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pw:\ar\cadis-us-pw\entfey.com\roadis-us-0\Documents\01Active Projects\DEL315\400\_CAD\02\24\Roadway\Sheets\02\24\_GN003.dgn Sheet 9/16/2025 10:45:59 AM BWallace

DRAINAGE DISCHARGE CONTINUANCE (CONT.)

PAY ITEMS:  
EACH OF THE PAY ITEMS LISTED BELOW FOR CONDUIT MISCELLANEOUS TYPES B, C, E AND F FOR DRAINAGE DISCHARGE CONTINUANCE INCLUDE CONDUIT SIZES 2 INCH TO 10 INCH. THERE IS NO COST DIFFERENTIATION FOR SIZE IN THESE PAY ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE DRAINAGE DISCHARGE CONTINUANCE:

611, INSPECTION WELL	4 EACH
611, CONDUIT, MISC TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
611, CONDUIT, MISC TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
611, CONDUIT, MISC TYPE E FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
611, CONDUIT, MISC TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE	20 FT
202, REMOVAL MISC CONDUIT	20 FT
202, REMOVAL MISC INSPECTION WELL	1 EACH
203, EMBANKMENT AS PER PLAN	50 CY

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

VEGETATED BIOFILTER

THIS PLAN UTILIZES VEGETATED BIOFILTER(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AS SHOWN IN THE PLANS TO ANY DISTURBED AREA ON THE SHOULDER AND FORESLOPE DRAINING TO A VEGETATED BIOFILTER. THE DITCH FOR EACH VEGETATED BIOFILTER SHALL BE TRAPEZOIDAL, AS SHOWN IN THE PLAN CROSS SECTIONS. PROVIDE ITEM 670 AS SPECIFIED IN THE PLANS.

ENVIRONMENTAL COMMITMENTS

1. THE CONTRACTOR SHALL NOT REMOVE ANY TREES UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOUT THE GROUND SURFACE, WITH A MINIMUM HEIGHT OF 13 FEET.

2. THE CONTRACTOR IS NOT AUTHORIZED TO PLACE ANY FILL IN OR WORK BELOW THE ORDINARY HIGH WATER MARK (OHWM) OF THE OLENTANGY RIVER, DURING CONSTRUCTION.

3. THIS PROJECT IS LOCATED WITHIN A DRINKING WATER PROTECTION AREA. IN ORDER TO MINIMIZE THE POTENTIAL FOR CONTAMINATION, THE CONTRACTOR SHALL UTILIZE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS. FUELS, TOXIC/HAZARDOUS MATERIALS, AND CHEMICALS SHALL NOT BE STORED NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. A SPILL KIT IS TO BE MAINTAINED ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. ANY SUCH SPILL OR EVENT SHALL BE REPORTED IMMEDIATELY TO DAVE WOLF AT DEL-CO WATER AT 740-548-7746, EXT.2247. IF THE SPILL IS A REPORTABLE AMOUNT (PER OHIO EPA'S RELEASE REPORTING REQUIREMENTS), THE CONTRACTOR SHALL CONTACT THE LIBERTY AND/OR ORANGE TOWNSHIP FIRE DEPARTMENTS OR THE OHIO EPA'S SPILLS HOTLINE 1-800-282-9378 FOR CLEAN-UP OF THE SPILL.

4. TO PROTECT THE BIEBER MILL PROPERTY AND THE PUBLIC, THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY CONSTRUCTION FENCING ALONG THE KNOWN BOUNDARIES OF BIEBER MILL PROPERTY WITHIN THE PROJECT CONSTRUCTION LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

5. THE CONTRACTOR SHALL NOT STORE OR STAGE CONSTRUCTION EQUIPMENT OR MATERIALS WITHIN THE BIEBER MILL PROPERTY BOUNDARIES, OUTSIDE OF PROPOSED CONSTRUCTION LIMITS, EXCEPT FOR AREA(S) APPROVED BY THE OFFICIAL WITH JURISDICTION SPECIFICALLY FOR STORAGE AND STAGING OF EQUIPMENT PER CMS 107.10.

6. THE CONTRACTOR SHALL PROVIDE THE CONSTRUCTION SCHEDULE TO ODOT DISTRICT 6 PROJECT MANAGER AND HEATHER DOHERTY, ODNR CENTRAL OHIO SCENIC RIVERS COORDINATOR AT 740-258-0567, 30 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

7. THE CONTRACTOR SHALL ONLY RESTRICT PUBLIC ACCESS TO THE BIEBER MILL PROPERTY WITHIN THE PROJECT CONSTRUCTION LIMITS DURING THE TIME PERIOD OF CONSTRUCTION ACTIVITIES COULD COMPROMISE PUBLIC SAFETY. ALL OTHER PUBLIC ACCESS POINTS TO BIEBER MILL PROPERTY WILL BE MAINTAINED AT ALL TIMES THROUGHOUT CONSTRUCTION.

ENVIRONMENTAL COMMITMENTS (CONT.)

8. THE CONTRACTOR SHALL REMOVE ANY HONEYSUCKLE WITHIN THE PROJECT CONSTRUCTION LIMITS. WHERE HONEYSUCKLE IS REMOVED, THE STUMPS WILL BE TREATED BY A CERTIFIED /LICENSED APPLICATOR OF THE APPROVED HERBICIDE/PESTICIDE APPLICATION PRODUCT SELECTED BY ODOT FOR HONEYSUCKLE TREATMENT. IF THE CONTRACTOR IS NOT CERTIFIED/LICENSED FOR THIS APPLICATION, THEN THEY WILL NEED TO WORK UNDER THE DIRECTION OF A CERTIFIED/LICENSED PERSON. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

9. ODOT WILL OBTAIN ALL APPROPRIATE WATERWAY PERMITS PRIOR TO WORK WITHIN WETLANDS OR BELOW THE ORDINARY HIGH WATER MARK (OHWM) OF ANY WATERWAY AND ALL SPECIAL PROVISIONS FOR WATERWAY PERMITS WILL BE INCLUDED IN THE PROJECT PLANS AND ADHERED TO DURING CONSTRUCTION.

10. ALL CONSTRUCTION-RELATED DEBRIS SHALL BE DISPOSED OF AT AN UPLAND LOCATION OR LANDFILL ABOVE THE FEMA 100-YEAR FLOODPLAIN ELEVATIONS AND NOT WITHIN 1000 FT OF THE OLENTANGY RIVER.

11. THE STORAGE OF FUELS, LUBRICANTS AND ANY POTENTIALLY TOXIC OR HAZARDOUS MATERIALS IS NOT PERMITTED WITHIN THE FEMA DESIGNATED SPECIAL FLOOD HAZARD AREA AND NOT WITHIN 1000 FT OF THE OLENTANGY RIVER.

12. THE CONTRACTOR SHALL REMOVE ANY HONEYSUCKLE WITHIN THE PROJECT CONSTRUCTION LIMITS. WHERE HONEYSUCKLE IS REMOVED, THE STUMPS WILL BE TREATED BY A CERTIFIED/LICENSED APPLICATOR OF THE APPROVED HERBICIDE/PESTICIDE APPLICATION PRODUCT SELECTED BY ODOT FOR HONEYSUCKLE TREATMENT. IF THE CONTRACTOR IS NOT CERTIFIED/LICENSED FOR THIS APPLICATION, THEN THEY WILL NEED TO WORK UNDER THE DIRECTION OF A CERTIFIED/LICENSED PERSON.

13. THE CONTRACTOR SHALL TAKE CAUTION WHEN CUTTING AN CLEARING ANY VEGETATION WITHIN 1000 FT. OF THE OLENTANGY RIVER. THE CONTRACTOR SHALL LIMIT THE AMOUNT OF VEGETATION BEING CLEARED TO THE ABSOLUTE MINIMUM NECESSARY TO ACCOMPLISH THE GOAL OF THE PROJECT. VERTICAL PRUNING OF TREES IS PERMITTED IS ANY OVERHANGING LIMBS CAUSE A SAFETY HAZARD OR OBSTRUCT VIEW. THE USE OF A FLAIL MOWER FOR VERTICAL PRUNING IS PROHIBITED. AVOID GIRDLING OR SCUFFING OF TREE TRUNKS.

I:\Project\data\02124\Design\Geotechnical\Sheet\02124\_YC10.dgn DEL-315-4.99 Cover 11/18/2024 12:55:58 PM across3

PROJECT DESCRIPTION

IMPROVEMENT OF 1.10 MILES OF S.R. 315 BY SLOPE STABILIZATION AT TWO (2) LOCATIONS. WORK INCLUDES RETAINING WALLS, CULVERT REPLACEMENTS, RESURFACING, AND THE INSTALLATION OF ROADSIDE DITCHES ON THE WEST SIDE OF S.R. 315.

HISTORIC RECORDS

NO HISTORICAL GEOTECHNICAL RECORDS WERE FOUND WITHIN EACH SEGMENT OF THE PROJECT. HOWEVER, SEVERAL BORINGS HAVE BEEN COMPLETED WITHIN THE CORRIDOR INDICATING THE PRESENCE OF GENERALLY COHESIVE SOILS UNDERLAIN BY SHALLOW LIMESTONE BEDROCK.

GEOLOGY

THE PROJECT IS LOCATED WITHIN THE CENTRAL OHIO CLAYEY TILL PLAIN PHYSIOGRAPHIC REGION WHICH IS CHARACTERIZED BY MODERATE RELIEF WITH WELL-DEFINED MORAINES AND RELATIVELY FLAT GROUND MORAINES BETWEEN. THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) INTERACTIVE GEOLOGIC MAP INDICATES THAT THE MAJORITY OF THE PROJECT AREA IS COMPRISED OF ALLUVIAL SOILS AT THE GROUND SURFACE ALONG THE BASE OF THE HILLSIDES WHICH ARE COMPRISED OF GLACIALLY DEPOSITED GROUND MORAINES. THE THIN OVERBURDEN SOILS ARE UNDERLAIN BY CARBONATE BEDROCK OF DEVONIAN AGE WITH THE COLUMBUS LIMESTONE PRESENT WITHIN THE OLENTANGY RIVER CHANNEL AND BANKS, AND DELAWARE LIMESTONE FOUND IN THE LOWER HILLSIDES.

RECONNAISSANCE

FIELD RECONNAISSANCE WAS COMPLETED BY PERSONNEL FROM THE OFFICE OF GEOTECHNICAL ENGINEERING (OGE) ON JULY 7, 2017. THE EXISTING ROADWAY WAS NOTED AS BEING PREDOMINATELY IN GOOD CONDITION. THE NORTHBOUND SHOULDER, RUNNING PARALLEL TO THE OLENTANGY RIVER, IS EXHIBITING MINOR DISTRESS DUE TO SLOPE INSTABILITY RESULTING FROM EROSION OF THE TOE OF THE SLOPE. ALONG THE SOUTHBOUND LANE A NARROW, FLAT, GRASS COVERED DITCH IS PRESENT ADJACENT TO EITHER WOODED HILLSIDE OR RURAL RESIDENTIAL LOTS. THE RIPARIAN CORRIDOR IS VEGETATED WITH GRASSES AND TREES, WITH AREA OF BARREN ERODED BANK PRESENT. IN ADDITION TO THE CURRENT PROJECT DEL-315-6.34 AND DEL-315-8.11 ALSO HAD RECONNAISSANCE COMPLETED. DEL-315-6.34 IS PRESENTED UNDER SEPARATE COVER AND DEL-315-8.11 WAS NON-PERFORMED WITH GEOTECHNICAL DATA PRESENTED WITHIN THE TRANSPORTATION INFORMATION MAPPING SYSTEM (TIMS).

SUBSURFACE EXPLORATION

FOUR (4) BORINGS, B-001-0-17 THROUGH B-004-0-17, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION BETWEEN JULY 11 AND 12, 2017. BORING B-001-0-17 WAS COMPLETED WITH A TRACK MOUNTED ACKER XLS ROTARY DRILL. BORINGS B-002-0-17 THROUGH B-004-0-17 WERE DRILLED WITH A TRUCK MOUNTED CME55 ROTARY DRILL RIG. ALL BORINGS WERE COMPLETED USING 3.25-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THROUGH THE OVERBURDEN SOILS. DISTURBED SAMPLES COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5-FOOT INTERVALS. THE HAMMER SYSTEMS USED WERE CALIBRATED ON JUNE 1, 2017, WITH AN AVERAGE DRILL ROD ENERGY RATIO (ER) OF 89% FOR THE ACKER XLS AND 77% FOR THE CME55. ALL BORINGS WERE ADVANCED INTO BEDROCK AND SAMPLED (AASHTO T225) USING AN N SERIES WIRELINE CORE BARREL, WATER METHOD.

IN SUPPLEMENT TO THE BORINGS, TWO (2) DYNAMIC CONE PENETRATION (DCP) SOUNDINGS, D-001-1-17 AND D-002-1-17, WERE COMPLETED WITHIN THE VICINITY OF THE PROPOSED CULVERT HEADWALL LOCATIONS. THE DCP SOUNDINGS WERE COMPLETED WITH A TRIGGS WILDCAT DCP UNIT UTILIZING A DISPOSABLE TIP.

ADDITIONALLY, THREE (3) ELECTRIC RESISTIVITY IMAGING (ERI) SURVEYS WERE COMPLETED IN VICINITY OF THE EXISTING GUARDRAIL LOCATED ALONG THE NORTHBOUND LANE. THE ERI DATA WAS COLLECTED WITH AN ADVANCED GEOSCIENCES INC. (AGI) SUPERSTING R8 CONTROL UNIT. FOR THE ERI SURVEY, FIFTY-SIX (56) ELECTRODES WERE SPACED APPROXIMATELY FIVE (5) FEET APART. THE SURVEY LINES STARTED NEAR B-001-1-17 AND EXTENDED JUST NORTH OF B-003-0-17. THE DATA WAS PROCESSED, AND SURFACE ELEVATION CORRECTED USING AGI'S EARTHIMAGER 2D SOFTWARE.

DURING JANUARY OF 2020 AN ADDITIONAL THREE (3) DCP SOUNDINGS, D-002-2-19 THROUGH D-002-4-19, WERE COMPLETED JUST OFF EDGE OF PAVEMENT ALONG THE SOUTHBOUND LANE TO EVALUATE IF SHALLOW BEDROCK WAS PRESENT WHICH MAY INTERFERE WITH PROPOSED STORMWATER BEST MANAGEMENT PRACTICES (BMP). THE DCP SOUNDINGS WERE COMPLETED WITH A TRIGGS WILDCAT DCP UNIT UTILIZING A DISPOSABLE TIP.

EXPLORATION FINDINGS

B-001-0-17 WAS COMPLETED ALONG THE EDGE OF THE STREAM BANK ENCOUNTERING 4-INCHES OF TOPSOIL UNDERLAIN BY DENSE TO VERY DENSE STONE FRAGMENTS WITH SAND AND SILT (A-2-4) CONTAINING COBBLES AND BOULDERS BELOW 5-FEET TO TOP OF BEDROCK.

B-002-0-17 THROUGH B-004-0-17 WERE COMPLETED WITHIN THE EXISTING ROADWAY ENCOUNTERING 12 TO 14-INCHES OF ASPHALT WITH B-003-0-17 ENCOUNTERING 2-INCHES OF AGGREGATE BASE BENEATH THE ASPHALT. UNDERLYING THE SURFACE MATERIALS B-002-0-17 AND B-003-0-17 ENCOUNTERED SILTY CLAY (A-6b) IN STIFF CONSISTENCY AND DAMP TO MOIST CONDITION AND B-004-0-17 ENCOUNTERED VERY STIFF SANDY SILT (A-4a) IN DAMP CONDITION TO TOP OF BEDROCK. BEDROCK WAS ENCOUNTERED IN B-001-0-17, B-002-0-17, B-003-0-17, AND B-004-0-17 AT ELEVATION 786.8, 792.5, 791.3, AND 790.4 FEET, RESPECTIVELY.

LEGEND

	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
	STONE FRAGMENTS WITH SAND AND SILT	A-2-4	1	1
	SANDY SILT	A-4a	3	2
	SILTY CLAY	A-6b	3	3
		TOTAL	7	6
	BOULDERY ZONE	VISUAL		
	LIMESTONE	VISUAL		
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
	BORING OR DCP LOCATION - PLAN VIEW.			
	DRIVE SAMPLE AND ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.			
N <sub>60</sub>	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
X/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
γ	INDICATES UNIT WEIGHT OF ROCK.			
HA	INDICATES A HAND AUGER SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			
NQ	"N" SERIES ROCK CORE BARREL OF "Q" WIRELINE BIT SIZE.			
Qu	INDICATES UNCONFINED COMPRESSION TEST, ASTM D7012.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
TR	INDICATES TOP OF ROCK ELEVATION.			

EXPLORATION FINDINGS, CONT.

ALL BORINGS WERE EXTENDED INTO LIMESTONE WHICH RANGED FROM STRONG TO VERY STRONG AND WAS JOINTED WITH CORE RUN ROD VALUES RANGING FROM 49% TO 93% AND UNIT ROD VALUES RANGING FROM 0% TO 91%. ALL BORINGS WERE TERMINATED WITHIN BEDROCK. REPRESENTATIVE BEDROCK SAMPLES WERE TESTED FOR STRENGTH WITH UNCONFINED COMPRESSIVE TEST RESULTS RANGING FROM 6,365 TO 23,148 PSI. THESE RESULTS ARE PRESENTED IN TABULAR FORMAT, SEE BEDROCK TEST SUMMARY TABLE.

ALL BORINGS WERE REPORTED AS BEING DRY PRIOR TO CORING OPERATIONS.

DCP SOUNDINGS WERE COMPLETED ALONG THE BASE OF THE STREAM BANK TO DETERMINE OVERBURDEN THICKNESS IN THE VICINITY OF THE PROPOSED HEADWALLS. REFUSAL CONDITIONS WERE ENCOUNTERED IN BOTH SOUNDINGS AT RELATIVELY SHALLOW DEPTHS OF 2 AND 3-FEET WITHIN D-001-1-17 AND D-002-1-17, RESPECTIVELY.

BMP DCP SOUNDINGS ENCOUNTERED REFUSAL BETWEEN ELEVATION 792.9 AND 794.5 FEET.

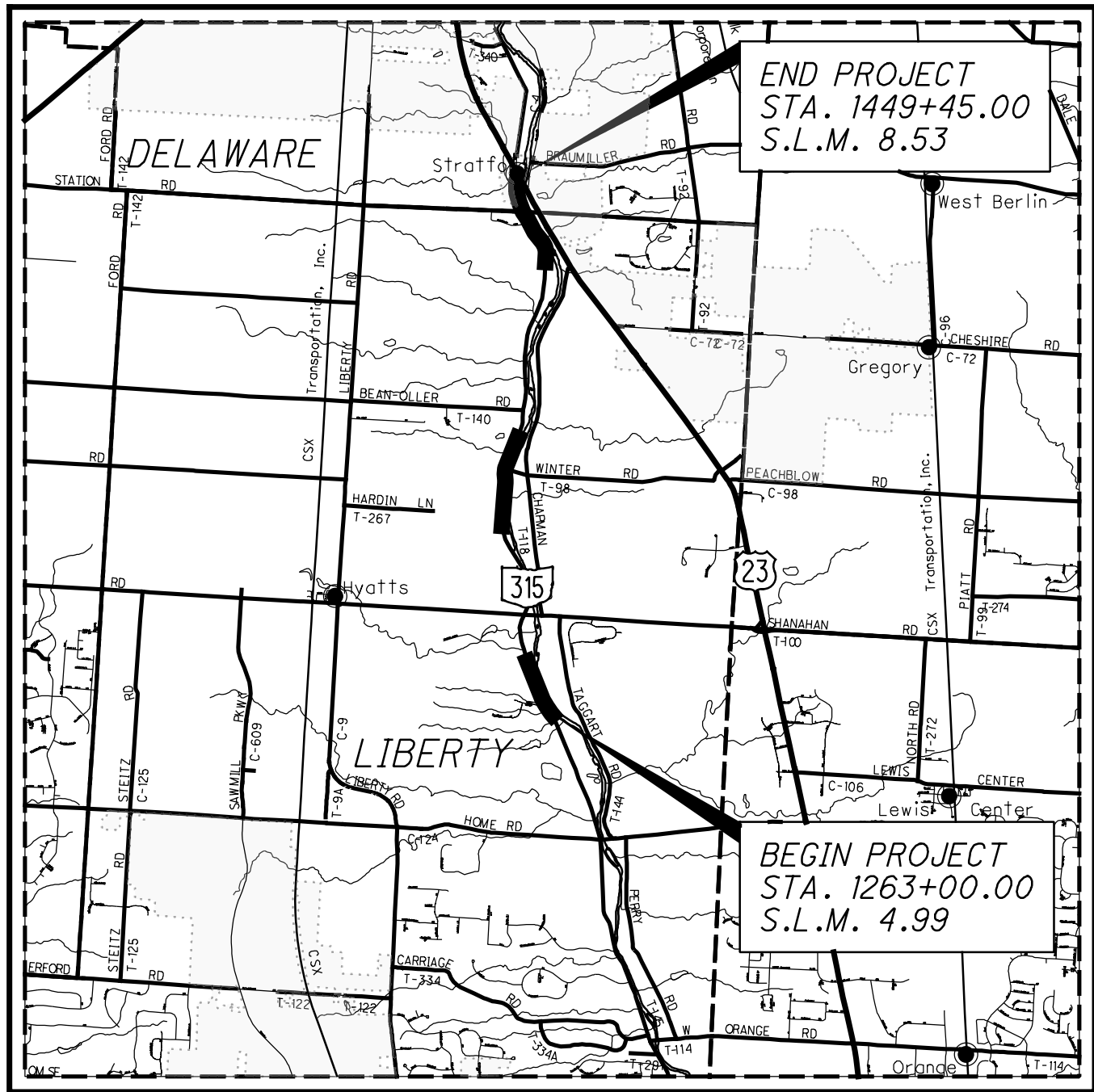
WATER WAS NOT NOTED IN ANY OF THE DCP SOUNDING LOCATIONS.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2017.

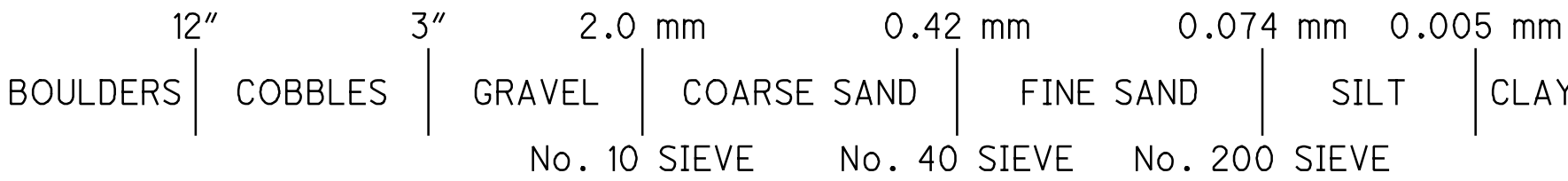
AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE GEOTECHNICAL PROFILE SHEETS HAS BEEN PRESENTED. THE RAW CPT DATA IS AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.



LOCATION MAP  
SCALE IN MILES

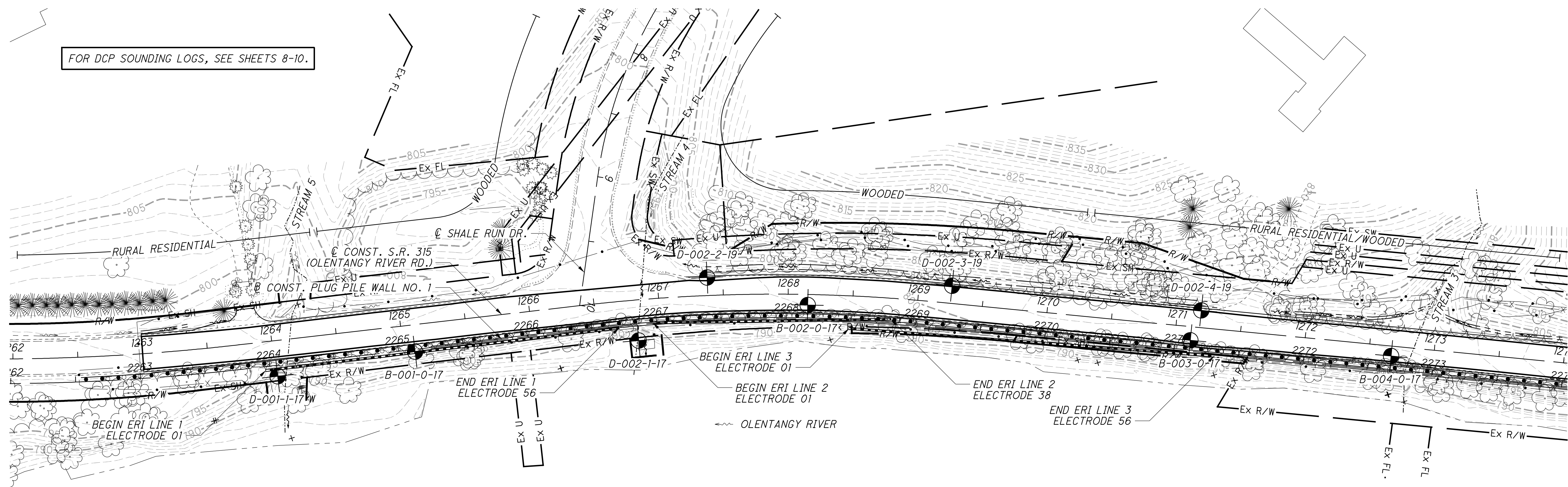
PARTICLE SIZE DEFINITIONS



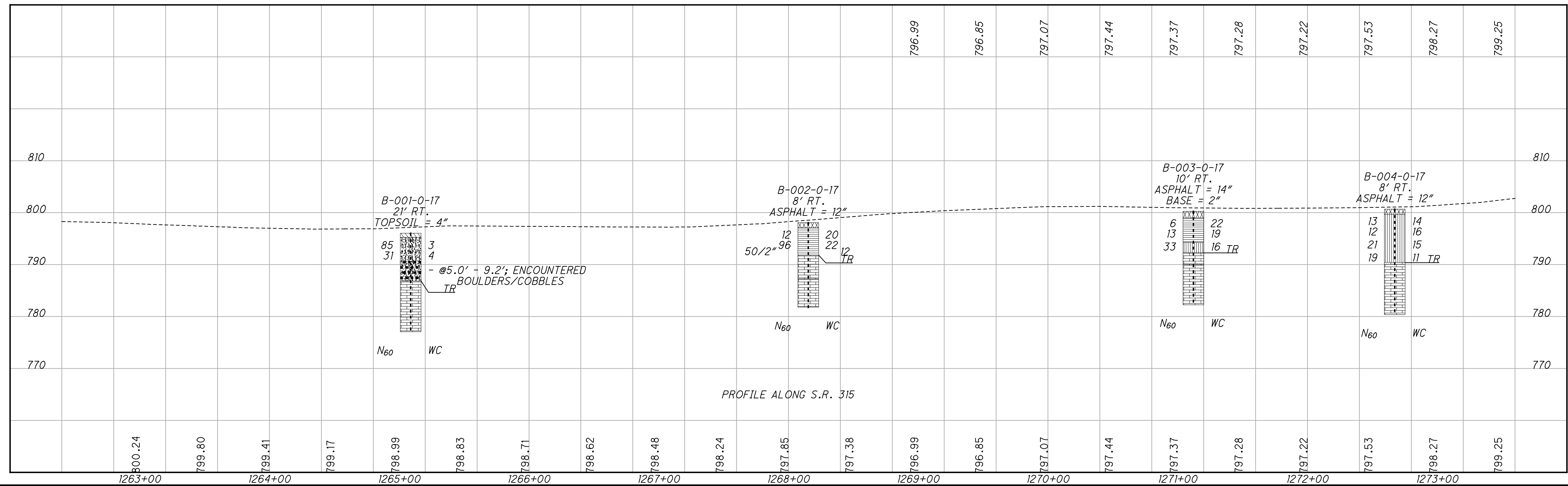
BEDROCK TEST SUMMARY				
EXPLOR. ID	SAMPLE ELEVATION	SAMPLE DEPTH	Qu (PSI)	LITHOLOGY
B-001-0-17	786.0' - 785.7'	10.1' - 10.4'	11,424	LIMESTONE
	780.3' - 779.9'	15.8' - 16.2'	20,033	LIMESTONE
B-002-0-17	786.4' - 786.1'	11.7' - 12.0'	18,630	LIMESTONE
	783.4' - 783.0'	14.7' - 15.1'	23,148	LIMESTONE
B-003-0-17	789.8' - 789.5'	10.5' - 10.8'	12,062	LIMESTONE
	786.9' - 786.6'	13.4' - 13.7'	6,365	LIMESTONE
B-004-0-17	790.2' - 789.9'	10.5' - 10.8'	16,772	LIMESTONE
	784.4' - 784.1'	16.3' - 16.6'	19,032	LIMESTONE

RECON. -	PPP	07/07/17
DRILLING -	AMJ,KAM	07/11-12/17
DCP -	AMJ,PPP	07/10/17, 01/07/20
GEOPHYSICS -	AMJ,JMB	07/12/17, 08/11/17
DRAWN -	ARR	11/08/24
REVIEWED -	SAT	11/15/24

FOR DCP SOUNDING LOGS, SEE SHEETS 8-10.



ELECTRICAL RESISTIVITY IMAGING (ERI) SURVEY LINE  
 LINE 1 APPROX. STA. 1263+93, 22' RT. TO 1266+68, 20' RT. (ELECTRODES 01-56)  
 LINE 2 APPROX. STA. 1266+94, 19' RT. TO 1268+80, 16' RT. (ELECTRODES 01-38)  
 LINE 3 APPROX. STA. 1268+48, 25' RT. TO 1271+32, 21' RT. (ELECTRODES 01-56)







PROJECT: DEL-315-4.99	DRILLING FIRM / OPERATOR: ODOT / CAREY	DRILL RIG: CME 55 TRUCK	STATION / OFFSET: 1288+15.8' RT.	EXPLORATION ID
TYPE: LANDSLIDE	SAMPLING FIRM / LOGGER: ODOT / MCLEISH	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 315	B-002-0-17
PID: 102124    SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 6/1/17	ELEVATION: 798.1 (ft)    EOB: 16.3 ft.	PAGE
START: 7/11/17    END: 7/11/17	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77	LAT / LONG: 40.207172, -83.059899	1 OF 1

MATERIAL DESCRIPTION AND NOTES		SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G1)	BACK FILL
ASPHALT (12")																	
@3.5'; SOME GRAVEL AND STONE FRAGMENTS		3	3	12	39	SS-1A	2.00	6	8	14	37	35	38	16	22	20	A-6b (12)
		6															
LIMESTONE, BROWNISH GRAY, MODERATELY WEATHERED, VERY STRONG, THIN BEDDED, CRYSTALLINE, FOSSILIFEROUS, JOINT, FRACTURED, OPEN, VERY ROUGH; BLOCKY, FAIR; RQD 0%, REC 100%.		2	15	96	83	SS-2A	1.00	-	-	-	-	-	-	-	-	22	A-6b (V)
		60															
@8.8' - 10.6'; HIGH ANGLE RUST STAINED FRACTURE		60/2"			83	SS-3A	-	-	-	-	-	-	-	-	-	12	A-6b (V)
@10.6'; THIN CLAY SEAM																	
LIMESTONE, GRAY, SLIGHTLY WEATHERED, VERY STRONG, THIN BEDDED, CRYSTALLINE, FOSSILIFEROUS, SLIGHTLY STYOLITIC, JOINT, MODERATELY FRACTURED, NARROW, VERY ROUGH; BLOCKY, GOOD; RQD 91%, REC 100%.																	
@11.7' - 12.0'; γ = 170 pcf; Qu = 18,630 psi																	
@14.4' - 15.2"; PYRITIC																	
@14.7' - 15.1'; γ = 169 pcf; Qu = 23,148 psi																	
791.8																	
797.1																	
798.1																	
787.3																	
781.8																	
EOB																	

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 10/9/24 13:43 - X:\GINT\PROJECTS\2017 COMPLETE\600386.GPJ

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM CONSULTANT SURVEY TIN. HOLE DRY BEFORE CORING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 75 LB. BENTONITE CHIPS



Office of Geotechnical Engineering

B-002-0-17



Run #:	Depth	Recovery	RQD
NQ2-1	6.2'	120/120	59/120
		100%	49%
DEL-315-4.99 PID 102124			

PROJECT: DEL-315-4.99	DRILLING FIRM / OPERATOR: ODOT / CAREY	DRILL RIG: CME 55 TRUCK	STATION / OFFSET: 1271+12, 10' RT.	EXPLORATION ID
TYPE: LANDSLIDE	SAMPLING FIRM / LOGGER: ODOT / CHUDZIK	HAMMER: CME AUTOMATIC	ALIGNMENT: CL SR 315	B-003-0-17
PID: 102124 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 6/1/17	ELEVATION: 800.3 (ft) EOB: 18.0 ft.	PAGE
START: 7/11/17 END: 7/11/17	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77	LAT / LONG: 40.207922, -83.060309	1 OF 1

MATERIAL DESCRIPTION AND NOTES		GRADATION (%)		ATTERBERG			ODOT CLASS (G)		BACK FILL						
		SPT/ RQD	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	
ASPHALT (14") & BASE (2")	STIFF, REDDISH BROWN WITH BLACK, SILTY CLAY, SOME SAND, LITTLE GRAVEL, DAMP	1													
		2													
		3													
		4													
		5													
@3.5'; REDDISH BROWN TO DARK BROWN		6													
		7													
		8													
		9													
		10													
DENSE, BROWN, SANDY SILT, LITTLE STONE FRAGMENTS, LITTLE CLAY, DAMP		11													
		12													
		13													
		14													
		15													
LIMESTONE, BROWNISH GRAY, MODERATELY WEATHERED, STRONG TO VERY STRONG, THIN BEDDED, FOSSILIFEROUS, JOINT, MODERATELY FRACTURED, OPEN, VERY ROUGH; BLOCKY, GOOD; RQD 0%; REC 100%.		16													
		17													
		18													
		19													
		20													
LIMESTONE, GRAY, SLIGHTLY WEATHERED, MODERATELY STRONG TO STRONG, THIN BEDDED, CRYSTALLINE, FOSSILIFEROUS, JOINT, MODERATELY FRACTURED, OPEN, VERY ROUGH; BLOCKY, VERY GOOD; RQD 64%; REC 100%.		21													
		22													
		23													
		24													
		25													
@10.5' - 10.8'; γ = 169 pcf; Qu = 12,062 psi @ 13.4' - 13.7'; γ = 171 pcf; Qu = 6,365 psi		26													
		27													
		28													
		29													
		30													
@15.3' - 18.0'; HIGH ANGLE FRACTURE		31													
		32													
		33													
		34													
		35													

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 10/9/24 13:43 - X:\GINT\PROJECTS\2017 COMPLETE\600386.PJ

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM CONSULTANT SURVEY TIN. HOLE DRY BEFORE CORING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 50 LB. BENTONITE CHIPS



Office of Geotechnical Engineering

B-003-0-17



Run #:	Depth	Recovery	RQD
NQ2-1	8.0'	120/120	60/120
	18.0'	100%	50%
DEL-315-4.99 PID 102124			





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WILDCAT DYNAMIC CONE LOG

Page 1 of 1

The Ohio Department of Transportation  
Office of Geotechnical Engineering  
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 102124  
DATE STARTED: 01-07-2020  
DATE COMPLETED: 01-07-2020

HOLE #: D-002-2-19  
CREW: Jalbrzikowski, Hesler, Bloor & Painter  
PROJECT: DEL-315-4.99  
LAT/LONG: 40.206955, -83.059849  
LOCATION: DEL-315-4.99 BMP location Southbound

SURFACE ELEVATION: 797.2  
WATER ON COMPLETION: None observed.  
HAMMER WEIGHT: 35 lbs.  
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 050100150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
-	1	4.4	•	1	VERY LOOSE	VERY SOFT
-	5	22.2	•••••	6	LOOSE	MEDIUM STIFF
- 1 ft	4	17.8	••••	5	LOOSE	MEDIUM STIFF
-	14	62.2	•••••••••••••••	17	MEDIUM DENSE	VERY STIFF
-	8	35.5	••••••••	10	LOOSE	STIFF
- 2 ft	4	17.8	••••	5	LOOSE	MEDIUM STIFF
-	3	13.3	•••	3	VERY LOOSE	SOFT
-	25	111.0	••••••••••••••••••••	25+	DENSE	HARD
- 3 ft	Refusal at 82cm (25 blows/2cm) ~EL. 792.9 ft.					
- 1 m						
- 4 ft						
-						
- 5 ft						
-						
- 6 ft						
- 2 m						
- 7 ft						
-						
- 8 ft						
-						
- 9 ft						
-						
- 3 m 10 ft						
-						
- 11 ft						
-						
- 12 ft						
-						
- 4 m 13 ft						

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file.

WILDCAT DYNAMIC CONE LOG

Page 1 of 1

The Ohio Department of Transportation  
Office of Geotechnical Engineering  
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 102124  
DATE STARTED: 01-07-2020  
DATE COMPLETED: 01-07-2020

HOLE #: D-002-3-19  
CREW: Jalbrzikowski, Hesler, Bloor & Painter  
PROJECT: DEL-315-4.99  
LAT/LONG: 40.207421, -83.060146  
LOCATION: DEL-315-4.99 BMP location Southbound

SURFACE ELEVATION: 800.2  
WATER ON COMPLETION: None observed.  
HAMMER WEIGHT: 35 lbs.  
CONE AREA: 10 sq. cm

DEPTH	BLOWS	RESISTANCE	GRAPH OF CONE RESISTANCE				N'	TESTED CONSISTENCY	
	PER 10 cm	Kg/cm²	0	50	100	150		NON-COHESIVE	COHESIVE
-	1	4.4	•				1	VERY LOOSE	VERY SOFT
-	2	8.9	••				2	VERY LOOSE	SOFT
- 1 ft	5	22.2	•••••				6	LOOSE	MEDIUM STIFF
-	5	22.2	•••••				6	LOOSE	MEDIUM STIFF
-	5	22.2	•••••				6	LOOSE	MEDIUM STIFF
- 2 ft	4	17.8	•••••				5	LOOSE	MEDIUM STIFF
-	4	17.8	•••••				5	LOOSE	MEDIUM STIFF
-	5	22.2	•••••				6	LOOSE	MEDIUM STIFF
- 3 ft	5	22.2	•••••				6	LOOSE	MEDIUM STIFF
- 1 m	5	22.2	•••••				6	LOOSE	MEDIUM STIFF
-	4	15.4	••••				4	VERY LOOSE	SOFT
- 4 ft	6	23.2	•••••				6	LOOSE	MEDIUM STIFF
-	22	84.9	•••••••••••••••				24	MEDIUM DENSE	VERY STIFF
-	15	57.9	••••••••••				16	MEDIUM DENSE	VERY STIFF
- 5 ft	12	46.3	••••••••••				13	MEDIUM DENSE	STIFF
-	9	34.7	••••••••				9	LOOSE	STIFF
-	12	46.3	••••••••••				13	MEDIUM DENSE	STIFF
- 6 ft	9	34.7	••••••••				9	LOOSE	STIFF
-	25	96.5	•••••••••••••••				25+	MEDIUM DENSE	VERY STIFF
- 2 m	Refusal at 195cm (25 blows/5cm) ~EL. 793.3 ft.								
- 7 ft									
-									
- 8 ft									
-									
- 9 ft									
-									
- 3 m 10 ft	<div>Hand Auger Sample Collected: 0.0' - 0.6': Topsoil 0.6' - 1.6': Brown SILTY CLAY, some sand, trace little gravel and stone fragment, moist. 0.6'-1.0': G%: 14 CS%: 12 FS%: 15 ML%: 28 CL%: 31 LL: 40 PL: 23 PI: 17 M%: 23 1.3'-1.6': G%: 6 CS%: 7 FS%: 15 ML%: 34 CL%: 38 LL: 38 PL: 22 PI: 16 M%: 27 1.3' 1.6': Brown and orangish brown 6.4': Refusal</div>								
-									
- 11 ft									
-									
- 12 ft									
- 4 m 13 ft									

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file.

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GEOTECHNICAL PROFILE - LANDSLIDE

DCP SOUNDING LOGS FOR D-002-2-19 & D-002-3-19

DEL - 315 - 4.99

9 / 11

167  
216

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WILDCAT DYNAMIC CONE LOG

The Ohio Department of Transportation

Office of Geotechnical Engineering

1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 102124

DATE STARTED: 01-07-2020

DATE COMPLETED: 01-07-2020

HOLE #: D-002-4-19

CREW: Jalbrzikowski, Hesler, Bloor & Painter

PROJECT: DEL-315-4.99

LAT/LONG: 40.207911, -83.060409

LOCATION: DEL-315-4.99 BMP location Southbound

SURFACE ELEVATION: 800.9

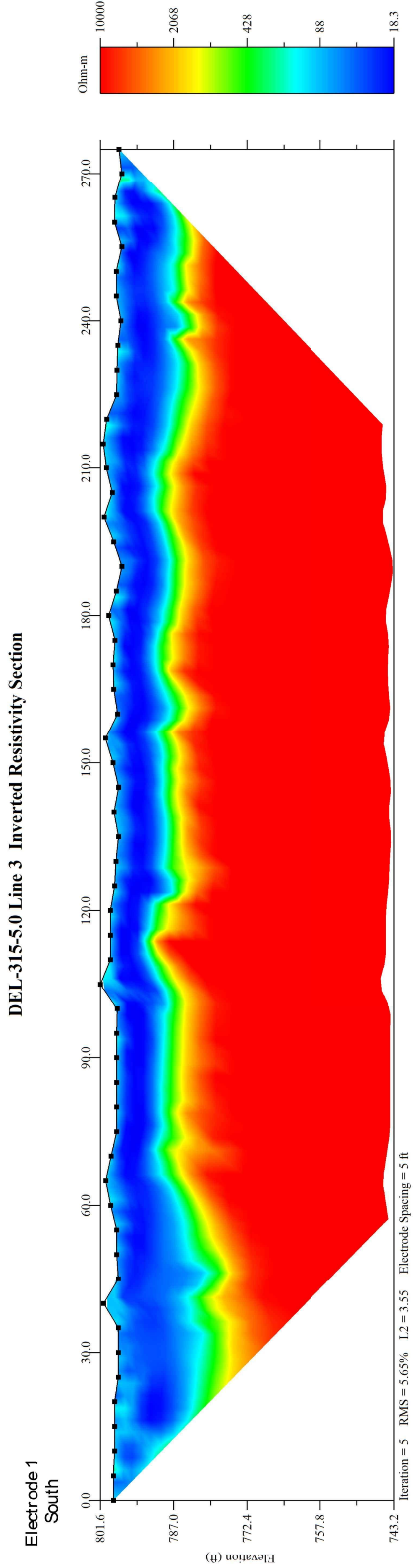
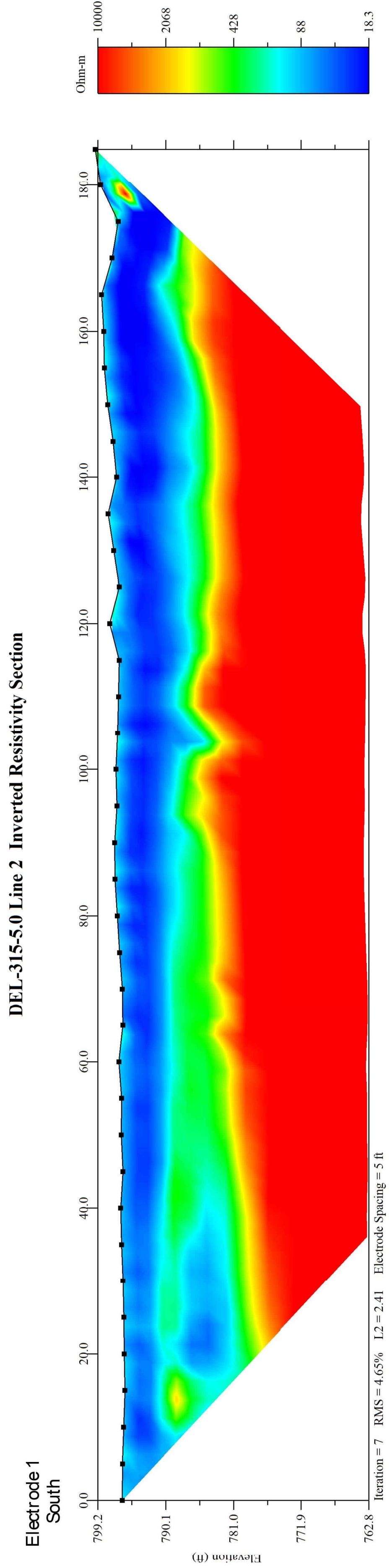
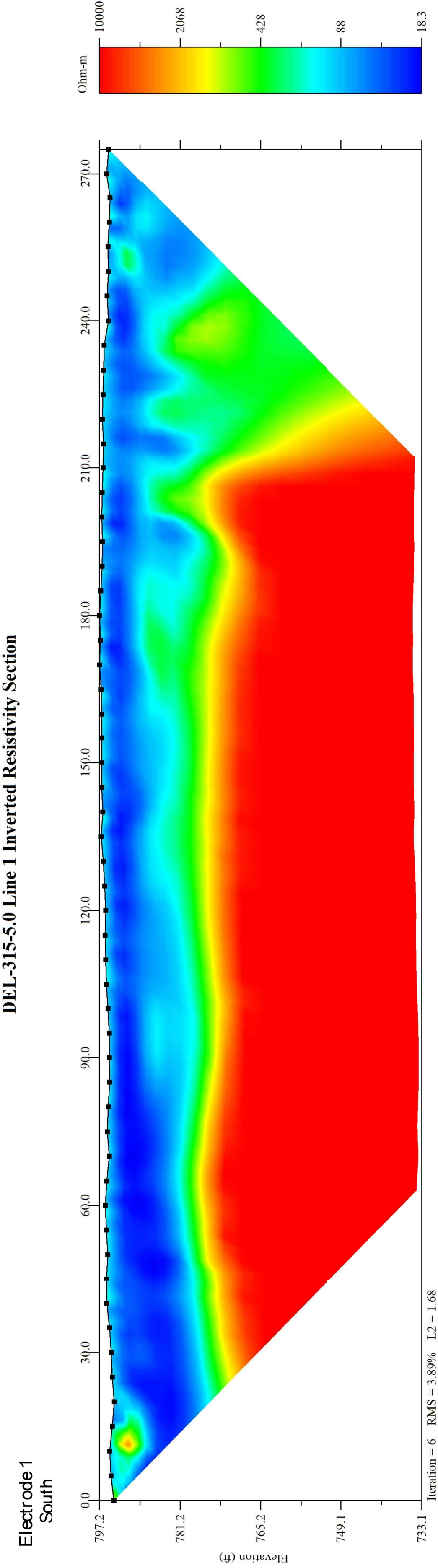
WATER ON COMPLETION: None observed.

HAMMER WEIGHT: 35 lbs.

CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0      50      100      150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
-	1	4.4	•	1	VERY LOOSE	VERY SOFT
-	1	4.4	•	1	VERY LOOSE	VERY SOFT
-      1 ft	3	13.3	••	3	VERY LOOSE	SOFT
-	3	13.3	••	3	VERY LOOSE	SOFT
-	2	8.9	••	2	VERY LOOSE	SOFT
-      2 ft	5	22.2	•••••	6	LOOSE	MEDIUM STIFF
-	6	26.6	•••••	7	LOOSE	MEDIUM STIFF
-	6	26.6	•••••	7	LOOSE	MEDIUM STIFF
-      3 ft	3	13.3	••	3	VERY LOOSE	SOFT
-      1 m	4	17.8	••••	5	LOOSE	MEDIUM STIFF
-	20	77.2	••••••••••••••••	22	MEDIUM DENSE	VERY STIFF
-      4 ft	13	50.2	••••••••	14	MEDIUM DENSE	STIFF
-	27	104.2	••••••••••••••••	25+	MEDIUM DENSE	VERY STIFF
-	17	65.6	••••••••••	18	MEDIUM DENSE	VERY STIFF
-      5 ft	25	96.5	••••••••••••••	25+	MEDIUM DENSE	VERY STIFF
-      6 ft	Difficult driving on an apparent root. Location offset 5 ft. from original drive location which encountered large rocks and roots.					
-      2 m						
-      7 ft						
-      8 ft						
-      9 ft						
-      3 m    10 ft						
-      11 ft						
-      12 ft						
-      4 m    13 ft						

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file.



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PROJECT DESCRIPTION

IMPROVEMENT OF 1.10 MILES OF S.R. 315 BY SLOPE STABILIZATION AT TWO (2) LOCATIONS. WORK INCLUDES RETAINING WALLS, CULVERT REPLACEMENTS, RESURFACING, AND THE INSTALLATION OF ROADSIDE DITCHES ON THE WEST SIDE OF S.R. 315.

HISTORIC RECORDS

NO HISTORICAL GEOTECHNICAL RECORDS WERE FOUND WITHIN EACH SEGMENT OF THE PROJECT. HOWEVER, SEVERAL BORINGS HAVE BEEN COMPLETED WITHIN THE CORRIDOR INDICATING THE PRESENCE OF GENERALLY COHESIVE SOILS UNDERLAIN BY SHALLOW LIMESTONE BEDROCK.

GEOLOGY

THE PROJECT IS LOCATED WITHIN THE CENTRAL OHIO CLAYEY TILL PLAIN PHYSIOGRAPHIC REGION WHICH IS CHARACTERIZED BY MODERATE RELIEF WITH WELL-DEFINED MORAINES AND RELATIVELY FLAT GROUND MORAINES BETWEEN. THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) INTERACTIVE GEOLOGIC MAP INDICATES THAT THE MAJORITY OF THE PROJECT AREA IS COMPRISED OF ALLUVIAL SOILS AT THE GROUND SURFACE ALONG THE BASE OF THE HILLSIDES WHICH ARE COMPRISED OF GLACIALLY DEPOSITED GROUND MORAINES. THE THIN OVERBURDEN SOILS ARE UNDERLAIN BY CARBONATE BEDROCK OF DEVONIAN AGE WITH THE COLUMBUS LIMESTONE PRESENT WITHIN THE OLENTANGY RIVER CHANNEL AND BANKS, AND DELAWARE LIMESTONE FOUND IN THE LOWER HILLSIDES.

RECONNAISSANCE

FIELD RECONNAISSANCE WAS COMPLETED BY PERSONNEL FROM THE OFFICE OF GEOTECHNICAL ENGINEERING (OGE) ON JULY 7, 2017. THE EXISTING ROADWAY WAS NOTED AS BEING PREDOMINATELY IN GOOD CONDITION. THE NORTHBOUND SHOULDER, RUNNING PARALLEL TO THE OLENTANGY RIVER, IS EXHIBITING MINOR DISTRESS DUE TO SLOPE INSTABILITY RESULTING FROM EROSION OF THE TOE OF THE SLOPE. ALONG THE SOUTHBOUND LANE A NARROW, FLAT, GRASS COVERED DITCH IS PRESENT ADJACENT TO EITHER WOODED HILLSIDE OR RURAL RESIDENTIAL LOTS. THE RIPARIAN CORRIDOR IS VEGETATED WITH GRASSES AND TREES, WITH AREA OF BARREN ERODED BANK PRESENT. IN ADDITION TO THE CURRENT PROJECT DEL-315-4.99 AND DEL-315-8.11 ALSO HAD RECONNAISSANCE COMPLETED. DEL-315-4.99 IS PRESENTED UNDER SEPARATE COVER AND DEL-315-8.11 WAS NON-PERFORMED WITH GEOTECHNICAL DATA PRESENTED WITHIN THE TRANSPORTATION INFORMATION MAPPING SYSTEM (TIMS).

SUBSURFACE EXPLORATION













SEVEN (7) BORINGS, B-001-0-17 THROUGH B-007-0-17, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION BETWEEN JULY 12 AND 15, 2017. BORINGS B-001-0-17 THROUGH B-003-0-17 AND B-005-0-17 THROUGH B-007-0-17 WERE DRILLED WITH A TRUCK MOUNTED CME55 ROTARY DRILL RIG. BORING B-004-0-17 WAS COMPLETED WITH A TRACK MOUNTED ACKER XLS ROTARY DRILL. ALL BORINGS WERE COMPLETED USING 3.25-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THROUGH THE OVERBURDEN SOILS. DISTURBED SAMPLES COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5-FOOT INTERVALS. THE HAMMER SYSTEMS USED WERE CALIBRATED ON JUNE 1, 2017, WITH AN AVERAGE DRILL ROD ENERGY RATIO (ER) OF 77% FOR THE CME55 AND 89% FOR THE ACKER XLS. ALL BORINGS WERE ADVANCED INTO BEDROCK AND SAMPLED (AASHTO T225) USING AN N SERIES WIRELINE CORE BARREL, WATER METHOD.

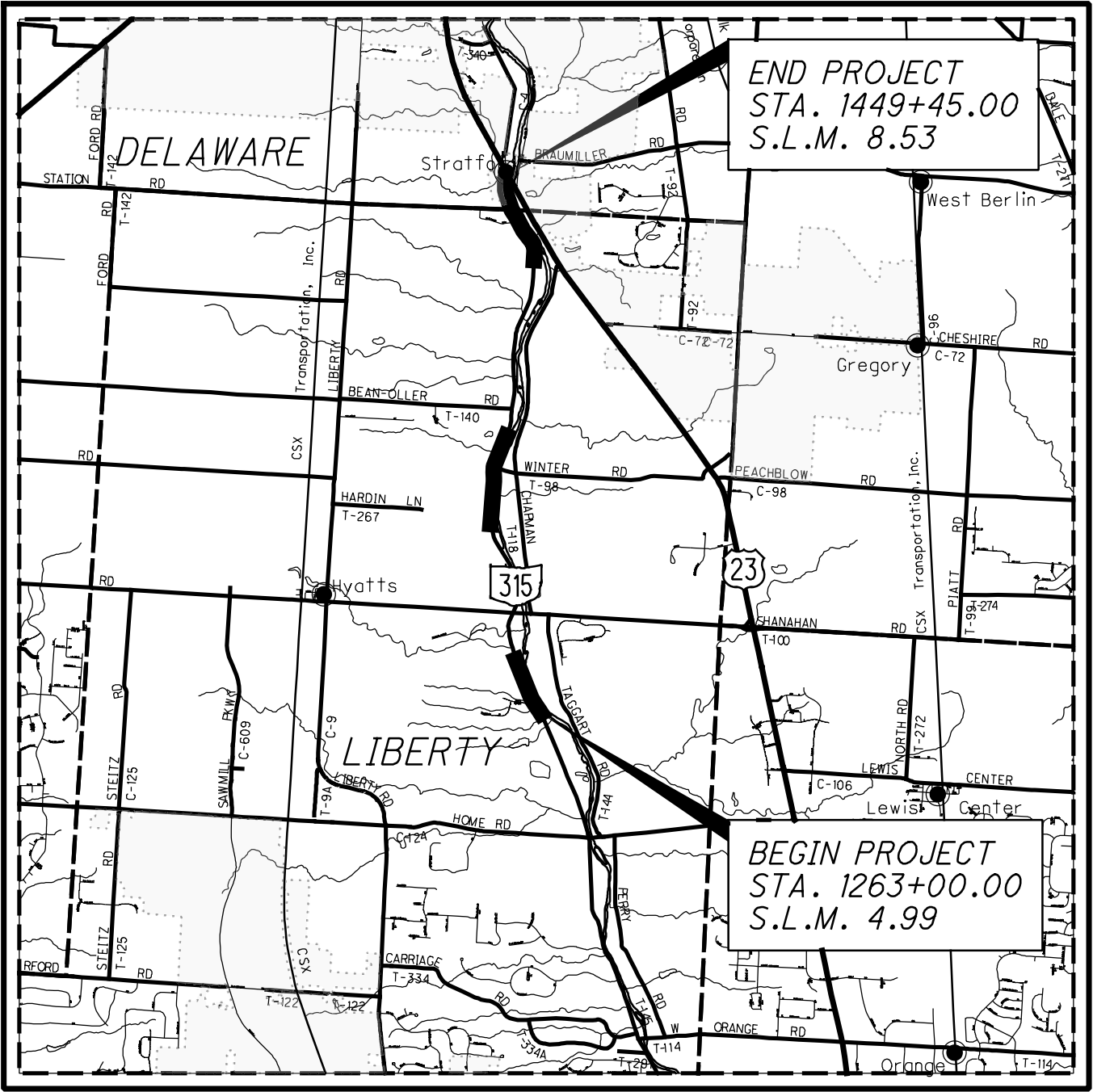
IN SUPPLEMENT TO THE BORINGS, ONE (1) ADDITIONAL BORING, B-006-1-17, AND ONE (1) DYNAMIC CONE PENETRATION (DCP) SOUNDING, D-007-1-17, WERE COMPLETED WITHIN THE VICINITY OF THE PROPOSED CULVERT HEADWALL LOCATIONS ON JULY 10, 2017. BORING B-006-1-17 WAS CORED WITH A MAN PORTABLE CORE MACHINE AND ADVANCED TO A DEPTH OF 2-FEET. SOUNDING D-007-1-17 WAS COMPLETED WITH A TRIGGS WILDCAT DCP UNIT UTILIZING A DISPOSABLE TIP. PRIOR TO INITIATING THE SOUNDING LIMESTONE COBBLES AND BOULDERS WERE CORED WITH A MAN PORTABLE CORE MACHINE AND A HOLE ADVANCED WITH HAND AUGER TO A DEPTH OF 1-METER.

ADDITIONALLY, ONE (1) ELECTRIC RESISTIVITY IMAGING (ERI) SURVEY WAS COMPLETED IN VICINITY OF THE EXITING GUARDRAIL LOCATED ALONG THE NORTHBOUND LANE. THE ERI DATA WAS COLLECTED WITH AN ADVANCED GEOSCIENCES INC. (AGI) SUPERSTING R8 CONTROL UNIT. FOR THE ERI SURVEY, FIFTY-SIX (56) ELECTRODES WERE SPACED APPROXIMATELY 5-FEET APART. THE ERI SURVEY LINE STARTED SOUTH OF B-003-0-17 AND EXTENDED NORTH OF B-004-0-17. THE DATA WAS PROCESSED, AND SURFACE ELEVATION CORRECTED USING AGI’S EARTHIMAGER 2D SOFTWARE.

DURING JANUARY OF 2020 AN ADDITIONAL FOUR (4) DCP SOUNDINGS, D-001-1-19, D-001-2-19, D-004-1-19, AND D-004-2-19, WERE COMPLETED WITHIN THE GRASSY AREA ADJACENT TO THE PAVEMENT ALONG THE SOUTHBOUND LANE. THE DCP SOUNDINGS WERE PERFORMED TO EVALUATE IF SHALLOW BEDROCK WAS PRESENT WHICH MAY INTERFERE WITH PROPOSED STORMWATER BEST MANAGEMENT PRACTICES (BMP). THE DCP SOUNDINGS WERE COMPLETED WITH A TRIGGS WILDCAT DCP UNIT UTILIZING A DISPOSABLE TIP.

EXPLORATION NOTES CONTINUED, SEE SHEET 2.

LEGEND				
	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND STONE FRAGMENTS WITH SAND	A-1-b	2	-
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT	A-2-4	4	4
	STONE FRAGMENTS WITH SAND, SILT AND CLAY	A-2-6	1	1
	SANDY SILT	A-4a	2	3
	SILT AND CLAY	A-6a	2	5
	SILTY CLAY	A-6b	3	1
		TOTAL	14	14
	BOULDERY ZONE	VISUAL		
	LIMESTONE	VISUAL		
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
	BORING OR DCP LOCATION - PLAN VIEW.			
	DRIVE SAMPLE AND ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.			
N <sub>60</sub>	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
X/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
X/Y/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X = NUMBER OF BLOWS FOR 6 INCHES (UNCORRECTED). Y/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
X/Y/Z/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X = NUMBER OF BLOWS FOR FIRST 6 INCHES (UNCORRECTED). Y = NUMBER OF BLOWS FOR SECOND 6 INCHES (UNCORRECTED). Z/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.			
W—	INDICATES FREE WATER ELEVATION.			
▽—	INDICATES WATER AT COMPLETION.			
⊕	INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.			
γ	INDICATES UNIT WEIGHT OF ROCK.			
LOI	INDICATES ORGANIC CONTENT BY LOSS ON IGNITION, AASHTO T267.			
NP	INDICATES A NON-PLASTIC SAMPLE.			
NQ	"N" SERIES ROCK CORE BARREL OF "Q" WIRELINE BIT SIZE.			
Qu	INDICATES UNCONFINED COMPRESSION TEST, ASTM D7012.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
TR	INDICATES TOP OF ROCK ELEVATION.			



LOCATION MAP  
SCALE IN MILES

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE	CLAY

RECON. -	PPP	07/07/17
DRILLING -	AMJ,KAM	07/10-15/17
DCP -	AMJ,PPP	07/10/17, 01/07/20
GEOPHYSICS -	AMJ,JMB	08/11/17
DRAWN -	ARR	11/08/24
REVIEWED -	SAT	11/15/24

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EXPLORATION FINDINGS

AFTER THE ORIGINAL PLANNED BORING LAYOUT THE LIMITS OF PROPOSED PLUG PILE WALL NO. 2 WERE REDUCED WITHOUT REQUIRING ANY ADDITIONAL EXPLORATION. BORINGS B-001-0-17 THROUGH B-003-0-17 AND B-005-0-17 THROUGH B-007-0-17 WERE COMPLETED WITHIN THE EXISTING ROADWAY ENCOUNTERING 11 TO 18-INCHES OF ASPHALT, WITH B-006-0-17 ALSO ENCOUNTERING 2-INCHES OF AGGREGATE BASE. BENEATH THE SURFACE MATERIALS THE BORINGS, EXCEPT B-006-0-17, ENCOUNTERED COHESIVE SOILS CONSISTING OF SANDY SILT (A-4a), SILT AND CLAY (A-6a), AND SILTY CLAY (A-6b) IN STIFF TO VERY STIFF CONSISTENCY AND DAMP TO MOIST CONDITION. BENEATH THE COHESIVE SOILS, AND BENEATH THE PAVEMENT AND BASE LAYER IN B-006-0-17, THE BORINGS, EXCEPT B-007-0-17, ENCOUNTERED NON-COHESIVE SOILS BETWEEN ELEVATION 795.9 AND 808.7 FEET, GENERALLY RISING TO THE NORTH. NON-COHESIVE SOILS CONSISTED OF GRAVEL AND STONE FRAGMENTS WITH SAND (A-1-b), STONE FRAGMENTS WITH SAND AND SILT (A-2-4), STONE FRAGMENTS WITH SAND, SILT, AND CLAY (A-2-6), AND SANDY SILT (A-4a) RANGING FROM MEDIUM DENSE TO VERY DENSE IN COMPACTNESS AND DAMP TO WET CONDITION TO TOP OF BEDROCK.

BORING B-004-0-17 WAS COMPLETED ALONG THE EDGE OF THE STREAM BANK ENCOUNTERING 6-INCHES OF TOPSOIL UNDERLAIN BY VERY STIFF SILTY CLAY (A-6b) IN DAMP CONDITION. BENEATH THE COHESIVE SOIL LAYER B-004-0-17 ENCOUNTERED DENSE TO VERY DENSE SANDY SILT (A-4a) IN DAMP TO MOIST CONDITION TO TOP OF BEDROCK.

BEDROCK WAS ENCOUNTERED WITHIN ALL BORINGS BETWEEN ELEVATION 790.8 AND 803.7 FEET GENERALLY RISING TO THE NORTH. ALL BORINGS WERE EXTENDED INTO LIMESTONE WHICH RANGED FROM STRONG TO VERY STRONG AND WAS JOINTED WITH CORE RUN RQD VALUES RANGING FROM 0% TO 88% AND UNIT RQD VALUES RANGING FROM 8% TO 72%. ALL BORINGS WERE TERMINATED WITHIN BEDROCK.

REPRESENTATIVE BEDROCK SAMPLES WERE TESTED FOR STRENGTH WITH UNCONFINED COMPRESSIVE TEST RESULTS RANGING FROM 10,563 TO 21,096 PSI. THESE RESULTS ARE PRESENTED IN TABULAR FORMAT, SEE BEDROCK TEST SUMMARY TABLE.

BOULDERS OR COBBLES WERE NOTED IN B-001-0-17 AT DEPTHS BETWEEN 8.5 AND 10- FEET.

BENEATH THE TOPSOIL IN B-004-0-17 MODERATELY ORGANIC SOIL WAS ENCOUNTERED WITH AN LOI RESULT OF 4.9% ORGANIC CONTENT. THIS RESULT IS PRESENTED IN THE ORGANIC CONTENT BY LOSS ON IGNITION TEST TABLE.

FREE WATER WAS NOTED WITHIN B-001-0-17 AND B-002-0-17 AT ELEVATION 796.9 AND 796.0 FEET, RESPECTIVELY WITH WATER NOTED AT COMPLETION IN B-001-0-017 AT ELEVATION 794.9 FEET. ALL OTHER BORINGS WERE REPORTED DRY PRIOR TO CORING OPERATIONS.

DCP SOUNDING D-007-1-17 WAS COMPLETED ALONG THE BASE OF THE STREAM BANK TO DETERMINE OVERBURDEN THICKNESS FOR THE PROPOSED HEADWALL. LIMESTONE BOULDERS WERE ENCOUNTERED AT THE GROUND SURFACE WHICH WAS CORED TO DETERMINE THE CONDITIONS. SOIL CONSISTING OF STONE FRAGMENTS WITH SAND AND SILT ENCOUNTERED AT 1.8 FEET AND CORED TO A DEPTH OF 3 FEET WHERE THE SOUNDING BEGAN. STIFF TO VERY STIFF CONDITIONS WERE ENCOUNTERED PRIOR TO REFUSAL CONDITIONS.

BMP DCP SOUNDINGS, D-001-1-19 AND D-001-2-19, WERE COMPLETED BETWEEN DEPTHS OF 8.2 AND 9.8 FEET, RESPECTIVELY, BELOW GROUND SURFACE ELEVATIONS 806.6 AND 806.3 FEET, RESPECTIVELY, WITHOUT ENCOUNTERING REFUSAL. BMP DCP SOUNDINGS, D-004-1-19 AND D-004-2-19, WERE COMPLETED BETWEEN DEPTHS OF 4.3 AND 6.7 FEET, RESPECTIVELY, BELOW GROUND SURFACE ELEVATIONS 808.9 AND 808.2 FEET, RESPECTIVELY, BEFORE ENCOUNTERING REFUSAL.

WATER WAS NOT NOTED IN ANY OF THE DCP SOUNDING LOCATIONS.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2017.

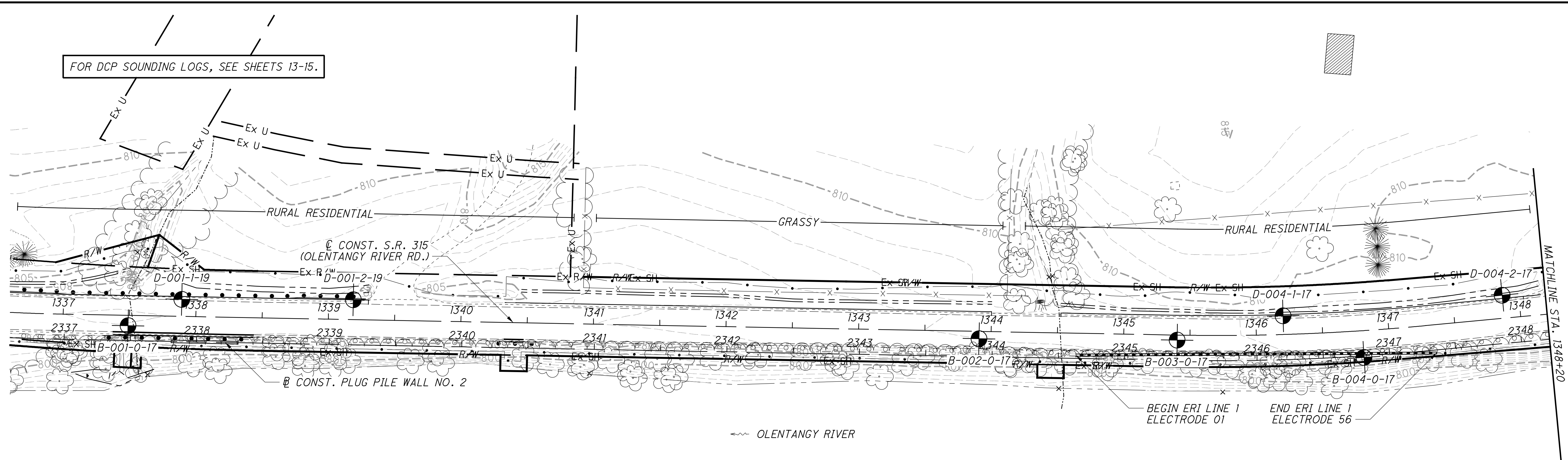
AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE GEOTECHNICAL PROFILE SHEETS HAS BEEN PRESENTED. THE RAW CPT DATA IS AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.

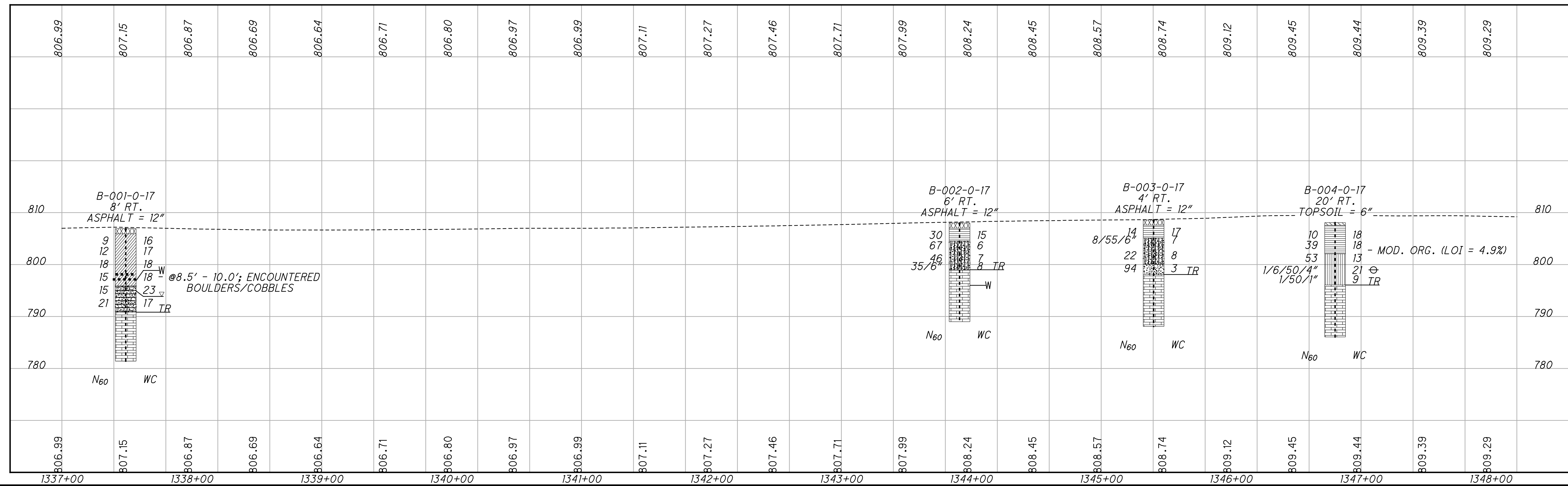
ORGANIC CONTENT BY LOSS ON IGNITION TEST				
BORING ID	SAMPLE ID	SAMPLE ELEVATION	SAMPLE DEPTH	LOI (%)
B-001-0-17	SS-1	806.6' - 805.1'	1.5' - 3.0'	4.9

BEDROCK TEST SUMMARY				
BORING ID	SAMPLE ELEVATION	SAMPLE DEPTH	Qu (PSI)	LITHOLOGY
B-001-0-17	788.2' - 787.9'	18.7' - 19.0'	13,563	LIMESTONE
	783.7' - 783.4'	23.2' - 23.5'	14,189	LIMESTONE
B-002-0-17	794.7' - 794.4'	13.3' - 13.6'	14,672	LIMESTONE
	791.6' - 791.2'	16.4' - 16.8'	10,563	LIMESTONE
B-003-0-17	794.0' - 793.7'	14.6' - 14.9'	16,880	LIMESTONE
	790.5' - 790.1'	18.1' - 18.5'	15,331	LIMESTONE
B-004-0-17	793.7' - 793.3'	14.4' - 14.8'	11,969	LIMESTONE
	787.7' - 787.3'	20.4' - 20.8'	14,374	LIMESTONE
B-005-0-17	793.3' - 793.0'	16.8' - 17.1'	15,896	LIMESTONE
B-006-0-17	801.3' - 800.9'	8.5' - 8.9'	17,676	LIMESTONE
B-006-1-17	799.1' - 798.7'	1.4' - 1.8'	17,037	LIMESTONE
B-007-0-17	802.5' - 802.2'	8.7' - 9.0'	21,096	LIMESTONE

I:\ProjectData\02124\Design\Geotechnical\Sheets\02124\_YP201.dgn DEL-315-6.34 STA 1337+00 to STA 1348+20 11/18/2024 12:48:46 PM gross3



----- ELECTRICAL RESISTIVITY IMAGING (ERI) SURVEY LINE  
LINE 1 APPROX. STA. 1344+64, 17' RT. TO 1347+34, 21' RT. (ELECTRODES 01-56)



N

0

20

40

80

HORIZONTAL SCALE IN FEET

DRAWN

ARR

CHECKED

SAT

GEOTECHNICAL PROFILE - LANDSLIDE

STA. 1337+00 TO STA. 1348+20 S.R. 315

DEL - 315 - 6.34

3 / 16

172  
216



PROJECT: DEL-315-6.34			DRILLING FIRM / OPERATOR: ODOT / CAREY			DRILL RIG: CME 55 TRUCK			STATION / OFFSET: 1337+49, 8' RT.					EXPLORATION ID B-001-0-17						
TYPE: LANDSLIDE			SAMPLING FIRM / LOGGER: ODOT / MCLEISH			HAMMER: CME AUTOMATIC			ALIGNMENT: CL SR 315											
PID: 102124 SFN: N/A			DRILLING METHOD: 3.25" HSA / NQ2			CALIBRATION DATE: 6/1/17			ELEVATION: 806.9 (ft) EOB: 25.5 ft.					PAGE						
START: 7/12/17 END: 7/12/17			SAMPLING METHOD: SPT / NQ2			ENERGY RATIO (%): 77			LAT / LONG: 40.225064, -83.064749					1 OF 1						
MATERIAL DESCRIPTION AND NOTES			ELEV.		DEPTHS	SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ODOT CLASS (G1)	BACK FILL			
			806.9								GR	CS	FS	SI	CL			LL	PL	PI
ASPHALT (12")  STIFF, BROWN AND REDDISH BROWN MOTTLED, SILT AND CLAY, SOME STONE FRAGMENTS, LITTLE SAND, (NOT ENOUGH MATERIAL TO TEST), DAMP TO MOIST  @3.5'; NO RECOVERY, AUGER SAMPLE TAKEN  @8.5' - 10.0'; ENCOUNTERED BOULDERS/COBBLES			805.9		1															
					2	3	9	11	SS-1	2.00	-	-	-	-	-	-	16	A-6a (V)		
					3															
					4	3	4	12	0	SS-2	-	-	-	-	-	-	17	A-6a (V)		
					5	4	5													
					6															
					7	9	7	18	44	SS-3	1.50	21	7	13	32	27	28	17	11	A-6a (5)
					8															
					9	4	7	15	28	SS-4	1.50	-	-	-	-	-	-	18	A-6a (V)	
					10															
MEDIUM DENSE, BROWN AND REDDISH BROWN MOTTLED, STONE FRAGMENTS WITH SAND, SILT, AND CLAY, MOIST TO WET			795.9		11															
					12	3	8	15	78	SS-5	-	46	13	10	17	14	34	20	14	A-2-6 (1)
					13															
					14															
					15															
					16															
					17															
					18															
					19															
					20															
LIMESTONE, LIGHT GRAY, MODERATELY WEATHERED, STRONG, THIN BEDDED, CRYSTALLINE, FOSSILIFEROUS, BEDDING, MODERATELY FRACTURED, OPEN, VERY ROUGH; BLOCKY, GOOD; RQD 63%, REC 96%.  @ 18.7' - 19.0'; γ = 164 pcf; Qu = 13,563 psi			790.8		TR															
					21															
					22															
					23															
					24															
					25															
					26															
					27															
					28															
					29															
@ 23.2' - 23.5'; γ = 163 pcf; Qu = 14,189 psi					30															
					31															
					32															
					33															
					34															
					35															
					36															
					37															
					38															
					39															

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 10/24/24 14:43 - X:\GINT\PROJECTS\2017 COMPLETE\600386.GPJ

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM CONSULTANT SURVEY TIN.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 100 LB. BENTONITE CHIPS









Office of Geotechnical Engineering

B-001-0-17



Run #:	Depth		Recovery		RQD	
NQ2-1	15.5'	20.5'	57/60	95%	22/60	37%
NQ2-2	20.5'	25.5'	58/60	97%	53/60	88%
DEL-315-6.34 PID 102124						



PROJECT: DEL-315-6.34			DRILLING FIRM / OPERATOR: ODOT / CAREY			DRILL RIG: CME 55 TRUCK			STATION / OFFSET: 1345+40, 4' RT.				EXPLORATION ID										
TYPE: LANDSLIDE			SAMPLING FIRM / LOGGER: ODOT / MCLEISH			HAMMER: CME AUTOMATIC			ALIGNMENT: CL SR 315				B-003-0-17										
PID: 102124 SFN: N/A			DRILLING METHOD: 3.25" HSA / NQ2			CALIBRATION DATE: 6/1/17			ELEVATION: 808.6 (ft) EOB: 20.5 ft.				PAGE										
START: 7/15/17 END: 7/15/17			SAMPLING METHOD: SPT / NQ2			ENERGY RATIO (%): 77			LAT / LONG: 40.227234, -83.064613				1 OF 1										
MATERIAL DESCRIPTION AND NOTES			ELEV.	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL			
ASPHALT (12")				807.6	1																		
					2	7	4	14	67	SS-1	4.00	38	9	10	20	23	39	17	22	17	A-6b (5)		
					3																		
					4	8		-	83	SS-2	-	-	-	-	-	-	-	-	-	-	-	7	A-2-4 (V)
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT, TRACE CLAY, DAMP				805.1	5																		
					6	14	22	100	SS-3	-	44	14	12	22	8	NP	NP	NP	8	A-2-4 (0)			
					7	11	6																
					8																		
@6.0'; MEDIUM DENSE				800.1	9	27	31	94	17	SS-4	-	54	14	9	17	6	NP	NP	3	A-1-b (0)			
					10	42																	
					11																		
					12																		
VERY DENSE, GRAY, GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, DAMP				798.1	13	18			100	NQ2-1									CORE				
					14																		
					15																		
					16																		
LIMESTONE, LIGHT GRAY, MODERATELY WEATHERED, VERY STRONG, THIN BEDDED, CRYSTALLINE, FOSSILIFEROUS, SLIGHTLY STYLOLITIC, BEDDING, HIGHLY FRACTURED, OPEN, VERY ROUGH; VERY BLOCKY, FAIR; RQD 45%, REC 100%.					17														CORE				
					18	72			100	NQ2-2													
					19																		
					20																		
@18.1' - 18.5'; γ = 164 pcf; Qu = 15,331 psi @18.7'; CLAY INFILLING @19.2' - 19.3'; CLAY INFILLING				788.1	FOR																		

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 10/24/24 14:43 - X:\GINT\PROJECTS\2017 COMPLETE\0600386.GPJ

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM CONSULTANT SURVEY TIN. HOLE DRY BEFORE CORING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 60 LB. BENTONITE CHIPS



Office of Geotechnical Engineering

B-003-0-17



Run #:	Depth		Recovery		RQD	
NQ2-1	10.5'	15.5'	60/60	100%	11/60	18%
NQ2-2	15.5'	20.5'	60/60	100%	43/60	72%
DEL-315-6.34 PID 102124						



PROJECT: DEL-315-6.34

TYPE: LANDSLIDE

PID: 102124    SFN: N/A

START: 7/15/17    END: 7/15/17

DRILLING FIRM / OPERATOR: ODOT / CAREY

SAMPLING FIRM / LOGGER: ODOT / MCLEISH

DRILLING METHOD: 3.25" HSA / NQ2

SAMPLING METHOD: SPT / NQ2

MATERIAL DESCRIPTION AND NOTES

ASPHALT (14")

VERY STIFF BROWN SANDY SILT, SOME CLAY, LITTLE STONE FRAGMENTS, DAMP

@3.5'; SOME STONE FRAGMENTS

VERY DENSE, BROWN AND GRAY GRAVEL AND STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, DAMP

LIMESTONE, BROWNISH GRAY, MODERATELY WEATHERED, VERY STRONG, THIN BEDDED, CRYSTALLINE, CONTAINS CLAY INFILLING, JOINTED, FRACTURED, OPEN, VERY ROUGH, VERY BLOCKY, POOR; RQD 8%, REC 100%, @8.1' - 16.8'; HIGH ANGLE FRACTURE WITH CLAY INFILLING AND RUST STAINING

@16.8'; MODERATELY FRACTURED

@ 16.8' - 17.1';  $\gamma$  = 167 pcf;  $Q_u$  = 15,896 psi

STATION / OFFSET: 1351+01, 5' RT.

ALIGNMENT: CL SR 315

ELEVATION: 810.1 (ft)

EOB: 17.5 ft.

DRILL RIG: CME 55 TRUCK

HAMMER: CME AUTOMATIC

CALIBRATION DATE: 6/1/17

ENERGY RATIO (%): 77

GRADATION (%)

GR CS FS SI CL LL PL PI

ATTERBERG

WC

ODOT CLASS (G1)

BACK FILL

SPT/ RQD

N<sub>60</sub>

REC (%)

SAMPLE ID

HP (tsf)

GR

CS

FS

SI

CL

LL

PL

PI

WC

ODOT CLASS (G1)

BACK FILL

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

810.1

808.9

804.1

802.6

792.6

EOB

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 10/24/24 14:43 - X:\GINT\PROJECTS\2017 COMPLETE\0600386.GPJ

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM CONSULTANT SURVEY TIN. HOLE DRY BEFORE CORING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 60 LB. BENTONITE CHIPS



Office of Geotechnical Engineering

B-005-0-17



Run #:	Depth	Recovery	RQD	
NQ2-1	7.5'	60/60	0/60	0%
NQ2-2	12.5'	60/60	9/60	15%
DEL-315-6.34 PID 102124				

PROJECT: DEL-315-6.34		DRILLING FIRM / OPERATOR: ODOT / MCLEISH		DRILL RIG: CME 55 TRUCK		STATION / OFFSET: 1356+38, 5' LT.		EXPLORATION ID							
TYPE: LANDSLIDE		SAMPLING FIRM / LOGGER: ODOT / AJ		HAMMER: CME AUTOMATIC		ALIGNMENT: CL SR 315		B-006-0-17							
PID: 102124    SFN: N/A		DRILLING METHOD: 3.25" HSA / NQ2		CALIBRATION DATE: 6/1/17		ELEVATION: 809.8 (ft)    EOB: 11.3 ft.		PAGE							
START: 7/15/17    END: 7/15/17		SAMPLING METHOD: SPT / NQ2		ENERGY RATIO (%): 77		LAT / LONG: 40.230148, -83.063919		1 OF 1							
MATERIAL DESCRIPTION AND NOTES				REC SAMPLE ID		GRADATION (%)		ODOT CLASS (G)							
ASPHALT (11") & BASE (2")				SPT/ RQD	N <sub>60</sub>	REC (%)	CS	FS	SI	CL	LL	PL	PI	WC	BACK FILL
MEDIUM DENSE, BROWN, STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, DAMP															
LIMESTONE, LIGHT GRAY, SLIGHTLY WEATHERED, VERY STRONG, THIN BEDDED, CRYSTALLINE, BEDDING, MODERATELY FRACTURED, OPEN, VERY ROUGH; BLOCKY, GOOD; RQD 40%, REC 100%. @ 7.9' - 8.0'; CLAY SEAM @ 8.5' - 8.9'; γ = 167 pcf; Qu = 17,676 psi															
EOB															

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 11/8/24 12:18 - X:\GINT\PROJECTS\2017 COMPLETE\600386.GPJ

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM CONSULTANT SURVEY TIN. HOLE DRY BEFORE CORING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 25 LB. BENTONITE CHIPS



Office of Geotechnical Engineering

B-006-0-17



Run #:	Depth	Recovery	RQD
NQ2-1	6.1'	62.4/62.4	25/62.4
	11.3'	100%	40%
DEL-315-6.34 PID 102124			

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 10/24/24 14:44 - X:\GINT\PROJECTS\2017 COMPLETE\600386.GPJ

[illegible]

PROJECT: DEL-315-6.34		DRILLING FIRM / OPERATOR: ODOT / MCLEISH		DRILL RIG: CME 55 TRUCK		STATION / OFFSET: 1358+39, 1' RT.		EXPLORATION ID					
TYPE: LANDSLIDE		SAMPLING FIRM / LOGGER: ODOT / AJ		HAMMER: CME AUTOMATIC		ALIGNMENT: CL SR 315		B-007-0-17					
PID: 102124    SFN: N/A		DRILLING METHOD: 3.25" HSA / NQ2		CALIBRATION DATE: 6/1/17		ELEVATION: 811.2 (ft)		12.7 ft.					
START: 7/15/17    END: 7/15/17		SAMPLING METHOD: SPT / NQ2		ENERGY RATIO (%): 77		LAT / LONG: 40.230656, -83.063635		PAGE 1 OF 1					
MATERIAL DESCRIPTION AND NOTES		ELEV.		REC SAMPLE		GRADATION (%)		ODOT CLASS (G)					
ASPHALT (18")		811.2		N <sub>60</sub>		GR CS FS I SI CL LL PL PI WC		BACK FILL					
STIFF TO VERY STIFF, REDDISH BROWN, SILT AND CLAY, "AND" STONE FRAGMENTS, SOME SAND, DAMP		809.7		8		41		10		A-6a (O)			
				16		28		12		11		10	
				10									
				4		4		-		-		13	
				5									
				6									
				7		6		50/4"		-		18	
				8									
				9									
				10		72		88		NQ2-1		CORE	
				11									
				12									
@6.0'; WITH WOOD FRAGMENTS, MOIST		803.4											
LIMESTONE, GRAY, SLIGHTLY WEATHERED, VERY STRONG, THIN BEDDED, CRYSTALLINE, SLIGHTLY STYOLITIC, BEDDING AND JOINTED, MODERATELY FRACTURED, OPEN, VERY ROUGH; BLOCKY, GOOD; RQD 72%, REC 88%.													
@8.7' - 9.0'; γ = 168 pcf; Qu = 21,096 psi													
@9.4' - 10.1'; CLAY SEAM													
@11.3' - 11.7'; HIGH ANGLE PARTIALLY HEALED FRACTURE													
		798.5											
		EOB											

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 11/8/24 12:18 - X:\GINT\PROJECTS\2017 COMPLETE\600386.GPJ

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM CONSULTANT SURVEY TIN. HOLE DRY BEFORE CORING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 75 LB. BENTONITE CHIPS



Office of Geotechnical Engineering

B-007-0-17



Run #:	Depth	Recovery	RQD
NQ2-1	7.7'	53/60	43/60
		88%	72%
DEL-315-6.34 PID 102124			

I:\Project+Data\02124\Design\Geotechnical\Sheets\02124\_YL209.dgn DEL-315-6.34 D-001-1-19 and D-001-2-19 Sounding Log 11/18/2024 12:49:48 PM gross3

WILDCAT DYNAMIC CONE LOG

Page 1 of 1

The Ohio Department of Transportation  
Office of Geotechnical Engineering  
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 102124  
DATE STARTED: 01-07-2020  
DATE COMPLETED: 01-07-2020

HOLE #: D-001-1-19  
CREW: Jalbrzikowski, Hesler, Bloor & Painter  
PROJECT: DEL-315-6.34  
LAT/LONG: 40.225176, -83.064828  
LOCATION: DEL-315-6.44 Southern BMP location Southbound

SURFACE ELEVATION: 806.6  
WATER ON COMPLETION: None observed.  
HAMMER WEIGHT: 35 lbs.  
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
-	3	13.3	***	3	VERY LOOSE	SOFT
-	7	31.1	*****	8	LOOSE	MEDIUM STIFF
- 1 ft	7	31.1	*****	8	LOOSE	MEDIUM STIFF
-	6	26.6	*****	7	LOOSE	MEDIUM STIFF
-	5	22.2	*****	6	LOOSE	MEDIUM STIFF
- 2 ft	5	22.2	*****	6	LOOSE	MEDIUM STIFF
-	6	26.6	*****	7	LOOSE	MEDIUM STIFF
-	5	22.2	*****	6	LOOSE	MEDIUM STIFF
- 3 ft	5	22.2	*****	6	LOOSE	MEDIUM STIFF
- 1 m	6	26.6	*****	7	LOOSE	MEDIUM STIFF
-	7	27.0	*****	7	LOOSE	MEDIUM STIFF
- 4 ft	5	19.3	*****	5	LOOSE	MEDIUM STIFF
-	5	19.3	*****	5	LOOSE	MEDIUM STIFF
-	6	23.2	*****	6	LOOSE	MEDIUM STIFF
- 5 ft	14	54.0	*****	15	MEDIUM DENSE	STIFF
-	12	46.3	*****	13	MEDIUM DENSE	STIFF
-	10	38.6	*****	11	MEDIUM DENSE	STIFF
- 6 ft	6	23.2	*****	6	LOOSE	MEDIUM STIFF
-	9	34.7	*****	9	LOOSE	STIFF
- 2 m	17	65.6	*****	18	MEDIUM DENSE	VERY STIFF
- 7 ft	11	37.6	*****	10	LOOSE	STIFF
-	9	30.8	*****	8	LOOSE	MEDIUM STIFF
-	11	37.6	*****	10	LOOSE	STIFF
- 8 ft	9	30.8	*****	8	LOOSE	MEDIUM STIFF
-	25	85.5	*****	24	MEDIUM DENSE	VERY STIFF
- 3 m	10 ft					
-						
-						
- 11 ft						
-						
- 12 ft						
-						
- 4 m	13 ft					

Soil Profile Based on B-001-0-17:  
0.0' - 0.5': Topsoil (noted at DCP location)  
0.5' - 11.0': Brown and reddish brown SILTY AND CLAY, some stone fragment, some sand, damp to moist.  
11.0' - 16.1': Brown and reddish brown mottled STONE FRAGMENTS WITH SAND, SILT AND CLAY, moist to wet.  
16.1': Limestone

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file.

WILDCAT DYNAMIC CONE LOG

Page 1 of 1

The Ohio Department of Transportation  
Office of Geotechnical Engineering  
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 102124  
DATE STARTED: 01-07-2020  
DATE COMPLETED: 01-07-2020

HOLE #: D-001-2-19  
CREW: Jalbrzikowski, Hesler, Bloor & Painter  
PROJECT: DEL-315-6.34  
LAT/LONG: 40.225531, -83.064811  
LOCATION: DEL-315-6.44 Southern BMP location Southbound

SURFACE ELEVATION: 806.3  
WATER ON COMPLETION: None observed.  
HAMMER WEIGHT: 35 lbs.  
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
-	2	8.9	**	2	VERY LOOSE	SOFT
-	4	17.8	****	5	LOOSE	MEDIUM STIFF
- 1 ft	5	22.2	*****	6	LOOSE	MEDIUM STIFF
-	5	22.2	*****	6	LOOSE	MEDIUM STIFF
- 2 ft	5	22.2	*****	6	LOOSE	MEDIUM STIFF
-	6	26.6	*****	7	LOOSE	MEDIUM STIFF
-	6	26.6	*****	7	LOOSE	MEDIUM STIFF
-	10	44.4	*****	12	MEDIUM DENSE	STIFF
- 3 ft	11	48.8	*****	13	MEDIUM DENSE	STIFF
- 1 m	9	40.0	*****	11	MEDIUM DENSE	STIFF
-	9	34.7	*****	9	LOOSE	STIFF
- 4 ft	7	27.0	*****	7	LOOSE	MEDIUM STIFF
-	9	34.7	*****	9	LOOSE	STIFF
-	8	30.9	*****	8	LOOSE	MEDIUM STIFF
- 5 ft	9	34.7	*****	9	LOOSE	STIFF
-	7	27.0	*****	7	LOOSE	MEDIUM STIFF
-	8	30.9	*****	8	LOOSE	MEDIUM STIFF
- 6 ft	4	15.4	***	4	VERY LOOSE	SOFT
-	3	11.6	**	3	VERY LOOSE	SOFT
- 2 m	6	23.2	*****	6	LOOSE	MEDIUM STIFF
- 7 ft	5	17.1	***	4	VERY LOOSE	SOFT
-	6	20.5	*****	5	LOOSE	MEDIUM STIFF
-	6	20.5	*****	5	LOOSE	MEDIUM STIFF
- 8 ft	6	20.5	*****	5	LOOSE	MEDIUM STIFF
-	13	44.5	*****	12	MEDIUM DENSE	STIFF
-	19	65.0	*****	18	MEDIUM DENSE	VERY STIFF
- 9 ft	13	44.5	*****	12	MEDIUM DENSE	STIFF
-	11	37.6	*****	10	LOOSE	STIFF
-	7	23.9	*****	6	LOOSE	MEDIUM STIFF
- 3 m	10 ft	34.2	*****	9	LOOSE	STIFF
-						
-						
- 11 ft						
-						
- 12 ft						
-						
- 4 m	13 ft					

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file.

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GEOTECHNICAL PROFILE - LANDSLIDE  
DCP SOUNDING LOGS FOR D-001-1-19 & D-001-2-19

DEL - 315 - 6.34

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WILDCAT DYNAMIC CONE LOG

Page 1 of 1

The Ohio Department of Transportation  
Office of Geotechnical Engineering  
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 102124  
DATE STARTED: 01-07-2020  
DATE COMPLETED: 01-07-2020

HOLE #: D-004-1-19  
CREW: Jalbrzikowski, Hesler, Bloor & Painter  
PROJECT: DEL-315-6.34  
LAT/LONG: 40.227453, -83.064682  
LOCATION: DEL-315-6.44 Northern BMP location Southbound

SURFACE ELEVATION: 808.9  
WATER ON COMPLETION: None observed.  
HAMMER WEIGHT: 35 lbs.  
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
-	2	8.9	••	2	VERY LOOSE	SOFT
-	5	22.2	•••••	6	LOOSE	MEDIUM STIFF
- 1 ft	5	22.2	•••••	6	LOOSE	MEDIUM STIFF
-	5	22.2	•••••	6	LOOSE	MEDIUM STIFF
-	6	26.6	•••••	7	LOOSE	MEDIUM STIFF
- 2 ft	9	40.0	••••••••	11	MEDIUM DENSE	STIFF
-	9	40.0	••••••••	11	MEDIUM DENSE	STIFF
-	8	35.5	••••••••	10	LOOSE	STIFF
- 3 ft	10	44.4	••••••••	12	MEDIUM DENSE	STIFF
- 1 m	11	48.8	••••••••••	13	MEDIUM DENSE	STIFF
-	27	104.2	••••••••••••••••••••	25+	MEDIUM DENSE	VERY STIFF
- 4 ft	11	42.5	••••••••	12	MEDIUM DENSE	STIFF
-	7	27.0	••••••	7	LOOSE	MEDIUM STIFF
-	25	96.5	••••••••••••••••••••	25+	MEDIUM DENSE	VERY STIFF
- 5 ft	Refusal at 132cm (25+ blows/2cm) ~EL. 804.6 ft.					
- 6 ft						
- 2 m						
- 7 ft						
- 8 ft						
- 9 ft						
- 3 m	10 ft	Soil Profile Based on B-004-0-17: 0.0' - 0.5': Topsoil 0.5' - 6.0': Dark brown SILTY CLAY, "and" sand, little gravel and stone fragement, moderately organic moist. 6.0' - 12.0': Brown and reddish brown SANDY SILT, some stone fragments, some clay, damp 12.0': Limestone				
-	11 ft					
-	12 ft					
-	13 ft					
- 4 m	13 ft					

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file.

WILDCAT DYNAMIC CONE LOG

Page 1 of 1

The Ohio Department of Transportation  
Office of Geotechnical Engineering  
1600 West Broad Street, Columbus, Ohio 43223

PROJECT NUMBER: 102124  
DATE STARTED: 01-07-2020  
DATE COMPLETED: 01-07-2020

HOLE #: D-004-2-19  
CREW: Jalbrzikowski, Hesler, Bloor & Painter  
PROJECT: DEL-315-6.34  
LAT/LONG: 40.227908, -83.064717  
LOCATION: DEL-315-6.44 Northern BMP location Southbound

SURFACE ELEVATION: 808.2  
WATER ON COMPLETION: None observed.  
HAMMER WEIGHT: 35 lbs.  
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
-	2	8.9	••	2	VERY LOOSE	SOFT
-	3	13.3	•••	3	VERY LOOSE	SOFT
- 1 ft	3	13.3	•••	3	VERY LOOSE	SOFT
-	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
-	4	17.8	•••••	5	LOOSE	MEDIUM STIFF
- 2 ft	6	26.6	••••••••	7	LOOSE	MEDIUM STIFF
-	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
-	5	22.2	••••••	6	LOOSE	MEDIUM STIFF
- 3 ft	6	26.6	••••••	7	LOOSE	MEDIUM STIFF
- 1 m	13	57.7	••••••••••••	16	MEDIUM DENSE	VERY STIFF
-	12	46.3	••••••••••	13	MEDIUM DENSE	STIFF
- 4 ft	8	30.9	••••••	8	LOOSE	MEDIUM STIFF
-	12	46.3	••••••••••	13	MEDIUM DENSE	STIFF
-	10	38.6	••••••••	11	MEDIUM DENSE	STIFF
- 5 ft	9	34.7	••••••••	9	LOOSE	STIFF
-	11	42.5	••••••••	12	MEDIUM DENSE	STIFF
-	17	65.6	••••••••••••	18	MEDIUM DENSE	VERY STIFF
- 6 ft	19	73.3	••••••••••••	20	MEDIUM DENSE	VERY STIFF
-	25	96.5	••••••••••••••••	25+	MEDIUM DENSE	VERY STIFF
- 2 m	Refusal at 188 cm (25+ blows/8 cm) ~EL. 802.0 ft.					
- 7 ft						
- 8 ft						
- 9 ft						
- 3 m	10 ft					
-	11 ft					
-	12 ft					
- 4 m	13 ft					

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file.

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GEOTECHNICAL PROFILE - LANDSLIDE

DCP SOUNDING LOGS FOR D-004-1-19 & D-004-2-19

DEL - 315 - 6.34

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WILDCAT DYNAMIC CONE LOG

The Ohio Department of Transportation

Office of Geotechnical Engineering

1600 West Broad Street, Columbus, Ohio 43223

HOLE #: D-007-1-17

CREW: K. Mcleish, J. Binkley, & A. Jalbrzikowski

PROJECT: DEL-315-6.34

LAT/LONG: 40.230701, -83.063684

LOCATION: Delaware County, Ohio

Page 1 of 1

PROJECT NUMBER: 102124

DATE STARTED: 07-10-2017

DATE COMPLETED: 07-10-2017

SURFACE ELEVATION: 811.0

WATER ON COMPLETION: none observed

HAMMER WEIGHT: 35 lbs.

CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm²	GRAPH OF CONE RESISTANCE 050100150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
-	0	0.0	0'-0.7'; LIMESTONE FRAGMENTS	0	VERY LOOSE	VERY SOFT
-	0	0.0		0	VERY LOOSE	VERY SOFT
-1 ft	0	0.0	0.7'-1.8'; LIMESTONE BOULDERS	0	VERY LOOSE	VERY SOFT
-	0	0.0		0	VERY LOOSE	VERY SOFT
-	0	0.0		0	VERY LOOSE	VERY SOFT
-2 ft	0	0.0	1.8'-3.5'; BROWN STONE FRAGS.	0	VERY LOOSE	VERY SOFT
-	0	0.0	WITH SAND, SILT, & CLAY, DAMP	0	VERY LOOSE	VERY SOFT
-	0	0.0		0	VERY LOOSE	VERY SOFT
-3 ft	0	0.0		0	VERY LOOSE	VERY SOFT
-1 m	0	0.0	WILDCAT DCP STARTED @3.5'	0	VERY LOOSE	VERY SOFT
-	12	46.3	.....	13	MEDIUM DENSE	STIFF
-4 ft	24	92.6	.....	25+	MEDIUM DENSE	VERY STIFF
-	15	57.9	.....	16	MEDIUM DENSE	VERY STIFF
-	25	96.5	.....	25+	MEDIUM DENSE	VERY STIFF
-5 ft						
-						
-6 ft						
-2 m						
-7 ft						
-						
-8 ft						
-						
-9 ft						
-						
-3 m 10 ft						
-						
-11 ft						
-						
-12 ft						
-						
-4 m 13 ft						

Latitude & Longitude from OGE handheld GPS unit. Elevation from Consultant Survey terrain file. Hole dry before coring. Hole advanced with handheld NX Core Drill.

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GEOTECHNICAL PROFILE - LANDSLIDE  
DCP SOUNDING LOG FOR D-007-1-17

DEL - 315 - 6.34

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