Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

PROFILE EXTRUSION LOG

Project ID: R-XXX-2016
Item Number: ###

County: *Ohio*
Route: *US-0062MP 11.0-12.0*

Project Type: *Roadway*
Project Manager:

Location	Hole No.	Bag No.	Jar No.	Depth	Profile Type	Visual Soil Description	Classify	Proctor CBR	Comments
6+00.00 35.0' Rt.	1	2		0.5 - 12.0	cut profile				#1024
			1	2.5	cut profile				
			2	7	cut profile				
			3	12	cut profile				
9+00.00 40.0' Rt.	2		1	2.5	fill profile				
			2	7	fill profile				
12+00.00 30.0' Lt.	3	1		0.5 - 7.0	cut profile				#1025
			1	2.5	cut profile				
			2	7	cut profile				
16+00.00 14.6' Lt.	4	2		0.5 - 13.0	fill profile				
			1	2.5	fill profile				
			2	7	fill profile				
			3	12	fill profile				
19+00.00 50.0' Rt.	5	3		0.5 - 10.0	fill profile				#1026
			1	2.5	fill profile				
			2	7.5	fill profile				

Drilling Firm: Kentucky Transportation Cabinet
For: Division of Structural Design
Geotechnical Branch

EXTRUSION LOG

Project ID: R-XXX-2016
Item Number: ###

County: *Ohio*
Route: *US-0062MP 11.0-12.0*

Project Type: *Roadway*
Project Manager: *Robert McDonald*

Location	Hole No.	Samp. No.	Depth	Moisture Content AASHTO T-265					Visual Soil Description	Samp Type	No. of Samp	Penet-rometer / Torvane	Request for Testing					
				Can No.	Tare	Wet Weight + Tare	Dry Weight + Tare	% Water					QU	Consol-idation	Triaxial			Class. / Wash
															Test Type	# Samp.	Press-ure	
7+50.00 8.0' Lt.	6	1	1.5 - 2.0	18	45.0	57.3	56.5	7.0	BRW SILT	SPT								1027
20+00.00 5.0' Lt.	7	1	1.4 - 3.4	3	45.2	83.0	76.9	19.2	BRW SILT	ST	1	3.5						1028

Ohio County

Bag #1	6+00 30ft	H-1	Cut	# 1024
Bag #2	12+00 30 ft	H-3	Cut	# 1025
Bag # 3	19+00 50ft	H-5	Fill	# 1026

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

TC 64-539
Rev. 7/84

ID.No. _____ County Ohio

INSPECTOR SSN ___-__-____ Name _____ Crew _____

DATE SAMPLED __-__-__ TYPE OF INSPECTION ___

MATERIAL CODE _____ Description _____

RESPONSIBLE LOC __ LAB ___ Name _____

Detail Test ☐ Distribution __

Proj Code	Project Number	Sub-Sect Seq Code	QUANTITY	DATE ASSIGNED

DATE REC. __-__-__ DATE COM. __-__-__

PASS/FAIL ____ Reason ____ ____

Costs ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Laboratory No.	Location and Depth of Material	Wet Wt - Tare	Dry Wt - Tare	Tare	Natural Moisture (%
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 65–69 2.5 – 70–73 H-1 1	792	718	287.9	SE 8
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 7 – 70–73 H-1 2	775.9	704.7	298.1	SE 9
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 12 – 70–73 H-1 3	743.1	634.9	287.9	SE
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 2.5 – 70–73 H-2 4	832.4	753.9	287.5	SE
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 7 – 70–73 H-2 5	852.7	763.5	288.4	SI
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 2.5 – 70–73 H-3 6	801.3	736.2	288.1	SI
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 7 – 70–73 H-3 7	806.4	714.8	286.9	S
43 (Mo) (Yr) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 2.5 – 70–73 H-4 8	843.8	722	268.5	S

Director of Materia

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

TC 64-539
Rev. 7/84

ID.No. _____ County Ohio

INSPECTOR SSN ___-__-____ Name _____ Crew _____

DATE SAMPLED __-__-__ TYPE OF INSPECTION ___

MATERIAL CODE _____ Description _____

RESPONSIBLE LOC __ LAB ___ Name _____

Detail Test ☐ Distribution __

Proj Code	Project Number	Sub-Sect Seq Code	QUANTITY	DATE ASSIGNED

DATE REC. __-__-__ DATE COM. __-__-__

PASS/FAIL ____ Reason ____ ____

Costs ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Laboratory No.	Location and Depth of Material	Wet Wt - Tare	Dry Wt - Tare	Tare	Natural Moisture (
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 65–69 7 – 70–73 H-4 9	1072.6	910.4	288.8	74–77 SE 8
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 12 – 70–73 H-4 10	1117.1	947.8	288.3	74–77 SE
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 65–69 25 – 70–73 H-5 11	964.6	845.9	287.9	74–77 SE
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 7 – 70–73 H-5 12	951.3	828.2	287.9	74–77 SE
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 – 70–73				74–77 S
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 – 70–73				74–77 S
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 – 70–73				74–77 S
43 (Mo.) (Yr.) 47 / 48 – 52	54–57 + 58 60–62 63 64 / 66–69 – 70–73				74–77 S

Director of Materia

4

KENTUCKY TRANSPORTATION CABINET

Division of Structural Design, Geotechnical Branch

Disturbed Soil Classification Worksheet (INT Input)

Project =

County: Ohio

Hole =

Lab = 10.24

LIQUID LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)	# of Blows
63	33.18	27.34	13.98	23

PLASTIC LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
61	18.27	17.55	14.13

ATTERBURG LIMIT CHECKS

LL	PL	PI

MECHANICAL ANALYSIS

Total Air Dry Sample	Sieve	Amount (g)
1157	2	
	3/4	
	3/8	17
	#4 sieve	6
	#10 sieve	8

SIEVE ANALYSIS OF FINE AGGREGATE

Sieve #	Retained
40	.69
200	2.54

SPECIFIC GRAVITY

Flask # =	5	
Wt. mass of oven dried soil =	29.33	gm
Wt (Flask and water) mass =	156.81	gm
Wt. (Flask, soil and water) mass =	174.74	gm
T (Test Temperature) =	72	

HYGROSCOPIC MOISTURE

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
	29.70	29.60	

HYDROMETER ANALYSIS

Wt Sample (air dry) (gm)	Tube #

Time Elasped (min)	Hydrometer Reading	Temperature (deg F)
2	47	67
6		
16		
30		
60	29	"
250	24	68
1440	20	67

S

KENTUCKY TRANSPORTATION CABINET

Division of Structural Design, Geotechnical Branch

Disturbed Soil Classification Worksheet (INT Input)

Project # _____ Hole # _____

County: Ohio Lab #: 1025

LIQUID LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)	# of Blows
57	28.22	24.38	13.94	27

PLASTIC LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
40	19.19	18.35	13.94

ATTERBURG LIMIT CHECKS

LL	PL	PI

MECHANICAL ANALYSIS

Total Air Dry Sample	Sieve	Amount (g)
	2	
	1	
	3/4	
	3/8	
	#4 sieve	
	#10 sieve	

SIEVE ANALYSIS OF FINE AGGREGATE

Sieve #	Retained
40	1.28
200	4.39

HYDROMETER ANALYSIS

Wt Sample air dry (gm)	Tube #

Time Elasped	Hydrometer Reading	Temperature (deg F)
2	44	67
6		
16		
30		
60	26	
250	22	68
1440	19	67

SPECIFIC GRAVITY

Flask # =	9
Wd mass of oven-dried soil =	29.97
Wa (F, soil and water) mass =	151.37
Wb (F, soil and water) mass =	169.69
T, Test Temperature =	72

HYGROSCOPIC MOISTURE

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
	31.10	30.15	

6

KENTUCKY TRANSPORTATION CABINET

Division of Structural Design Geotechnical Branch

Disturbed Soil Classification Worksheet (INT Input)

Project #:

County: Ohio

Hole #:

Lab #: 1026

LIQUID LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)	# of Blows
41	32.38	28.75	14.16	23

PLASTIC LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
54	20.85	19.70	13.92

ATTERBURG LIMIT CHECKS

LL	PL	PI

MECHANICAL ANALYSIS

Total Air Dry Sample	Sieve	Amount (g)
	2	
	1	
	3/4	
	3/8	
	#4 sieve	
	#10 sieve	

SIEVE ANALYSIS OF FINE AGGREGATE

Sieve #	Retained
40	.39
200	13.75

HYDROMETER ANALYSIS

Wt Sample air dry (gm)	Tube #

Elapsed Time (min)	Hydrometer Reading	Temperature (deg F)
2	35	68
6		
16		
30		
60	15	
250	13	69
1440	11	

Time Elasped

SPECIFIC GRAVITY

Flask #	12
Wt (Flask and dry soil)	32.84
Wt (Flask and water)	155.75
Wt (Flask and soil and water)	175.88
T (Test Temperature)	72

HYGROSCOPIC MOISTURE

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
	33.39	32.91	

7

KENTUCKY TRANSPORTATION CABINET

Division of Structural Design, Geotechnical Branch

Disturbed Soil Classification Worksheet/NT Input

Project #:

County: Ohio

Hole #:

Lab #: 1027

LIQUID LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)	# of Blows
28	30.95	27.17	14.06	23

PLASTIC LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
33	19.38	18.42	14.01

ATTERBURG LIMIT CHECKS

LL	PL	PI

MECHANICAL ANALYSIS

Total Air Dry Sample	Sieve	Amount (g)
	2	
	1	
	3/4	
	3/8	
	#4 Sieve	
	#10 Sieve	

SIEVE ANALYSIS OF FINE AGGREGATE

Sieve#	Retained
40	3.90
200	17.61

SPECIFIC GRAVITY

Flask =	13
Wo (mass of oven dried soil) =	30.43
Wa (Flask and water mass) =	149.19
Wb (Flask and soil and water mass) =	168.23
T: Test Temperature =	72

HYGROSCOPIC MOISTURE

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
	30.85	30.41	

HYDROMETER ANALYSIS

Wt Sample (air dry) (gm)	Tube #

Elapsed Time (min)	Hydrometer Reading	Temperature (deg F)
2	32	68
6		
16		
30		
60	18	
250	15	69
1440	12	

Time Elasped

8

KENTUCKY TRANSPORTATION CABINET

Division of Structural Design Geotechnical Branch

Disturbed Soil Classification Worksheet (INT Input)

Project #: _____ Hole #: _____

County: Ohio Lab #: 1028

LIQUID LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)	# of Blows
8	30.19	26.21	13.94	25

PLASTIC LIMIT DATA

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
2	19.90	18.80	13.87

ATTERBURG LIMIT CHECKS

LL	PL	PI

MECHANICAL ANALYSIS

Total Air Dry Sample	Sieve	Amount (g)
	2	
	1	
	3/4	
	3/8	
	#4 Sieve	
	#10 Sieve	

SIEVE ANALYSIS OF FINE AGGREGATE

Sieve #	Retained
40	.85
200	2.31

SPECIFIC GRAVITY

Flask #	14
Wt. mass of oven-dried soil	30.53
Wt (Flask and water)	152.31
Wt. Flask and water and soil	171.29
°F Test Temperature	72

HYGROSCOPIC MOISTURE

Can #	Wet Soil + Can (gm)	Dry Soil + Can (gm)	Can Wt (gm)
	31.35	30.53	

HYDROMETER ANALYSIS

Wt. Sample at Dry (gm)	Tube #

Elapsed Time (min)	Hydrometer Reading	Temperature (deg F)
2	46	68
6		
16		
30		
60	21	
250	17	69
1440	14	

_____ g, _____% (+No. 4, +4.75mm)

_____ g, _____% (-No. 4, -4.75mm)

KENTUCKY TRANSPORTATION CABINET

Division of Structural Design

Geotechnical Branch

Moisture Density Data Sheet

KM 64-511 or AASHTO T99/T180

Total (3/4in, 1in, 2in, 3in) : _____ g

Total (No. 4, 3/8in) : _____ g

Total Sample (Air Dry): _____ g

Can Weight (for +3/4 Calc.): _____

+3/4 & Can (AD) _____, +3/4 & Can (OD) _____

Moisture (+3/4") _____ %

County: Ohio Project: _____ Station: _____

Sample No.: _____ Lab No.: 1024 Date: _____ Operator: _____

Wet Weight of Compacted Sample	Dish No.	Dish and Wet Soil	Dish and Dry Soil	Water Weight	Dish Weight	Dry Soil Weight	Water Content	Dry Weight of Compacted Sample
Grams		Grams	Grams	Grams	Grams	Grams	Percent	Grams
6021	A	162.5	129.3		33.5			
6116	26	169.5	149.8		32.1			
6146	13	151.0	132.5		32.9			
6114	100	162.1	139.4		33.1			
	24	154.3	148.6		32.6			

_____ Type of Test

(1-A, 2-B, 3-C, 4-D) T-99

(5-A, 6-B, 7-C, 8-D) T-180

M-4246

Dry Density (pcf): _____

Dry Density (kg/m^3): _____

Optimum Moisture (%): _____

_____ g, _____% (+No. 4, +4.75mm)
_____ g, _____% (-No. 4, -4.75mm)

KENTUCKY TRANSPORTATION CABINET
Division of Structural Design
Geotechnical Branch

Moisture Density Data Sheet

KM 64-511 or AASHTO T99/T180

Total (3/4in, 1in, 2in, 3in) : _____ g
Total (No. 4, 3/8in) : _____ g
Total Sample (Air Dry): _____ g

Can Weight (for +3/4 Calc.): _____
+3/4 & Can (AD)_____, +3/4 & Can (OD)_____
Moisture (+3/4") _____%

County: Ohio Project: _____ Station: _____
Sample No.: _____ Lab No.: 1025 Date: _____ Operator: _____

Wet Weight of Compacted Sample	Dish No.	Dish and Wet Soil	Dish and Dry Soil	Water Weight	Dish Weight	Dry Soil Weight	Water Content	Dry Weight of Compacted Sample
Grams		Grams	Grams	Grams	Grams	Grams	Percent	Grams
6034	B	135.2	122.6		32.7			
6128	C	149.2	133.7		32.8			
6151	D	157.0	137.5		33.0			
	23	175.3	169.9		32.8			

_____ Type of Test
(1-A, 2-B, 3-C, 4-D) T-99
(5-A, 6-B, 7-C, 8-D) T-180

M-4246

Dry Density (pcf): _____
Dry Density (kg/m^3): _____
Optimum Moisture (%): _____

Kentucky Department of Highways
Division of Structural Design
Geotechnical Branch
1236 Wilkinson Blvd.
Frankfort, Ky 40601

Tested By:
Technical Responsibility:

AASHTO T-99, T-193,T-134, T-180

Proctor Test Data Reduction Spreadsheet
("Central Lab Version" - CLPROC.WKS)

Rock Proctor Information:
(From Classification Sample)
Total Sample Weight (g):
Moisture Content +3/4" (%):
Air-dry mass +3/4":
Air-dry mass -3/4" + No. 4:

Date of Test	:		
Tracking Number	:	1024	
County & Project Number	:	Ohio	
Hole Number	:		
Depth (ft.)	:		
No. of Test Points (3,4,5,or 6)	:	4	
Volume Factor of Mold	:	0.066134	pcf/g
Mold Weight	:	4246	g
Mold Diameter	:	4.000	in.
Mold Height	:	4.584	in.
Method (1,2,3,or 4 per KM 64-511):		1	AASHTO T99, Method A (regular Proctor)
% Retained on #4 Sieve (Meth. 2) :			

Wet Weight of Compacted Sample + Mold (g)	Dish No.	Dish + Wet Soil (g)	Dish + Dry Soil (g)	Dish Weight (g)	Moisture Content (%)	Dry Unit Wt. (pcf)	Dry Unit Wt. (kg/cu m)
6021	101	142.5	129.3	33.5	13.8	103.2	1652.7
6116	102	169.5	149.8	32.1	16.7	105.9	1697.0
6146	103	151.0	132.5	32.9	18.6	106.0	1697.5
6114		162.1	139.4	33.1	21.4	101.8	1630.7
					.0	-280.8	-4498.1
					.0	-280.8	-4498.1

Maximum Dry Unit Wt. (pcf)	106.2
Maximum Dry Unit Wt. (kg/cu m)	1700.8
Optimum Moisture (%)	17.8

CBR
1.2

CBR Data

Hygroscopic Moisture		Weights for CBR	
Dish No.		Air Dry Soil (g)	4134
Dish + Wet Soil (g)	154.3		
Dish + Dry Soil (g)	148.6	Water (g)	508
Dish Weight (g)	32.6		
Moisture (%)	4.9	Rock (g)	0

Kentucky Department of Highways
Division of Structural Design
Geotechnical Branch
1236 Wilkinson Blvd.
Frankfort, Ky 40601

Tested By:
Technical Responsibility:

AASHTO T-99, T-193,T-134, T-180

Proctor Test Data Reduction Spreadsheet
("Central Lab Version" - CLPROC.WKS)

Rock Proctor Information:
(From Classification Sample)
Total Sample Weight (g):
Moisture Content +3/4" (%):
Air-dry mass +3/4":
Air-dry mass -3/4" + No. 4:

Date of Test	:		
Tracking Number	:	1025	
County & Project Number	:	Ohio	
Hole Number	:		
Depth (ft.)	:		
No. of Test Points (3,4,5,or 6)	:	3	
Volume Factor of Mold	:	0.066134	pcf/g
Mold Weight	:	4246	g
Mold Diameter	:	4.000	in.
Mold Height	:	4.584	in.
Method (1,2,3,or 4 per KM 64-511):		1	AASHTO T99, Method A (regular Proctor)
% Retained on #4 Sieve (Meth. 2) :			

Wet Weight of Compacted Sample + Mold (g)	Dish No.	Dish + Wet Soil (g)	Dish + Dry Soil (g)	Dish Weight (g)	Moisture Content (%)	Dry Unit Wt. (pcf)	Dry Unit Wt. (kg/cu m)
6034	101	135.2	122.6	32.8	14.0	103.7	1661.1
6128	102	149.2	133.7	32.8	15.4	107.9	1728.2
6151	103	157.0	137.5	33.0	18.7	106.2	1700.7
					.0	-280.8	-4498.1
					.0	-280.8	-4498.1
					.0	-280.8	-4498.1

Maximum Dry Unit Wt. (pcf)	109.3
Maximum Dry Unit Wt. (kg/cu m)	1750.3
Optimum Moisture (%)	16.8

CBR
2.9

CBR Data

Hygroscopic Moisture		Weights for CBR	
Dish No.		Air Dry Soil (g)	4215
Dish + Wet Soil (g)	175.3		
Dish + Dry Soil (g)	169.9	Water (g)	522
Dish Weight (g)	32.8		
Moisture (%)	3.9	Rock (g)	0