

DRILLING LOG		DIVISION		INSTALLATION		Hole No. SM-4	
1. PROJECT Cumberland Shoals Project		10. SIZE AND TYPE OF BIT 4" VIBRACORE		SHEET 1 OF 1			
2. LOCATION (Coordinates or Station) X=515227.500 Y=2319718.300		11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MLLW					
3. DRILLING AGENCY AOSS/Olsen & Associates, Inc.		12. MANUFACTURER'S DESIGNATION OF DRILL ALPINE PNEUMATIC VIBRACORE					
4. HOLE NO. (As shown on drawing title and file number) SM-4		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN disturbed: 5 undisturbed: 0					
5. NAME OF DRILLER E. Olsen		14. TOTAL NUMBER OF CORE BOXES 2					
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		15. ELEVATION GROUND WATER					
7. THICKNESS OF BURDEN 0 Ft.		16. DATE HOLE STARTED COMPLETED 4-4-02 4-4-02					
8. DEPTH DRILLED INTO ROCK 0 Ft.		17. ELEVATION TOP OF HOLE -19.7 Ft.					
9. TOTAL DEPTH OF HOLE 17.1 Ft.		18. TOTAL CORE RECOVERY FOR BORING 100 %					
		19. SIGNATURE OF G. Zarillo, SEA, Inc.					

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	CORE REC %	SAMPLE NUMBER	REMARKS
-19.7	.0					-19.7
-21.9	2.2		Light brownish gray medium to fine quartz sand, abundant brown, gray and white whole shells and shell fragments in fine to coarse gravel range. 10 YR 7/1-7/1.5 (SW)	100	1.0	
			Light gray fine quartz sand, few thin layers of dark gray plastic clay. 10 YR 7.5/1 (SP)		3.0	
					5.0	-24.7
-25.8	6.1		Light gray medium to fine quartz sand, very abundant gray to white whole shells and shell fragments in coarse sand to medium gravel range, few large shells and shell fragments in coarse gravel range. 10 YR 7.5/0.5-7/0.5 (SP)	100	8.0	
					11.0	-28.7
-32.2	12.5		Dark gray plastic clay. 10 YR 4/0.5 (CL)	100		
-32.5	12.8					
-33.1	13.4		Light gray medium to fine quartz sand, abundant gray and light brown whole shells and shell fragments in fine to medium gravel range. 10 YR 7.5/0.5 (SP)			-34.7
-33.8	14.1					
-34.8	15.1		Light gray medium to fine quartz sand, interbedded with layers of dark gray plastic clay. 10 YR 7.5/0.5-6/0.5 (SM)	100		-36.8
-36.8	17.1		Gray medium to fine silty quartz sand, very abundant large gray to white whole shells and shell fragments in fine to coarse gravel range. 10 YR 6/0.5 (SM)			
			Light brownish gray fine silty quartz sand. 10 YR 7/3 (SM)			
						Composite 0-12.0 ft.
						Revised 7/29/02

Sediment Analysis Data Sheet

Sample SM-4-1.0

Sieve	Size (mm)	Phi size	Wt	Wt %	Cuml %	Folk	Statistics	
							phi	mm
5/8	16.00	-4.00	4.22	11.96	11.96			
1/2	11.31	-3.50	0.00	0.00	11.96			
5/16	8.00	-3.00	0.00	0.00	11.96			
1/4	5.66	-2.50	1.37	3.88	15.84			
5	4.00	-2.00	1.61	4.55	20.39	5% :	-4.50	22.63
7	2.83	-1.50	1.54	4.35	24.74	16% :	-2.48	5.59
10	2.00	-1.00	1.27	3.59	28.33	25% :	-1.46	2.76
14	1.41	-0.50	1.48	4.19	32.52	50% :	1.62	0.33
18	1.00	0.00	1.39	3.93	36.45	75% :	2.80	0.14
25	0.71	0.50	1.48	4.19	40.64	84% :	2.97	0.13
35	0.50	1.00	1.31	3.70	44.34	95% :	3.37	0.10
45	0.35	1.50	1.68	4.75	49.09			
60	0.25	2.00	1.35	3.81	52.90	Med.	1.62	0.33
80	0.18	2.50	1.91	5.39	58.29	Mean	0.70	0.61
120	0.13	3.00	9.68	27.39	85.69	St Dev.	2.55	
170	0.09	3.50	4.48	12.69	98.38	Skew	-0.53	
200	0.07	3.75	0.28	0.79	99.16	Kurt.	0.76	
230	0.06	4.00	0.07	0.19	99.35			
Pan			0.02	0.05	99.40			
Total			35.11	99.40	99.40			
						Moment Statistics		
							Phi	mm
Cu =	6.71	Gravel		18	%	Mean	0.61	0.65
		Coarse Sand		10	%	St. Dev.	2.57	0.17
		Med. Sand		18	%	Skewness	-0.69	
Cc =	0.28	Fine Sand		53	%	Kurtosis	2.07	
		Silt/Clay		1	%			

Sediment Analysis Data Sheet

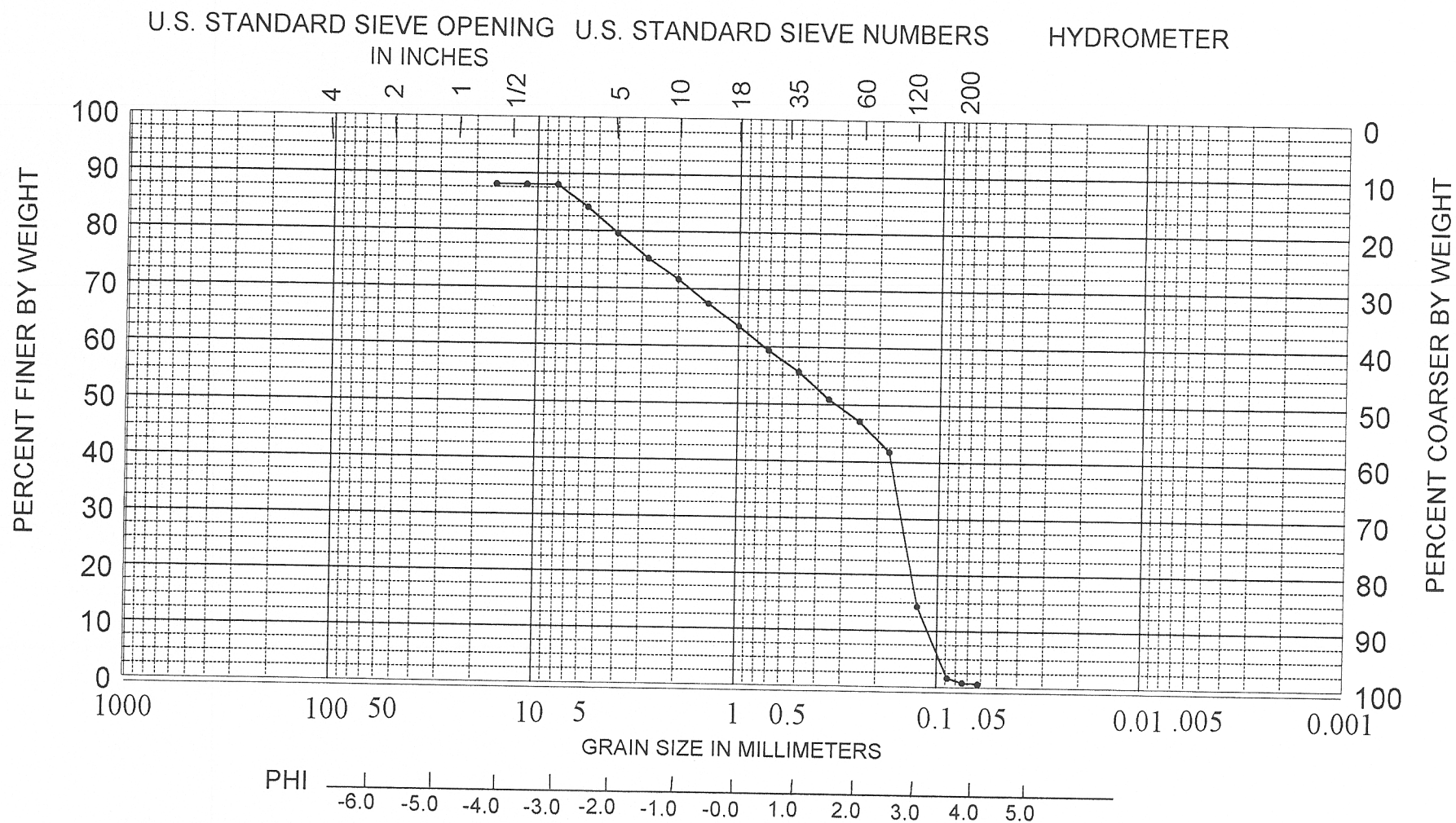
Sample SM-4-5.0

Sieve	Size (mm)	Phi size	Wt	Wt %	Cuml %	Folk	Statistics	
							phi	mm
5/8	16.00	-4.00	0.00	0.00	0.00			
1/2	11.31	-3.50	0.00	0.00	0.00			
5/16	8.00	-3.00	0.00	0.00	0.00			
1/4	5.66	-2.50	0.05	0.16	0.16			
5	4.00	-2.00	0.25	0.78	0.94	5% :	-0.02	1.01
7	2.83	-1.50	0.27	0.84	1.79	16% :	1.64	0.32
10	2.00	-1.00	0.28	0.85	2.63	25% :	1.92	0.26
14	1.41	-0.50	0.44	1.34	3.97	50% :	2.28	0.21
18	1.00	0.00	0.35	1.07	5.04	75% :	2.64	0.16
25	0.71	0.50	0.38	1.17	6.21	84% :	2.82	0.14
35	0.50	1.00	0.57	1.76	7.97	95% :	3.31	0.10
45	0.35	1.50	1.22	3.75	11.72	Med.	2.28	0.21
60	0.25	2.00	5.15	15.83	27.55	Mean	2.25	0.21
80	0.18	2.50	13.28	40.81	68.36	St Dev.	0.80	
120	0.13	3.00	7.83	24.07	92.43	Skew	-0.23	
170	0.09	3.50	1.37	4.20	96.63	Kurt.	1.90	
200	0.07	3.75	0.13	0.40	97.03			
230	0.06	4.00	0.06	0.19	97.21			
Pan			0.03	0.09	97.30			
Total			31.66	97.30	97.30			
						Moment	Statistics	
							Phi	mm
Cu =	1.74	Gravel			1	Mean	2.07	0.24
		Coarse Sand			2	St. Dev.	0.95	0.52
		Med. Sand			7	Skewness	-2.43	
Cc =	1.02	Fine Sand			87	Kurtosis	10.19	
		Silt/Clay			3			

Sediment Analysis Data Sheet

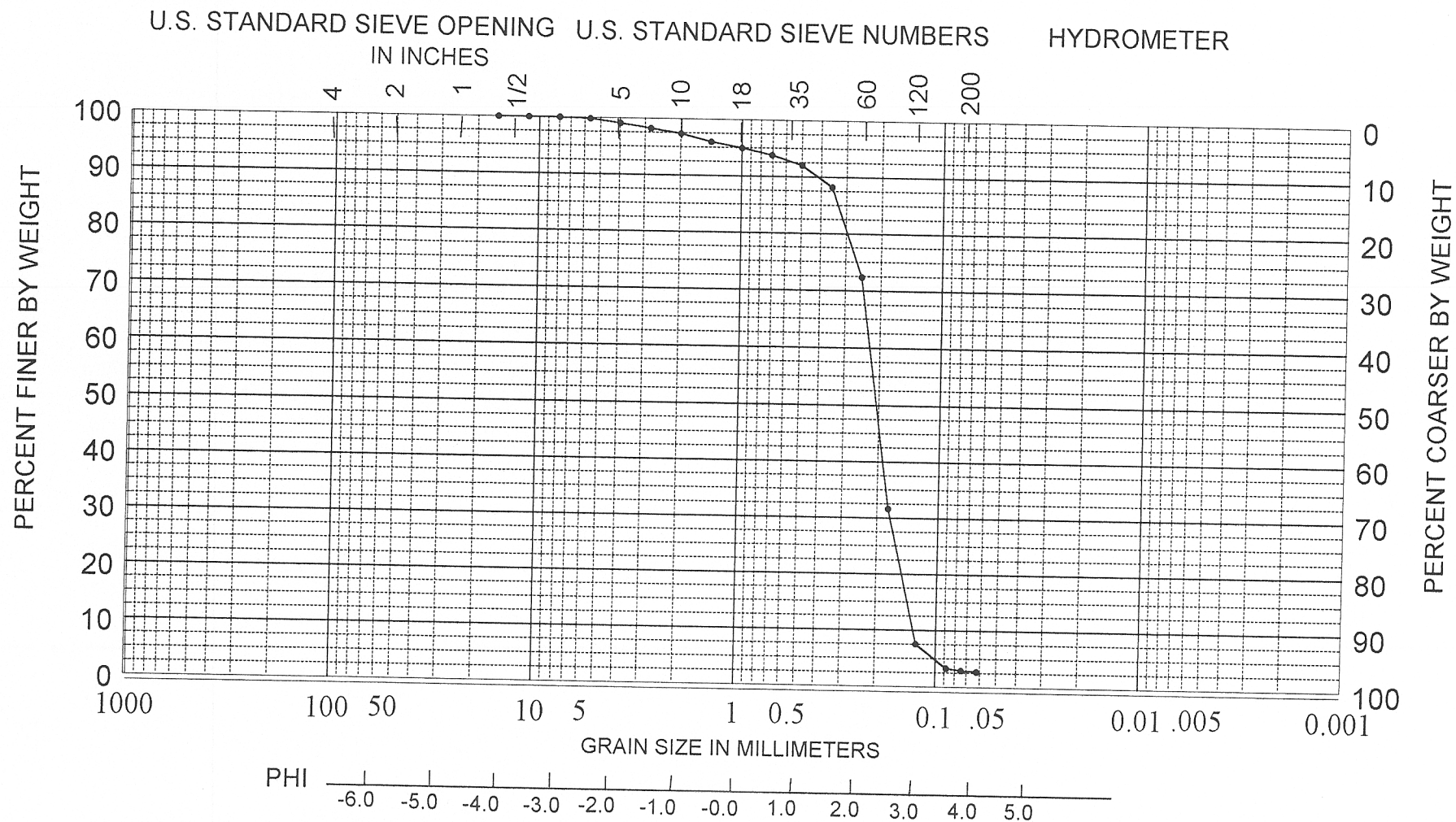
Sample SM-4-11.0

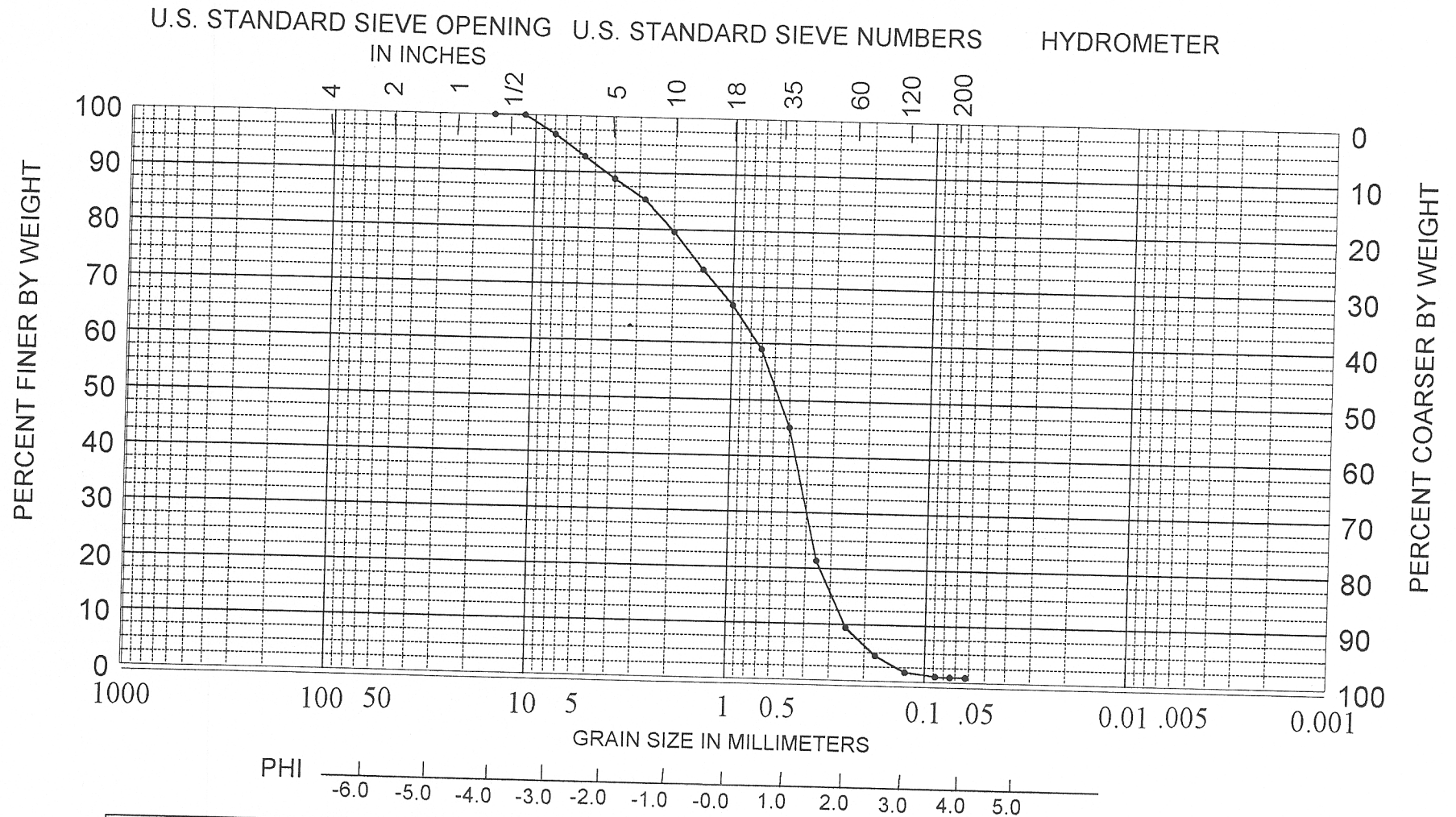
Sieve	Size (mm)	Phi size	Wt	Wt %	Cuml %	Folk	Statistics	
							phi	mm
5/8	16.00	-4.00	0.00	0.00	0.00			
1/2	11.31	-3.50	0.00	0.00	0.00			
5/16	8.00	-3.00	1.17	3.36	3.36			
1/4	5.66	-2.50	1.33	3.82	7.18			
5	4.00	-2.00	1.35	3.89	11.07	5% :	-2.79	6.89
7	2.83	-1.50	1.27	3.65	14.72	16% :	-1.39	2.61
10	2.00	-1.00	1.95	5.60	20.32	25% :	-0.65	1.57
14	1.41	-0.50	2.33	6.70	27.02	50% :	0.83	0.56
18	1.00	0.00	2.17	6.23	33.25	75% :	1.42	0.37
25	0.71	0.50	2.69	7.71	40.96	84% :	1.72	0.30
35	0.50	1.00	4.82	13.85	54.82	95% :	2.45	0.18
45	0.35	1.50	8.30	23.83	78.65	Med.	0.83	0.56
60	0.25	2.00	4.16	11.95	90.60	Mean	0.39	0.76
80	0.18	2.50	1.70	4.88	95.48	St Dev.	1.57	
120	0.13	3.00	0.98	2.82	98.29	Skew	-0.40	
170	0.09	3.50	0.25	0.70	99.00	Kurt.	1.03	
200	0.07	3.75	0.02	0.07	99.07			
230	0.06	4.00	0.01	0.03	99.10			
Pan			0.00	0.00	99.10			
Total			34.50	99.10	99.10			
						Moment	Statistics	
							Phi	mm
Cu =	2.90	Gravel			9	Mean	0.35	0.79
		Coarse Sand			11	St. Dev.	1.53	0.35
		Med. Sand			46	Skewness	-0.73	
Cc =	0.86	Fine Sand			32	Kurtosis	2.71	
		Silt/Clay			1			



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	ELEV.	CLASSIFICATION	PROJECT Olsen & Associates, Inc. - Cumberland Shoals
1.0	-20.7'	Well graded quartz sand,	AREA St. Mary's Inlet, FL
		some carbonate gravel (SW)	BORING NO. SM-4
			DATE July 2002





COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	ELEV.	CLASSIFICATION	PROJECT Olsen & Associates, Inc. - Cumberland Shoals
11.0	-30.7'	Medium to fine quartz sand grading to coarse sand and carbonate gravel (SP)	AREA St. Mary's Inlet, FL
			BORING NO. SM-4
			DATE July 2002