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## MEMORANDUM

TO: Laura Krusinski, P.E., Maine Department of Transportation

FROM: Blaine Cardali, P.E.  
Andrew Blaisdell, P.E.  
Christopher Snow, P.E.

DATE: November 12, 2025

FILE NO.: 09.0026242.00

SUBJECT: Addendum No. 1 to Geotechnical Data Report  
Lyons Road Bridge No. 1463 & No. 5783 Over Interstate 95  
Maine Dot Win 29486.00 (Legacy Win 25465.00)  
Sidney, Maine



We are pleased to provide this Addendum, which includes 200-series boring program geotechnical data related to the replacement of Maine Department of Transportation (MaineDOT) Lyons Road Bridges No. 1463 & No. 5783 in Sidney, Maine. Our work was completed in accordance with GZA GeoEnvironmental, Inc.'s Project Contract for the above referenced project dated July 22, 2024, our Proposal No. 09.P000130.24b dated December 18, 2023, and the Limitations included in **Appendix A** of this report.

## BACKGROUND

During the Draft RFP phase of the project, it was observed that recent boring BB-SLR-103 and circa 1958 borings near the existing Abutment 3 indicate a discrepancy of approximately 10 feet in the interpreted bedrock elevation. This variation suggests the potential for localized irregularities in the bedrock surface or a possible survey discrepancy. In consideration of this finding, a 200-series boring was proposed to obtain additional subsurface information to characterize bedrock conditions for the abutment design. Please refer to GZA's Geotechnical Data Report dated June 24, 2025, for the previous data collected for the project.

Elevations referenced in this report are in feet and refer to the North American Vertical Datum of 1988 (NAVD88) unless noted otherwise

## SUBSURFACE EXPLORATIONS

GZA completed one 200-series test boring, designated as BB-SLR-201, the location of which is shown on the attached Boring Location Plan, **Figure 1**. Boring BB-SLR-103 had been drilled in the eastbound lane about 20 feet behind the face of the abutment. Boring BB-SLR-201 was drilled in the westbound lane also about 20 feet behind the face of the abutment. The as-drilled boring location and elevation were surveyed by MaineDOT, provided to GZA, and are shown on the log. The surveyed, as-drilled location of the borings are shown on **Figure 1**.



Boring BB-SLR-201 was drilled to a depth of approximately 49 feet below ground surface (bgs) and terminated approximately 11 feet into bedrock. Seaboard Drilling of Bangor, Maine provided drilling services and coordinated utility clearance. The drilling was completed on August 27, 2025. GZA personnel monitored the drilling work and prepared a log of the boring that is included in **Appendix B**.

The boring was drilled using a solid stem auger followed by 4-inch casing and drive-and-wash techniques through the overburden and coring equipment in the bedrock. Standard Penetration Testing (SPT) and split spoon sampling were performed at 5-foot typical intervals in overburden soils. SPTs were conducted according to MaineDOT requirements using an automatic hammer system calibrated in accordance with ASTM D4633-05 and MaineDOT procedures. SPTs were conducted using automatic hammer Seaboard SN367, which had a rated hammer energy transfer ratio of 1.006 at the time of drilling. The drilling subcontractor backfilled the borehole with cuttings and topped it with asphalt cold patch upon completion. Rock core was taken using NQ2 (2.0-inch-diameter) coring equipment. A rock core photograph log is presented in **Appendix C**.

## **SUBSURFACE CONDITIONS**

The stratification encountered in boring BB-SLR-201 was generally consistent with the adjacent boring BB-SLR-103, except that a marine sand layer was present in place of marine clay. The bedrock elevation in boring BB-SLR-201 (El. 179.7) is within 1 foot of the adjacent boring BB-SLR-103. Both borings indicate the interpreted bedrock surface is approximately 10 feet deeper than had been depicted on the 1958 drawings. The attached **Table 1** provides interpreted stratification for the 100-series and 200-series borings.

## **CLOSURE**

We trust that this information meets current project needs. Please feel free to call Blaine Cardali at (207) 751-3252 for additional information.

BMC/ARB/CLS:cc

\\GZAPort1\Jobs\09 Jobs\0026200s\09.0026242.00 - Stantec - Sidney 5 Bridges Bundle\Report\WIN 025465.00 Lyons Rd Report\Supplemental Data Memo\26242.00-Lyons Rd Bridge #1463 #5873  
Addendum No. 1 to Geotechnical Data Report 11.12.2025.docx

Attachments:      Table 1 – Revised Subsurface Summary Table  
                         Figure 1 – Revised Boring Location Plan  
                         Appendix A - Limitations  
                         Appendix B – 200 Series Boring Log  
                         Appendix C – Core Photo Log



## TABLE



**TABLE 1**  
**Summary of Subsurface Explorations**  
**Lyons Road Bridges #1463 and #5783 over I-95**  
**Sidney, ME**  
**WIN 25465.00**

Boring ID	Northing (ft)	Easting (ft)	Ground Surface El. (ft)	Top of Stratum Elevation						Stratum Thickness					Depth to Bedrock (ft)	Bottom of Boring Depth (ft)	Bottom of Boring El. (ft)	Groundwater	
				Asphalt	Fill	Marine Clay	Marine Sand	Glacial Till	Bedrock	Asphalt	Fill	Marine Clay	Marine Sand	Glacial Till				El. (ft)	Depth (ft)
BB-SLR-101	591162.8	1156052.9	223.2	223.2	222.6	NE	204.7	194.7	187.6	0.6	17.9	NE	10.0	7.1	35.6	46.0	177.2	205.3	17.9
BB-SLR-102	591124.0	1156240.0	219.7	219.7	219.1	NE	NE	195.6	192.5	0.6	23.5	NE	NE	3.1	27.2	37.5	182.2	198.2	21.5
BB-SLR-103	591099.3	1156291.2	218.2	218.2	217.6	194.7	NE	189.7	179.1	0.6	22.9	5.0	NE	10.6	39.1	49.9	168.3	198.9	19.3
BB-SLR-104	591058.7	1156492.3	210.2	210.2	209.7	186.7	NE	181.7	175.0	0.5	23.0	5.0	NE	6.7	35.2	45.5	164.7	190.9	19.3
BB-SLR-201	591113.1	1156292.1	218.2	218.2	217.6	NE	194.7	189.7	179.7	0.6	22.9	NE	5.0	10.0	38.5	49.0	169.2	NM	NM

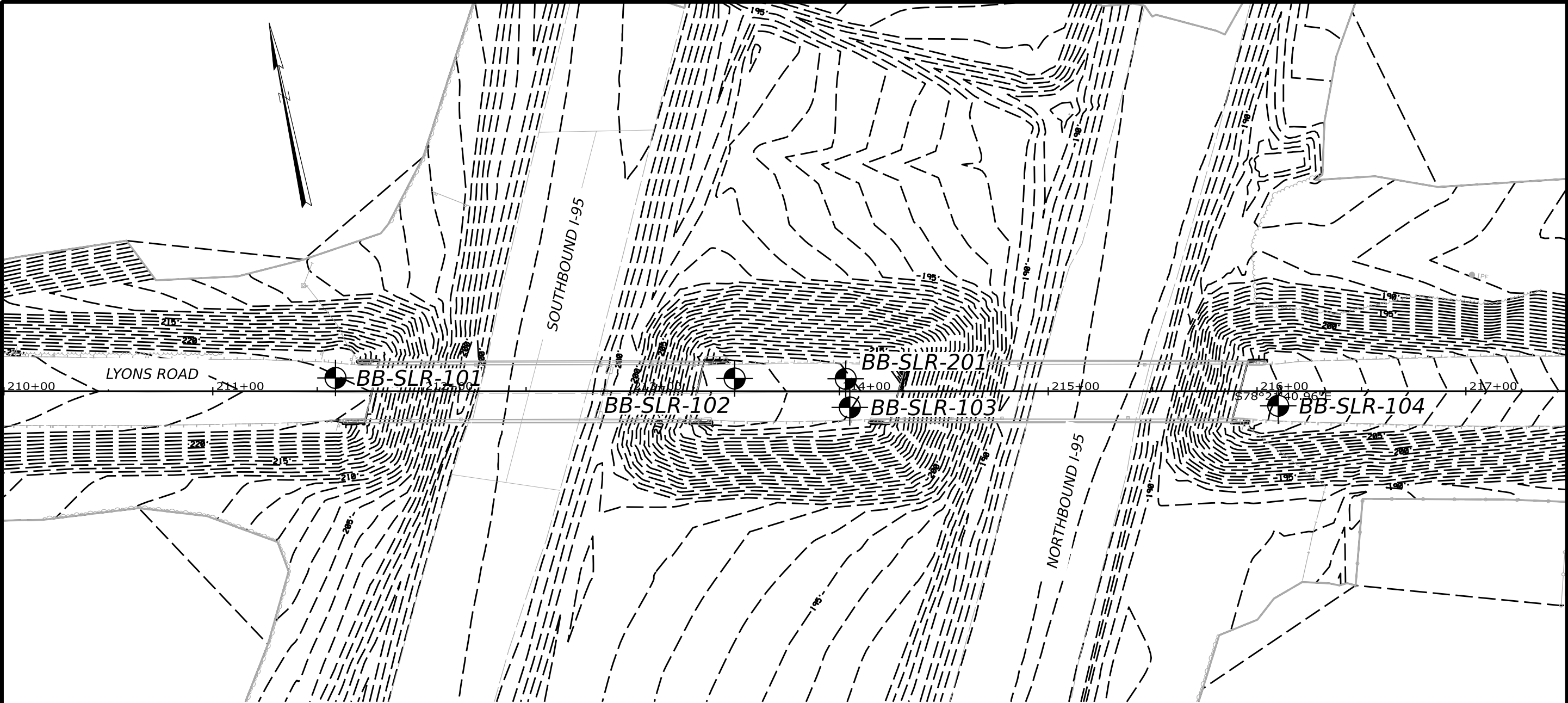
El. = Elevation, NE = Not Encountered, NM = Not Measured, NP = Not Penetrated, > = Boring Terminated in Stratum

Notes:

- 1. Refer to the boring logs in Appendix B for additional information.
- 2. Project elevation datum is North American Vertical Datum (NAVD 88), unless noted otherwise.
- 3. Project coordinates are in survey feet and reference the North American Datum of 1983 (NAD83) Maine Coordinate System 2000 West, unless noted otherwise.
- 4. As-drilled locations were surveyed by MaineDOT and provided to GZA.
- 5. Stratum depths, thickness and elevations are rounded to the nearest 0.1 foot as interpreted on the boring logs, but this does not represent the precision of the data.



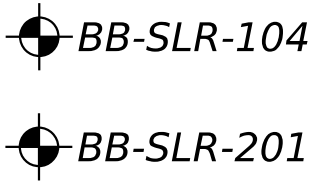
FIGURE



NOTES

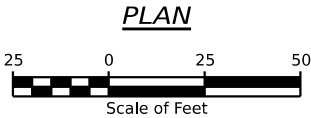
- 1) Base map developed from the Work Set electronic files provided by Stantec on April 7, 2025
- 2) The as-drilled locations of the test borings were surveyed by MaineDOT and provided by Stantec in an electronic file (Topo.dgn) on April 7, 2025, with updates on September 25, 2025.

BORING LOCATION PLAN LEGEND



Location and designation of BB-SLR-100 series borings performed by Seaboard Drilling, LLC of Bangor, Maine and observed by GZA personnel between July 22 and 23, 2024.

Location and designation of BB-SLR-200 series borings performed by Seaboard Drilling, LLC of Bangor, Maine and observed by GZA personnel on August 27, 2025.



LYONS ROAD BRIDGE  
SIDNEY, MAINE

BORING LOCATION PLAN

SHEET NUMBER  
  
1

OF 1

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

25465.00

Bridge Nos. 1463 and 5783

WIN 25465.00

HIGHWAY PLANS

PROJ. MANAGER	J. BRASK	BY	DATE	SIGNATURE
DESIGNED/TAIEN	NOV	NOV	5/15/2025	
CHECKED/REVIEWED	ARB	CLS	5/16/2025	
DESIGNED/DETAILS				P.E. NUMBER
REVISIONS 1				DATE
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
REVISIONS 5				



## APPENDIX A – LIMITATIONS



## LIMITATIONS

### Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

### Standard of Care

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in Proposal for Services and/or Report, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. If conditions other than those described in this report are found at the subject location(s), or the design has been altered in any way, GZA shall be so notified and afforded the opportunity to revise the report, as appropriate, to reflect the unanticipated changed conditions .
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

### Subsurface Conditions

4. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs.
5. In preparing this report, GZA relied on certain information provided by the Client, state and local officials, and other parties referenced therein which were made available to GZA at the time of our evaluation. GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.
6. Water level readings have been made in test holes (as described in the Report) and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this Report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The water table encountered in the course of the work may differ from that indicated in the Report.
7. GZA's services did not include an assessment of the presence of oil or hazardous materials at the property. Consequently, we did not consider the potential impacts (if any) that contaminants in soil or groundwater may have on construction activities, or the use of structures on the property.

### Compliance with Codes and Regulations

8. We used reasonable care in identifying and interpreting applicable codes and regulations. These codes and regulations are subject to various, and possibly contradictory, interpretations. Compliance with codes and regulations by other parties is beyond our control.





## APPENDIX B – 200 SERIES BORING LOG

UNIFIED SOIL CLASSIFICATION SYSTEM					MODIFIED BURMISTER SYSTEM															
MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES																
COARSE-GRAINED SOILS  (more than half of material is larger than No. 200 sieve size)	GRAVELS  (more than half of coarse fraction is larger than No. 4 sieve size)	CLEAN GRAVELS  (little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.	<u>Descriptive Term</u>		<u>Portion of Total (%)</u>													
			GP	Poorly-graded gravels, gravel sand mixtures, little or no fines.	trace	0 - 10														
					little	11 - 20														
					some	21 - 35														
				adjective (e.g. Sandy, Clayey)	36 - 50															
	SANDS  (more than half of coarse fraction is smaller than No. 4 sieve size)	GRAVEL WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures.	<b>TERMS DESCRIBING DENSITY/CONSISTENCY</b>  <b>Coarse-grained soils</b> (more than half of material is larger than No. 200 sieve): Includes (1) clean gravels; (2) Silty or Clayey gravels; and (3) Silty, Clayey or Gravelly sands. Density is rated according to standard penetration resistance (N-value).															
		GC	Clayey gravels, gravel-sand-clay mixtures.																	
		CLEAN SANDS  (little or no fines)	SW	Well-graded sands, Gravelly sands, little or no fines					<u>Density of Cohesionless Soils</u>		<u>Standard Penetration Resistance</u> N <sub>60</sub> -Value (blows per foot)									
SP		Poorly-graded sands, Gravelly sand, little or no fines.	Very loose	0 - 4																
FINE-GRAINED SOILS  (more than half of material is smaller than No. 200 sieve size)	SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures	Loose	5 - 10															
		SC	Clayey sands, sand-clay mixtures.	Medium Dense	11 - 30															
				Dense	31 - 50															
				Very Dense	> 50															
	SILTS AND CLAYS  (liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, Silty or Clayey fine sands, or Clayey silts with slight plasticity.	<b>Fine-grained soils</b> (more than half of material is smaller than No. 200 sieve): Includes (1) inorganic and organic silts and clays; (2) Gravelly, Sandy or Silty clays; and (3) Clayey silts. Consistency is rated according to undrained shear strength as indicated.																
		CL	Inorganic clays of low to medium plasticity, Gravelly clays, Sandy clays, Silty clays, lean clays.																	
		OL	Organic silts and organic Silty clays of low plasticity.																	
		SILTS AND CLAYS  (liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine Sandy or Silty soils, elastic silts.																
CH	Inorganic clays of high plasticity, fat clays.																			
OH	Organic clays of medium to high plasticity, organic silts.																			
HIGHLY ORGANIC SOILS	Pt		Peat and other highly organic soils.																	
<b>Desired Soil Observations (in this order, if applicable):</b> Color (Munsell color chart) Moisture (dry, damp, moist, wet) Density/Consistency (from above right hand side) Texture (fine, medium, coarse, etc.) Name (Sand, Silty Sand, Clay, etc., including portions - trace, little, etc.) Gradation (well-graded, poorly-graded, uniform, etc.) Plasticity (non-plastic, slightly plastic, moderately plastic, highly plastic) Structure (layering, fractures, cracks, etc.) Bonding (well, moderately, loosely, etc., ) Cementation (weak, moderate, or strong) Geologic Origin (till, marine clay, alluvium, etc.) Groundwater level					<b>Rock Quality Designation (RQD):</b> RQD (%) = $\frac{\text{sum of the lengths of intact pieces of core}^* > 4 \text{ inches}}{\text{length of core advance}}$  *Minimum NQ rock core (1.88 in. OD of core)  <b>Rock Quality Based on RQD</b> <table><tr><th>Rock Quality</th><th>RQD (%)</th></tr><tr><td>Very Poor</td><td>≤25</td></tr><tr><td>Poor</td><td>26 - 50</td></tr><tr><td>Fair</td><td>51 - 75</td></tr><tr><td>Good</td><td>76 - 90</td></tr><tr><td>Excellent</td><td>91 - 100</td></tr></table> <b>Desired Rock Observations (in this order, if applicable):</b> Color (Munsell color chart) Texture (aphanitic, fine-grained, etc.) Rock Type (granite, schist, sandstone, etc.) Hardness (very hard, hard, mod. hard, etc.) Weathering (fresh, very slight, slight, moderate, mod. severe, severe, etc.) Geologic discontinuities/jointing: -dip (horiz - 0-5 deg., low angle - 5-35 deg., mod. dipping - 35-55 deg., steep - 55-85 deg., vertical - 85-90 deg.) -spacing (very close - <2 inch, close - 2-12 inch, mod. close - 1-3 feet, wide - 3-10 feet, very wide >10 feet) -tightness (tight, open, or healed) -infilling (grain size, color, etc.) Formation (Waterville, Ellsworth, Cape Elizabeth, etc.) RQD and correlation to rock quality (very poor, poor, etc.) ref: ASTM D6032 and FHWA NHI-16-072 GEC 5 - Geotechnical Site Characterization, Table 4-12 Recovery (inch/inch and percentage) Rock Core Rate (X.X ft - Y.Y ft (min:sec))				Rock Quality	RQD (%)	Very Poor	≤25	Poor	26 - 50	Fair	51 - 75	Good	76 - 90	Excellent	91 - 100
Rock Quality	RQD (%)																			
Very Poor	≤25																			
Poor	26 - 50																			
Fair	51 - 75																			
Good	76 - 90																			
Excellent	91 - 100																			
<b>Maine Department of Transportation Geotechnical Section Key to Soil and Rock Descriptions and Terms Field Identification Information</b>					<b>Sample Container Labeling Requirements:</b> <table><tr><td>WIN</td><td>Blow Counts</td></tr><tr><td>Bridge Name / Town</td><td>Sample Recovery</td></tr><tr><td>Boring Number</td><td>Date</td></tr><tr><td>Sample Number</td><td>Personnel Initials</td></tr><tr><td>Sample Depth</td><td></td></tr></table>				WIN	Blow Counts	Bridge Name / Town	Sample Recovery	Boring Number	Date	Sample Number	Personnel Initials	Sample Depth			
WIN	Blow Counts																			
Bridge Name / Town	Sample Recovery																			
Boring Number	Date																			
Sample Number	Personnel Initials																			
Sample Depth																				





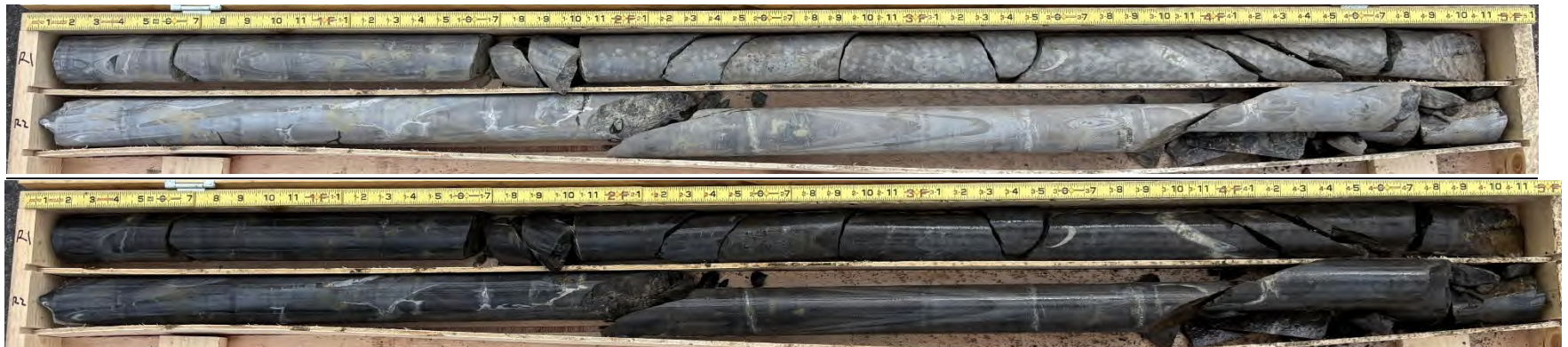


## APPENDIX C – CORE PHOTO LOG



**MaineDOT Bridge No. 1463 and 5783**  
**Lyons Rd over 95**  
**Sidney, ME**  
**WIN 25465.00**  
**Rock Core Photographs**

Boring No.	Run	Depth (ft)	Recovery (in)	Recovery (%)	RQD (in)	RQD (%)	Rock Type	Box Row
BB-SLR-201	R1	39 - 44	55	92%	35	58%	PELITE	1
BB-SLR-201	R2	44 - 49	60	100%	40	67%	PELITE	2



- Notes:**
1. Box row corresponds to the core box section in which the rock core sample is contained; Row 1=Top, Row 4=Bottom.
  2. Top photo is dry, bottom photo is wet.
  3. BB-SLR-201 corresponds to Bridge No. 5783.