## **PROJECT DESCRIPTION**

THE PROJECT CONSISTS OF REMEDIATING THE ROCK CUT OF THE NORTH SLOPE BY EXCAVATION TO IMPROVE THE ROCK CATCHMENT AREA.

### HISTORIC RECORDS

NO HISTORICAL GEOTECHNICAL RECORDS WERE FOUND IN THE VICINITY OF THE PROJECT.

### GEOLOGY

THE PROJECT IS LOCATED WITHIN THE UNGLACIATED AND HIGHLY DISSECTED MARIETTA PLATEAU OF THE APPALACHIAN PLATEAU PROVINCE. SOILS IN THIS AREA ARE PRIMARILY COLLUVIUM DERIVED FROM LOCAL BEDROCK AND MAY INCLUDE SCATTERED AREAS OF RESIDUUM. THE CURRENT PROJECT AREA IS CHARACTERIZED BY EXPOSED SILTSTONE AND SANDSTONE UNDERLAIN BY SHALE AND COAL OF PENNSYLVANIAN-AGE THROUGH PERMIAN-AGE WITH THIN OVERBURDEN SOILS.

### RECONNAISSANCE

FIELD RECONNAISSANCE WAS COMPLETED BY PERSONNEL FROM THE OFFICE OF GEOTECHNICAL ENGINEERING ON DECEMBER 16, 2022. THE PROJECT IS LOCATED ALONG SR 146 ABOUT 4 MILES EAST OF CHANDLERSVILLE. THE ÁREA HAS RELATIVELY VARIED TERRAIN WITH SR 146 SITUATED AT THE BASE OF A ROCK SLOPE AND ABOVE A TRIBUTARY OF BUFFALO CREEK. TALUS AND FALLEN VEGETATION COVER THE BASE OF THE ROCK SLOPE WHICH WAS DETERMINED TO BE COMPRISED OF HIGHLY WEATHERED INTERBEDDED SILTSTONE AND SHALE. ABOVE THE INTERBEDDED SILTSTONE AND SHALE LIES A LAYER OF HIGHLY WEATHERED SANDSTONE TOPPED BY SEVERELY TO HIGHLY WEATHERED SILTSTONE WHICH FORMS THE REST OF THE EXPOSED ROCK FACE. SMALL TREES AND OTHER LIGHT FOLIAGE CAN BE FOUND GROWING ALONG THE UPPER PARTS OF THE ROCK SLOPE. THE DRAINAGE DITCH LINE AT THE BASE OF THE SLOPE IS WELL MAINTAINED, DESPITE THE TALUS AND VEGETATION BUILDUP IN IT. A COUPLE OF SMALL PIECES OF ROCK DEÉRIS (LESS THAN A FOOT IN DIAMETER) WERE OBSERVED TO HAVE FALLEN INTO THE DITCH FROM THE OVERHANGING SANDSTONE. NO ROCK DEBRIS WAS OBSERVED ON THE EXISTING PAVEMENT. THE ADJACENT PROPERTIES ARE PREDOMINANTLY RURAL RESIDENTIAL LOTS WITH A RECREATIONAL LOT ATOP THE ROCK SLOPE AND A WOODED LOT TO THE SOUTHEAST SIDE OF THE PROJECT. THE EXISTING PAVEMENT ON SR 146 WAS NOTED TO BE IN GOOD CONDITION.

### SUBSURFACE EXPLORATION

THREE (3) BORINGS, B-001-0-23 THROUGH B-003-0-23, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION BETWEEN FEBRUARY 27 AND MARCH 7, 2023. THE BORINGS WERE DRILLED WITH A TRACK MOUNTED CME 850R ROTARY DRILL RIG, USING 3 <sup>3</sup>/<sub>4</sub>- INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH THE SOIL. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS INTERVALS UNTIL ROCK WAS ENCOUNTERED. ONCE ROCK WAS ENCOUNTERED, THE BORINGS WERE ADVANCED AND SAMPLED AS PER AASHTO T225 USING AN N SERIES WIRELINE CORE BARREL, WATER METHOD TO THE COMPLETION OF THE BORINGS. THE HAMMER SYSTEM USED WAS CALIBRATED ON APRIL 19, 2021, WITH A REPORTED MAXIMUM DRILL ROD ENERGY RATIO (ER) OF 90.9% WHICH WAS CORRECTED TO 90% PER THE SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS (SGE).

## **EXPLORATION FINDINGS**

BORINGS B-001-0-23 THROUGH B-003-0-23 WERE COMPLETED ATOP THE ROCK SLOPE. EACH BORING ENCOUNTERED TOPSOIL RANGING FROM 3 TO 7 INCHES IN THICKNESS. B-002-0-23 ENCOUNTERED ROCK IMMEDIATELY BELOW THE TOPSOIL WHILE B-001-0-23 AND B-003-0-23 ENCOUNTERED OVERBURDEN SOILS RANGING FROM 3 TO 6 FEET IN THICKNESS. THE ENCOUNTERED OVERBURDEN SOILS IN B-001-0-23 CONSISTED OF COHESIVE MATERIALS CONSISTING OF SILT (A-4B) AND SILT AND CLAY (A-6A) WHICH WERE STIFF TO HARD IN CONSISTENCY AND DAMP IN CONDITION. B-003-0-23 ENCOUNTERED A LAYER OF NON-COHESIVE SOIL CONSISTING OF STONE FRAGMENTS WITH SAND AND SILT (A-2-4) WHICH WAS VERY DENSE IN COMPACTNESS AND DAMP IN CONDITION. BENEATH THE SURFACE MATERIALS. ALL THREE BORINGS ENCOUNTERED SILTSTONE BETWEEN ELEVATIONS 841.5 AND 836.7 FEET WHICH WAS SEVERELY TO HIGHLY WEATHERED AND VERY WEAK TO MODERATELY STRONG. POINT LOAD STRENGTH TESTS GAVE VALUES BETWEEN 788 AND 4,326 PSI, THE SLAKE DURABILITY TESTS RETURNED VALUES BETWEEN 92.9% AND 96.9%, AND A COMPRESSIVE STRENGTH TEST RETURNED A VALUE OF 1,905 PSI FOR THE ENCOUNTERED SILTSTONE MATERIAL. SANDSTONE WAS ENCOUNTERED BENEATH THE SILTSTONE BETWEEN ELEVATIONS 821.4 AND 824.9 FEET. THE ENCOUNTERED SANDSTONE WAS MODERATELY TO HIGHLY WEATHERED AND WEAK TO STRONG WITH COMPRESSIVE STRENGTHS BETWEEN 2,691 AND 10,080 PSI, SLAKE DURABILITY RESULTS BETWEEN 93.8% AND 98.9%, AND A POINT LOAD STRENGTH OF 936 PSI. BENEATH THE SANDSTONE, BETWEEN ELEVATIONS 813.1 AND 816.7, INTERBEDDED SILTSTONE AND SHALE WAS ENCOUNTERED THAT WAS HIGHLY WEATHERED AND WEAK TO SLIGHTLY STRONG. THE SILTSTONE MATERIAL WAS DETERMINED TO HAVE POINT LOAD STRENGTHS BETWEEN 893 TO 2,164 PSI WHILE THE SHALE HAD POINT LOAD STRENGTHS BETWEEN 600 AND 2,939 PSI. A THIN LIMESTONE LAYER WAS ENCOUNTERED IN ALL THREE BORINGS BETWEEN ELEVATIONS 802.8 AND 798.3 FEET. THE LAYER RANGED IN THICKNESS BETWEEN 0.6 AND 0.7 FEET AND HAD AN UNCONFINED COMPRESSIVE STRENGTH OF 14,874 PSI. VERY WEAK TO WEAK, HIGHLY TO MODERATELY WEATHERED SHALE WAS ENCOUNTERED BENEATH THE INTERBEDDED SILTSTONE AND SHALE BETWEEN ELEVATIONS 801.6 AND 798.3 FEET WITH POINT LOAD STRENGTHS RANGING FROM 713 TO 1,444 PSI AND SLAKE DURABILITY TEST RESULTS RANGING FROM 46.6% TO 83.4%. A COAL LAYER WAS ENCOUNTERED BETWEEN ELEVATIONS 793.3 AND 798.3 IN WHICH B-003-0-23 WAS TERMINATED. B-001-0-23 AND B-002-0-23 ENCOUNTERED HIGHLY TO MODERATELY WEATHERED, VERY WEAK CLAYSTONE BENEATH THE COAL LAYER BETWEEN ELEVATIONS 796.7 AND 797.6 FEET, POINT LOADS OF 607 AND 506 PSI, AND SLAKE DURABILITY TEST RESULTS OF 75.2% AND 31.9%, RESPECTIVELY. BOTH BORINGS WERE TERMINATED IN THE CLAYSTONE.

THE BORE HOLES WERE NOTED TO BE DRY UPON COMPLETION. NO WATER WAS ENCOUNTERED DURING THE EXPLORATION.

### **SPECIFICATIONS**

Σ

10:

8/20

μï

Q

 $\mathbf{m}$ 

δ

46

S

Σ

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2023.

+ + + +

## AVAILA

THE SOIL, BI **EXPLORATIC** 

ODOT CLASS A-2-4 A-4b A-6a TOTAL VISUAL VISUAL VISUAL VISUAL	СLAS МЕСН. 1 1 3	SIFIED /VISUAL - 1 1	Rix s 313 CLAV PLICE RD CLAV PLICE RD Rix s 313 CLAV PLICE RD Rix s 313 PROJECT AREA SLM 29.42 TO 29.56 PERLED Freeland Ricch Freeland Ricch Rich Ricch Ricch Rich Ricch Ricch Ricch Ricch Ricch Rich
ODOT CLASS A-2-4 A-4b A-6a TOTAL VISUAL VISUAL VISUAL VISUAL VISUAL	LAS MECH. 1 1 3	SIFIED /VISUAL - 1 1	CLAN PIKE PD CLAN PIKE PD GREEN VALLER Fork 100 100 100 100 100 100 100 10
A-2-4 A-4b A-6a TOTAL VISUAL VISUAL VISUAL VISUAL	1 1 3	- - 1 1	GREEN VALLEY & Mile 313 GREEN VALLEY & PROJECT AREA SLM 29.42 TO 29.56 146 Freeland RICH HILL 3 Freeland RICH
A-4b A-6a TOTAL VISUAL VISUAL VISUAL VISUAL	1 1 3	- 1 1	CREEN VALLER Fork 313 12 146 146 146 15 146 15 146 15 147 146 15 147 146 15 147 146 146 146 146 146 146 146 146
A-6a TOTAL VISUAL VISUAL VISUAL VISUAL	1 3	1 1	PROJECT AREA SLM 29.42 TO 29.56 146 146 24 29 20 20 20 20 20 20 21 21 21 21 21 21 21 21 20 20 20 20 21 21 21 21 21 21 21 21 21 21 21 21 21
TOTAL VISUAL VISUAL VISUAL VISUAL	3	1	PROJECT AREA SLM 29.42 TO 29.56 146 146 146 24 26 20 20 20 20 20 20 20 20 20 20 20 20 20
VISUAL VISUAL VISUAL VISUAL /ISUAL			146 146 146 146 15 15 15 14 14 14 14 14 146 15 14 15 14 14 14 146 15 14 14 14 146 15 14 14 14 14 14 146 15 14 14 14 14 14 14 14 14 14 14
VISUAL VISUAL VISUAL /ISUAL			146 24 19 19 19 10 10 10 10 10 10 10 10 10 10
VISUAL VISUAL VISUAL			24 20 Freeland 20 21 RICH HILL 23
VISUAL VISUAL			
VISUAL			
			284 30 30 30 30 30 28 28 28 28 28 28 28 28 28 28
VISUAL			
VISUAL			$F_{0,33}$
			LOCATION MAP
AL SCALE O	NLY.		SCALE IN MILES
			PARTICLE SIZE DEFINITIONS
TION AT RE	FUSAL.		12" 3" 2.0 mm 0.42 mm 0.074 mm 0.005
			BOULDERS COBBLES GRAVEL COARSE SAND FINE SAND SILT
			No. 10 SIEVE No. 40 SIEVE No. 200 SIEVE
			INDEX OF SHEETS
:К).			BEDROCK TEST SUMMARY, SHEET NO. 2
			LOCATION PLAN VIEW CROSS-
SIZE.			FROM STA. TO STA. SHEET SHEET
			SR 146 STA. 127+50 STA. 140+00 3 -
			STA. 140+00 STA. 140+00 - 4
			SIA. 145+00 - 5
	FACE SHEETS		
	ISUAL ISUAL ISUAL AL SCALE O	YISUAL YISUAL YISUAL AL SCALE ONLY. AL SCALE ONLY.	ISUAL ISUAL ISUAL ISUAL AL SCALE ONLY. TION AT REFUSAL.

HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.



RECON	AMJ	12/16/22
DRILLING -	CEM	02/27/23 - 03/07/23
DRAWN -	AJC	8/02/23
REVIEWED -	SAT	8/02/23

CKFAI Ο Ľ FILE RO Δ 4 CHNIC/ Ū 01 Ш **()** 

ESIGN AGENCY ESIGNER AJC REVIEWER SAT 08/02/23 ROJECT ID 115988 JBSET TOTAL 15 HEET fotal P.32 46

		BEDROCK	IEST SUMI	MARY		
BORING ID	SAMPLE ELEVATION	SAMPLE DEPTH	Qu (PSI)	S <sub>c</sub> (PSI)	ld2	LITHOLOGY
B-001-0-23	830.7' - 829.5'	12.0' - 13.2'	-	788	92.9%	SILTSTONE
	825.3' - 824.9'	17.4' - 17.8'	1,905	-	-	SILTSTONE
	822.7' - 821.8'	20.0' - 20.9'	-	-	97.1%	SANDSTONE
	822.4' - 822.0'	20.3' - 20.7'	2,691	-	-	SANDSTONE
	815.4' - 814.7'	27.3' - 28.0'	-	-	94.6%	SILTSTONE
	815.2' - 814.4'	27.5' - 28.3'	-	893	-	SILTSTONE
	814.5' - 811.1'	28.2' - 31.6'	_	-	85.8%	SHALE
	814.5' - 811.0'	28.2' - 31.7'	_	897	-	SHALE
	810.7' - 806.3'	32.0' - 36.4'	_	-	94.5%	SILTSTONE
	810.5' - 806.15'	32.2' - 36.55'	-	1,234	-	SILTSTONE
	809.7' - 808.4'	33.0' - 34.3'	-	-	76.9%	SHALE
	809.0' - 808.0'	33.7' - 34.7'	-	1,027	-	SHALE
	799.6' - 798.6'	43.1' - 44.1'	-	1,169	-	SHALE
	799.5' - 798.6'	43.2' - 44.1'	-	-	58.7%	SHALE
	796.7' - 795.6'	46.0' - 47.1'	-	-	75.2%	CLAYSTONE
	796.7' - 795.2'	46.0' - 47.5'	-	607	-	CLAYSTONE
B-002-0-23	836.0' - 831.0'	6.0' - 11.0'	-	1,957	95.5%	SILTSTONE
	829.0' - 827.4'	13.0' - 14.6'	-	-	94.0%	SILTSTONE
	824.9' - 824.6'	17.1' - 17.4'	10,080	-	-	SANDSTONE
	824.9' - 823.9'	17.1' - 18.1'	-	-	98.9%	SANDSTONE
	819.0' - 817.5'	23.0' - 24.5'	-	936	95.3%	SANDSTONE
	813.8' - 811.9'	28.2' - 30.1'	-	1,057	-	SHALE
	813.0' - 812.2'	29.0' - 29.8'	-	-	89.7%	SHALE
	812.3' - 809.1'	29.7' - 32.9'	-	1,408	-	SILTSTONE
	810.1' - 809.4'	31.9' - 32.6'	-	-	95.3%	SILTSTONE
	809.0' - 806.7'	33.0' - 35.3'	-	-	90.3%	SHALE
	809.0' - 806.5'	33.0' - 35.5'	-	2,939	-	SHALE
	808.1' - 807.0'	33.9' - 35.0'	-	2,164	-	SILTSTONE
	808.0' - 807.4'	34.0' - 34.6'	_	-	95.7%	SILTSTONE
	801.6' - 801.2'	40.4' - 40.8'	_	-	46.6%	SHALE
	801.6' - 800.8'	40.4' - 41.2'	-	713		SHALE
	797.6' - 796.5'	44.4' - 45.5'	-	-	31.9%	CLAYSTONE
	797.4' - 796.1'	44.6' - 45.9'	-	506		CLAYSTONE

DATE: 8/20/2024 TIME: 10:36:33 AM USER: gmotsche -pw-02\Documents\01 Active Projects\District 05\Musk MODEL: Sheet PAPERSIZE: 34x22 (in.) D. PAPERSIZE: 34x22 (in.) w.bentlev.com:ohiodot

		BEDROCK	TEST SUM	MARY		
BORING ID	SAMPLE ELEVATION	SAMPLE DEPTH	Qu (PSI)	S <sub>c</sub> (PSI)	ld2	LITHOLOGY
B-003-0-23	836.3' - 835.3'	6.5' - 7.5'	-	-	96.1%	SILTSTONE
	836.3' - 830.8'	6.5' - 12.0'	-	4,326	-	SILTSTONE
	830.8' - 829.1'	12.0' - 13.7'	-	2,865	-	SILTSTONE
	830.6' - 829.8'	12.2' - 13.0'	-	-	96.9%	SILTSTONE
	819.6' - 818.1'	23.2' - 24.7'	-	-	98.2%	SANDSTONE
	819.1' - 818.8'	23.7' - 24.0'	8,693	-	-	SANDSTONE
	816.7' - 810.6'	26.1' - 32.2'	-	-	93.8%	SANDSTONE
	812.9' - 810.8'	29.9' - 32.0'	-	1,217	-	SILTSTONE
	810.5' - 808.6'	32.3' - 34.2'	-	-	94.1%	SILTSTONE
	810.0' - 808.4'	32.8' - 34.4'	-	1,641	-	SILTSTONE
	807.5' - 806.3'	35.3' - 36.5'	-	-	63.8%	SHALE
	807.5' - 806.8'	35.3' - 36.0'	-	600	-	SHALE
	798.7' - 798.3'	44.1' - 44.5'	14,874	-	-	LIMESTONE
	796.8' - 795.0'	46.0' - 47.8'	_	-	83.4%	SHALE
	796.2' - 795.2'	46.6' - 47.6'	-	1,444	-	SHALE



## MUS-146-29.36

MODEL: Pr. CL-1 - Plan 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 8/20/2024 TIME: 10:36:40 AM USER: gmotsche pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 05\Muskingum\115988\400-Engineering\Geotechnical\Sheets\115988 \







# MUS-146-29.36 MODEL: Pr. CL-1 - 55+25.00 [Sheet] PAPEI pw:\\ohiodot-pw.bentley.com:ohiodot-pv

![](_page_4_Figure_2.jpeg)

						ALL 46
					870	GEOTECHNICAL PROFILE - ROCKF/ CROSS SECTION STA. 55+25 S.R. 1
					860	
					850	
					840	
					830	
					820	
					810	DESIGN AGENCY
· · · · · · · · · · · · · · · · · · ·					800	
	)				790	designer AJC
						REVIEWER SAT 08/02/23 PROJECT ID
	5	0			/80	SUBSET TOTAL 5 15 SHEET TOTAL P.36 46

MODEL: Sheet PAPERSIZE: 34x22 (in.) D/ pw:\\ohiodot-pw.bentley.com:ohiodot-pw

PAPERSIZE: 34x22 (in.) DATE: 8/20/2024 TIME: 10:36:55 AM USER: gmotsch ww.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 05\Musl

PROJECT: MUS-146-29.46	DRILLING FIRM / OPE	RATOR:	DDOT / SPROUSE	DRILL	SIG:	ME 850R	TRACK	Ĥ	STATI	O/ NO	DFFSE		52+0	0, 94	5	EXPLOR	ATION ID
TYPE: ROADWAY PID: 115988 SFN:	SAMPLING FIRM / LO DRILLING METHOD:	GGER: 0	DOT / MCINTOSH " HSA / NQ2	CALIBF	ER: ATION	CME AUTO DATE:	MATIC 4/19/2*		ALIGN	ATION	® 	42.7 (	CL SR	146 EOB:		0.0 ft.	I-0-23 PAGE
START: 2/27/23 END: 3/1/23	SAMPLING METHOD:	-	SPT / NQ2	ENERG	Y RATI	0 (%):	*06		LAT /	LONG		39	.8804	13, -8	1.7642	63	1 OF 1
MATERIAL DESCRIPT AND NOTES	NOI	ELEV. 842.7	DEPTHS	SPT/ RQD	<sup>460</sup> RE	C SAMPL	E HP (tsf)	GR	CSRAD,	ATION FS	0 8 8	ר א ד			С К	ODOT CLASS (GI)	HOLE
A TOPSOIL (3.0") STIFF, REDDISH BROWN, SILT AND CLAY TPACE STONE EDACMENTS, DAMP	SOME SAND,	<u>}</u>	'   														
IRACE OF ONE FRAGMENTO, DAMP				0 2 4	6	sS-1	2.00	ဖ	4	20	35 3	12 13 13	3 22	4	5	A-6a (9)	
		838.2 838.2		3 4 6	15 56	s SS-2	3.00	т	ı	а	1	· ·	1	1	22	A-6a (V)	1
HARD, BROWN, <b>SILT</b> , SOME CLAY, LITTLE STONE FRAGMENTS, DAMP	SAND, TRACE	+++ +++ +++ 836.7		6 9 12 3	32 67	Z SS-3	4.00	2	7	16	52	3	5 25	10	16	A-4b (8)	
SILTSTONE, BROWN AND REDDISH BROW WEATHERED, VERY WEAK, LAMINATED TO BEDDED, ARENACEOUS.	VN, SEVERELY			9 18 19	92 93	3 SS-4	L	ı	ı	1		'   .	Ľ	Ľ	თ	Rock (V)	
	<u></u>			7 10 16	39 8	3 SS-5	т	т	I.	1	1		1	L	12	Rock (V)	
	<u></u>			25 31 30	92 8(	9-SS-6	ı	т	ı	т	ı	1	1	ı	9	Rock (V)	
		<u></u> 830.7		27 41 58	49 10	0 SS-7	ji	1	j	3		,	1	j	9	Rock (V)	
SILTSTONE, YELLOWISH GRAY AND GRAY SEVERELY TO HIGHLY WEATHERED, WEA STRONG, LAMINATED TO VERY THIN BEDI FRACTURED, OPEN, SLIGHTLY ROUGH; R	YISH BROWN, AK TO SLIGHTLY DED, JOINT, QD 29%, REC	·····	7 <u>7</u> 7	0		3 NQ2-1										CORE	
90%. @ 12.0' - 13.2'; Id2 = 92.9% @12.0' - 13.2'; S <sub>°</sub> = 788 psi	<u></u>		 	25	6	3 NQ2-2										CORE	
@ 17.4' - 17.8'; <b>Y</b> = 162 pcf; Qu = 1,905 psi	<u> </u>		° 1 4	0	36	2 NQ2-3										CORE	
SANDSTONE, GRAY WITH YELLOWISH GF WEATHERED, SLIGHTLY STRONG, VERY F		823.9		0	10	0 NQ2-4										CORE	
GRAINED, THIN BEDDED, JOINT, FRACTUF MODERATELY FRACTURED, NARROW TO ROUGH; RQD 56%, REC 100%. @ 20.0' - 20.9'; Id2 = 97.1%	RED TO TIGHT, SLIGHTLY			88	10	0 NQ2-5										CORE	
@ 20.3' - 20.7'; <b>Y</b> = 163 pcf; Qu = 2,691 psi	••••••••••••••••••••••••••••••••••••••		53 F	96	10	0 NQ2-6										CORE	
@24.3' - 27.4'; HIGH ANGLE OPEN JOINT	<u></u>	816.7		7	10	0 NQ2-7										CORE	
INTERBEDDED SILTSTONE (60%) AND SH JOINT, FRACTURED TO MODERATELY FR JOINT, FRACTURED TO MODERATELY FR NARROW, SLIGHTLY ROUGH, RQD 36%, R SILTSTONE, YELLOWISH BROWN AND WEATHERED, WEAK, ARENACEOUS; SHALE, GRAY AND BROWN, HIGHLY W WEAK.	ALE (40%), ACTURED, REC. 98%; GRAY, HIGHLY 'EATHERED,		- 26 26	3	9	0 NQ2-8										CORE	
@ 27.3' - 28.0'; SILTSTONE, Id2 = 94.6% @27.5' - 28.3'; SILTSTONE, S <sub>6</sub> = 893 psi @27.9'; VERY THIN CLAY SEAM @ 28.2' - 31.6'; SHALE, Id2 = 85.8% @28.2' - 31.7': SHALE, Id2 = 85.8%			- +	59	6	2 NQ2-9										CORE	
(a) 32.0' - 36.4'; SILTSŤOŇE, Id2 = 94.5% (a) 32.2' - 36.55'; SILTSTONE, S <sub>c</sub> = 1,234 psi (a) 33.0' - 34.3'; SHALE, Id2 = 76.9% (a) 33.7' - 34.7'; SHALE, S <sub>c</sub> = 1,027 psi	<u> </u>			33	10	0 NQ2-1	0									CORE	
@38.7'; SEVERELY WEATHERED.				52		0 NQ2-1										CORE	
WEATHERED	SATELY	800.6															
SHALE, DARK GRAY, HIGHLY WEATHERE LAMINATED TO VERY THIN BEDDED, SLIG CARBONACEOUS, POORLY FISSILE; RQD @43.1' - 44.1'; S <sub>o</sub> = 1,169 psi	D, WEAK, HTLY 75%, REC 100%.			50		4 NQ2-1	0									CORE	
© @ 43.2' - 44.1'; Id2 = 58.1% @ 44.5'; CARBONACEOUS. © COAL, BLACK WITH WHITE, HIGHLY WEA	THERED,	T97.9 C 796.7	 , 45 , 45														
E IMPURE; RQD 0%, KEC 73%.				ç							$\left  \right $	╞	-	+	-		

~				·······	
CORE	CORE	CORE			
					KFAL
					ROC -0-23
n	4	5			FILE - -001-
1-70N	NQ2-1	NQ2-1			PRO OG B
32	100	100		ON.	IICAL NG L
32	28	0		OMPLETI	ECHN BORI
, 1	- 48	- 49 -	3	JPON C( ROUT	GEOT
				LE DRY I ONITE G	
		2.7	5	NTS. HO	
		11111111111111111111111111111111111111		ED 30 GA	
	≻			ADE INS TREMIE	
	SLIGHTL REC 98%			<u>vey gr</u> Tities:	
RATELY	EDDED, S D 33%,			<u>ICT SUR</u>	
MODE!	DIUM BE DUS; RC	URE		<u>M DISTR</u> TERIALS	DESIGN AGENCY
GHLY TO	EAK, ME SILIFER( 2%	osi YER, IMF		<u>EV FRON</u> DDS, MA	
RAY, HI	/ERY WI JS, FOS: d2 = 75.2	% = 607 f		ONG/EL	
TONE, G	HERED, \ NACEOU - 47.1';	- 47.5'; S - 48.3'; C		LAT/L	designer AJC
CLAYS	WEATH CARBO @ 46.0'	@46.0' @48.1'		NOTES ABAND	REVIEWER SAT 08/02/23 PROJECT ID
Ð\:)	12:03 - )	52/1/8 - TC	IDTOD HO - (11 X 11) OOL BORING LOG (11 X 11) - OH DOT.GI		SUBSET TOTAL 6 15
					P.37 46

MUS-146-29.36

PAPERSIZE: 34x22 (in.) DATE: 8/20/2024 TIME: 10:37:30 AM USER: gmotsch w.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 05\Musl Б MODEL: She

PROJECT: MUS-146-29.46 TYPE: ROADWAY	DRILLING FIRM / OPERA SAMPLING FIRM / LOGG	TOR: OD	DOT / SPROUSE DT / MCINTOSH	- DRILL F HAMME		AE 850R TF ME AUTON	ACKED AATIC	STATI	ON / OF MENT:	FSET:	CL 53	3+18, 7 SR 146	'4' LT.	EXPI	-ORATIC	DN ID
PID: 115988 SFN: START: 3/1/23 END: 3/6/23	DRILLING METHOD: SAMPLING METHOD:	3.75" I SP	HSA / NQ2 T / NQ2	CALIBR	ATION D Y RATIO	ATE: 4	/19/21 90*	ELEV/	NTION: ONG:	842	.0 (ft) 39.88	EOI	B: -81.763	50.0 ft. 909	10 10	AGE DF 1
MATERIAL DESCRIPT	ION	ELEV. 842.0	DEPTHS	SPT/ RQD	leo (%)	SAMPLE	HP (tsf) GR	GRAD/	TION (	%) CL	ATTE	PL F	× ح	CLASS	(GI) B	ACK
TOPSOIL (6.0") SILTSTONE, BROWN AND REDDISH BROW	NN, SEVERELY	841.5	TR												VERY	
WEALHERED, VERY WEAK, LAMINALED IN BEDDED, ARENACEOUS.		h		34 28 35 9	100	SS-1	і 1	I,	1 1	1	L			Rock	S	
			− − − − − − − − − − − − − − − − − − −	20 34 43	16 100	SS-2	ı ı	1	т т	I	ı	1	9	Rock	E S	
		836.0	بر ال ا	18 29 1 57 1	29 100	SS-3	1	1	1	1	1	1	9	Rock	ε Σ	
SILTSTONE, YELLOWISH GRAY AND GRAY SEVERELY TO HIGHLY WEATHERED, SLIG ARENACEOUS, JOINT, HIGHLY FRACTURE SLIGHTLY ROUGH: ROD 0%. REC 76%.	YISH BROWN, GHTLY STRONG, ED, OPEN,		0	0	58	NQ2-1								CO	щ Кожок Ч	
@ 6.0' - 11.0'; ld2 = 95.5% @6.0' - 11.0'; S <sub>c</sub> = 1,957 psi			יין ∞ ס י 	0	62	NQ2-2								Ö	н В	
			 	0	67	NQ2-3								Ö	Щ. 1939-24 1939-24	
				0	42	NQ2-4								Ö		
@ 13.0' - 14.6'; Id2 = 94.0% SANDSTONE, GRAY WITH YELLOWISH GR	SAY,	824.9	- + - +	6	88	NQ2-5								Ö	щ Наконскородо Н	
MODERATELY TO HIGHLY WEATHERED, S FINE TO MEDIUM GRAINED, THIN BEDDEC FRACTURED, NARROW TO OPEN, SLIGHT 19% RFC 84%	STRONG, VERY D, JOINT, TLY ROUGH; RQD				+										38385	
<ul> <li>(a) (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c</li></ul>			- 20	27	06	NQ2-6								0 C	щ Ш	
@23.0'; HIGHLY WEATHERED, WEAK. @23.0' - 24.5'; S <sub>c</sub> = 936 psi @ 23.0' - 24.5'; Id2 = 95.3%			- 23 -												<u> 7838</u>	
@24.8' - 26.2'; HIGH ANGLE JOINT		815.4	- 25 - - 26 -	0	17	NQ2-7								CO	щ Царода Царода	
INTERBEDDED SILTSTONE (60%) AND SH/ JOINT, FRACTURED, NARROW TO OPEN, ROUGH ROD 9% REC 89%	ALE (40%), SLIGHTLY		- 27 - - 28 -												31816	
SILTSTONE, YELLOWISH BROWN AND WEATHERED, WEAK TO SLIGHTLY STRON WEATHERED, WEAK TO SLIGHTLY STRON THIN BEDDED, ARENACEOUS; SHALE, YELLOWISH BROWN AND GRA WEATHERED, WEAK TO SLIGHTLY STRON @28.2' - 30.1'; SHALE, S. = 1,057 psi @29.7' - 32.9'; SILTSTONE, S. = 1,408 psi @30.4' - 30.6'; CLAY SEAM	GRAY, HIGHLY NG, VERY THIN TO YY, HIGHLY NG, LAMINATED.			9	87	NQ2-8								Ö	щ 199393939393939393 199393939393939393 1993939393	
@ 31.9 - 32.0; SILTSTONE, 102 = 95.3% @ 33.0' - 35.3'; SHALE, 1d2 = 90.3% @33.0' - 35.5'; SHALE, S° = 2,939 psi @33.9' - 35.0'; SILTSTONE, S° = 2,164 psi @ 34.0' - 34.6'; SILTSTONE, S° = 2,164 psi			33 33 33 33 33	0	100	NQ2-9								Ö	щ рабоабоа рабоабоа	
				0	88	NQ2-10								CO	н С	
1			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ő	100	NQ2-11								Ö	ц Ш Ш	
WEATHERED SHALE, DARK GRAY, HIGHLY WEATHERE	RATELY D, VERY WEAK	801.6		97	6	NO2-12									ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц Ц	
<ul> <li>POORLY FISSILE; RQD 55%, REC 100%.</li> <li>POORLY FISSILE; RQD 55%, REC 100%.</li> <li>@ 40.4' - 40.8'; Id2 = 46.6%</li> <li>@40.4' - 41.2'; S<sub>c</sub> = 713 psi</li> <li>@ 42.8'' CARRONACEOUS</li> </ul>	INACEOUS,		- 42 - 43 - 43 - 43 - 43 - 43 - 43 - 43	2	5										! !	
COAL, BLACK, IMPURE; RQD 0%, REC 100 CLAYSTONE. GRAY, MODERATELY TO HIG	D%. C	798.3 797.6	-   - 44 ;													
WEATHERED, VERY WEAK, SLIGHTLY CAF FOSSILIFEROUS; RQD 22%, REC 100%.	RBONACEOUS,		+ +5 + +6 + +6 + +6		100	NO2-13								CO C	щ ц	

		DISTRICT SURVEY GRADE INSTRUMENTS. HOLE DRY UPON COMPLETION. RIALS, QUANTITIES: AUGER CUTTINGS MIXED WITH 50 LB. BENTONITE CHIPS	GEOTECHNICAL PROFILE - ROCKFALL BORING LOG B-002-0-23
0)44.6' - 45.9'; S <sub>c</sub> = 506 psi		IOTES: LAT/LONG/ELEV FROM E BANDONMENT METHODS, MATE	DESIGN AGENCY
CT - 8/1/23 15:03 - X:/G	19.TOD HO - (71 X 11) ĐOJ ĐNIAOB JIOS TODO DAADNATS		115988SUBSET TOTAL715SHEETTOTALP.3846

MODEL: Sheet PAPERSIZE: 34x22 (in.) D/ pw:\\ohiodot-pw.bentley.com:ohiodot-pw

PAPERSIZE: 34x22 (in.) DATE: 8/20/2024 TIME: 10:38:06 AM USER: gmotsch ww.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 05\Musl

DGGEF	OR: 01 3.75"	DOT / SPROUSE DT / MCINTOSH HSA / NQ2	HAMME CALIBR	ATION	CME 850 CME AU DATE: _	R TRAC	21 21	STAT ALIG ELEV	NMEN /	OFFSE ⊢ 1 ⊗	ET: 0 142.8 (f	55+35 3L SR 1 ft) E	, 54' L <sup>-</sup> 46 0B:		EXPLOR/ B-003	ATION ID -0-23 PAGE
AD: 3/7/23 SAMPLING METHOD ATERIAL DESCRIPTION	): SP ELEV.	T / NQ2	ENERG	Y RATI	0 (%): EC SAMI	DIE H	*	GRAE		): V (%)	39. AT	88009 TERBE	7, -81.7 ERG	763236	ODOT	1 OF 1 BACK
ND NOTES	842.8		RQD	400 (%	()	<u><u></u></u>	sf) GR	s s	F	SI C	LL L	ЪГ	⊡	0 2	(GI)	FILL FILL
£ ₽	839.8		9 21 33	20	S S S	5	44	m t	24	20	RF 0	RP	Ъ	9	4-2-4 (0)	
EDDISH BROWN, SEVERELY EAK, VERY THIN BEDDED,			42 21 20	32 10	0 SS	- 	, ,	1	ı	г	1 1	I	I	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Rock (V)	
	 	9 2 2	23 30 1 56 1	05 10 - 10	0 25 20	ώ 4	т 1 т 1	л 1	а т	 		л т	а 1	 6 8	Rock (V) Rock (V)	
AY AND GRAYISH BROWN, HTLY TO MODERATELY INT, FRACTURED, NARROW TO DD 0%, REC 75%,		- 2	0	ũ	NOX 8	2-1									CORE	
			0	6	NQ NQ	2-2									CORE	
			0	õ	0 N	2-3									CORE	
		-   - - - - - - - - - - - - - - - - - -	0	ö	8	2-4									CORE	
	· [ ] · [ · ] · ] · ] · ] · ] · ] · ] ·		0	ũ	4 NQ2	2-5									CORE	
		□ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0	čó	NQ NQ	5-6									CORE	
GRAY AND GRAYISH BROWN,	821.4		0	ò	33	2-7									CORE	
AK, JOINT, FRACTURED TO D, NARROW, SLIGHTLY ROUGH; LY WEATHERED, STRONG.			63	10		2-8									CORE	
Qu = 8,693 psi AND CDAVICH PD0/MM HICHIX		- 25 - 26	68	10		6-3			,						CORE	
CTURED. CTURED. E (60%) AND SHALE (40%), ODERATELY FRACTURED, GH, RQD 15%, REC. 89%; SH GRAY AND GRAYISH BROWN,	813.1 	- 27 - 27 28 30 30 30 30 30 31 31	0	6	2 NQ2	6-									CORE	
AK TO SLIGHTLY STRONG, VERY US; RAY AND GRAYISH BROWN, RY WEAK, LAMINATED TO VERY S. = 1,217 psi BH ANGLE JOINT , Id2 = 94.1% S. = 1,641 psi E FRACTURE			32	ගි	3 NQ2										CORE	
			0	čó	2 NO2	5									CORE	
LAYER, MODERATELY <b>,                                    </b>	798.3		43	ິດ 	7 NQ2	-13									CORE	

2D 57%, REC 98%.		ICT SURVEY GRADE INSTRUMENTS. HOLE DRY UPON COMPLETION. 3. QUANTITIES: AUGER CUTTINGS MIXED WITH 50 LB. BENTONITE CHIPS	GEOTECHNICAL PROFILE - ROCKFALL BORING LOG B-003-0-23
Carbonaceous, Poorly Fissile; RQD 57 @ 46.0' - 47.8'; Id2 = 83.4% @46.6' - 47.6'; S <sub>c</sub> = 1,444 psi @48.2'; Carbonaceous.	COAL, BLACK, HIGHLY WEATHERED, IMPURI REC 83%.	NOTES: LAT/LONG/ELEV FROM DISTRICT S ABANDONMENT METHODS, MATERIALS, QU/	DESIGN AGENCY DESIGNER AJC REVIEWER SAT 08/02/23 PROJECT ID 115988
- 8/1/23 12:03 - X:/G	SOIL BORING LOG (11 X 17) - OH DOT.GDT	TODO DAADNAT2	SUBSET         TOTAL           8         15           SHEET         TOTAL           P.39         46

![](_page_8_Picture_0.jpeg)

N021         120         140         20/4         936         20/2         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         06/4         23/4         00/4         06	N021         120 <sup>1</sup> 140 <sup>1</sup> 2014         58%         2024         0%           N032         160 <sup>1</sup> 180 <sup>1</sup> 2374         93%         074         0%           N035         160 <sup>1</sup> 180 <sup>1</sup> 2374         93%         074         0%           N035         180 <sup>1</sup> 2374         100%         21/24         0%           N035         180 <sup>1</sup> 230 <sup>1</sup> 100%         21/24         0%           N035         200         2473         100%         21/24         0%           N040 DEMANANO         N040 DEMANANO         M040 DEMANANO         M040 DEMANANO         M040 DEMANANO           N040 DEMANANO         N040 DEMANANO         M040 DEMANANO         M040 DEMANANO         M040 DEMANANO           N040 DEMANANO         PANANANO         M040 DEMANANO         M040 DEMANANO         M040 DEMANANO           N040 DEMANANO         PANANANO         M040 DEMANANO         M040 DEMANANO         M040 DEMANANO           N040 DEMANANO         PANANANO         M040 DEMANANO         M040 DEMANANO         M040 DEMANANO           PANANANO         PANANANO         PANANANO         PANANANO         M040 DEMANANO         M040 DEMANANO           PANANANO	Run #:	De	pth	Recov	/ery	R	QD
N022         140         160         260         274         054         054         054         054         054         054         054         054         054         054         054         054         055         054         055         054         055         055         055         054         055 <th>N022         140         160         1204         25/4         95%         6/14         05         25/4         05         05/4<!--</th--><th>NQ2-1</th><th>12.0′</th><th>14.0′</th><th>20/24</th><th>83%</th><th>20/24</th><th>%0</th></th>	N022         140         160         1204         25/4         95%         6/14         05         25/4         05         05/4 </th <th>NQ2-1</th> <th>12.0′</th> <th>14.0′</th> <th>20/24</th> <th>83%</th> <th>20/24</th> <th>%0</th>	NQ2-1	12.0′	14.0′	20/24	83%	20/24	%0
N023         160         180         22/4         100%         02/4         0%           N024         180         20/7         20/7         24/24         100%         0/74         0%           N024         100         100%         20/7         20/7         24/24         00%         0%           N030         01         100%         100%         00%         0/74         0%           N100         01         100%         100%         00%         0/74         0%           N100         01         100%         00%         00%         0%         0%           N100         01         00%         00%         0         0%         0%           N100         01         01         00%         0         0%         0%           N100         01         01         00%         0         0%         0%           N100         01         01         01         0         0         0%           N100         01         01         01         01         01         01           N100         01         01         01         01         01         01           N10	N023         160         180         203         213         064 <td>NQ2-2</td> <td>14.0′</td> <td>16.0′</td> <td>23/24</td> <td>896</td> <td>6/24</td> <td>25%</td>	NQ2-2	14.0′	16.0′	23/24	896	6/24	25%
N024         18.0         20.0         24/24         100%         0.124         0.64           N0255         Acron Natrice         Muss-146-78.46 PID 115838         Muss-146-78.46 PID 115838         Exercise	N024         18/0         20/0         24/34         100%         0.24         0.64           N025         20/7         24/34         100%         0.11383         0	NQ2-3	16.0′	18.0′	22/24	92%	0/24	%0
N025         200         22.0         22.0         21.04         884           N150         DEPARTINENTION         Miss-146.29.6 FID 111598         DIFF         Biss           N150         DE INUERINE         B-001-0-23         B-001-0-23         DIFF         D	N025         200'         220'         24/24         86%           OID DIVATIVATION VERNANCYTION VERNANCATION VERNA	NQ2-4	18.0′	20.0′	24/24	100%	0/24	%0
Mus.146.39.46 PID 115988         OHID DEPARTNENT OF         DEPORT       Define of Geotechnical Engineer         B-OD1-O-23       Define of Geotechnical Engineer         B-OD1-O-23       Define of Geotechnical Engineer         Mus.146       B-OD1-O-23         Mus.146       B-OD1         Mus.146       B-OD1         Mus.147       Mus.1476       B-OD1         Mus.147       Mus.1476       B-OD1         Mus.146       Mus.1476       B-OD1         Mus.146       B-OD1       B-OD1         Mus.146       B-OD1       B-OD1         Mus.146       B-OD1       B-OD1	Mus.146.39.46 PD 115988         PHOL DEPARTNENT OF TRANSFORTATION       Office of Geotechnical Engineeri B-OD1-0-23         B-OD1-0-23       B-OD1-0-23         B-OD1-0-23       Defice of Geotechnical Engineeri B-OD1-0-23         Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000       Mus.147-000         Mus.147-000       Mus.147-000       Mus.147-000       Mus.147-000       M	NQ2-5	20.0′	22.0′	24/24	100%	21/24	88%
Induction Induction Province induction     Office of Geotechnical Engineer       B-OD1-D-3     B-OD1-D-3       Image: I	OHIO DEMANNENCION TRANSPORTATION NINON OF INJURITION       Office of Geotechnical Engineer         B-001-0-23       B-001-0-23         B-001-0-23       B-001-0-23         Image: State of the sta			Mus-146-29	9.46 PID 115988			
TRANSFORMATION INSIGN OF INGUNERATION B-DD1-D23 B-DD1-D23 B-DD1-D23 A-D1	TRANSFORMTION       Office of Geotechnical Engineer         B-001-0-33       B-001-0-33         B-001-0-34       B-001-0-34         Image: Sector	OHIO DEPARTMEN	UT OF					
Image: Not Not National Actional Ac	NISON OF INSTANCE       Defice of Geotechnical Engineeri         B-001-0-23       B-001-0-23         B-001-0-23       B-001-0-23         Image: State of St	TRANSPORTAT	ION					
B-001-0-23		VISION OF ENGINEEI	RING			Office	of Geotechnic	al Engineeri
Run #:         Depth         Recovery         Recovery         Recovery         Role         R136         R136 <thr136< th=""> <thr136< th=""> <thr136< th=""></thr136<></thr136<></thr136<>	Image: Second			B-0(	01-0-23			
Run H:         Recovery         <								
Run #:         Noto:         Solid         Solid <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>,0%</td></t<>								,0%
Run #:         24/0         <	Image: Sector							2 92
Run#:         Recovery         Recovery <t< td=""><td>Image: Sector Sector</td><td></td><td></td><td></td><td></td><td></td><td></td><td>13</td></t<>	Image: Sector							13
Run#:     Recovery     Recovery       Nu2:     21,0     24,0     24,24     00%     23,24     06%       Nu2:     21,0     24,0     24,24     00%     23,24     06%       Nu2:     22,0     26,36     100%     23,24     06%       Nu2:     22,0     26,36     100%     23,24     06%       Nu2:     22,0     36,36     100%     23,24     06%       Nu2:     22,0     36,36     100%     23,24     96%       Nu2:     22,0     36,36     100%     23,24     96%       Nu2:     22,0     36,36     100%     23,24     96%       Nu2:     22,0     30,0%     21,36     100%     23,24     96%       Nu2:     22,0     30,0%     21,36     100%     23,24     96%       Nu2:     22,0     30,0%     21,36     100%     21,36     31,36	Image: Section of the section of th							
No.2-6       21.0       24.0       24.0       24.0       24.0       24.0       25.2       24.0       25.2       24.0       25.2       24.0       25.2       24.0       23.2       24.0       23.2       24.0       23.2       24.0       23.2       24.0       23.2       24.0       23.2       24.0       23.2       24.0       23.2	Run #:       Recovery       Recovery       Recovery       Recovery       ROD         Mu2:3       23/24       20/05       33/24       92/8       11/36       31/8         Mu2:4       23/24       20/05       23/24       100%       23/24       96%         Mu2:4       23/24       20/05       23/24       100%       11/36       31/8         Mu2:4       23/24       20/05       23/24       100%       11/36       31/8         Mu2:4       23/24       20/05       23/24       20/05       31/8       31/8         Mu2:4       23/24       20/05       23/24       20/05       31/8       31/8         Mu2:4       23/24       20/05       23/24       20/05       31/8       31/8         Mu2:4       23/05       23/64       100%       11/36       31/8         Mu2:4       23/24       20/05       23/24       20/05       31/8         Mu2:4       23/05       21/05       23/24       20/05       31/8         Mu2:4       23/05       21/05       23/24       20/05       31/2         Mu2:4       23/05       21/05       21/24       20/05       21/2			K	the second second			
NO.2-6         24/2         100%         23/24         96%           NO.2-8         22/0         24/2         100%         23/24         96%           NO.2-8         22/0         26/36         100%         23/24         96%           NO.2-9         22/0         26/36         100%         23/24         96%           NO.2-1         22/0         22/0         23/24         96%         23/24         96%           NO.2-1         22/0         22/64         11598         113/36         23/24         96%	Image: Section of the section of th						A CARRY	
Run #:         Recovery         Ro           N02-6         23/24         96%           N02-8         20/0         23/24         96%           N02-8         20/0         23/24         96%           N02-8         23/24         92%         11/36         11%	Image: Second	2 13 14 15 13	1 17 18 19 2	9 10 11 0 21 22 23	전 1 2 5 2 6 2	27 28 29 31	0 31 8 33	34 35 3
Ru #:         Recovery         Row           NO2-6         22.0'         24.0'         24.0'         36.36         1136           NO2-6         30.0'         36.36         100%         4/36         318           NO2-7         36.36         100%         4/36         318           NO2-8         30.0'         36/36         100%         4/36         318           NO2-9         30.0'         36/36         100%         318         318           NO2-9         30.0'         36/36         100%         318         318           NO2-9         30.0'         36/36         100%         318         318	Image: Second			otz				
Run #:         Depth         Recovery         RQD           NQ2-6         22.0°         24.0°         24.0°         36/36         11/36         31/6           NQ2-7         24.0°         24.0°         24/24         000%         4/36         11/36         31/6           NQ2-8         27.0°         36/36         100%         11/36         31/6         11/6         31/6           NQ2-8         27.0°         36/36         100%         11/36         31/6         11/8           NQ2-9         30.0°         32/24         92/6         11/36         31/6         11/8           Mus-146-29.46 PID 115988         Mus-146-29.46 PID 115988         11/36         31/6         29/6         27/24         29/6	Run#:       Recovery       Recovery         NO2-6       22.0'       36/36       100%       4/36         NO2-9       30.0'       36/36       100%       4/36       11%         Mus-146-294       22/24       96%       11/36       31%         Mus-146-294       22/24       92%       11/36       31%         Mus-146-294       22/24       22%       11/36       31%			0 ±				
Run #:         Depth         Rcovery         ROD           NO2-6         22.0°         24/24         100%         4/36         11/36         96%           NO2-7         24.0°         23/24         96%         11/36         31%           NO2-8         30.0°         36/36         100%         4/36         11%           NO2-9         32.0°         32.0°         22/24         96%         11/36         31%           NO2-9         30.0°         36/36         100%         11/36         31%           NO2-9         30.0°         32/24         92%         7/24         29%           NO2-9         30.0°         32.0°         22/24         92%         7/24         29%	Run #:       Depth       Recovery       RQD         N02-6       24/24       100%       23/24       96%         N02-1       22.0'       36/36       100%       11/36       31%         N02-1       22.0'       36/36       100%       11/36       31%         N02-1       22.0'       36/36       100%       11/36       31%         N02-3       20.0'       36/36       100%       11/36       31%         N02-9       30.0'       36/36       100%       11/36       31%         Mustant       22/24       92%       7/24       29%       11/36         Mustant       Mustant       1100%       11/36       31%         Mustant       Mustant       22/24       29%       29%	an and a state		36			Number of the second se	,0
Run #:         Depth         Recovery         ROD           NQ2-6         22.0°         24/24         100%         4/36         11%           NQ2-8         22.0°         36/36         100%         4/36         11%           NQ2-8         23.0°         36/36         100%         4/36         11%           NQ2-9         30.0°         36/36         100%         4/36         11%           NQ2-9         30.0°         36/36         100%         4/36         11%           NQ2-9         30.0°         36/36         100%         4/36         11%           Mus-146-29.46 PID 115988         23%         23%         7/24         29%         29%	Run #:       Rom #:       Recovery       RQD         Nu2:-6       22.0°       24/24       100%       31%         Nu2:-7       23/24       96%       11%         Nu2:-8       30.0°       36/36       11%         Nu2:-8       30.0°       36/36       11%         Nu2:-8       30.0°       36/36       11%         Nu2:-9       30.0°       22/24       92%         Nu2:-9       30.0°       22/24       92%         Nu2:-9       30.0°       22/24       92%         Nu2:-9       30.0°       22/24       29%	A MARINE						DE
Run #:       Depth       Recovery       RQD         NQ2-6       22.0'       24/24       100%       4/36       11%         NQ2-8       27.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       22/24       92%       7/24       29%	Run #:     Run #:       Run #:     Depth       Run #:     0       NQ2-6     22.0°       24,0°     24,24       NQ2-7     24,0°       NQ2-8     23,24       NQ2-8     36,36       NQ2-9     36,36       NQ2-9     30.0°       30.0°     36,36       NQ2-9     30.0°       30.0°     36,36       NQ2-9     11/36       NQ2-9     22/24       NQ2-9     32.0°       Mus-146-29.46 PID 11598     7/24							100
Run #:       Depth       Rcovery       RQD         NQ2-6       22.0'       24.0'       24/24       100%       23/24       96%         NQ2-7       24.0'       36/36       100%       4/36       11%         NQ2-8       27.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       36/36       100%       11/36       31%         NQ2-9       30.0'       32.0'       22/24       92%       7/24       29%         Austrian and and and and and and and and and a	Run #:       Depth       Recovery       ROD         Run #:       Depth       Recovery       860%         NQ2-6       22.0'       24.0'       23/24       96%         NQ2-7       24.0'       24/24       100%       4/36       11%         NQ2-8       27.0'       36/36       100%       4/36       11%         NQ2-9       27.0'       36/36       100%       4/36       11%         NQ2-9       27.0'       30.0'       36/36       11/36       31%         NQ2-9       27.0'       30.0'       22/24       96%       11/36       11%         NO2-9       30.0'       22/24       92%       7/24       29%       11%         Mus-146-29.46 PID 11598       Amontal       Amontal       Amontal       Amontal       Amontal							0.
Run #:       Depth       Recovery       ROD         NQ2-6       22.0'       24.0'       24/24       100%       23/24       96%         NQ2-7       24.0'       27.0'       36/36       100%       4/36       11%         NQ2-8       27.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       32/24       92%       7/24       29%         Mus-146-29.46 PID 11598       Mus-146-29.46 PID 115988       11/36       31%	Run #:     Depth     Recovery     ROD       N02-6     22.0°     24.0°     24/24     100%     23/24     96%       N02-7     24.0°     24/24     100%     4/36     111%       N02-8     27.0°     36/36     100%     4/36     11%       N02-9     30.0°     36/36     100%     4/36     11%       N02-9     30.0°     36/36     100%     4/36     11%       N02-9     30.0°     32.0°     22/24     92%     7/24     29%       Must not     Must not     22/24     92%     7/24     29%							LE PA
NQ2-6         22.0'         24.0'         24/24         100%         23/24         96%           NQ2-7         24.0'         27.0'         36/36         100%         4/36         11%           NQ2-8         27.0'         30.0'         36/36         100%         11/36         31%           NQ2-9         27.0'         30.0'         36/36         100%         11/36         31%           NQ2-9         30.0'         32.0'         22/24         92%         7/24         29%           Mus-146-29.46 PID 115988         Mus-146-29.46 PID 115988         Mus-146-29.46 PID 115988         1158         1168         1168	NQ2-6       22.0'       24.0'       24/24       100%       23/24       96%         NQ2-7       24.0'       24.0'       36/36       100%       4/36       11%         NQ2-8       27.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       36/36       100%       4/36       31%         NQ2-9       30.0'       35/36       100%       7/24       29%         NQ2-9       30.0'       32.0'       22/24       92%       7/24       29%         Mu2-146-29.46 PID 11598       Mus-146-29.46 PID 11598       Mus-146-29.46 PID 11598       1       1       1	Run #:	De	oth	Recov	lerv	R	
NQ2-7         24.0'         27.0'         36/36         100%         4/36         11%           NQ2-8         27.0'         30.0'         36/36         100%         1/36         31%           NQ2-9         30.0'         32.0'         22/24         92%         7/24         29%           NQ2-9         Mus-146-29.46 PID 115988         Mus-146-29.46 PID 115988         100%         1/26         29%	NQ2-7       24.0'       24.0'       36/36       100%       4/36       11%         NQ2-8       27.0'       30.0'       36/36       100%       4/36       11%         NQ2-9       30.0'       36/36       100%       7/24       29%         NQ2-9       32.0'       32.0'       22/24       92%       7/24       29%         Nucrue       Mus-146-29.46 PID 115988       Mus-146-29.46 PID 115988       7/24       29%       7/24       29%         Note       Mus-146-29.46 PID 115988       Mus-146-29.46 PID 115988       Anticities - ROCKFALL       Anticities - ROCK	NQ2-6	22.0'	24.0'	24/24	100%	23/24	6%
NQ2-8       27.0'       30.0'       36/36       100%       11/36       31%         NQ2-9       30.0'       32.0'       22/24       92%       7/24       29%         N       N       100%       11/36       100%       29%       29%         N       N       N       11/36       11/36       10%       11/36       10%         N       N       N       11/36       11/36       11/36       10%       11/36       10%         N       N       N       11/36       11/36       11/36       10%       10%         N       N       N       N       11/36       11/36       10%       10%       10%         N       N       N       11/36       11/36       11/36       10%       10%       10%       10%         N       N       N       11/36       11/36       11/	NQ2-8       27.0'       36/36       100%       11/36       31%         NQ2-9       30.0'       36/36       100%       7/24       29%         NQ2-9       30.0'       32.0'       22/24       92%       7/24       29%         Mus-146-29.46 PID 115988       115988       115988       11506	NQ2-7	24.0′	27.0′	36/36	100%	4/36	11%
NQ2-9 30.0' 32.0' 22/24 92% 7/24 29%	NQ2-9       30.0'       32.0'       22/24       92%       7/24       29%         Nus-146-29.46 PID 115988       Nus-146-29.46 PID 115988       115988       115988       115988         Mus-146-29.46 PID 115988       EGOTECHNICAL PROFILE - ROCKFALL       115988       115988       115988	NQ2-8	27.0′	30.0′	36/36	100%	11/36	31%
Mus-146-29.46 PID 115988	Mus-146-29.46 PID 115988 Mus-146-29.46 PID 115988 DESIGN AGEI	NQ2-9	30.0′	32.0′	22/24	92%	7/24	29%
DES	DESIGNAGEI DESIGNER AJC REVIEV SAT 08			Mus-146-29	9.46 PID 115988			
	GEOTECHNICAL PROFILE - ROCKFALL MENIEN MICH PROFILE - ROCKFALL	DES DES						

![](_page_9_Picture_0.jpeg)

N02-10         32.0         37.0         10.06         100.6         100.6         20/60 <th2< th=""><th>NQ2-10 NQ2-11</th><th></th><th>Depth</th><th></th><th>Recovery</th><th></th><th>RQD</th><th></th></th2<>	NQ2-10 NQ2-11		Depth		Recovery		RQD	
N02-11     37.0     42.0     42.0     50/60     100%     31/60     23%       OFFICE TRANSMENTING     Numerida Sage     Numerida Sage     Diffice of Geotechnical Engineer       Diffice Name     B-001-0-3       Annual Sage     B-001-0-3       Annual Sage     B-001-0-3       Annual Sage     B-001-0-3       Annual Sage     B-001-0-3       Brown     Contract Range       Annual Sage     B-001-0-3       Brown     Brown        Bro	NQ2-11		32.0′	37.0' 60/	/60 100	%	20/60	33%
Office of Geotechnical Enginer       Image: Second Structure Second Structure Second Seco			37.0′	42.0' 60/	60 100	%	31/60	52%
Provision DEPARTING TRANSFORMENTION TRANSFORMENTION       Define of Edotechnical Engineer         B-001-0-23       B-001-0-23         R-001-0-23       B-001-0-23         R-01-0-23       B-001-0-23				Mus-146-29.46 PID 11	5988			
Office of Geotechnical Engineer         B-001-0-23       B-001-0-23         B-001-0-23       B-001-0-23         R-001-0-23       B-001-0-23         Mail       B-001-0-23       B-01-0-23         Mail       B-001-0-23       B-01-0-23         Mail       B-001-0-23       B-01-0-23       B-01-0-23         Mail       B-01-0-23       B-01-0-23       B-01-0-23         Mail       B-01-0-23       B-01-0-23       B-02-23         Mail       B-000-0-23       B-01-0-23       B-02-23         Mail       B-000-0-23       B-000-0-23       B-000-0-23	OHIO DI TRANS	EPARTMENT OF						
B-001-0.23         P-001-0.23         P-001-0.23         P-001-0.23         P-011         P-111          P-111	DIVISION OF	ENGINEERING				Office of G	ieotechnical l	Engineerir
1     1 <td></td> <td></td> <td></td> <td>B-001-0-23</td> <td></td> <td></td> <td></td> <td></td>				B-001-0-23				
전문       1000	,0'2+							
Image: Sector	E IS		- ANT					
Image: Second								0°.71Þ
Image: Second								2125
Image: Second				,0°20				
13     14     15     17     18     19     20     21     22     23     24     25     2			5.5'	130 5133				
Run #:     Depth     Recovery     Recovery     Recovery     ROD       NQ2-12     42.0°     45/48     94%     24/48     50%       NQ2-13     46.0°     45/48     11/12     92%     11/12     92%       NQ2-14     48.5°     18/18     100%     5/18     28%       NQ2-15     48.5°     18/18     100%     0/18     0%			5 518 5/5					5183
Run #:       Depth       Recovery       Recovery       RQD         NQ2-12       42.0'       46.0'       45/48       94%       24/48       50%         NQ2-13       46.0'       47.0'       11/12       92%       11/12       92%         NQ2-14       47.0'       11/12       92%       11/12       92%         NQ2-14       47.0'       11/12       92%       11/12       92%         NQ2-15       48.5'       18/18       100%       0/18       0%         NQ2-15       48.5'       18/18       100%       0/18       0%         NQ2-15       48.5'       50.0'       18/18       100%       0/18       0%         Mu2-15       Mus-146-29.46 PID 115988       A       0%       0/118       0%         Mus-146-29.46 PID 115988       A       A       0%       0%       0%         Mus-146-29.46 PID 115988       A       A       A       A       A	2 13 14		18 19 20 21	22 23 24 25	ului 26.27.28		Section Section 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
NQ2-12       42.0'       46.0'       45/48       94%       24/48       50%         NQ2-13       46.0'       47.0'       11/12       92%       11/12       92%         NQ2-14       47.0'       48.5'       18/18       100%       5/18       92%         NQ2-15       48.5'       18/18       100%       0/18       0%         NQ2-15       48.5'       50.0'       18/18       100%       0/18       0%         NQ2-15       48.5'       50.0'       18/18       100%       0/18       0%         Mu2-18       A.S.       50.0'       18/18       100%       0%       0%	Run #:	Ď	epth	Recov	very		RQD	Non-the-
NUZ-13       40.0       47.0       11/12       92%       11/12       92%         NQ2-14       47.0'       48.5'       18/18       100%       5/18       28%         NQ2-15       48.5'       50.0'       18/18       100%       5/18       28%         NQ2-15       48.5'       50.0'       18/18       100%       0/18       0%         NQ2-15       48.5'       50.0'       18/18       100%       0/18       0%         Mus-146-29.46 PID 115988       Ausolution Profile       Ausolution Profile       0/18       0%	NQ2-12	42.0'	46.0'	45/48	94%	24/48		50%
NQ2-15     48.5'     50.0'     18/18     100%     0/18     00%       NQ2-15     48.5'     50.0'     18/18     100%     0/18     0%       Mus-146-29.46 PID 115988     Mus-146-29.46 PID 115988     0/18     0%     0%       Mus-146     Mus-146-29.46 PID 115988     Mus-146-29.46 PID 115988     0%     0%       Mus-146     Mus-146-29.46 PID 115988     Mus-146-29.46 PID 115988     0%     0%	CT-2DN	40.0 47 N	47.0	18/18	32% 100%	21/17 21/18		32% 28%
	NQ2-15	48.5	50.0	18/18	100%	0/18		0%
				Mus-146-29.46 PID 11	5988			
DESIGNE DESIGNE TROJECT								
	DESIGNEF / REV SAT PROJECT 11	DESIGN A						

![](_page_10_Figure_0.jpeg)

000 70 00	RQD	%0	%0	%0	0%			hnical Engineering		
29 30 31 81	N. Barbara Constanting	0/24	0/24	0/24	0/12			Office of Geotec		
Industrial and a 27 28 4	very	58%	%62	67%	42%	5988		U		
22 23 24 25	Reco	14/24	19/24	16/24	5/12	us-146-29.46 PID 11			B-002-0-23	
8 19 20 21	-ri	8.0′	10.0′	12.0′	13.0′	Σ				
15 15 15 15 15 17	Dep	6.0′	8.0′	10.0′	12.0′		PARTMENT OF	NGINEERING		
Sector 13	Run #:	NQ2-1	NQ2-2	NQ2-3	NQ2-4		OHIO DEI TRANSP	DIVISION OF E		B&SZ 139

![](_page_10_Picture_2.jpeg)

![](_page_11_Picture_0.jpeg)

N02-7         23.0'         23.0'         46/60           N02-8         N02-8         33.0'         52/60           Mus-146-29.46 PID 115988         Mus-146-29.46 PID 115988           N1010 0F FARITNENT OR TRANSPORTATION         B-D02-0-23           Reference         Reference           Reference         Reference           Reference         Reference           Runff         Reference           N02-12         33.0'           33.0'         33.0'           Runff         Reference           N02-11         33.0'           33.0'         33.0'           Secon         33.0'	iccover y		
NU28         DEPARTMENT OF Mus-146-29.46 PID 115988         DEPARTMENT OF Mus-146-29.46 PID 115988           VIUISION OF ENGINEERING         B-002-0-23         B-002-0-23           Rendering and an analysis         B-002-0-23         B-002-0-23           Rendering and an analysis         B-002-0-23         B-002-0-23           Rendering an analysis         B-002-0-23         B-012           Rendering an analysis         B-002-0-23	77%	0/60	0%
PHIO DEPARTMENT OF RANSPORTATION         INISION OF ENGINEERING         PE002-0-23         B-002-0-23         B-002-0-33         B-002-0-24/24         N02-12       B-02-0-24/24	0/ /0	0/00	%NT
B-002-0-23 B-002-0-23		- - - -	•
Run #:       37.0'       37.0'       24/24         NQ2-12       39.0'       37.0'       24/24         NQ2-12       39.0'       43.0'       24/24	Office of (	seotechnical E	Enginee
Bkur, 35,0       31,0       41,4			,0:SE
Run #:         Depth         R           NQ2-9         33.0'         35.0'         24/24           NQ2-11         35.0'         24/24           NQ2-12         39.0'         24/24           NQ2-12         39.0'         24/24			10:37 4 564
Run #:         Depth         R           NQ2-9         33.0'         35.0'         24/24           NQ2-10         35.0'         21/24           NQ2-12         39.0'         24/24           NQ2-12         39.0'         24/24           NQ2-12         39.0'         24/24			88 ,68 : 11 X
Run #:     Depth       NQ2-9     33.0'       NQ2-10     35.0'       NQ2-11     37.0'       NQ2-12     39.0'       NQ2-12     39.0'       NQ2-12     39.0'			
Run #:       Depth       R         NQ2-9       33.0'       35.0'       24/24         NQ2-10       35.0'       37.0'       21/24         NQ2-11       37.0'       39.0'       24/24         NQ2-12       37.0'       39.0'       24/24         NQ2-12       39.0'       43.0'       44/48			6612: 43.0'
NQ2-9         33.0'         35.0'         24/24           NQ2-10         35.0'         37.0'         21/24           NQ2-11         37.0'         37.0'         21/24           NQ2-11         37.0'         39.0'         24/24           NQ2-12         37.0'         43.0'         24/24           NQ2-12         39.0'         43.0'         24/24	Secovery	RQD	
NQ2-11 37.0' 39.0' 24/24 NQ2-12 39.0' 44/48	100%	0/24	%0
	100%	9/24 27/48	38%
Mus-146-29.46 PID 115988			
Mus-146-29.46 PID 115988			

![](_page_12_Picture_0.jpeg)

	RQD	%0	%0	%0		
		0/24	0/24	0/18		ILE - ROCKFALL
	۲۷	58%	63%	89%	PID 115988	CHNICAL PROF
	Recove	14/24	15/24	16/18	Mus-146-29.46 F	GEOTE
	th	8.5′	10.5′	12.0′		
	Dep	6.5′	8.5′	10.5′		
	Run #:	NQ2-1	NQ2-2	NQ2-3		DESIGNER AJC REVIEW SAT 08/ PROJECT ID 1159

![](_page_13_Picture_0.jpeg)

N02-4         12.0°         14.0° <th< th=""><th>0/24 0/28 0/28 0/24 0/24</th></th<>	0/24 0/28 0/28 0/24 0/24
N02:5         140°         150°         150°         13/24         56%         0           N02:7         200°         13/24         85%         0           N02:7         200°         13/24         85%         0           N02:7         200°         200°         31/38         85%         0           N02:7         Nuc-146-29 46 PID 115988         B5%         0         0           NUVINON OF FURINTION         B03-0-23         B103-0-23         Alfre-146-29 46 PID 115988         Alfre-146-29 46 PID 115988           NUVINON OF FURINTING         B03-0-23         B-003-0-23         B-003-0-23         Alfre-115988           NUMENTION         B-003-0-23         B-003-0-23         B-003-0-23         Alfre-115988           Alfre-146-29 46 PID 115988         B-003-0-23         B-003-0-23         Alfre-11598           Alfre-146 Alfre-166 Alfre-166         Alfre-166 Alfre-166         Alfre-166         Alfre-166           Alfre-166	0/24 0/48 0/24 Office of Geotechni
NO2-6         16 0'         20 0'         14/48         85%         0           NO2-7         20 0'         22 0'         20 0'         20 0'         33%         0           INUO DERATIMENT OF TRANSFORTATION         Mus-146-29.46 PID 113988         83%         0         0ffice           INUI DERATIMENT OF TRANSFORTATION         DIRITION         PLOTATION         PLOTAGE REAL         83%         0           Officience         DIRITION         PLOTATION         PLOTAGE REAL         PLOTAGE REAL         93%         0           Officience         DIRITION         PLOTAGE REAL         PLOCA         PLOCA         PLOCA <td>Office of Geotechni</td>	Office of Geotechni
M02-7         200°         2.0°         2.0°         2.0°         0           M02-14         200°         2.0°         2.0°         0         0           M15-146-29.46 PID115988         M15-146-29.46 PID115988         0         0         0           DIVISION OF ENGINERING         B-003-0-23         B-003-0-23         0         0           DIVISION OF ENGINE         B-003-0-23         B-003-0-23         0         0           DIVIO-10         DIVIO-10         DIV	Office of Geotechni
Mus-146-29.46 PID 115988 TRANSFORTATION TRANSFORTATION DIVISION OF ENGINEERING B-003-0-23 B-003-0	Office of Geotechni
OIIIO DEPARTMENT OF TRANSPORTATION       Office         DIVISION OF ENGINEERING       B-003-0-23         B-003-0-23       B-003-0-0-23         B-003-0-0-23       B-004         B-014       B-014         B-014       B-014         B-014       B-014	Office of Geotechni
Office       B-003-0-23         B-003-0-23       B-003-0-23         Pice       Pice	Office of Geotechni
B-003-0-23         B-003-0-23         Reference         Reference         Reference         Run#:       Depth         NO2-9       24,0'       25,60         23,0'       24,0'       24,0'         24,0'       25,60       29,00'	
RM #:         Depth         R	
Run #:         Activity         Activity <thactivity< th="">         Activity         <t< th=""><th></th></t<></thactivity<>	
Run #:         Depth         Recovery           N02-9         24.0°         24.0°         24.0°           71.0°         37.0°         55/60         92.0°	
Run #:         Depth         Recovery           N02-9         24.0'         27.0'         32.10'         55/60         92%	,L7
Run #:         Depth         Recovery           NO2-8         23.0'         24.0'         24.0'         36/36         100%           NO2-10         37.0'         35/60         92%         100%         92%	8K lo:
Run #:     Bepth     21, 22, 23, 24, 25, 26, 27, 28, 29, 30       NO2-8     22.0'     24.0'       NO2-10     27.0'     32.0'       32.0'     32.0'     55/60	
Run #:     Depth     Recovery       NQ2-8     22.0'     24.0'     24/24       NQ2-9     24.0'     24/24     100%       NO2-10     77.0'     32.0'     55/60     92%	29 30 31 23 33
NQ2-8         22.0'         24.0'         24/24         100%           NQ2-9         24.0'         24.0'         100%         100%           NO2-10         27.0'         32.0'         55/60         92%	
NQ2-9         24.0'         27.0'         36/36         100%           NO2-10         27.0'         32.0'         92%	00% 15/24
ND7-10 27.0' 32.0' 55/60 92%	.00% 32/36
Mus-146-29.46 PID 115988	92% 0/60
DESIGN AGEI DESIGN AGEI DESIGNER AJC REVIEV SAT 08, PROJECT ID	- ROCKFALL

![](_page_14_Picture_0.jpeg)

	D	32%	0%			l Engineering		
	RQ	19/60	0/60			of Geotechnica		
	very	93%	82%			Office		
ERIZ:	Reco	56/60	49/60	.46 PID 115988			3-0-23	Concerned in the State of the State of the State
	pth	37.0′	42.0′	Mus-146-29			B-0C	ALC: NO REPORTED AND A REPORT OF A
	De	32.0′	37.0′		NO NO			
	Run #:	NQ2-11	NQ2-12		OHIO DEPARTMENT TRANSPORTATIO	DIVISION OF ENGINEER		

![](_page_14_Picture_2.jpeg)