

BUTLER COUNTY ENGINEER'S OFFICE



GREGORY J. WILKENS, P.E., P.S. BUTLER COUNTY ENGINEER

January 12, 2022

**Contract 2022-02
Miami 2 Miami Trail Extension
PID#109757**

Addendum No. 1

Boring Logs attached

**Please e-mail or call our office when you have received this Addendum.
taylor@m@bceo.org
Melissa Taylor; 513-785-4115**

LEGEND

SYMBOL	DESCRIPTION	ODOT CLASSIFICATION	SYMBOL	DESCRIPTION	ODOT CLASSIFICATION
	Gravel and/or Stone Fragments	A-1-a		Shale	Visual
	Gravel and/or Stone Fragments with Sand	A-1-b		Weathered Shale	Visual
	Fine Sand	A-3		Sandstone	Visual
	Coarse and Fine Sand	A-3a			
	Gravel and/or Stone Fragments with Sand and Silt	A-2-4 A-2-5		GRADATION (%)	
	Gravel and/or Stone Fragments with Sand, Silt and Clay	A-2-6 A-2-7		GR Gravel	
	Sandy Silt	A-4a		CS Coarse Sand	
	Silt	A-4b		MS Medium Sand	
	Elastic Silt and Clay	A-5		FS Fine Sand	
	Silt and Clay	A-6a		SI Silt	
	Silty Clay	A-6b		CL Clay (<5 micron)	
	Elastic Clay	A-7-5			
	Clay	A-7-6		SAMPLER SYMBOLS	
	Organic Silt	A-8a		Shelby Tube	
	Organic Clay	A-8b		Rock Core	
				Split Spoon Sample (SS)	

GRADATION (%)

- GR Gravel
- CS Coarse Sand
- MS Medium Sand
- FS Fine Sand
- SI Silt
- CL Clay (<5 micron)

SAMPLER SYMBOLS

- Shelby Tube
- Rock Core
- Split Spoon Sample (SS)
- * Indicates a Sample Taken Within 3 ft of Proposed Grade

ABBREVIATIONS

LL	LIQUID LIMIT (%)	HP	HAND PENETROMETER
PI	PLASTIC INDEX (%0	PID	PHOTOIONIZATION DETECTOR
WC	MOISTURE CONTENT (%)	UC	UNCONFINED COMPRESSION
SPT	STANDARD PENETRATION TEST	ppm	PARTS PER MILLION
NP	NON PLASTIC	W	WATER FIRST ENCOUNTERED
-200	PERCENT PASSING NO. 200 SIEVE	▼	WATER LEVEL UPON COMPLETION
N ₆₀	ADJUSTED SPT RESULT		
EOB	END OF BORING		

MATERIAL CLASSIFIED BY VISUAL INSPECTION

	Sod and Topsoil		Uncontrolled Fill (Describe)		Bouldery Zone		Peat, S-Sedimentary W-Woody F-Fibrous L-Loamy & etc
	Pavement or Base						
	Concrete						

PROJECT:	MIAMI 2 MIAMI TRAIL	DRILLING FIRM / OPERATOR:	NEAS / ASHBAUGH	DRILL RIG:	CME 45B	STATION / OFFSET:	10+69.1' LT.	EXPLORATION ID															
TYPE:	ROADWAY	SAMPLING FIRM / LOGGER:	NEAS / ASHBAUGH	HAMMER:	CME AUTOMATIC	ALIGNMENT:	GILMORE TRAIL	B-001-0-19															
PID:	SFN: 9/24/20	DRILLING METHOD:	3.25" HSA	CALIBRATION DATE:	12/5/19	ELEVATION:	605.7 (MSL) EOB: 10.0 ft.	PAGE															
START:	9/24/20	SAMPLING METHOD:	SPT	ENERGY RATIO (%):	81.7	LAT / LONG:	39.356051, -84.518804	1 OF 1															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (SI)	BACK FILL				
5.0" TOPSOIL (DRILLERS DESCRIPTION) STIFF TO VERY STIFF, BROWN, SILTY CLAY, SOME SAND, TRACE GRAVEL, CONTAINS IRON STAINING AND TRACE BRICK FRAGMENTS, MOIST		605.7	1	3																			
		605.3	2	3	10	56	SS-1	3.00	1	5	30	35	29	37	17	20	20	A-6b (10)					
			3	4																			
			4	3	10	67	SS-2	1.50	-	-	-	-	-	-	-	-	-	18	A-6b (V)				
			5	4																			
		600.2	6	3																			
			7	3	11	78	SS-3	3.50	13	25	19	28	15	21	14	7	12	A-4a (2)					
			8	5																			
			9	6	7	100	SS-4	1.75	-	-	-	-	-	-	-	-	-	-	12	A-4a (V)			
			10	10																			
		595.7							EOB														

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS. MATERIALS. QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL		DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH		STATION / OFFSET: 14+84, 24' RT.		EXPLORATION ID											
TYPE: ROADWAY		SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH		ALIGNMENT: GILMORE TRAIL		B-002-0-19											
PID: SFN:		DRILLING METHOD: 3.25" HSA		ELEVATION: 607.9 (MSL) EOB: 30.5 ft.		PAGE											
START: 9/24/20 END: 9/25/20		SAMPLING METHOD: SPT		LAT / LONG: 39.354945, -84.518604		1 OF 2											
DRILL RIG: CME 45B		REC SAMPLE ID		GRADATION (%)		ODOT CLASS (GI)											
HAMMER: CME AUTOMATIC		HP (tsf)		GR CS FS SI CL		WC											
CALIBRATION DATE: 12/5/19		N ₆₀		SPT / RQD		BACK FILL											
ENERGY RATIO (%): 81.7		ID		GR CS FS SI CL		WC											
ELEV. 607.9		DEPTHS		GR CS FS SI CL		WC											
HARD, BROWN, CLAY, "AND" SILT, SOME SAND, TRACE GRAVEL, CONTAINS ROOTS AND IRON STAINING, DAMP	1	3	11	61	SS-1	4.50	4	3	23	43	27	41	21	20	15	A-7-6 (11)	
	2	4	4														
	3																
	4	6	10	27	78	SS-2	4.50	-	-	-	-	-	-	-	10	A-7-6 (V)	
	5	10															
	6	8	10	26	72	SS-3	4.50	-	-	-	-	-	-	-	8	A-7-6 (V)	
	7	10	9														
	8																
	9	8	12	42	67	SS-4	4.50	-	-	-	-	-	-	-	9	A-7-6 (V)	
	10	19															
	11	9	11	45	56	SS-5	-	56	11	9	16	8	NP	NP	4	A-1-b (0)	
	12	22															
	13																
	14	11	20	44	44	SS-6	-	-	-	-	-	-	-	-	6	A-1-b (V)	
	15	12															
DENSE, BROWN AND GRAY, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, DAMP	16																
	17	10	10	33	67	SS-7	3.50	-	-	-	-	-	-	12	A-6a (V)		
	18	14															
	19	11	10	35	89	SS-8	2.50	16	11	11	35	27	31	14	14	A-6a (7)	
	20	16															
	21	10	13	39	78	SS-9	4.00	-	-	-	-	-	-	-	14	A-6a (V)	
	22	16															
	23	9	13	45	89	SS-10	4.25	-	-	-	-	-	-	-	17	A-6a (V)	
	24	20															
	25	12	15	46	100	SS-11	2.25	-	-	-	-	-	-	-	16	A-6a (V)	
DENSE, GRAY, SILT, SOME SAND, LITTLE CLAY, TRACE GRAVEL, WET	26	10	16	52	67	SS-12	3.50	-	-	-	-	-	-	-	13	A-6a (V)	
	27	22															
	28	11	14	35	89	SS-13	-	4	8	18	57	13	NP	NP	18	A-4b (7)	
	29	12															
	30	7	10	31	100	SS-14	-	12	17	33	30	8	NP	NP	15	A-4a (1)	
	31	13															
	32	8	12	33	94	SS-15	-	-	-	-	-	-	-	-	16	A-4a (V)	
	33																
	34																
	35																

PID:	SFN:	PROJECT:	MIAMI 2 MIAMI TRAIL	STATION / OFFSET:	14+84.24 RT.	START:	9/24/20	END:	9/25/20	PG 2 OF 2	B-002-0-19									
MATERIAL DESCRIPTION AND NOTES		ELEV.	577.9	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
		577.4			12															
				EOB																
<p>NOTES: GROUNDWATER ENCOUNTERED AT 15.0' DURING DRILLING. HOLE DID NOT CAVE. ABANDONMENT METHODS. MATERIALS. QUANTITIES: POURED 1 BAG HOLE PLUG. SHOVELLED SOIL CUTTINGS</p>																				

PROJECT: MIAMI 2 MIAMI TRAIL	DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH	DRILL RIG: CME 45B	STATION / OFFSET: 18+90, 4' LT.	EXPLORATION ID													
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH	HAMMER: CME AUTOMATIC	ALIGNMENT: GILMORE TRAIL	B-003-0-19													
PID: SFN: 9/24/20	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 606.3 (MSL)	PAGE													
START: 9/24/20	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.7	LAT / LONG: 39.353961, -84.518035	1 OF 1													
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N ₆₀	REC (%)	HP (tsf)	GRADATION (%)				ATTERBERG			ODOT CLASS (qt)	BACK FILL			
ELEV.		DEPTHS				GR	CS	FS	SI	CL	LL	PL	PI	WC			
5.0" TOPSOIL (DRILLERS DESCRIPTION) HARD, BROWN, SILT AND CLAY, SOME SAND, TRACE GRAVEL, CONTAINS IRON STAINING AND ROOTS, DAMP	606.3	1	5														
	605.9	2	4	12	33	6	7	22	43	22	30	17	13	11	A-6a (7)	↖ ↗ ↘ ↙	
		3	5														↖ ↗ ↘ ↙
		4	6	7	22	61	-	-	-	-	-	-	-	-	16	A-6a (V)	↖ ↗ ↘ ↙
	600.8	5	9														↖ ↗ ↘ ↙
		6	7	10	30	89	6	12	17	41	24	24	15	9	10	A-4a (6)	↖ ↗ ↘ ↙
		7	12														↖ ↗ ↘ ↙
		8	10														↖ ↗ ↘ ↙
		9	12	35	89	4.50	-	-	-	-	-	-	-	-	11	A-4a (V)	↖ ↗ ↘ ↙
		10	14														↖ ↗ ↘ ↙

STANDARD ODOT SOIL BORING LOG (6.5 X 11) - OH DOT.GDT - 1/18/21 09:04 - X:ACTIVE PROJECTS\MAMI 2 MIAMI\GINT FILES\MAMI 2 MIAMI.GPJ

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS: MATERIALS QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL
 TYPE: ROADWAY
 PID: SFN: 9/24/20 END: 9/24/20
 START: 9/24/20 END: 9/24/20

DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH
 SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: CME 45B
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/5/19
 ENERGY RATIO (%): 81.7

STATION / OFFSET: 23+52.4' LT.
 ALIGNMENT: GILMORE TRAIL
 ELEVATION: 605.8 (MSL) EOB: 10.0 ft.
 LAT / LONG: 39.352780, -84.517548

EXPLORATION ID
 B-004-0-19
 PAGE
 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)				WC	ODOT CLASS (g)	BACK FILL
								GR	CS	FS	SI			
5.0' TOPSOIL (DRILLERS DESCRIPTION) VERY STIFF TO HARD, BROWN, SILT AND CLAY, "AND" SAND, TRACE GRAVEL, CONTAINS ROOTS AND IRON STAINING, DAMP	605.8	1	4	12	56	SS-1	4.50	-	-	-	-	-	-	↖ ↗
	605.4	2	5	4	56	SS-1	4.50	-	-	-	-	-	-	↖ ↗
		3												↖ ↗
		4												↖ ↗
		5												↖ ↗
		6												↖ ↗
		7												↖ ↗
		8												↖ ↗
		9												↖ ↗
		10												↖ ↗
STIFF TO VERY STIFF, BROWN, SILTY CLAY, "AND" SAND, TRACE GRAVEL, CONTAINS IRON STAINING, MOIST TO DAMP	600.3	3	3	11	72	SS-2	3.25	1	2	39	34	24	17	↖ ↗
		4	5	4	89	SS-3	3.00	0	2	34	36	28	20	↖ ↗
		5	4	15	100	SS-4	2.00	-	-	-	-	-	13	↖ ↗
		6	7	7										↖ ↗

@10.0' DRILL RIG MALFUNCTION. SEE B-004-1-19 FOR THE CONTINUATION OF THIS BORING

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS. MATERIALS. QUANTITIES: SHOVELLED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL
 TYPE: ROADWAY
 PID: SFN: END: 9/24/20
 START: 9/24/20 END: 9/24/20

DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH
 SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: CME 45B
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/5/19
 ENERGY RATIO (%): 81.7

STATION / OFFSET: 27+67.25' LT.
 ALIGNMENT: GILMORE TRAIL
 ELEVATION: 605.5 (MSL) EOB: 10.0 ft.
 LAT / LONG: 39.351725, -84.517171

EXPLORATION ID
 B-005-0-19
 PAGE
 1 OF 1

SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (SI)	BACK FILL
					GR	CS	FS	SI	CL	LL	PL			
5	15	44	SS-1	4.50	-	-	-	-	-	-	16	A-7-6 (V)	<V >V	
4	12	78	SS-2	4.50	2	16	46	34	44	21	23	16	A-7-6 (14)	<V >V
5	18	94	SS-3	4.50	-	-	-	-	-	-	13	A-7-6 (V)	<V >V	
4	22	89	SS-4	4.25	18	11	14	33	27	16	11	12	A-6a (5)	<V >V
Elev. 597.5														
Elev. 595.5														
Elev. 605.0														
Elev. 605.5														

6.0" TOPSOIL (DRILLERS DESCRIPTION)
 HARD, BROWN, CLAY, AND " SILT, LITTLE SAND, TRACE GRAVEL, CONTAINS ROOT HAIRS AND IRON STAINING, DAMP

HARD, BROWN, SILT AND CLAY, SOME SAND, LITTLE GRAVEL, CONTAINS IRON STAINING, DAMP

DEPTHS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

EOB

PROJECT: MIAMI 2 MIAMI TRAIL		DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH		DRILL RIG: CME 45B		STATION / OFFSET: 31+67.4 RT.		EXPLORATION ID											
TYPE: UNDERGROUND UTILITY		SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH		HAMMER: CME AUTOMATIC		ALIGNMENT: GILMORE TRAIL		B-006-0-19											
PID: SFN: 9/25/20		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 12/5/19		ELEVATION: 606.1 (MSL) EOB: 24.5 ft.		PAGE											
START: 9/25/20 END: 9/25/20		SAMPLING METHOD: SPT		ENERGY RATIO (%): 81.7		LAT / LONG: 39.350734, -84.516614		1 OF 1											
MATERIAL DESCRIPTION AND NOTES		ELEV.		DEPTHS		SPT/ RQD		REC SAMPLE ID		GRADATION (%)		ATTERBERG		ODOT CLASS (6)		BACK FILL			
		606.1						HP (tsf)		GR CS FS SI CL		LL PL PI		WC					
5.0" TOPSOIL (DRILLERS DESCRIPTION)		605.7		1		4													
VERY STIFF TO HARD, BROWN AND DARK BROWN BECOMING BROWN, SILTY CLAY, SOME SAND, TRACE GRAVEL, CONTAINS TRACE IRON STAINING AND ROOTS, MOIST TO DAMP				2		4		3.50						23		A-6b (V)			
				3		5													
				4		3		4.50		6		18		34		16		18	
				5		6													
				6		7		4.50											
				7		8													
				8															
				9		6		2.75											
				10		10													
				11		12		2.50											
				12		14													
				13		17													
				14		10													
DENSE, GRAY, SILT, SOME SAND, LITTLE CLAY, TRACE GRAVEL, DAMP		593.1		15		21													
				16		25													
				17		7		4.50											
				18		10													
				19		6		4.50											
				20		10													
				21		5													
				22		11		67		4		9		67		16		17	
				23		7		78		4		3		6		49		20	
				24		5		56										31	
				EOB		6													

NOTES: GROUNDWATER ENCOUNTERED AT 22.0' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS. MATERIALS. QUANTITIES: POURED 1 BAG HOLE PLUG. SHOVELLED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL		DRILLING FIRM / OPERATOR: NEAS / ASHBAUGH		STATION / OFFSET: 35+95.6' LT.		EXPLORATION ID	
TYPE: ROADWAY		SAMPLING FIRM / LOGGER: NEAS / ASHBAUGH		ALIGNMENT: GILMORE TRAIL		B-007-0-19	
PID: SFN: 9/24/20 END: 9/24/20		DRILLING METHOD: 3.25" HSA		ELEVATION: 606.4 (MSL) EOB: 10.0 ft.		PAGE	
START: 9/24/20 END: 9/24/20		SAMPLING METHOD: SPT		LAT / LONG: 39.349995, -84.515657		1 OF 1	
MATERIAL DESCRIPTION AND NOTES		ELEV.		GRADATION (%)		ODOT CLASS (Gt)	
				GR CS FS SI CL		WC	
				HP (tsf)			
				REC SAMPLE ID			
				N ₆₀			
				SPT/RQD			
				DEPTHS			
6.0" TOPSOIL (DRILLERS DESCRIPTION)		606.4					
STIFF, BROWN, SANDY SILT, SOME CLAY, TRACE GRAVEL, CONTAINS IRON STAINING AND TRACE ROOTS, CONTAINS NO INTACT SOIL FOR HP READINGS, DAMP		605.9		1			
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		602.9		4			
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				7			
				8			
				9			
		596.4		10			
				1			
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PROJECT: MIAMI 2 MIAMI TRAIL
 TYPE: UNDERGROUND UTILITY
 PID: SFN: 9/30/20 END: 9/30/20
 DRILLING FIRM / OPERATOR: NEAS / J. HODGES
 SAMPLING FIRM / LOGGER: NEAS / J. HODGES
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT
 DRILL RIG: CME 55X
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/5/19
 ENERGY RATIO (%): 81.9
 STATION / OFFSET: 40+21, 3' LT.
 ALIGNMENT: GILMORE TRAIL
 ELEVATION: 607.2 (MSL) EOB: 25.5 ft.
 LAT / LONG: 39.349924, -84.514183

DEPTH	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)										WC	ODOT CLASS (G)	BACK FILL
						GR	CS	FS	SI	CL	LL	PL	PI					
1																		
2																		
3	6	15	44	SS-1	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
4	17																	
5	2	7	19	SS-2	4.50	11	12	19	35	23	26	15	11					A-6a (5)
6	7	7																
7																		
8	4	12	44	SS-3	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
9	20																	
10	5	11	35	SS-4	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
11	15																	
12																		
13	4	8	27	SS-5	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
14	12																	
15																		
16	3	5	16	SS-6	4.50	6	7	12	41	34	26	15	11					A-6a (8)
17	7	4	18	SS-7	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
18	4	9																
19	7	7	23	SS-8	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
20	10																	
21	7	6	19	SS-9	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
22	8																	
23	7	9	30	SS-10	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-6a (V)
24	13																	
25	5	8	25	SS-11	4.50	10	8	20	41	21	20	13	7					A-4a (5)
26	10																	
27	6	6	23	SS-12	4.50	-	-	-	-	-	-	-	-	-	-	-	-	A-4a (V)
28	11																	

MATERIAL DESCRIPTION AND NOTES
 HARD, BROWN BECOMING GRAY, SILT AND CLAY, LITTLE TO SOME SAND, TRACE TO LITTLE GRAVEL, DAMP
 HARD, GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP
 EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS. MATERIALS. QUANTITIES: SHOVELED SOIL CUTTINGS

PID	SFN	PROJECT	STATION / OFFSET	48+14, 50' RT.	START	10/1/20			END	10/1/20			PG 2 OF 3	B-010-0-19		
						GR	CS	FS		SI	CL	LL			PL	PI
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			WC	ODOT CLASS (GI)	HOLE SEALED		
HARD GRAY SILT AND CLAY LITTLE TO SOME SAND, TRACE TO LITTLE GRAVEL, DAMP (continued)		579.1	31	6	30	100	SS-13	4.25	-	-	-	-	-	-		
			32	8	14											
			33													
VERY DENSE, BROWN, GRAVEL, LITTLE TO SOME SAND, TRACE SILT, TRACE CLAY, MOIST		574.8	34													
			35													
			36	4	23	78	100	SS-14	-	-	-	-	-	-	-	A-1-a (V)
MEDIUM DENSE, BROWN, COARSE AND FINE SAND, SOME GRAVEL, TRACE SILT, TRACE CLAY, MOIST		564.8	37	34												
			38													
			39													
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	40													
			41	15	66	100	SS-15	-	-	-	-	-	-	-	A-1-a (V)	
			42	23	25											
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	43													
			44													
			45													
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	46	8	29	100	SS-16	-	-	-	-	-	-	-	A-3a (V)	
			47	7	14											
			48													
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	49													
			50													
			51	13	63	100	SS-17	-	-	-	-	-	-	-	-	A-1-a (V)
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	52	27	19											
			53													
			54													
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	55													
			56	2	75	100	SS-18	-	-	-	-	-	-	-	A-1-a (V)	
			57	18	37											
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	58													
			59													
			60													
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST		559.8	61	10	51	100	SS-19	-	-	-	-	-	-	-	A-1-a (V)	
			62													
			63													

PID:	SFN:	PROJECT:	MIAMI 2 MIAMI TRAIL	STATION / OFFSET:	48+14.50' RT.	START:	10/1/20	END:	10/1/20	PG 3 OF 3	B-010-0-19									
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			WC	ODOT CLASS (GI)	HOLE SEALED						
VERY DENSE BROWN GRAVEL AND STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST (continued)		547.0	63	25					GR	CS	FS	SI	CL	LL	PL	PI				
			64																	
			65																	
			66	18																
		541.6	67	26	76	100	SS-20	-	-	-	-	-	-	-	-	-	-	9	A-1-a (V)	
			EOB	30																

NOTES: GROUNDWATER ENCOUNTERED AT 18.5' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 150 GAL. BENTONITE GROUT

PROJECT: MIAMI 2 MIAMI TRAIL
 TYPE: BRIDGE
 PID: SFN: 10/5/20 END: 10/6/20
 DRILLING FIRM / OPERATOR: NEAS / J. HODGES
 SAMPLING FIRM / LOGGER: NEAS / J. HODGES
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT
 DRILL RIG: CME 55X
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/5/19
 ENERGY RATIO (%): 81.9
 STATION / OFFSET: 48+90.53 RT.
 ALIGNMENT: GILMORE TRAIL
 ELEVATION: 613.4 (MSL) EOB: 66.5 ft.
 LAT / LONG: 39.348647, -84.511983

DEPTH	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)										WC	ODOT CLASS (GI)	HOLE SEALED
						GR	CS	FS	SI	CL	LL	PL	PI					
1																		
2																		
3	12	33	100	SS-1	4.50													
4	11																	
5	13																	
6	7	26	50	SS-2	4.50													
7	12																	
8	4	15	44	SS-3A	4.50													
9	5																	
10	6	29	100	SS-4	-													
11	9																	
12	12																	
13	3	31	100	SS-5	1.50													
14	13																	
15	10																	
16	6	46	56	SS-7	4.50													
17	11																	
18	23																	
19	4	48	67	SS-8	4.50													
20	10	29	83	SS-9	4.50													
21	6																	
22	11	25	89	SS-10	4.50													
23	8																	
24	10	37	100	SS-11	4.50													
25	13																	
26	9	37	100	SS-12	4.50													
27	12																	
28	15																	
29	4	18	100	SS-13	-													
30	6																	
31	7																	
32	3	23	100	SS-14	4.50													
33	7																	
34	10																	

MATERIAL DESCRIPTION AND NOTES
 HARD, BROWN, SILTY CLAY, SOME SAND, TRACE GRAVEL, DAMP
 MEDIUM DENSE, BROWN, COARSE AND FINE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP
 STIFF, BROWN, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP
 HARD, BROWN BECOMING GRAY, SILTY CLAY, SOME SAND, LITTLE TO SOME GRAVEL, SS-8 CONTAINS IRON STAINING, DAMP TO MOIST
 HARD, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST
 @24.0'; SS-13 BECOMES MEDIUM DENSE, LITTLE SAND
 MEDIUM STIFF TO HARD, GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP TO MOIST

PID:	SFN:	PROJECT:	MIAMI 2 MIAMI TRAIL	STATION / OFFSET:	48+90.53' RT.	START:	10/5/20	END:	10/6/20	PG 2 OF 3	B-0111-0-19								
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			ATTERBERG			WC	ODOT CLASS (gl)	HOLE SEALED		
									GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM STIFF TO HARD, GRAY, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP TO MOIST (continued)		583.4	31	3	34	100	SS-15	0.75	2	9	12	45	32	24	14	10	17	A-4a (8)	
		580.1	32	10															
		580.1	33	15															
DENSE TO VERY DENSE, BROWN AND ORANGISH BROWN BECOMING GRAY, STONE FRAGMENTS WITH SAND, SILT, AND CLAY, WET TO MOIST			34																
			35	2	33	100	SS-16	-	-	-	-	-	-	-	-	-	15	A-2-6 (V)	
			36	5															
VERY DENSE, BROWN, GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, MOIST		570.1	37	19															
			38																
			39																
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, LITTLE SAND, TRACE SILT, TRACE CLAY, MOIST		565.1	40	12	76	100	SS-17	-	-	-	-	-	-	-	-	-	7	A-2-6 (V)	
			41	21															
			42	35															
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, LITTLE SAND, TRACE SILT, TRACE CLAY, MOIST			43	10	53	100	SS-18	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
			44	19															
			45	20															
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, LITTLE SAND, TRACE SILT, TRACE CLAY, MOIST			46	9	57	100	SS-19	-	-	-	-	-	-	-	-	-	7	A-1-a (V)	
			47	21															
			48	21															
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, LITTLE SAND, TRACE SILT, TRACE CLAY, MOIST			49	4	61	50	SS-20	-	-	-	-	-	-	-	-	-	8	A-1-a (V)	
			50	20															
			51	25															
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, LITTLE SAND, TRACE SILT, TRACE CLAY, MOIST			52																
			53																
			54																
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS, LITTLE SAND, TRACE SILT, TRACE CLAY, MOIST			55	17	81	67	SS-21	-	-	-	-	-	-	-	-	-	9	A-1-a (V)	
			56	28															
			57	31															

PID:	SFN:	PROJECT:	MIAMI 2 MIAMI TRAIL	STATION / OFFSET:	48+90.53' RT.	START:	10/5/20	END:	10/6/20	PG 3 OF 3	B-011-0-19													
		MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			ATTERBERG			WC	ODOT CLASS (GI)	HOLE SEALED					
											GR	CS	FS	SI	CL	LL	PL	PI						
		VERY DENSE BROWN GRAVEL AND STONE FRAGMENTS, LITTLE SAND, TRACE SILT, TRACE CLAY, MOIST (continued)		551.3	63																			
					64																			
					65		15																	
					66	546.9	30		96	56	SS-22	-	-	-	-	-	-	-	-	-	9	A-1-a (V)		
					EOB	40																		

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 140 GAL. BENTONITE GROUT

PROJECT: TYPE: PID: START: 9/29/20 END: 9/29/20	MIAMI 2 MIAMI TRAIL ROADWAY SFN:	DRILLING FIRM / OPERATOR: SAMPLING FIRM / LOGGER: DRILLING METHOD: SAMPLING METHOD:	NEAS / J. HODGES NEAS / J. HODGES 3.25" HSA SPT	DRILL RIG: HAMMER: CALIBRATION DATE: ENERGY RATIO (%):	CME 45B CME AUTOMATIC 12/5/19 81.7	STATION / OFFSET: 52+82. 4' RT. ALIGNMENT: GILMORE TRAIL ELEVATION: 613.0 (MSL) EOB: 10.0 ft. LAT / LONG: 39.349036, -84.510560												EXPLORATION ID B-012-0-19 PAGE 1 OF 1				
						GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (SI)	BACK FILL						
MATERIAL DESCRIPTION AND NOTES				SPT/ RQD	N ₆₀	REC SAMPLE (%)	HP ID	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (SI)	BACK FILL				
6.0" TOPSOIL (DRILLERS DESCRIPTION) VERY STIFF TO HARD, BROWN BECOMING BROWNISH GRAY, CLAY, "AND" SILT, TRACE TO LITTLE SAND, TRACE GRAVEL, SS-3 CONTAINS ROOTS AND IRON STAINING, DAMP TO MOIST				6	19	67	SS-1	4.50	-	-	-	-	-	-	-	-	-		<N> <L> <V> <L>			
				7	7																<N> <L> <V> <L>	
				4	7	56	SS-2	4.50	1	0	2	60	37	42	23	19	16				<N> <L> <V> <L>	
				2	5	44	SS-3	4.50	-	-	-	-	-	-	-	-	-	-	-	-		<N> <L> <V> <L>
				4	4	100	SS-4	2.25	0	2	15	52	31	42	19	23	24				<N> <L> <V> <L>	
				4	4																	<N> <L> <V> <L>
				4	4																	<N> <L> <V> <L>
				4	4																	<N> <L> <V> <L>
				4	4																	<N> <L> <V> <L>
				4	4																	<N> <L> <V> <L>

EOB 10

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 45B	STATION / OFFSET: 56+65.4' LT.	EXPLORATION ID: B-013-0-19											
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: GILMORE TRAIL												
PID: SFN: 9/29/20	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 612.7 (MSL)	PAGE: 1 OF 1											
START: 9/29/20	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.7	LAT / LONG: 39.349394, -84.509286												
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	REC (%)	HP (tsf)	GRADATION (%)			ATTERBERG			ODOT CLASS (GI)	BACK FILL			
		N ₆₀			GR	CS	FS	SI	CL	LL	PL	PI	WC		
6.0" TOPSOIL (DRILLERS DESCRIPTION) HARD, BROWN, CLAY, "AND" SILT, TRACE SAND, TRACE GRAVEL, DAMP	ELEV. 612.7														
	612.2	5	44	4.50											
		8	22										13	A-7-6 (V)	
		5	67	4.50											
	607.2	6	19										16	A-7-6 (14)	
		8													
		2	100	4.00										21	A-6b (11)
		5	83												
		1	8	3.50										29	A-6b (V)
	2														
	4														
	10														
	EOB														

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS. MATERIALS. QUANTITIES. SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 45B	STATION / OFFSET: 60+98.3' RT.	EXPLORATION ID: B-014-0-19											
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: GILMORE TRAIL												
PID: SFN: 9/29/20	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 613.8 (MSL) EOB: 10.0 ft.	PAGE: 1 OF 1											
START: 9/29/20 END: 9/29/20	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.7	LAT / LONG: 39.349741, -84.507822												
MATERIAL DESCRIPTION AND NOTES															
6.0" TOPSOIL (DRILLERS DESCRIPTION) VERY STIFF TO HARD, BROWN, CLAY, "AND" SILT, TRACE SAND, TRACE GRAVEL, SS-3 CONTAINS IRON STAINING, DAMP TO MOIST															
ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC SAMPLE (%)	HP (tsf)	GR	GRADATION (%)			ATTERBERG			ODOT CLASS (Gr)	BACK FILL	
613.8	1	4					CS	FS	SI	CL	LL	PL	PI	WC	7L V 7L
613.3	2	8	22	56	4.50	-	-	-	-	-	-	-	-	15	7L V 7L
	3	8													7L V 7L
	4	3	19	44	4.50	0	0	3	54	43	44	23	21	16	7L V 7L
	5	7	7												7L V 7L
	6	2	5	78	4.50	-	-	-	-	-	-	-	-	17	7L V 7L
	7	5	6												7L V 7L
	8														7L V 7L
	9	3	3	100	2.50	0	0	2	62	36	43	23	20	28	7L V 7L
603.8	10	5													7L V 7L
															7L V 7L

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL TYPE: ROADWAY PID: SFN: 9/28/20 END: 9/28/20 START: 9/28/20	DRILLING FIRM / OPERATOR: NEAS / J. HODGES SAMPLING FIRM / LOGGER: NEAS / J. HODGES DRILLING METHOD: 3.25" HSA SAMPLING METHOD: SPT	DRILL RIG: CME 45B HAMMER: CME AUTOMATIC CALIBRATION DATE: 12/5/19 ENERGY RATIO (%): 81.7	STATION / OFFSET: 67+52. CL ALIGNMENT: GILMORE TRAIL ELEVATION: 622.7 (MSL) EOB: 10.0 ft. LAT / LONG: 39.351177, -84.506687	EXPLORATION ID B-016-0-19									
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	REC (%)	N ₆₀	HP (tsf)	GR	GRADATION (%)				WC	ODOT CLASS (GI)	BACK FILL
		DEPTH				LL	PL	PI	WC				
6.0" TOPSOIL (DRILLERS DESCRIPTION) HARD, BROWN, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, DAMP		1-3		27	4.50								
VERY STIFF, BROWN AND BROWNISH GRAY, CLAY, "AND" SILT, TRACE SAND, TRACE GRAVEL, SS-3 CONTAINS ROOTS, MOIST		4-10		30	4.50								
		11		14	3.75								
		12		6									
		13		4									
		14		3									
		15		5									
		16		2									
		17		11	2.50								
		18		3									
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		E.O.B.											

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELLED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL
 TYPE: BRIDGE
 PID: SFN: 10/2/20 END: 10/5/20
 DRILLING FIRM / OPERATOR: NEAS / J. HODGES
 SAMPLING FIRM / LOGGER: NEAS / J. HODGES
 DRILLING METHOD: 3.25" HSA
 SAMPLING METHOD: SPT

DRILL RIG: CME 55X
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 12/5/19
 ENERGY RATIO (%): 81.9

STATION / OFFSET: 70+25, 8' RT.
 ALIGNMENT: GILMORE TRAIL
 ELEVATION: 608.6 (MSL) EOB: 65.5 ft.
 LAT / LONG: 39.351881, -84.506349

EXPLORATION ID: B-017-0-19
 PAGE: 1 OF 3

MATERIAL DESCRIPTION AND NOTES	ELEV. 608.6	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)								WC	ODOT CLASS (gl)	HOLE SEALED	
								GR	CS	FS	SI	CL	LL	PL	PI				
VERY STIFF TO HARD, BROWN, CLAY, SOME TO 'AND' SILT, LITTLE TO SOME SAND, TRACE GRAVEL, SS-1 CONTAINS ROOTS, DAMP TO MOIST @5.0' TO 11.0'; SS-2 TO SS-5 BECOME BROWN AND GRAY @12.5' TO 21.5'; SS-6 TO SS-9 BECOME DARK GRAY MOTTLED WITH ORANGISH BROWN AND GRAY, TRACE SAND, CONTAINS IRON STAINING @20.0' TO 21.5'; SS-9 BECOMES MEDIUM STIFF	608.6	1																	
	608.6	2																	
	608.6	3	10	23	11	SS-1	4.50	3	9	15	46	27	45	26	19	13	A-7-6 (12)		
	608.6	4	8																
	608.6	5	5																
	608.6	6	5	14	56	SS-2	4.00	1	4	10	42	43	54	25	29	25	A-7-6 (18)		
	608.6	7	4	11	56	SS-3	3.00	-	-	-	-	-	-	-	-	-	23	A-7-6 (V)	
	608.6	8	4	10	44	SS-4	2.25	1	4	10	49	36	44	19	25	25	A-7-6 (15)		
	608.6	9	3	7	67	SS-5	2.25	-	-	-	-	-	-	-	-	-	28	A-7-6 (V)	
	608.6	10	2																
	608.6	11	3																
	608.6	12																	
	608.6	13	2	11	78	SS-6	2.50	0	0	2	34	64	73	26	47	31	A-7-6 (20)		
	608.6	14	3																
	608.6	15	4	16	100	SS-7	4.50	-	-	-	-	-	-	-	-	-	24	A-7-6 (V)	
	608.6	16	4																
	608.6	17	8																
	608.6	18	3	11	83	SS-8	2.50	-	-	-	-	-	-	-	-	-	24	A-7-6 (V)	
	608.6	19	4																
	608.6	20	2	5	100	SS-9	0.75	-	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
608.6	21	2																	
608.6	22	2																	
608.6	23	1	3	78	SS-10	-	-	-	-	-	-	-	-	-	-	31	A-2-4 (V)		
608.6	24	1																	
608.6	25	1	3	100	SS-11	-	-	-	-	-	-	-	-	-	-	20	A-3a (V)		
608.6	26	1																	
608.6	27																		
608.6	28	WOH	0	100	SS-12	-	-	-	-	-	-	-	-	-	-	26	A-3a (V)		
608.6	29	WOH																	

PID:	SFN:	PROJECT:	MIAMI 2 MIAMI TRAIL	STATION / OFFSET:	70+25, 8' RT.	START:	10/5/20										PG 2 OF 3	B-017-0-19		
							END:													
MATERIAL DESCRIPTION AND NOTES				ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			ATTERBERG				WC	ODOT CLASS (GI)	HOLE SEALED
											GR	CS	FS	SI	CL	LL	PL			
VERY LOOSE, BROWN, COARSE AND FINE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, WET (continued)				578.6	31	WOH 2	3	100	SS-13	-	-	-	-	-	-	-	-	19	A-3a (V)	
					32															
DENSE TO VERY DENSE, BROWN AND GRAY, GRAVEL WITH SAND, SOME SILT, TRACE CLAY, MOIST TO DAMP				575.3	33															
					34															
@42.5'; ENCOUNTERED BOULDER DURING DRILLING. COULD NOT ADVANCE AUGERS. BORING WAS OFFSET 10.0' WEST, AUGERED WITHOUT SAMPLING TO 45.0' AND RESUMED SAMPLING.				565.3	35	13	37	100	SS-14	-	-	-	-	-	-	-	-	12	A-1-b (V)	
					36	8 19														
VERY DENSE, BROWN AND ORANGISH BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, SILT, AND CLAY, CONTAINS IRON STAINING, MOIST				560.3	37															
					38															
VERY DENSE, BROWN, GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST				555.3	39															
					40	8	25 27	71	100	SS-15	-	-	-	-	-	-	-	-	-	7
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	41															
					42															
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	43															
					44															
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	45	31	59	100	SS-16	-	-	-	-	-	-	-	-	14	A-2-6 (V)	
					46	18 25														
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	47															
					48															
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	49															
					50	3	13 36	67	100	SS-17	-	-	-	-	-	-	-	-	-	12
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	51															
					52															
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	53															
					54															
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	55	50/5'	-	60	SS-18	-	-	-	-	-	-	-	-	11	A-2-6 (V)	
					56															
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	57															
					58															
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	59															
					60	2	12 40	71	50	SS-19	-	-	-	-	-	-	-	-	-	14
VERY DENSE, ORANGISH BROWN, GRAVEL WITH SAND, SILT, AND CLAY, MOIST				555.3	61															
					62															

PID:	SFN:	PROJECT:	MIAMI 2 MIAMI TRAIL	STATION / OFFSET:	70+25, 8' RT.	START:	10/2/20	END:	10/5/20	PG 3 OF 3	B-017-0-19								
		MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (Gt)	HOLE SEALED
			546.5	63															
			545.3	64															
		VERY DENSE, GRAY, STONE FRAGMENTS, SOME SAND, TRACE SILT, TRACE CLAY, MOIST	543.1	65															
				EOB	50		67										10	A-1-a(V)	

NOTES: GROUNDWATER ENCOUNTERED AT 22.5' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 140 GAL. BENTONITE GROUT

PROJECT: MIAMI 2 MIAMI TRAIL	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 55X	STATION / OFFSET: 76+06, 42' L.T.	EXPLORATION ID: B-019-0-19													
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: GILMORE TRAIL														
PID: SFN: 10/7/20	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 607.8 (MSL) EOB: 10.0 ft.	PAGE: 1 OF 1													
START: 10/7/20	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.9	LAT / LONG: 39.351495, -84.504630														
MATERIAL DESCRIPTION AND NOTES		SPT/RQD	REC (%)	N ₆₀	HP (tsf)	GR	GRADATION (%)				WC	ODOT CLASS (GI)	BACK FILL				
							CS	FS	SI	CL	LL	PL	PI				
6.0" TOPSOIL (DRILLERS DESCRIPTION) HARD, BROWN, CLAY, "AND" SILT, TRACE TO LITTLE SAND, TRACE GRAVEL, CONTAINS TRACE ROOTS AND IRON STAINING, DAMP		1													<V> <V> <V> <V>		
		2	4	15	44	4.50	-	-	-	-	-	-	-	15	A-7-6 (V)	<V> <V> <V> <V>	
		3	6													<V> <V> <V> <V>	
		4	4	15	44	4.50	0	0	12	56	32	41	22	19	13	A-7-6 (12)	<V> <V> <V> <V>
		5	6														<V> <V> <V> <V>
		6	3	19	50	4.50	-	-	-	-	-	-	-	-	20	A-7-6 (V)	<V> <V> <V> <V>
		7	6	8													<V> <V> <V> <V>
		8															<V> <V> <V> <V>
		9	4	5	18	33	4.50	0	0	3	57	40	23	23	16	A-7-6 (14)	<V> <V> <V> <V>
		10	8														<V> <V> <V> <V>

ELEV. 607.8
607.3
597.8
EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 55X	STATION / OFFSET: 80+18, 16' LT.	EXPLORATION ID: B-020-0-19												
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: GILMORE TRAIL													
PID: SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 607.2 (MSL) EOB: 10.0 ft.	PAGE: 1 OF 1												
START: 10/7/20	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.9	LAT / LONG: 39.350923, -84.503389													
MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	REC (%)	N ₆₀	HP (tsf)	GR	GRADATION (%)				WC	ODOT CLASS (G)	BACK FILL			
		DEPTH	ELEV.				CS	FS	SI	CL	LL	PL	PI			
6.0" TOPSOIL (DRILLERS DESCRIPTION)		1	607.2													
HARD, BROWN, SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, CONTAINS TRACE IRON STAINING, DAMP		2	606.7	2	4.50	SS-1	-	-	-	-	-	-	-	11	A-6a (V)	
		3		5												
HARD, BROWN, CLAY, "AND" SILT, TRACE TO LITTLE SAND, TRACE GRAVEL, CONTAINS TRACE IRON STAINING, DAMP		4	604.2	5	4.50	SS-2	0	3	57	40	43	23	20	17	A-7-6 (13)	
		5		5												
		6		2												
		7		4	4.50	SS-3	-	-	-	-	-	-	-	20	A-7-6 (V)	
		8		6												
		9		5												
		10	597.2	5	4.50	SS-4	1	14	43	41	43	20	23	18	A-7-6 (14)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL		DRILLING FIRM / OPERATOR: NEAS / J. HODGES		DRILL RIG: CME 55X		STATION / OFFSET: 84+11, 54' RT.						EXPLORATION ID							
TYPE: ROADWAY		SAMPLING FIRM / LOGGER: NEAS / J. HODGES		HAMMER: CME AUTOMATIC		ALIGNMENT: GILMORE TRAIL						B-021-C-19							
PID:	SFN:	DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 12/5/19		ELEVATION: 608.2 (MSL) EOB: 10.0 ft.						PAGE							
START:	END:	SAMPLING METHOD: SPT		ENERGY RATIO (%): 81.9		LAT / LONG: 39.350755, -84.502098						1 OF 1							
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	GRADATION (%)						ODOT CLASS (GI)	BACK FILL		
										CS	FS	SI	CL	LL	PL	PI	WC		
6.0" TOPSOIL (DRILLERS DESCRIPTION)		608.2	1	3															<><>
HARD, BROWN, SILTY CLAY, LITTLE SAND, TRACE GRAVEL, CONTAINS TRACE IRON STAINING, DAMP		607.7	2	5	14	44	SS-1	4.50	-	-	-	-	-	-	-	-	15		<><>
			3	5															<><>
			4	3	14	44	SS-2	4.50	0	1	17	47	35	40	20	20	14		<><>
			5	5															<><>
			6	5	19	50	SS-3	4.50	-	-	-	-	-	-	-	-	12		<><>
		600.2	7	5															<><>
			8	9															<><>
HARD, DARK BROWN, CLAY, "AND" SILT, LITTLE SAND, TRACE GRAVEL, CONTAINS TRACE IRON STAINING, DAMP			9	8	31	56	SS-4	4.50	2	6	14	42	36	42	21	21	15		<><>
		598.2	10	11															<><>
			EOB	12															<><>

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE. ABANDONMENT METHODS. MATERIALS. QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL		DRILLING FIRM / OPERATOR: NEAS / J. HODGES		DRILL RIG: CME 45B		STATION / OFFSET: 100+57.5' L.T.		EXPLORATION ID																			
TYPE: UNDERGROUND UTILITY		SAMPLING FIRM / LOGGER: NEAS / J. HODGES		HAMMER: CME AUTOMATIC		ALIGNMENT: BILSTEIN TRAIL		B-022-0-19																			
PID: SFN: 9/29/20 END: 9/29/20		DRILLING METHOD: 3.25" HSA		CALIBRATION DATE: 12/5/19		ELEVATION: 613.1 (MSL) EOB: 25.5 ft.		PAGE																			
START: 9/29/20 END: 9/29/20		SAMPLING METHOD: SPT		ENERGY RATIO (%): 81.7		LAT / LONG: 39.346543, -84.512152		1 OF 1																			
MATERIAL DESCRIPTION AND NOTES		ELEV.		DEPTHS		SPT/ RQD		N ₆₀		REC SAMPLE (%)		HP (tsf)		GR		GRADATION (%)		ATTERBERG		WC		ODOT CLASS (GI)		BACK FILL			
		613.1																									
6.0" TOPSOIL (DRILLERS DESCRIPTION)		612.6		1		13																					
HARD, BROWN AND ORANGISH BROWN, CLAY, "AND" SILT, TRACE TO SOME SAND, TRACE GRAVEL, CONTAINS ROOTS AND IRON STAINING, DAMP TO MOIST				2		8		20		67		4.50		0		1		7		51		41		14		A-7-6 (13)	
				3																							
		607.6		4		5		16		44		4.50		0		1		32		36		31		15		A-7-6 (14)	
HARD, BROWN, SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP				5		7																					
				6		10		34		100		4.50															
				7		12																					
				8																							
				9		7		25		100		4.50		8		10		18		43		21		11		A-4a (6)	
				10		10																					
		600.1		11		8		25		67		4.50															
HARD, BROWN BECOMING BROWNISH GRAY, SILT AND CLAY, SOME SAND, TRACE GRAVEL, DAMP TO MOIST @13.5' TO 15.0'; SS-6 CONTAINS SOME STONE FRAGMENTS				12		9																					
				13																							
				14		10		34		44		4.50															
				15		11		38		44		4.50		8		8		14		37		33		11		A-6a (9)	
				16		12		16		100		4.50															
				17		18		25		100		4.50															
				18		17		63		100		4.50															
				19		20		26		44		4.50															
				20		11		46		56		4.50															
				21		12		15		33		3.00															
@22.5' TO 24.0'; SS-12 BECOMES VERY STIFF, CONTAINS A 1.0" A-4B SEAM		589.2		22		2		4		25		3.00															
HARD GRAY SILT, SOME CLAY, LITTLE SAND, TRACE GRAVEL, DAMP				23		4		14		33		4.50															
		587.6		24		4		9		34		4.50															
				25		16				33		4.50															
				EOB																							

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: MIAMI 2 MIAMI TRAIL	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	DRILL RIG: CME 45B	STATION / OFFSET: 104+36, 3' LT.	EXPLORATION ID: B-023-0-19
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	HAMMER: CME AUTOMATIC	ALIGNMENT: BILSTEIN TRAIL	
PID: SFN: 9/28/20	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 12/5/19	ELEVATION: 613.1 (MSL) EOB: 10.0 ft.	PAGE: 1 OF 1
START: 9/28/20	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81.7	LAT / LONG: 39.347582, -84.512069	
MATERIAL DESCRIPTION AND NOTES				
6.0" TOPSOIL (DRILLERS DESCRIPTION) HARD, BROWN, CLAY, "AND" SILT, LITTLE SAND, TRACE GRAVEL, CONTAINS ROOTS, DAMP	ELEV.	613.1		
		612.6		
		607.6		
VERY STIFF, BROWN, SANDY SILT, LITTLE GRAVEL, LITTLE CLAY, CONTAINS IRON STAINING, DAMP				
		603.1		

DEPTH	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)						WC	ODOT CLASS (G)	BACK FILL	
						GR	CS	FS	SI	CL	LL				PL
1	4	18	78	SS-1	4.50	-	-	-	-	-	-	-	-	-	<V>
2	5	8													>V>
3															<V>
4	4	14	44	SS-2	4.50	0	2	14	51	33	43	21	22	16	<V>
5	6														>V>
6	4	15	100	SS-3	2.50	14	19	22	34	11	17	14	3	12	<V>
7	5	6													>V>
8															<V>
9	5	16	100	SS-4	3.00	-	-	-	-	-	-	-	-	12	>V>
10	7														<V>

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE. ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

B-002-0-06

LOG OF BORING

BORING NO: NS-2 BASELINE, STATION & OFFSET: STA 209+58.49, 24.38' RT SURFACE ELEV.: 609.6
 DATE STARTED: 11/28/06 DATE COMPLETED: 11/29/06 METHOD: 3.75" HSA WATER ELEV.: 581.6
 NORTHING: N/A EASTING: N/A SEALING/BACKFILLING TYPE: AUGER CUTTINGS QUANTITY: N/A

PROJECT IDENTIFICATION: BUT-4B-0191
BRIDGE WIDENING
 HAMMER SYSTEM TYPE: CHE. AUTOMATIC
 CALIBRATION DATE: ERM

ELEV.	DEPTH	STD. PEN./ROD	REC. FT	LOSS FT	DESCRIPTION	SAMPLE TYPE & NO.	% REC.	PHYSICAL CHARACTERISTICS							ODOT CLASS					
								% AGG	% C.S.	% F.S.	% SILT	% CLAY	PL	LL		PI	WC			
609.6	0				0.3' TOPSOIL															
	2	375/473			STIFF, BROWN TO DARK BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.	SS-1	67											12	A-6a Visual	
607.6		3/5/5/6			-TRACE ORGANICS IN SS-1 -LIMESTONE FRAGMENTS IN SS-1	SS-2	58												A-6a Visual	
605.6	4	3/4/5/6			-TRACE ORGANICS IN SS-2 -LIMESTONE FRAGMENTS IN SS-2	SS-3	54											23	A-6a Visual	
603.6	6																			
601.6	8	2/2/4			MEDIUM STIFF, BROWN CLAY, TRACE COARSE TO FINE SAND, MOIST.	SS-4	100	0	1	1	51	48	26	48	22	27			A-7-6	
599.6	10																			
597.6	12				MEDIUM DENSE, BROWN COARSE TO FINE GRAVEL, SOME FINE TO COARSE SAND, TRACE SILT, DRY.	SS-5	67												A-1-a Visual	
595.6	14	6/5/7																		
593.6	16				VERY DENSE, BROWN COARSE TO FINE GRAVEL, SOME FINE TO COARSE SAND, TRACE SILT.	SS-6	78												5	A-1-a Visual
591.6	18	28/30/30																		
589.6	20																			
587.6	22																			
585.6	24	25/50/6"				SS-7	83												A-1-a Visual	
583.6	26																			
581.6	28				DENSE, BROWN COARSE TO FINE GRAVEL, SOME FINE TO COARSE SAND, TRACE SILT, WET.	SS-8	78	60	17	13	- 10 -	NP	NP	NP	NP	10			A-1-a	
579.6	30	9/15/18																		
577.6	32																			
575.6	34	7/14/16			VERY STIFF TO HARD, BROWN-GRAY TO GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	SS-9	94												A-6a Visual	
573.6	36																			
571.6	38	8/14/17				SS-10	78												A-6a Visual	
569.6	40																			
567.6	42																			
565.6	44	9/15/15				SS-11	100	9	8	11	37	36	16	29	13	12			A-6a	
563.6	46																			
561.6	48																			
559.6	50	11/15/22				SS-12	100												A-6a Visual	

BOTTOM OF BORING = 50.0'



BUT-4B-01.91

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. BUT-4B-0191

FRM
RHM
OCEGEO
KEB

PROJECT NO. B-04-007

B-003-A-09

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING

LOG OF BORING

BORING NO: NS-3A BASELINE, STATION & OFFSET: STA 210+32.32, 80.67' LT SURFACE ELEV.: 607.1
 DATE STARTED: 4/3/09 DATE COMPLETED: 4/3/09 METHOD: 3.75" HSA WATER ELEV.: 583.5
 NORTHING: 498306.58 EASTING: 1402399.238 SEALING/BACKFILLING TYPE: CEMENT / BENTONITE
 QUANTITY: 160 lbs/50 lbs

PROJECT IDENTIFICATION: BUT-4B-0191
 BRIDGE WIDENING
 HAMMER SYSTEM TYPE: CME AUTOMATIC
 CALIBRATION DATE: 6-11-07 ER: 79.3%

ELEV.	DEPTH	STD. PEN./ROD	N ₆₀	REC. FT	LOSS FT	DESCRIPTION	SAMPLE TYPE & NO.	% REC.	PHYSICAL CHARACTERISTICS								ODOT CLASS	
									% AGG	% C.S.	% F.S.	% SILT	% CLAY	PL	LL	PI		WC
607.1	0					0.7' TOPSOIL												VISUAL
605.1	2	2/2/4	8			MEDIUM STIFF TO STIFF, BROWN CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	SS-1	89										24 A-7-6 Visual
603.1	4	4/4/5	12				SS-2	50	2	9	18	40	32	23	47	24	21	A-7-6
601.1	6	4/4/6	13			STIFF, BROWN SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	SS-3	83	1	10	30	32	28	17	40	23	20	A-6b
599.1	8						SS-4	72	49	20	11	-	21	-				9 A-1-b
597.1	10	4/6/7	17			MEDIUM DENSE, BROWN COARSE TO FINE GRAVEL AND FINE TO COARSE SAND, SOME SILT, DRY.	SS-5	94										6 A-1-b Visual
595.1	12	3/5/5	13				SS-6	89	66	14	8	-	12	-				5 A-1-o
593.1	14	7/8/16	32			DENSE, BROWN FINE GRAVEL, SOME FINE TO COARSE SAND, LITTLE SILT, DRY.	SS-7	76										6 A-1-o Visual
591.1	16	10/13/15	37				SS-8	94	7	7	18	56	13	17	22	5	18	A-4b
589.1	18																	
587.1	20	3/4/7	15			STIFF TO VERY STIFF, GRAY SILT, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	SS-9	72										11 A-4b Visual
585.1	22																	
583.1	24	4/7/8	20				SS-10	100	10	8	12	35	35	14	27	13	12	A-6o
581.1	26																	
579.1	28						SS-11	100										14 A-6o Visual
577.1	30	9/10/13	30			VERY STIFF TO HARD, GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE TRACE FINE GRAVEL, MOIST.	SS-12	100	9	8	12	35	37	15	29	14	13	A-6o
575.1	32																	
573.1	34	10/15/17	42				SS-13	100										14 A-6o Visual
571.1	36																	
569.1	38	11/16/17	44				SS-14	100										12 A-6o Visual
567.1	40																	
565.1	42																	
563.1	44	10/15/18	44				SS-15	100	1	3	10	56	31	18	26	8	16	A-4b
561.1	46																	
559.1	48						SS-16	100										19 A-4b Visual
557.1	50	11/17/27	58															
555.1	52																	
553.1	54	16/30/22	69			HARD, GRAY SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	SS-17	78	64	17	7	-	12	-				7 A-1-o
551.1	56																	
549.1	58						SS-18	72										7 A-1-o Visual
547.1	60	10/15/26	54															
545.1	62																	
543.1	64	18/32/37	91			VERY DENSE, BROWNISH GRAY FINE GRAVEL, SOME FINE TO COARSE SAND, LITTLE SILT, DRY.	SS-19	50										6 A-1-o Visual
541.1	66																	
539.1	68																	
537.1	70	15/36/50/4"	50/4"															
535.1	72																	
533.1	74	28/37/50/3"	50/3"															

BOTTOM OF BORING = 75.0'



BUT-4B-01.91

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. BUT-4B-0191

DRAWN
RRM
CHECKED
KEB