

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 6/5/24 14:25 - E:\PROJECTS\2022\N422552\WORKING FILES\LABORATORY-FIELD DATA-BORING LOGS\N422552 ODOT FILE.GDT

PROJECT: BEL-147-25.87		DRILLING FIRM / OPERATOR: TERRACON / FAY		DRILL RIG: MOBILE B-57		STATION / OFFSET: 1366+24, 5' LT.		EXPLORATION ID												
TYPE: LANDSLIDE		SAMPLING FIRM / LOGGER: TERRACON / SWYCK		HAMMER: CME AUTOMATIC		ALIGNMENT: BEL - 147		B-001-0-23												
PID: 118147 SFN: N/A		DRILLING METHOD: 3.25" HSA / NQ2		CALIBRATION DATE: 1/26/23		ELEVATION: 1290.7 (MSL) EOB: 25.0 ft.		PAGE												
START: 5/4/23 END: 5/4/23		SAMPLING METHOD: SPT / NQ2		ENERGY RATIO (%): 90		LAT / LONG: 39.975584, -80.880162		1 OF 1												
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	HOLE SEALED
		1290.7							GR	CS	FS	SI	CL	LL	PL	PI	WC			
ASPHALT (24")			1																	
		1288.7	2	14 9 6	23	89	SS-1A	-	-	-	-	-	-	-	-	-	-		-	
HARD, BROWN, <b>CLAY</b> , TRACE SAND, TRACE GRAVEL, DAMP			3				SS-1B	4.50	-	-	-	-	-	-	-	-	11	A-7-6 (V)	-	
		1286.7	4	2																
VERY STIFF TO HARD, BROWN, <b>SILTY CLAY</b> , SOME SAND, LITTLE GRAVEL, MOIST TO DAMP			5	2 3	8	56	SS-2	2.50	16	18	10	30	26	37	18	19	21	A-6b (8)	-	
			6																	
@ 6.5'; REDDISH BROWN			7	4 9 13	33	67	SS-3	4.50	-	-	-	-	-	-	-	-	17	A-6b (V)	-	
			8																	
			9	7																
			10	13 21	51	67	SS-4	4.50	3	0	5	46	46	38	21	17	13	A-6b (11)	-	
		1278.7	11																	
SHALE, LIGHT BROWN, SEVERELY WEATHERED, VERY WEAK.			12	27 50/5"	-	91	SS-5A	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			13																	
		1275.7	14	50/5"	-	100	SS-6	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			15																	
SHALE, GRAY AND BROWN, MODERATELY TO HIGHLY WEATHERED, WEAK TO MODERATELY STRONG, FINE GRAINED, THIN TO MEDIUM BEDDED, ARGILLACEOUS; RQD 33%, REC 70%.			16																	
			17	33		70	NQ2--1											CORE		
			18																	
			19																	
			20																	
			21																	
			22	14		87	NQ2--2											CORE		
			23																	
@24'- 24.3'; Sc = 322 psi			24																	
		1265.7	EOB																	
NOTES: NO FREE WATER ENCOUNTERED IN THIS BORING. BORING LOCATION AND ELEVATION FROM DISTRICT SURVEY.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED SEALED WITH PORTLAND CEMENT AND BENTONITE GROUT WITH ASPHALT PATCH																				



STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 6/5/24 14:25 - E:\PROJECTS\2022\N422552\WORKING FILES\LABORATORY-FIELD DATA-BORING LOGS\N422552 ODOT FILE.GDT

PID: 118147	SFN: N/A	PROJECT: BEL-147-25.87	STATION / OFFSET: 1367+28, 6' LT.		START: 5/4/23		END: 5/4/23		PG 2 OF 2		B-002-0-23												
MATERIAL DESCRIPTION AND NOTES			ELEV.	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	HOLE SEALED		
			1265.8							GR	CS	FS	SI	CL	LL	PL	PI						
INTERBEDDED SANDSTONE (90%) AND SHALE (10%), RQD 49%, REC. 98%; SANDSTONE, GRAYISH BROWN, SLIGHTLY TO MODERATELY WEATHERED, MODERATELY STRONG TO STRONG, COARSE GRAINED, VERY THIN TO THIN BEDDED, ARGILLACEOUS; SHALE, GRAY, SLIGHTLY WEATHERED, MODERATELY STRONG, FINE GRAINED, VERY THIN BEDDED. (continued)			1260.8	EOB	33		88	NQ2-2										CORE					
																							26
																							27
																							28
																							29
				30																			
NOTES: NO FREE WATER ENCOUNTERED IN THIS BORING. BORING LOCATION AND ELEVATION FROM DISTRICT SURVEY.																							
ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED SEALED WITH PORTLAND CEMENT AND BENTONITE GROUT WITH ASPHALT PATCH																							



STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 6/5/24 14:26 - E:\PROJECTS\2022\N422552\WORKING FILES\LABORATORY-FIELD DATA-BORING LOGS\N422552 ODOT FILE.GDT

PID: 118147	SFN: N/A	PROJECT: BEL-147-25.87	STATION / OFFSET: 1368+32, 6' LT.		START: 5/5/23	END: 5/5/23	PG 2 OF 2	B-003-0-23														
<b>MATERIAL DESCRIPTION AND NOTES</b>			ELEV. 1268.4	DEPTHS	SPT/ RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	HOLE SEALED	
<b>INTERBEDDED SANDSTONE (80%) AND SHALE (20%),</b> VERTICAL CRACKS BETWEEN 22' TO 23', RQD 25%, REC. 64%; <b>SANDSTONE,</b> GRAYISH BROWN, SLIGHTLY TO MODERATELY WEATHERED, MODERATELY STRONG TO STRONG, COARSE GRAINED, VERY THIN BEDDED, MICACEOUS; <b>SHALE,</b> GRAY, SLIGHTLY WEATHERED, MODERATELY STRONG, FINE GRAINED, THIN BEDDED, ARGILLACEOUS. <i>(continued)</i> @25.6'-26'; U <sub>c</sub> = 4,800 psi; Unit weight = 155 pcf				26	40		97	NQ2-2											CORE			
				27																		
				28																		
				29																		
				30																		
			1263.4	EOB																		
NOTES: NO FREE WATER ENCOUNTERED IN THIS BORING. BORING LOCATION AND ELEVATION FROM DISTRICT SURVEY.																						
ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED SEALED WITH PORTLAND CEMENT AND BENTONITE GROUT WITH ASPHALT PATCH																						



OHIO DEPARTMENT OF TRANSPORTATION  
OFFICE OF GEOTECHNICAL ENGINEERING

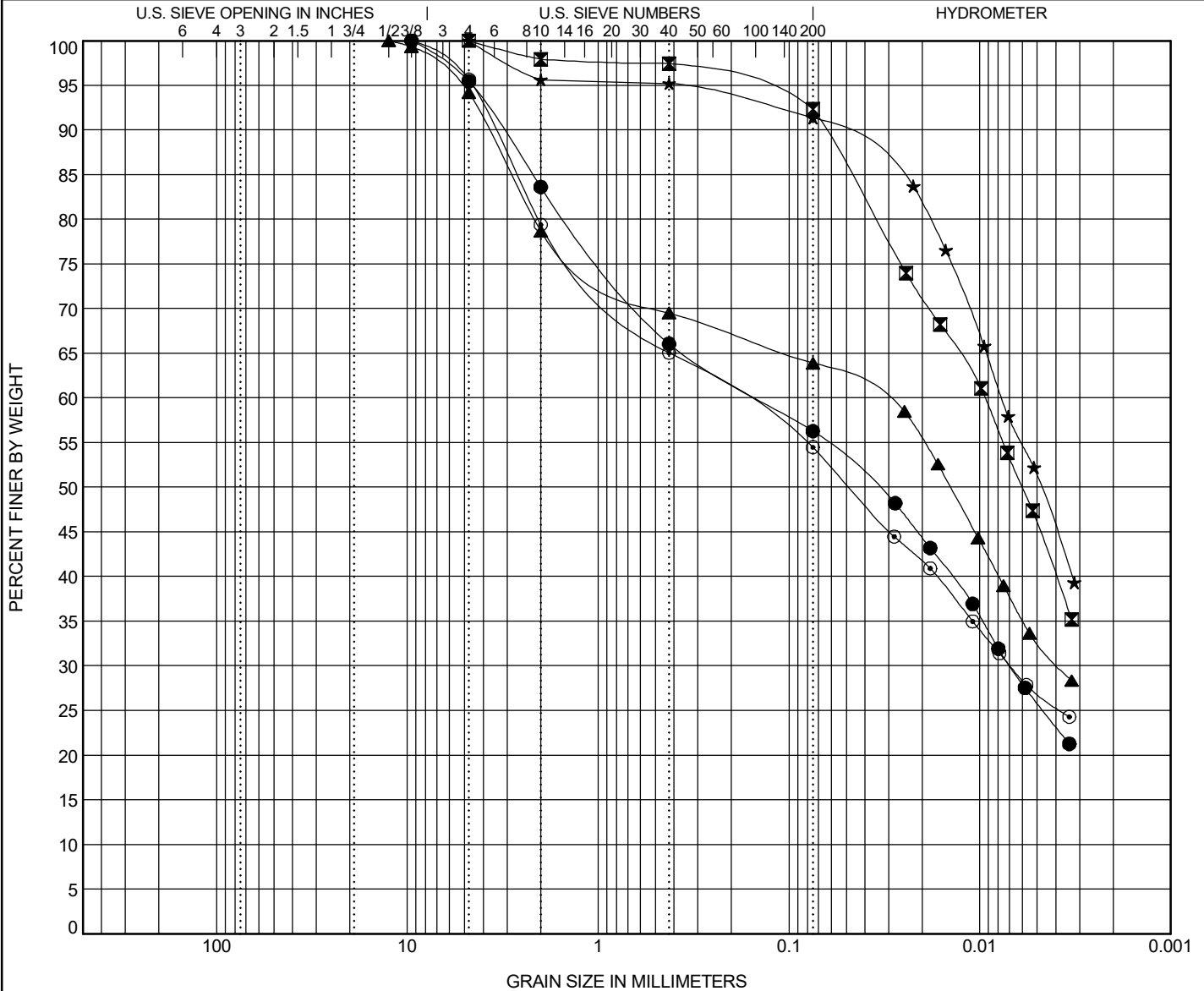
GRAIN SIZE DISTRIBUTION

PROJECT BEL-147-25.87

PID 118147

OGE NUMBER N4225522

PROJECT TYPE LANDSLIDE



COBBLES	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Specimen Identification			ODOT (Modified AASHTO) ~ USCS Classification								LL	PL	PI
●	B-001-0-23	4.0	A-6b ~ SANDY LEAN CLAY(CL)								37	18	19
☒	B-001-0-23	9.0	A-6b ~ LEAN CLAY(CL)								38	21	17
▲	B-002-0-23	2.0	A-6a ~ SANDY LEAN CLAY(CL)								34	20	14
★	B-002-0-23	6.5	A-7-6 ~ LEAN CLAY(CL)								47	24	23
⊙	B-003-0-23	6.5	A-6a ~ SANDY LEAN CLAY(CL)								34	20	14
Specimen Identification			D90	D50	D30	D10	%G	%CS	%FS	%M	%C	Cc	Cu
●	B-001-0-23	4.0	3.189	0.035	0.007		16	18	10	30	26		
☒	B-001-0-23	9.0	0.065	0.006			3	0	5	46	46		
▲	B-002-0-23	2.0	3.761	0.014	0.004		21	9	6	31	33		
★	B-002-0-23	6.5	0.06	0.005			5	0	4	40	51		
⊙	B-003-0-23	6.5	3.516	0.048	0.007		21	14	11	27	27		

GRAIN SIZE - OH DOT.GDT - 6/5/24 14:27 - E:\PROJECTS\2022\N4225522\WORKING FILES\LABORATORY-FIELD DATA-BORING LOGS\N4225522 ODOT FILE.GPJ



OHIO DEPARTMENT OF TRANSPORTATION  
OFFICE OF GEOTECHNICAL ENGINEERING

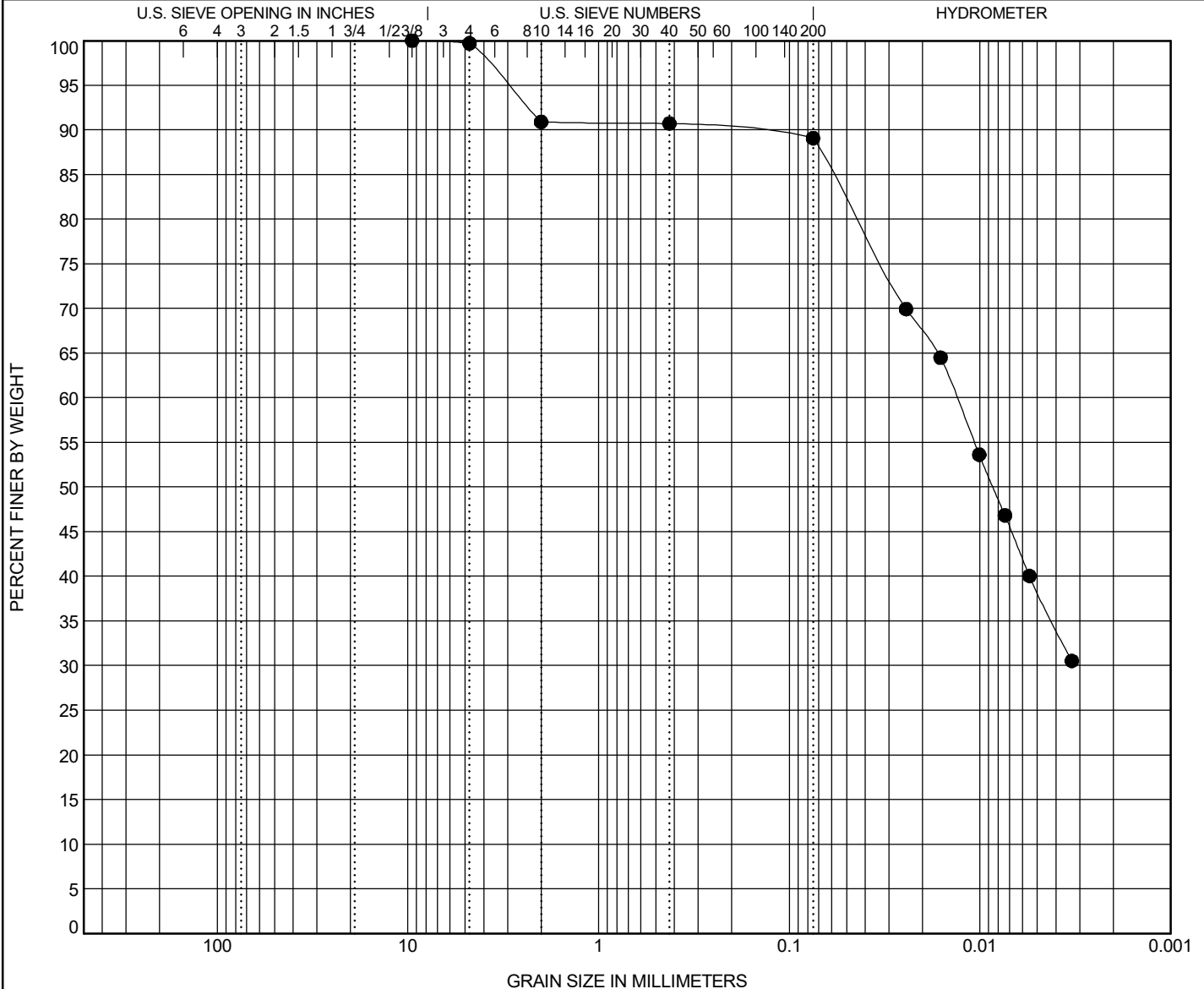
GRAIN SIZE DISTRIBUTION

PROJECT BEL-147-25.87

PID 118147

OGE NUMBER N4225522

PROJECT TYPE LANDSLIDE





**PROJECT** BEL-147-25.87

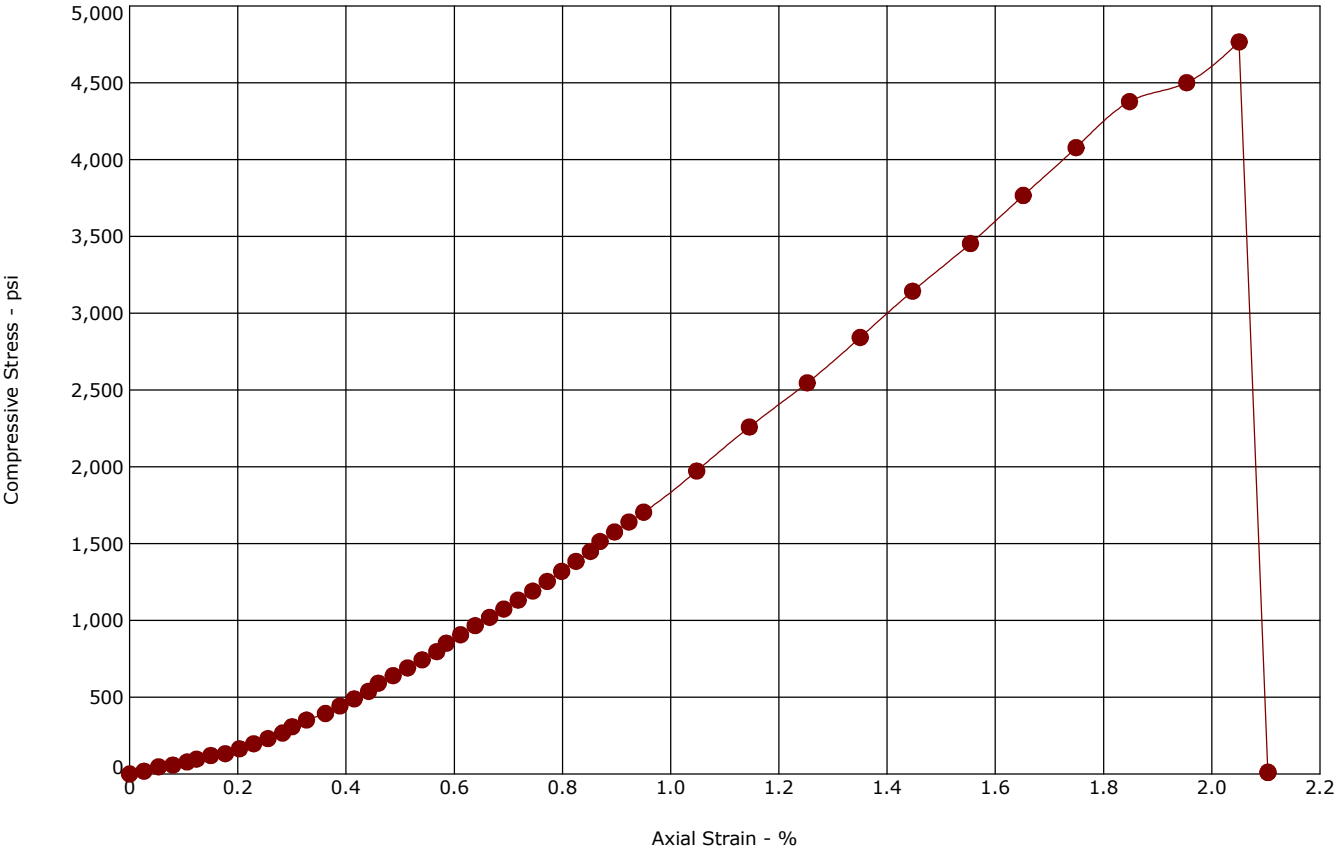
**OGE NUMBER** N4225522

**PROJECT TYPE** LANDSLIDE


[illegible]



# Unconfined Compression Test



Boring ID	Depth (Ft)	Sample type	LL	PL	PI	Fines (%)	Description
B-003-0-23	25.6 - 26	NQ2					SANDSTONE

Specimen Failure Mode	Specimen Test Data																										
	<table><tr><td>Moisture Content (%):</td><td>2.6</td></tr><tr><td>Dry Density (pcf):</td><td>155</td></tr><tr><td>Diameter (in.):</td><td>1.97</td></tr><tr><td>Height (in.):</td><td>3.99</td></tr><tr><td>Height / Diameter Ratio:</td><td>2.02</td></tr><tr><td>Calculated Saturation (%):</td><td></td></tr><tr><td>Calculated Void Ratio:</td><td></td></tr><tr><td>Assumed Specific Gravity:</td><td></td></tr><tr><td>Failure Strain (%):</td><td>2.05</td></tr><tr><td>Unconfined Compressive Strength (psi):</td><td>4766</td></tr><tr><td>Undrained Shear Strength (psi):</td><td>2383</td></tr><tr><td>Strain Rate (in/min):</td><td>0.0396</td></tr><tr><td>Remarks:</td><td></td></tr></table>	Moisture Content (%):	2.6	Dry Density (pcf):	155	Diameter (in.):	1.97	Height (in.):	3.99	Height / Diameter Ratio:	2.02	Calculated Saturation (%):		Calculated Void Ratio:		Assumed Specific Gravity:		Failure Strain (%):	2.05	Unconfined Compressive Strength (psi):	4766	Undrained Shear Strength (psi):	2383	Strain Rate (in/min):	0.0396	Remarks:	
Moisture Content (%):	2.6																										
Dry Density (pcf):	155																										
Diameter (in.):	1.97																										
Height (in.):	3.99																										
Height / Diameter Ratio:	2.02																										
Calculated Saturation (%):																											
Calculated Void Ratio:																											
Assumed Specific Gravity:																											
Failure Strain (%):	2.05																										
Unconfined Compressive Strength (psi):	4766																										
Undrained Shear Strength (psi):	2383																										
Strain Rate (in/min):	0.0396																										
Remarks:																											



Determination of the Point Load  
Strength Index of Rock  
ASTM D 5731

Laboratory Services Group

750 Corporate Woods Parkway Vernon Hills, IL 60061

Phone: (224) 352-7000

Fax: (224) 352-7024

Client: Ohio Department of Transportation

Project No.: N4225522

Project Name: BEL-147-25.87

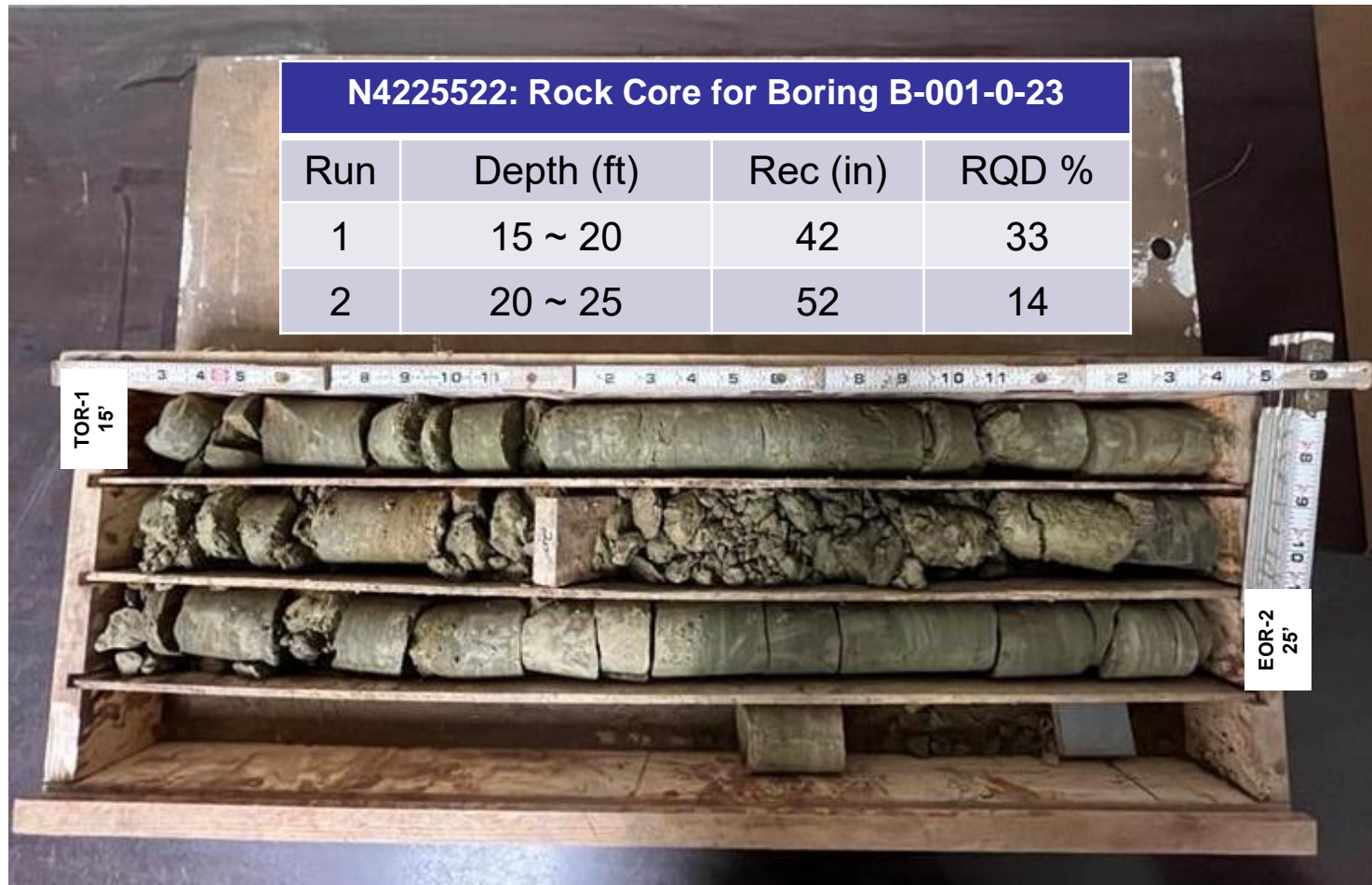
Date: 06/12/23

Boring	Run No.	Depth	Description	Distance Between Platens (mm) (D)	Core Width (mm) AXIAL TEST ONLY	Corrected Dia. (mm) AXIAL TEST ONLY (D <sub>a</sub> )	Load (lbs.)	Load (N)	Point Load Index (I <sub>s</sub> )	<sup>a</sup> Size Corrected Point Load Index I <sub>s(50)</sub>	<sup>b</sup> Estimated Compressive Strength (Mpa)	<sup>b</sup> Estimated Compressive Strength (psi)	Orientation
B-001-0-23	R-2	24.0'	SHALE	49.400			49.700	221.077	0.091	0.090	2.2	322	Diametral


Orientation of applied point load: Diametral

- a Point load is corrected to assume a specimen diameter of 50 mm.
- b Estimated compressive strength is determined by multipliing the uncorrected point load index by the strength corversion factor of 24.5.

**N4225522 BEL-147-25.87 PID 118147 – Slide Repair**




**PHOTO 1: ROCK CORE OF BORING B-001-0-23, BOX 1 of 1**

Project Manager: BH	Project No. N4225522	 800 Morrison Road Columbus, Ohio 43230 PH. (614) 863-3113 FAX. (614) 863-0475	<b>ROCK CORE PHOTO OF BORING B-001-0-23 (Box 1 of 1)</b>  BEL-147-25.87 PID 118147 - Slide Repair Geotechnical Investigation Jacobsburg, Belmont County, Ohio
Drawn by: IR	Scale: N.T.S.		
Checked by: BH	File Name: Rockcore Photos		
Approved by: KE	Date: 05/09/2023		

**N4225522 BEL-147-25.87 PID 118147 – Slide Repair**

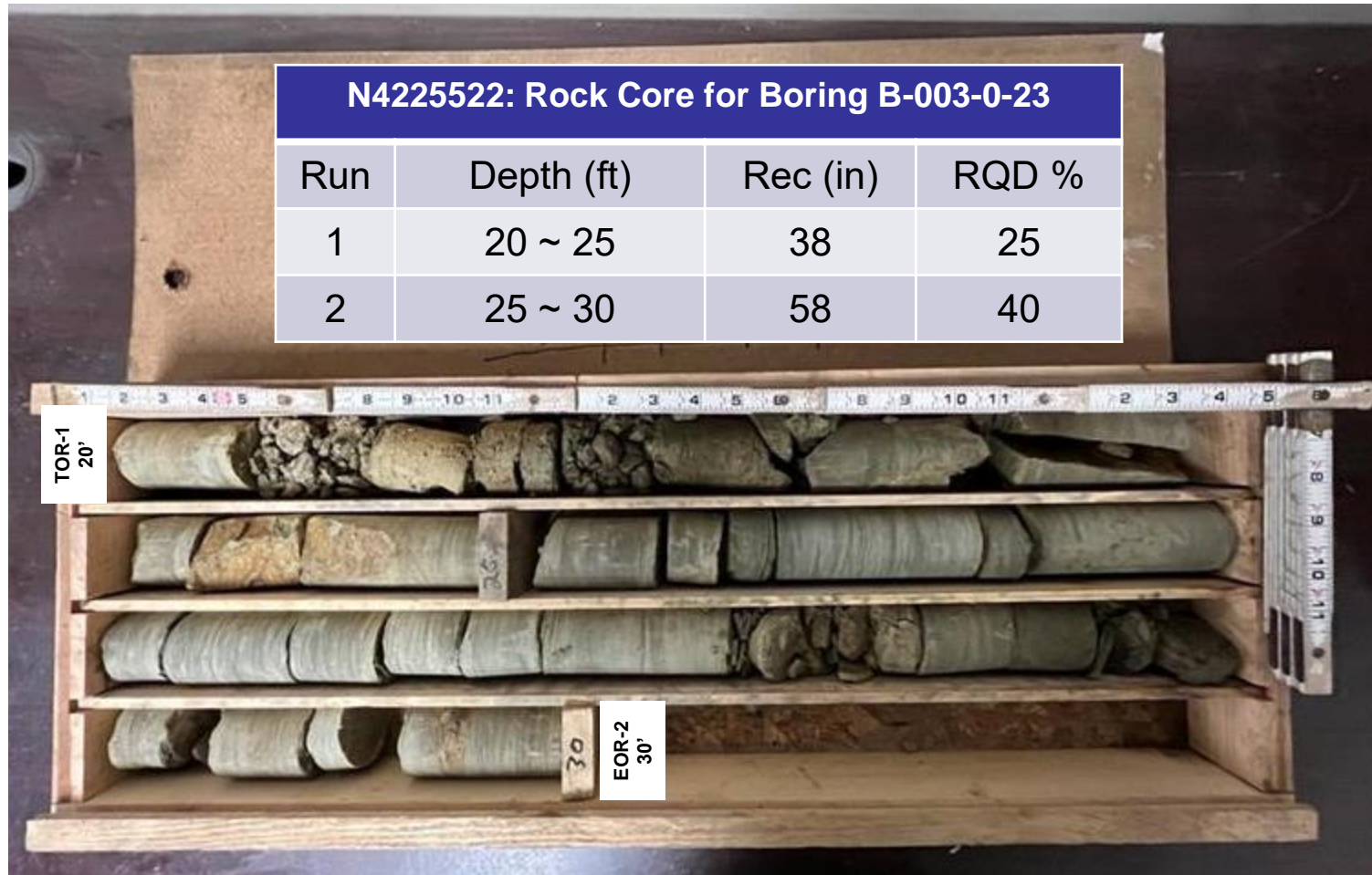


**PHOTO 2: ROCK CORE OF BORING B-002-0-23, BOX 1 of 1**


Project Manager: BH	Project No. N4225522	 800 Morrison Road Columbus, Ohio 43230 PH. (614) 863-3113 FAX. (614) 863-0475	<b>ROCK CORE PHOTO OF BORING B-002-0-23 (Box 1 of 1)</b>  BEL-147-25.87 PID 118147 - Slide Repair Geotechnical Investigation Jacobsburg, Belmont County, Ohio
Drawn by: IR	Scale: N.T.S.		
Checked by: BH	File Name: Rockcore Photos		
Approved by: KE	Date: 05/09/2023		



**N4225522 BEL-147-25.87 PID 118147 – Slide Repair**



**PHOTO 3: ROCK CORE OF BORING B-003-0-23, BOX 1 of 1**

Project Manager: BH	Project No. N4225522	 <p>800 Morrison Road Columbus, Ohio 43230 PH. (614) 863-3113 FAX. (614) 863-0475</p>	<b>ROCK CORE PHOTO OF BORING B-003-0-23 (Box 1 of 1)</b>
Drawn by: IR	Scale: N.T.S.		
Checked by: BH	File Name: Rockcore Photos		
Approved by: KE	Date: 05/09/2023		