TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	19180-3212-04	11

TTL — geotechnical • analytical • materials • environmental

BOOKER ENGINEERING
LIGHT POLES AT SR386 AND CONFERENCE DRIVE INTERCHANGE
Davidson County, TN

LOG OF BORING B-01 (HM-7) STA. FT — Page 1 of 1

Drilling Co.:	*TTL, Inc.*	**TTL** Project No.:	*100813154*
Driller:	*R. Bell*	Date Drilled:	*8/10/2013*
Logged by:	*B. Ramans*	Boring Depth:	*25 feet*
Equipment:	*CME 550X*	Boring Elevation:	*n/a feet*
Hammer Type:	*Automatic*	Coordinates:	*Not Available*
Drilling Method:	*Hollow Stem Auger w/SPT Sampling and NQ Wireline Coring*		

Remarks: Borehole dry upon reaching auger refusal and before rock coring. Borehole backfilled with auger cuttings after rock coring was completed.

▽ Water level at time of boring.

DEPTH (ft)	AASHTO CLASSIFICATION	MATERIALS DESCRIPTION	N-COUNT / RQD, % REC	STANDARD PENETRATION TEST DATA (blows per foot)
0–4	CL	LEAN CLAY, very stiff, brown, with traces of silt, sand, and limestone fragments (RESIDUUM)	4 - 4 - 6, N = 10; 50/0, N = 50/0"	Auger refusal at 4 feet. Begin NQ coring.
4–25		LIMESTONE, moderately hard to hard, medium to coarse grained, thin to medium bedding, light gray, with occasional shale laminate partings - Weathered in the upper 6 inches - Vertical fracture at 8 feet	RQD=77 REC=96; RQD=98 REC=100; RQD=100 REC=100	
25		Boring terminated at 25 feet.		

LOG OF BORING B-02 (HM-6) STA. FT — Page 1 of 1

Drilling Co.:	*TTL, Inc.*	**TTL** Project No.:	*100813154*
Driller:	*R. Bell*	Date Drilled:	*8/10/2013*
Logged by:	*B. Ramans*	Boring Depth:	*25 feet*
Equipment:	*CME 550X*	Boring Elevation:	*n/a feet*
Hammer Type:	*Automatic*	Coordinates:	*Not Available*
Drilling Method:	*Hollow Stem Auger w/SPT Sampling and NQ Wireline Coring*		

Remarks: Borehole dry upon reaching auger refusal and before rock coring. Borehole backfilled with auger cuttings after rock coring was completed.

▽ Water level at time of boring.

DEPTH (ft)	AASHTO CLASSIFICATION	MATERIALS DESCRIPTION	N-COUNT / RQD, % REC	STANDARD PENETRATION TEST DATA (blows per foot)
0–2.5		LEAN CLAY, firm, light brown with traces of sand, silt, and gravel (FILL)	2 - 2 - 4, N = 6	
2.5–8	CL	LEAN CLAY, firm t stiff, brown, with some sand, and traces of silt, and limestone fragments (RESIDUUM)	3 - 4 - 4, N = 8; 12 - 50/4, N = 50/4"	
8–25		LIMESTONE, moderately hard to hard, medium to coarse grained, thin to medium bedding, light gray, with occasional shale laminate partings Weathered zones from 9 to 11 feet - Numerous horizontal fractures from 18 to 20 feet - Clay seam at 24 feet (2 inches)	RQD=68 REC=99; RQD=62 REC=98	Auger refusal at 8 feet. Begin NQ coring.
25		Boring terminated at 25 feet.		

LOG OF BORING B-03 (HM-5) STA. FT — Page 1 of 1

Drilling Co.:	*TTL, Inc.*	**TTL** Project No.:	*100813154*
Driller:	*R. Bell*	Date Drilled:	*8/8/2013*
Logged by:	*B. Ramans*	Boring Depth:	*25 feet*
Equipment:	*CME 550X*	Boring Elevation:	*n/a feet*
Hammer Type:	*Automatic*	Coordinates:	*Not Available*
Drilling Method:	*Hollow Stem Auger w/SPT Sampling and NQ Wireline Coring*		

Remarks: Borehole dry upon reaching auger refusal and before rock coring. Borehole was backfilled with auger cuttings after rock coring was completed.

▽ Water level at time of boring. Cave-in depth.

DEPTH (ft)	AASHTO CLASSIFICATION	MATERIALS DESCRIPTION	N-COUNT / RQD, % REC	STANDARD PENETRATION TEST DATA (blows per foot)
0–3	CL	LEAN CLAY, firm, brown, with traces of silt, sand, mineral staining, and limestone fragments (RESIDUUM)	3 - 3 - 4, N = 7	Auger refusal at 3 feet. Begin NQ coring.
3–4.2		Weathered LIMESTONE with Water Staining		
4.2–10.5		LIMESTONE, moderately hard to hard, medium to coarse grained, thin to medium bedding, light gray, with occasional shale laminate partings, and horizontal fractures	RQD=60 REC=100	
10.5–11		Weathered LIMESTONE		
11–25		LIMESTONE, moderately hard to hard, medium to coarse grained, thin to medium bedding, light gray, with occasional shale laminate partings, and horizontal fractures	RQD=95 REC=99; RQD=75 REC=100	
25		Boring terminated at 25 feet.		

LOG OF BORING B-04 (HM-4) STA. FT — Page 1 of 1

Drilling Co.:	*TTL, Inc.*	**TTL** Project No.:	*100813154*
Driller:	*R. Bell*	Date Drilled:	*8/9/2013*
Logged by:	*B. Ramans*	Boring Depth:	*25 feet*
Equipment:	*CME 550X*	Boring Elevation:	*n/a feet*
Hammer Type:	*Automatic*	Coordinates:	*Not Available*
Drilling Method:	*Hollow Stem Auger w/SPT Sampling*		

Remarks: Borehole dry upon completion. Borehole backfilled with auger cuttings.

DEPTH (ft)	AASHTO CLASSIFICATION	MATERIALS DESCRIPTION	MOISTURE (%)	N-COUNT
0–2.5		LEAN CLAY, firm, brown and gray, with some sand and limestone fragments, and traces of silt (FILL)	14.0	2 - 2 - 5, N = 7
2.5–12		LEAN CLAY, hard to very stiff, brown and gray, with some limestone fragments, and traces of sand and silt (FILL) - Shelby Tube Sample obtained from 4 to 6 feet	9.0	(Shelby Tube)
			7.0	6 - 13 - 19, N = 32
			13.0	7 - 17 - 13, N = 30
12–25	CL	LEAN CLAY, stiff to very stiff, brown and gray, with some sand and limestone fragments, and a trace of silt (RESIDUUM)	16.0	6 - 6 - 4, N = 10
			19.0	21 - 17 - 10, N = 27
			8.0	10 - 11 - 10, N = 21
25		Boring terminated at 25 feet.		

LOG OF BORING B-05 (HM-3) STA. FT — Page 1 of 1

Drilling Co.:	*TTL, Inc.*	**TTL** Project No.:	*100813154*
Driller:	*R. Bell*	Date Drilled:	*8/9/2013*
Logged by:	*B. Ramans*	Boring Depth:	*23 feet*
Equipment:	*CME 550X*	Boring Elevation:	*n/a feet*
Hammer Type:	*Automatic*	Coordinates:	*Not Available*
Drilling Method:	*Hollow Stem Auger w/SPT Sampling*		

Remarks: Borehole dry upon completion. Borehole backfilled with auger cuttings.

A Shelby Tube was obtained from 4 to 6 feet in an offset boring 5 feet west of the hole.

DEPTH (ft)	AASHTO CLASSIFICATION	MATERIALS DESCRIPTION	MOISTURE (%)	N-COUNT
0–2		LEAN CLAY, firm, brown, with traces of silt, sand, roots, and gravel (FILL)	21.0	4 - 3 - 3, N = 6
2–16		LEAN CLAY, stiff to very stiff, brown, with traces of silt, sand, and gravel (FILL)	21.0	5 - 7 - 10, N = 17
			30.0	3 - 4 - 6, N = 10
			17.0	4 - 5 - 7, N = 12
			24.0	7 - 10 - 13, N = 23
16–23	CH	FAT CLAY, hard, light brown, with traces of silt, sand, and mineral staining	24.0	5 - 6 - 25, N = 31
23		Auger refusal at 23 feet.		

LOG OF BORING B-06 (HM-2) STA. FT — Page 1 of 1

Drilling Co.:	*TTL, Inc.*	**TTL** Project No.:	*100813154*
Driller:	*R. Bell*	Date Drilled:	*8/9/2013*
Logged by:	*B. Ramans*	Boring Depth:	*25 feet*
Equipment:	*CME 550X*	Boring Elevation:	*n/a feet*
Hammer Type:	*Automatic*	Coordinates:	*Not Available*
Drilling Method:	*Hollow Stem Auger w/SPT Sampling and NQ Wireline Coring*		

Remarks: Borehole dry upon reaching auger refusal and before rock coring. Borehole backfilled with auger cuttings after rock coring was completed.

▽ Water level at time of boring.

DEPTH (ft)	AASHTO CLASSIFICATION	MATERIALS DESCRIPTION	N-COUNT / RQD, % REC	STANDARD PENETRATION TEST DATA (blows per foot)
0–2	CL	LEAN CLAY, very stiff, brown, with abundant limestone fragments (RESIDUUM)	3 - 6 - 17, N = 23	Auger refusal at 2 feet. Begin NQ coring.
2–4.4		LIMESTONE, moderately hard to hard, medium to coarse grained, thin to medium bedding, light gray, with occasional shale laminate partings		
4.4–5.5		- Open Void from 4.4 to 5.5 feet		
5.5–25		LIMESTONE, moderately hard to hard, medium to coarse grained, thin to medium bedding, light gray, with occasional shale laminate partings - Horizontal fracture at 21 feet - Water staining at 22 feet	RQD=54 REC=83; RQD=86 REC=100; RQD=90 REC=100	
25		Boring terminated at 25 feet.		

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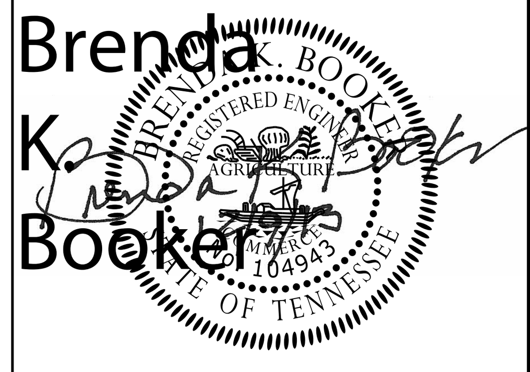
This boring log shall not be separated from the corresponding Instrument of Service; no third party may rely upon this boring log or the corresponding Instrument of Service absent a written TTL Secondary Client Agreement.

* * * GEOTECHNICAL INFORMATION PROVIDED BY: TTL, INC., ON FILE WITH TDOT TRAFFIC DESIGN * * *

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BORE LOGS

SR 386 AT CONFERENCE DRIVE

SCALE: NONE

2/18/2013 11:37:58 AM
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