

## LOG OF BORING

Project Identification: WAR-75-3.40

Date Started 2/22/05 Sampler: Type SS Dia. 1.375"

Date Completed 2/22/05 Casing: Length 85.0ft Dia. 3.25"

04120056G

Water Elev. 674.3ft

Warren County, Ohio

Surface Elev. 702.9ft

Clearcreek Bridge

Boring No. E-2 Station &amp; Offset 20+70.44, 29.5' Rt.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
702.9	0				BORING DRILLED THROUGH BRIDGE DECK										
702.9	2														
	4														
	6														
	8														
	10														
	12														
	14														
	16														
	18														
682.9	20	1/1/2			BROWN SILTY CLAY	1	9	5	11	28	47	31	11	17	A-6a
681.4	22	2/2/2			BROWN SANDY SILT	2	13	12	23	32	20	22	7	10	A-4a
679.9	24	0/0/2			GRAY SANDY SILT TO SILTY SAND	3	23	13	18	28	18	21	6	13	A-4a
678.4		2/2/3			GRAY SANDY SILT TO SILTY SAND	4									VIS.
676.9	26	5/3/3			GRAY SANDY SILT TO SILTY SAND	5									VIS.
675.4	28	3/3/2			GRAY SANDY SILT TO SILTY SAND	6									VIS.
673.9	30	3/3/7			GRAY CLAYEY SILT	7	16	4	1	34	45	31	12	18	A-6a
671.9	32	5/5/7			GRAY CLAY AND SILT	8	0	0	1	37	62	32	13	18	A-6a
668.9	34	5/6/7			GRAY CLAY AND SILT	9								20	VIS.

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. E-2

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample	Physical Characteristics										ODOT Class
						No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
667.9	36	10/12/17			GRAY CLAY AND SILT	10											VIS.
	38																
663.9	40	8/8/12			GRAY CLAY AND SILT	11										20	VIS.
	42																
659.4	44	6/7/7			GRAY CLAY AND SILT	12										22	VIS.
	46																
654.4	48	6/10/15			GRAY CLAY AND SILT	13										24	VIS.
	50																
	52																
649.9	54	10/15/16			GRAY SILT	14	0	0	1	73	26	NP	NP	20		A-4b	
649.4	56																
644.9	58	10/15/47			GRAY SANDY SILT (TILL)	15										12	VIS.
644.4	60																
	62																
639.4	64	29/50-6"			GRAY SANDY SILT (TILL)	16	9	10	21	28	32	20	6	10		A-4a	
	66																
	68																
634.4	70	23/50-6"			GRAY SANDY SILT (TILL)	17									10	VIS.	

CTL OH DOT 2 04120056G WAR-75-E 3-22-05 GLOP J CTL OH DOT 307 7/7/05

## 04120056G

**BOTTOM OF BORING**

# LOG OF BORING

Date Started 2/22/05 Sampler Type SS Dia. 1.375"  
Date Completed 2/23/05 Casing Length 90.0ft Dia. 3.25"

Project Identification: WAR-75-3.40

04120056G

Boring No. E-3 Station & Offset 21+41.46, 29.39' Lt.

Water Elev. 678.6ft

Warren County, Ohio

Surface Elev. 702.6ft

Clearcreek Bridge

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
702.6	0				BORING DRILLED THROUGH BRIDGE DECK										
702.6	2														
	4														
	6														
	8														
	10														
	12														
	14														
	16														
	18														
682.6	20	12/5/4			BROWN SANDY SILT	1								17	VIS.
681.1	22	4/9/3			BROWN AND GRAY SANDY SILT	2								13	VIS.
679.6	24	7/5/7			DARK BROWN SILTY SAND	3	29	29	21	8	13	20	3	13	A-1-b
678.1	24	4/3/3			BROWN AND GRAY SILTY SAND AND GRAVEL	4	45	17	9	7	22	26	10	10	A-2-4
676.6	26	17/19/21			BROWN AND GRAY SAND AND GRAVEL	5	60	18	13	5	4	NP	NP	8	A-1-a
675.1	28	14/19/22			BROWN AND GRAY SAND AND GRAVEL	6								7	
672.6	30	14/16/18			BROWNISH GRAY CLAY AND SILT (TILL)	7									VIS.
670.1	32	12/15/17			BROWNISH GRAY CLAY AND SILT (TILL)	8	0	0	4	39	57	31	13	18	A-6a
667.6	34														
	35.0'														

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Project Identification: WAR-75-3.40  
04120056G

04120056G

Boring No. E-3

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## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. E-3

Elev. (ft.)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class	
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
631.5																
629.1	72	17/19/24			GRAY AND BROWN SAND AND GRAVEL	17									4	VIS.
	74															
	76															
625.6					77.0'											
624.1	78	50-6"			GRAY SANDY SILT (TILL)	18									10	VIS.
	80															
	82															
619.1	84	50-5"			GRAY SANDY SILT (TILL)	19									10	VIS.
	86															
	88															
615.6					87.0'											
614.1	88	4/50-5"			GRAY SILT AND CLAY (TILL)	20									17	VIS.
612.6	90					90.0'										
BOTTOM OF BORING																

## LOG OF BORING

Date Started 1/27/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 1/28/05 Casing: Length 90ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Water Elev. 681.2ft Warren County, Ohio  
 Surface Elev. 702.2ft Clearcreek Bridge

Boring No. E-4 Station & Offset 21+82.26, 18.51' Rt.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics										ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
702.2	0				TOPSOIL (2")												
702.2 702.0 701.7	2	4/4/6			BROWN SANDY SILT (FILL)	1										VIS.	
699.2	4	4/3/4			BROWN SANDY SILT (FILL)	2								14		VIS.	
696.7	6	2/2/2			BROWN SANDY SILT	3	11	12	22	29	26	20	5	12		A-4a	
693.7	8	6/10/9			BROWN SILTY SAND AND GRAVEL	4								10		VIS.	
691.2	10	8/7/8			DARK BROWN SANDY SILT	5								13		VIS.	
688.7	12	3/3/6			BROWN SANDY SILT	6								10		VIS.	
686.7 686.2	14	7/6/7			BROWN SAND AND GRAVEL	7								5		VIS.	
683.7	16	6/5/8			BROWN SAND AND GRAVEL	8	55	24	11	6	4	NP	NP	5		A-1-a	
681.7 681.2	18	2/4/5			BROWN SAND AND GRAVEL	9								8		VIS.	
678.7	20	4/5/6			BROWN SAND AND GRAVEL	10	61	19	8	8	4	NP	NP	11		A-1-a	
676.2	22	6/4/14			BROWN SAND AND GRAVEL	11								9		VIS.	
673.7	24	14/15/20			BROWN SAND AND GRAVEL	12								9		VIS.	
668.7	26	6/11/14			GRAY CLAY AND SILT	13	0	1	1	32	66	32	13	17		A-6a	

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. E-4

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
667.2	36														
663.7	38	5/5/8			GRAY CLAY AND SILT	14A								20	VIS.
662.7	40				GRAY CLAY AND SILT	14B								21	VIS.
658.7	42														
	44	4/5/8			GRAY CLAY AND SILT	15	0	2	5	35	58	26	8	18	A-4a
	46														
653.7	48	3/3/5			GRAY CLAY AND SILT	16								22	VIS.
	50														
	52														
648.7	54	0/0/3			GRAY CLAY AND SILT	17								18	VIS.
	56														
643.7	58	9/18/23			GRAY CLAY AND SILT (TILL)	18	6	3	4	30	57	34	15	15	A-6a
	60														
	62														
638.7	64	38/50-6"			GRAY CLAY AND SILT (TILL)	19								9	VIS.
	66														
633.7	68	50-3"			GRAY CLAY AND SILT (TILL)	20								6	VIS.
	70														

CTL OH DOT2 04120056G WAR-75-E 3-22-05CJ GPJ CTL OH DOT.GDT 7/7/05



## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. E-4

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
631.1															
	72	43/50-6"			GRAY CLAY AND SILT (TILL)	21								9	VIS.
628.7	74														
	76														
625.2	78														
623.7		10/23/42			GRAY SAND AND GRAVEL	22								17	VIS.
	80														
620.7		11/18/22			GRAY SANDY SILT (TILL)	23								17	VIS.
	82														
618.7	84														
	86														
	88	12/15/24			GRAY SANDY SILT (TILL)	24								17	VIS.
613.7															
612.2	90														
BOTTOM OF BORING															

CTL CH DOT 04120056G WAR-75-E 32220561 GFI CIL ON DOT GDT 77105

# LOG OF BORING

Date Started 1/25/05 Sampler: Type SS Dia. 1.375"  
Date Completed 1/26/05 Casing: Length 80ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Water Elev. 786.8ft  
Surface Elev. 807.8ft

Warren County, Ohio

Boring No. F-1 Station & Offset 91+79.81, 67.2 Lt.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
807.8	0														
807.8					TOPSOIL (8")	0.7'									
807.1		3/2/3			BROWN SANDY SILT	1								11	VIS.
805.3	2														
804.8		9/16/10			BROWN SANDY SILT	2								13	VIS.
	4														
802.6															
802.3		11/11/10			BROWN SILTY SAND	3	18	14	26	27	15	22	6	11	A-4a
	6														
	8														
799.3		7/10/11			BROWN SILTY SAND	4								14	VIS.
	10														
796.8		2/3/5			BROWN SILTY SAND	5								22	VIS.
	12														
794.8															
794.3		5/7/8			BROWN SILTY SAND AND GRAVEL	6	36	20	24	14	6	NP	NP	9	A-1-b
	14														
791.8		5/4/6			BROWN SILTY SAND AND GRAVEL	7									VIS.
	16														
789.8															
789.3		3/6/6			GRAY SILTY CLAY	8								11	VIS.
	18														
	20														
787.3		3/2/5			GRAY TO BROWN SANDY SILT	9	0	0	38	57	5	NP	NP	18	A-4b
786.8															
	22														
784.3		2/4/8			GRAY TO BROWN SANDY SILT	10								22	VIS.
	24														
	26														
	28														
779.3		9/8/11			GRAY TO BROWN SANDY SILT	11								22	VIS.
	30														
	32														
774.8															
774.3		4/4/7			GRAY SANDY SILT (TILL)	12	11	12	16	32	29	20	4	12	A-4a
	34														

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

C:\OH\DOT\04120056\WAR-75-3-2-6C1\GPT CIL\OH DOT\GSI 71105

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-1

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
772.8															
	36														
769.3	38	5/7/19			GRAY SANDY SILT (TILL)	13								10	VIS.
	40														
	42														
764.3	44	3/7/15			GRAY SANDY SILT (TILL)	14								10	VIS.
	46														
759.8	48					48.0'									
759.3		9/13/22			GRAY CLAYEY SILT (TILL)	15	17	11	13	26	33			12	VIS.
	50														
756.3	52					51.5'									
754.3	54	13/40/23			GRAY GRAVEL	16								12	VIS.
	56														
750.8	58					57.0'									
749.3	60	25/25/25			GRAY GRAVEL	17								12	VIS.
	62														
745.8						62.0'									
744.3	64	3/5/9			GRAY SILT AND CLAY (TILL)	18								13	VIS.
	66														
	68														
739.3	70	11/15/21			GRAY SILT AND CLAY (TILL)	19								13	VIS.

CTL OH B012 04120056G WAR-75-F-32425CJ GP3 CIL OH B01 301 77765

# LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-1

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
736.7															
	72														
734.3		10/16/27			GRAY SILT AND CLAY (TILL)	20								12	VIS.
	74														
	76														
731.3						76.5									
	78														
729.3		19/26/50-4			GRAY FINE TO COARSE SAND	21	19	15	57			NP	NP	15	A-3a
727.8	80					80.0									

BOTTOM OF BORING

## LOG OF BORING

Project Identification: WAR-75-3.40

Date Started 1/26/05 Sampler: Type SS Dia. 1.375"

04120056G

Date Completed 1/26/05 Casing: Length 75ft Dia. 3.25"

Water Elev. 791.3ft

Warren County, Ohio

Boring No. F-2 Station &amp; Offset 92+74.63, 70.7 Rt.

Surface Elev. 809.8ft

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class	
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
809.8	0				TOPSOIL (6")	0.5'									
809.8		2/3/4			BROWN GRAVEL (FILL)	1								13	VIS.
809.3	2					2.5'									
807.3		10/7/7			BROWN SANDY SILT (FILL)	2								16	VIS.
806.8	4														
		4/7/11			BROWN SANDY SILT (FILL)	3	15	18	37	20	10	NP	NP	12	A-3a
804.3	6														
	8				BROWN SANDY SILT (FILL)	4								10	VIS.
801.3	10	5/9/9													
798.8		5/4/4			BROWN SANDY SILT (FILL)	5								0	VIS.
797.8	12					12.0'									
796.3	14	2/2/5			GRAY SANDY SILT (TILL)	6								15	VIS.
793.8	16	2/3/4			GRAY SANDY SILT (TILL)	7	13	9	20	31	27	19	5	12	A-4a
791.8	18	5/9/10			BROWN SILT (TILL)	8								22	VIS.
791.3															
	20														
787.8	22					22.0'									
786.3	24	8/10/9			GRAY SILT (TILL)	9	0	0	33	59	8	NP	NP	20	A-4b
	26														
	28	8/10/13			GRAY SILT (TILL)	10								18	VIS.
781.3															
	30														
	32														
776.3	34	3/3/3			GRAY SILT (TILL)	11								22	VIS.

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-2

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
774.8															
	36														
772.8						37.0'									
771.3	38	2/2/5			GRAY SANDY SILT (TILL)	12	14	19	16	28	23	21	7	13	A-4a
	40														
767.8	42					42.0'									
766.3	44	17/37/28			GRAY GRAVEL	13								7	VIS.
	46														
762.8	48					47.0'									
761.3		30/27/25			BROWN AND GRAY SILTY SAND GRAVEL	14A	53	11	9	20	7	NP	NP	10	A-2-4
760.3	50				BROWN AND GRAY GRAVEL	14B								24	VIS.
	52					52.5'									
757.3		43/30/48			BROWN COARSE AND FINE SAND	15								11	VIS.
756.3	54					57.0'									
	56														
752.8	58					62.0'									
751.3	60	36/43/25			BROWN COARSE AND FINE SAND	16								8	VIS.
	62					62.0'									
747.8		26/29/33			GRAY SANDY SILT (TILL)	17								10	
746.3	64														
	66														
741.3	68	13/45/23			GRAY SANDY SILT (TILL)	18								8	VIS.
	70														

CTL OH DOT2 04120056G WAR-75-F 3.24 050 (GPJ) CTL OH DOT 007 7/7/05

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-2

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
738.7															
737.8	72					72.0'									
736.3															
	74	8/12/22			GRAY SILTY CLAY (TILL)	19								14	VIS.
734.8						75.0'									
BOTTOM OF BORING															

# LOG OF BORING

Date Started 1/12/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 2/1/05 Casing: Length 60ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Boring No. F-3 Station & Offset 92+48.54, 71.9 Lt. Water Elev. 755.2ft Warren County, Ohio  
 Surface Elev. 790.2ft

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample	Physical Characteristics									ODOT
						No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	Class	
790.2	0															
790.2		2/3/4			TOPSOIL (6")	0.5'										
789.7					BROWN SANDY SILT	1	2	3	38	39	18	NP	NP	19	A-4a	
	2															
787.7		9/11/12				2.5'										
787.2					BROWN SILT	2								18	VIS.	
786.2	4					4.0'										
784.7	6	7/9/13			GRAY SILT	3	0	0	19	60	21	NP	NP	20	A-4b	
	8															
781.7		6/7/7			GRAY SILT	4								22	VIS.	
	10															
779.2		6/8/8			GRAY SILT	5								17	VIS.	
	12															
777.2		5/7/8				13.0'										
776.7	14				GRAY SANDY SILT TO SILTY SAND	6								11	VIS.	
774.2	16	6/7/9			GRAY SANDY SILT TO SILTY SAND	7	3	12	23	30	32	17	3	10	A-4a	
	18															
771.7		7/8/8			GRAY SANDY SILT TO SILTY SAND	8								10	VIS.	
	20															
	22															
766.7	24	5/6/6			GRAY SANDY SILT TO SILTY SAND	9	32	10	16	22	20	20	6	10	A-4a	
	26															
763.7						26.5'										
	28															
761.7		28/27/30			GRAY SILTY SAND AND GRAVEL	10	52	6	11	14	17	24	10	8	A-2-4	
	30															
758.2	32					32.0'										
756.7	34	15/17/18			GRAY SANDY SILT TO SILTY SAND (TILL)	11								8	VIS.	

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

CTL OH D072 04120056G WAR-75-F 3-24-05G (GP) CTL OH DOT G07 7/7/05



## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-3

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
755.2															
	36														
751.7	38	16/17/21			GRAY SANDY SILT TO SILTY SAND (TILL)	12									VIS.
	40														
	42														
746.7	44	9/12/20			GRAY SANDY SILT TO SILTY SAND (TILL)	13								20	VIS.
	46														
	48														
741.7	50	17/19/18			GRAY SANDY SILT TO SILTY SAND (TILL)	14	16	28	16	22	18	21	6	20	A-4a
	52														
736.7	54	22/30/18			GRAY SANDY SILT TO SILTY SAND (TILL)	15									VIS.
	56														
	58														
731.7	60	50-6"			GRAY SANDY SILT TO SILTY SAND (TILL)	16									VIS.
730.2						60.0'									

BOTTOM OF BORING

CTL OH DOT2 04120056G WAR-75-F 3-24-0501 GPJ CTL OH DOT DOT 7/1/05

## LOG OF BORING

Project Identification: WAR-75-3.40

Date Started 2/8/05 Sampler: Type SS Dia. 1.375"

04120056G

Date Completed 2/8/05 Casing: Length 60ft Dia. 3.25"

Water Elev. 779.7ft

Warren County, Ohio

Surface Elev. 792.7ft

Boring No. F-4 Station &amp; Offset 93+45.15, 65.8 Rt.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Physical Characteristics									ODOT Class
						Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
792.7	0				BASE COURSE (10")										
791.9	1	5/6/7			BROWN AND GRAY SILTY SAND	1	12	4	43	31	10	NP	NP	14	A-4a
789.7	2														
	3	3/4/4			BROWNISH GRAY SILTY SAND	2								20	VIS.
	4														
787.2	5	4/5/5			BROWNISH GRAY SILTYSAND	3	7	3	46	31	13	NP	NP	17	A-4a
	6														
784.7	7														
784.2	8	9/11/12			GRAY SILT	4								16	VIS.
	9														
781.7	10				GRAY SILT	5								22	VIS.
	11	4/5/5													
779.2	12														
	13	2/3/3			GRAY SILT	6	0	0	18	64	18	NP	NP	25	A-4b
	14														
776.7	15	2/3/4			GRAY SILT	7								21	VIS.
	16														
774.2	17	2/2/3			GRAY SILT	8								17	VIS.
	18														
	19														
	20														
	21														
769.2	22														
	23	5/7/7			GRAY SILTY SAND	9	31	19	16	16	18	18	5	10	A-2-4
	24														
	25														
	26														
764.2	27	14/15/16			GRAY SAND AND GRAVEL	10	39	49	8	1	3	NP	NP	12	A-1-b
	28														
	29														
	30														
	31														
759.2	32														
	33	17/18/21			GRAY SAND AND GRAVEL	11									VIS.
	34														

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-4

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S	% F.S	% Silt	% Clay	L.L.	P.I.	W.C.	
757.7															
	36														
754.2	38	12/15/16			GRAY SAND AND GRAVEL	12								7	VIS.
	40														
	42														
749.2	44	17/19/21			GRAY SAND AND GRAVEL	13								10	VIS.
	46														
745.7	48					47.0'									
744.2	50	17/18/24			GRAY SANDY SILT (TILL)	14	21	12	17	29	21	21	6	11	A-4a
	52														
739.2	54	15/19/17			GRAY SANDY SILT (TILL)	15								11	VIS.
	56														
734.2	58	17/30/21			GRAY SANDY SILT (TILL)	16									VIS.
732.7	60					60.0'									
BOTTOM OF BORING															

C:\OH\DOT\04120056G\WAR-75-F-342056G\DOT CIL OH DOT 650 7705

# LOG OF BORING

Date Started 2/24/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 2/24/05 Casing: Length 60ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Water Elev. \_\_\_\_\_  
 Surface Elev. 791.4ft Warren County, Ohio

Boring No. F-5 Station & Offset 93+03.92, 76.1 Lt.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
791.4	0				ASPHALT CONCRETE	0.2'									VIS.
791.4					ASPHALT	1.0'									VIS.
790.4					GRAY GRAVEL	1.8'									VIS.
789.4	2	7/7/8			GRAY AND BROWN SILT	1								15	VIS.
787.9	4	9/12/15			GRAY AND BROWN SILT	2								17	VIS.
785.9	6	12/14/16			GRAY SILT	3	0	0	33	58	9	NP	NP	19	A-4b
782.9	8	14/17/12			GRAY SILT	4								19	VIS.
780.4	10	12/8/7			GRAY SILT	5	0	0	19	73	8	NP	NP	20	A-4b
777.9	12														
777.9	14	7/8/9			GRAY SANDY SILT (TILL)	6	27	11	15	30	17	19	6	9	A-4a
775.4	16	7/7/9			GRAY SANDY SILT (TILL)	7								11	VIS.
772.9	18	7/10/12			GRAY SANDY SILT (TILL)	8									VIS.
767.9	20														
767.9	22														
767.9	24	12/15/22			GRAY SANDY SILT (TILL)	9									VIS.
762.9	26														
762.9	28	17/23/34			GRAY SANDY SILT (TILL)	10	19	12	15	26	28	25	10	9	A-4a
759.4	30														
759.4	32														
757.9	34	12/14/17			BROWN SILTY CLAY (TILL)	11	12	12	24	14	38	49	25	19	A-7-6

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

CTL OH DOT2 04120056G WAR-75-F 3-24-05CJ.GPJ CTL OH DOT GDT 7/7/05

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-5

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics									ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
756.4																
752.9	36	14/18/20			BROWN SILTY CLAY (TILL)	12										VIS.
	38															
	40															
749.4	42	17/19/21			42.0'											
747.9	44				GRAY SANDY SILT WITH COBBLES AND BOULDERS (TILL)											
	46				43.5'	GRAY SILT WITH COBBLES AND BOULDERS (TILL)	13								VIS.	
	48				GRAY SILT WITH COBBLES AND BOULDERS (TILL)	14								VIS.		
50																
52																
737.9	54	14/16/17			GRAY SILT WITH COBBLES AND BOULDERS (TILL)	15	10	9	13	46	22	24	7	11	A-4b	
732.9	56	15/18/19			GRAY SILT WITH COBBLES AND BOULDERS (TILL)	16									10	VIS.
	58															
	60															

BOTTOM OF BORING

# LOG OF BORING

Date Started 2/24/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 2/24/05 Casing: Length 60ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Boring No. F-6 Station & Offset 94+03.52, 72.3 Rt. Water Elev. 785.5ft Warren County, Ohio  
 Surface Elev. 793.5ft

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class	
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
793.5	0				ASPHALT CONCRETE (4") OVER PORTLAND CEMENT CONCRETE (8")	0.3'									
793.5					GRAY GRAVEL	1.3'									
793.2					BROWN FINE SAND WITH SILT, WOOD FRAGMENTS (FILL)										
792.5	2	4/3/5				1								12	VIS.
792.2															
792.0															
790.5						3.0'									
	4	6/6/8			GRAY SILT	2								20	VIS.
788.0	6	8/8/10			GRAY SILT	3	0	0	48	45	7	NP	NP	20	A-4b
785.0	8				GRAY SILT	4	0	0	27	64	9	NP	NP	22	A-4b
	10	4/3/3													
782.5					GRAY SILT	5								20	VIS.
	12	3/3/4													
780.0					GRAY SILT	6								21	VIS.
	14	3/3/3													
777.5	16					16.0'									
					GRAY SANDY SILT (TILL)	7	14	19	17	27	23	20	7	12	A-4a
775.0	18				GRAY SANDY SILT (TILL)	8								14	VIS.
	20	5/5/6													
	22														
770.0					GRAY SANDY SILT (TILL)	9								9	VIS.
	24	6/6/11													
	26														
766.5						27.0'									
765.0	28				GRAY SILT (TILL)	10	0	0	2	69	29	22	3	15	A-4b
	30	10/18/24													
	32														
760.5						33.0'									
760.0					BROWN GRAVEL WITH SAND AND COBBLES	11								7	VIS.
	34	25/17/14													

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

CTL OH DOT2 04120056G WAR-75-F-3-24-05G (GP) CTL OH DOT GDT 7/7/05

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-6

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample	Physical Characteristics									ODOT
						No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	Class	
758.5																
	36	14/20/25														
755.5 755.0	38				38.0'									10	VIS.	
	40															
	42															
750.0	44	11/20/24			GRAY SILTY CLAY (TILL)	13										VIS.
	46															
	48															
745.0	50				10/15/21	GRAY SILTY CLAY (TILL)	14	23	4	2	30	41	27	11	12	A-6a
	52	12/17/22														
740.5 740.0	54				53.0'	BROWN CLAY (TILL)	15	19	9	14	1	57	47	21	19	A-7-6
	56															
735.5 735.0	58				58.0'											
	60	17/50-5"			GREENISH GRAY TO GRAY SANDY SILT (TILL)	16								19	VIS.	

BOTTOM OF BORING

CTL OH DOT2 04120056G WAR-75-F 3-24-95G1 GPJ CTL OH DOT.GDT 7/7/05

# LOG OF BORING

Project Identification: WAR-75-3.40

Date Started 1/11/05 Sampler: Type SS Dia. 1.375"

Date Completed 1/12/05 Casing: Length 60ft Dia. 3.25"

04120056G

Water Elev. 781.1ft

Warren County, Ohio

Boring No. F-7 Station & Offset 93+60.43, 62.9 Lt.

Surface Elev. 791.1ft

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
791.1	0				TOPSOIL (5")	0.4'									
791.1 790.7 790.6	1/2	1/2/2			BROWN FINE SILTY SAND	1								14	VIS.
	2														
788.1	4	3/4/4			BROWN FINE SILTY SAND	2								26	VIS.
	6	3/4/4			BROWN FINE SILTY SAND	3	0	0	72	14	14	NP	NP	25	A-3a
785.6	8														
782.6	10	5/6/8			BROWN FINE SILTY SAND	4								23	VIS.
780.1	12	5/7/9			GRAY SANDY SILT (TILL)	5	0	0	47	35	18	NP	NP	25	A-4a
777.6	14	5/7/10			GRAY SANDY SILT (TILL)	6								18	VIS.
775.6 775.1	16	6/8/12			GRAY FINE SILTY SAND	7	0	0	63	22	15	NP	NP	19	A-4a
773.1 772.6	18	9/12/16			GRAY SANDY SILT TO SILTY SAND	8	24	13	18	19	26	20	5	13	A-4a
769.1	22														
767.6	24	17/19/22			GRAY GRAVEL	9									VIS.
764.1	26														
762.6	28	21/24/30			GRAY SANDY SILT (TILL)	10								8	VIS.
759.1	32														
757.6	34	16/17/19			BROWN SAND AND GRAVEL	11	41	14	18	21	6	NP	NP	9	A-2-4

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.



## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-7

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
756.1															
754.1	36														
752.6	38														
	40	17/21/23			GRAY SANDY SILT (TILL)	12								11	VIS.
	42														
747.6	44	19/24/32			GRAY SANDY SILT (TILL)	13								13	VIS.
	46														
742.6	48	30/21/22			GRAY SANDY SILT (TILL)	14								8	VIS.
	50														
	52														
737.6	54	12/14/16			GRAY SANDY SILT (TILL)	15	4	18	13	38	27	27	11	16	A-6a
	56														
732.6	58	13/15/17			GRAY SANDY SILT (TILL)	16								16	VIS.
731.1	60														
					60.0'										

BOTTOM OF BORING

# LOG OF BORING

Date Started 1/10/05 Sampler: Type SS Dia. 1.375"  
Date Completed 1/11/05 Casing: Length 55ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Boring No. F-8 Station & Offset 94+49.19, 73.2 Rt. Water Elev. 766.3ft  
Surface Elev. 793.3ft Warren County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
793.3	0				TOPSOIL (3")	0.3'									
793.3		3/4/4			GRAY SILTY SAND	1	18	13	47	15	7	NP	NP	21	A-3a
792.8															
790.8	2					2.5'								20	VIS.
790.3		7/5/6			GRAY FINE SILTY SAND	2									
	4														
787.8		4/5/6			GRAY FINE SILTY SAND	3	0	2	69	22	7	NP	NP	19	A-3a
	6														
785.3	8					8.0'									
784.8		4/5/7			GRAY SILT	4	0	0	10	80	10	NP	NP	18	A-4b
	10														
782.8		5/6/7			GRAY SANDY SILT TO SILTY SAND	5								21	VIS.
782.3	12														
	14	6/7/8			GRAY SANDY SILT TO SILTY SAND	6								21	VIS.
779.8															
777.3	16	4/5/6			GRAY SANDY SILT TO SILTY SAND	7	31	16	15	19	19	20	6	16	A-4a
	18														
775.3		5/7/9			GRAY SANDY SILT TO SILTY SAND (TILL)	8	16	18	17	22	27	21	6	20	A-4a
774.8	20														
	22														
769.8	24	7/9/11			GRAY SANDY SILT TO SILTY SAND (TILL)	9									VIS.
	26														
766.3						27.0'									
764.8	28	7/12/15			GRAY SAND AND GRAVEL	10	52	20	14	6	8	NP	NP	15	A-1-a
	30														
761.3	32					32.0'									
759.8	34	15/21/20			GRAY SANDY SILT (TILL)	11								11	VIS.

Particle Sizes: Agg >= 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay <= 0.005mm.

CTL OH DOT 04120056G WAR-75-F 3-24-05CJ GPU CTL OH DOT DOT 1/11/05

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-8

Elev. (ft)	Depth (ft)	Std. Pen./ RQP	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
758.3															
	36														
754.8	38	17/19/21			GRAY SANDY SILT (TILL)	12									VIS.
	40														
	42														
749.8	44	15/17/17			GRAY SANDY SILT (TILL)	13								22	VIS.
	46														
	48														
744.8	50	16/18/21			GRAY SANDY SILT (TILL)	14									VIS.
	52														
740.3						53.0'									
739.8	54	50-0"			LIMESTONE WITH SHALE LAYERS	15									VIS.
738.3		60%	5.0	0.0		55.0'									
	56					RC-1									VIS.
	58														
733.3	60					60.0'									
BOTTOM OF BORING															

CTL OH DOT 04120056G WAR-75-F 3-24-05C1 GP 1 CTL OH DOT DOT 7/7/05

# LOG OF BORING

Project Identification: WAR-75-3.40

Date Started 1/19/05 Sampler: Type SS Dia. 1.375"

04120056G

Date Completed 1/21/05 Casing: Length 75ft Dia. 3.25"

Water Elev. 791.1ft

Warren County, Ohio

Boring No. F-9 Station & Offset 94+18.19, 70.3 Lt.

Surface Elev. 814.6ft

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample	Physical Characteristics										ODOT Class
						No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
814.6	0				TOPSOIL (6")	0.5'											
814.6		3/22/3			BROWN SANDY SILT	1										14	VIS.
814.1	2																
811.6	4	7/6/7			BROWN SANDY SILT	2										9	VIS.
809.1																	
808.6	6	3/6/7			BROWN SANDY SILT	6.0'	3									15	VIS.
	8																
806.1		6/6/7			BROWN FINE TO COARSE SAND	4	28	36	27	6	3	NP	NP		5		A-1-b
	10																
803.6		6/7/7			BROWN FINE TO COARSE SAND	5									4		VIS.
	12																
801.6																	
801.1	14	5/8/8			BROWN FINE TO COARSE SAND AND GRAVEL	6	42	25	26	4	3	NP	NP		4		A-1-b
	16																
798.6		9/10/10			BROWN FINE TO COARSE SAND AND GRAVEL	7									4		VIS.
	18																
796.6		10/8/7			BROWN FINE TO COARSE SAND	8	21	17	56	1	5	NP	NP		3		A-3
796.1																	
	20																
793.6		13/13/12			BROWN FINE AND COARSE SAND	21.0'	9									7	VIS.
	22																
791.1		11/9/9			GRAY FINE SAND	23.5'	10									16	VIS.
	24																
788.6		7/11/13			GRAY SILTY SAND	26.0'	11	3	5	46	39	7	NP	NP		18	A-4a
	26																
786.1		8/8/10			GRAY SILT	28.5'	12	1	1	5	86	7	NP	NP		22	A-4b
	28																
	30																
782.6																	
	32																
781.1		7/7/8			GRAY SANDY SILT (TILL)	32.0'	13									11	VIS.
	34																

Particle Sizes: Agg >= 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay <= 0.005mm.

CTL OH DOT 04120056G WAR-75-F 3-24-55C.GPJ CTL OH DOT GDT 7705

# LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-9

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
779.6															
	36														
776.1	38	6/7/13			GRAY SANDY SILT (TILL)	14								11	VIS.
	40														
	42														
771.1	44	6/13/22			GRAY SANDY SILT (TILL)	15								10	VIS.
	46														
	48														
766.1	48.5'														
765.6	49.0'	14/27/50-3'			GRAY FINE SAND	16A								5	VIS
					GRAY SAND AND GRAVEL	16B	66	16	10	6	2	NP	NP		A-1-a
	50														
	52														
761.1	54	23/31/50-6'			GRAY SAND AND GRAVEL	17								10	VIS.
	56														
	58														
756.1	60	25/26/25			GRAY SAND AND GRAVEL	18								13	VIS.
	62														
	64														
751.1	66	50-6"			GRAY SAND AND GRAVEL	19								1	VIS.
	68														
746.1	70	21/21/41			GRAY SAND AND GRAVEL	20								12	VIS.

CTL OH DOT2 04120056G WAR-75-3.40-0561 CPTL OH DOT GDT 7/7/05

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-9

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample	Physical Characteristics								ODOT Class
						No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
743.5															
	72														
741.1															
	74	13/23/27			GRAY SAND AND GRAVEL	21								9	VIS.
739.6						75.0'									

BOTTOM OF BORING

# LOG OF BORING

Date Started 1/21/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 1/25/05 Casing: Length 80ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Boring No. F-10 Station & Offset 95+11.68, 69.0 Rt.

Water Elev. 793.2ft  
 Surface Elev. 816.7ft

Warren County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
816.7	0				TOPSOIL (6")	0.5'									
816.2		3/4/5			BROWN SANDY SILT	1								12	VIS.
814.2	2					2.5'									
813.7		9/9/8			LIGHT BROWN SILTY CLAY	2	14	8	18	21	39	22	8	10	A-4a
	4														
811.2		5/6/10			LIGHT BROWN SILTY CLAY	3								11	VIS.
	6														
808.7	8					8.0'									
808.2		10/12/14			BROWN FINE TO COARSE SAND	4	15	32	40			NP	NP	10	A-3a
	10														
805.7		14/13/14			BROWN FINE TO COARSE SAND	5								6	VIS.
	12														
803.2		8/9/13			BROWN SANDY SILT	6								7	VIS.
	14					15.5'									
801.2		11/12/12			BROWN FINE TO COARSE SAND	7	22	22	39	2	15	NP	NP	5	A-3a
800.7	16														
798.2		8/10/10			BROWN FINE TO COARSE SAND	8								4	VIS.
	18														
795.7		8/10/10			BROWN FINE TO COARSE SAND	9								20	VIS.
	20														
793.2		6/10/12			BROWN FINE TO COARSE SAND	10	33	30	30			NP	NP	18	A-1-b
	22														
789.7						27.0'									
	24														
788.2		7/9/8			BROWN SILTY SAND	11	0	0	53	34	13	NP	NP	20	A-4a
	26														
784.7						32.0'									
	28														
783.2		5/6/9			GRAY SANDY SILT	12								21	VIS.
	30														
	32														
	34														

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay = < 0.005mm.

CTL OH D012 04120056G WAR-75-F 3-24-05C1 GP1 CTL OH DOT GDT 77105

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-10

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
781.7															
	36														
778.2	38														
777.7		6/6/7			GRAY SANDY SILT (TILL)	39.0'	13A							18	VIS.
	40				GRAY SILT (TILL)	13B								12	VIS.
774.7	42					42.0'									
773.2	44	9/8/9			GRAY SANDY SILT (TILL)	14									VIS.
	46														
768.2	48														
	50	13/16/21			GRAY SANDY SILT (TILL)	15	17	12	19	28	24	21	6	10	A-4a
	52														
763.2	54	13/19/24			GRAY SANDY SILT (TILL)	16								10	VIS.
	56														
758.2	58														
	60	17/21/30			GRAY SANDY SILT (TILL)	17								19	VIS.
754.7	62					62.0'									
753.2	64	13/27/50-6"			BROWN CLAYSHALE	18								16	VIS.
750.2	66					66.5'									
748.2	68	30/50-6"			GRAY CLAYSHALE	19									VIS.
	70														

CTL OH DOT 2 04120056G WAR-75-F-3-24-06C1 (P) 4 CTL OH DOT GDT 7/7/05



## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. F-10

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class	
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
745.6															
743.2	72	50-1"			GRAY CLAYSHALE	20									VIS.
	74														
	76														
738.2	78	50-1"			GRAY CLAYSHALE	21									VIS.
736.7	80					80.0'									
BOTTOM OF BORING															

80.0'

BOTTOM OF BORING

# LOG OF BORING

Date Started 2/4/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 2/4/05 Casing: Length 39.0ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Boring No. G-1 Station & Offset 170+16.41, 180.1' LI

Water Elev. 945.6ft Warren County, Ohio  
 Surface Elev. 970.1ft Pennyroyal Bridge

Elev. (ft)	Depth (ft)	Std. Pen. RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
970.1	0				ASPHALT CONCRETE (1") OVER PORTLAND CEMENT CONCRETE (10")										
970.1	0				BORING DRILLED THROUGH BRIDGE DECK										
969.2	2														
	4														
	6														
	8														
960.1	10														
959.1	12	4/3/4			SLAG (FILL)										
	12				BROWN SILTY SAND (FILL)	1	27	20	19	16	18	20	5	11	A-2-4
956.6	14	5/6/6			BROWN SILTY SAND (FILL)	2									VIS.
954.1	16	4/4/6													
	18				BROWN SILTY SAND AND GRAVEL (FILL)	3	35	9	11	19	26	22	6	15	A-4a
951.6	20	7/7/8			BROWN SILTY SAND AND GRAVEL (FILL)	4A								12	VIS.
950.6	20				GRAY SANDY SILT (TILL)	4B								11	VIS.
949.1	22	7/6/8			GRAY SANDY SILT (TILL)	5	14	18	10	26	32	22	7	12	A-4a
946.6	24	5/8/5			GRAY SANDY SILT (TILL)	6A								12	VIS.
946.1	24				GRAY FINE AND COARSE SAND	6B								11	VIS.
945.6	24				GRAY SILT	6C	3	5	1	59	32	NP	NP	20	A-4b
944.1	26	3/11/12			GRAY SILT	7A								13	VIS.
943.6	28				BROWNISH GRAY TO GRAY SILTY CLAY (TILL)	7B	23	16	10	13	38	25	7	11	A-4a
941.6	30	17/25/50-2"			GRAY WEATHERED SHALE WITH LIMESTONE LAYERS	8									VIS.
	32														
936.6	34	50-1"			GRAY WEATHERED SHALE WITH LIMESTONE LAYERS	9									VIS.

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40

04120056G

Boring No. G-1

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
934.0															
	36														
	38														
931.6 931.1		50-1" 0%	4.8	0.2	GRAY WEATHERED SHALE WITH LIMESTONE LAYERS	39.0' 10 RC-1									VIS. VIS.
	40				LIMESTONE (90%) LIGHT GRAY FINE GRAINED CRYSTALLINE NODULAR AND WAVY BEDDING HARD WITH INTERBEDDED SHALE (10%) SEAMS MEDIUM GRAY SILTY SOFT VERY THINLY BEDDED										
	42														
926.1	44	0%	4.8	0.2		RC-2									VIS.
	46														
	48														
921.1						49.0'									

BOTTOM OF BORING

## LOG OF BORING

Date Started 2/2/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 2/3/05 Casing: Length 19.0ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Water Elev. 944.4ft Warren County, Ohio  
 Surface Elev. 952.9ft Pennyroyal Bridge

Boring No. G-2 Station & Offset 170+01.92, 0.9' Lt.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample	Physical Characteristics										ODOT Class
						No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
952.9	0				TOPSOIL (7")	0.6'											
952.9		7/8/7			BROWN SANDY SILT (FILL)	1										13	VIS.
952.3	2																
949.9	4	3/4/5			GRAY SANDY SILT (TILL)	2	17	13	12	36	22	21	6	13		A-4a	
947.4	6	3/5/5			GRAY SANDY SILT (TILL)	3	9	14	13	39	25	22	7	13		A-4a	
944.4	8																
943.9	10	2/3/5			GRAY SANDY SILT WITH WET SAND SEAM (TILL)	4A 4B	28	15	13	27	17	22	8	13		VIS. A-4a	
941.9	12	50-5"			GRAY WEATHERED SHALE WITH LIMESTONE LAYERS	5									7		VIS.
939.4	14	50-1"			GRAY WEATHERED SHALE WITH LIMESTONE LAYERS	6											VIS.
936.9	16	50-1"			GRAY WEATHERED SHALE WITH LIMESTONE LAYERS	7											VIS.
934.4	18																
933.9	20	50-2" 0%	4.8	0.2	GRAY WEATHERED SHALE WITH LIMESTONE LAYERS	8											VIS.
	22				SHALE (60%) MEDIUM GRAY SILTY WAVY AND NODULAR SOFT VERY THINLY BEDDED INTERBEDDED LIMESTONE (40%) LIGHT GRAY FINE GRAINED CRYSTALLINE WAVY AND NODULAR BEDDING HARD	RC-1											VIS.
928.9	24	0%	4.6	0.4		RC-2											VIS.
	26																
	28																
923.9	29.0'																
BOTTOM OF BORING																	

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay = < 0.005mm.

# LOG OF BORING

Date Started 2/7/05 Sampler Type SS Dia. 1.375"  
 Date Completed 2/8/05 Casing Length 57.0ft Dia. 3.25"

Project Identification: WAR-75-3.40  
04120056G

Boring No. G-3 Station & Offset 169+31.19, 183.1' Rt.  
 Water Elev. \_\_\_\_\_  
 Surface Elev. 970.0ft

Warren County, Ohio  
Pennyroyal Bridge

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample	Physical Characteristics										ODOT Class
						No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
970.0	0																
970.0					ASPHALT CONCRETE (2") OVER	1.0'											
969.0					PORTLAND CEMENT CONCRETE (10")												
	2				BORING DRILLED THROUGH BRIDGE DECK												
	4																
	6																
	8																
960.0	10					10.0'											
959.0					SLAG (FILL)												VIS.
	12	3/3/6				11.0'											
					BROWN TO BROWN AND GRAY SILTY CLAY (TILL)	1									12		VIS.
956.5																	
	14	3/4/5			BROWN TO BROWN AND GRAY SILTY CLAY (TILL)	2	11	12	17	19	41	19	4	11		A-4a	
954.0	16																
	18	7/6/8			BROWN TO BROWN AND GRAY SILTY CLAY WITH COBBLES (TILL)	3									12		VIS.
951.5																	
	20	8/10/10			BROWN TO BROWN AND GRAY SILTY CLAY WITH COBBLES (TILL)	4									9		VIS.
949.0																	
	22	6/10/12			BROWN TO BROWN AND GRAY SILTY CLAY (TILL)	5	19	10	15	21	35	24	6	10		A-4a	
947.0																	
946.5						23.0'											
	24	6/11/11			BROWN SILTY CLAY (TILL)	6	11	25	6	15	43	41	14	23		A-7-6	
944.5						25.5'											
944.0	26	3/5/4			BROWN AND GRAY SILT (TILL)	7	7	20	4	54	15	24	3	20		A-4b	
942.0	28					28.0'											
941.5																	
		2/4/5			BROWN SANDY SILT (TILL)	8	19	19	13	27	22	22	6	13		A-4a	
940.0	30					30.0'											
939.0																	
		50-3"			GRAY WEATHERED SHALE AND LIMESTONE LAYERS	9									8		VIS.
	32																
936.5																	
	34	50-4"			GRAY WEATHERED SHALE AND LIMESTONE LAYERS	10									8		VIS.

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40  
04120056GBoring No. G-3

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics										ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
933.9																	
931.5	36	50-2"			GRAY WEATHERED SHALE AND LIMESTONE LAYERS	11										3	VIS.
	38																
	40																
926.5	42	50-3"			GRAY WEATHERED SHALE AND LIMESTONE LAYERS	12										10	VIS.
	44																
	46																
921.5	48	50-3"			GRAY WEATHERED SHALE AND LIMESTONE LAYERS	13											VIS.
	50																
	52																
916.5	54	50-3"			GRAY WEATHERED SHALE AND LIMESTONE LAYERS	14											VIS.
	56																
	58																
913.0	60	18%	4.7	0.3	LIMESTONE (70%) LIGHT GRAY FINE GRAINED CRYSTALLINE NODULAR AND WAVY BEDDING HARD WITH INTERBEDDED SHALE (30%) MEDIUM GRAY SILTY WAVY BEDDING SOFT	RC-1											VIS.
	58																
	60																
908.0	62																
BOTTOM OF BORING																	

BOTTOM OF BORING

## LOG OF BORING

Page 1 of 2

Date Started 6/9/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/13/05 Casing: Length 45ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, Ohio

Boring No. H-1 Station & Offset 51+48.43, 37.78' Lt. Water Elev. 688.7ft  
 Surface Elev. 703.7ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen. RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
703.7	0														
703.7	0				Sand, gravel, with cobbles, fill										
702.7	1.0	41/44			Brown, medium stiff, SANDY SILT, some clay, trace gravel, damp	1	5	5	9	47	34	26	10	12	A-4a
	2														
	4	5/34				2								13	VIS.
700.2															
	6	5/34				3								11	VIS.
697.7															
	8														
695.2		12/13/6			Brownish gray, medium dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, little silt, little clay, damp	4								8	VIS.
	10														
	12														
690.2		15/15/16			Brown and gray, dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, little silt, little clay, damp	5	51	16	11	14	8			11	A-1-b
688.7		20/23/30			Brown and gray, very dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, little silt, little clay, damp	6								10	VIS.
687.2		50-3"				7								8	VIS.
685.7		50-4"				8									VIS.
684.2		21/50-3"				9								13	VIS.
683.2		10/16/30			Brown and gray, dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, little silt, little clay, damp	10								8	VIS.
681.7		40/50-4"			Brown and gray, very dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, little silt, little clay, damp	11								8	VIS.
680.7		50-3"				12								7	VIS.
678.2		44/50-4"													
675.7		50-1"			SHALE, gray, augered	13								14	VIS.
673.2		50-3"				14								15	VIS.
670.7		50-6"				15								7	VIS.
668.7						16								10	VIS.

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING (Continued)

Page 2 of 2

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. H-1

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
967.7	36	32%	4.8	0.2		SHALE (83%), medium gray, moderately soft, with interbedded LIMESTONE (17%), light to medium gray, moderately hard	RC-1									VIS.
963.7	40	53%	4.8	0.2	40.0'											
	42					SHALE (74%), dark gray, moderately hard, with interbedded LIMESTONE (26%), light to dark gray, moderately hard	RC-2									VIS.
	44															
958.7					45.0'											

BOTTOM OF BORING



## LOG OF BORING

Page 1 of 2

Date Started 6/14/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/14/05 Casing: Length 35ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. H-2 Station & Offset 51+97.76, 34.57' Rt. Water Elev. 689.6ft  
 Surface Elev. 704.6ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen / RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
704.6	0				Topsoil (10")										VIS.
704.6 703.8 703.6	2	3/3/2			Brown, medium stiff, SILTY CLAY, some sand, trace gravel, damp	1								18	VIS. VIS.
701.1	4	3/4/6			Brown, stiff, SILTY CLAY, some sand, trace gravel, moist	2	5	6	15	37	37	38	18	24	A-6b
699.6	6	4/4/5			Brown, stiff, SILT AND CLAY, little sand, trace gravel, damp	3	8	6	11	32	43	36	15	20	A-6a
696.1	8	5/5/8				4								21	VIS.
691.1	14	33/23/23			Brown, hard, SANDY SILT, some clay, with cobbles, damp	5								18	VIS.
689.6	16	24/25/23				6								14	VIS.
688.1	18	11/25/37				7								10	VIS.
686.6	20	41/50-4"				8								6	VIS.
685.1	22	38/50-4"			SHALE, gray, augered	9								6	VIS.
684.1	24	50-5"				10									VIS.
682.6	26	46/50-4"				11								9	VIS.
681.1	28	44/50-5"				12								8	VIS.
679.6	30	27%	4.7	0.3	SHALE (80%), medium gray, moderately soft, with interbedded LIMESTONE (20%), light to dark gray, moderately hard	RC-1									VIS.
674.6	32	20%	4.7	0.3	SHALE (72%), medium gray, moderately hard, with interbedded LIMESTONE (28%), light to dark gray, moderately hard	RC-2									VIS.
669.6	34														
	35.0'														

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. H-2

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics						ODOT Class			
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.		P.I.	W.C.	
668.6						BOTTOM OF BORING											

## LOG OF BORING

Page 1 of 2

Date Started 12/27/05 Sampler: Type SS Dia. 2.25 O.D.  
 Date Completed 12/28/05 Casing: Length 21ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. H-3 Station & Offset 52+17.38, 93.75 Lt. Water Elev. 686.7ft  
 Surface Elev. 711.7ft

CTL Project No. 04120056g

Elev. (ft)	Depth (ft)	Std Pen/ RCD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
711.7	0				Topsoil (3")										
711.7	1	50-1"			Concrete slab (12"), fill	1									NO REC
708.7	2														
708.7	4	6/7/8			Brown, loose, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, trace silt, trace clay, damp, fill	2	37	13	12	28	10	18	18	9	A-1-b
706.2	6	4/3/50-5"													
703.2	8				Brown, very dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, trace silt, trace clay, with cobbles, damp, fill	3								7	VIS.
703.2	10	4/6/12													
700.7	12	4/6/8			Brown, very stiff, SILT AND CLAY, some sand, trace gravel, moist, fill	4	4	5	15	39	37	33	14	22	A-6a
698.2	14	4/4/8													
695.7	16	7/3/2													
693.2	18	5/7/9													
690.7	20				Brown, stiff, SANDY SILT, some clay, some gravel, moist, fill	5								23	VIS.
688.2	22	23/13/18													
685.7	24	18/18/28													
683.2	26	38/43/50-4"			Brown, soft, SANDY SILT, some clay, some gravel, moist	6	24	16	16	22	22	27	10	17	A-4a
681.0	28														
678.2	30	50-6"			Brown, very stiff, SANDY SILT, some clay, some gravel, moist	7								26	VIS.
676.7	32														
676.7	34	50-1"													
676.7	36				SHALE, gray, augered	8								11	VIS.
676.7	38														
676.7	40														
676.7	42														
676.7	44														
676.7	46														
676.7	48														
676.7	50														
676.7	52														
676.7	54														
676.7	56														
676.7	58														
676.7	60														
676.7	62														
676.7	64														
676.7	66														
676.7	68														
676.7	70														
676.7	72														
676.7	74														
676.7	76														
676.7	78														
676.7	80														
676.7	82														
676.7	84														
676.7	86														
676.7	88														
676.7	90														
676.7	92														
676.7	94														
676.7	96														
676.7	98														
676.7	100														

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Warren County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen / RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
875.7		78%	4.8	0.2		SHALE (73%), medium to dark gray, soft, with interbedded LIMESTONE (27%), gray, moderately hard	RC-1										VIS
	36																
	38																
871.7	40	55%	4.8	0.2	40.0'												
	42					SHALE (56%), dark gray, moderately soft, with interbedded LIMESTONE (44%), gray, moderately hard	RC-2										VIS.
	44																
869.7					45.0'												

**BOTTOM OF BORING**

## LOG OF BORING

Page 1 of 2

Date Started 12/22/05 Sampler: Type SS Dia. 2.250 D.  
 Date Completed 12/22/05 Casing: Length 14ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. H-4 A Station & Offset 50+85.81, 19.18 Rt. Water Elev. 684.0ft  
 Surface Elev. 704.0ft

CTL Project No. 04120055g

Elev. (ft)	Depth (ft)	Std. Pen./ R.O.D.	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	
704.0	0					Asphalt (7")									
704.0					0.6'	Road base (12")									
703.4															
702.5					1.5'										
	2	9/12/7				Brown and black, very stiff, <b>SILTY CLAY</b> , trace sand, trace gravel, damp, fill	1							3	VIS.
701.0		3/3/2				Brown and black, medium stiff, <b>SILTY CLAY</b> , trace sand, trace gravel, damp, fill	2	4	2	4	77	13	39	17	A-6b
	4														
698.5		2/4/4				Brownish black, stiff, <b>SILTY CLAY</b> , trace sand, trace gravel, fill	3								NO REC
	6														
	8														
695.5		2/2/2			8.5'	Gray, soft, <b>SANDY SILT</b> , some clay, trace gravel, moist	4							20	VIS.
	10														
693.0		1/2/2				Gray, soft, <b>SANDY SILT</b> , some clay, trace gravel, moist	5	4	8	28		23	8	21	
	12														
691.5		5/5/7			12.5'	Gray, stiff, <b>SANDY SILT</b> , little clay, trace gravel, moist	6							16	VIS.
	14														
690.0		8/12/12			14.0'										
	16					Brown and gray, very stiff, <b>SILT AND CLAY</b> , little sand, trace gravel, with limestone seams, damp	7							12	VIS.
688.5		24/28/17				Brown and gray, hard, <b>SILT AND CLAY</b> , little sand, trace gravel, with limestone seams, damp	8							12	VIS.
	18						9								VIS.
687.0		48/19/21													
	20					Brown and gray, very stiff, <b>SILT AND CLAY</b> , little sand, trace gravel, with limestone seams, damp	10	6	8	10	67	9	30	15	A-6a
685.5		21/12/16			20.0'	<b>SHALE</b> , gray, augered	11							12	VIS.
	22						12							12	VIS.
684.0		50-6"													
	24						13							15	VIS.
680.5		50-3"													
679.0		0%	4.8	0.2	25.0'	<b>SHALE</b> (77%), dark gray, soft, with interbedded <b>LIMESTONE</b> (23%), medium gray, moderately hard	RC-1								VIS.
	26														
	28														
674.0		0%	0.0	5.0	30.0'	No Recovery	RC-2								NO REC
	32														
	34														
669.0					35.0'										

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. H-4 A

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
667.9	36	0%	0.0	5.0		No Recovery	RC-3									NO REC
664.0	40	0%	4.7	0.3	40.0'	SHALE (60%), gray, moderately soft, with interbedded LIMESTONE (40%), gray, moderately hard	RC-4									VIS.
659.0	44				45.0'											

BOTTOM OF BORING

## LOG OF BORING

Page 1 of 2

Date Started 12/27/05 Sampler: Type SS Dia. 2.25 O.D.  
 Date Completed 12/27/05 Casing: Length 30ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. H-4 B Station & Offset 50+86.81, 20.18 Rt. Water Elev. \_\_\_\_\_  
 Surface Elev. 704.0ft

CTL Project No. 04120056g

Elev. (ft)	Depth (ft)	Std Pen/ RSD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
704.0	0														
704.0	0														
	2														
	4														
	6														
	8														
	10														
	12														
	14														
	16														
	18														
	20														
	22														
	24														
	26														
	28														
	30														
674.0	30	0	4.8	0.2	30.0'										
	32														
	34														
669.0	35				35.0'										
					SHALE (66%), light gray, soft, with interbedded LIMESTONE (34%), light gray, moderately hard	RC-1									VIS.

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. H-4 B

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
667.9		8%	4.7	0.3		SHALE (69%), dark gray, moderately soft, with interbedded LIMESTONE (31%), dark gray, moderately hard, fractured	RC-2									VIS.
36																
38																
664.0	40				40.0'											

BOTTOM OF BORING

BPT 5

GTL 0

HRU 1

2006

DOT 1



## LOG OF BORING

Page 1 of 1

Date Started 12/22/05 Sampler: Type SS Dia. 2.25 O.D.  
 Date Completed 12/22/05 Casing: Length 9.9ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. H-5 Station & Offset 50+78.39, 139.82' Rt. Water Elev. 712.3ft  
 Surface Elev. 718.3ft

CTL Project No. 04120056g

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
718.3	0				Topsoil (6")										VIS.
718.3	0.5'														
717.3	1	3/4/4			Brown, medium stiff, <b>SILT AND CLAY</b> , some sand, little gravel, moist	1	12	12	23	37	16	32	15	18	A-6a
714.8	4	5/6/6			Brown, stiff, <b>SILT AND CLAY</b> , some sand, little gravel, damp	2								13	VIS.
712.3	6	12/17/27													
709.8	8	12/15/18			Brown, hard, <b>SILT AND CLAY</b> , some sand, little gravel	3									NO REC
704.8	14	50-5"													
703.8	15	95%	4.7	0.3	Brown, hard, <b>SILT AND CLAY</b> , some sand, little gravel, damp	4								16	VIS.
704.8	14				SHALE, gray and brown, limestone seams, augered	5									VIS.
703.8	15				SHALE (80%), gray, with brown staining, soft, with interbedded <b>LIMESTONE</b> (20%), gray, moderately hard	RC-1									VIS.
698.8	20	97%	4.8	0.2	SHALE (74%), gray, with brown staining, soft, with interbedded <b>LIMESTONE</b> (26%), gray, moderately hard	RC-2									VIS.
693.8	24.5'														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/28/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/28/06 Casing: Length 7ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OHWater Elev. DrySurface Elev. 934.9ftCTL Project No. 04120056GBoring No. J-1 Station & Offset 10+04.41, 9.31' Rt.

Elev. (ft)	Depth (ft)	Std. Pen./ ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
934.9	0				Asphalt (12")										
934.9															
933.9		6/5/6			Brown, stiff, <b>SILT AND CLAY</b> , some sand, trace gravel, moist, fill	1	6	6	18	23	47	32	15	18	A-6a
932.4	2														
		5/6/7			Brown and gray, stiff, <b>SANDY SILT</b> , and clay, trace gravel, damp, fill	2	8	6	15	27	44	23	9	11	A-4a
930.9	4														
		5/5/5			Brown and gray, stiff, <b>SANDY SILT</b> , trace clay, trace gravel, damp, fill	3								11	VIS.
929.4															
	6	6/6/7			Brown and gray, stiff, <b>SANDY SILT</b> , trace clay, trace gravel, damp, fill	4								11	VIS.
927.9															

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

Date Started 2/16/06 Sampler: Type SS Dia. 1.375"  
Date Completed 2/16/06 Casing: Length 7ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754

Date Completed 2/16/06 Casing: Length 7ft Dia. 3.25"

Warren County, OH

Water Elev. Dry

Boring No. J-2 Station & Offset 14+99.60, 6.91' Rt.

Surface Elev. 955.8ft

CTL Project No. 04120056G

[illegible]

**BOTTOM OF BORING**

## LOG OF BORING

Page 1 of 1

Date Started 2/18/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 2/18/06 Casing: Length 7ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, OH

Boring No. J-3 Station & Offset 25+81.99, 10.66' Lt. Water Elev. Dry  
 Surface Elev. 959.1ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
959.1	0					Asphalt (11")										
959.1		9/5/5			0.9'	Gray, stiff, <b>SILTY CLAY</b> , little gravel, little sand, damp, fill	1	16	5	15	27	37	37	18	12	A-6b
958.1					2.5'	Brown and gray, very stiff, <b>SILT AND CLAY</b> , trace gravel, some sand, moist	2	9	7	16	26	42	33	14	26	A-6a
956.6	2	8/8/11			4.0'	Brown, stiff, <b>SILT</b> , little sand, trace gravel, damp	3								11	VIS.
955.1	4				5.5'	Brown and black, loose, <b>GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT</b> , strong fertilizer odor, moist	4								11	VIS.
953.6	6	4/5/5			7.0'	BOTTOM OF BORING										

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/28/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/28/06 Casing: Length 7ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, OH

Boring No. J-4 Station & Offset 29+15.87, 5.28' Lt.

Water Elev. Dry  
 Surface Elev. 956.0ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics									ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
956.0	0					Asphalt (12")											
956.0					1.0'	Crushed Base (4")											
955.0					1.3'												
954.7						Light brown, stiff, <b>SANDY SILT</b> , and clay, trace gravel, damp	1	9	8	16	28	39	18	5	12	A-4a	
953.5	2	5/5/6				Brown, stiff, <b>CLAY</b> , some silt, trace gravel, trace sand, moist	2	1	2	8	31	58	50	29	24	A-7-6	
952.0	4	5/6/7				Mottled light brown and light gray, stiff, <b>SANDY SILT</b> , little clay, trace gravel, damp	3								14	VIS.	
950.5		5/7/7				Brown, stiff, <b>SANDY SILT</b> , trace gravel, trace clay, damp, till	4								11	VIS.	
949.0																	

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay = < 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/28/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/28/06 Casing: Length 7ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, OH

Boring No. J-5 Station & Offset 2+04.59, 7.39' Lt.

Water Elev. Dry  
 Surface Elev. 961.8ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
961.8	0					Asphalt (13")										
961.8																
960.7		6/5/6			1.1'	Brown, stiff, <b>SANDY SILT</b> , some clay, little gravel, moist	1	12	9	18	30	31	16	4	12	A-4a
959.3	2															
		7/8/7				Brown, stiff, <b>SANDY SILT</b> , some clay, little gravel, damp	2	20	11	16	22	31	20	7	11	A-4a
957.8	4				4.0'											
		7/5/6				Dark brown, stiff, <b>SANDY SILT</b> , little gravel, trace clay, damp, possible fill	3								12	VIS.
956.3																
	6	6/6/7			5.5'	Brown, stiff, <b>SANDY SILT</b> , little gravel, little clay, moist, possible till	4								12	VIS.
954.8					7.0'											

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay = < 0.005mm.

Date Started 3/28/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/28/06 Casing: Length 6.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, OH

Boring No. J-6 Station & Offset 2+32.45, 6.31' Lt.

Water Elev. Dry  
 Surface Elev. 966.3ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
966.3	0					Asphalt (9")										
966.3					0.8'											
965.5					1.1'	Base course (4")										
965.2		7/9/11				Brown, very stiff, <b>SANDY SILT</b> , and clay, trace gravel, damp, possible fill	1	11	9	18	24	38	17	4	11	A-4a
963.8	2				2.5'											
		10/7/7				Gray, stiff, <b>SILT AND CLAY</b> , some sand, trace gravel, moist, possible fill	2	8	7	17	30	38	25	11	18	A-6a
962.3	4				4.0'											
		7/9/16				Mottled gray and black, very stiff, <b>SILT AND CLAY</b> , little gravel, trace sand, damp, possible fill	3								13	VIS.
961.3		6/6/7			5.0'										3	VIS.
	6					Gray, stiff, <b>SILT AND CLAY</b> , little sand, trace gravel, damp	4									
959.8					6.5'											

BOTTOM OF BORING

## LOG OF BORING

Page 1 of 1

Date Started 4/7/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/7/06 Casing: Length 11ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. K-1 Station & Offset 179+85.39, 139.65' Rt. Water Elev. Dry  
 Surface Elev. 740.4ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
740.4	0															
740.4		3/4/5			0.8'	Topsoil (9")										
739.9						Brown, stiff, <b>SILTY CLAY</b> , trace sand, trace roots <1/8" diameter, moist	1							23	VIS.	
739.5	2															
737.4		4/5/4				Brown, stiff, <b>SILTY CLAY</b> , trace sand, trace roots <1/8" diameter, moist	2	0	0	5	63	32	34	16	18	A-6b
	4															
734.9		3/4/5			5.5'	Light brown, stiff, <b>SILT</b> , trace sand, some clay, trace roots < 1/16" diameter, damp	3	0	0	3	72	25	29	10	9	A-4b
	6															
731.9		10/13/15			8.0'	Olive, very stiff, <b>CLAYSHALE</b> , with limestone seams, damp	4								15	VIS.
	8															
	10															
	12				11.0'											
727.4						<b>SHALE</b> , gray, with interbedded <b>LIMESTONE</b> , augered	5								4	VIS.
726.9		50-6"														
726.4	14				14.0'	<b>BOTTOM OF BORING</b>										

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.



## LOG OF BORING

Page 1 of 1

Date Started 4/6/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/6/06 Casing: Length 22.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. K-2 Station & Offset 184+23.78, 124.63' Rt.  
 Water Elev. Dry  
 Surface Elev. 729.0ft

CTL Project No. 04120056G

Elev (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample	Physical Characteristics										ODOT
							No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	Class		
729.0	0																	
729.0		3/3/3			0.8'	Topsoil (8")												
728.5						Brown, medium stiff, <b>SANDY SILT</b> , little clay, trace gravel, damp	1									11		VIS.
728.1	2																	
726.0		4/5/6			3.0'	Brown, stiff, <b>SANDY SILT</b> , some clay, little gravel, damp, till	2										10	VIS.
	4																	
723.5		4/6/5				Brown, stiff, <b>SANDY SILT</b> , some clay, little gravel, damp, till	3	14	11	24	29	22	NP	NP	10		A-4a	
	6																	
720.5		12/15/17			8.5'	Brown, hard, <b>SANDY SILT</b> , little clay, trace gravel, damp, till	4									9		VIS.
	8																	
	10																	
	12				12.0'													
715.5		12/22/18				Gray, hard, <b>SANDY SILT</b> , some gravel, some clay, with cobbles, damp, till	5	25	9	12	23	31	17	5	8		A-4a	
	14																	
	16																	
710.5		12/36/40				Gray, hard, <b>SANDY SILT</b> , some gravel, some clay, with cobbles, damp, till	6									7		VIS.
	18																	
	20																	
	22				22.5'													
705.5		50-3"				<b>SHALE</b> , gray, augered	7											VIS.
704.0	24				25.0'													

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 2

Date Started 4/6/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/6/06 Casing: Length 40ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. K-3 Station & Offset 190+41.18, 146.38' Rt. Water Elev. Dry  
 Surface Elev. 735.0ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std Pen/ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
735.0	0					Topsoil (9")										
735.0 734.5 734.1		3/3/3			0.8'	Brown, medium stiff, <b>SILT AND CLAY</b> , trace sand, damp	1								22	VIS.
732.0	2															
	4	2/2/2			3.0'	Brown, soft, <b>SANDY SILT</b> , some clay, trace gravel, damp	2	6	5	12	46	31	23	7	16	A-4a
729.5	6															
	8	2/4/3			5.5'	Brown, medium stiff, <b>SANDY SILT</b> , trace gravel, trace clay, damp, till	3								12	VIS.
726.5	10															
	12	6/10/14			8.5'	Brown, very stiff, <b>SANDY SILT</b> , little clay, little gravel, damp, till	4								8	VIS.
721.5	14															
	16	10/14/15			13.5'	Gray, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, till	5								1	VIS.
716.5	18															
	20	9/13/17				Gray, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, till	6								8	VIS.
711.5	22															
	24	7/15/13				Gray, very stiff, <b>SANDY SILT</b> , little gravel, little clay, with cobbles, damp, till	7								9	VIS.
706.5	26															
	28	8/10/13			28.5'	Brown, very stiff, <b>SANDY SILT</b> , little clay, trace gravel, damp, till	8								9	VIS.
701.5	30															
	32															
	34	8/15/17			33.5'		9									NO REC

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING (Continued)

Page 2 of 2

Boring No. K-3Project Identification: WAR-75-3.40 PID 10754Warren County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
698.9	36															
696.5	38															
695.0	40	21/26/22				Gray, hard, <b>SANDY SILT</b> , little gravel, little clay, with cobbles, damp, till	10								10	VIS.
					40.0'											

BOTTOM OF BORING

## LOG OF BORING

Page 1 of 1

Date Started 4/6/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/6/06 Casing: Length 8ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. K-4 Station & Offset 194+97.31, 181.70' Rt. Water Elev. Dry  
 Surface Elev. 736.5ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
736.5	0				Topsoil (10")										
736.5		3/3/3			Brown, medium stiff, <b>SILT AND CLAY</b> , trace sand, damp	1								22	VIS.
735.6	2														
733.5		22/4			Light brown, medium stiff, <b>SANDY SILT</b> , little clay, trace gravel, damp	2								15	VIS.
731.0	4														
728.0	6	7/7/9			Brown, very stiff, <b>SANDY SILT</b> , some gravel, some clay, with cobbles, damp, till	3	28	9	13	18	32	18	6	9	A-4a
723.5	8														
723.0		24/50-8"			<b>SHALE</b> , gray, with interbedded limestone, augered	4									VIS.
722.5	10														
	12														
	14	50-3"			<b>SHALE</b> , gray, with interbedded limestone, augered	5									VIS.

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/30/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/30/06 Casing: Length 7ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
WARREN COUNTY, OHIO

Boring No. L-1 Station & Offset 202+87.69, 9.72' Rt.  
 Water Elev. Dry  
 Surface Elev. 700.0ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
700.0	0														
700.0					0.3'										
699.0															
697.5	2	10/8/10				1	71	10	6	8	5	NP	NP	7	A-1-a
					2.5'										
696.0	4	15/16/25				2	26	12	21	15	26	14	3	7	A-4a
694.5	6	50-6"				3								6	VIS.
693.0	6	50-3"				4								6	VIS.
					7.0'										

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/30/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/30/06 Casing: Length 6ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
WARREN COUNTY, OHIO

Boring No. L-2 Station & Offset 207+07.70, 0.33' Lt. Water Elev. Dry  
 Surface Elev. 701.2ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ R.O.D.	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
701.2	0					Topsoil (3")										
701.2 700.9		5/4/5			0.3'	Brown, dark brown, and gray, stiff, SILT AND CLAY, some gravel, some sand, damp, fill	1								12	VIS.
699.7		7/8/9			1.5'	Gray, very stiff, SILT AND CLAY, some gravel, some sand, damp, fill	2	23	10	14	16	37	27	11	11	A-6a
698.2		7/7/6			3.0'	Gray, stiff, SANDY SILT, some gravel, some clay, damp, till	3	26	11	15	16	32	24	9	9	A-4a
696.7		6/7/7				Gray, stiff, SANDY SILT, some gravel, some clay, damp, till	4								6	VIS.
695.2	6				6.0'											

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/30/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/30/06 Casing: Length 6ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
WARREN COUNTY, OHIO

Boring No. L-3 Station & Offset 211+05.85, 5.12' Rt.

Water Elev. Dry  
 Surface Elev. 703.9ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
703.9	0														
703.9		4/4/4			Berm material (3")	1	19	15	18	16	32	20	6	8	A-4a
703.6					Brown, medium stiff, SANDY SILT, some clay, little gravel, damp, till										
702.4		6/7/9			Gray, very stiff, SILT AND CLAY, and gravel, little sand, damp, till	2	38	6	7	21	28	27	12	10	A-6a
700.9	2														
		6/8/7			Gray, stiff, SILT AND CLAY, and gravel, little sand, damp, till	3								13	VIS.
699.4	4														
		8/10/12			Gray, very stiff, SILT AND CLAY, and gravel, little sand, damp, till	4								10	VIS.
697.9	6														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P- 1 Station & Offset 26+45.9, 54.6' Lt.

Water Elev. Dry  
 Surface Elev. 710.0ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
710.0	0														
710.0		7/8/8			Brown, very stiff, SILT AND CLAY, trace gravel, and sand, damp, fill	1	5	15	22	27	31	30	14	15	A-6a
708.5	2	7/9/12			Gray to black, very stiff, SILTY CLAY, trace gravel, little sand, with organics, moist, fill	2	2	4	9	47	38	34	16	19	A-6b
707.0	4	7/9/8/10			Gray to black, very stiff, SILTY CLAY, trace gravel, little sand, with organics, damp, fill	3								17	VIS.
705.0															

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.



## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-2 Station & Offset 30+30.4, 11.9' Rt.

Water Elev. Dry  
 Surface Elev. 699.0ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
699.0	0				0.4'										
699.0		5/5/7			Topsoil (1")	1	14	15	22	27	22	24	9	11	A-4a
698.9					Brown, stiff, SANDY SILT, little gravel, some clay, damp, fill										
697.5					1.5'										
	2	7/16/16			Brown, hard, SILT AND CLAY, little gravel, some sand, damp, fill	2	11	13	17	24	35	28	13	10	A-6a
696.0					3.0'										
	4	12/16/18/20			Brown to black, hard, SILT AND CLAY, little gravel, some sand, damp, fill	3								15	VIS.
694.0					5.0'										

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

04120056G P-1 THRU P-15 GJJ CTL OH DOT GOT 9506

## LOG OF BORING

Page 1 of 1

Date Started 6/14/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/14/05 Casing: Length 5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-3 Station & Offset 34+47.4, 59.8' Lt.

Water Elev. Dry  
 Surface Elev. 691.7ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std Pen / RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
691.7	0														
691.7		5/7/9			Brown, very stiff, SILT AND CLAY, trace gravel, some sand, damp	1	9	10	15	29	37	29	13	10	A-6a
690.2		7/8/9													
	2				Brown, very stiff, SILTY CLAY, trace gravel, little sand, damp	2	3	6	12	27	52	36	16	13	A-6b
688.7		8/13/20/22				3								11	VIS.
	4														
686.7															

BOTTOM OF BORING

04120056G P-1 THRU P-15 GPR CTL OH DOT GDT 5/06

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay = < 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 5.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-4 Station & Offset 38+73.2, 41.5' Rt. Water Elev. Dry  
 Surface Elev. 696.4ft

CTL Project No. 04120056G

STL Project No. 04120056G															
Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
696.4	0				Asphalt concrete (3")										
696.4	0.3				Portland cement concrete (9")										
696.1	1.0				Brown, very stiff, SANDY SILT, some gravel, some clay, damp, fill	1	21	14	23	18	24	24	10	10	A-4a
695.4	2	7/9/12													
693.9	2.5				Brown, stiff, CLAY, trace sand, and silt, damp	2	0	1	7	45	47	50	27	22	A-7-6
692.4	4	6/6/7													
		6/4/5			Brown, stiff, SANDY SILT, moist	3								17	VIS.
690.5	5.5														
BOTTOM OF BORING															

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/14/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/14/05 Casing: Length 5.0 ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-5 Station & Offset 42+35.4, 48.7' Lt.

Water Elev. Dry  
 Surface Elev. 697.6 ft

CTL Project No. 04120056G

Geotechnical Test Results																	
Elev (ft)	Depth (ft)	Std Pen/ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
697.6	0																
697.6		7/12/15				Brown, very stiff, <b>SANDY SILT</b> , with cobbles, with grass, damp, fill	1									8	VIS.
696.1		8/15/16															
	2				1.5'	Gray, hard, <b>SANDY SILT</b> , with cobbles, damp, fill	2										VIS.
694.6		8/16/16/12															
	4				3.0'	Brown, hard, <b>SANDY SILT</b> , little gravel, some clay, damp	3	14	17	23	21	25	NP	NP	8	A-4a	
692.6					5.0'												

BOTTOM OF BORING

ODOT 112005 J CTI THRU

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 5.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-6 Station & Offset 46+48.0, 19.9' Rt.

Water Elev. Dry  
 Surface Elev. 704.6ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
704.6	0				Asphalt concrete (10")										
704.6 703.7		12/8/8			Brown, very stiff, SILT AND CLAY, trace gravel, little sand, damp, fill	1	6	4	10	49	31	26	11	16	A-6a
702.6	2	6/7/8			Brown, very stiff, SANDY SILT, trace gravel, some clay, damp, fill	2	10	15	19	29	27	24	9	11	A-4a
700.6	4	6/4/5			Brown, stiff, SILT AND CLAY, little sand, trace gravel, with rock fragments, damp, fill	3								14	VIS.
699.1	5														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
Date Completed 6/15/05 Casing: Length 6.ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P- 7 Station & Offset 50+52.8, 17.9' Lt.

Water Elev.	<u>Dry</u>
Surface Elev.	705.3ft

CTL Project No. 04120056G

[illegible]

**BOTTOM OF BORING**

## LOG OF BORING

Page 1 of 1

Date Started 6/14/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/14/05 Casing: Length 5.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P- 8 Station & Offset 54+49.3, 31.9' Rt. Water Elev. Dry  
 Surface Elev. 706.2ft CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std Pen / RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
706.2	0															
706.2		12/12/13			0.8'	Gray, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, damp, fill										
705.4						Gray, very stiff, SILTY CLAY, little gravel, little sand, with cobbles, damp, possible fill	1	16	9	15	41	19	31	16	9	A-6b
703.7	2	22/15/16			2.5'	Gray, hard, SANDY SILT, some gravel, little clay, damp	2	21	11	17	31	20	25	10	10	A-4a
702.2	4					Gray, hard, SANDY SILT, some gravel, little clay, moist	3								16	VIS.
700.7		6/4/4			5.5'											

BOTTOM OF BORING

ODOT-CIN 04120056G P-1 THRU P-15.GPJ CTL CH DOT.GDT 5506

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 5.10ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-9 Station & Offset 57+97.6, 17.2' Lt.

Water Elev. Dry  
 Surface Elev. 714.1ft

CTL Project No. 04120056G

SHEET NO. 041203003																
Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
714.1	0															
714.1 713.3		34/14/7			0.8'	Asphalt concrete (10")										
	2					Dark brown, stiff, <b>SILT AND CLAY</b> , little gravel, some clay, with rock fragments, damp, fill	1	14	11	15	28	32	32	13	17	A-6a
711.6		3/3/3			2.5'											
	4	5/5/7			4.0'	Dark brown, medium stiff, <b>SANDY SILT</b> , some gravel, little clay, with rock fragments, damp, fill	2	24	18	17	23	18	25	8	12	A-4a
710.1						Brown, stiff, <b>SANDY SILT</b> , trace gravel, little clay, damp	3								11	VIS.
708.6					5.5'											
BOTTOM OF BORING																

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.



## LOG OF BORING

Page 1 of 1

Date Started 6/14/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/14/05 Casing: Length 5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-10 Station & Offset 61+99.2, 23.5' Rt.

Water Elev. Dry  
 Surface Elev. 729.0ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen/ ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
729.0	0	3/3/3			Brown, medium stiff, SILT, some gravel, trace sand, little clay, damp, possible fill	1	28	2	3	53	14	25	5	19	A-4b
727.5	1.5	13/11/12				2	0	1	2	75	22	NP	NP	21	A-4b
726.0	3.0	6/6/11/10			Gray, very stiff, SANDY SILT, damp	3								17	VIS.
724.0	5.0														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/14/05 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 6/14/05 Casing: Length 5.10R Dia. 3.25"Warren County, OhioWater Elev. DrySurface Elev. 745.6ftBoring No. P-11 Station & Offset 65+88.7, 26.8' Lt.CTL Project No. 04120056G

Elev (ft)	Depth (ft)	Std Pen./ RCD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
745.6	0															
745.6	4/7/11					Brown, very stiff, CLAY, trace sand, and silt, with roots, moist, possible fill	1	0	1	5	43	51	45	23	23	A-7-6
744.1	5/7/12					Brown, very stiff, CLAY, trace gravel, little sand, some silt, with roots, damp, possible fill	2	2	3	15	33	47	47	26	20	A-7-6
742.6	4/4/8/7					Brown and gray, stiff, SILTY CLAY, little sand, with roots, damp	3								14	VIS.
740.6																

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 6 ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OhioWater Elev. DrySurface Elev. 754.6ftBoring No. P-12 Station & Offset 69+98.9, 9.0' Rt.CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
754.6	0				Asphalt concrete (10")										
754.6		5/5/5			Brown, stiff, <b>SANDY SILT</b> , trace gravel, some clay, moist	1	8	11	19	34	28	22	8	17	A-4a
753.8	2														
752.1		5/4/5			Brown, stiff, <b>SANDY SILT</b> , little gravel, some clay, damp	2	16	12	14	31	27	24	8	10	A-4a
750.6	4														
		7/11/12/11			Brown, very stiff, <b>SANDY SILT</b> , with sand seams, damp	3								13	VIS.
748.6	6														

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

0007-CIN 04120056G P-1 THRU P-15.GPJ CTL ON DDT.GDT 55008

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 6ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-13 Station & Offset 71+97.2, 7.9' Lt

Water Elev. Dry  
 Surface Elev. 758.1ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
758.1	0				Asphalt concrete (10")										
758.1		8/5/6			Brown, stiff, SILT AND CLAY, trace gravel, some sand, moist	1	9	12	22	27	30	28	13	16	A-6a
757.3	2														
755.6		12/13/14			Brown, very stiff, SANDY SILT, little gravel, little clay, damp	2	14	13	21	32	20	20	7	11	A-4a
754.1	4	12/14/16/15			Brown, very stiff, SANDY SILT, little gravel, little clay, moist	3								16	VIS.
752.1	6														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Date Started 4/7/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/7/06 Casing: Length 25ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-14 Station & Offset 59+05.22, 67.54' Rt.

Water Elev. Dry  
 Surface Elev. 729.6ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
729.6	0														
729.1	0.5	2/2/3			Brown, medium stiff, <b>SILT AND CLAY</b> , little sand, trace gravel, damp, fill	1								9	VIS.
728.6	1														
728.1	1.5	2/2/3			Brown, medium stiff, <b>SANDY SILT</b> , trace gravel, some clay, with trace root hairs, possible fill, moist	2								18	VIS.
727.6	2														
727.1	2.5	3/3/4			Brown, medium stiff, <b>SANDY SILT</b> , trace gravel, some clay, possible fill, moist	3								15	VIS.
726.6	3														
726.1	3.5	2/2/2			Brown, soft, <b>SANDY SILT</b> , trace gravel, some clay, possible fill, damp	4	6	8	15	38	33	23	8	13	A-4a
725.6	4														
725.1	4.5														
724.6	5	1/2/2				5									NO REC
724.1	5.5														
723.6	6														
723.1	6.5														
722.6	7														
722.1	7.5														
721.6	8														
721.1	8.5														
720.6	9														
720.1	9.5														
719.6	10														
719.1	10.5														
718.6	11														
718.1	11.5														
717.6	12														
717.1	12.5														
716.6	13														
716.1	13.5														
715.6	14														
715.1	14.5														
714.6	15														
714.1	15.5														
713.6	16														
713.1	16.5														
712.6	17														
712.1	17.5														
711.6	18														
711.1	18.5														
710.6	19														
710.1	19.5														
709.6	20														
709.1	20.5														
708.6	21														
708.1	21.5														
707.6	22														
707.1	22.5														
706.6	23														
706.1	23.5														
705.6	24														
705.1	24.5														
704.6	25														

BOTTOM OF BORING

Date Started 4/11/06 Sampler: Type SS Dia. 1.375"  
Date Completed 4/11/06 Casing: Length 25ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. P-15 Station & Offset 61+49.81, 70.32' Lt.

Water Elev.	Dry
Surface Elev.	736.1ft

CTL Project No. 04120056G

[illegible]

**BOTTOM OF BORING**

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler Type SS Dia. 1.375"  
 Date Completed 6/16/05 Casing Length 7R Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. R-1 Station & Offset 196+60.8, 8.3' Rt.

Water Elev. Dry  
 Surface Elev. 710.4ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std Pen/ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% SH	% Clay	L.L.	P.I.	W.C.	
710.4	0				Topsoil (3")	1	21	9	16	19	35	31	14	10	A-6a
710.2		5/28/50-4"			Gray, hard, SILT AND CLAY, some										
708.9					gravel, some sand, damp	2								10	VIS.
	2	38/50-5"			SHALE, gray, augered										
707.4						3								7	VIS.
	4	21/50-3"													
	6														
703.4															

BOTTOM OF BORING

ODOT-CIN 04120056G R-1 THRU R-4-06-05.03.GPJ CTL OH DOT.GDT 5/5/06

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/16/05 Casing: Length 3ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. R-2 Station & Offset 200+57.8, 3.9' Lt.

Water Elev. Dry  
 Surface Elev. 705.2ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
705.2	0				0.1'										
705.2		7/50-3"			Topsoil (1")	1	10	9	16	16	49	33	15	15	A-6a
703.7					Brown and gray, hard, SILT AND CLAY, some sand, trace gravel, with roots, damp										
702.2	2	50-3"			Brown and gray, hard, SILT AND CLAY, some sand, trace gravel, with roots, moist	2								19	VIS.

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 0.42-0.074mm, Fine Sand = 0.074-0.005mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

0001-CIN 03120056G1311HRU PC-06.03.GPJ C:\CH\OH\DOT\G01 54506



## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 10ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Water Elev. 703.7ftSurface Elev. 712.7ftBoring No. R-3 Station & Offset 204+54.0, 0.3' Rt.CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								DOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
712.7	0				0.1'										
712.7		5/5/8			1.5'	1								12	VIS.
712.6															
711.2		5/9/14				2	3	4	13	35	45	43	23	22	A-7-6
709.7	2														
		8/16/16			3.0'										
						3	6	7	26	27	34	27	10	13	A-4a
	4														
	6														
	8														
704.2		50/50-5"			8.5'										
703.7					9.0'	4								7	VIS.
702.7	10				10.0'										

Brown, stiff, **SANDY SILT**, little gravel,  
 little clay, damp, possible fill  
 Brown, very stiff, **CLAY**, some silt, little  
 sand, trace gravel, moist  
 Brown, hard, **SANDY SILT**, some clay,  
 trace gravel, damp  
 Brown and gray, very dense, **GRAVEL**  
**AND/OR STONE FRAGMENTS WITH**  
**SAND AND SILT**, damp  
**SHALE**, gray, augered  
**BOTTOM OF BORING**

0001-CIN 04120056G R-1 THRU R-4-06.05.03.GPJ CTL OH DOT GBT 5/5/06

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 6.0ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. R-4 Station & Offset 207+91.6, 14.8' Lt.

Water Elev. Dry  
 Surface Elev. 695.3ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
695.3	0				0.2'	Topsoil (2")	1								12	VIS.
695.3		50-6"			1.5'	Brown, hard, <b>SANDY SILT</b> , little gravel, little clay, damp, possible fill										
693.8	2	6/7/9				Brown and dark brown, very stiff, <b>CLAY</b> , and silt, little sand, trace gravel, with roots, moist	2	2	3	9	42	44	41	17	24	A-7-6
692.3	4	3/5/7				Brown and dark brown, stiff, <b>CLAY</b> , and silt, little sand, trace gravel, with roots, moist	3	3	5	12	32	48	49	22	17	A-7-6
689.3	6					6.0'										

AUGER REFUSAL

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.



## LOG OF BORING

Page 1 of 1

Date Started 3/15/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/15/06 Casing: Length 12ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. R-5A Station & Offset 212+65.5, 4.0' Lt.

Water Elev. Dry  
 Surface Elev. 713.9ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen/ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class			
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
713.9	0				Topsoil (9 inches)												
713.9	0.8'																
710.4	2	3/4/5															
710.4	4				Brown, loose, <b>COARSE AND FINE SAND</b> , little silt, trace clay, moist	1									12		VIS.
705.4	8																
705.4	8.5'	10/12/17			Brown, very stiff, <b>SANDY SILT</b> , some gravel, some clay, with cobbles, dry, till	2	32	9	14	18	27	16	3	4			A-4a
703.9	10	11/18/19															
702.4	10				Gray, hard, <b>SANDY SILT</b> , little gravel, some clay, damp, till	3	16	9	16	37	22	17	4	8			A-4a
701.9	12	12/50-3"				4									1		VIS.
700.9	12																
700.9	12.0'	50-4"			<b>SHALE</b> , gray, soft, with interbedded limestone, augered	5									4		VIS.
696.9	14																
696.9	16																
696.9	18	50-5"			<b>SHALE</b> , gray, soft, with interbedded limestone, augered	6									8		VIS.
695.4	18																
695.4	18.5'																

**BOTTOM OF BORING**

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 10ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. R-6 Station & Offset 216+06.8, 2.3' Rt

Water Elev. Dry  
 Surface Elev. 701.9ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
701.9	0				0.3'										
701.9	0				Topsoil (3")	1	2	8	14	39	37	52	26	15	A-7-6
701.7		3/7/10			Brown and gray, very stiff, CLAY, and silt, some sand, trace gravel, with roots, damp	2								14	VIS.
700.4		9/12/12													
698.9		14/11/15			3.0'										
	2														
	4				Brown and gray, very stiff, SILT AND CLAY, some sand, trace gravel, with roots, damp	3	9	9	14	24	44	29	13	13	A-6a
	6														
	8														
693.4		12/19/50-5"													
691.9	10				10.0'	4								12	VIS.

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay = < 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/15/05 Casing: Length 10ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Water Elev. DrySurface Elev. 698.4ftBoring No. S-1 Station & Offset 44+96.60, 62.36' Lt.CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
698.4	0				0.2'										
698.4		4/10/13			Topsoil (2")	1								17	VIS.
698.2					Brown, very stiff, SILT AND CLAY, some sand, little gravel, with roots, moist, possible fill										
696.9	2	10/13/21			Brown, hard, SILT AND CLAY, some sand, little gravel, with roots, damp, possible fill	2	14	13	17	24	32	30	14	12	A-6a
695.4	4	10/14/12			Brown, medium dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT, little clay, damp, till	3	32	26	12	17	13	19	6	10	A-2-4
691.9	6														
689.9	8														
688.4	10	3/7/8			Brown, medium stiff, SANDY SILT, little gravel, little clay, moist, till	4								22	VIS.

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

04120056G S-1 THRU S-5 GP-1 C/L ON DOT DOT 5506

## LOG OF BORING

Page 1 of 1

Date Started 6/15/05 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 6/15/05 Casing: Length 6.1ft Dia. 2.25"Warren County, OhioBoring No. S-2 Station & Offset 219+26.97, 4.07' Lt.Water Elev. DrySurface Elev. 696.5ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen / RCD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
696.5	0				0.1'	Topsoil (1")	1	20	9	10	27	34	29	14	10	A-6a
696.5		4/8/13				Brown, very stiff, SILT AND CLAY, little										
696.4						gravel, little sand, damp, till										
695.0					1.5'											
	2	25/40/38					2								12	VIS.
693.5																
	4	19/39/36				Brown, hard, SILT AND CLAY, little	3	12	9	11	33	35	26	12	9	A-6a
						gravel, little sand, damp, till										
691.0																
690.5	6	50-1"			6.1'	Brown, hard, SILT AND CLAY, little	4								8	VIS.
690.3																

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/16/05 Casing: Length 18ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. S-3 Station & Offset 222+47.96, 6.82 Lt. Water Elev. Dry  
 Surface Elev. 721.9ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
721.9	0				0.1'										
721.9		47/16			Topsoil (1")	1	11	7	13	36	33	33	16	13	A-6b
721.8					Brown and gray, very stiff, SILTY CLAY, little gravel, little sand, damp										
720.4		20/25/10			Brown and gray, hard, SILTY CLAY, little gravel, little sand, damp	2								7	VIS.
718.9		10/14/14			Brown and gray, very stiff, SILTY CLAY, little gravel, little sand, damp	3								8	VIS.
	2														
	4														
	6														
	8														
713.4		5/11/21			8.5'										
	10				Brown and gray, hard, SANDY SILT, some clay, little gravel, damp, till	4	12	11	16	33	28	22	8	10	A-4a
	12														
	14														
708.4		18/12/15			Brown and gray, very stiff, SANDY SILT, some clay, little gravel, damp, till	5								12	VIS.
	16														
705.4		14/18/50-4"			Brown and gray, hard, SANDY SILT, some clay, little gravel, damp, till	6								9	VIS.
703.9	18				18.0'										

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

ODOT Form 912005-06-01-HRU 5/10/05 3P J C:\ODOT\GT\200506



## LOG OF BORING

Page 1 of 1

Date Started 12/28/05 Sampler: Type SS Dia. 2.25 O.D. Project Identification: WAR-75 PID 10754  
 Date Completed 12/28/05 Casing: Length 10ft Dia. 3.25 I.D. Warren County, OH

Water Elev. DrySurface Elev. 710.5ft

Boring No. S-4 Station & Offset 226+35.17, 24.84' Rt. CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
710.5	0				Topsoil (6")										
710.5		3/8/9			Brown, stiff, CLAY, little sand, little silt, trace gravel, damp	1	4	5	13	21	57	43	19	23	A-7-6
709.0		7/8/10			Brown, very stiff, SANDY SILT, and clay, little gravel, damp	2	17	8	12	22	41	22	7	12	A-4a
707.5	2	6/9/10				3								9	VIS.
706.0	4	9/11/11				4								12	VIS.
704.5	6	7/9/11			Gray, very stiff, SANDY SILT, damp	5								14	VIS.
702.0	8	8/9/9				6								16	VIS.
700.5	10														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/16/05 Casing: Length 10ft Dia. 2.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OhioWater Elev. -6258.7ftSurface Elev. 736.32"Boring No. S-5 Station & Offset 229+53.94, 39.43' Lt.CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
0.0	0				0.2'										
122.2		4/6/12			Topsoil (2")	1								15	VIS.
1104.5					Brown, very stiff, SILT AND CLAY, some sand, little gravel, with roots, moist, possible fill	2	11	9	16	20	44	30	15	10	A-6a
2209.0	2	7/14/18			Brown, hard, SILT AND CLAY, some sand, little gravel, with roots*, damp, possible fill	3									VIS.
	4	9/14/14			Brown, very stiff, SILT AND CLAY, some sand, little gravel, with roots, damp, possible fill										
	6														
	8														
8258.7	8	8/9/9			Brown, very stiff, SILT AND CLAY, some sand, little gravel, with roots, with wet sand seams, damp, possible fill	4									VIS.
7363.2	10				10.0'										

BOTTOM OF BORING

\*Loss on ignition is 4.5%

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 12/28/05 Sampler: Type SS Dia. 2.25 O.D. Project Identification: WAR-75 PID 10754  
 Date Completed 12/28/05 Casing: Length 10ft Dia. 3.25 I.D. Warren County, OH

Boring No. S-6 Station & Offset 233+50.91, 37.43' Rt. Water Elev. Dry  
 Surface Elev. 743.0ft CTL Project No. 04120056G

SHEET TITLE: 671200000															
Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
743.0	0														
743.0		7/5/5			Brown, stiff, <b>SILTY CLAY</b> , little gravel, little sand, damp	1	16	6	9	31	38	33	17	19	A-6b
741.5															
	2	6/8/8			Brown, very stiff, <b>SANDY SILT</b> , some clay, little gravel, damp	2	10	14	28	21	27	21	9	10	A-4a
740.0		6/5/7													
	4				Brown, stiff, <b>SANDY SILT</b> , some clay, little gravel, damp	3								8	VIS.
738.5		5/5/6													
						4								13	VIS.
737.0	6	3/5/5													
					Gray, stiff, <b>SILTY CLAY</b> , damp	5A								13	VIS.
736.0															
	8				Gray, stiff, <b>SANDY SILT</b> , trace organics, moist	5B								24	VIS.
734.5		5/6/9													
					Brown, stiff, <b>SANDY SILT</b> , trace clay, moist	6								23	VIS.
733.0	10														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 12/29/05 Sampler: Type SS Dia. 2.25 O.D. Project Identification: WAR-75 PID 10754  
 Date Completed 12/29/05 Casing: Length 10ft Dia. 3.25 I.D. Warren County, OH

Boring No. S-7 Station & Offset 237+22.07, 36.48' Rt. Water Elev. Dry  
 Surface Elev. 749.9ft CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
749.9	0														
749.9	0	5/5/5			Brown, loose, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, some clay, trace silt, damp	1	40	16	11	9	24			5	A-1-b
748.4	2	3/6/8			Brown, stiff, SANDY SILT, and clay, trace gravel, moist	2	8	11	21	16	44	18	7	12	A-4a
746.9	4	5/7/7			Brown, stiff, SANDY SILT, and clay, trace gravel, damp	3								10	VIS.
745.4	6	12/17/13			Brown, very stiff, SANDY SILT, (from cuttings)	4									NO REC
743.9	8	3/3/4			Gray, medium stiff SANDY SILT, little gravel, trace clay, damp	5								4	VIS.
741.4	10	4/6/10			Gray, very stiff SANDY SILT, little gravel, trace clay, moist	6								18	VIS.
739.9	10														

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 12/29/05 Sampler: Type SS Dia. 2.25 O.D.  
 Date Completed 12/29/05 Casing: Length 10ft Dia. 3.25 I.D.

Project Identification: WAR-75 PID 10754Warren County, OH

Boring No. S-8 Station & Offset 241+53.73, 19.73' Rt. Water Elev. Dry  
 Surface Elev. 757.0ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics									ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
757.0	0																
757.0		4/4/5			0.5'	Brown, loose, GRAVEL AND/OR	1A	21	11	10	46	12	21	7	9	A-2-4	
756.5						STONE FRAGMENTS WITH SAND	1B	4	3	3			38	18	17	A-6b	
755.5						AND SILT, little clay											
754.5		4/6/8				Gray, stiff, SILTY CLAY, trace sand,	2A								7	VIS.	
754.0					2.5'	trace gravel, damp											
754.0					3.0'	Brown, stiff, SILTY CLAY, trace sand,	2B								12	VIS.	
		4/8/48				trace gravel, damp	3	13	12	23	27	25	22	8	12	A-4a	
	4					Brown, hard, SANDY SILT, some clay,											
752.5					4.5'	little gravel, damp	4								13	VIS.	
		9/7/8				Gray, stiff, SILTY CLAY, little gravel,											
751.0					6.0'	damp	5A								20	VIS.	
	6	5/6/9				Gray, stiff, SANDY SILT, damp											
750.0					7.0'	Brown, stiff, SILT AND CLAY, little	5B								24	VIS.	
						gravel, moist											
748.5							6A								15	VIS.	
748.0		5/5/8			9.0'	Brown, stiff, SANDY SILT, trace clay,	6B								12	VIS.	
						trace gravel, damp											
747.0	10				10.0'												

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 6/16/05 Casing: Length 5.5ft Dia. 3.25"Warren County, OhioWater Elev. DryBoring No. T-1 Station & Offset 217+92.5, 25.7' Rt.Surface Elev. 694.0ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RGD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
694.0	0				Asphalt concrete (8.5")										
694.0	0.7'				GRAVEL AND/OR STONE										
693.3	1.0'				FRAGMENTS WITH SAND, base course (4")	1	12	13	16	28	31	28	13	13	A-6a
693.0		10/6/7			Brown and gray, stiff, SILT AND CLAY, some sand, little gravel, damp, possible fill/	2	15	8	10	25	42	53	31	26	A-7-6
691.5	2	8/8/10			Brown, very stiff, CLAY, some silt, little sand, little gravel, moist	3								20	VIS.
690.0	4	7/8/13			Brown, very stiff, CLAY, some silt, little sand, little gravel, damp										
688.5	5.5'														

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/16/05 Casing: Length 4.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. T-2 Station & Offset 220+08.7, 16.2' Lt.

Water Elev. Dry  
 Surface Elev. 693.3ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
693.3	0				Portland cement concrete (9")										
693.3					GRAVEL AND/OR STONE										
692.5					FRAGMENTS WITH SAND, base course										
692.0					(6")										
691.6					Brown, very stiff, SILT AND CLAY, some	1	25	9	10	23	33	28	13	12	A-6a
	2	4/9/12			gravel, little sand, damp										
690.3					Brown, hard, SILT AND CLAY, some	2	29	10	12	20	29	26	12	11	A-6a
	4	6/12/32			gravel, some sand, damp										
688.8															

## BOTTOM BORING

Possible metal pipe at a depth of  
 approximately 4.5 feet

0007-2W 04120056G T-1 THRU T-3 GP-1 CTL ON DOT LOG 5506

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"  
 Date Completed 6/16/05 Casing: Length 5.0ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. T-3 Station & Offset 223+98.8, 30.0' Lt.

Water Elev. Dry  
 Surface Elev. 705.4ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	
705.4	0				0.1'	Topsoil (1"), fill	1							10	VIS.
705.4		7/7/19													
703.9															
	2	6/10/15				Brown, very stiff, <b>SANDY SILT</b> , some gravel, some clay, damp	2	33	8	12	22	25	24	10	A-4a
702.4		8/16/19/19													
	4					Brown, hard, <b>SILT AND CLAY</b> , some sand, little gravel, damp	3	17	12	13	28	30	25	11	A-6a
700.4					5.0'										

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.



## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 6/16/05 Casing: Length 5.0ft Dia. 3.25"Warren County, OhioBoring No. V-1 Station & Offset 217+01.8, 30.3' Lt.Water Elev. DrySurface Elev. 691.8ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ ROD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
691.8	0				0.1'	Topsoil (1")	1	28	6	10	23	33	31	15	15	A-6a
691.8		12/10/10				Gray, very stiff, SILT AND CLAY, some gravel, little sand, damp, fill										
691.7					1.5'	Gray, stiff, SILTY CLAY, some gravel, little sand, damp, fill	2	21	8	11	24	36	33	16	15	A-6b
690.3	2	6/5/6														
					3.0'	Gray, very stiff, SILTY CLAY, some gravel, little sand, wet, fill	3								45	VIS.
688.8	4	12/10/10/11														
686.8					5.0'											

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler Type SS Dia. 1.375"  
 Date Completed 6/16/05 Casing Length 6.0ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. V-2 Station & Offset 213+09.3 1.3' Lt.

Water Elev. Dry

Surface Elev. 699.9ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
699.9	0				Asphalt concrete (10")										
699.9															
699.1					GRAVEL AND/OR STONE										
688.6					FRAGMENTS WITH SAND, base course										
688.4					(6")	1								32	VIS.
696.5	2	25/20/15			Gray, hard, SILT AND CLAY, some										
					sand, little gravel, with cobbles, wet										
	4	12/10/14			Gray, very stiff, SILT AND CLAY, some	2	18	12	12	30	28	29	14	7	A-6a
695.4					sand, little gravel, with cobbles, damp										
					Gray, hard, SILT AND CLAY, some	3	23	15	15	20	27	28	14	9	A-6a
					sand, some gravel, with cobbles, damp										
693.9	6	14/20/24/20													

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

0001-SUR-04120056G-VN-42.GPJ C:\CH DO PROJ\3506

## LOG OF BORING

Page 1 of 1

Date Started 6/16/05 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 6/16/05 Casing: Length 5.5ft Dia. 3.25"Warren County, OhioBoring No. W-1 Station & Offset 18+27.5, 6.4' Rt.Water Elev. DrySurface Elev. 713.2ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
713.2	0					Asphalt concrete (8")										
713.2					0.7'											
712.5					1.0'	GRAVEL AND/OR STONE FRAGMENTS WITH SAND, base course (4")	1	11	11	14	30	34	27	12	12	A-6a
712.2		6/5/5														
710.7	2					Brown, stiff, SILT AND CLAY, some sand, little gravel, damp, fill										
		10/9/7				Brown, very stiff, SILT AND CLAY, some sand, little gravel, with cobbles, damp, fill	2	16	9	13	31	31	27	12	12	A-6a
709.2	4				4.0'											
		10/5/6				Brown and gray, stiff, SILT AND CLAY, some sand, little gravel, moist, fill*	3								20	VIS.
707.7					5.5'											

BOTTOM OF BORING

\*Loss on ignition 4.6%

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 2/16/06 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 2/16/06 Casing: Length 10ft Dia. 3.25"Warren County, OhioBoring No. W-2 Station & Offset 14+96.15, 0.15' Rt.Water Elev. 708.4ftSurface Elev. 717.4ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
717.4	0				Asphalt (9")										
717.4	0.8'														
716.4	2	20/15/12			Brown, very stiff, <b>SANDY SILT</b> , little gravel, damp	1								12	VIS.
714.9	4	4/4/4			Brown and dark gray, medium stiff, <b>SILT AND CLAY</b> , little gravel, little sand, moist	2	18	14	6	28	34	32	14	25	A-6a
713.4	4	7/10/10			Brown, medium dense, <b>GRAVEL AND/OR STONE FRAGMENTS WITH SAND</b> , trace silt, trace clay, strong petroleum odor, damp	3	13	39	35	8	5	NP	NP	13	A-1-b
711.9	6	6/7/9			Light brown, very stiff, <b>SILT AND CLAY</b> , damp	4								25	VIS.
709.4	8	50-5"													
707.4	10				<b>SHALE</b> , gray, augered	5								8	VIS.
					BOTTOM OF BORING										

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 2/16/06 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 2/16/06 Casing: Length 18.5ft Dia. 3.25"Warren County, OhioBoring No. W-3 Station & Offset 12+73.60 29.86' Lt.Water Elev. 704.5ftSurface Elev. 713.5ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics									ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
713.5	0				Topsoil (8.5")											
713.5	0.7'															
712.5	1.4'															
	2	13/7/77			Brown, stiff, <b>SANDY SILT</b> , little gravel, damp	1									12	VIS.
710.0	4	13/11/15														
	6	13/16/20			Brown, medium dense, <b>GRAVEL AND/OR STONE FRAGMENTS W/ SAND AND SILT</b> , little clay, damp, till	2									10	VIS.
707.5	8	13/11/50-5"														
706.0	10	8/8/13			Brown, dense, <b>GRAVEL AND/OR STONE FRAGMENTS W/ SAND AND SILT</b> , little clay, damp, till	3	32	19	18	14	17	14	2	8	A-2-4	
704.5	12	18/20/22			Gray, hard, <b>SANDY SILT</b> , little gravel, and clay, damp, till	4	12	13	16	20	39	17	4	9	A-4a	
703.0	14	12/13/15			Gray, very stiff, <b>SANDY SILT</b> , little gravel, and clay, damp, till	5									16	VIS.
701.5	16				Brown, hard, <b>SANDY SILT</b> , little gravel, little clay, damp, till	6									15	VIS.
	18	50-5"			Brown, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, till	7									16	VIS.
699.0	18.5'															
					<b>SHALE</b> , gray, augered	8									9	VIS.
696.5		50-3"				9										VIS.
695.0																

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 2/17/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 2/17/06 Casing: Length 10ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. W-4 Station & Offset 10+41.10, 0.46' Rt. \*  
 Water Elev. Dry  
 Surface Elev. 702.3ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen / RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics										ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
702.3	0					Topsoil (7")												
702.3					0.6'	Brown, medium stiff, SILT AND CLAY, trace gravel, little sand, damp, possible till	1	8	7	11	36	38	37	15	21		A-6a	
701.7		2/3/4				Brown, medium stiff, SILT AND CLAY, trace gravel, trace sand, moist, possible till	2	0	1	3	43	53	36	15	24		A-6a	
700.8	2	3/3/3					3								19		VIS.	
699.3		2/3/3					4								23		VIS.	
697.8	4	2/3/4																
696.3	6	2/3/3			6.0'	Dark gray, medium stiff, SANDY SILT, little gravel, damp, till	5								25		VIS.	
693.8	8				7.5'													
692.3	10	3/5/7			10.0'	Dark gray, stiff, SILT, little sand, damp	6								22		VIS.	

## BOTTOM OF BORING

\* Estimated value. Final station, offset,  
and surface elevation to be determined.

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/7/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/7/06 Casing: Length 14ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. RW- 1 Station & Offset 201+45.04, 36.71' Rt. Water Elev. Dry  
 Surface Elev. 719.9ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
719.9	0														
719.9	0.5'				Topsoil (6 inches)	1	0	0	5	48	47	38	12		A-6a
719.4	2	2/2/3			Brown, medium stiff, SILT AND CLAY, trace sand, damp, possible fill	2									NO REC
716.9	4	2/3/3													
714.4	6	6/8/11			Brown, very stiff, SANDY SILT, trace gravel, and clay, with cobbles, damp	3	0	1	30	25	44	24	10		A-4a
711.9	8														
711.4	10	50-5"			SHALE, gray, with limestone layers, augered	4									VIS.
706.4	12														
705.9	14	50-3"				5									NO REC

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/7/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/7/06 Casing: Length 14ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. RW- 2 Station & Offset 203+41.69, 24.51' Rt.

Water Elev. Dry  
 Surface Elev. 715.7ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen. / RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
715.7	0					Topsoil (12 inches)										
715.7 714.7	2/3/3				1.0'	Brown, medium stiff, <b>SANDY SILT</b> , little gravel, little sand, damp, possible fill	1A								16	VIS.
713.7	2				2.0'	Brown and dark brown, medium stiff, <b>SILT AND CLAY</b> , little sand, damp	1B					42	22	17		VIS.
712.7	4/5/6				3.0'	Brown, stiff, <b>SANDY SILT</b> , little gravel, some clay, moist, till	2	14	11	19	27	29	17	4	16	A-4a
710.2	6/8/10					Brown, very stiff, <b>SANDY SILT</b> , little gravel, some clay, moist, till	3								13	VIS.
707.7 707.2	21/50-6"				8.0'	<b>SHALE</b> , gray, with limestone layers, augered	4									VIS.
702.2 701.7	50-4"				14.0'		5									VIS.

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.



## LOG OF BORING

Page 1 of 1

Date Started 3/7/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/7/06 Casing: Length 19ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. RW- 3 Station & Offset 205+49.46, 35.46' Rt.

Water Elev. 700.1ft  
 Surface Elev. 712.1ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
712.1	0					0.5'										
712.1						Asphalt (6 inches)										
711.6						1.2'										
710.9						Crushed stone base (8 inches)										
	2	4/4/5				Brown, stiff, SILT AND CLAY, trace gravel, little sand, moist, possible fill	1								21	VIS.
709.1						3.0'										
708.6		4/5/5				Brown, stiff, SILT AND CLAY, trace gravel, some sand, moist, till	2	5	7	18	36	34	30	12	22	A-6a
	4					5.5'										
706.6		5/7/31				Brown and gray, hard, SANDY SILT, little gravel, some clay, damp	3	11	9	19	32	29	26	6	15	A-4a
	6					8.0'										
704.1						SHALE, gray, with limestone layers, augered	4									VIS.
703.6		50'-6"														
	8															
	10															
	12															
698.6		50'-6"					5								13	VIS.
	14															
	16															
693.6		50'-6"														
693.1						19.0'	6									VIS.

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Date Started 3/7/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/7/06 Casing: Length 14ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. RW-4 Station & Offset 207+67.20, 42.06' Rt. Water Elev. Dry  
 Surface Elev. 697.2ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
697.2	0				Topsoil (9 inches)										
697.2															
696.4															
696.2		2/2/3			Dark brown, medium stiff, <b>SILTY CLAY</b> , trace gravel, little sand, with root hairs, moist, fill	1								21	VIS.
	2														
694.2		4/4/5			Dark brown and black, stiff, <b>SILTY CLAY</b> , trace gravel, little sand, with root hairs, moist, fill	2	5	4	13	32	46	40	17	27	A-6b
	4														
691.7		8/11/12													
	6				Brown and gray, medium dense, <b>GRAVEL AND/OR STONE</b> <b>FRAGMENTS WITH SAND AND SILT</b> , damp, possible fill	3	51	12	10	15	12			10	A-2-4
689.7															
	8														
688.7		22/50-6"			<b>SHALE</b> , gray, with limestone layers, augered	4								11	VIS.
	10														
	12														
683.7		50-3"													
683.2	14					5									NO REC

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Date Started 3/15/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/15/06 Casing: Length 60ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Water Elev. 670.4ft

Surface Elev. 718.4ft

Boring No. RW-5 Station & Offset 24+28.29, 49.43' Rt.

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
718.4	0				0.3' Asphalt (3.5 inches)										
718.1					Gray, GRAVEL AND/OR STONE										
717.4		4/2/3			FRAGMENTS WITH SAND, trace silt, base course (12 inches)	1								18	VIS.
715.9					Dark brown, medium stiff, SILT AND										
715.4		2/2/3			CLAY, moist, possible fill										
	2				Brown, medium stiff, SANDY SILT, trace gravel, little clay, moist, possible fill	2								15	VIS.
	4														
712.9															
	6	3/3/3			Brown, medium stiff, SILT AND CLAY, little sand, moist, possible fill	3								15	VIS.
	8														
709.9															
	10	3/4/7			Dark brown, stiff, SILTY CLAY, trace gravel, trace sand, moist	4	1	1	6	80	12	37	17	23	A-6b
707.4															
	12	3/3/6			Dark brown, stiff, CLAY, and silt, trace sand, moist	5	0	0	1	92	7	45	22	25	A-7-6
704.9															
	14	3/4/11			Brown and gray, stiff, SANDY SILT, little clay, damp	6								12	VIS.
702.4															
	16	5/6/12			Brown, very stiff, SANDY SILT, little clay, damp	7								11	VIS.
699.9															
	18	10/16/37			Gray, hard, SILTY CLAY, trace sand, damp, till	8								10	VIS.
694.9															
	24	50-5"			Gray, hard, SILTY CLAY, trace sand, with cobbles, damp, till	9									VIS.
689.9															
	28														
	30	5/6/9			Gray, stiff, SANDY SILT, little gravel, little clay, damp, till	10								11	VIS.
684.9															
	34	6/6/8				11								11	VIS.

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

Project Identification: WAR-75-3.40 PID 10754Boring No. RW- 5Warren County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
682.4	36														
679.9	38	15/20/23			Gray, hard, <b>SANDY SILT</b> , little gravel, little clay, with cobbles, damp, till	12								9	VIS.
674.8	40														
674.8	42														
674.8	44	13/15/15			Gray, very stiff, <b>SANDY SILT</b> , little gravel, little clay, with cobbles, damp, till	13								6	VIS.
669.9	46														
669.9	48	16/18/15													
664.9	50				Brown, dense, <b>COARSE AND FINE</b> <b>SAND</b> , trace gravel, little silt, little clay, wet	14								17	VIS.
664.9	52														
659.9	54	5/5/6			Gray, stiff, <b>CLAY</b> , trace silt, moist	15								34	VIS.
659.9	56														
658.4	58	9/9/11			Gray, very stiff, <b>CLAY</b> , trace silt, moist	16								23	VIS.
658.4	60														

BOTTOM OF BORING

## LOG OF BORING

Page 1 of 2

Date Started 3/16/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/16/06 Casing: Length 42.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, Ohio

Boring No. RW- 6 Station & Offset 25+52.84, 49.22' Rt. Water Elev. 677.8ft  
 Surface Elev. 714.8ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
714.8	0				Asphalt (4 inches)										
714.8	0.3				Gray, GRAVEL AND/OR STONE										
714.5	1.5				FRAGMENTS WITH SAND, trace silt, base course (13 inches)										
711.3	2														
	4	3/3/3			Brown, medium stiff, SILT AND CLAY, trace sand, moist, possible fill	1								22	VIS.
	6														
	8														
708.3	8.5	8/5/5			Dark gray, stiff, SANDY SILT, little clay, moist	2								20	VIS.
	10														
	12														
701.3	13.5	6/12/12			Brown, very stiff, SANDY SILT, trace gravel, some clay, damp, till	3	11	10	20	33	26	21	6	9	A-4a
698.8	16	10/12/19			Brown, hard, SANDY SILT, little gravel, little clay, damp, till	4								11	VIS.
696.3	18.5	13/16/20			Brown, hard, SILT AND CLAY, little sand, damp, till	5								11	VIS.
693.8	22	11/13/15			Brown, very stiff, SILT AND CLAY, till	6									NO REC
691.3	23.5	5/9/10			Gray, very stiff, SANDY SILT, little gravel, little clay, damp, till	7								11	VIS.
688.8	26.0	5/5/8			Gray, stiff, SILT AND CLAY, little gravel, little sand, damp, till	8								11	VIS.
686.3	28	5/6/9				9								13	VIS.
683.8	30.0	5/5/7			Gray, stiff, SILTY CLAY, little gravel, some sand, moist, till	10								12	VIS.
681.3	33.5	5/5/8			Gray, stiff, SANDY SILT, little gravel, little clay, damp, till	11								10	VIS.

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW- 6

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**BOTTOM OF BORING**

## LOG OF BORING

Page 1 of 2

Date Started 3/16/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/16/06 Casing: Length 35ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OhioWater Elev. 684.4ftSurface Elev. 710.4ftBoring No. RW-7 Station & Offset 27+02.99, 49.05' Rt.CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen/ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics						ODOT			
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	Class	
710.4	0					Asphalt (4 inches)											
710.4	0.3					Gray, GRAVEL AND/OR STONE											
710.1	1.6'					FRAGMENTS WITH SAND, trace silt, base course (16 inches)											
707.4	2																
707.4	4	6/4/5				Brown, stiff, SILTY CLAY, little gravel, little sand, damp, possible fill	1A									13	VIS.
705.4	6	6/5/6				Brown, stiff, SILTY CLAY, little gravel, little sand, moist, possible fill	1B									20	VIS.
701.9	8																
701.9	8.5'	3/6/5				Dark brown to black, stiff, SILT AND CLAY, trace gravel, trace sand, moist	2	1	3	7	57	32	35	15	25		A-6a
	10																
	12																
696.9	14	3/5/8				Brown, stiff, SANDY SILT, trace gravel, little clay, damp, till	3									11	VIS.
	16																
694.4	16.0'	9/15/21				Brown, hard, SANDY SILT, little gravel, little clay, damp, till	4									8	VIS.
	18																
691.9	18.5'	13/24/25				Mottled dark brown and dark gray, hard, SANDY SILT, trace gravel, little clay, damp, till	5									9	VIS.
	20																
689.4	22	10/21/24					6										NO REC
	24																
686.9	23.5'	6/12/21				Gray, hard, SANDY SILT, trace gravel, some clay, damp, till	7									7	VIS.
	26																
684.4	26.0'	5/9/9				Gray, medium dense, GRAVEL AND/OR STONE FRAGMENTS, some sand, trace silt, trace clay, moist	8	51	21	14	10	4	NP	NP	7		A-1-a
	28																
681.9	28.5'	7/7/9				Gray, very stiff, SANDY SILT, little gravel, little clay, damp, till	9									10	VIS.
	30																
679.4	31.0'	12/22/25				Gray, hard, SANDY SILT, some gravel, little clay, with cobbles, damp, till	10										VIS.
	32																
676.9	34	10/15/17					11									9	VIS.
675.4	35.0'																

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## Page 2 of 2

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-7

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## LOG OF BORING

Page 1 of 2

Date Started 3/17/06 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 3/17/06 Casing: Length 35ft Dia. 3.25"Warren County, OhioWater Elev. DryBoring No. RW- 8 Station & Offset 28+50.66, 49.97' Rt.Surface Elev. 705.8ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen. / RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
705.8	0				0.5' Asphalt (5 inches)										
705.8	0.5				1.2' Gray, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, trace silt, base course (9 inches)										
705.3	1.2														
	2														
	4	23/4			Brown, medium stiff, SILT AND CLAY, little gravel, little sand, moist, possible fill	1	13	7	13	42	25	33	15	22	A-6a
	6														
	8														
697.3	8	77/8			Brown and gray, stiff, SANDY SILT, little gravel, little clay, damp, possible fill	2								17	VIS.
	10														
	12														
692.3	12														
692.3	14	22/4			Dark gray, medium stiff, SANDY SILT, trace gravel, and clay, damp	3	2	4	21	28	45	26	7	17	A-4a
689.8	16														
689.3	16	3/2/3			Dark gray and black, medium stiff, SANDY SILT, trace clay, wet	4A 4B								20 36	VIS. VIS.
	18														
687.3	18	4/6/8			Brown and gray, stiff, SANDY SILT, little clay, damp, till	5								16	VIS.
	20														
684.8	20	6/15/21			Brown and gray, hard, SANDY SILT, little clay, with cobbles, damp, till	6								8	VIS.
	22														
682.3	22														
	24	5/8/13			Gray, very stiff, SANDY SILT, little gravel, little clay, with cobbles, damp, till	7								10	VIS.
	26														
679.8	26	12/12/15													NO REC
	28														
677.3	28														
	30	6/8/15												7	VIS.
674.8	30														
	32	15/50-6"			BOULDER ZONE	10									VIS.
672.3	32														
	34	10/36/54			Gray, hard, SANDY SILT, some gravel, little clay, with cobbles, with boulders, damp, till	11								7	VIS.
670.8	34														
	36														

Particle Sizes: Agg &gt;= 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay &lt;= 0.005mm.

## Page 2 of 2

Warren County, Ohio

Boring No. RW- 8

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## LOG OF BORING

Page 1 of 2

Date Started 3/17/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/17/06 Casing: Length 35ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OhioBoring No. RW-9 Station & Offset: 30+47.68, 51.69' Rt.
 Water Elev. Dry  
 Surface Elev. 699.8ft
CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
699.8	0				0.4' Asphalt (5 inches)										
699.4	0.4				Gray, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, trace silt, base course (5 inches)										
696.3	3.5	3/5/5			Brown, stiff, SILT AND CLAY, some sand, damp, fill	1								12	VIS.
691.3	8.5	8/15/16			Brown and gray, hard, SANDY SILT, little gravel, little clay, with cobbles, damp, fill	2								8	VIS.
686.3	13.5	3/4/5			Brown, gray, and black, stiff, SANDY SILT, little gravel, some clay, with cobbles, damp, fill	3	17	9	13	31	30	27	7	12	A-4a
683.8	16.0	2/50-2"			Dark gray, hard, SANDY SILT, little gravel, some clay, with cobbles, moist, fill	4								19	VIS.
681.3	18.5	9/14/9			Brown, very stiff, SANDY SILT, some gravel, little clay, with cobbles, damp, till	5								13	VIS.
678.8	22	5/8/8				6									NO REC
676.3	23.5	8/13/17			Brown, medium dense, GRAVEL AND/OR STONE FRAGMENTS, little sand, trace silt, trace clay, moist	7	69	9						8	A-1-a
673.8	26.0	10/15/21			Gray, hard, SANDY SILT, some gravel, little clay, with cobbles, damp, till	8								10	VIS.
671.3	28	19/24/18				9								10	VIS.
668.8	32	19/17/19				10								10	VIS.
666.3	34	11/12/16			Gray, very stiff, SANDY SILT, some gravel, little clay, with cobbles, damp, till	11								3	VIS.
664.8	35.0														

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## Page 2 of 2

Warren County, Ohio

Boring No. RW- 9

[illegible]

## LOG OF BORING

Page 1 of 1

Project Identification: WAR-75-3.40 PID 10754

Date Started 3/23/06 Sampler: Type SS Dia. 1.375"

Warren County, Ohio

Date Completed 3/23/06 Casing: Length 28.5ft Dia. 3.25"

Water Elev. 688.5ft

Boring No. RW-10 Station &amp; Offset 47+19.76, 25.24' Rt.

Surface Elev. 704.5ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
704.5	0				Asphalt (6 inches)										
704.5	0.5'				Gray, GRAVEL AND/OR STONE										
704.5	1.0'				FRAGMENTS WITH SAND, trace silt,	1								10	VIS.
703.5		11/12/11			base course (6 inches)										
	2				Brown, very stiff, SILT AND CLAY, trace										
					gravel, some sand, damp, possible fill										
701.0	3.5'				Brown, stiff, SANDY SILT, trace gravel,	2								15	VIS.
		5/5/8			some clay, damp, possible fill										
	4														
	6														
	8														
699.0	8.5'				Dark gray to black, stiff, SILT AND	3	32	4	14	19	31	36	13	22	A-6a
		4/7/7			CLAY, some gravel, little sand, with rock										
					fragments, damp										
	10														
	12														
691.0	13.5'				Brown, loose, GRAVEL AND/OR	4								9	VIS.
		11/4/6			STONE FRAGMENTS W/ SAND AND										
					SILT, with dolomite, limestone, and chert										
					fragments, damp										
	14														
	16														
687.0	17.5'				Brown, very stiff, SANDY SILT, some	5	26	8	13	20	33	18	4	12	A-4a
		8/9/15			gravel, some clay, damp, till										
	18														
684.5	20.0'				Gray and rusty brown, very stiff, SANDY										
					SILT, trace gravel, some clay, damp, till										
683.0		16/15/15				6								10	VIS.
	22														
	24														
679.0	25.5'				Gray, hard, SANDY SILT, little gravel,	7									VIS.
		50-2"			little clay, with rock fragments, damp,										
					till/rock transition material										
	26														
676.0	28.5'														

AUGER REFUSAL AT 28.5 FEET  
BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/24/06 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 3/24/06 Casing: Length 33.5ft Dia. 3.25"Warren County, OhioWater Elev. 697.6ftSurface Elev. 705.1ftBoring No. RW-11 Station & Offset 48+76.55, 24.79' Rt.CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
705.1	0														
705.1	0.5'				Asphalt (6 inches)										
704.9	1.0'				Gray, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, trace silt, base course (6 inches)	1								12	VIS.
704.1	2	12/9/10			Brown, very stiff, SANDY SILT, trace gravel, some clay, damp, till										
	4	7/7/6			Brown, stiff, SANDY SILT, trace gravel, some clay, damp, till	2								15	VIS.
701.6	6														
	8														
696.6	8.5'	17/9/9			Dark gray, very stiff, SANDY SILT, some clay, damp, possible till	3								19	VIS.
	10														
	12														
591.6	13.5'	20/17/13			Brown and gray, medium dense, GRAVEL AND/OR STONE FRAGMENTS W/ SAND, trace silt, trace clay, damp	4								4	VIS.
	14														
687.6	18	14/15/32			Brown and gray, dense, GRAVEL AND/OR STONE FRAGMENTS W/ SAND, trace silt, trace clay, moist	5	60	12	7	9	12	17	4	15	A-1-b
684.1	21.0'	14/26/15			Brown and gray, dense, GRAVEL AND/OR STONE FRAGMENTS W/ SAND AND SILT, little clay, with limestone, dolomite, and chert fragments, damp	6	48	13	12	11	16	21	6	15	A-2-4
680.1	24														
676.1	29.0'	16/17/17				7								8	VIS.
671.6	33.5'	25/50-5"			SHALE, gray, with limestone interbeds, augered	8									VIS.
671.6		50-2"				9									VIS.
BOTTOM OF BORING															

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 3/24/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/24/06 Casing: Length 29ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. RW-12 Station & Offset 49+88.27, 24.50' Rt.  
 Water Elev. 687.9ft  
 Surface Elev. 704.9ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
704.9	0				Asphalt (6.5 inches)										
704.9	0.5'				Gray, GRAVEL AND/OR STONE										
704.4	1.0'				FRAGMENTS WITH SAND, trace silt,	1								21	VIS.
703.9		9/5/5			base course (6 inches)										
	2				Brown, stiff, SANDY SILT, trace gravel, some clay, moist										
	4	4/4/5			Brown and gray, stiff, SANDY SILT, trace gravel, some clay, damp	2								18	VIS.
	6														
	8														
696.4	8.5'	6/5/5			Gray, stiff, SANDY SILT, little gravel, some clay, moist	3	13	9	33	14	31	26	10	20	A-4a
	10														
	12														
691.4	13.5'	4/9/16			Brown, stiff, SILT, some sand, little clay, moist	4A								20	VIS.
690.4	14.5'				Brown, very stiff, SILT, trace gravel, little sand, trace clay, with rock fragments, damp	4B								9	VIS.
	16														
687.4	17.5'	9/9/10			Brown and gray, very stiff, SANDY SILT, some clay, with sand seams, moist	5	0	1	53	22	24	NP	NP	25	A-4a
	18														
	20														
683.9	21.0'	9/9/11			Gray, very stiff, SILT, and sand, trace clay, with sand seams, moist	6								21	VIS.
	22														
	24														
679.9	25.0'	30/50-6"			SHALE, gray, with limestone interbeds, augered	7									VIS.
	26														
	28														
675.9		50-5"													
675.4	29.5'					8									VIS.
BOTTOM OF BORING															

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 2

Date Started 3/7/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/7/06 Casing: Length 55ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OhioWater Elev. 673.0ftSurface Elev. 719.0ftBoring No. RW-13 Station & Offset 219+92.54, 23.02' Rt.CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ ROD	Rec. (ft)	Loss (ft)		Description	Sample	Physical Characteristics										ODOT
							No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	Class		
719.0	0					Topsoil (12 inches)												
719.0	1.0'					Brown, medium stiff, <b>SANDY SILT</b> , little gravel, little clay, moist, fill	1									22	VIS.	
718.0	2	3/4/4																
716.0	3.0'		9/10/9			Brown, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, fill	2									9	VIS.	
	4																	
713.5	5.5'		4/5/5			Brown and gray, medium stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, fill	3									11	VIS.	
	6																	
710.5	8.5'		33/12/9			Brown and gray, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, fill	4									9	VIS.	
	8																	
710.5	11.0'					Brown, stiff, <b>SANDY SILT</b> , some gravel, little clay, with cobbles, damp, fill	5	30	8	14	28	20	20	9	11	A-4a		
708.0	12	5/7/7																
705.5	13.5'		4/4/7			Gray, stiff, <b>SILT AND CLAY</b> , little sand, with limestone rock fragments, damp, fill	6									5	VIS.	
	14																	
703.0	16.0'		4/5/8			Brown and gray, stiff, <b>SANDY SILT</b> , trace gravel, little clay, damp, fill	7									10	VIS.	
	16																	
701.0	18.0'					Brown and gray, hard, <b>SANDY SILT</b> , with cobbles. Visual classification from cuttings only.	8										NO REC	
700.5	18.0'	10/14/17																
	18																	
	20																	
	22																	
695.5	23.5'					Dark gray, medium stiff, <b>SILT</b> , trace gravel, little sand, some clay, moist	9	1	0	15	56	28	28	9	23	A-4b		
	24	2/2/3																
	26																	
	28																	
690.5	29.5'		1/1/12			Dark gray, soft, <b>SILT</b> , little sand, some clay, moist	10									24	VIS.	
689.5	30					Gray, medium dense, <b>GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT</b> , damp, till	10A									11	VIS.	
	32																	
685.5	33.5'					Gray, hard, <b>SANDY SILT</b> , little gravel, some clay, damp, fill	11	16	9	15	29	31	15	2	7	A-4a		
	34	10/15/16																

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.



Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-13

Elev. (ft)	Depth (ft)	Std. Pen. / RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
682.9															
38															
680.5		12/23/20				12								8	VIS.
40															
42															
675.5		20/50-6"				13								7	VIS.
44															
673.0					46.0'										VIS.
46															
670.5		50-6"			48.5'	14								6	VIS.
48															
50															
667.0					52.0'										
52															
665.5		13/15/17				15	7	7	15	36	35	29	11	13	A-6a
664.0					55.0'										

BOTTOM OF BORING

## LOG OF BORING

Page 1 of 2

Date Started 3/14/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/14/06 Casing: Length 55ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, Ohio

Boring No. RW-14 Station & Offset 222+17.79, 30.61' Rt. Water Elev. 690.0ft  
 Surface Elev. 723.5ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample	Physical Characteristics									ODOT
							No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	Class	
723.5	0					Topsoil (4 inches)											
723.5 723.1 723.0		2/3/5				Brown, medium stiff, <b>SILTY CLAY</b> , trace sand, with root hairs, moist, fill	1									22	VIS.
	2																
720.5		5/6/7				Brown, stiff, <b>SILTY CLAY</b> , trace sand, moist, fill	2									19	VIS.
	4																
718.0		6/7/9				Brown, dark brown, and gray, very stiff, <b>SANDY SILT</b> , trace gravel, damp, fill	3									14	VIS.
	6																
715.0		5/4/7				Brown, gray, and dark gray, stiff, <b>SILT AND CLAY</b> , trace gravel, trace sand, moist, fill	4									22	VIS.
	8																
712.5		5/6/8				Brown, stiff, <b>SANDY SILT</b> , little gravel, some clay, damp, fill	5	15	12	21	27	25	17	4	11	A-4a	
	10																
710.0		10/8/11				Dark brown and dark gray, very stiff, <b>SILT AND CLAY</b> , trace sand, moist, fill	6									16	VIS.
	12																
707.5		7/9/13				Brown and gray, very stiff, <b>SANDY SILT</b> , some gravel, some clay, damp, fill	7									10	VIS.
	14																
705.0		7/12/14				Brown and gray, very stiff, <b>SANDY SILT</b> , some gravel, some clay, damp, fill	8	28	9	11	21	31	31	1	7	A-4a	
	16																
	18																
	20																
	22																
700.0		15/16/22				Brown and gray, hard, <b>SANDY SILT</b> , trace gravel, little clay, with cobbles, damp, fill	9									9	VIS.
	24																
	26																
	28																
695.0		3/4/5				Brown, stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, till	10									13	VIS.
	30																
	32																
690.0		12/17/22				Brown, hard, <b>SILT</b> , trace sand, some clay, wet	11	0	0	11	58	31	NP	NP	20	A-4b	
	34																

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-14

Elev. (ft)	Depth (ft)	Std. Pen./ RCD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
687.4															
	36														
686.5															
	38														
685.0		50-6"				12								9	VIS.
	40														
	42														
680.0		17/22/26				13								10	VIS.
	44														
	46														
	48														
675.0		22/50-4"				14								6	VIS.
	50														
	52														
670.0		21/30/50-3"				15								9	VIS.
	54														
668.5															

BOTTOM OF BORING

GP 1  
RW B4  
0412  
3-20-  
OBSERVATORY  
OH DOT  
OH DOT

## LOG OF BORING

Page 1 of 2

Project Identification: WAR-75-3.40 PID 10754

Date Started 3/14/06 Sampler: Type SS Dia. 1.375"

Warren County, Ohio

Date Completed 3/14/06 Casing: Length 55ft Dia. 3.25"

Water Elev. 692.7ft

Surface Elev. 726.2ft

Boring No. RW-15 Station &amp; Offset 223+72.58, 7.03' Rt.

CTL Project No. 04120058G

Elev. (ft)	Depth (ft)	Std. Pen./ RGD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.
726.2	0					Topsoil (5 inches)										
726.2 725.8 725.7	0.4'	6/9/4				Brown, stiff, <b>SANDY SILT</b> , little gravel, little clay, with cobbles, damp, fill	1								11	VIS.
	2															
723.2	4	5/6/8					2								11	VIS.
720.7	6	3/4/4				Brown, medium stiff, <b>SILT</b> , some gravel, little sand, trace clay, with cobbles, damp, fill	3	24	8	12	51	5	26	10	12	A-4b
717.7	8	3/4/5				Brown and gray, stiff, <b>SANDY SILT</b> , trace gravel, little clay, damp, fill	4								15	VIS.
715.2	10															
715.2	11.0'	5/5/7				Brown and gray, medium dense, <b>CLAYSHALE FRAGMENTS</b> , damp, fill	5								21	VIS.
712.7	13.5'	8/7/8				Dark brown and dark gray, stiff, <b>SILT</b> , little gravel, some sand, trace clay, damp, fill	6	19	10	15	53	3	16	4	9	A-4b
710.2	16.0'	5/7/7				Brown, stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, fill	7								10	VIS.
707.7	18.5'	3/6/7				Brown and gray, stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, fill	8								11	VIS.
702.7	23.5'	12/14/17				Brown and gray, hard, <b>SANDY SILT</b> , little gravel, trace clay, with cobbles, damp, fill	9								10	VIS.
697.7	28.5'	3/4/5				Brown, stiff, <b>CLAY</b> , some silt, moist	10								23	VIS.
692.7	33.5'	13/15/16				Gray, hard, <b>SANDY SILT</b> , little gravel, little clay, with cobbles, damp, fill	11								10	VIS.

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING (Continued)

Page 2 of 2

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-15

[illegible]

**BOTTOM OF BORING**

THE DOT 7-117 OH DISTRICT  
OPEN LIBRARY IN SUMMER 3-20-CROSSING  
04126898 RW BOW GPJ

## LOG OF BORING

Page 1 of 2

Date Started 3/15/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/15/06 Casing: Length 50ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OhioBoring No. RW-16 Station & Offset 225+24.86, 5.98' Lt.Water Elev. DrySurface Elev. 730.1ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ R.O.D.	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
730.1	0				Asphalt (7 inches)										
730.1	0.6'				Gray, GRAVEL AND/OR STONE										
729.5	1.3'				FRAGMENTS WITH SAND, trace silt,										
728.8					damp, base course (8 inches)	1								14	VIS.
728.6	2	3/5/7			Dark brown and dark gray, stiff, SANDY										
					SILT, some clay, with cobbles, damp, fill										
727.1	3.0'	7/8/8			Brown and gray, very stiff, SANDY SILT,	2								10	VIS.
	4				trace gravel, little clay, with cobbles,										
					damp, fill										
724.6	5.5'	5/5/7			Brown, medium dense, GRAVEL	3	13	26	26	31	4	25	11	11	A-2-6
	6				AND/OR STONE FRAGMENTS WITH										
					SAND, SILT, AND CLAY, damp, fill										
721.6	8.5'	4/4/7			Light brown, stiff, SANDY SILT, trace	4								10	VIS.
	10				gravel, little clay, damp, fill										
719.1	12	4/5/6				5								12	VIS.
716.6	13.5'	3/3/6			Brown and gray, stiff, SILTY CLAY, and	6								15	VIS.
	14				sand, damp, fill										
714.1	16	4/4/7			Dark brown to black, stiff, TOPSOIL, with	7							9		VIS.
712.6	17.5'				organics, damp, fill										
711.6	19	9/11/12			Brown and gray, very stiff, SANDY SILT,	8								9	VIS.
	20				trace gravel, little clay, damp, fill										
706.6	23.5'	12/7/7			Black to brown, stiff, SILTY CLAY, trace	9	0	0	3	84	13	40	19	24	A-6b
	24				gravel, trace sand, moist, possible fill										
701.6	28.5'	13/15/18			Gray, hard, SANDY SILT, with cobbles,	10									NO REC
	30				with boulders										
698.6	33.5'	10/14/16			Gray, very stiff, SILT, trace gravel, trace	11	1	0	9	84	6	NP	NP	16	A-4b
	34				sand, trace clay, moist										

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING (Continued)

Page 2 of 2

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-16

Elev. (ft)	Depth (ft)	Std. Pen./ RCD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
594.0															
	36														
	38														
591.6		12/18/13			38.5'										
	40					12								10	VIS.
	42														
686.6		14/17/23				13								10	VIS.
	44														
	46														
681.6		16/17/19				14								10	VIS.
	48														
680.1	50				50.0'										

BOTTOM OF BORING

## LOG OF BORING

Page 1 of 2

Project Identification: WAR-75-3.40 PID 10754

Date Started 3/13/06 Sampler: Type SS Dia. 1.375"

Date Completed 3/13/06 Casing: Length 60ft Dia. 3.25"

Warren County, Ohio

Water Elev. 697.3ft

Boring No. RW-17 Station &amp; Offset 226+90.90, 1.48' Rt.

Surface Elev. 731.3ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
731.3	0					0.3'											
731.3 731.0 730.8	2/3/5					Topsoil (4 inches) Dark brown, light brown, and gray, medium stiff, <b>SILT AND CLAY</b> , little sand, damp, fill	1									16	VIS.
728.3	2	5/6/6				3.0'											
725.8	4					Dark brown and gray, stiff, <b>SILT AND CLAY</b> , little gravel, some sand, with sand seams, moist, fill	2	14	10	18	28	30	28	11	19		A-6a
722.8	6	3/3/4				5.5'										24	VIS.
720.3	8					Brown, medium stiff, <b>SANDY SILT</b> , little clay, moist, fill	3										
717.8	10	8/11/8				8.5'										19	VIS.
715.3	12	5/7/7				11.0'											
712.8	14	9/8/7				Brown, stiff, <b>SILT AND CLAY</b> , little gravel, little sand, with cobbles, damp, till	4										
707.8	16	6/8/6					5									12	VIS.
704.3	18	5/7/11				Brown, stiff, <b>SILT AND CLAY</b> , little gravel, little sand, with cobbles, damp, till	6									17	VIS.
702.8	20					Brown, very stiff, <b>SILT AND CLAY</b> , trace gravel, some sand, with cobbles, damp, till	7	15	9	11	22	43	33	14	15		A-6a
697.8	22	5/7/8					8									11	VIS.
697.8	24						9										
697.8	26																
697.8	28	12/12/12				27.0'											
697.8	30					Gray, very stiff, <b>SANDY SILT</b> , with cobbles, damp, till	10										NO REC
697.8	32	7/5/4															
697.8	34					33.5'											
697.8						Dark gray, loose, <b>GRAVEL AND/OR STONE FRAGMENTS WITH SAND</b> , trace silt, trace clay, moist	11	23	33	33	5	6	NP	NP	16		A-1-b

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.



**Project Identification:**

WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-17

[illegible]

**BOTTOM OF BORING**

## LOG OF BORING

Page 1 of 1

Project Identification: WAR-75-3.40 PID 10754

Date Started 3/8/06 Sampler: Type SS Dia. 1.375"

Warren County, Ohio

Date Completed 3/8/06 Casing: Length 29ft Dia. 3.25"

Water Elev. 694.8ft

Surface Elev. 703.3ft

CTL Project No. 04120056G

Boring No. RW-18 Station &amp; Offset 224+41.57, 24.47' Rt.

Elev. (ft)	Depth (ft)	Std. Pen. / RGD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							W.C.	P.I.	L.L.	DOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay						
703.3	0				Topsoil (12 inches)												
703.3	1.0																
702.3	2	2/2/3			Brown, medium stiff, SILTY CLAY, trace sand, with root hairs, moist	1											27 VIS.
700.3	4	2/2/2			Brown, soft, SILTY CLAY, trace sand, moist	2	0	0	5	62	33	38	16				27 A-6b
697.8	6	3/5/6			Brown, stiff, SANDY SILT, little gravel, little clay, damp, till	3											10 VIS.
695.3	8																
694.8	10	14/17/18			Brown, hard, SANDY SILT, some gravel, little clay, with rock fragments, with cobbles, with boulders, moist, till	4											14 VIS.
692.3	12	14/16/16				5											NO REC
690.3	14	11/13/18			Gray, hard, SANDY SILT, little gravel, some clay, with cobbles, with boulders, damp, till	6	19	10	16	33	22	19	6	9			A-4a
689.8	16	50-6"				7											NO REC
687.3	18																
684.8	20	12/14/17				8											11 VIS.
679.8	24	12/16/17				9											11 VIS.
674.8	28																
674.3	29.0'	50-6"				10											NO REC

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 2

Date Started 3/9/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 3/9/06 Casing: Length 44.5ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Water Elev. 697.5ft

Surface Elev. 709.0ft

CTL Project No. 04120056G

Boring No. RW-19 Station & Offset 226+04.51, 23.66' Rt.

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							W.C.	ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		
709.0	0					Topsoil (8 inches)										
709.0 708.5 708.3		4/5/6			0.7'	Brown and tan, stiff, <b>SANDY SILT</b> , some gravel, little clay, with cobbles, damp, till	1								10	VIS.
	2															
706.0		7/9/10				Brown and tan, very stiff, <b>SANDY SILT</b> , some gravel, little clay, with cobbles, damp, till	2								12	VIS.
	4															
703.5		5/6/8			5.5'	Brown, stiff, <b>SANDY SILT</b> , trace gravel, little clay, with rock fragments, damp, till	3								12	VIS.
	6															
700.5		9/11/13			8.5'	Gray, very stiff, <b>SILT</b> , trace gravel, little sand, little clay, with sand seams, moist, till	4	6	5	13	59	17	NP	NP	9	A-4b
	10															
698.0		5/7/9				Gray, very stiff, <b>SILT</b> , trace gravel, little sand, little clay, with sand seams, wet, till	5								19	VIS.
	12															
695.5		9/11/12				Gray, very stiff, <b>SILT</b> , trace gravel, little sand, little clay, with sand seams, moist, till	6								10	VIS.
	14															
693.0		7/8/6			16.0'	Gray, stiff, <b>SANDY SILT</b> , little gravel, little clay, with sand seams, wet, till	7	17	6	18	40	19	19	4	22	A-4a
	18															
690.5		5/5/6			18.5'	Gray, stiff, <b>SANDY SILT</b> , little gravel, little clay, with sand seams, damp, till	8								9	VIS.
	20															
	22															
685.5		30/16/18			23.5'	Gray, hard, <b>SANDY SILT</b> , little gravel, little clay, with sand seams, with cobbles, with boulders, moist, till	9								13	VIS.
	24															
	26															
680.5		12/15/16				Gray, hard, <b>SANDY SILT</b> , little gravel, little clay, with sand seams, with cobbles, with boulders, damp, till	10								9	VIS.
	28															
	30															
	32															
675.5		12/16/21			33.5'	Gray, dense, <b>GRAVEL AND/OR STONE FRAGMENTS</b> , and sand, trace silt, trace clay, with cobbles, with boulders, moist	11	52	26	15	5	2	NP	NP	13	A-1-a
	34															

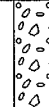

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING (Continued)

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-19

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class		
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
672.9																		
	36	50-5"																
	38																	
670.5						38.5'	Gray, very dense, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, trace silt, trace clay, with cobbles, with boulders, wet	12									9	VIS.
	40																	
	42																	
	44	32/50-5"																
665.5																		
664.5	44				44.5'		13										NO REC	
BOTTOM OF BORING																		

**BOTTOM OF BORING**

**DOT**      **OH D**      **O**      **RARY**      **3-20**      **041**      **RWB**      **GPJ**

## LOG OF BORING

Page 1 of 2

Project Identification: WAR-75-3.40 PID 10754

Date Started 3/10/06 Sampler: Type SS Dia. 1.375"

Warren County, Ohio

Date Completed 3/10/06 Casing: Length 54ft Dia. 3.25"

Water Elev. 699.2ft

Surface Elev. 715.2ft

Boring No. RW-20 Station &amp; Offset 227+58.02, 25.81' Rt.

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Physical Characteristics										ODOT Class
							Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
715.2	0					Topsoil (8 inches)											
715.2 714.7 714.5		3/5/5			0.7'	Brown, stiff, <b>SILTY CLAY</b> , damp	1								26	VIS.	
712.2	2																
712.2 711.7 711.5		3/3/3			3.0'	Brown and dark brown, medium stiff, <b>CLAY</b> , trace gravel, little sand, some silt, moist	2	10	2	10	34	44	43	20	32	A-7-6	
709.7	4																
709.7 709.2 708.7		3/4/6			5.5'	Brown, loose, <b>GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT AND CLAY</b> , damp, till	3								8	VIS.	
706.7	6																
706.7 706.2 705.7		13/17/16			8.5'	Brown and gray, hard, <b>SILT AND CLAY</b> , little gravel, little sand, with cobbles, damp, till	4								10	VIS.	
704.2	8																
704.2 703.7 703.2		12/15/15			11.0'	Gray, very stiff, <b>SANDY SILT</b> , little gravel, and clay, with cobbles, damp, till	5	18	10	13	22	37	22	8	9	A-4a	
701.7	10																
701.7 701.2 700.7		14/16/16				Gray, hard, <b>SANDY SILT</b> , little gravel, and clay, with cobbles, damp, till	6								10	VIS.	
699.2	12																
699.2 698.7 698.2		4/5/6			16.0'	Gray, stiff, <b>SILT</b> , trace gravel, little sand, some clay, wet	7	1	0	12	60	27	NP	NP	20	A-4b	
696.7	14																
696.7 696.2 695.7		13/13/16			18.5'	Gray, very stiff, <b>SANDY SILT</b> , little gravel, little clay, with cobbles, damp, till	8									NO REC	
691.7	16																
691.7 691.2 690.7		9/10/12					9								13	VIS.	
886.7	18																
886.7 886.2 885.7		10/12/14					10								11	VIS.	
881.7	20																
881.7 881.2 880.7		9/11/12					11								12	VIS.	

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.



## LOG OF BORING

Page 1 of 2

Date Started 3/10/06 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 3/10/06 Casing: Length 55ft Dia. 3.25"Warren County, OhioBoring No. RW-21 Station & Offset 229+08.07, 22.46' Rt.Water Elev. 710.7ftSurface Elev. 721.7ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics							ODOT Class		
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.	
721.7	0					0.5' Topsoil (6 inches)	1									16	VIS.
721.7 721.2	4/7/8					Brown and dark brown, stiff, <b>SANDY SILT</b> , with rock fragments, with cobbles, with root hairs, damp, till	1										
718.7	2					3.0' Brown with dark brown staining, stiff, <b>SANDY SILT</b> , little gravel, some clay, damp, till	2									12	VIS.
718.7	7/7/8																
716.2	4					Brown with dark brown staining, very stiff, <b>SANDY SILT</b> , little gravel, some clay, damp, till	3	17	9	13	32	29	24	7	10		A-4a
716.2	7/8/9																
713.2	6					8.5' Brown, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, till	4									13	VIS.
713.2	7/9/10																
710.7	8					11.0' Brown, very stiff, <b>SANDY SILT</b> , trace gravel, little clay, moist	5	1	2	45	40	12	NP	NP	21		A-4a
710.7	6/7/8																
708.2	12					13.5' Gray, stiff, <b>SANDY SILT</b> , little gravel, some clay, with sand seams, damp, till	6									11	VIS.
708.2	5/6/7																
705.7	14																
705.7	5/6/8						7									13	VIS.
703.2	18																
703.2	7/7/9					Gray, very stiff, <b>SANDY SILT</b> , little gravel, some clay, with sand seams, damp, till	8									11	VIS.
703.2	10/12/12																
698.2	20																
698.2	22																
698.2	13/15/16					23.5' Gray, hard, <b>SANDY SILT</b> , little gravel, some clay, with sand seams, with silt seams, damp, till	9									13	VIS.
698.2	24																
693.2	26																
693.2	28																
693.2	10/12/12					Gray, very stiff, <b>SANDY SILT</b> , little gravel, some clay, with sand seams, with silt seams, with cobbles, damp, till	10									11	VIS.
693.2	30																
688.2	32																
688.2	11/12/19					Gray, hard, <b>SANDY SILT</b> , little gravel, some clay, with sand seams, with cobbles, damp, till	11									10	VIS.
688.2	34																

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

Project Identification: WAR-75-3.40 PID 10754

Warren County, Ohio

Boring No. RW-21

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class	
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
665.6																	
	36																
663.2	38	17/19/21					12									5	VIS.
	40																
679.7	42				42.0'												
678.2	44	15/17/21				Brown, dense, <b>COARSE AND FINE SAND</b> , little silt, trace clay, moist	13									11	VIS.
	46																
673.7	48				48.0'												
673.2		14/16/16				Dark gray and black with brown staining, hard, <b>SANDY SILT</b> , trace gravel, and clay, with fibrous organics, moist	14	0	1	2	32	65	23	7	22		A-4a
	50																
	52																
668.2	54	14/17/21					15										VIS.
666.7					55.0'												

BOTTOM OF BORING



## LOG OF BORING

Page 1 of 1

Project Identification: WAR-75-3.40 PID 10754

Date Started 4/25/06 Sampler: Type SS Dia. 1.375"

Warren County, Ohio

Date Completed 4/25/06 Casing: Length 20ft Dia. 3.25"

Water Elev. Dry

Boring No. NW-01 Station &amp; Offset 222+79.03, 17.40' Lt Ramp B Surface Elev. 701.1ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics									ODOT Class
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
701.1	0					Berm (13")											
701.1 700.1 700.0	5/3/3				1.1'	Dark brown, medium stiff, <b>SILT AND CLAY</b> , trace sand, with root hairs, moist	1									22	VIS.
697.6	2																
	4	8/14/15			3.5'	Brownish gray, very stiff, <b>SILT AND CLAY</b> , some gravel, some sand, with cobbles, possible fill, damp	2	34	6	18	17	25	28	12	12		A-6a
695.1	6				6.0'												
	12/21/20					Gray, hard, <b>SANDY SILT</b> , some gravel, some clay, damp, till	3									8	VIS.
692.6	8	50-6"															
	10					Gray, hard, <b>SANDY SILT</b> , some gravel, some clay, damp, with cobbles, till	4									3	VIS.
690.1	12	12/13/14				Gray, very stiff, <b>SANDY SILT</b> , some gravel, some clay, damp, till	5									9	VIS.
687.6	14	32/23/24				Gray, hard, <b>SANDY SILT</b> , some gravel, some clay, damp, till	6	23	7	19	20	31	22	8	9		A-4a
685.1	16	30/24/20				Gray, hard, <b>SANDY SILT</b> , some gravel, some clay, damp, with cobbles, till	7									6	VIS.
682.6	18	12/22/36															
681.1	20				20.0'	Gray, hard, <b>SANDY SILT</b> , some gravel, some clay, damp, with cobbles, till	8									7	VIS.

AUGER REFUSAL @ 20'  
BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 0.60-0.42mm, Fine Sand = 0.42-0.075mm, Silt = 0.075-0.0075mm, Clay =&lt; 0.0075mm.

Date Started 4/25/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/25/06 Casing: Length 25ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Boring No. NW-02 Station & Offset 226+02.70, 10.63' Lt Ramp B Surface Elev. 716.4ft  
 Water Elev. 706.4ft

CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen / RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
716.4	0														
716.4	0.5				Asphalt (10.5")										
715.5	1.0														
	2.0	2/3/4			Brown, medium stiff, <b>SILT AND CLAY</b> , little sand, damp	1								24	VIS.
	4.0	4/4/10													
712.9	4.5				Brown, stiff, <b>SANDY SILT</b> , little gravel, little clay, silt lenses, damp, possible fill	2								13	VIS.
	6.0	5/8/14													
710.4	6.5				Brown, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, possible fill	3								12	VIS.
	8.0														
707.9	8.5	6/8/10			Brown, very stiff, <b>SANDY SILT</b> , little gravel, little clay, damp, possible till	4								9	VIS.
	10.0														
705.4	10.5	11/12/14													
	12.0				Gray, very stiff, <b>SANDY SILT</b> , some gravel, some clay, damp, till	5	23	8	22	24	23	19	5	12	A-4a
	14.0	11/9/11			Gray, very stiff, <b>SANDY SILT</b> , some gravel, some clay, damp, till	6								14	VIS.
	16.0	6/6/8			Gray, stiff, <b>SANDY SILT</b> , some gravel, some clay, damp, till	7								13	VIS.
	18.0														
697.9	18.5	7/10/12			Gray, very stiff, <b>SANDY SILT</b> , some gravel, some clay, with sand lenses, damp, till	8								12	VIS.
	20.0														
	22.0														
692.9	22.5	10/8/10			Gray, very stiff, <b>SANDY SILT</b> , some gravel, some clay, damp, till	9								13	VIS.
691.4	23.0														
	25.0														

**BOTTOM OF BORING**

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 4/24/06 Sampler: Type SS Dia. 1.375"Project Identification: WAR-75-3.40 PID 10754Date Completed 4/24/06 Casing: Length 25ft Dia. 3.25"Warren County, OhioWater Elev. DryBoring No. NW-03 Station & Offset 229+25.52, 13.80' Lt Ramp B Surface Elev. 732.8ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RQD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics									ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
732.8	0				Asphalt (10")											
732.8					Base Course (4")											
731.9	6/4/3				Brown, medium stiff, <b>SANDY SILT</b> , trace clay, damp, fill	1									13	VIS.
731.8																
731.6	2															
729.3	7/6/6				Gray and brown, stiff, <b>SANDY SILT</b> , trace gravel, trace clay, with cobbles, with asphalt fragments, damp, fill	2									8	VIS.
	4															
726.8	4/3/3				Gray, medium stiff, <b>SANDY SILT</b> , little gravel, trace clay, with cobbles, with asphalt fragments, damp, fill	3									8	VIS.
	6															
724.3	16/8/8				Gray, very stiff, <b>SANDY SILT</b> , trace gravel, little clay, damp, fill	4									9	VIS.
	8															
721.8	10/7/10				Brown, very stiff, <b>CLAY</b> , some silt, little sand, trace gravel, moist	5	2	3	15	28	52	43	21	23	A-7-6	
	12															
719.3	10/15/30				Brown, hard, <b>SILT AND CLAY</b> , trace gravel, little sand, with cobbles, till	6									14	VIS.
	14															
716.8	33/17/10				Brown, very stiff, <b>SANDY SILT</b> , trace gravel, little clay, damp, with cobbles, with gray silt lenses, till	7									11	VIS.
	16															
714.3	10/2/121				Brown, hard, <b>SANDY SILT</b> , trace gravel, little clay, damp, till	8									17	VIS.
	18															
709.3	8/8/10				Brown, medium dense, <b>GRAVEL AND/OR STONE FRAGMENTS WITH SAND</b> , trace clay, damp	9									12	VIS.
	20															
707.8					<b>BOTTOM OF BORING</b>											

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 4/24/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/24/06 Casing: Length 25ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754Warren County, OhioWater Elev. DryBoring No. NW-04 Station & Offset 232+50.54, 5.87' Lt Ramp B Surface Elev. 741.9ftCTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen / RCD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	
741.9	0				Asphalt (12")										
741.9	1.0'				Brown, loose, berm material	1								7	VIS.
740.9	2	4/5/6													
738.4	3.5'														
	4	3/2/3			Gray, medium stiff, <b>SILTY CLAY</b> , blocky, damp, possible highly weathered shale fragments, fill	2								7	VIS.
735.9	6.0'														
	6	2/2/3			Brown and gray, loose, <b>GRAVEL AND/OR STONE FRAGMENTS</b> , with brick, asphalt, and glass fragments, damp, fill	3								12	VIS.
733.4	8.5'														
	8	10/10/10			Gray, very stiff, <b>SILT AND CLAY</b> , some gravel, little sand, with cobbles, damp, fill	4	29	4	12	16	39	29	11	15	A-6a
730.9	11.0'														
	10														
728.4	12	6/7/6			Gray, stiff, <b>SANDY SILT</b> , trace gravel, trace clay, damp, fill	5								11	VIS.
725.9	16.0'														
	14	5/5/5			Gray, stiff, <b>SANDY SILT</b> , trace gravel, trace clay, damp, fill	6								9	VIS.
723.4	18.5'														
	16	50-6"			Brown and gray, hard, <b>SILTY CLAY</b> , some gravel, little sand, damp, fill	7	28	10	11	17	34	34	16	13	A-6b
718.4	24	5/4/6													
716.9	25.0'				Brown, stiff, <b>SILT AND CLAY</b> , trace gravel, little sand, damp	8								24	VIS.
	22														
	20														
	18														
	16														
	14														
	12														
	10														
	8														
	6														
	4														
	2														
	0														

BOTTOM OF BORING

Particle Sizes: Agg =&gt; 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =&lt; 0.005mm.

## LOG OF BORING

Page 1 of 1

Date Started 4/24/06 Sampler: Type SS Dia. 1.375"  
 Date Completed 4/24/06 Casing: Length 25ft Dia. 3.25"

Project Identification: WAR-75-3.40 PID 10754  
Warren County, Ohio

Water Elev. Dry

Boring No. NW-05 Station & Offset 235+77.86, 5.51' Lt Ramp B Surface Elev. 747.7ft CTL Project No. 04120056G

Elev. (ft)	Depth (ft)	Std. Pen./ RCD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics									ODOT Class
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.		
747.7	0				Asphalt (10")											
747.7	0.9'															
746.8	1.1'	3/4/5			Base Course (3")	1									10	VIS.
746.7					Brown, loose, berm material											
746.6	2															
744.2	4	1/2/3			Black and gray, medium stiff, <b>SILT AND CLAY</b> , trace gravel, trace sand, moist, fill	2	7	3	8	30	52	29	11	23		A-6a
741.7	6	2/2/3			Brown and gray, medium stiff, <b>SANDY SILT</b> , trace gravel, little clay, damp, fill	3									13	VIS.
739.2	8	6/5/5			Gray, stiff, <b>SILT AND CLAY</b> , trace gravel, trace sand, damp, fill	4	8	3	7	26	56	35	15	12		A-6a
738.7	10															
736.7	12	6/6/8			Gray, stiff, <b>SILT AND CLAY</b> , trace gravel, trace sand, damp, fill	5									13	VIS.
734.2	14	7/8/9			Brown and gray, very stiff, <b>SILT AND CLAY</b> , trace gravel, little sand, damp, fill	6									15	VIS.
731.7	16	9/5/7			Brown and gray, stiff, <b>SANDY SILT</b> , little gravel, little clay, moist, fill	7									19	VIS.
729.2	18	4/5/8			Dark brown, stiff, <b>SILT AND CLAY</b> , trace sand, strong organic odor, damp	8									23	VIS.
728.5	20															
728.2	22															
724.2	24	11/7/7			Brown, stiff, <b>SANDY SILT</b> , little clay, damp	9									21	VIS.
722.7	26															

BOTTOM OF BORING

Particle Sizes: Agg => 2.00mm, Coarse Sand = 2.00-0.42mm, Fine Sand = 0.42-0.074mm, Silt = 0.074-0.005mm, Clay =< 0.005mm.