DILATOMETER DATA LISTING & INTERPRETATION (BASED ON THE 1988 DILATOMETER MANUAL) SNDG. NO. :DMT-5

In-Situ Soil Testing, L.C.

JOB FILE: IDE

LOCATION: Rural Hall, North Carolina

SNDG.BY: Roger Failmezger, P.E., F. ASCE, D.GE
ANAL.BY: Roger Failmezger, P.E., F. ASCE, D.GE
ANAL. DATE: 11/3/23

ANALYSIS PARAMETERS: LO RANGE = 9.50 BARS ROD DIAM. = 3.6 CM BL.THICK. = 15.00 MM SU FACTOR = 1
SURF.ELEV. = 286.5 M LO GAGE 0 = 0.00 BARS FR.RED.DIA. = 4.4 CM BL.WIDTH = 96.00 MM PHI FACTOR = 1
WATER DEPTH = 12.8 M HI GAGE 0 = 0.00 BARS LIN.ROD WT. = 6.5 KGF/M DELTA-A = 0.13 BARS OCR FACTOR = 1
SP.GR.WATER = 1.0 CAL GAGE 0 = 0.00 BARS DELTA/PHI = 0.5 DELTA-B = 0.25 BARS M FACTOR = 1
MAX SU ID = 0.6 SU OPTION = 0 MIN PHI ID = 1.2 OCR OPTION = 0 KO FACTOR = 1

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FILE NO. : 2023-80

Z (M) ****	ELEV (M)	THRUST (KGF)	A (BAR) ****	B (BAR) ****	C (BAR) ****	DA (BAR) ****	DB (BAR) ****	ZMRNG (BAR)	ZMLO (BAR)	ZMHI (BAR)	ZMCAL (BAR)	PO (BAR)	P1 (BAR) ****	P2 (BAR)	UO (BAR)	GAMMA (T/M3) *****	
0.20	286.3	770	2.22	5.50	^^^^	0.13	0.25	9.50	0.00	0.00	0.00	2.21	5.25	^^^^	0.000	1.70	0.030
0.40	286.1 285.9	840 610	2.23	5.70 4.93		0.13	0.25	9.50 9.50	0.00	0.00	0.00	2.21	5.45 4.68		0.000		0.063
0.80	285.7	480	1.88	4.72		0.13	0.25	9.50	0.00	0.00	0.00	1.89	4.47		0.000		0.130
1.00	285.5 285.3	510 470	1.26 1.46	3.82		0.13	0.25	9.50	0.00	0.00	0.00	1.28	3.57		0.000		0.163 0.197
1.20 1.40	285.1	470	1.46	3.58 3.48		0.13	0.25 0.25	9.50 9.50	0.00	0.00	0.00	1.50 1.42	3.33 3.23		0.000		0.197
1.60	284.9	490	1.38	3.60		0.13	0.25	9.50	0.00	0.00	0.00	1.42	3.35		0.000		0.262
1.80	284.7 284.5	490 550	1.35 1.05	3.30 3.35		0.13	0.25 0.25	9.50 9.50	0.00	0.00	0.00	1.40	3.05 3.10		0.000		0.294
2.20	284.3	560	1.61	3.93		0.13	0.25	9.50	0.00	0.00	0.00	1.64	3.68		0.000		0.360
2.40	284.1 283.9	600 650	1.61 1.51	4.14 4.34		0.13	0.25	9.50 9.50	0.00	0.00	0.00	1.63 1.52	3.89 4.09		0.000		0.393
2.80	283.7	650	1.70	4.71		0.13	0.25	9.50	0.00	0.00	0.00	1.70	4.46		0.000	1.70	0.460
3.00 3.20	283.5 283.3	660 690	1.80	4.51 4.54		0.13	0.25	9.50 9.50	0.00	0.00	0.00	1.81 1.95	4.26 4.29		0.000		0.493
3.40	283.1	730	2.01	5.36		0.13	0.25	9.50	0.00	0.00	0.00	1.99	5.11		0.000	1.70	0.560
3.60 3.80	282.9 282.7	730 750	2.03	4.97 5.17		0.13	0.25	9.50 9.50	0.00	0.00	0.00	2.03	4.72 4.92		0.000		0.593
4.00	282.5	750	2.13	5.21		0.13	0.25	9.50	0.00	0.00	0.00	2.13	4.96		0.000	1.70	0.660
4.20 4.40	282.3 282.1	750 740	2.07 1.88	4.84 4.56		0.13	0.25	9.50 9.50	0.00	0.00	0.00	2.08	4.59 4.31		0.000		0.693 0.727
4.60	281.9	770	1.71	4.28		0.13	0.25	9.50	0.00	0.00	0.00	1.73	4.03		0.000		0.760
4.80 5.00	281.7 281.5	780 750	1.94 1.70	4.41 4.16		0.13	0.25	9.50 9.50	0.00	0.00	0.00	1.97 1.73	4.16 3.91		0.000		0.793 0.827
5.20	281.3	800	1.99	4.10		0.13	0.25	9.50	0.00	0.00	0.00	2.02	4.17		0.000	1.70	0.860
5.40	281.1	800	2.01	4.42 5.17		0.13	0.25	9.50	0.00	0.00	0.00	2.04	4.17 4.92		0.000		0.894
5.60 5.80	280.9 280.7	860 900	2.19	5.14		0.13	0.25 0.25	9.50 9.50	0.00	0.00	0.00	2.19	4.89		0.000		0.927 0.960
6.00	280.5	900	2.28	5.37		0.13	0.25	9.50	0.00	0.00	0.00	2.27	5.12		0.000		0.994
6.20 6.40	280.3	950 1000	2.69 2.97	5.81 6.46		0.13	0.25	9.50 9.50	0.00	0.00	0.00	2.68	5.56 6.21		0.000		1.027 1.061
6.60	279.9	1040	3.15	6.64		0.13	0.25	9.50	0.00	0.00	0.00	3.12	6.39		0.000		1.097
6.80 7.00	279.7 279.5	1100 1140	2.87	6.87 7.28		0.13	0.25	9.50 9.50	0.00	0.00	0.00	2.82	6.62 7.03		0.000		1.132 1.167
7.20	279.3	1240	2.68	7.45		0.13	0.25	9.50	0.00	0.00	0.00	2.59	7.20		0.000	1.80	1.203
7.40 7.60	279.1 278.9	1350 1130	2.97 3.51	7.36 8.01		0.13	0.25	9.50 9.50	0.00	0.00	0.00	2.90	7.11 7.76		0.000		1.238 1.273
7.80	278.7	1540	2.52	7.47		0.13	0.25	9.50	0.00	0.00	0.00	2.42	7.22		0.000	1.90	1.310
8.00 8.20	278.5 278.3	1630 1680	3.49 3.27	8.55 8.53		0.13	0.25	9.50 9.50	0.00	0.00	0.00	3.39	8.30 8.28		0.000		1.346
8.40	278.1	1610	3.43	8.49		0.13	0.25	9.50	0.00	0.00	0.00	3.33	8.24		0.000	1.80	1.417
8.60 8.80	277.9 277.7	1570 1570	3.54 3.57	8.47 8.68		0.13	0.25	9.50 9.50	0.00	0.00	0.00	3.44	8.22 8.43		0.000		1.452 1.487
9.00	277.5	1650	4.23	9.76		0.13	0.25	9.50	0.00	0.00	0.00	4.10	9.51		0.000	1.80	1.523
9.20 9.40	277.3 277.1	1740 1690	4.04	9.48 9.06		0.13	0.25	9.50 9.50	0.00	0.00	0.00	3.92	9.23 8.81		0.000		1.558 1.593
9.60	276.9	1900	3.17	9.34		0.13	0.25	9.50	0.00	0.00	0.00	3.01	9.09		0.000		1.630
9.80	276.7 276.5	1920 1970		10.51		0.13	0.25	9.50 9.50	0.00	0.00	0.00		10.26 10.57		0.000		1.666 1.701
10.00	276.3	1980		10.82		0.13	0.25	9.50	0.00	0.00	0.00		10.57		0.000		1.737
10.40	276.1 275.9	1830		11.14 10.16		0.13	0.25	9.50 9.50	0.00	0.00	0.00		10.89		0.000		1.772 1.807
10.60	275.7	1760 2020		10.16		0.13	0.25	9.50	0.00	0.00	0.00		10.58		0.000		1.843
11.00	275.5	2050		13.14		0.13	0.25	9.50	0.00	0.00	0.00		12.89		0.000		1.879
11.20 11.40	275.3 275.1	2110 2130		11.93 13.10		0.13	0.25 0.25	9.50 9.50	0.00	0.00	0.00		11.68 12.85		0.000		1.918 1.956
11.60	274.9	2150	5.88	12.42		0.13	0.25	9.50	0.00	0.00	0.00	5.70	12.17		0.000	1.95	1.994
11.80 12.00	274.7 274.5	2210 2230		12.34 12.57		0.13	0.25	9.50 9.50	0.00	0.00	0.00		12.09 12.32		0.000		2.032 2.071
12.20	274.3	2300	6.24	13.48		0.13	0.25	9.50	0.00	0.00	0.00	6.03	13.23		0.000	1.95	2.109
12.40	274.1	2250	5.84	12.72		0.13	0.25	9.50	0.00	0.00	0.00	5.65	12.47		0.000	1.95	2.147

DILATOMETER DATA LISTING & INTERPRETATION (BASED ON THE 1988 DILATOMETER MANUAL) SNDG. NO. :DMT-5 Page 1-B

In-Situ Soil Testing, L.C.

JOB FILE: IDE

LOCATION: Rural Hall, North Carolina

SNDG.BY: Roger Failmezger, P.E., F. ASCE, D.GE SNDG. DATE: 11/2/23 ANAL.BY: Roger Failmezger, P.E., F. ASCE, D. GE ANAL. DATE: 11/3/23

ANALYSIS PARAMETERS: LO RANGE = 9.50 BARS ROD DIAM. = SURF.ELEV. = 286.5 M LO GAGE 0 = 0.00 BARS FR.RED.DIA. = BL.THICK. = 15.00 MM SU FACTOR = 1 BL.WIDTH = 96.00 MM PHI FACTOR = 1 3.6 CM 4.4 CM WATER DEPTH = 12.8 M HI GAGE 0 = 0.00 BARS LIN.ROD WT. = 6.5 KGF/M DELTA-A = 0.13 BARS OCR FACTOR = 1
SP.GR.WATER = 1.0 CAL GAGE 0 = 0.00 BARS DELTA/PHI = 0.5 DELTA-B = 0.25 BARS M FACTOR = 1
MAX SU ID = 0.6 SU OPTION = 0 MIN PHI ID = 1.2 OCR OPTION = 0 KO FACTOR = 1

FILE NO. : 2023-80

Z (M)	ELEV (M)	KD	ID	UD	ED (BAR)	K0	SU (BAR)	QD (BAR)	PHI (DEG)	SIGFF (BAR)	PHIO (DEG)	PC (BAR)	OCR	M (BAR)	SOIL	TYPE
****	*****	****	****	****	*****	****	****	****	****	*****	****	****	****	*****	*****	*****
0.20		73.50	1.38		106										SANDY	
0.40	286.1		1.47		113	4.16		22.8	43.8	0.11	39.0		118.9		SANDY	
0.60		18.42	1.63		101	2.32		16.6	40.6	0.16	36.0	3.73	38.6		SANDY	
0.80	285.7 285.5	7.84	1.37 1.79		90 79	1.96		11.5 15.6	37.0 38.9	0.21 0.27	32.5 35.1	3.58 1.34	27.5 8.2		SANDY SANDY	
1.20	285.3	7.64	1.79		63	1.14		13.3	36.7	0.27	32.8	1.68	8.5		SANDI	
1.40	285.1	6.21	1.27		63	0.98		13.8	36.2	0.36	32.7	1.39	6.1		SANDY	
1.60	284.9	5.42	1.36		67	0.89		14.8	36.0	0.42	32.7	1.28	4.9		SANDY	
1.80	284.7	4.77	1.18		57	1.12						1.14	3.9	101	SILT	
2.00	284.5	3.32	1.86		70	0.61		19.0	36.9	0.52	34.0	0.73	2.2		SILTY	
2.20	284.3	4.57	1.24		71	0.81		17.0	35.0	0.57	32.1	1.40	3.9		SANDY	
2.40	284.1	4.15 3.56	1.38 1.70		78 89	0.76		18.8	35.2	0.62	32.5	1.32	3.3		SANDY SANDY	
2.60	283.9 283.7	3.69	1.63		96	0.67 0.71		21.5	35.7 34.9	0.68 0.72	33.2 32.5	1.12	2.6		SANDY	
3.00	283.5	3.68	1.35		85	0.71		20.9	34.4	0.72	32.1	1.43	2.9		SANDY	
3.20	283.3	3.70	1.20		81	0.72		21.6	34.2	0.82	32.0	1.55	2.9		SANDY	
3.40	283.1	3.56	1.57		108	0.70		23.1	34.3	0.88	32.2	1.56	2.8	163	SANDY	SILT
3.60	282.9	3.42	1.32		93	0.70		23.1	33.9	0.92	31.9	1.59	2.7		SANDY	
3.80	282.7	3.53	1.23		94	0.72		23.3	33.6	0.97	31.6	1.77	2.8		SANDY	
4.00	282.5	3.22	1.33		98	0.68		23.8	33.4	1.02	31.6	1.66	2.5		SANDY	
4.20	282.3 282.1	3.00 2.61	1.21 1.27		87 84	0.66		24.1 24.6	33.2	1.07 1.12	31.5 31.5	1.61 1.43	2.3		SANDY SANDY	
4.60	281.9	2.28	1.33		80	0.57		26.6	33.5	1.18	31.9	1.26	1.7		SANDY	
4.80	281.7	2.48	1.12		76	0.67		20.0	00.0	1.10	01.0	1.11	1.4		SILT	
5.00	281.5	2.09	1.27		76	0.56		26.1	32.7	1.27	31.3	1.29	1.6	73	SANDY	SILT
5.20	281.3	2.35	1.07		75	0.63						1.10	1.3		SILT	
5.40	281.1	2.28	1.05		74	0.62						1.10	1.2		SILT	
5.60	280.9	2.36	1.25		95	0.60		28.9	32.6	1.43	31.3	1.66	1.8		SANDY	SILT
5.80 6.00	280.7	2.35	1.17 1.25		91 99	0.63		30.4	32.4	1.53	31.3	1.23 1.73	1.3		SILT SANDY	CTTT
6.20	280.3	2.61	1.07		100	0.70		30.4	32.4	1.33	21.3	1.56	1.5		SILT	SILI
6.40	280.1	2.77	1.11		113	0.74						1.77	1.7		SILT	
6.60	279.9	2.85	1.05		113	0.75						1.90	1.7	142	SILT	
6.80	279.7	2.49	1.35		132	0.61		36.5	32.8	1.75	32.0	2.13	1.9		SANDY	
7.00	279.5	2.73	1.21		133	0.64		36.8	32.5	1.80	31.7	2.48	2.1		SANDY	
7.20	279.3	2.15	1.78		160	0.55		43.3	33.7	1.87	33.0	1.85	1.5		SANDY	
7.40 7.60	279.1 278.9	2.34	1.45 1.26		146 150	0.56		46.5	34.0 31.7	1.93 1.94	33.3	2.07	1.7		SANDY SANDY	
7.80	278.7	1.85	1.98		167	0.48		56.6	35.2	2.06	34.7	1.59	1.2		SILTY	
8.00	278.5	2.52	1.45		171	0.57		56.0	34.7	2.11	34.2	2.36	1.8		SANDY	
8.20	278.3	2.28	1.62		178	0.54		59.2	35.0	2.17	34.6	2.13	1.5	193	SANDY	SILT
8.40	278.1	2.35	1.48		171	0.56		55.7	34.3	2.22	33.9	2.34	1.6		SANDY	
8.60	277.9	2.37	1.39		166	0.57		53.8	33.9	2.26	33.5	2.47	1.7		SANDY	
8.80 9.00	277.7 277.5	2.33	1.43		172 188	0.57		53.8 54.4	33.7	2.31	33.4	2.50	1.7		SANDY	
9.00	277.3	2.69 2.51	1.32 1.36		184	0.62		58.9	33.5 34.0	2.36	33.2 33.7	3.06 2.83	2.0		SANDY SANDY	
9.40			1.45			0.56		58.4	33.8	2.48	33.6	2.57	1.6		SANDY	
9.60	276.9	1.85	2.02		211			69.6	35.1	2.57	35.0	1.98	1.2		SILTY	
9.80	276.7	2.69	1.29		201	0.60		64.1	34.0	2.60	33.9	3.26	2.0	243	SANDY	SILT
10.00	276.5	2.63	1.36		212	0.60		66.2	34.1	2.66	34.1	3.23	1.9		SANDY	
10.20	276.3	2.68	1.27		205	0.61		65.9	33.9	2.71	33.9	3.40	2.0		SANDY	SILT
10.40	276.1	2.90	1.12		200	0.76		50 F	22 0	2 70	22 0	3.16	1.8		SILT	CTTM
10.60	275.9 275.7	2.44	1.24 1.27		191 205	0.60		58.5 67.9	32.8	2.79 2.87	32.9	3.33	1.8 1.8		SANDY SANDY	
11.00	275.5	3.29	1.09		233	0.85		51.5	55.0	2.01	55.5	4.08	2.2		SILT	~+111
11.20	275.3	2.79	1.18		219	0.74						3.23	1.7		SILT	
11.40	275.1	3.04	1.16		240	0.79						3.75	1.9		SILT	
11.60	274.9	2.86	1.13		224							3.48	1.7		SILT	
11.80	274.7	2.71	1.19		228	0.72		72 0	22 4	2 01	22 5	3.27	1.6		SILT	0.7.7.5
12.00 12.20	274.5	2.69	1.21		234 250			13.2	33.4	3.21	33.7	4.17 3.68	2.0		SANDY SILT	PILL
12.20			1.21		230			74 ∩	33.2	3 32	33.6		2.0		SANDY	SILT
10	_ , 1 • ±	00			231	J. U.		0	55.2	3.32	55.0	. • ∠ ·I	2.0	200	~-1111	

DILATOMETER DATA LISTING & INTERPRETATION (BASED ON THE 1988 DILATOMETER MANUAL) SNDG. NO.:DMT-5

In-Situ Soil Testing, L.C.

JOB FILE: IDE

Page 2-A FILE NO. : 2023-80

LOCATION: Rural Hall, North Carolina

LOCATION: Rural Hall, North Carolina SNDG.BY: Roger Failmezger, P.E., F. ASCE, D.GE ANAL.BY: Roger Failmezger, P.E., F. ASCE, D. GE

SNDG. DATE: 11/2/23 ANAL. DATE: 11/3/23

ANALYSIS PA	RAMETERS:	LO	RANGE	=	9.50	BARS	ROD DIAM.	=	3.6 CM	BL.THICK.	=	15.00	MM	SU	FACTOR	= 1
SURF.ELEV.	= 286.5	M LO	GAGE	0 =	0.00	BARS	FR.RED.DIA.	=	4.4 CM	BL.WIDTH	=	96.00	MM	PHI	FACTOR	= 1
WATER DEPTH	= 12.8	M HI	GAGE	0 =	0.00	BARS	LIN.ROD WT.	=	6.5 KGF/M	DELTA-A	=	0.13	BARS	OCR	FACTOR	= 1
SP.GR.WATER	= 1.0	CA	L GAGE	0 =	0.00	BARS	DELTA/PHI	=	0.5	DELTA-B	=	0.25	BARS	M	FACTOR	= 1
MAX SU ID	= 0.6	SU	OPTION	1 =	0		MIN PHI ID	=	1.2	OCR OPTION	=	0		K0	FACTOR	= 1

Z	ELEV	THRUST	A	В	С	DA	DB	ZMRNG	ZMLO	ZMHI	ZMCAL	P0	P1	P2	U0	GAMMA	SVP
(M)	(M)	(KGF)	(BAR)	(T/M3)	(BAR)												
****	*****	*****	****	****	****	****	****	****	****	****	****	****	****	****	*****	*****	****
12.60	273.9	2240	6.31	13.67		0.13	0.25	9.50	0.00	0.00	0.00	6.09	13.42		0.000	1.95	2.186
12.80	273.7	2030	5.96	12.42		0.13	0.25	9.50	0.00	0.00	0.00	5.79	12.17		0.000	1.95	2.224
13.00	273.5	1880	5.56	10.50		0.13	0.25	9.50	0.00	0.00	0.00	5.46	10.25		0.020	1.80	2.241
13.20	273.3	1980	6.15	12.25		0.13	0.25	9.50	0.00	0.00	0.00	5.99	12.00		0.039	1.95	2.258
13.40	273.1	2170	4.39	9.53		0.13	0.25	9.50	0.00	0.00	0.00	4.28	9.28		0.059	1.80	2.275
13.60	272.9	2260	6.27	13.25		0.13	0.25	9.50	0.00	0.00	0.00	6.07	13.00		0.079	1.95	2.293
13.80	272.7	2380	7.10	14.71		0.13	0.25	9.50	0.00	0.00	0.00	6.87	14.46		0.098	1.95	2.311
14.00	272.5	2350	6.81	13.57		0.13	0.25	9.50	0.00	0.00	0.00	6.62	13.32		0.118	1.95	2.330
14.20	272.3	2190	6.49	13.33		0.13	0.25	9.50	0.00	0.00	0.00	6.30	13.08		0.137	1.95	2.348
14.40	272.1	3510	10.14	23.89		0.13	0.25	9.50	0.00	0.00	0.00	9.60	23.64		0.157	2.10	2.369
14.60	271.9	8460	1.99	9.97		0.13	0.25	9.50	0.00	0.00	0.00	1.74	9.72		0.177	1.80	2.387

DILATOMETER DATA LISTING & INTERPRETATION (BASED ON THE 1988 DILATOMETER MANUAL) SNDG. NO. :DMT-5 Page 2-B

In-Situ Soil Testing, L.C.

JOB FILE: IDE

LOCATION: Rural Hall, North Carolina

SNDG.BY: Roger Failmezger, P.E., F. ASCE, D.GE

SNDG. DATE: 11/2/23 ANAL.BY: Roger Failmezger, P.E., F. ASCE, D. GE ANAL. DATE: 11/3/23

ANALYSIS PARAMETERS: LO RANGE = 9.50 BARS ROD DIAM. = SURF.ELEV. = 286.5 M LO GAGE 0 = 0.00 BARS FR.RED.DIA. = BL.THICK. = 15.00 MM SU FACTOR = 1 BL.WIDTH = 96.00 MM PHI FACTOR = 1 3.6 CM 4.4 CM WATER DEPTH = 12.8 M HI GAGE 0 = 0.00 BARS LIN.ROD WT. = 6.5 KGF/M DELTA-A = 0.13 BARS OCR FACTOR = 1SP.GR.WATER = 1.0 CAL GAGE 0 = 0.00 BARS DELTA/PHI = 0.5

MAX SU ID = 0.6 SU OPTION = 0 MIN PHI ID = 1.2 = 0.25 BARS M FACTOR = 1 DELTA-B OCR OPTION = 0 $K0 ext{ FACTOR} = 1$ 

FILE NO. : 2023-80

Z	ELEV	KD	ID	UD	ED	K0	SU	QD	PHI	SIGFF	PHIO	PC	OCR	M	SOIL	TYPE
(M)	(M)				(BAR)		(BAR)	(BAR)	(DEG)	(BAR)	(DEG)	(BAR)		(BAR)		
****	*****	****	****	****	*****	****	****	****	****	*****	****	****	****	*****	*****	*****
12.60	273.9	2.79	1.20		254	0.64		71.9	32.8	3.37	33.2	4.70	2.1	316	SANDY	SILT
12.80	273.7	2.60	1.10		222	0.70						3.35	1.5	258	SILT	
13.00	273.5	2.43	0.88		166	0.65						3.03	1.4	179	CLAYEY	Z SILT
13.20	273.3	2.64	1.01		208	0.70						3.48	1.5	244	SILT	
13.40	273.1	1.86	1.18		173	0.51						2.03	0.9	147	SILT	
13.60	272.9	2.61	1.16		240	0.70						3.48	1.5	282	SILT	
13.80	272.7	2.93	1.12		263	0.77						4.19	1.8	338	SILT	
14.00	272.5	2.79	1.03		232	0.74						3.92	1.7	285	SILT	
14.20	272.3	2.62	1.10		235	0.70						3.58	1.5	276	SILT	
14.40	272.1	3.99	1.49		487	0.74		108.4	34.9	3.72	35.4	7.57	3.2	785	SANDY	SILT
14.60	271.9	0.65	5.10		277									235	SAND	