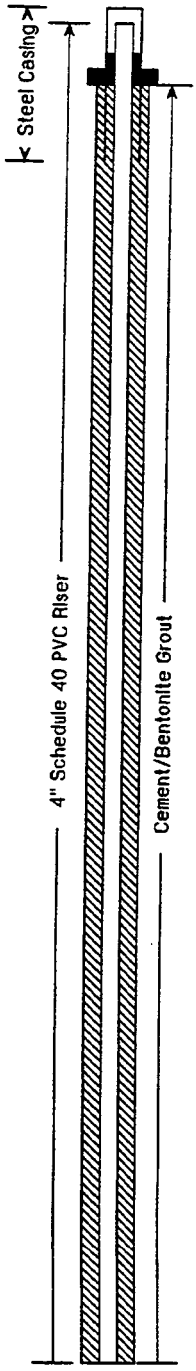
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Environmental Exploration, Inc.
Driller: Jason Roberts
Drill Rig: CME Model #75

Site Location: T38
Northing (ft): 1173111.90
Easting (ft): 518902.86
Groundwater Elev. (ft): 930.00
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G08
Start/Finish Date: 05-14-94/05-18-94
Well Completion Depth (ft): 100.2
Drilled Depth (ft): 100.2
Surface Pad Elevation (ft): 1016.64
Top of Casing Elevation (ft): 1017.94

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL		Silty Clay, 30% Silt, 10% fine Sand. 10R4/6 red; moderate plasticity; firm; moist; subangular; structureless. OVA=0ppm, LEL=0%, and H2S=0ppm	0.05	0.01	0.03	5	SS-1	0.95
5	ML		Clayey Silt, 25% Clay, 10% Sand. 10R4/8 red varigated moderate brownish; low plastic; stiff; compact; moist; subangular; structureles. OVA=0ppm, LEL=0%, H2S=0ppm	0.03	0.01	0.00	15	SS-2	1.4
10	CL		Sandy Clay, 30% very coarse Sand. 5YR5/8 yellowish red varigated light yellowish brown; whisp of gray clay; moderate plasticity; poorly sorted; very stiff; subangular; no structure. OVA=0ppm, LEL=0%, H2S= ppm	0.03	0.00	0.05	16	SS-3	2.0
				0.00	0.00	0.05	NR	SS-4	2.0
15			Same as above except for Sandstone fragments being present.	NS	NS	NS	8	SS-5	2.0
20			Clay, 15% medium coarse Sand, 1% granular quartz. grains. 10YR4/8 red; light brownish yellow sandstone fragment present in sample; moderate plasticity; poorly sorted; stiff; moist; subangular; no structure. OVA=0ppm, LEL=0%, H2S=0ppm	NS	NS	NS	15	SS-6	0.4
25	ML		Sandy Silt, 25% medium granular Sand, 3% quartz fragments, 1% MnO2. 7.5YR6/4 Lt Brown mottled white w/ light purple platey whisps of clay; low plasticity; poorly sorted; stiff; moist; subangular; no structure. OVA=0ppm, LEL=0%, H2S=0ppm	NS	NS	NS	15	SS-7	1.4
30	CL		Sandy Clay, 30% medium to coarse Sand. 7.5YR6/3 light brown varigated brownish yellow; moderate plasticity; poorly sorted; very stiff; moist; subangular; no structure. OVA=0ppm, LEL=0%, H2S=0ppm	NS	NS	NS	16	SS-8	1.6
35			Silty Clay, 30% Silt, 20% medium Sand to 10% fine Sand. MnO2. 7.5YR6/3 light brown, mottled light purple and white; low plasticity; poorly sorted; loose; moist; subangular; no structure. OVA=0ppm, LEL=0%, H2S= 0ppm	NS	NS	NS	6	SS-9	2.0
40				NS	NS	NS	13	SS-10	1.6

Well Const. As-Built



SOIL BORING/WELL LOG

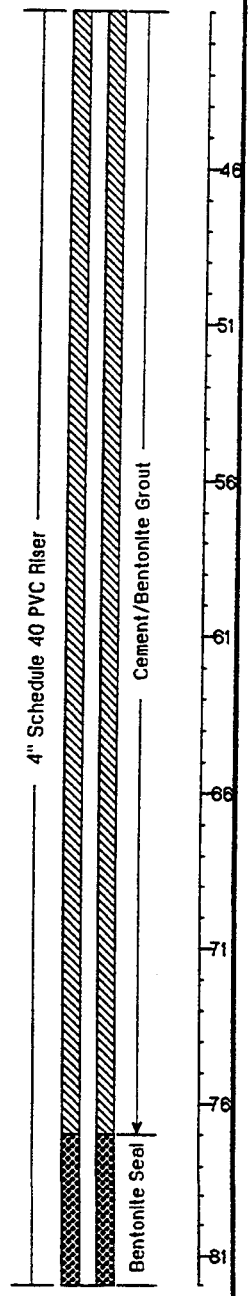
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Environmental Exploration, Inc.
Driller: Jason Roberts
Drill Rig: CME Model #75

Site Location: T38
Northing (ft): 1173111.90
Easting (ft): 518902.86
Groundwater Elev. (ft): 930.00
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G08
Start/Finish Date: 05-14-94/05-18-94
Well Completion Depth (ft): 100.2
Drilled Depth (ft): 100.2
Surface Pad Elevation (ft): 1016.64
Top of Casing Elevation (ft): 1017.94

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
				NS	NS	NS	13	SS-10	1.6
46			Sandy Clay, 35% medium to coarse Sand, 15% iron-stained sandstone fragments present with 1 inch interbedded sand; 5YR6/4 Light Reddish brown; low plasticity; poorly sorted; very stiff; moist; subangular. OVA=0ppm, LEL=0%, H2S=0ppm	NS	NS	NS	20	SS-11	1.0
51			Sandy Clay, 25% medium Sand granules. 7.5YR6/4 light brown, mottled brownish yellow and varigated light purple; moderate plasticity; poorly sorted; stiff; moist; subangular; no structure. OVA=0ppm, LEL= 0%, H2S=0ppm	NS	NS	NS	8	SS-12	1.6
56			Sandy Silt, 40% very fine to very coarse Sand, 20% Clay. 7.5Yr5/6 strong brown mottled brownish yellow with light purple platey clay (whisps); low; plasticity; poorly sorted; medium to hard; moist; subangular; no structure. OVA=0ppm, H2S=0%, H2S=0ppm	NS	NS	NS	7	SS-13	2.0
61	CL			NS	NS	NS	19	SS-14	2.0
66				NS	NS	NS	15	SS-15	1.4
71				NS	NS	NS	36	SS-16	1.0
76				NS	NS	NS	32	SS-17	1.2
81				NS	NS	NS	16	SS-18	2.0

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Environmental Exploration, Inc.
Driller: Jason Roberts
Drill Rig: CME Model #75

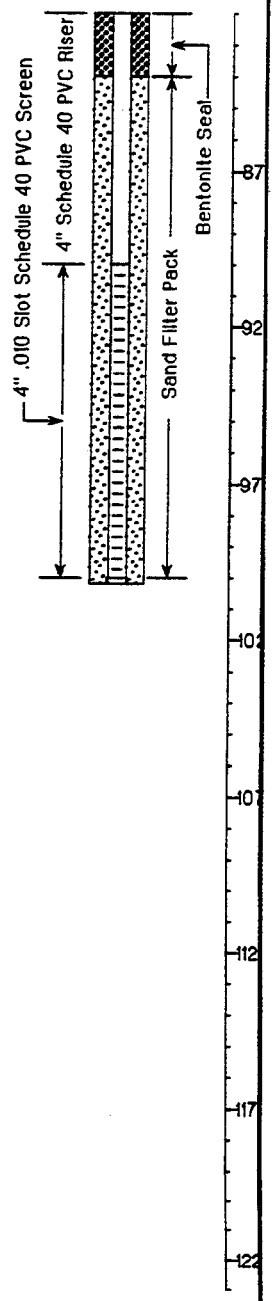
Site Location: T38
Northing (ft): 1173111.90
Easting (ft): 518902.86
Groundwater Elev. (ft): 930.00
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G08
Start/Finish Date: 05-14-94/05-18-94
Well Completion Depth (ft): 100.2
Drilled Depth (ft): 100.2
Surface Pad Elevation (ft): 1016.64
Top of Casing Elevation (ft): 1017.94

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
87	CL		Clay, 15% medium to very coarse Sand; 15% granules. 10YR6/6 brownish yellow varigated red and strong brown; moderate plasticity; poorly sorted; stiff; moist; subangular; no structure; OVA=0ppm, LEL=0%, H2S =0ppm	NS	NS	NS	13	SS-19	0.4
92	CL		Clay, 15% medium to coarse Sand, Sandstone rock fragments. 5YR5/8 yellowish red; high plasticity (fat clay); stiff; moist; subangular; no structure. OVA=0ppm, LEL=0%, H2s=0ppm	NS	NS	NS	12	SS-20	1.4
97	SC		Clayey Sand, medium to coarse grained Sand, 25% Clay, 1-10% MnO2 Sandstone present; 0 to 10% quartz granules. 7.5YR5/8 strong brown; poorly sorted;soft to very stiff; moist; subangular; no structure. OVA=0ppm, LEL=0%, H2S=0ppm	NS	NS	NS	4	SS-21	2.0
				NS	NS	NS	22	SS-22	2.0
102			*Bottom of boring at 102 feet*						
107									
112									
117									
122									

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened Borehole Diameter=11.75"

Well Const. As-Built



SOIL BORING/WELL LOG

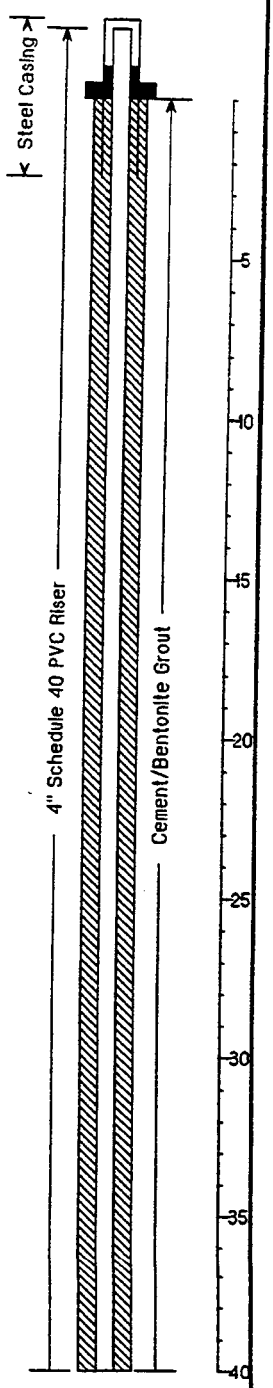
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Wayne Stoner
Drilling Co.: Christensen Boyles Corp.
Driller: Rickey Bilbrey
Drill Rig: Mobile B-61 HDX

Site Location: T38
Northing (ft): 1173195.7045
Easting (ft): 518574.5378
Groundwater Elev. (ft): 913.76
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G09
Start/Finish Date: 11-30-95/11-30-95
Well Completion Depth (ft): 144.0
Drilled Depth (ft): 156.0
Surface Pad Elevation (ft): 1040.73
Top of Casing Elevation (ft): 1043.20

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	ML		Clayey Silt, 10-30% Clay, 10% Gravel. 2.5YR5/6 bark red; slightly plastic; medium; very moist to wet; no apparent bedding; rounded gravel	0ppm/0	13	1	SS	1.9	
5			Clayey Silt, 30% Clay, 10% fine gravel .2 to 4 mm, 10% Sandstone fragments. 2.5YR4/6 dark red; slightly plastic to plastic; medium; moist; no apparent bedding; subangular to well rounded gravel; angular Sandstone fragments	0ppm/0	31	2	SS	1.7	
			Same as .5' to 1.9'						
10			Clay, 30-40% Sandstone fragments, 10% medium to very coarse Sand. 2.5YR4/6 dark red, 10YR7/4 very pale brown rock fragments; low plasticity; hard dry to slightly moist; angular rock fragments; no no apparent bedding	0/0	59	3	SS	0.2	
			Same as 5.8-6.7						
15	Cl		Sandy Silt, 20-30% very fine to coarse Sand, 20% Sandstone rock fragments. 5YR5/8 yellowish red, 10R3/6 mottled w/ dark red; low plasticity; medium; dry; no apparent bedding; Sandstone fragments very hard, well cemented and angular	0/0	26	4	SS	1.2	
20			Sandy Silt, 30-40% very fine to very coarse Sand, 10-20% Sandstone fragments. 5YR5/8 yellowish red; low plasticity; dense; dry; Sandstone fragments very hard, well cemented and angular.	0/0	44	5	SS	0.7	
25	ML		Sandy Silt, 25% medium Sand, 10% Sandstone fragments. 10YR8/6 yellow varigated red, banded black and purple yellow; low plasticity; dense; moist to dry; banded black silt and banded pale yellow sandy silt; subrounded	0/0	37	6	SS	1.0	
30	CL		Silty Clay, 35% Silt, 15% fine Sand. 5% Sandstone fragments. 10R4/6 red; varigated reddish yellow and pale yellow; moderate plasticity; very stiff; moist; subrounded	0/0	18	7	SS	0.5	
35	SM		Silty Clay, Silt 40%, 10% fine Sand; 10R4/4; moderate plasticity; hard; moist; banded/contact Sandy Silt; 25% medium Sand, 10% Sandstone fragments; 10YR7/8; low plasticity; slightly moist; subrounded; contact at 36.2'	0/0	38	8	SS	1.3	
40	NA								

Well Const. As-Built



SOIL BORING/WELL LOG

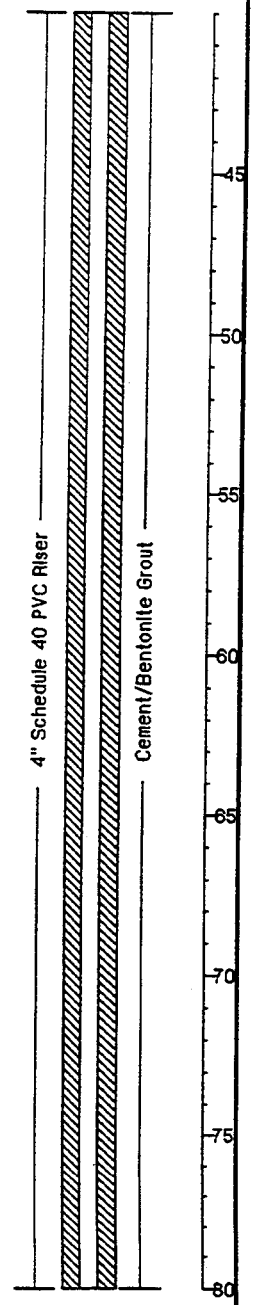
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Wayne Stoner
Drilling Co.: Christensen Boyles Corp.
Driller: Rickey Bilbrey
Drill Rig: Mobile B-61 HDX

Site Location: T38
Northing (ft): 1173195.7045
Easting (ft): 518574.5378
Groundwater Elev. (ft): 913.76
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G09
Start/Finish Date: 11-30-95/11-30-95
Well Completion Depth (ft): 144.0
Drilled Depth (ft): 156.0
Surface Pad Elevation (ft): 1040.73
Top of Casing Elevation (ft): 1043.20

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	NA		Sandy Silt, 30% medium Sand, 10% Sandstone fragments; 10YR7/8 yellow; low plasticity; very dense; slightly moist; no apparent bedding; subrounded; varigated brown and light gray	0/0	52	9	SS	0.9	
45	NA		Sandy Silt, 15% Clay, 25% medium Sand; 25% Sandstone rock fragments. 10YR8/6 yellow; low plasticity; dense; slightly moist; varigated light gray and reddish orange; subrounded	0/0	36	10	SS	0.5	
50	NA		Sandy Silt, Sand: 20% medium, 20% coarse, 15% Sandstone fragments. 10YR5/6 yellowish brown; low plasticity; very dense; slightly moist to dry; no apparent bedding; subrounded	0/0	50/5"	11	SS	0.2	
55	SM		Sandstone, siliceous. N5/ gray; very hard; well cemented; fine grained; badly weathered; solid, low primary; highly fragmented; no apparent bedding; no structure	0/0	50/2"	12	SS	0.2	
60	SM		Sandy Silt, 30% medium Sand; 20% Clay, 10% Sandstone rock fragments. 5YR5/8 yellowish red varigated dark yellowish brown; low plasticity; medium moist; subrounded	0/0	10	13	SS	1.8	
65	SM		Same as Above. Same as Above with Sandstone fragments approximately 40%; very dense	0/0	50/4"	14	SS	0.9	
70	SM		Same as Sample #13	.5/0	15	15	SS	1.0	
75	SM								
80	GM / GC		Silty Gravel, 35% Silt, 10% fine Sand, grannular material; Sandstone fragments 2.5YR4/6 dark red; low plasticity; loose; moist; no apparent bedding; subrounded	.5/0	7	16	SS	.15	

Well Const. As-Built



SOIL BORING/WELL LOG

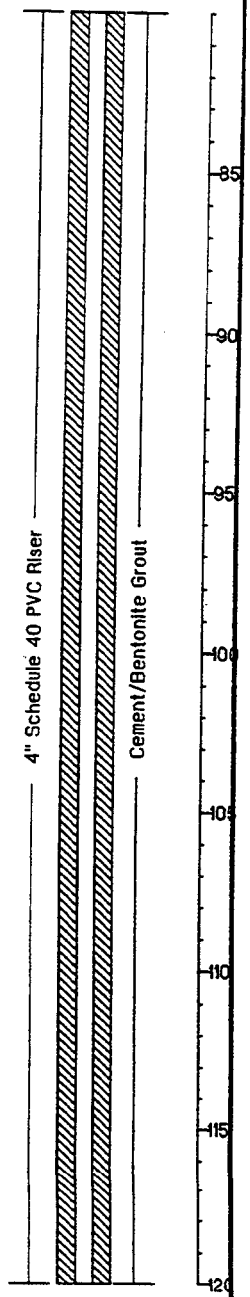
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Wayne Stoner
Drilling Co.: Christensen Boyles Corp.
Driller: Rickey Bilbrey
Drill Rig: Mobile B-61 HDX

Site Location: T38
Northing (ft): 1173195.7045
Easting (ft): 518574.5378
Groundwater Elev. (ft): 913.76
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G09
Start/Finish Date: 11-30-95/11-30-95
Well Completion Depth (ft): 144.0
Drilled Depth (ft): 156.0
Surface Pad Elevation (ft): 1040.73
Top of Casing Elevation (ft): 1043.20

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
85	GC		Silty Gravel, Clay 25%, 20% Silt, gravel= Sandstone fragments. 2.5YR4/6 dark red; low plasticity; very dense; very moist; no apparent bedding; subrounded	0/0	68	17	SS	.15	
			Clayey Gravel, 45% Clay. 5YR6/8 reddish yellow varigated brownish yellow; low plasticity; very dense; very moist to wet; no apparent bedding; subrounded and gravel fragmented Sandstone	0/0	48	18	SS	1.4	
90	CL		Gravely Clay And Silt, 30% Gravel, 10-15% Silt, 10% Sandstone fragments. 5YR4/6 reddish yellow; medium plasticity; hard; slightly moist; no apparent bedding; subrounded	0/0	50/3"	19	SS	0.5	
95			Silty Clay with Gravel, 20% Silt, 10% Gravel, 5% Sandstone fragments. 2.5YR5/6 red varigated w/ yellowish brown and 7.5YR4/6, medium plasticity; hard; moist; 2" wet; no apparent bedding; subrounded	0/0	50/2"	20	SS	0.5	
100	OL		Clayey Silt, 25% Clay. 2.5Y6/6 yellowish green varigated olive green with iron staining; low plasticity; hard dry no apparent; subrounded	0/0	50	21	SS	1.6	
105			Silt, 15% Clay, 5% fine Sands; 5% Rock fragments. 7.5YR5/6 orangy- brown varigated with dark red; iron staining and light red; low plasticity; hard; dry no apparent bedding; subrounded	0/0	46	22	SS	1.5	
110									
115			Silt, 15% Clay 5% fine Sand. 5B6/1 light bluish green with iron staining, hard; fissile fracture; subrounded	0/0	40	23	SS	1.2	
120			Silt. 10YR 4/4 light orangy-brown with rock fragments (5%); low plasticity; hard, no apparent bedding, subrounded						

Well Const. As-Built



SOIL BORING/WELL LOG

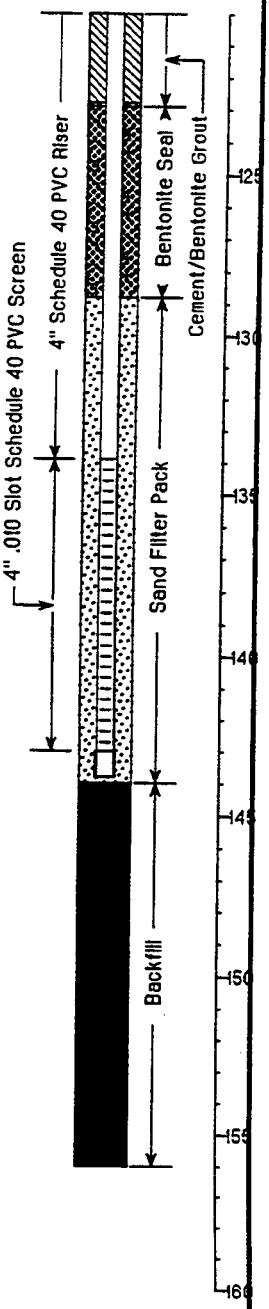
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Wayne Stoner
Drilling Co.: Christensen Boyles Corp.
Driller: Rickey Bilbrey
Drill Rig: Mobile B-61 HDX

Site Location: T38
Northing (ft): 1173195.7045
Easting (ft): 518574.5378
Groundwater Elev. (ft): 913.76
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: T38-G09
Start/Finish Date: 11-30-95/11-30-95
Well Completion Depth (ft): 144.0
Drilled Depth (ft): 156.0
Surface Pad Elevation (ft): 1040.73
Top of Casing Elevation (ft): 1043.20

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
125	OL		Same as Sample #23 with bluish fissle Silt at 126.8-127; light orangy- brown Silt 126.8-125.8	0/0	40	24	SS	1.2	
130	CL		Soil Cuttings balling up 1" diameter. Sandy Clay, 25% Sand, 5% rock fragments. 7.5YR4/4 strong-red brown; medium plasticity; moderate density; moist; NA; Subrounded						
135	SP								
	CL		Clayey Sand, saturated, 25% Clay, 5% Silt	0/0	50/3"	25	SS	1.1	
	SP								
	ML		Sandy Clay, 30% Sand, 5% Rock fragments. 2.5YR3/6 dark red brown; medium plasticity; hard; moist; no apparent bedding; subrounded	0/0	50/2"	26	SS	0.1	
	CL								
140	NA		Saturated Sand and Gravel with non-calcareous Sandstone Rock						
			Silt, 15% Clay. 5B6/1 bluish green; low plasticity; hard; dry with saprolitic, fissle fraturing, MnO2 staining streaks, NA						
145			Sandy Clay, 35% Sand (20% fines, 15% coarse) 10% rock fragments; 7.5YR light brown with whitish and black whisps, moderate plasticity; hard; moist; no apparent bedding, subrounded						
			Sandstone, cobbles						
150									
155									
			Bottom of boring at 156 feet						
160			*Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened Borehole Diameter=11.75"*						

Well Const. As-Built



SOIL BORING/WELL LOG

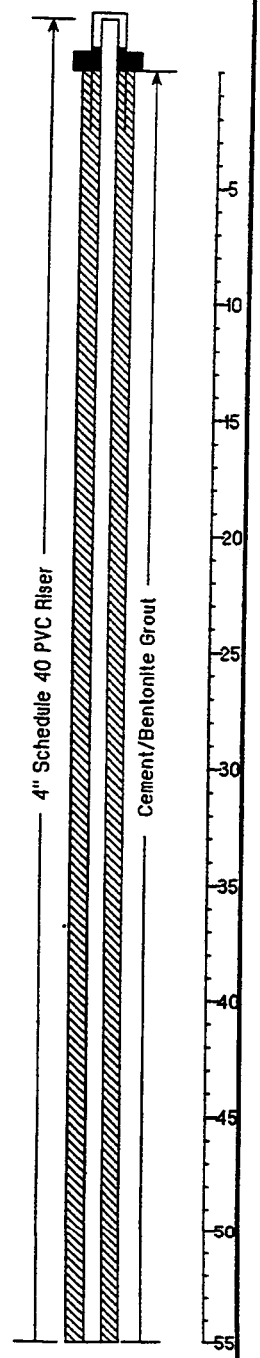
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers Inc.
Driller: Kenneth Kesty
Drill Rig: Mobil B-61

Site Location: Old Water Hole
Northing (ft): 1179621.43
Easting (ft): 472304.96
Groundwater Elev. (ft): 617.46
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G01
Start/Finish Date: 02-22-95/04-04-95
Well Completion Depth (ft): 107.4
Drilled Depth (ft): 108
Surface Pad Elevation (ft): 662.48
Top of Casing Elevation (ft): 664.41

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	ML		Clayey Silt, 15% fine to med. Sand. 10YR6/4 light yellowish brown; low plasticity; poorly sorted; stiff; moist; subangular; no structure;	0.00	0.00	0.00	4	SS-1	1.8
	SM			0.00	0.00	0.00	21	SS-2	1.6
5	CL		Gavelly Silty Sand, 40% Sand medium to very coarse, 30% Silt, 30% granules. 7.5YR5/6, 5/8 or 4/6 Strong brown; very dense.						
10	ML		Interbedded Clay. 7.5YR5/8 light purple; poorly sorted; very stiff; moist; subangular to angular	0.00	0.00	0.08	16	SS-3	1.7
15	ML		Sandy Silt, 25% medium Sand. 10YR8/3 very pale brown, varigated light reddish brown 5YR6/3 or 6/4; low plasticity; poorly sorted; dense; very stiff; moist; subangular; no structure	NS	NS	NS	8	SS-4	1.4
20				0.00	0.00	0.05	18	SS-5	1.6
25	CL		Silty Clay, 25% Silt, 20% medium to coarse Sand. 5YR6/8 reddish yellow varigated light brownish yellow; low plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	11	SS-6	2.0
30	ML		Sandy Silt, 35% fine to very coarse Sand, interbedded chert fragments. 5YR6/4 reddish yellow, varigated red; low plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	30	SS-7	1.0
35			Clayey Silt, 20% coarse to very coarse Sand, 30% Clay. 5YR 6/4 reddish yellow, varigated red and yellowish brown; low plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	13	SS-8	1.4
40				NS	NS	NS	15	SS-9	0.8
45				NS	NS	NS	16	SS-10	1.8
50	CL		Silty Clay, 35% Silt, 10% fine Sand, 10% Chert fragments. 5YR6/8 reddish yellow varigated red light gray; low plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	16	SS-11	1.6
55									

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers Inc.
Driller: Kenneth Kesty
Drill Rig: Mobil B-61

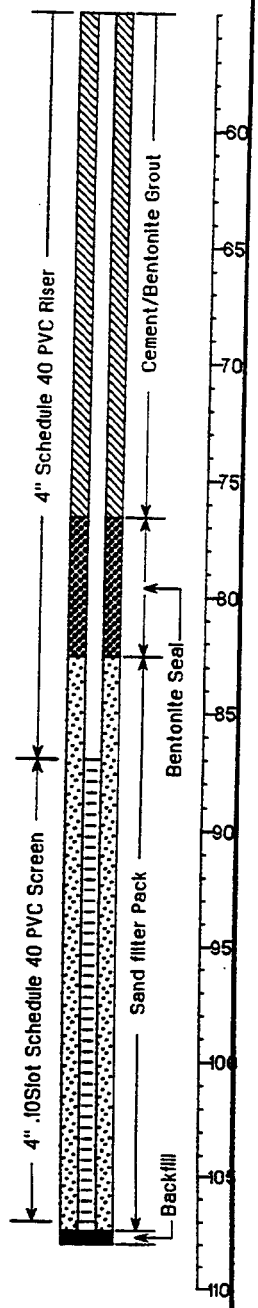
Site Location: Old Water Hole
Northing (ft): 1179621.43
Easting (ft): 472304.96
Groundwater Elev. (ft): 617.46
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G01
Start/Finish Date: 02-22-95/04-04-95
Well Completion Depth (ft): 107.4
Drilled Depth (ft): 108
Surface Pad Elevation (ft): 662.48
Top of Casing Elevation (ft): 664.41

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL			NS	NS	NS	11	SS-12	1.4
60	ML		Silt, 15% fine Sand, 10% chert fragments. 5YR6/8 reddish yellow; low plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	14	SS-13	0.8
65				NS	NS	NS	14	SS-14	1.6
70			Sandy Silt, 35% very fine to very coarse Sand, 28% Silt, 22% Clay, 15% Chert fragments. 5YR6/8 reddish yellow; low plasticity; poorly sorted; hard; moist; subangular; no structure	NS	NS	NS	13	SS-15	0.8
75				NS	NS	NS	15	SS-16	0.8
80				NS	NS	NS	14	SS-17	1.4
85	CL		Sandy Clay, Sand: 10% medium; 10% coarse, 10 Chert. trace 10YR6/6 light gray and light reddish brown; moderate to high plasticity; stiff; moist; no apparent bedding; subrounded	NS	NS	NS	9	SS-18	1.0
90									
95	SM		Sand, 5% Silt. light gray; low plasticity; medium grained; very dense; moist; no apparent bedding; subrounded; well sorted	NS	NS	NS	50/1"	SS-19	50/1"
100			Same as above.	NS	NS	NS	8	SS-20	8
105									
110			*Bottom of Boring at 108 feet.*						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Split, NS=Not Screened OVA, LEL and H2S readings were 0 unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

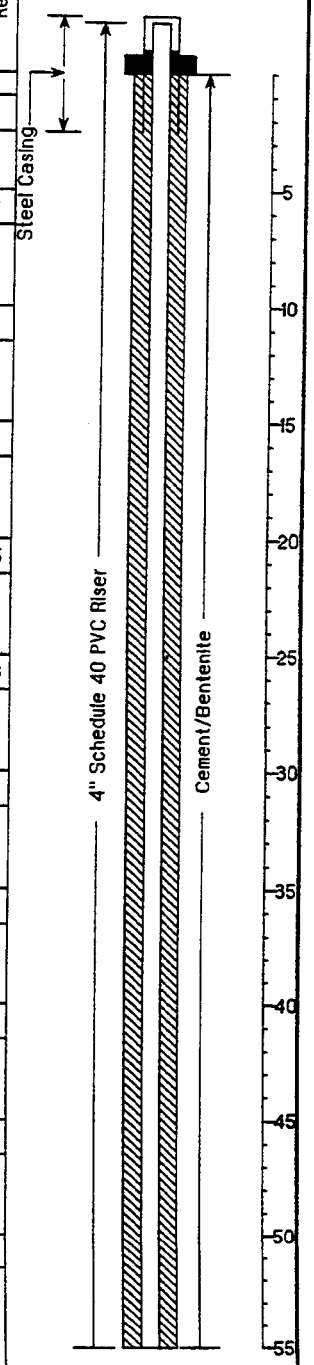
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering Consultants Inc
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: Old Water Hole
Northing (ft): 1179262.59
Easting (ft): 472076.02
Groundwater Elev. (ft): 619.43
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G02
Start/Finish Date: 12-17-94/01-07-95
Well Completion Depth (ft): 104.0
Drilled Depth (ft): 108.0
Surface Pad Elevation (ft): 665.02
Top of Casing Elevation (ft): 667.23

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	ML		Silt, 20% Sand. 2.5YR6/2 light brownish gray; varigated red; low plasticity; moist; no apparent bedding; subangular	0.02	0.00	0.00	11	SS-1	1.5
5	CL		Silty Clay, 30% Silt; 10% fine Sand, 5% sandstone fragments. 10YR6/6 brownish yellow varigated moderate gray; low plasticity; hard; moist; no apparent bedding; subangular	0.00	0.00	0.00	56	SS-2	2.0
10			Clay, 20% Silt, 15% very coarse Sand, 5% Chert fragments. 10YR7/1 light gray, mottled white due to weathered feldspar, varigated brownish yellow; low plasticity; very stiff; moist; no apparent bedding; subangular	0.00	0.00	0.03	19	SS-3	2.0
15			Same as above, varigated red	0.00	0.00	0.00	22	SS-4	2.0
20			Clay, 30% Chert fragments. 10YR6/6 brownish yellow varigated red; low plasticity; hard; moist; no apparent bedding; angular	0.00	0.00	0.00	56	SS-5	0.85
25			Same as above with 40% chert fragments.	NS	NS	NS	55	SS-6	0.66
30			Same as above	NS	NS	NS	34	SS-7	0.2
35			Silty Clay, 40% Silt, 5% Chert fragments. 5YR6/6 reddish yellow; moderate plasticity; hard; moist; no apparent bedding; subangular	NS	NS	NS	31	SS-8	1.6
40			Same as above except 5YR6/8 reddish yellow	NS	NS	NS	42	SS-9	1.3
45			Silty Clay, 25% Silt, 5% grannular Chert fragments. 5YR6/8 reddish yellow mottled yellow; moderate plasticity; hard; moist; no apparent bedding; subangular	NS	NS	NS	33	SS-10	2.0
50			Same as above with 15% Chert fragments; very moist	NS	NS	NS	67	SS-11	1.5
55									

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering Consultants Inc
Driller: Dean Whitlock
Drill Rig: HMB-124

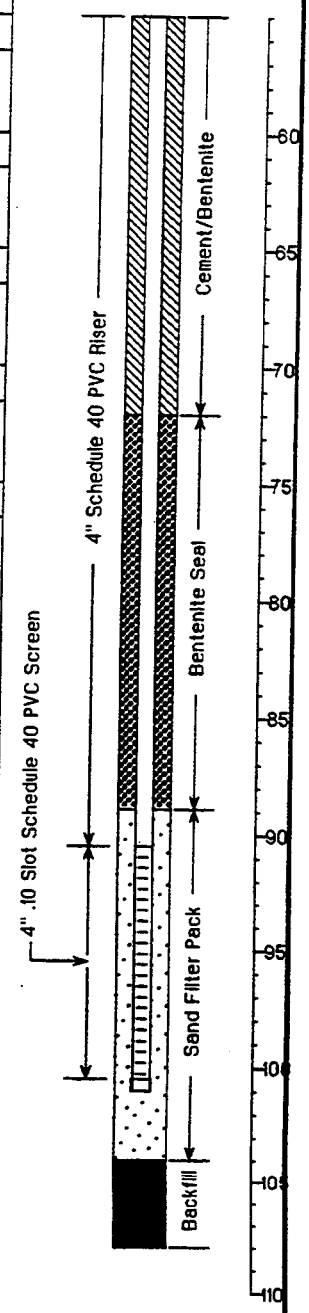
Site Location: Old Water Hole
Northing (ft): 1179262.59
Easting (ft): 472076.02
Groundwater Elev. (ft): 619.43
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G02
Start/Finish Date: 12-17-94/01-07-95
Well Completion Depth (ft): 104.0
Drilled Depth (ft): 108.0
Surface Pad Elevation (ft): 665.02
Top of Casing Elevation (ft): 667.23

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL		Clay, 30% gravel Chert fragments. 5YR6/8 reddish yellow; moderate ; plasticity; hard; moist; no apparent bedding; angular	NS	NS	NS	52	SS-12	1.2
60			Silty Clay, 30% Silt, 10% Chert fragments, 3% MnO2. 5YR6/8 reddish yellow, with whisps of yellow; moderate plasticity; hard; moist; no apparent bedding; subangular	NS	NS	NS	42	SS-13	2.0
65			Same as above	NS	NS	NS	50/3"	SS-14	1.9
70			Same as above with 20% coarse Sand, <5% Chert fragments	NS	NS	NS	81	SS-15	0.6
75	ML		Clayey Silt, 35% Clay, 10% fine Sand. 5YR6/8 reddish yellow varigated yellow; low plasticity; dense; moist; no apparent bedding; subangular	NS	NS	NS	43	SS-16	1.0
80			Silt, 15% Clay, 5%fine Sand. 5YR6/8 reddish yellow; low plasticity; dense; moist; no apparent bedding; subangular	NS	NS	NS	28	SS-17	2.0
85			Same as above	NS	NS	NS	36	SS-18	1.2
90			Same as above with 3% MnO2, 10YR7/4 banded very pale brown	NS	NS	NS	38	SS-19	2.0
95	CH		Silty Clay, 30% Silt. 2.5YR5/8 red; high plasticity;very stiff; wet; no apparent bedding; subrounded	NS	NS	NS	21	SS-20	2.0
100			Same as above, stiff	NS	NS	NS	11	SS-21	2.0
105									
110			*Bottom of Boring at 108 feet.*						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened, OVA, LEL and H2S were 0 unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

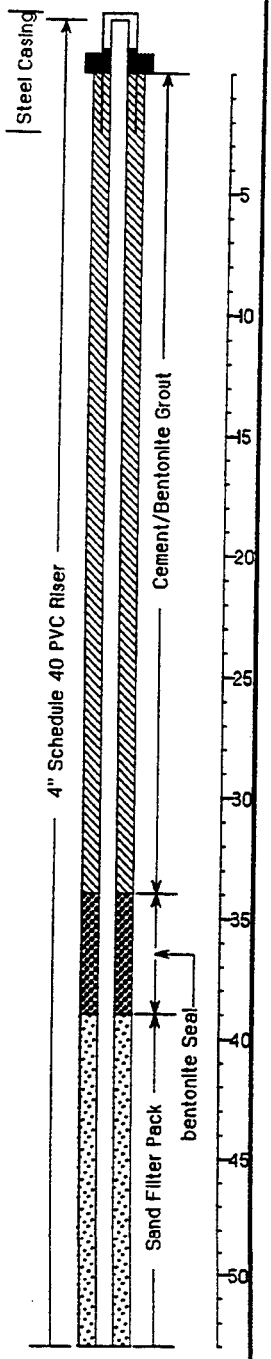
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Rickey Bilbrey
Drill Rig: Mobile B-61

Site Location: Old Water Hole
Northing (ft): 1179128.65
Easting (ft): 472433.17
Groundwater Elev. (ft): 618.54
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G03
Start/Finish Date: 03-14-95/04-19-95
Well Completion Depth (ft): 75
Drilled Depth (ft): 97
Surface Pad Elevation (ft): 657.43
Top of Casing Elevation (ft): 659.46

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	ML		Sandy Silt, 30% fine to medium Sand. 10YR7/6 yellow varigated pale brown; low plasticity; poorly sorted; dense; moist; subangular; no structure	0.00	0.00	0.00	16	SS-1	1.5
5				0.00	0.00	0.06	51	SS-2	1.5
10	CL		Silty Clay, 25% Silt, 20% light gray Sandstone fragments, 15% fine Sand. 2.5YR5/8 red; moderate plasticity; poorly sorted; very dense; moist; subangular; no structure	0.00	0.00	0.00	20	SS-3	1.6
15	ML		Sandy Silt, 25% fine-medium Sand, 10% Sandstone fragments. 2.5YR4/8 dark red varigated light brownish yellow; low plasticity; poorly sorted; medium dense; moist; subangular; no structure	0.00	0.00	0.00	15	SS-4	1.8
20			Clayey Silt, 30% Clay, 15% fine to grannular Sand, 5% Sandstone fragments. 2.5YR5/8 red varigated brownish yellow; low plasticity; poorly sorted; medium dense; moist; subangular; no structure	0.00	0.00	0.08	15	SS-5	0.8
25	CL		Silty Clay, 35% Silt, 20% fineto grannular Sand. 5YR5/8 yellowish red varigated brownish yellow; moderate plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	5	SS-6	1.2
30			Silty Clay, 25% Silt, 15% fine to coarse Sand. 10 to 15% Chert fragments. 5YR5/8 yellowish red varigated brownish yellow; moderate plasticity; poorly sorted; stiff to very stiff; moist; subangular; no structure	NS	NS	NS	133	SS-7	0.7
35				NS	NS	NS	20	SS-8	0.8
40				NS	NS	NS	11	SS-9	0.8
45			Silty Clay, 25% Silt, 25% Chert fragments, 10% fine Sand. 10R5/8 red; low plasticity, poorly sorted; stiff moist; subangular; no structure	NS	NS	NS	12	SS-10	1.6
50			Sandy Clay, 25% fine to coarse Sand, 25% light gray Chert fragments. 2.5YR5/8 red; low plasticity; poorly sorted; stiff; moist; subangular; no structure	NS	NS	NS	12	SS-11	1.4

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Rickey Bilbrey
Drill Rig: Mobile B-61

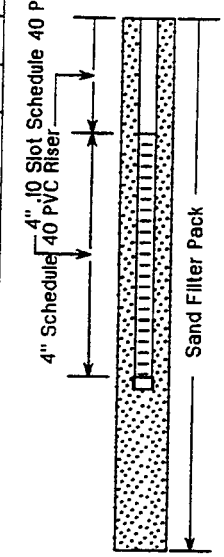
Site Location: Old Water Hole
Northing (ft): 1179128.65
Easting (ft): 472433.17
Groundwater Elev. (ft): 618.54
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G03
Start/Finish Date: 03-14-95/04-19-95
Well Completion Depth (ft): 75
Drilled Depth (ft): 97
Surface Pad Elevation (ft): 657.43
Top of Casing Elevation (ft): 659.46

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	CL								
58	ML		Clayey Silt, 30% Clay, 10% light gray Chert fragments, 10% fine Sand. 5YR6/8 reddish yellow; moderate plasticity; poorly sorted; dense; moist; subangular; no structure	NS	NS	NS	7	SS-12	1.4
63	CL		Silty Clay, 30% Silt, 20% fine to coarse Sand, 5% light gray chert fragments. 2.5YR5/8 red; moderate plasticity; very stiff; moist; subangular; no structure	NS	NS	NS	88	SS-13	0.6
68				NS	NS	NS	12	SS-14	1.2
73			Sandy Clay, 30% fine to very coarse Sand, 3% chert fragments. 2.5YR5/8 red; low plasticity; poorly sorted; very stiff; very moist; subangular; no structure	NS	NS	NS	10	SS-15	NR
78	CH		Clayey Sand, 61% very fine to very coarse Sand, 20% Clay, 16% Silt, 3% light gray chert fragments. 2.5YR5/6 red; high plasticity (fat clay); firm; moist; subangular; no structure; MnO2 staining	NS	NS	NS	87	SS-16	2.0
83			Clay, 20% fine to very coarse Sand, 3% MnO2. 2.5 YR4/6 red; high plasticity; poorly sorted; very stiff; moist; subangular; no structure	NS	NS	NS	73	SS-17	0.6
88	CL		Sandy Clay, 35% fine to very coarse Sand. 2.5YR4/6 red; mod. plasticity; very poorly sorted; very stiff; wet; subangular; no structure	NS	NS	NS	86	SS-18	1.8
				NS	NS	NS	11	SS-19	2.0
93	SP / CL		Sand, 90% mediun to coarse Sand. 10YR4/1 dark gray; low plasticity; well sorted; moist; subangular; interbedded sand	NS	NS	NS	12	SS-20	1.2
98	SP		Sandy Clay, 40% fine to very coarse Sand. 2.5YR4/6 red; mod. plasticity; very poorly sorted; very stiff; wet; subangular; no structure	NS	NS	NS	15	SS-21	0.8
103			Sand, 85% medium to coarse Sand. 10YR4/1 dark gray; moderately sorted; stiff; moist; subangular; interbedded Sand						
			Bottom of Boring at 97 feet						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened OVA, LEL and H2S were 0 unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

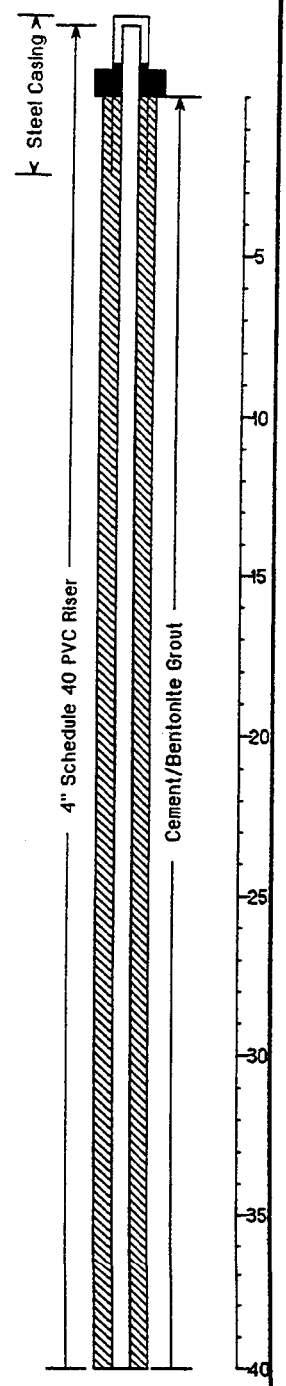
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Kenneth Kesty
Drill Rig: Mobile B-61

Site Location: Old Water Hole
Northing (ft): 1179404.79
Easting (ft): 472307.72
Groundwater Elev. (ft): 609.36
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-604
Start/Finish Date: 03-31-95/04-06-95
Well Completion Depth (ft): 98.5
Drilled Depth (ft): 100
Surface Pad Elevation (ft): 661.56
Top of Casing Elevation (ft): 659.28

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
5	CL		Clay, 20% fine to medium Sand. 5YR7/6 light gray varigated yellowish brown; moderate plasticity; poorly sorted; very stiff; moist; subangular; no structure	0.00	0.00	0.06	18	SS-1	2.0
10			Clay, 20 fine to coarse Sand. 5Yr7/1 light gray varigated yellowish brown, mottled white; moderate plasticity; poorly sorted; very stiff; moist; subangular; no structure	0.00	0.00	0.00	15	SS-2	2.0
15				0.00	0.00	0.00	10	SS-3	1.0
20			Sandy Clay, 35% fine to very coarse Sand. 7.5YR6/2 pinkish gray varigated yellowish brown and red; moderate plasticity; poorly sorted; stiff; moist; subangular; no structure	0.00	0.00	0.08	14	SS-4	1.6
25			Sandy Clay, 30% medium Sand , 5% Rock fragments. 5YR5/4 light orange brown with varigated 2.5YR5/4 light grays brownish yellow; high plasticity; very moist; no apparent bedding, angular rock fragments	NS	NS	NS	14	SS-5	0.7
30			Sandy Clay, 30% coarse Sand, 10% Gravel and rock fragments; 2.5YR5/6 red orange with 5YR6/1 varigated light gray and olive green; moderate plasticity; medium moist; no apparent bedding; subangular;	NS	NS	NS	6	SS-6	2.0
35			Silty Clay, 25% Silt, 5% Sand and Rock fragments. 5B6/1 light bluish gray with 5Y6/4 wotlied yellow with iron red stains and veining; low plasticity; low moisture; no bedding; angular	NS	NS	NS	12	SS-7	1.8
40	SC								

Well Const. As-Built



SOIL BORING/WELL LOG

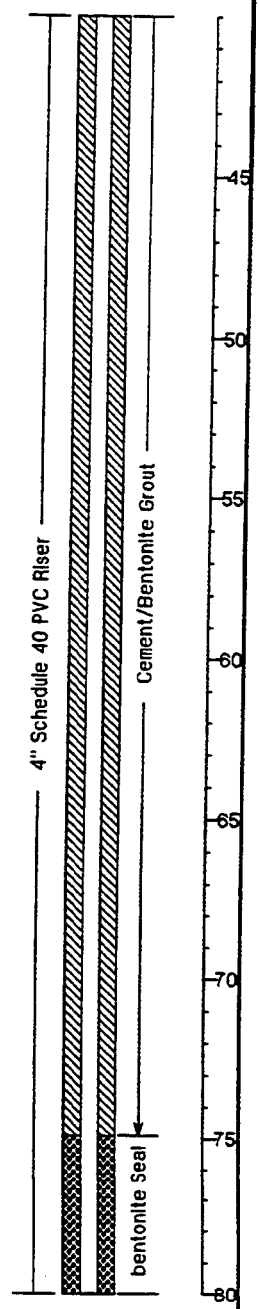
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Kenneth Kesty
Drill Rig: Mobile B-61

Site Location: Old Water Hole
Northing (ft): 1179404.79
Easting (ft): 472307.72
Groundwater Elev. (ft): 609.36
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G04
Start/Finish Date: 03-31-95/04-06-95
Well Completion Depth (ft): 98.5
Drilled Depth (ft): 100
Surface Pad Elevation (ft): 661.56
Top of Casing Elevation (ft): 659.28

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	SC		Clayey Sand, 30% fine Clay and Silt, 10% Rock fragments and Gravel. 10YR5/6 Light Orange brown with varigated light grayish greens; low plasticity; moderately moist; no bedding angular	NS	NS	NS	6	SS-8	1.5
	SP		Loose wet coarse Sand.						
45	ML		Silt-fine, 20% Clay, 15% Rock fragments .5"diameter pebbles (noncalcareous). 5BG1/7 light greenish gray with 5Y6/4 iron veining and staining, varigated olive green; low plasticity; firm; low moisture; no apparent bedding; subangular	NS	NS	NS	16	SS-9	1.6
50			Silt-fine, 15% Clay 5B7/1 light bluish gray with 5Y6/4 varigated olive green; low plasticity; firm; low moisture; no apparent bedding subangular	NS	NS	NS	12	SS-10	1.6
55			Same as above, except 5Y6/4 olive green with steaks of bluish gray; hard	NS	NS	NS	20	SS-11	0.5
60	CL		Silty Clay, 25% Silt, 15% Rock fragments and saprolitic material. 5YR4/6 red/orange with 2.5Y5/3 mottled olive brown; low plasticity; very stiff; low moisture; no bedding; angular	NS	NS	NS	30	SS-12	1.7
65			Same as above.	NS	NS	NS	30	SS-13	1.9
70			Same as above with larger .5" diameter chert, small zone of noncalcareous fractured chert	NS	NS	NS	30	SS-14	1.9
75			Same as above with chert, granitic looking sandstone. Silty Clay	NS	NS	NS	20	SS-15	1.8
80									

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Kenneth Kesty
Drill Rig: Mobile B-61

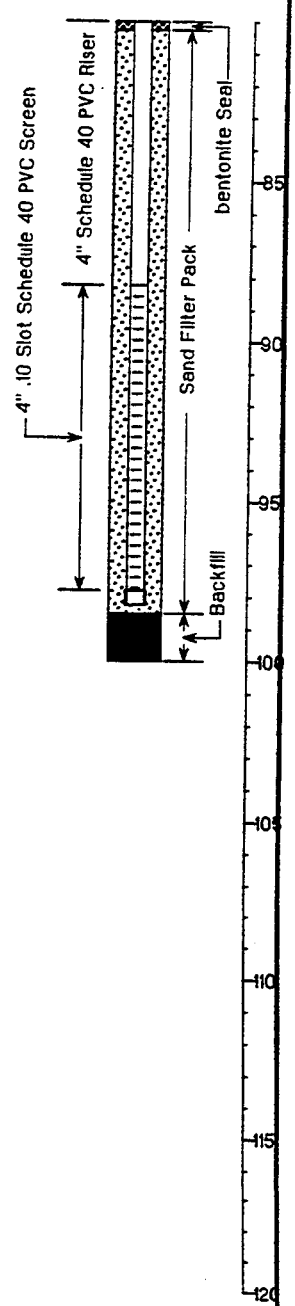
Site Location: Old Water Hole
Northing (ft): 1179404.79
Easting (ft): 472307.72
Groundwater Elev. (ft): 609.36
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G04
Start/Finish Date: 03-31-95/04-06-95
Well Completion Depth (ft): 98.5
Drilled Depth (ft): 100
Surface Pad Elevation (ft): 661.56
Top of Casing Elevation (ft): 659.28

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
			Same as above. Silty Clay, moderate plasticity	NS	NS	NS	24	SS-16	1.7
85	CL		Clay, 15% Silt, 5% Rock fragments, 7.5YR5/6 orangy brown; low plasticity; low moisture; no bedding; angular rock fragments	NS	NS	NS	19	SS-17	1.0
90	GP		Clay, 10% Silt. 7.5YR4/6 orange brown with varigated dark gray; high plasticity; soft; moist; no bedding	NS	NS	NS	4	SS-18	1.2
	CL			NS	NS	NS	45	ss-19	1.5
95	ML, GP		Sand with 1 inch fractured rock. 2.5Y4/1 dark gray, wet, noncalcareous; angular rock (sandstone)	NS	NS	NS	4	SS-20	1.4
	CH		Clay, Same as above						
	ML		Silt. white; highly weathered (saporite), low plasticity; compactable; low moisture	NS	NS	NS	15	SS-21	1.2
100	NA		Wet fractured Rock with wet Sand. dark and light gray; hard; no bedding; angular fracture						
			Clay, 1/4 inch rock fragments throughout, wet; low plasticity; soft; angular						
105			Clay, with rocks and pebbles, wet						
			Sand, coarse grained. 2.5Y5/1 gray; well sorted; low moisture; subangular						
110			Sandstone rock fragments 1.5 inch diameter. dark/light gray; nonclacareous; massive; very hard; dense; no apparent bedding; weathered; fractured; low primary permeability						
			Bottom of Boring at 100 feet						
115									
120									

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened OVA, LEL and H2S were 0 unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

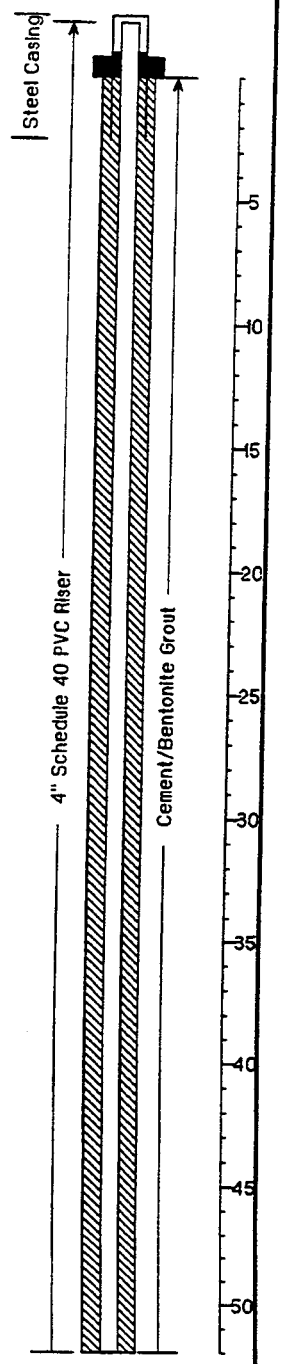
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Kenneth Kesty
Drill Rig: Mobile B-61

Site Location: Old Water Hole
Northing (ft): 1179490.89
Easting (ft): 472425.66
Groundwater Elev. (ft): 611.29
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G05
Start/Finish Date: 03-28-95/04-02-95
Well Completion Depth (ft): 93.7
Drilled Depth (ft): 95.5
Surface Pad Elevation (ft): 668.61
Top of Casing Elevation (ft): 666.57

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
5	CL		Sandy Clay, 25% medium Sand, 20% Rock fragments. 2.5YR4/6 reddish brown; moderate plasticity; stiff; low moist; no apparent bedding; subangular	0.00	0.00	0.06	20	SS-1	1.9
10	CL		Sandy Clay, 35% fine Sand, 10% Rock fragments. 7.5YR7/1 mottled white with varigated orange and reddish brown;low plasticity; stiff; moist; no apparent bedding	0.00	0.00	0.00	18	SS-2	1.7
15	SC		Sandstone, 30% Clay. 7.5 YR7/1 mottled white with 10YR6/6, 10YR5/3 varigated gold brown; low plasticity; low moisture; no apparent bedding; subangular w/ angular stone	0.00	0.00	0.00	26	SS-3	1.8
20	CL		Sandy Clay, 35% Sand , 10% Rock fragments. medium consistancy; no bedding.	0.00	0.00	0.08	8	SS-4	1.8
25	CL		Sandy Clay, Same as above. 30% Sand, 15% Rock fragments	NS	NS	NS	6	SS-5	2.0
30	CL		Sandy Clay, 35% very fine Sand, 10% Rock fragments. 2.5YR4/6 varigated orange brown with 7.5YR5/2 light grayish brown; Low plasticity; low moisture except for wet slough; no apparent bedding; subangular; weathered plagioclase	NS	NS	NS	12	SS-6	1.7
35	CL		Sandy Clay, 30% fine Sand, 15%Rock fragments. 2.5YR4/6 varigated orange brown with 7.5YR5/6 light gold brown; low plasticity; medium; low moisture; no bedding; subangular	NS	NS	NS	14	SS-7	2.0
40	SC		Sandstone, 30% Clay. 2.5Y6/6 light yellow gold with 7.5YR4/6 with light orange brown; low plasticity; loose-medium consisitency; low moisture; no bedding; subangular; cherty stone is angular; weathered plagioclase	NS	NS	NS	19	SS-8	1.9
45	CL		Sandy Clay, 25% fine Sand, 20% Chert rock fragments. 10YR5/6 varigated light gold with 10YR4/6 light oreange brown; Stiff consistancy; low moisture; no apparent bedding; chert stone is angular; cobbles	NS	NS	NS	21	SS-9	1.7
50			Same as above. Sandy Clay, 25% fine Sand, 25% chert and rock fragments and cobbles	NS	NS	NS	30	SS-10	1.8

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Kenneth Kesty
Drill Rig: Mobile B-61

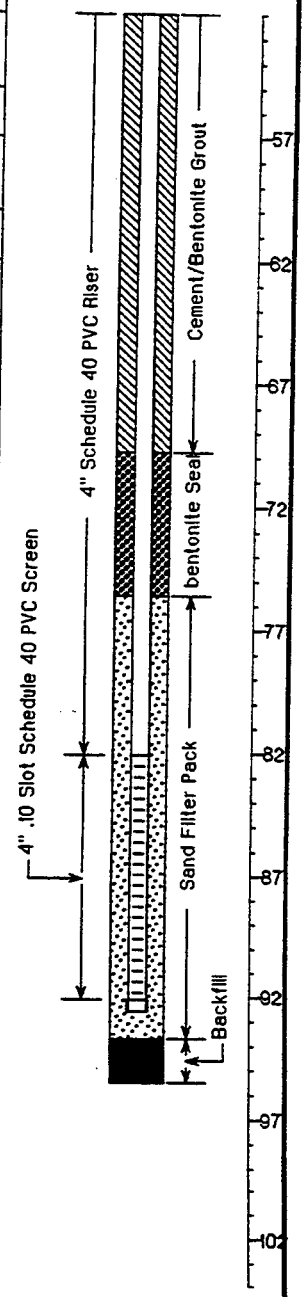
Site Location: Old Water Hole
Northing (ft): 1179490.89
Easting (ft): 472425.66
Groundwater Elev. (ft): 611.29
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: OWH-G05
Start/Finish Date: 03-28-95/04-02-95
Well Completion Depth (ft): 93.7
Drilled Depth (ft): 95.5
Surface Pad Elevation (ft): 668.61
Top of Casing Elevation (ft): 666.57

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
57	CL		Same as above, 75% Sandy Clay, 25% fine Sand, 25% chert-weathered, fractured cobbles	NS	NS	NS	24	SS-11	1.8
62	CL		Clay, 20% fine Sand, Chert fragments and cobbles. 2.5YR4/6 light orange brown; moderate plasticity; stiff; moist; no apparent bedding; Chert is angular	NS	NS	NS	28	SS-12	2.0
67	CL		Same as above. Clay, 25% Chert rock cobbles, 20% fine Sand, 10% Chert fragments	NS	NS	NS	25	SS-13	2.0
72	CL		Clay, 15% fine Sand, 5% rock fragments and cobbles. 7.5YR4/4 light orange brown with mottled black MnO2 deposits, at 70.5 purple deposits; moderate plasticity; stiff; moist; no apparent bedding; angular rock fragments	NS	NS	NS	17	SS-14	2.0
77	SC		Clayey Sand, 35% Clay, 15% Chert pebbles and cobbles. 7.5YR4/4 light brown with 7.5YR5/2 varigated grayish brown; moderate plasticity; medium; moist; no apparent bedding; angular rock fragments	NS	NS	NS	24	SS-15	2.0
				NS	NS	NS	17	SS-16	0.30
82	CL		Same as above. 30% Clay, 20% Rock fragments. low plasticity; shale like fracturing of rock; non calcareous; fissle	NS	NS	NS	13	SS-17	2.0
87	CL		Sandy Clay, 40% fine silty Sand, 5% rock fragments. 5YR4/6 varigated light orange brown with 5YR4/6 yellow-gold; moderate plasticity; medium; moist; no apparent bedding; with angular rock fragments	NS	NS	NS	10	SS-18	2.0
92	CL		Same as above.						
	CL		Sand and pebbles, 20% Clay. some subangular black Sand; wet; loose						
97			*Bottom of Boring at 95.5 feet*						
102									

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened OVA, LEL and H2S were 0 unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

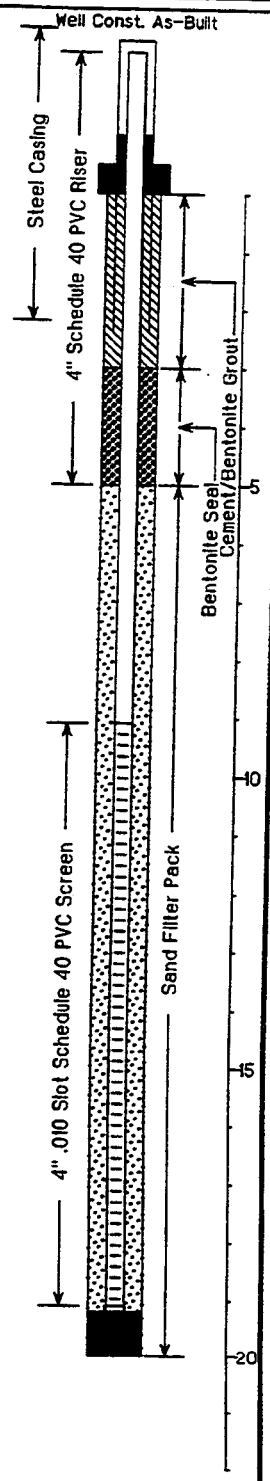
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Chuck Houck
Drilling Co.: Environmental Exploration, Inc.
Driller: Kevin Bray
Drill Rig: CME Model 75

Site Location: Background (Southeast of T24A)
Northing (ft): 1157688.93
Easting (ft): 522618.02
Groundwater Elev. (ft): 1016.27
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: BK-G06
Start/Finish Date: 04-14-94/04-16-94
Well Completion Depth (ft): 20.0
Drilled Depth (ft): 20.0
Surface Elevation (ft): 1020.55
Top of Casing Elevation (ft): 1022.59

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	OL		Organic-Silt, w/10% Gravel. 7.5YR3/2 dark brown; roots					
	CL		Silty Clay, 15% Silt. 7.5YR4/4 dark brown; moist	0/0	12-4-3-4	1	SS	1.6
	ML		Gravelly Silt, 10% clay, 20% sand. 7.5YR5/6 strong brown; very moist; angular to sub angular gravels (>20mm); cobbles at 5' per driller	0/0	3-4-10-15	2	SS	1.0
5	GC		Gravelly Clay, 10% Silt. 10YR5/4 yellowish brown; soft; moist					
	ML		Clayey silt, 20% large gravels. 10YR5/6 yellowish brown; soft; moist	0/0	2-3-3-3	3	SS	1.5
	GC		Gravelly Clayey-Silt. 10YR5/6 yellowish brown; soft; moist moist					
10	ML		Silt, 10% Clay-Mottled. 5B5/1, 6/1 bluish gray and rust (iron stained) ;slightly moist	0/0	3-4-7-8	4	SS	2.0
	SM		Silty sand, fine to coarse Sand, 10% gravel. poorly sorted; moist	0/0	2-2-2-5	5	SS	1.6
15	ML		Clayey Silt. 5YR5/6 yellowish red; soft; moist	0/0	10-50/4"	6	SS	NR
	SC		Silt, 10% Clay. 10YR6/1 gray; med soft; slightly moist					
			Silt stone. fissile, well cemented; rust stained					
	NA		Fractured bed rock-iron stained					
20			*Bottom of Boring at 20.0 feet*					

Note:NR= Not Recorded, NA=Not Applicable
SS=Split Spoon, Borehole Diameter=11.75"



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Vickie Metcalfe
Drilling Co.: Well Drilling Inc.
Driller: John Sims
Drill Rig: Ingersoll-Rand T3W

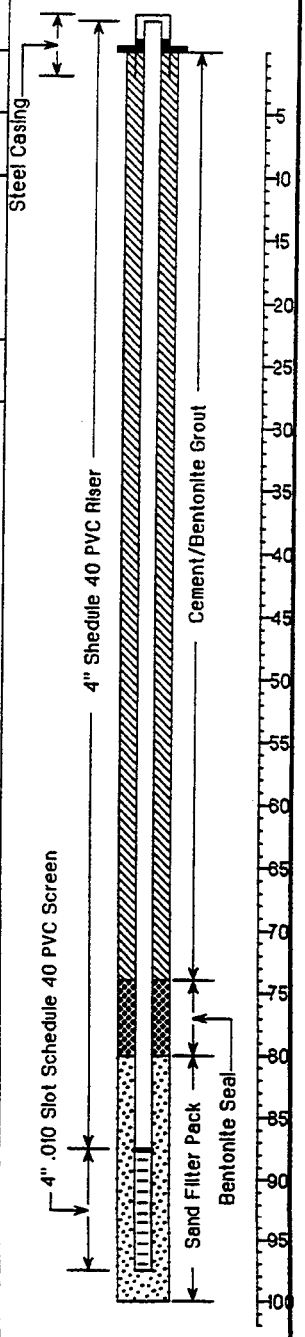
Site Location: T24A
Northing (ft): 1158577.17
Easting (ft): 523286.26
Groundwater Elev. (ft): 971.32
Drilling Method: Air Rotary
Sampling Method: Grab Sample

Monitoring Well No.: T24A-G01
Start/Finish Date: 07-01-94/07-01-94
Well Completion Depth (ft): 100.0
Drilled Depth (ft): 100.0
Surface Elevation (ft): 1004.80
Top of Casing Elevation (ft): 1006.78

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
5–10	NA		Weathered Shale. 5YR 6-5/3 reddish brown; friable; dry	0/0	NA	1	Grab	NA
25–30	NA		Shale. 10YR5/1 gray; friable; dry	0/0	NA	2	Grab	NA
55–90	NA		Air Rotary Drilling	0/0	NA	3	Grab	NA
90–100	NA		Fracture zone with water					
100			*Bottom of Boring at 100.0 feet*					

NOTE:NR=Not Recorded, NA=Not Applicable
Borehole Diameter=8.0"

Well Const. As-Built



SOIL BORING/WELL LOG

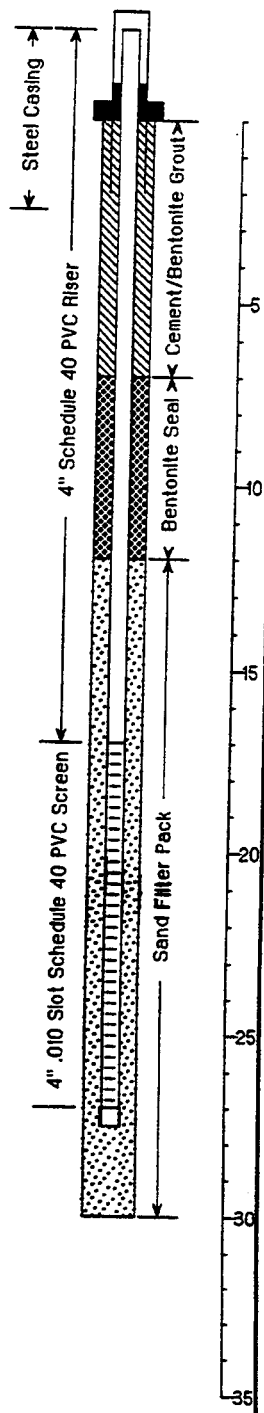
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: T24A
Northing (ft): 1158345.68
Easting (ft): 523163.38
Groundwater Elev. (ft): 992.32
Drilling Method: Air Rotary
Sampling Method: Core Barrel

Monitoring Well No.: T24A-G02
Start/Finish Date: 11/11/94-to-11-13-94
Well Completion Depth (ft): 30.0
Drilled Depth (ft): 30.0
Surface Elevation (ft): 1005.21
Top of Casing Elevation (ft): 1007.48

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
			Quartz Sandstone Cobble. 2.5YR8/3 pale yellow; siliceous; very hard; well cemented; medium grained; no apparent bedding; no structure - massive; moderate weathering - red Fe stain; low primary - well cemented; low secondary porosity					
5			Shale- fissle, shaly, thin horizontal bedding. 7/5GY7/1 light greenish gray; moderately hard; moderately cemented; highly weathered; red and black iron staining;fractured; low primary; high secondary permeability; very fined grained	0/0	NA	1	CB	1.2
10			Shale, thinly bedded. N7/ light gray, 15' color change to 5B6/1 bluish gray; hard; moderately cemented; very fine to fine grained; horizontal bedding; horizontal fractures throughout with vertical fractures					
15	NA		Shale, fissle. moderately weathered; fracture voids; low primary; high secondary permeability-open fractures; iron staining and fractures throughout core; Lost core:15.75-20' due to weathering and fissility	0/0	NA	2	CB	1.2
20			Shale, thinly bedded. 5B5/1 hard; moderately cemented; very fine grained; horizontal fracturing; vertical clay filled fractures; moderately weathered; fracture type void and clay filled vertical fractures; permeability: primary-low; secondary-moderate; weathered fractures Lost core: 23.33 t0 30.0' weathered fractures	0/0	NA	3	CB	.66
25								
30			*Bottom of Boring at 30.0 feet*					
35			*Note:NR=Not Recorded, NA=Not Applicable Borehole Diameter=8.0"*					

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Vickie Metcalfe
Drilling Co.: Well Drilling Inc.
Driller: John Sims
Drill Rig: Ingersoll-Rand T3W

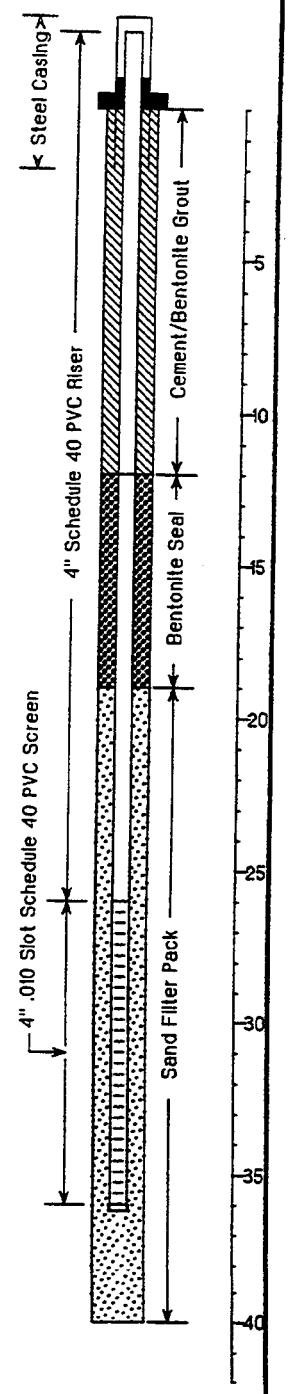
Site Location: T24A
Northing (ft): 1158265.24
Easting (ft): 523558.29
Groundwater Elev. (ft): 1020.49
Drilling Method: Air Rotary
Sampling Method: Grab Sample

Monitoring Well No.: T24A-G03
Start/Finish Date: 07-01-94/07-01-94
Well Completion Depth (ft): 40.0
Drilled Depth (ft): 40.0
Surface Elevation (ft): 1030.48
Top of Casing Elevation (ft): 1032.83

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	CL		Clay. buck red color; topsoil					
5	NA		Weathered Shale. light brown color; dry					
10								
15			Air rotary drilling					
20			Shale. 10YR5/1 gray; dry	0/0	NA	1	Grab	NA
25			Air rotary drilling					
30			Water zone					
35				0/0	NA	2	Grab	NA
40			*Bottom of Boring at 40.0 feet*					

Note:NR=Not Recorded, NA=Not Applicable
Borehole Diameter=8.0"

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Environmental Exploration, Inc.
Driller: Jason Roberts
Drill Rig: CME Model 75

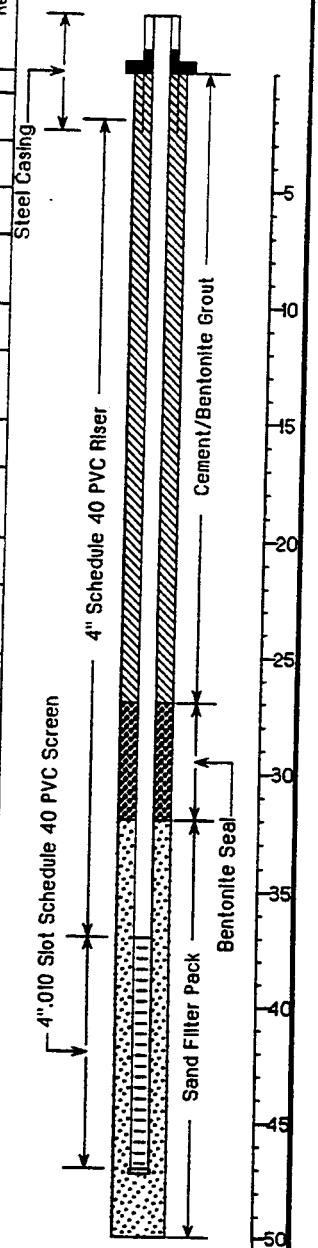
Site Location: Range L (Lima Pond)
Northing (ft): 1176679.72
Easting (ft): 449990.45
Groundwater Elev. (ft): 570.59
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: RL-G01
Start/Finish Date: 06-10-94/06-15-94
Well Completion Depth (ft): 50.0
Drilled Depth (ft): 50.0
Surface Pad Elevation (ft): 588.63
Top of Casing Elevation (ft): 590.54

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
	ML		Sandy Silt, 30% medium coarse Sand, 5% Clay. 10R5/6 Red varigated light brownish yellow; low plasticity; poorly sorted; medium; moist; subangular; no structure.	0.00	0.00	0.00	26	SS-1	1.2
5			Silt, 15% medium Sand to granules, 10% Clay. 10R5/8 red varigated light yellowish brown and light gray; low plasticity; poorly sorted; loose to medium; moist; subangular; no structure	0.00	0.00	0.02	20	SS-2	1.6
10				0.00	0.00	0.03	9	SS-3	1.6
15			Silt, 15% fine to medium Sand, 10% Clay, 0 to 1% MnO2. 5YR5/8 yellowish red varigated light brownish yellow and 2.5YR5/8 red varigated light brownish yellow and light gray; low plasticity, poorly sorted; medium; subangular; no structure	0.00	0.00	0.03	11	SS-4	1.7
20				NS	0.00	0.03	18	SS-5	1.8
25	CL		Silty Clay, 30% Silt, 10% fine Sand, 3% MnO2. 5YR5/8 yellowish red varigated brownish yellow; moderate plasticity; poorly sorted; firm; moist; subangular; no structure	NS	NS	NS	5	SS-6	2.0
30				NS	NS	NS	7	SS-7	1.0
35			Sandy Clay, 25% fine-very coarse Sand, 2 t0 20% MnO2, 15% cemented Sandstone fragments. 5YR5/8 yellowish red, varigated light brownish yellow and black; low to moderate plasticity; very poorly to poorly sorted; stiff; moist; subangular; no structure	NS	NS	NS	12	SS-8	2.0
40				NS	NS	NS	54	SS-9	1.9
45			Clay, 10% fine Sand, 0 t0 10% weathered Sandstone fragments, 2% MnO2. 5YR6/8 reddish yellow varigated light brownish yellow; moderate plasticity; poorly sorted; stiff; moist; subangular; no structure	NS	NS	NS	7	SS-10	1.9
50				NS	NS	NS	6	SS-11	2.0
55			*Bottom of Boring at 50.0 feet*						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened Borehole Diameter=8.75" Note:OVA, LEL, and H2S readings were at Zero ppm from 0 to 50 feet.

Well Const. As-Built



SOIL BORING/WELL LOG

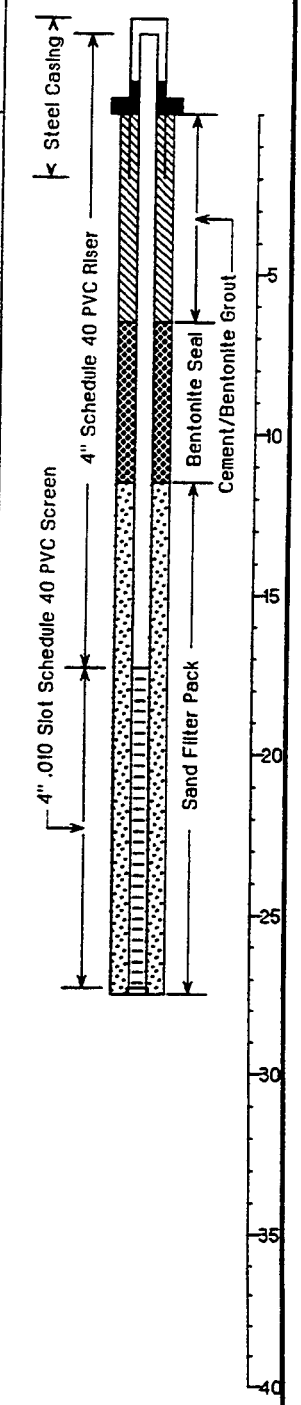
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: Range L (Lima Pond)
Northing (ft): 1176901.62
Easting (ft): 449718.54
Groundwater Elev. (ft): 563.19
Drilling Method: Air Rotary
Sampling Method: Core Barrel

Monitoring Well No.: RL-G02
Start/Finish Date: 11-18-94 to 11-19-94
Well Completion Depth (ft): 27.5
Drilled Depth (ft): 33.0
Surface Pad Elevation (ft): 564.92
Top of Casing Elevation (ft): 566.89

Depth (feet)	Soil Class USCS	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
5	ML	Silt, 20% fine to medium Sand. 104/8 red, varigated light yellow and light gray; low plasticity; poorly sorted;medium dense; moist; subangular; no structure	0.00	0.00	0.00	13	CB-1	2.0
10	CL	Sandy Clay, 30% fine to medium Sand, 5% MnO2. 10YR6/8 brownish yellow varigated black (MnO2); moderate plasticity; poorly sorted; stiff; subangular; no structure	0.00	0.00	0.00	9	CB-2	1.5
15			0.00	0.00	0.05	9	CB-3	1.2
20	NA	Silty Clay, 30% Silt, 15% fine to medium Sand, 0 to 5% MnO2. 5YR5/6 yellow red varigated black and 7.5YR5/6 strong brown; low plasticity; poorly sorted; stiff to very stiff; moist; subangular; no structure	0.02	0.00	0.05	20	CB-4	2.0
25		Clay, 15% fine Sand; 10% MnO2. 5YR5/8 Yellowish red varigated black; moderate plasticity; poorly sorted; medium; moist subangular; no structure	NS	NS	NS	5	CB-5	1.3
30		Limestone; calcareous; massive; N7/ light gray very hard; well crystalline; horizontal 30-45 degrees from vertical fractures which have been filled with dark mineralization; crystalline in size possibly clay; moderately weathered; void condition: fractures filled; Lost are 23-31 ft: appears to go back into possible Clay, Sandy Clay	NR	NS	NS	NA	CB-6	1.7
35		*Bottom of Boring at 33 feet*						
40		*Note:NR=Not Recorded, NA=Not Applicable CB=Core Barrel, NS=Not Screened Note: OVA, LEL, H2S readings from land surface to ss feet were 0ppm, 0%, and 0ppm, respectively, unless otherwise noted.*						

Well Const. As-Built



SOIL BORING/WELL LOG

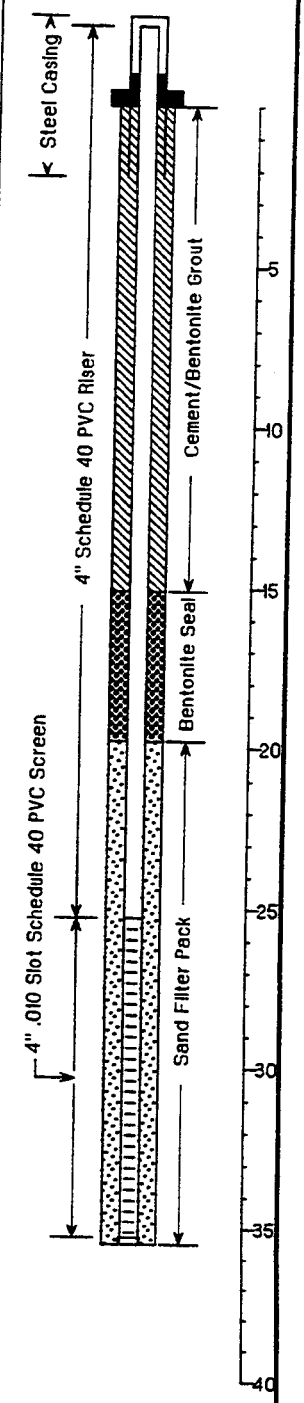
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: Range L (Lima Pond)
Northing (ft): 1176656.05
Easting (ft): 449759.0
Groundwater Elev. (ft): 566.45
Drilling Method: Air Rotary
Sampling Method: Split Spoon/Core Barrel

Monitoring Well No.: RL-G03
Start/Finish Date: 11-20-94 to 11-21-94
Well Completion Depth (ft): 35.5
Drilled Depth (ft): 35.5
Surface Pad Elevation (ft): 584.25
Top of Casing Elevation (ft): 586.52

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
5	SM		Silty Sand, 60% medium to coarse Sand, 25% Silt, 15% weathered cemented Sandstone fragments. 10R5/6 red varigated light yellow; poorly sorted; hard; moist; subangular; no structure	0/0	24	1	SS	2.0	
10	SM		Silty Sand, 40% medium to coarse Sand, 30% Silt, 30% interbedded weathered Chert and Sandstone fragments. 7.5YR5/6 strong brown varigated red; poorly sorted; very firm; moist; subangular; no structure	0/0	22	2	SS	1.4	
15	SM		Silty Sand, 40% medium to coarse Sand, 30% Silt, 15% Clay, 15% weathered Sandstone fragments present. 7.5YR5/8 interbedded red and varigated black (MnO4); very poorly sorted; firm; moist; subangular; no structure	0/0	16	3	SS	1.4	
20	CL		Sandy Clay, 30% medium to grannular Sand, 20% weathered cemented Sandstone. 7.5YR4/6 strong brown varigated red and black (MnO2); low plasticity; poorly sorted; very stiff; moist; subangular; no structure	0/0	20	4	SS	1.2	
25	CL		Clay, 15% Sand: 10% Fine, 5% medium, 10% Calcareous limestone fragments present, medium grained. 5YR5/6 yellowish red; high plasticity; hard; moist; moderately weathered; subrounded; no apparent bedding	0/0	34	5	SS	2.0	
30	NA		Limestone; calcareous; massive; N7/ light gray very hard; well cemented; medium to very coarse grained and crystalline; horizontal 60 degrees from vertical. filled fractures; moderately weathered voids; fractures; permeability; low primary, high secondary; open fractures at 30.5 to 31.7ft. Core loss probably due to soft unconsolidated zone	0/0	NA	6	CB	1.2	
35			*Bottom of Boring at 35 feet*						
40			*Note:NR=Not Recorded, NA=Not Applicable CB=Core Barrel, NS=Not Screened Note: OVA, LEL, H2S readings from land surface to ss feet were 0ppm, 0%, and 0ppm, respectively, unless otherwise noted.*						

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

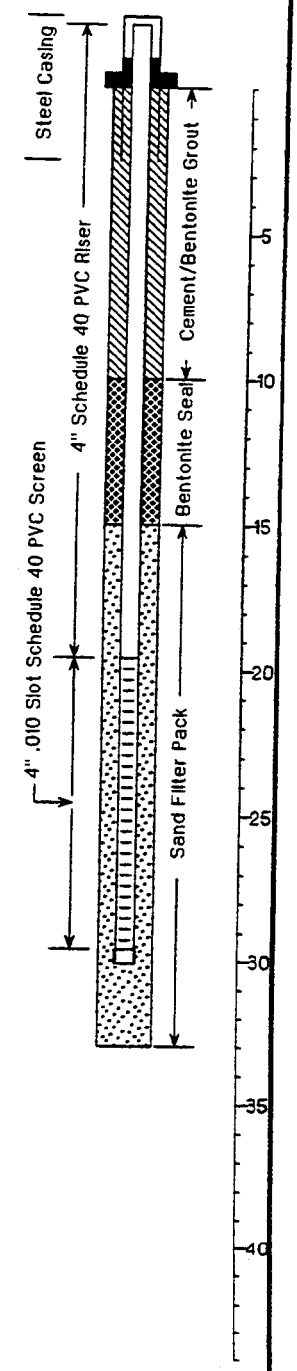
Site Location: Range L (Lima Pond)
Northing (ft): 1176804.38
Easting (ft): 449702.84
Groundwater Elev. (ft): 565.27
Drilling Method: Hollow Stem Auger/Air Rotary
Sampling Method: Split Spoon

Monitoring Well No.: RL-G04
Start/Finish Date: 1-24-95 to 1-25-95
Well Completion Depth (ft): 33.0
Drilled Depth (ft): 35.0
Surface Pad Elevation (ft): 568.80
Top of Casing Elevation (ft): 570.97

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
5	ML		Silt, 20% fine Sand, 7.5YR6/8 reddish yellow varigated brownish red; low plasticity; poorly sorted; very dense; moist; subangular; no structure	0.00	0.02	0.09	30	SS-1	2.0
10	CL		Silty Clay, 25% Silt, 10% fine Sand, 10% MnO2. 7.5YR6/8 reddish yellow varigated black; moderate plasticity; poorly sorted; loose; moist; subangular; no structure	0.00	0.01	0.00	9	SS-2	1.5
15	SC		Clayey Sand, 25% Clay, 15% MnO2 stained sandstone fragments; coarse to very coarse Sand. 7.5YR6/8 reddish yellow varigated black and brownish red; moderate plasticity; poorly sorted; hard; moist; subangular; no structure	0.00	0.01	0.00	44	SS-3	1.2
20	CL		Silty Clay, 25% Silt, 10% fine Sand, 5% Sandstone fragments. 7.5YR6/8 reddish yellow varigated black, MnO2 stained clay; moderate plasticity; poorly sorted; very stiff; moist; subangular; no structure	0.00	0.01	0.14	33	SS-4	2.0
25				NA	NA	NA	27	SS-5	2.0
30	NA		Clay, 5% medium grained Sand. 7.5YR6/6 reddish yellow, whisp black varigated strong brown; high plasticity; very stiff; moist; no bedding; subrounded; fat clay	NA	NA	NA	NA	SS-6	1.9
35			Limestone; calcareous; massive. NG/ grayvery hard; well cemented crystalline; healed horizontal 45% fractures; solid; permeability; low primary-well cemented; low secondary-cemented fractures						
40			*Bottom of Boring at 35.0 feet*						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened Note: OVA, LEL, H2S readings from land surface to ss feet were 0ppm, 0%, and 0ppm, respectively, unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

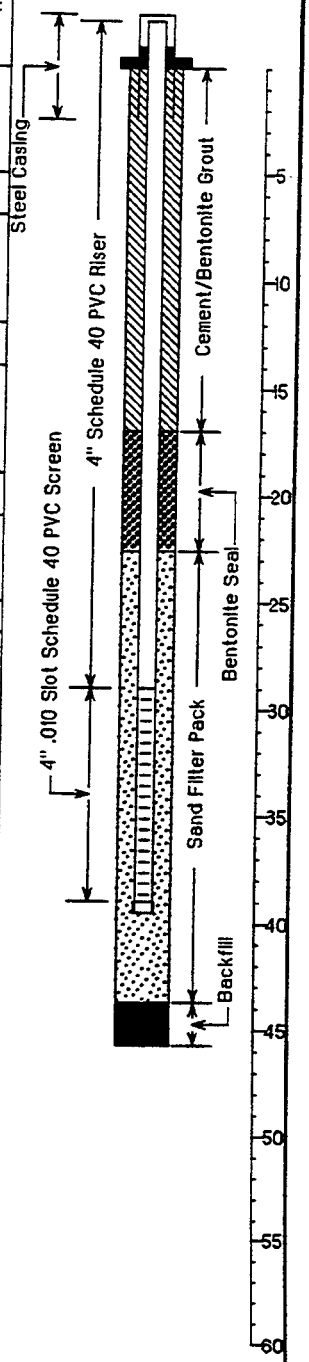
Site Location: Range L (Lima Pond)
Northing (ft): 1176623.88
Easting (ft): 449893.95
Groundwater Elev. (ft): 560.10
Drilling Method: Hollow Stem Auger/Air Rotary
Sampling Method: Split Spoon

Monitoring Well No.: RL-G05
Start/Finish Date: 1-19-95 to 1-23-95
Well Completion Depth (ft): 45.7
Drilled Depth (ft): 53.5
Surface Pad Elevation (ft): 578.94
Top of Casing Elevation (ft): 580.94

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HD (TWA)	GB (TWA)	VX (TWA)	N-Value	Sample Type and Number	Sample Rec. (ft)
5	CL		Clay, 10% fine Sand, 10% light gray Chert fragments. 2.5YR5/6 red; moderate plasticity; poorly sorted; stiff; moist; subangular; no structure	0.00	0.05	0.00	15	SS-1	1.2
10–15	CL		Sandy Clay, 25% fine to very coarse Sand, 5% light gray Chert fragments; 0 to 2% weathered Sandstone fragments. 2.5YR5/8 red varigated brownish yellow and 5YR5/6 yellowish red; moderate plasticity; poorly sorted; stiff; moist; subangular; no structure	0.00	0.04	0.00	10	SS-2	2.0
20	CL			0.00	0.01	0.00	15	SS-3	1.2
25	ML		Clayey Silt, 30% Clay, MnO2 stained, 20% 2" grannular-bottom. N2.5/ black varigated light red; very dense; low plasticity very dense; moist; interbedded chert fragments=grannular; subrounded	NR	NR	NR	52	SS-4	1.3
30	GC		Clayey Gravel, 30% Clay, 20% MnO2 5YR3/1 very dark gray varigated black and light red; low plasticity; very dense; moist; subrounded; no apparent bedding	NR	NR	NR	50	SS-5	1.7
35	CL		Clay, 20% interbedded Gravel, 10% fine Sand. 7.5YR7/8 reddish yellow; varigated yellow; high plasticity; very stiff; moist; subrounded	NR	NR	NR	17	SS-6	2.0
40	CL		Same as Above. Interbedded gravel, 20% Chert fragments. varigated red	NR	NR	NR	22	SS-7	2.0
45–50	CL		Clay, 20% MnO2, 5% grannular sandstone fragments. 2.5YR4/2 varigated red and black; high placticity; very stiff; moist; banded MnO2 throughout; subrounded	NR	NR	NR	22	SS-8	2.0
55			Same as Above. with Sandy Limestone fragments at bottom of sample; hard; weathered Sandstone fragments at top of sample	NR	NR	NR	50/5"	SS-9	2.0
60			*Bottom of Boring at 53.5 feet*						

Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened Note: OVA, LEL, H2S readings from land surface to ss feet were 0ppm, 0%, and 0ppm, respectively, unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Keneth Kesty
Drill Rig: Mobile B-61

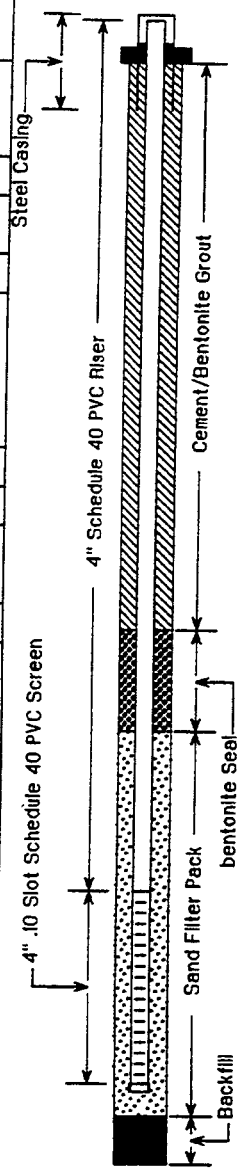
Site Location: Range L
Northing (ft): 1176842.41
Easting (ft): 449842.11
Groundwater Elev. (ft): 561.69
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: RL-G06
Start/Finish Date: 03-05-95/03-08-95
Well Completion Depth (ft): 54.5
Drilled Depth (ft): 57
Surface Elevation (ft): 577.76
Top of Casing Elevation (ft): 575.93

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
5	ML		Clay Silt, 25% Clay, 15% fine Sand. 7.5YR6/8 reddish yellow, varigated red; low plasticity; poorly sorted; very stiff; moist; subangular; no structure	0/0	36	1	SS	1.8
10				0/0	23	2	SS	1.5
15								
20			Wet cuttings at 14ft BGS. Upon collecting sample #1, 8ft of the sample rod was wet.	0/0	22	3	SS	0
25	GC		Gravel, 20% Silt. 7.5YR4/3 brown; medium stiff; wet; low plasticity; no apparent bedding, angular, siliceous gravel	0/0	30	4	SS	1.0
30			Gravel, 20% Silt. 7.5YR4/3 brown; very dense; wet; low plasticity; Same as above	0/0	63/6"	5	SS	0.8
35			Gravel, 20% Silt; 7.5YR4/3 brown; very dense; wet; low plasticity; Same as above	0/0	50/5"	6	SS	1.0
40			Clayey Gravel, 10% Silt, 35% Clay. 7.5YR4/3 brown; very dense; wet; plasticity; very coarse sand approx 20%. Interbedded yellowish red clay 5YR3/6, angular, siliceous gravel	0/0	71/6	7	SS	1.0
45			Sandy Gravel, 10% Silt, 35% coarse Sand. 7.5YR4/3 brown; very dense; wet; low plasticity; no apparent bedding; angular; siliceous gravel	0/0	65	8	SS	1.0
50				0/0	50/3"	9	SS	0
				0/0	NA	10	SS	1.3
			Auger refusal at 47.3' BGS					
55			Limestone; light gray; very hard; calcareous/siliceous, massive, well cemented, fractured 70 degrees to vertical, healed fractures, moderately weathered, loss of core due to void-rod drop.					
60			Bottom of boring at 57 feet					
65								

Note:NR=Note Recorded, NA=Not Applicable, SS=Split Spoon, NS=Not Screened Borehole, Diameter=7 3/4". Note OVA, LEL, and H2S readings were at zero ppm from 0 to 57 feet.

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520-008
Geologist: Brad Baker
Drilling Co.: Christensen Boyles Brothers
Driller: Kenneth Kesty
Drill Rig: Mobile B-61

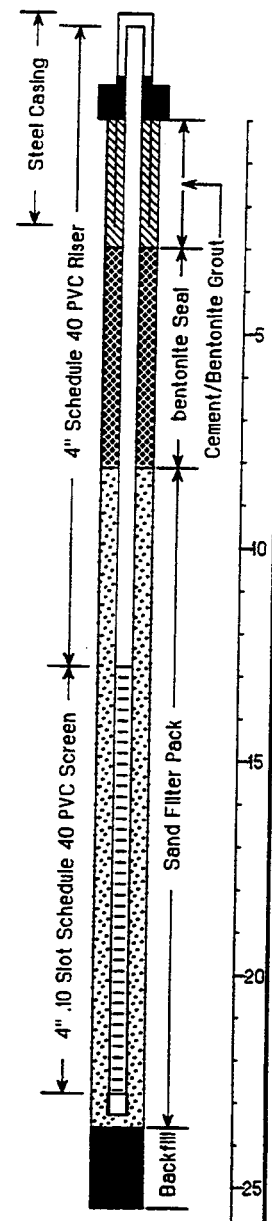
Site Location: Range L
Northing (ft): 1176675.36
Easting (ft): 449624.37
Groundwater Elev. (ft): 560.67
Drilling Method: Hollow Stem Auger
Sampling Method: Split Spoon

Monitoring Well No.: RL-G07
Start/Finish Date: 03-20-95/04-28-95
Well Completion Depth (ft): 23.6
Drilled Depth (ft): 25.5
Surface Elevation (ft): 571.96
Top of Casing Elevation (ft): 573.88

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
5	CL		Clay, 20% Silt. 10% Sand, 5% Rock fragments. 7.5YR4/6 ligh orangey brown; low plasticity; low moisture.	0ppm	NA	NA	NA	NA
10	CL		Clay, 20% Silt, 10% rock fragments, 5% Sand. 10YR3/2 dark blackish brown; moderate moisture	0ppm	NA	NA	NA	NA
15	CL		Clay; 5Y3/1 dark gray; saturated; wet clay and mud.	0ppm	NA	NA	NA	NA
20								
25	NA		Chert, black, very hard. noncalcareous; massive; dense; no apparent bedding; unweathered					
			Limestone. black/brown-white; hard; calcareous; massive; dissolution weathering; vuggy					
			Bottom of Boring at 25.5 feet					
30								

Note:NR=Not Recorded, NA=Not Applicable, SS=Split Spoon, Borehole Diameter = 11.5", No sampling was completed on this well due to close proximity to RL-G04.

Well Const. As-Built



SOIL BORING/WELL LOG

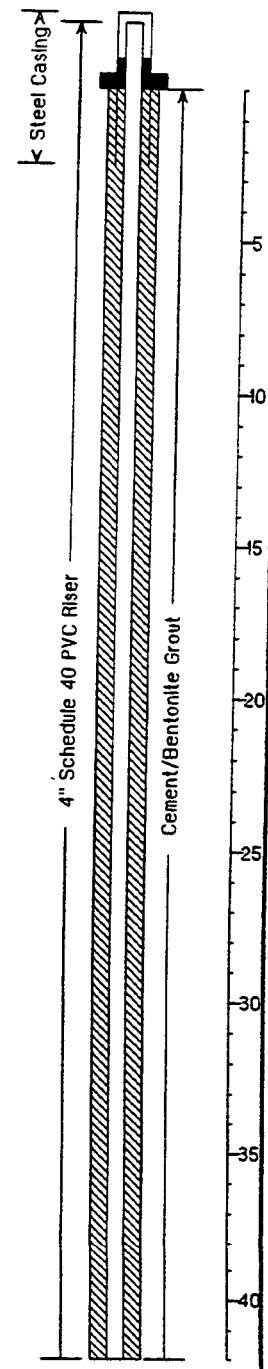
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: Range J
Northing (ft): 1174066.34
Easting (ft): 470671.01
Groundwater Elev. (ft): 579.34
Drilling Method: Hollow Stem Auger/Air Rotary
Sampling Method: Split Spoon

Monitoring Well No.: RJ-G05
Start/Finish Date: 1-09-95 to 1-18-95
Well Completion Depth (ft): 73.0
Drilled Depth (ft): 73.0
Surface Elevation (ft): 634.30
Top of Casing Elevation (ft): 636.44

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	CL			NR	7	1	SS	1.4
5	ML		Clayey Silt, 30% Clay, 15% medium grained Sand. 7.5YR5/6 strong brown; low plasticity; loose; moist; subrounded; no apparent bedding	NR	57	2	SS	2.0
10			Sandy Silt, 30% Sand, 15% Clay, 10% Sandstone fragments. 2.5YR4/8 low plasticity; very dense; moist; subrounded; no apparent bedding	NR	50	3	SS	2.0
15	CL		Clayey Sand, 25% Clay, 20% medium grained Sand. 10 R4/6 red varigated yellowish brown; moderate plasticity; very dense; moist; subrounded; no apparent bedding	NR	49	4	SS	2.0
20			Gravelly Silt, 40% Gravel, 15% Clay. 10R5/8 red; low plasticity; dense; moist; subrounded; no apparent bedding	NR	35	5	SS	2.0
25			Silty Clay, 40% Silt, 10% fine grained Sand. 10R5/8 red varigated brownish yellow; moderate plasticity; hard; moist; subrounded; brownish yellow varigation appears vertical	NR	30	6	SS	2.0
30			Same as Above with 45% Clay, 35% Silt 10% medium grained Sand, 10% granular. very stiff	NR	24	7	SS	2.0
35			Sandy Clay, Sand: 20% coarse, 10% granular. 2.5R5/8 red varigated brownish yellow; medium plasticity; very stiff; moist; subrounded no apparent bedding	NR	18	8	SS	2.0
40			Clay, 10% medium Sand. 2.5YR6/6 red varigated brownish yellow; high plasticity; very stiff; moist subrounded; no apparent bedding	NR	29	9	SS	2.0

Well Const. As-Built



SOIL BORING/WELL LOG

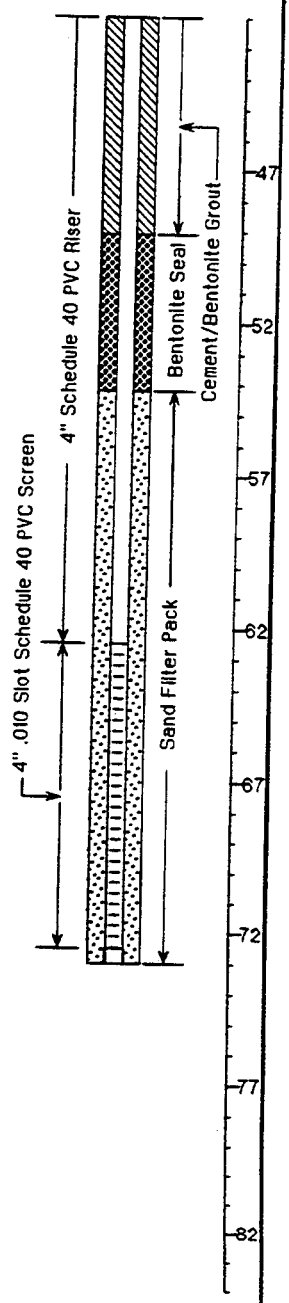
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: Range J
Northing (ft): 1174066.34
Easting (ft): 470671.01
Groundwater Elev. (ft): 579.34
Drilling Method: Hollow Stem Auger/Air Rotary
Sampling Method: Split Spoon

Monitoring Well No.: RJ-G05
Start/Finish Date: 1-09-95 to 1-18-95
Well Completion Depth (ft): 73.0
Drilled Depth (ft): 73.0
Surface Elevation (ft): 634.30
Top of Casing Elevation (ft): 636.44

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
47	CL		Clay, Sand: 10% Medium, 10% granular. 2.5YR6/8 red high plasticity; very stiff; moist; subrounded; no apparent bedding	NR	44	10	SS	0.6
52			Same as Above; very moist; fat clay	NR	18	11	SS	2.0
57			Same as Above; 2.5YR5/8 red; stiff fat Clay	NR	25	12	SS	2.0
62			Same as Above; Yellowish Red 5YR4/6; very stiff fat Clay	NR	59	13	SS	1.2
			Same as Above; 5YR4/6 yellowish red; hard Sand: 80% fine, 20% medium. low plasticity; dry; iron staining present; subrounded	NR	NA	14	SS	1.2
67			Calcareous Sandy Limestone, massive. N6/ gray; very hard well cemented; fragmented; moderately weathered; low primary; permeability; high secondary-fractured					
72			Calcareous Sandy Limestone, massive. N7 light gray; hard; well cemented; fine grained; bedded fractures 30% from vertical; moderately weathered; very fractured throughout interval; low primary; permeability; high secondary - fractured; loss of core to fragmented wedging in core barrel at an angle					
77			*Bottom of Boring at 73.0 feet*					
82			*Note:NR=Not Recorded, NA=Not Applicable SS=Split Spoon, NS=Not Screened Note: OVA, LEL, H2S readings from land surface to ss feet were 0ppm, 0%, and 0ppm, respectively, unless otherwise noted.*					

Well Const. As-Built



SOIL BORING/WELL LOG

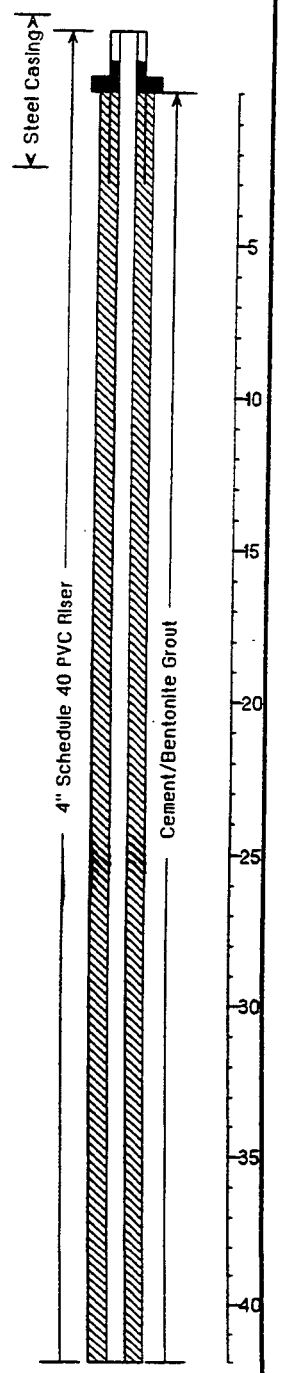
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: Range J
Northing (ft): 1173936.78
Easting (ft): 470817.16
Groundwater Elev. (ft): 577.57
Drilling Method: Air Rotary
Sampling Method: Split Spoon/Core Barrel

Monitoring Well No.: RJ-G06
Start/Finish Date: 12-09-94 to 12-13-94
Well Completion Depth (ft): 80.0
Drilled Depth (ft): 80.0
Surface Elevation (ft): 638.22
Top of Casing Elevation (ft): 640.06

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
			Sandy Clay, 25% medium Sand. 7.5YR5/2, brown, banded reddish yellow; moderate plasticity; moist; no apparent bedding; subangular; roots present	0.00	6	1	SS-1	1.8
5			Sandy Clay, 35% medium Sand, 2.5YR5/8 red, mottled white, varigated yellow; low plasticity; hard moist, subangular; no apparent bedding	0.00	45	2	SS-2	2.0
10			Same as Above. Sand 25%	0.00	42	3	SS-3	2.0
15			Same as Above. Sand 35%	0.00	34	4	SS-4	NA
20	CL		Sandy Clay, 35%Sand: 10% coarse, 15% medium, 10% grannular 10R5/8 red varigated yellow; low plasticity; hard; moist; subrounded; no apparent bedding	0.00	45	5	SS-5	1.8
25			Same as Above with MnO2 present-2%	0.00	37	6	SS-6	2.0
30			Same as above with interbedded brown sand (bottom 1")	0.00	40	7	SS-7	2.0
35			Same as Above with 30% interbedded reddish yellow Sand medium grained	0.00	31	8	SS-8	1.8
40			Clay, 15% medium Sand. 2.5YR5/8 red; high plasticity; hard; moist; subrounded; no apparent bedding	0.00	30	9	SS-9	1.8

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

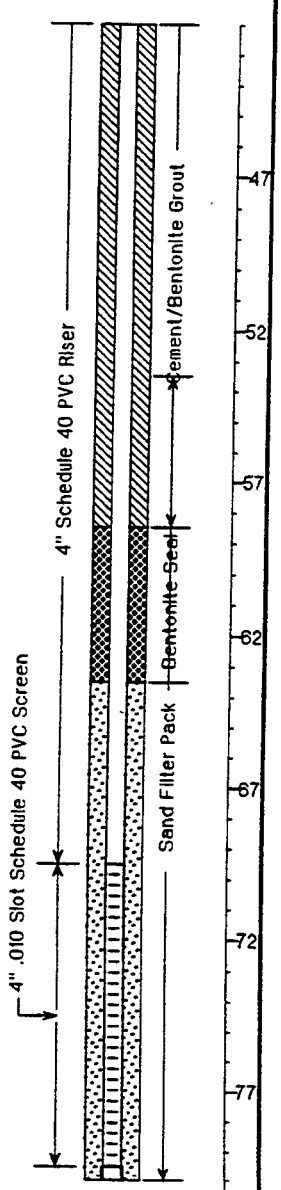
Site Location: Range J
Northing (ft): 1173936.78
Easting (ft): 470817.16
Groundwater Elev. (ft): 577.57
Drilling Method: Air Rotary
Sampling Method: Split Spoon/Core Barrel

Monitoring Well No.: RJ-G06
Start/Finish Date: 12-09-94 to 12-13-94
Well Completion Depth (ft): 80.0
Drilled Depth (ft): 80.0
Surface Elevation (ft): 638.22
Top of Casing Elevation (ft): 640.06

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	CL							
47	SC		Clayey Sand, Sand: 25% coarse, 20% medium, 20% fine, Clay 45%. 2.5YR5/8 red; moderate to low plasticity; very dense; moist; subangular; interbedded gray and brown Sand	0.00	65	10	SS-10	2.0
52	SC		Clay/Rock contact: Clay 2", Rock 3". Clay, 20% coarse Sand 2.5YR5/8 red; high plasticity; hard; moist; subrounded; no apparent bedding; Sandstone, siliceous; 10YR7/4 very pale brown; hard; moderately cemented; medium to coarse grained; highly weathered; intra-partical; low primary; moderate secondary-fracturing; no apparent bedding	0.00	50/5"	11	SS-11	.35
57	SC		Clayey Sand, 30% Clay, medium to coarse grained Sand. 7.5YR4/2 brown interbedded brown Sand; Clay 2.5YR5/8 red; low plasticity; dense; moist	0.00	33	12	SS-12	1.6
62	NA		Sandstone; Siliceous; massive. 10YR6/4 light yellowish brown; hard moderately cemented; medium-coarse grained; solution pores; moderately weathered; low primary; high secondary: porosity	0.00	57	13	SS-13	.20
67	SP		Sand, 15% Clay/Silt, medium to fined grained Sand. 2.5YR5/2 grayish brown; low plasticity; dense; subrounded; no apparent bedding	0.00	47	14	SS-14	.66
72	SP		Sand, 15% Silt, fine Sand. 2.5Y7/2; low plasticity; very dense; moist; subrounded; no apparent bedding	0.00	50/5"	15	SS-15	.20
77	SP				NA	16	CB-16	NA
82			*Bottom of Boring at 80.0 feet*					

Note:NR=Not Recorded, NA=Not Applicable CB=Core Barrel, NS=Not Screened SS=Split Spoon Note: OVA, LEL, H2S readings from land surface to ss feet were 0ppm, 0%, and 0ppm, respectively, unless otherwise noted.

Well Const. As-Built



SOIL BORING/WELL LOG

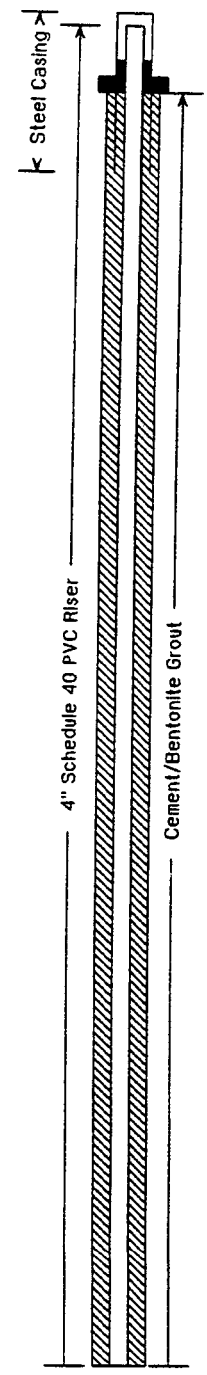
Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
Drilling Co.: Anderson Engineering
Driller: Dean Whitlock
Drill Rig: HMB-124

Site Location: Range J
Northing (ft): 1173935.66
Easting (ft): 470606.11
Groundwater Elev. (ft): 577.65
Drilling Method: Air Rotary
Sampling Method: Split Spoon/Core Barrel

Monitoring Well No.: RJ-G07
Start/Finish Date: 12-14-94 to 12-16-94
Well Completion Depth (ft): 70.0
Drilled Depth (ft): 70.0
Surface Elevation (ft): 638.44
Top of Casing Elevation (ft): 640.47

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
				0/0	6	1	SS-1	1.25
	CL		Sandy Clay, 30% medium Sand, 5YR5/6 yellowish red, top 3" banded brown; plasticity; moist; subangular; no apparent bedding; roots present					
5	SM		Silty Sand, 30% Silt, 35% fine Sand, 15% Chert rock fragments. 5YR6/8 reddish yellow; low plasticity; very dense; moist, no apparent bedding; subangular	0/0	66	2	SS-2	2.0
10	SM		Same as Above. Dense	0/0	47	3	SS-3	2.0
15	SM		Same as Above. 3% MnO2 present; dense	0/0	39	4	SS-4	1.95
20	GC		Clayey Sand, 30% Clay, Sand: 40% fine, 30% grannular. 5YR6/8 reddish yellow, banded red; low plasticity; dense; moist; subrounded; gravel= Chert; trace MnO2	0/0	35	5	SS-5	2.0
25	CL		Sandy Clay, Sand: 30% fine, 10% medium, 5% chert fragments; <%10 MnO2. 5YR5/6 yellowish red; moderate plasticity; hard; moist; no apparent bedding; subangular	0/0	38	6	SS-6	.66
30	CL		Same as above. no Chert, 5% Sandstone fragments; fine grained	0/0	38	7	SS-7	2.0
35	GC		Clayey Sand, 35% Gravel=Chert, 30% Clay. 5YR5/6 yellowish red; low plasticity; dense moist interbedded browngravelly Sand; angular	0/0	45	8	SS-8	2.0
40	SC							

Well Const. As-Built



SOIL BORING/WELL LOG

Project Name: Fort McClellan RI/FS
SAIC Project No.: 01-0827-03-6520
Geologist: Brad Baker
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Site Location: Range J
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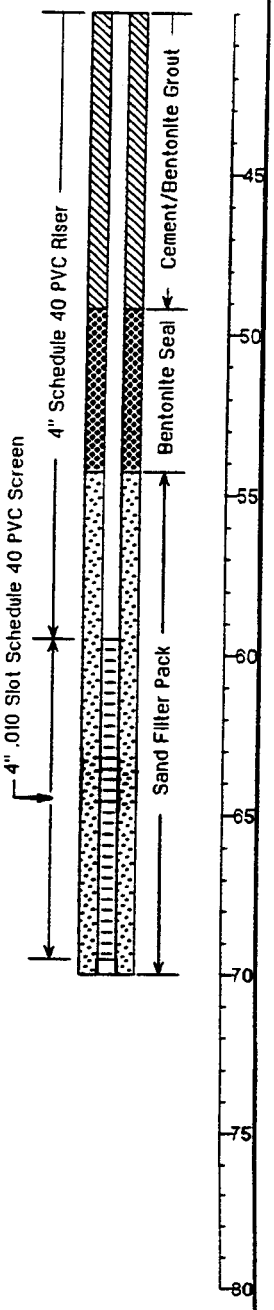
Sampling Method: Split Spoon/Core Barrel

Monitoring Well No.: RJ-G07
Start/Finish Date: 12-14-94 to 12-16-94
Well Completion Depth (ft): 70.0
Drilled Depth (ft): 70.0
Surface Elevation (ft): 638.44
Top of Casing Elevation (ft): 640.47

Depth (feet)	Soil Class USCS	Lithologic Symbol	Material Description	HNu (ppm)/ LEL	Blows/6 in.	Sample No.	Sample Type	Sample Rec (ft)
	SC		Clayey Sand, 30% Clay 15% gravelly Chert, Sand: 25% fine, 15% medium 5YR5/8 moderate plasticity; dense; moist; gravel=light gray yellowish Chert; banded light reddish yellow Sand bottom 4"; angular	0/0	31	9	SS-9	2.0
45	CL		Sandy Clay; Sand: 15% coarse, 15% fine, 10% grannular Chert fragments. 2.5YR5/8 red; moderate plasticity; stiff; moist; no apparent bedding; subangular	0/0	15	10	SS-10	2.0
50			Sandy Clay; 30% Sand: 15% fine, 15% coarse, 10% Gravel 5YR5/6 yellowish red; moderate plasticity; stiff; moist; no apparent bedding; subangular	0/0	26	11	SS-11	2.0
55			Sandy Clay, 30% fine Sand, 2%MnO2. 2.5YR6/5 red; moderate-high plasticity; very stiff; moist; banded moderate brown bottom 6"; subangular	0/0	24	12	SS-12	2.0
60			Clay, 15% Sand: 10% fine, 5% medium. 2.5YR5/8 red; high plasticity very stiff; very moist; subangular; bottom 2" light tan fine Sand	0/0	16	13	SS-13	2.0
65	NA		Sandstone, calcareous; fine grained. N8/ white; hard; well cemented; fine grained open fratures vertical and 30% from vertical fractures; moderately weathered; void conditions; fractured; low primary; high secondary-open fractures; lost core due to cavity; soft zone between 66.5-67.5'	0/0	NA	14	SS-14	NA
70			*Bottom of Boring at 71.0 feet*					
75			*Note:NR=Not Recorded, NA=Not Applicable CB=Core Barrel, NS=Not Screened SS=Split Spoon Note: OVA, LEL, H2S readings from land surface to ss feet were 0ppm, 0%, and 0ppm, respectively, unless otherwise noted.*					
80								

Well Const. As-Built