



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.							
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85						GROUND WTR (ft)							
BORING NO. DB-1		STATION 55+00		OFFSET 165 ft LT		ALIGNMENT -Y-							
COLLAR ELEV. 697.2 ft		TOTAL DEPTH 19.7 ft		NORTHING 583,949		EASTING 1,481,087							
DRILL MACHINE CME-45C		DRILL METHOD H.S. Augers				HAMMER TYPE Automatic							
DRILLER Cassell R.		START DATE 06/08/10		COMP. DATE 06/08/10		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT		SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100		ELEV. (ft)	DEPTH (ft)
700													
												697.2	0.0
695												RESIDUAL Light-brown & gray, dense to v. dense, f. grain sand w/trace rock frags. (A-3).	
	692.5	4.7	2	11	21								
690													
	687.5	9.7	16	18	35								
685													
	682.5	14.7										682.5	14.7
680												WEATHERED ROCK Gray, f. grain sand, interpreted as WR (Diorite/Quartz Diorite). Auger refusal @ 19.7'.	
	677.5	19.7										677.5	19.7
675												Boring Terminated with Standard Penetration Test Refusal at Elevation 677.5 ft on Crystalline Rock (Diorite/Quartz Diorite).	
670													
665													
660													
655													
650													
645													
640													
635													
630													
625													
620													

NCDOT BORE SINGLE R-2123CE.GPJ NC_DOT.GDT 6/10/10



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.						
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85						GROUND WTR (ft)						
BORING NO. DB-3		STATION 30+00		OFFSET CL		ALIGNMENT -RAMP F-						
COLLAR ELEV. 637.8 ft		TOTAL DEPTH 20.3 ft		NORTHING 585,021		EASTING 1,482,530						
DRILL MACHINE CME-45C		DRILL METHOD H.S. Augers				HAMMER TYPE Automatic						
DRILLER Cassell R.		START DATE 06/09/10		COMP. DATE 06/09/10		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT		SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100	ELEV. (ft)	DEPTH (ft)
640												
											637.8	0.0
											GROUND SURFACE	
635											ROADWAY EMBANKMENT	
											Orange-brown to red-orange, med. stiff, silty clay (A-6).	
	634.0	3.8	2	2	4							
630											630.7	7.1
											RESIDUAL	
											Orange-brown to gray, med. stiff, clayey silt (A-4).	
	629.0	8.8	4	3	4							
625											625.7	12.1
											Gray & white, stiff, saprolitic silt (A-4).	
	624.0	13.8	2	3	9							
620												
	619.0	18.8	1	4	6							
											617.5	20.3
											Boring Terminated at Elevation 617.5 ft in Residual Soils (Saprolitic Silt).	
615												
610												
605												
600												
595												
590												
585												
580												
575												
570												
565												
560												



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.							
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85						GROUND WTR (ft)							
BORING NO. DB-4		STATION 23+00		OFFSET CL		ALIGNMENT -RAMP A-							
COLLAR ELEV. 662.7 ft		TOTAL DEPTH 33.7 ft		NORTHING 585,818		EASTING 1,482,312							
DRILL MACHINE CME-45C		DRILL METHOD H.S. Augers				HAMMER TYPE Automatic							
DRILLER Cassell R.		START DATE 06/08/10		COMP. DATE 06/08/10		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT		SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100		ELEV. (ft)	DEPTH (ft)
665													
												662.7	0.0
660												GROUND SURFACE	
	658.0	4.7	4	7	7							RESIDUAL	
655												Gray, white, black w/some orange-brown staining, stiff to hard, f. sandy, micaceous silt w/saprolitic zones (A-4).	
	653.0	9.7	6	5	7								
650													
	648.0	14.7	25	20	15								
645													
	643.0	19.7	5	7	9								
640													
	638.0	24.7	12	15	16								
635													
	633.0	29.7	50	50/0.3									
630													
	629.0	33.7	60/0.0										
625													
620													
615													
610													
605													
600													
595													
590													
585													

NCDOT BORE SINGLE R-2123CE.GPJ NC_DOT.GDT 6/10/10



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.	
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85							GROUND WTR (ft)
BORING NO. DB-5		STATION 27+57		OFFSET 119 ft LT		ALIGNMENT -RAMP B-	
COLLAR ELEV. 638.9 ft		TOTAL DEPTH 7.9 ft		NORTHING 584,847		EASTING 1,483,467	
DRILL MACHINE CME-45C		DRILL METHOD H.S. Augers					HAMMER TYPE Automatic
DRILLER Cassell R.		START DATE 06/09/10		COMP. DATE 06/09/10		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
640																
635	635.4	3.5	1	2	1	3									638.9	0.0
630	631.0	7.9													631.0	7.9
625															Boring Terminated with Standard Penetration Test Refusal at Elevation 631.0 ft on Crystalline Rock (Diorite/Quartz Diorite).	
620															Staked location was inaccessible, moved to location approved by NCDOT personnel.	
615																
610																
605																
600																
595																
590																
585																
580																
575																
570																
565																
560																



PROJECT NO. 34379.1.17			ID. R-2123CE			COUNTY Mecklenburg			GEOLOGIST Smith, B.				
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85									GROUND WTR (ft)				
BORING NO. DB-6			STATION 39+45			OFFSET 30 ft LT			ALIGNMENT -RAMP F-			0 HR. N/A	
COLLAR ELEV. 658.9 ft			TOTAL DEPTH 34.8 ft			NORTHING 585,681			EASTING 1,482,855			24 HR. 14.4 Caved	
DRILL MACHINE CME-45C			DRILL METHOD SPT Core Boring						HAMMER TYPE Automatic				
DRILLER Cassell R.			START DATE 06/04/10			COMP. DATE 06/04/10			SURFACE WATER DEPTH N/A				
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft) DEPTH (ft)
660													
												658.9 GROUND SURFACE 0.0	
655	655.0	3.9										ROADWAY EMBANKMENT Orange-brown to brown, med. dense, silty sand (A-3).	
			4	7	8						M		
650	649.5	9.4										651.5 7.4	
			6	14	17						M	RESIDUAL Orange-brown, black, gray & dk. gray, dense to med. dense, micaceous, silty, f. grain sand, saprolitic, iron-oxide staining (A-3). Auger refusal @ 18.7', SPT refusal @ 18.8', begin core in CR.	
645	644.5	14.4											
			7	13	14						M		
640	640.2	18.7										640.1 18.8	
			60/0.1								D	CRYSTALLINE ROCK Black, white & dk. gray, v. sli. weathered, hard to v. hard, close frac. spacing, f. to med. crystalline diorite/quartz diorite.	
635													
630													
625												624.1 34.8	
												Boring Terminated at Elevation 624.1 ft in Crystalline Rock (Diorite/Quartz Diorite).	
620												Boring moved 30' Lt. due to steep embankment.	
615													
610													
605													
600													
595													
590													
585													
580													



NCDOT GEOTECHNICAL ENGINEERING UNIT

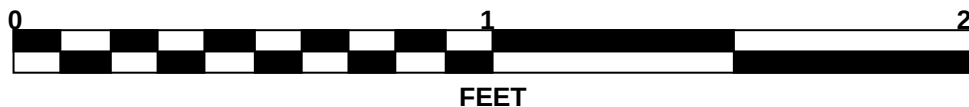
CORE BORING REPORT

SHEET

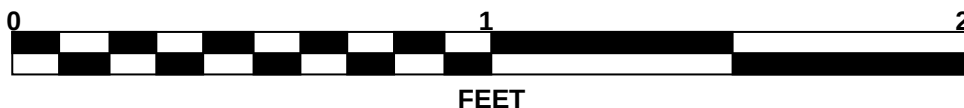
PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.							
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85							GROUND WTR (ft)						
BORING NO. DB-6		STATION 39+45		OFFSET 30 ft LT		ALIGNMENT -RAMP F-							
COLLAR ELEV. 658.9 ft		TOTAL DEPTH 34.8 ft		NORTHING 585,681		EASTING 1,482,855							
DRILL MACHINE CME-45C		DRILL METHOD SPT Core Boring					HAMMER TYPE Automatic						
DRILLER Cassell R.		START DATE 06/04/10		COMP. DATE 06/04/10		SURFACE WATER DEPTH N/A							
CORE SIZE NQ2		TOTAL RUN 16.0 ft											
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	RQD (ft) %	L O G	DESCRIPTION AND REMARKS	ELEV. (ft)	DEPTH (ft)
640.1	640.1	18.8	1.0	2:37	(1.0)	(0.0)		(14.4)	(11.0)		Begin Coring @ 18.8 ft	640.1	18.8
635	638.1	18.8	5.0	2:03	100%	0%		90%	69%		CRYSTALLINE ROCK		
				2:11	(4.6)	(3.3)					Black, white & dk. gray, v. sli. weathered, hard to v. hard, close frac. spacing, f. to med. crystalline diorite/quartz diorite.		
630	634.1	24.8	5.0	1:45	92%	66%							
				1:35	(4.4)	(3.9)							
625	629.1	29.8	5.0	1:56	88%	78%							
				1:22	(4.4)	(3.8)							
620	624.1	34.8	5.0	1:45	88%	76%					Boring Terminated at Elevation 624.1 ft in Crystalline Rock (Diorite/Quartz Diorite).	624.1	34.8
				1:26							Boring moved 30' Lt. due to steep embankment.		
				1:31									
				1:25									
				1:21									
615													
610													
605													
600													
595													
590													
585													
580													
575													
570													
565													

NCDOT CORE SINGLE R-2123CE.GPJ NC_DOT.GDT 6/14/10

CORE PHOTOGRAPHIC RECORD
I-485 (Charlotte Eastern Outer Loop) at I-85



Boring DB-6 – Station 39+45 @ 30' Lt. Box 1 of 2



Boring DB-6 – Station 39+45 @ 30' Lt. Box 2 of 2



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.	
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85							GROUND WTR (ft)
BORING NO. DB-7		STATION 41+00		OFFSET CL		ALIGNMENT -RAMP F-	
COLLAR ELEV. 660.8 ft		TOTAL DEPTH 45.1 ft		NORTHING 585,821		EASTING 1,482,926	
DRILL MACHINE CME-45C		DRILL METHOD SPT Core Boring					HAMMER TYPE Automatic
DRILLER Cassell R.		START DATE 06/05/10		COMP. DATE 06/05/10		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
665																
660															660.8	GROUND SURFACE 0.0
655	655.5	5.3	2	3	12											RESIDUAL Black, white, lt. brown, dk. gray & orange-brown, med. to v. dense, silty, f. grain sand w/saprolitic areas (A-3). Auger refusal @ 18.0', SPT refusal @ 18.1', begin core in CR.
650	650.5	10.3	9	23	44											
645	645.5	15.3	26	25	26											
640	642.8	18.0	60/0.1													
640															642.7	CRYSTALLINE ROCK Black, white & gray, v. sli. weathered, hard to v. hard, close frac. spacing, f. to cse. crystalline quartz diorite. Numerous high angle frags. some of which are sli. to mod. weathered, quartz & epidote veins are prevalent, some are up to 1/2" thick.
635																
630																
625																
620																
615															615.7	45.1
610																Boring Terminated at Elevation 615.7 ft in Crystalline Rock (Quartz Diorite).
605																
600																
595																
590																
585																



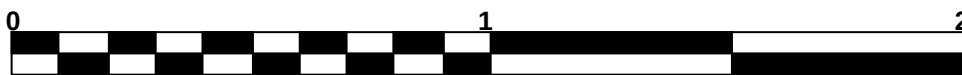
NCDOT GEOTECHNICAL ENGINEERING UNIT CORE BORING REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.							
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85						GROUND WTR (ft)							
BORING NO. DB-7		STATION 41+00		OFFSET CL		ALIGNMENT -RAMP F-							
COLLAR ELEV. 660.8 ft		TOTAL DEPTH 45.1 ft		NORTHING 585,821		EASTING 1,482,926							
DRILL MACHINE CME-45C		DRILL METHOD SPT Core Boring				HAMMER TYPE Automatic							
DRILLER Cassell R.		START DATE 06/05/10		COMP. DATE 06/05/10		SURFACE WATER DEPTH N/A							
CORE SIZE NQ2		TOTAL RUN 27.0 ft											
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	L O G	DESCRIPTION AND REMARKS	ELEV. (ft)	DEPTH (ft)
642.7											Begin Coring @ 18.1 ft		
640	642.7 640.7	18.1 20.1	2.0	2:01 2:45	(2.0) 100%	(0.9) 45%		(26.3) 97%	(22.5) 83%		CRYSTALLINE ROCK	642.7	18.1
			5.0	2:01 1:46 2:03 1:43 1:48	(4.9) 98%	(4.3) 86%					Black, white & gray, v. sli. weathered, hard to v. hard, close frac. spacing, f. to cse. crystalline quartz diorite. Numerous high angle frags. some of which are sli. to mod. weathered, quartz & epidote veins are prevalent, some are up to 1/2" thick.		
635	635.7	25.1	5.0	2:15 2:03 2:29 1:25 1:51	(4.9) 98%	(4.2) 84%							
630	630.7	30.1	5.0	1:31 1:52 1:51 1:38 1:31	(4.8) 96%	(3.7) 74%							
625	625.7	35.1	5.0	2:37 2:26 2:25 2:06 2:51	(4.9) 98%	(4.8) 96%							
620	620.7	40.1	5.0	2:28 2:20 1:58 1:51 1:54	(4.8) 96%	(4.6) 92%							
615	615.7	45.1									Boring Terminated at Elevation 615.7 ft in Crystalline Rock (Quartz Diorite).	615.7	45.1
610													
605													
600													
595													
590													
585													
580													
575													
570													
565													

NCDOT CORE SINGLE R-2123CE.GPJ NC_DOT.GDT 6/14/10

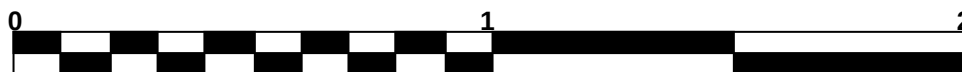
CORE PHOTOGRAPHIC RECORD
I-485 (Charlotte Eastern Outer Loop) at I-85



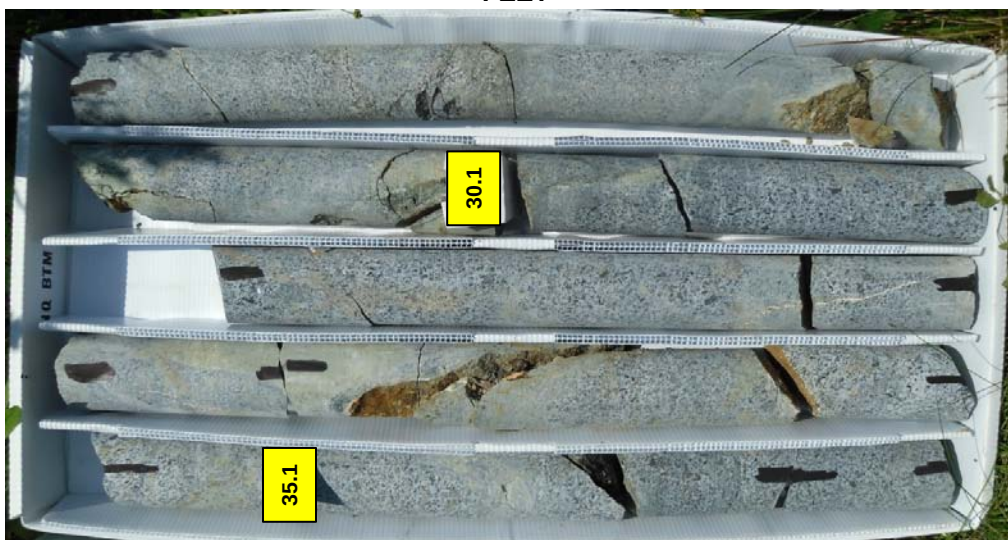
FEET



Boring DB-7 – Station 41+00 @ CL Box 1 of 3



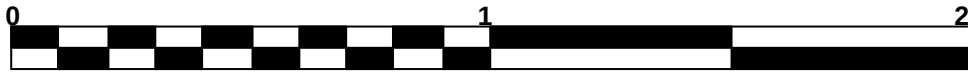
FEET



Boring DB-7 – Station 41+00 @ CL Box 2 of 3

CORE PHOTOGRAPHIC RECORD

I-485 (Charlotte Eastern Outer Loop) at I-85



FEET



Boring DB-7 – Station 41+00 @ CL Box 3 of 3



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.	
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85							GROUND WTR (ft)
BORING NO. DB-8		STATION 39+10		OFFSET CL		ALIGNMENT -RAMP G-	
COLLAR ELEV. 647.9 ft		TOTAL DEPTH 81.9 ft		NORTHING 586,048		EASTING 1,482,819	
DRILL MACHINE CME-45C		DRILL METHOD SPT Core Boring					HAMMER TYPE Automatic
DRILLER Cassell R.		START DATE 06/05/10		COMP. DATE 06/06/10		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
650																
															647.9	GROUND SURFACE
645	644.3	3.6	3	3	4											RESIDUAL Brown & gray, med. stiff, clayey silt (A-6).
															641.0	6.9
640	639.3	8.6	4	10	9											Brown, orange-brown, dk. gray & mottled white, v. stiff, sandy silt (A-4).
															636.0	11.9
635	634.3	13.6	12	17	19											Black, white, dk. gray & mottled orange-brown, dense, silty sand w/saprolitic zones (A-3).
															631.0	16.9
630	629.3	18.6	10	16	14											Black, white & brown, v. stiff to hard, sandy silt w/saprolitic zones (A-4).
															623.8	24.1
625	624.3	23.6	23	55	45/0.2											WEATHERED ROCK Black & white, sandy silt, interpreted as WR (diotite/quartz diotite).
															619.3	28.6
620	619.3	28.6	16	31	51											RESIDUAL Black, white & dk. gray, v. dense, saprolitic, silty sand (A-3).
															614.3	33.6
615	614.3	33.6	55	45/0.3												WEATHERED ROCK Black, white & dark gray, silty sand, interpreted as WR (diorite/quartz diorite).
															606.0	41.9
610	609.3	38.6	60	40/0.2												
															605.9	42.0
605	606.0	41.9	60/0.1													CRYSTALLINE ROCK Auger refusal @ 41.9', SPT refusal @ 42.0', interpreted as CR (diotite/quartz diotite). Black, white, dk. gray & orange-brown staining, slight to mod. weathering with some areas of mod. sev. weathering, hard, close to v. close frac. spacing, heavily frac. quartz diorite, some iron-oxide staining along frac., numerous quartz veins & healed fracs.
600																
595																
590																
585																
580																
575																
570																



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.							
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85						GROUND WTR (ft)							
BORING NO. DB-8		STATION 39+10		OFFSET CL		ALIGNMENT -RAMP G-							
COLLAR ELEV. 647.9 ft		TOTAL DEPTH 81.9 ft		NORTHING 586,048		EASTING 1,482,819							
DRILL MACHINE CME-45C		DRILL METHOD SPT Core Boring				HAMMER TYPE Automatic							
DRILLER Cassell R.		START DATE 06/05/10		COMP. DATE 06/06/10		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT		SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
570						Match Line							
565													
560													
555													
550													
545													
540													
535													
530													
525													
520													
515													
510													
505													
500													
495													
490													

NCDOT BORE SINGLE R-2123CE.GPJ NC_DOT.GDT 6/14/10

566.0
Boring Terminated at Elevation 566.0 ft in Crystalline Rock (Quartz Diorite).
81.9



NCDOT GEOTECHNICAL ENGINEERING UNIT

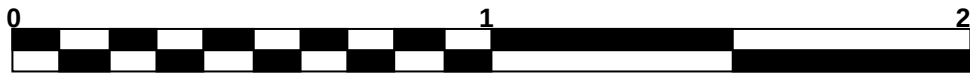
CORE BORING REPORT

SHEET

PROJECT NO. 34379.1.17		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST Smith, B.							
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85							GROUND WTR (ft)						
BORING NO. DB-8		STATION 39+10		OFFSET CL		ALIGNMENT -RAMP G-							
COLLAR ELEV. 647.9 ft		TOTAL DEPTH 81.9 ft		NORTHING 586,048		EASTING 1,482,819							
DRILL MACHINE CME-45C		DRILL METHOD SPT Core Boring					HAMMER TYPE Automatic						
DRILLER Cassell R.		START DATE 06/05/10		COMP. DATE 06/06/10		SURFACE WATER DEPTH N/A							
CORE SIZE NQ2		TOTAL RUN 39.9 ft											
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	RQD (ft) %	L O G	DESCRIPTION AND REMARKS	ELEV. (ft)	DEPTH (ft)
605.9											Begin Coring @ 42.0 ft		
605	605.9	42.0	4.9	1:40/0.9 1:50 1:40 1:31 2:03	(1.8) 37%	(0.0) 0%		(35.1) 88%	(4.3) 11%		Black, white, dk. gray & orange-brown staining, slight to mod. weathering with some areas of mod. sev. weathering, hard, close to v. close frac. spacing, heavily frac. quartz diorite, some iron-oxide staining along frac., numerous quartz veins & healed fracs.	605.9	42.0
600	601.0	46.9	5.0	1:33 1:20 1:12 1:16 1:20	(4.9) 98%	(0.0) 0%							
595	596.0	51.9	5.0	1:27 1:31 1:38 1:32 1:23	(4.5) 90%	(0.0) 0%							
590	591.0	56.9	5.0	1:31 1:23 1:37 1:29 1:33	(4.8) 96%	(0.0) 0%							
585	586.0	61.9	5.0	1:37 1:39 1:46 1:29 1:33	(4.7) 94%	(1.6) 32%							
580	581.0	66.9	5.0	1:42 1:49 1:51 1:28 1:40	(4.8) 96%	(1.2) 24%							
575	576.0	71.9	5.0	1:52 1:56 1:43 1:46 1:53	(4.8) 96%	(1.5) 30%							
570	571.0	76.9	5.0	1:48 1:42 1:59 1:54 1:48	(4.8) 96%	(0.0) 0%							
565	566.0	81.9									Boring Terminated at Elevation 566.0 ft in Crystalline Rock (Quartz Diorite).	566.0	81.9
560													
555													
550													
545													
540													
535													
530													

NCDOT CORE SINGLE R-2123CE.GPJ NC_DOT.GDT 6/14/10

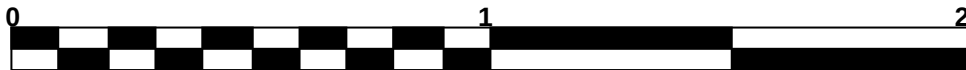
CORE PHOTOGRAPHIC RECORD
I-485 (Charlotte Eastern Outer Loop) at I-85



FEET



Boring DB-8 – Station 39+10 @ CL Box 1 of 5



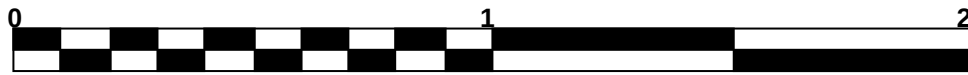
FEET



Boring DB-8 – Station 39+10 @ CL Box 2 of 5

CORE PHOTOGRAPHIC RECORD

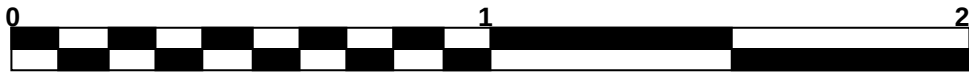
I-485 (Charlotte Eastern Outer Loop) at I-85



FEET



Boring DB-8 – Station 39+10 @ CL Box 3 of 5



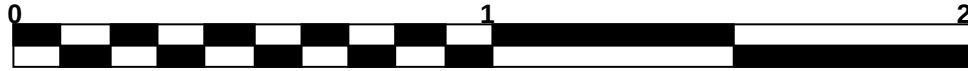
FEET



Boring DB-8 – Station 39+10 @ CL Box 4 of 5

CORE PHOTOGRAPHIC RECORD

I-485 (Charlotte Eastern Outer Loop) at I-85



FEET



Boring DB-8 – Station 39+10 @ CL Box 5 of 5



NCDOT GEOTECHNICAL ENGINEERING UNIT BORELOG REPORT

SHEET

PROJECT NO. 34379.1.25			ID. R-2123CE			COUNTY Mecklenburg			GEOLOGIST D. Goodnight		
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85									GROUND WTR (ft)		
BORING NO. DB-14			STATION 33+15			OFFSET CL			ALIGNMENT Ramp G		
COLLAR ELEV. 671.5 ft			TOTAL DEPTH 56.4 ft			NORTHING 586,044			EASTING 1,483,404		
DRILL MACHINE CME-55 Truck			DRILL METHOD Wash Rotary/NQ Core						HAMMER TYPE Automatic		
DRILLER R. Toothman			START DATE 06/04/10			COMP. DATE 06/05/10			SURFACE WATER DEPTH N/A		

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)	
675															
670	670.5	1.0	1	2	3									GROUND SURFACE	0.0
	668.0	3.5	3	5	8									ROADWAY EMBANKMENT	
														Loose, Non-Plastic, Brown, Silty, Coarse to Fine SAND	
665	663.0	8.5	6	9	15									RESIDUAL	4.0
														Stiff to Hard; Low Plasticity; Tan, Gray and White; Fine Sandy SILT	
660	658.0	13.5	8	12	19										
655	653.0	18.5	13	18	25										
650	648.0	23.5	20	29	33										
645	643.0	28.5	100/0.5											WEATHERED ROCK	27.5
														Gray, Metamorphosed Quartz Diorite	
640	638.0	33.5	14	9	34									RESIDUAL	32.0
														Dense, Low Plasticity, Gray and Brown, Silty, Coarse to Fine SAND	
635	633.0	38.5	100/0.2											WEATHERED ROCK	37.0
														Gray, Metamorphosed Quartz Diorite	
630														CRYSTALLINE ROCK	42.2
														Dark Gray with White, Very Slightly Weathered to Fresh, Hard, Metamorphosed Quartz Diorite with Close to Moderately Close Fracture Spacing	
625															
620															
615															
														Boring Terminated at Elevation 615.1 ft in Crystalline Rock: Metamorphosed Quartz Diorite	56.4
610															
605															
600															
595															

NCDOT BORE SINGLE 111643.GPJ NC_DOT.GDT 6/8/10



NCDOT GEOTECHNICAL ENGINEERING UNIT

CORE BORING REPORT

SHEET

PROJECT NO. 34379.1.25		ID. R-2123CE		COUNTY Mecklenburg		GEOLOGIST D. Goodnight							
SITE DESCRIPTION I-485 (Charlotte Eastern Outer Loop) at I-85							GROUND WTR (ft)						
BORING NO. DB-14		STATION 33+15		OFFSET CL		ALIGNMENT Ramp G							
COLLAR ELEV. 671.5 ft		TOTAL DEPTH 56.4 ft		NORTHING 586,044		EASTING 1,483,404							
DRILL MACHINE CME-55 Truck		DRILL METHOD Wash Rotary/NQ Core				HAMMER TYPE Automatic							
DRILLER R. Toothman		START DATE 06/04/10		COMP. DATE 06/05/10		SURFACE WATER DEPTH N/A							
CORE SIZE NQ		TOTAL RUN 14.2 ft											
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	REC. (ft) %	RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	RQD (ft) %	L O G	DESCRIPTION AND REMARKS	ELEV. (ft)	DEPTH (ft)
629.3											Begin Coring @ 42.2 ft		
	629.3	42.2	4.2	0:59 5:31 3:00 3:25 4:01	(4.2) 100%	(4.2) 100%		(14.2) 100%	(13.6) 96%	LOG	629.3	42.2	
	625	46.4	5.0	4:54 3:34 3:33 3:31 3:44	(5.0) 100%	(4.4) 88%					Dark Gray with White, Very Slightly Weathered to Fresh, Hard, Metamorphosed Quartz Diorite with Close to Moderately Close Fracture Spacing		
	620	51.4	5.0	3:03 3:11 3:38 3:48 4:30	(5.0) 100%	(5.0) 100%					1 joint at 30° 6 joints at 40° to 50° 1 joint at 60° 2 joints at 0° to 5°		
	615	56.4									615.1	56.4	
											Boring Terminated at Elevation 615.1 ft in Crystalline Rock: Metamorphosed Quartz Diorite		
610													
605													
600													
595													
590													
585													
580													
575													
570													
565													
560													
555													
550													

NCDOT CORE SINGLE 111643.GPJ NC_DOT.GDT 6/8/10

CORE PHOTOGRAPHS

DB-14

BOXES 1 & 2: 42.2 - 56.4 FEET

