

HYDRAULICS DIVISION
TECHNICAL NOTE

DATE: February 1983 REPORT NO: 83-05

TITLE: Particle Size Data Report - Sediment Bank

AUTHOR: G. A. Duncan

REASON FOR REPORT: This report responds to a request for particle size data from Dr. R. A. Bourbonniere, AED.

CORRESPONDENCE FILE NO:
5105 (Study No. 302)

1.0 INTRODUCTION

This report responds to a request for grain size analysis on two groups of samples submitted by Dr. R. A. Bourbonniere. The first group of 22 samples are from a Benthos core E-30 from Lake Ontario, Appendix 1. The second Group of 17 samples are from a piston core PS7 from Lake Erie, Appendix 2.

2.0 PROCEDURE

The Sieve and Sedigraph Method which provides sand, silt and clay percentages was used to analyse the samples.

Briefly the procedure consists of:

1. Splitting the sample to 2g.
2. Removing particles large enough to block Sedigraph Suction Tube (0.088 mm).
3. Dispersing sample in a Calgon suspension.
4. Automatic analysis with the Sedigraph.
5. Processing the results with SIZDIST: a FORTRAN IV computer program (Sandilands and Duncan, 1980).

3.0 RESULTS

For the Sieve and Sedigraph Method, the output consists of:

1. A histogram of the frequency distribution.
2. The percentage and cumulative percentages of the material occurring within each 1/2 PHI unit.
3. Moment measure statistics (Krumbein & Pettijohn, 1938) and graphic (Folk and Ward, 1957) statistics.
4. Percentiles.
5. Percent gravel, sand, silt and clay.
6. Ratios used to plot Folk's Ternary Classification.
7. Shepard (1954) and Folk (1974) Ternary Classifications.

REFERENCES

- Duncan, G. A. and LaHaie, G. G., 1979. "Size Analysis Procedures Used in the Sedimentology Laboratory, NWRI". NWRI, CCIW, Hydraulics Division Manual, September 1979.
- Folk, R. L., 1968. "Petrology of Sedimentary Rocks". Hemphill Publishing Co., Austin, Texas 182 p.
- Folk, R. L. and Ward, W. C., 1957. "Brazos River Bar: A Study in the Significance of Grain Size Parameters". Jour. Sed. Petrology, V. 27, pp. 3-26.
- Krumbein, W. C. and Pettijohn, F. J., 1938. "Manual of Sedimentary Petrography". Appleton-Century-Crofts, New York, 549 p.
- Sandilands, R. G. and Duncan, G. A., 1980. "SIZDIST - A Computer Program for Size Analysis". NWRI, CCIW, Hydraulics Division Technical Note, Report No. 80-08.
- Shepard, F. P., 1954. "Nomenclature Based on Sand-Silt Ratios". Jour. Sed. Petrology, V. 24, pp. 151-158.

02/08/53

PHI PCT. CUMPCT.

3.50			
4.00	0.00	0.00	
4.50	0.00	0.00	
5.00	.53	.53	
5.50	1.07	1.60	
6.00	3.21	4.61	***
6.50	4.28	8.89	*****
7.00	5.35	14.24	*****
7.50	10.70	25.13	*****
8.00	10.70	35.83	*****
8.50	11.76	47.59	*****
9.00	10.70	58.29	*****
9.50	9.63	67.91	*****
10.00	7.49	75.40	*****
10.50	6.42	81.82	*****
11.00	4.28	86.10	*****
11.50	5.35	91.44	*****
12.00	-.23	95.72	*****
*****	-.23	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.62 1.61 .05 -.61

KRUMHOLTZ + PETTICREW (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

8.61 1.61 .14 .97

FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES	MEDIAN	3.61	5TH	5.02	16TH	7.07	25TH	7.49
			75TH	9.97	84TH	10.75	95TH	11.92
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	5.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	35.83	(SEDIGRAPH)	64.17	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	35.83	PCT. GRAV+SAND/SILT+CLAY	.00			
LABEL'S SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/08/83

PHI	PCT. CUMECT.	
0.00	0.00	
0.50	0.00	
1.00	0.00	
1.50	0.00	
2.00	0.00	
2.50	0.00	
3.00	0.00	
3.50	0.00	
4.00	0.00	
4.50	0.00	
5.00	0.00	
5.50	0.00	
6.00	0.00	
6.50	0.00	
7.00	0.00	
7.50	0.00	
8.00	0.00	
8.50	0.00	
9.00	0.00	
9.50	0.00	
10.00	0.00	
10.50	0.00	
11.00	0.00	
11.50	0.00	
12.00	0.00	
12.50	0.00	
13.00	0.00	
13.50	0.00	
14.00	0.00	
14.50	0.00	
15.00	0.00	
15.50	0.00	
16.00	0.00	
16.50	0.00	
17.00	0.00	
17.50	0.00	
18.00	0.00	
18.50	0.00	
19.00	0.00	
19.50	0.00	
20.00	0.00	
20.50	0.00	
21.00	0.00	
21.50	0.00	
22.00	0.00	
22.50	0.00	
23.00	0.00	
23.50	0.00	
24.00	0.00	
24.50	0.00	
25.00	0.00	
25.50	0.00	
26.00	0.00	
26.50	0.00	
27.00	0.00	
27.50	0.00	
28.00	0.00	
28.50	0.00	
29.00	0.00	
29.50	0.00	
30.00	0.00	
30.50	0.00	
31.00	0.00	
31.50	0.00	
32.00	0.00	
32.50	0.00	
33.00	0.00	
33.50	0.00	
34.00	0.00	
34.50	0.00	
35.00	0.00	
35.50	0.00	
36.00	0.00	
36.50	0.00	
37.00	0.00	
37.50	0.00	
38.00	0.00	
38.50	0.00	
39.00	0.00	
39.50	0.00	
40.00	0.00	
40.50	0.00	
41.00	0.00	
41.50	0.00	
42.00	0.00	
42.50	0.00	
43.00	0.00	
43.50	0.00	
44.00	0.00	
44.50	0.00	
45.00	0.00	
45.50	0.00	
46.00	0.00	
46.50	0.00	
47.00	0.00	
47.50	0.00	
48.00	0.00	
48.50	0.00	
49.00	0.00	
49.50	0.00	
50.00	0.00	
50.50	0.00	
51.00	0.00	
51.50	0.00	
52.00	0.00	
52.50	0.00	
53.00	0.00	
53.50	0.00	
54.00	0.00	
54.50	0.00	
55.00	0.00	
55.50	0.00	
56.00	0.00	
56.50	0.00	
57.00	0.00	
57.50	0.00	
58.00	0.00	
58.50	0.00	
59.00	0.00	
59.50	0.00	
60.00	0.00	
60.50	0.00	
61.00	0.00	
61.50	0.00	
62.00	0.00	
62.50	0.00	
63.00	0.00	
63.50	0.00	
64.00	0.00	
64.50	0.00	
65.00	0.00	
65.50	0.00	
66.00	0.00	
66.50	0.00	
67.00	0.00	
67.50	0.00	
68.00	0.00	
68.50	0.00	
69.00	0.00	
69.50	0.00	
70.00	0.00	
70.50	0.00	
71.00	0.00	
71.50	0.00	
72.00	0.00	
72.50	0.00	
73.00	0.00	
73.50	0.00	
74.00	0.00	
74.50	0.00	
75.00	0.00	
75.50	0.00	
76.00	0.00	
76.50	0.00	
77.00	0.00	
77.50	0.00	
78.00	0.00	
78.50	0.00	
79.00	0.00	
79.50	0.00	
80.00	0.00	
80.50	0.00	
81.00	0.00	
81.50	0.00	
82.00	0.00	
82.50	0.00	
83.00	0.00	
83.50	0.00	
84.00	0.00	
84.50	0.00	
85.00	0.00	
85.50	0.00	
86.00	0.00	
86.50	0.00	
87.00	0.00	
87.50	0.00	
88.00	0.00	
88.50	0.00	
89.00	0.00	
89.50	0.00	
90.00	0.00	
90.50	0.00	
91.00	0.00	
91.50	0.00	
92.00	0.00	
92.50	0.00	
93.00	0.00	
93.50	0.00	
94.00	0.00	
94.50	0.00	
95.00	0.00	
95.50	0.00	
96.00	0.00	
96.50	0.00	
97.00	0.00	
97.50	0.00	
98.00	0.00	
98.50	0.00	
99.00	0.00	
99.50	0.00	
100.00	0.00	

MEAN ST. DEV. SKEWNESS KURTOSIS

8.55 1.54 .10 -.50 KROMBEIN + PETTICORN (1958) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	5TH	16TH	25TH	75TH	84TH	95TH
	8.65	6.20	7.04	7.49	9.34	10.77	12.00
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00
				(SEDIGRAPH)	34.34	(SEDIGRAPH)	65.66
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	34.34	PCT. GRAV+SAND/SILT+CLAY	.00		
LABELS SHEPARD	-SILTY CLAY	FOLK (GMS)-MUD		(S.S.)-MUD			

12/08/53

PHI	PCT. COMPCT.	
4.00	0.00	0.00
4.50	0.00	0.00
5.00	0.00	0.00
5.50	2.13	2.13
6.00	5.32	5.32
6.50	10.64	10.64
7.00	18.79	18.79
7.50	28.72	28.72
8.00	38.30	38.30
8.50	48.94	48.94
9.00	59.57	59.57
9.50	68.99	68.99
10.00	78.49	78.49
10.50	79.79	79.79
11.00	84.00	84.00
11.50	89.36	89.36
12.00	93.09	93.09
12.50	100.00	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

8.-9 1.65 .09 -.7-

KRUMHOLTZ + PETTICORN (1938) POTENTIAL MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	5TH	16TH	25TH
	3.55	5.35	6.66	7.33
		75TH 13.13	84TH 11.00	95TH *****
PCT. GRAVEL	.00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00
			(SEDIGRAPH) 38.30	(SEDIGRAPH) 61.70
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	38.30PCT.GRAV+SAND/SILT+CLAY	.00
LABELS CHEPARE	-SILTY CLAY	FOLK (GMC)-MUD		(GCS)-MUD

PHI	PCT. CUMPCT.	
0	0.00	
4.00	0.00	0.00
4.50	0.00	1.00
5.00	0.00	0.00
5.50	2.04	2.04
6.00	6.63	8.67
6.50	7.65	16.33
7.00	9.18	25.51
7.50	13.27	38.78
8.00	10.20	48.98
8.50	10.20	59.18
9.00	10.20	69.39
9.50	7.14	76.53
10.00	5.10	81.63
10.50	4.08	85.71
11.00	4.08	89.80
11.50	3.06	92.86
12.00	3.06	95.92
12.50	4.08	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

8.13 1.83 .20 -0.56
 8.27 1.88 .21 1.04

KRUMBEIN + PETTIGORN (1938) MOMENT MEASURES
 FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

PERCENTILES	MEDIAN	3.05	5TH	8.72	16TH	8.48	25TH	8.97
			75TH	9.39	84TH	10.29	95TH	11.85
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	48.98	(SEDIGRAPH)	51.02	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	48.98	PCT.GFAV+SAND/SILT+CLAY			.00	
LABELS SHEPARD	-SILTY CLAY	FOLK (GMS)-MUD		(SCS)-MUD				

LOGS 23. N 16-17 CM

SEDIGRAPH ANALYSIS

02/03/83

PHI PCT. CUM.PCT.

0			
4.50	0.00	0.00	
4.90	0.00	0.00	
5.00	.55	.55	
5.50	1.65	2.20	**
6.00	6.85	2.20	
6.50	5.49	7.69	*****
7.00	6.40	12.09	*****
7.50	10.99	23.08	*****
8.00	10.99	34.07	*****
8.50	12.09	46.15	*****
9.00	12.09	58.24	*****
9.50	9.83	68.13	*****
10.00	7.69	75.82	*****
10.50	7.69	83.52	*****
11.00	5.49	89.01	*****
11.50	5.49	94.51	*****
12.00	.55	99.45	*****
12.50	.55	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.75	1.56	.02	-.59
8.75	1.64	.11	.92

KROUSEN + PETTICORN (1952) MOMENT MEASURES
 FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

PERCENTILES MEDIAN 8.66 5TH 6.26 16TH 7.18 25TH 7.59
 75TH 9.95 84TH 10.34 95TH 11.55

PCT. GRAVEL .00 SAND 0.00 SILT (PIPETTE) 0.00 CLAY (PIPETTE) 0.00
 (SEDIGRAPH) 34.07 (SEDIGRAPH) 65.93

GRAVEL+SAND .00 SILT/(SILT+CLAY) 34.07PCT.GRAV+SAND/SILT+CLAY .00

LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD (SGS)-MUD

PHI	PCT. CUMFCT.	
0		
4.00	0.00	
4.50	0.00	
5.00	0.00	
5.50	1.05	
6.00	6.32	*****
6.50	12.63	*****
7.00	22.11	*****
7.50	33.63	*****
8.00	45.26	*****
8.50	55.79	*****
9.00	65.26	*****
9.50	72.63	*****
10.00	77.69	*****
10.50	83.16	*****
11.00	86.95	*****
*****	100.00	*****

AN ST.DEV. SKEWNESS KURTOSIS

8.08 1.42 .09 -.80 KRUMBEIN + PETTICORN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 11.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.23	5TH	6.35	16TH	6.63	25TH	7.13
			75TH	9.73	84TH	10.57	95TH	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	45.26	(SEDIGRAPH)	54.74	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	45.26	PCT.GRAV+SAND/SILT+CLAY		.00		
LABELS SHEPARD	=SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/05/53

PHI PCT. CUMPCT.

4.00	0.00	0.00	
4.50	1.81	1.81	**
5.00	.60	2.41	
5.50	1.20	3.61	
6.00	3.61	7.23	****
6.50	6.02	13.25	*****
7.00	6.02	19.28	*****
7.50	14.46	33.73	*****
8.00	13.25	46.99	*****
8.50	10.84	57.83	*****
9.00	10.84	68.67	*****
9.50	2.41	71.08	**
10.00	12.05	83.13	*****
10.50	7.23	90.36	*****
11.00	6.02	96.39	*****
*****	3.61	100.00	*****

AN ST.DEV. SKEWNESS KURTOSIS

6.16	1.52	-.09	-.45
8.31	1.62	.11	.66

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 11.0 PHI

FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES	MEDIAN	3.1-	5TH	5.69	16TH	6.73	25TH	7.20
			75TH	9.66	84TH	10.05	95TH	10.89

PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00
				(SEDIGRAPH)	46.99	(SEDIGRAPH)	53.01

GRAVEL+SAND .00 SILT/(SILT+CLAY) 46.99 PCT. GRAV+SAND/SILT+CLAY .00

LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD (SCS)-MUD

PHI	PCT. CUM.PCT.
0	0.00
4.00	1.00
4.50	1.50
5.00	1.90
5.50	2.50
6.00	3.00
6.50	5.00
7.00	10.00
7.50	13.00
8.00	26.00
8.50	36.00
9.00	48.00
9.50	56.00
10.00	68.00
10.50	75.00
11.00	84.00
11.50	93.00
12.00	97.00
12.50	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

9.03 1.81 -.16 -.81
 9.16 1.70 .03 .84

ROUSSEFF + PETTIGREW (1938) MOMENT MEASURES
 FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

PERCENTILES MEDIAN 9.10 5TH 8.50 16TH 7.36 25TH 7.94
 75TH 10.50 85TH 11.00 95TH 11.75

PCT. GRAVEL .00 SAND 1.00 SILT (PIPETTE) 9.00 CLAY (PIPETTE) 0.00
 (SEDIGRAPH) 26.00 (SEDIGRAPH) 74.00
 GRAVEL+SAND .00 SILT/(SILT+CLAY) 25.00 PCT.GRAV+SAND/SILT+CLAY .00

LABELS SHEPARD -SILTY CLAY FOLK(GME)-MUD (SOS)-CLAY

02/08/83

PHI	PCT. CUMFCT.	
0	0.00	
4.00	1.02	0.00
4.50	1.02	1.02
5.00	2.04	3.06
5.50	1.02	4.08
6.00	2.04	6.12
6.50	6.12	12.24
7.00	7.14	19.39
7.50	11.22	30.61
8.00	12.24	42.85
8.50	11.22	54.07
9.00	12.24	66.31
9.50	6.16	72.47
10.00	6.12	87.61
10.50	6.12	86.73
11.00	6.12	92.85
11.50	7.14	92.86
*****	100.00	

MEAN ST. DEV. SKEWNESS KURTOSIS

8.16 1.49 -.11 -.31

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 11.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED; OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	5TH	16TH	25TH	75TH	84TH	95TH
	6.32	6.73	6.76	7.25	9.54	10.28	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00
				(SEDIGRAPH) 42.86		(SEDIGRAPH) 57.14	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	42.86	PCT. GRAV+SAND/SILT+CLAY	.00		
LABELS SHEPARD	-SILTY CLAY	FOLK (GMS)	-MUD			(SCS)	-MUD

02/08/83

PHI	PCT. CURVECT.	
5.00	1.00	0.00
4.00	0.00	0.00
4.50	.51	0.00
5.00	.51	.51
5.50	.51	1.01
6.00	1.01	2.02
6.50	2.02	4.04
7.00	4.04	8.08
7.50	7.07	15.15
8.00	11.09	22.73
8.50	16.12	32.32
9.00	21.15	43.45
9.50	26.18	57.55
10.00	31.21	66.67
10.50	36.24	75.76
11.00	41.27	82.83
11.50	46.30	88.89
12.00	51.33	93.43
12.50	56.36	98.43
13.00	61.39	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

9.06 1.49 -.09 -.43

KEUBELIN + PETTICORN (1935) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	9.19	5TH	6.62	16TH	7.55	25TH	6.12
			(5TH) 3.45		(5TH) 11.10		(95TH) ****	
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	22.73	(SEDIGRAPH)	77.27	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	22.73	PCT. GRAV+SAND/SILT+CLAY	.00			
LABELS SHEPARD	-CLAY	FOLK (GPS)	-MUD	(SCS)	-CLAY			

PHI	PCT. CUM.PCT.	
4.00	0.00	
4.50	1.01	+
5.00	1.01	+
5.50	1.01	+
6.00	2.02	++
6.50	1.01	+
7.00	4.04	++++
7.50	8.08	+++++
8.00	10.10	++++++
8.50	12.12	+++++++
9.00	11.11	+++++++
9.50	10.10	+++++++
10.00	9.09	+++++++
10.50	7.07	+++++++
11.00	7.58	+++++++
11.50	8.57	+++++++
12.00	2.02	++
*****	100.00	

MEAN ST.DEV. SKEWNESS KURTOSIS

9.57	1.67	-.22	-1.07
9.22	1.76	-.02	1.00

KRUMBEIN + PETTICORN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

PERCENTILES	MEDIAN	9.16	5TH	8.99	16TH	7.49	25TH	8.04
			75TH	10.40	84TH	11.01	95TH	11.77
PCT. GRAVEL	.00	SAND	3.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	24.24	(SEDIGRAPH)	75.76	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	24.24		PCT.GRAV+SAND/SILT+CLAY	.00		
LABELS SHEPARD	-CLAY		FOLK(GMS)-MUD			(SGS)-CLAY		

02/08/53

PHI	PCT. CURVE	CUM.PCT.
4.00	0.00	0.00
4.50	0.00	0.00
5.00	1.00	1.00
5.50	2.00	3.00
6.00	3.00	6.00
6.50	4.00	10.00
7.00	4.00	14.00
7.50	9.00	23.00
8.00	8.00	31.00
8.50	10.00	41.00
9.00	11.00	52.00
9.50	10.00	62.00
10.00	10.00	72.00
10.50	9.00	81.00
11.00	9.00	89.00
11.50	9.00	98.00
	2.00	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

3.78 1.63 -.16 -.66

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 11.5 PHI

8.91 1.74 -.06 .88

FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES MEDIAN 8.91 5TH 5.33 16TH 7.11 25TH 7.63
75TH 10.19 84TH 10.72 95TH 11.33

PCT. GRAVEL .00 SAND 0.00 SILT (PIPETTE) 0.00 CLAY (PIPETTE) 0.00
(SEDIGRAPH) 31.00 (SEDIGRAPH) 69.00
GRAVEL+SAND .00 SILT/(SILT+CLAY) 31.00 PCT.GRAV+SAND/SILT+CLAY .00
LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD (SCS)-CLAY

PHI	PCT. CUMFCT.	
0	0.00	
4.00	.51	0.51
4.50	0.00	.51
5.00	.51	.51
5.50	.51	1.03
6.00	1.03	1.54
6.50	3.08	2.56
7.00	3.08	5.64
7.50	7.15	8.72
8.00	7.15	15.90
8.50	9.23	23.08
9.00	12.31	32.31
9.50	10.26	44.62
10.00	9.23	54.87
10.50	7.18	64.10
11.00	7.18	71.28
11.50	7.18	78.46
12.00	9.23	85.64
12.50	9.23	90.77
13.00	9.23	99.77
13.50	9.23	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

9.06 1.58 -.12 -.45

KRUPBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES MEDIAN 9.26 5TH 6.40 15TH 7.51 25TH 8.10

75TH 10.70 85TH 11.39 95TH *****

PCT. GRAVEL .00 SAND 0.00 SILT (PIPETTE) 0.00 CLAY (PIPETTE) 0.00
 (SEDIGRAPH) 23.08 (SEDIGRAPH) 76.92

GRAVEL+SAND .00 SILT/(SILT+CLAY) 23.08 PCT.GRAV+SAND/SILT+CLAY .00

LABELS SHEPARD -CLAY FOLK (GRS)-MUJ (CS)-CLAY

02/08/63

PHI PCT. CUMFCT.

5.00	0.00	0.00	
4.00	0.00	0.00	
4.50	0.00	0.00	
5.00	1.00	0.00	
5.50	3.00	1.00	
6.00	5.00	4.00	*****
6.50	7.00	9.00	*****
7.00	10.00	16.00	*****
7.50	10.00	26.00	*****
8.00	11.00	36.00	*****
8.50	12.00	47.00	*****
9.00	10.00	59.00	*****
9.50	7.00	69.00	*****
10.00	7.00	76.00	*****
10.50	6.00	83.00	*****
11.00	6.00	89.00	*****
11.50	4.00	95.00	*****
12.00	1.00	99.00	*****
12.50	1.00	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.67 1.61 .05 -.79

KRUMBEIN + PETTICORN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

8.74 1.71 .08 .89

FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARC, 1957

PERCENTILES MEDIAN 6.63 5TH 6.10 16TH 7.00 25TH 7.45
75TH 8.93 84TH 10.00 95TH 11.50

PCT. GRAVEL .00 SAND 0.00 SILT (PIPETTE) 0.00 CLAY (PIPETTE) 0.00
(SEDIGRAPH) 36.00 (SEDIGRAPH) 64.00

GRAVEL+SAND .00 SILT/(SILT+CLAY) 36.00 PCT.GRAV+SAND/SILT+CLAY .00

LABELS SHEPARD -SILTY CLAY FOLK(GNS)-MUD (SCS)-MUD

AUTOREPORT

02/08/83

PHI	PCT. CUMFCT.	
4.00	0.00	0.00
4.50	0.00	0.00
5.00	1.01	1.01
5.50	2.02	3.03
6.00	3.03	6.06
6.50	4.04	10.10
7.00	6.57	16.67
7.50	8.59	25.25
8.00	10.10	35.35
8.50	9.09	44.44
9.00	13.13	57.55
9.50	10.10	67.65
10.00	8.06	75.71
10.50	6.06	81.77
11.00	5.56	87.33
11.50	5.56	92.89
12.00	4.04	96.93
12.50	3.03	100.00

MEAN ST. DEV. SKEWNESS KURTOSIS

8.53 1.66 -.83 -.61
 8.79 1.84 .04 .99

KRUMBEIN + PETTICORN (1938) MOMENT MEASURES
 FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

PERCENTILES MEDIAN 8.71 5TH 8.33 16TH 6.95 25TH 7.49
 75TH 9.35 84TH 10.70 95TH 11.76

PCT. GRAVEL .00 SAND 0.00 SILT (PIPETTE) 0.00 CLAY (PIPETTE) 0.00
 (SEDIGRAPH) 35.35 (SEDIGRAPH) 64.65

GRAVEL+SAND .00 SILT/(SILT+CLAY) 35.35 PCT. GRAV+SAND/SILT+CLAY .00

LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD (SCS)-MUD

02/08/83

PHI PCT. CUMFCT.

50			
00	0.00	0.00	
4.50	.51	.51	*
5.00	.51	1.01	*
5.50	1.01	2.02	*
6.00	4.04	6.06	****
6.50	4.04	10.10	****
7.00	6.06	16.16	*****
7.50	10.10	26.26	*****
8.00	10.10	36.36	*****
8.50	9.09	45.45	*****
9.00	11.52	57.07	*****
9.50	10.10	67.17	*****
10.00	6.59	73.76	*****
10.50	6.06	81.82	*****
11.00	6.06	87.88	*****
11.50	3.05	92.93	*****
12.00	3.05	95.98	****
12.50	4.04	100.00	****

MEAN ST.DEV. SKEWNESS KUPTOSIS

8.59	1.64	-.33	-.59
8.79	1.33	.06	.97

KRUMBEIN + PETTICORN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

PERCENTILES	MEDIAN	5TH	16TH	25TH	75TH	84TH	95TH
	8.75	8.87	6.99	7.44	9.96	10.83	11.84
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	4.00	CLAY (PIPETTE)	0.00
				(SEDIGRAPH)	36.36	(SEDIGRAPH)	63.64
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	36.36	PCT.GRAV+SAND/SILT+CLAY			.00
LABELS SHEPARD	-SILTY CLAY			FOLK(GMS)-MUD			(SCS)-MUD

02/08/83

PHI PCT. CUMPCT.

5.00	0.00	0.00	
4.50	.50	.50	*
5.00	0.00	.50	
5.50	1.01	1.51	*
6.00	2.01	3.52	**
6.50	3.02	6.53	***
7.00	5.03	11.56	*****
7.50	7.04	18.59	*****
8.00	9.05	27.64	*****
8.50	9.05	36.68	*****
9.00	12.06	48.74	*****
9.50	12.06	60.80	*****
10.00	9.05	69.85	*****
10.50	9.05	78.89	*****
11.00	6.03	84.92	*****
11.50	7.04	91.96	*****
12.00	9.03	96.99	*****
12.50	3.02	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

5.95	1.80	-.10	-.46
9.10	1.74	.01	.94

KRUMBEIN + PETTIGORN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES	MEDIAN	9.05	5TH	6.25	15TH	7.32	25TH	7.85
			75TH	10.23	84TH	10.92	95TH	11.80

PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00
				(SEDIGRAPH)	27.64	(SEDIGRAPH)	72.36

GRAVEL+SAND	.00	SILT/(SILT+CLAY)	27.64	PCT.GRAV+SAND/SILT+CLAY	.00
-------------	-----	------------------	-------	-------------------------	-----

LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD (SCS)-CLAY

PHI	PCT. CUMFCT.	
3.50	0.00	
4.00	0.00	0.00
4.50	0.00	0.00
5.00	0.00	0.00
5.50	1.50	1.50 **
6.00	1.00	2.50
6.50	1.50	4.00 **
7.00	3.00	7.00 ***
7.50	6.00	13.00 *****
8.00	7.00	20.00 *****
8.50	9.00	29.00 *****
9.00	11.00	40.00 *****
9.50	12.00	52.00 *****
10.00	16.00	62.00 *****
10.50	10.00	72.00 *****
11.00	8.50	80.50 *****
11.50	9.50	90.00 *****
12.00	9.50	99.50 *****
12.50	.50	100.00 *****

MEAN ST.DEV. SKEWNESS KUPTOSIS

9.37 1.58 -.17 -.51
 9.44 1.64 -.03 .87

KRUMBEIN + PETTICORN (1938) MOMENT MEASURES
 FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

PERCENTILES MEDIAN 9.42 5TH 6.67 16TH 7.71 25TH 8.28
 75TH 10.68 84TH 11.13 95TH 11.76

PCT. GRAVEL .00 SAND 0.00 SILT (PIPETTE) 0.00 CLAY (PIPETTE) 0.00
 (SEDIGRAPH) 20.00 (SEDIGRAPH) 80.00

GRAVEL+SAND .00 SILT/(SILT+CLAY) 20.00 PCT.GRAV+SAND/SILT+CLAY .00

LABELS SHEPARD -CLAY FOLK(GMS)-UD (SCS)-CLAY

02/03/63

PHI	FCT.	CUMECT.	
0.00	0.00	0.00	
4.50	.50	.50	*
5.00	.50	1.00	*
5.50	0.00	1.00	
6.00	3.00	4.00	***
6.50	3.00	7.00	***
7.00	4.00	11.00	*****
7.50	7.00	18.00	*****
8.00	10.00	28.00	*****
8.50	9.00	37.00	*****
9.00	12.00	49.00	*****
9.50	12.00	61.00	*****
10.00	9.00	70.00	*****
10.50	8.00	78.00	*****
11.00	7.00	85.00	*****
11.50	5.00	90.00	*****
12.00	6.00	96.00	*****
12.50	4.00	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

6.93	1.61	-.10	-.42
9.11	1.76	.03	.95

KRUMBEIN + PETTIJOHN (1935) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES	MEDIAN	9.04	5TH	6.17	16TH	7.36	25TH	7.85
			75TH	10.31	84TH	10.93	95TH	11.92
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	26.00	(SEDIGRAPH)	72.00	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	26.00	PCT.GRAV+SAND/SILT+CLAY	.00			
LABELS SHEPARD	-SILTY CLAY	FOLK (GMS)-MUD		(SCS)-CLAY				

02/02/63

PHI	PCT. CUMPCT.	
0	0.00	
0.50	0.00	
1.00	0.50	
1.50	0.50	
2.00	1.00	*
2.50	1.49	
3.00	1.49	
3.50	2.99	****
4.00	3.98	****
4.50	6.97	*****
5.00	8.96	*****
5.50	11.44	*****
6.00	18.96	*****
6.50	29.35	*****
7.00	40.30	*****
7.50	52.24	*****
8.00	62.69	*****
8.50	71.14	*****
9.00	79.10	*****
9.50	86.07	*****
10.00	92.04	*****
10.50	96.02	*****
11.00	96.02	*****
11.50	100.00	*****

MEAN ST. DEV. SKEWNESS KURTOSIS

5.85	1.52	-.86	-.53
9.00	1.75	.07	.93

KRUMBEIN + PETTICORN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES	MEDIAN	5TH	16TH	25TH	75TH	84TH	95TH
	6.91	6.25	7.25	7.76	10.24	10.65	11.87
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00
				(SEDIGRAPH)	29.35	(SEDIGRAPH)	70.65
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	29.35	PCT. GRAV+SAND/SILT+CLAY	.00		
LABELS SHEPARD	-SILTY CLAY	FOLK (GMS)-MUD		(SCS)-CLAY			

02/08/63

PHI	PCT. CUMFCT.
4.00	0.00
4.50	2.00
5.00	3.00
5.50	2.00
6.00	2.00
6.50	5.00
7.00	4.00
7.50	9.00
8.00	6.00
8.50	10.00
9.00	12.00
9.50	11.00
10.00	7.00
10.50	7.00
11.00	5.00
11.50	5.00
12.00	3.00
12.50	100.00

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI
 FOLK GRAPHIC STATISTICAL PARAMETERS
 FOLK AND WARD, 1957

MEAN ST.DEV. SKEWNESS KURTOSIS

8.50	1.81	-.14	-.37
8.67	1.99	-.04	1.09

PERCENTILES	MEDIAN	8.67	5TH	5.00	16TH	6.75	25TH	7.39
			75TH	9.93	84TH	10.60	95TH	11.75
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	36.00	(SEDIGRAPH)	64.00	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	35.00	PCT.GRAV+SAND/SILT+CLAY			.00	
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/09/93

PHI PCT. CUMFCT.

0	0.00	0.00	
4.00	0.00	0.00	
4.50	0.00	0.00	
5.00	1.00	1.00	*
5.50	2.00	3.00	**
6.00	3.00	6.00	***
6.50	5.00	11.00	*****
7.00	4.00	15.00	****
7.50	8.00	23.00	*****
8.00	9.00	32.00	*****
8.50	9.00	41.00	*****
9.00	11.00	52.00	*****
9.50	11.00	63.00	*****
10.00	8.00	71.00	*****
10.50	8.00	79.00	*****
11.00	8.00	85.00	*****
11.50	5.00	90.00	*****
12.00	4.00	94.00	*****
12.50	6.00	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.71 1.58 -.08 -.65

KRUMBEIN + PETTIGREW (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.91	5TH	5.83	16TH	7.06	25TH	7.61
			75TH	10.25	94TH	10.92	95TH	*****

PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00
				(SEDIGRAPH)	32.00	(SEDIGRAPH)	68.00
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	32.00	PCT.GRAV+SAND/SILT+CLAY	.00		

LABELS SHEPARD -SILTY CLAY FOLK (MS)-MUD (SOS)-CLAY

APPENDIX 2
SIZDIST OUTPUT
Lake Erie PS7

02/11/83

PHI	PCT. CUMFCT.	
5.00	0.00	0.00
4.00	.50	*
4.50	.50	*
5.00	2.51	1.01
5.50	7.04	3.52
6.00	8.04	10.55
6.50	9.05	18.59
7.00	11.06	27.64
7.50	9.05	38.69
8.00	8.04	47.74
8.50	8.04	55.78
9.00	7.04	63.82
9.50	6.03	70.85
10.00	5.03	76.88
10.50	4.02	81.91
11.00	3.02	85.93
11.50	3.02	88.94
12.00	8.04	91.96
*****	100.00	

MEAN ST.DEV. SKEWNESS KURTOSIS

8.09 1.73 .14 -.73

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN 8.14	5TH 5.61	16TH 6.34	25TH 6.85
		75TH 9.84	84TH 10.76	95TH*****
PCT. GRAVEL	.00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00
			(SEDIGRAPH) 47.74	(SEDIGRAPH) 52.26
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	47.74	PCT.GRAV+SAND/SILT+CLAY .00
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD

02/11/83

PHI	PCT. CUMFCT.	
0	0.00	
0.50	0.00	
1.00	1.50	**
1.50	1.50	**
2.00	3.50	*****
2.50	8.00	*****
3.00	16.00	*****
3.50	25.00	*****
4.00	32.00	*****
4.50	42.00	*****
5.00	50.00	*****
5.50	56.00	*****
6.00	63.00	*****
6.50	70.00	*****
7.00	75.00	*****
7.50	80.00	****
8.00	84.00	****
8.50	88.00	****
9.00	92.00	*****
9.50	100.00	*****

MEAN ST.DEV. SKÉWNESS KURTOSIS

7.98 1.94 .12 -.88 KRUMBEIN + PETTICORN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN 8.00	5TH 5.17	16TH 6.00	25TH 6.50
		75TH 10.00	84TH 11.00	95TH*****
PCT. GRAVEL	.00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00
			(SEDIGRAPH) 50.00	(SEDIGRAPH) 50.00
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	50.00	PCT.GRAV+SAND/SILT+CLAY .00
LABELS SHEPARD	-CLAYEY SILT	FOLK(GMS)-MUD		(SCS)-MUD

02/11/83

PHI	PCT. CUMFCT.	
5.00	0.00	0.00
4.00	1.00	*
4.50	2.00	**
5.00	3.00	***
5.50	6.00	*****
6.00	8.00	*****
6.50	8.00	*****
7.00	8.00	*****
7.50	8.00	*****
8.00	8.00	*****
8.00	6.00	*****
8.50	8.00	*****
9.00	7.00	*****
9.50	5.00	*****
10.00	5.00	*****
10.50	5.00	*****
11.00	18.00	*****
*****	100.00	

MEAN ST.DEV. SKEWNESS KURTOSIS

7.77 1.68 .03 -.95

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 11.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN 8.33	5TH 5.33	16TH 6.13	25TH 6.69
		75TH 10.30	84TH*****	95TH*****
PCT. GRAVEL	.00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00
			(SEDIGRAPH) 46.00	(SEDIGRAPH) 54.00
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	46.00	PCT.GRAV+SAND/SILT+CLAY .00
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD

02/11/83

PHI	PCT. CUMFCT.	
50		
4.00	0.00	0.00
4.50	0.00	0.00
5.00	2.51	2.51
5.50	6.03	8.54
6.00	9.05	17.59
6.50	10.05	27.64
7.00	9.05	36.68
7.50	10.05	46.73
8.00	8.04	54.77
8.50	8.04	62.81
9.00	7.04	69.85
9.50	6.03	75.88
10.00	4.02	79.90
10.50	5.03	84.92
11.00	2.01	86.93
11.50	1.01	87.94
12.00	2.01	89.95
12.50	10.05	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

7.62 1.71 .21 -.58

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN 7.70	5TH 5.21	16TH 5.91	25TH 6.37
		75TH 9.43	84TH 10.41	95TH*****
PCT. GRAVEL	.00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00
			(SEDIGRAPH) 54.77	(SEDIGRAPH) 45.23
GRAVEL+SAND	.00	SILT/(SILT+CLAY) 54.77	PCT.GRAV+SAND/SILT+CLAY	.00
LABELS SHEPARD	-CLAYEY SILT	FOLK(GMS)-MUD		(SCS)-MUD

02/11/83

PHI	PCT.	CUMPCT.	
0	0.00	0.00	
4.00	0.00	0.00	
4.50	.50	0.50	*
5.00	3.50	4.00	***
5.50	7.50	11.50	*****
6.00	10.50	22.00	*****
6.50	7.00	29.00	*****
7.00	9.00	38.00	*****
7.50	7.00	45.00	*****
8.00	5.00	50.00	*****
8.50	6.00	56.00	*****
9.00	6.00	62.00	****
9.50	4.00	66.00	*****
10.00	6.00	72.00	*****
10.50	8.00	80.00	*****
11.00	9.00	89.00	*****
11.50	7.00	96.00	*****
12.00	4.00	100.00	****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.49	2.05	.05	-1.33	KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI
8.65	2.22	.08	.66	FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES	MEDIAN	8.50	5TH	5.57	16TH	6.21	25TH	6.71
			75TH	10.69	84TH	11.22	95TH	11.93
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
			(SEDIGRAPH)	45.00	(SEDIGRAPH)	55.00		
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	45.00	PCT. GRAV+SAND/SILT+CLAY	.00			
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/11/83

PHI	PCT.	CUMPCT.	
5.00	0.00	0.00	
4.00	.51	.51	*
4.50	1.52	2.02	**
5.00	4.04	6.06	****
5.50	8.08	14.14	*****
6.00	7.07	21.21	*****
6.50	7.07	28.28	*****
7.00	8.08	36.36	*****
7.50	6.06	42.42	*****
8.00	6.06	48.48	*****
8.50	5.05	53.54	*****
9.00	6.06	59.60	*****
9.50	5.05	64.65	*****
10.00	5.05	69.70	*****
10.50	5.05	74.75	*****
11.00	6.06	80.81	*****
11.50	4.04	84.85	*****
12.00	15.15	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.20 2.01 .08 -1.12 KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.65	5TH	5.37	16TH	6.13	25TH	6.77
			75TH	11.02	84TH	11.90	95TH	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	42.42	(SEDIGRAPH)	57.58	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	42.42	PCT.GRAV+SAND/SILT+CLAY			.00	

LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD (SCS)-MUD

02/11/83

PHI	PCT. CUM.PCT.	
0	0.00	
4.00	0.00	
4.50	1.01	*
5.00	1.01	*
5.50	2.02	*****
6.00	5.05	*****
6.50	7.07	*****
7.00	8.08	*****
7.50	15.15	*****
8.00	8.08	*****
8.50	23.23	*****
9.00	6.06	*****
9.50	29.29	*****
10.00	10.10	*****
10.50	39.39	*****
11.00	5.05	*****
11.50	44.44	*****
12.00	6.06	*****
12.50	50.51	*****
13.00	7.07	*****
13.50	57.58	*****
14.00	7.07	*****
14.50	64.65	*****
15.00	6.06	*****
15.50	70.71	*****
16.00	5.56	*****
16.50	76.26	*****
17.00	4.55	*****
17.50	80.81	*****
18.00	4.55	*****
18.50	85.35	*****
19.00	3.54	*****
19.50	88.89	*****
20.00	11.11	*****
20.50	100.00	

MEAN ST.DEV. SKEWNESS KURTOSIS

8.11 1.95 .07 -1.03

KRUMBEIN + PETTIJOHN (1936) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.46	5TH	5.30	16TH	6.05	25TH	6.65
			75TH	10.39	84TH	11.35	95TH	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	44.44	(SEDIGRAPH)	55.56	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	44.44	PCT.GRAV+SAND/SILT+CLAY	.00			
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/11/83

PHI	PCT. CUM PCT.	
5.00	0.00	
4.00	1.01	*
4.50	1.01	*
5.00	2.02	****
5.50	6.06	*****
6.00	13.13	*****
6.50	22.22	*****
7.00	28.28	*****
7.50	36.36	*****
8.00	42.42	*****
8.50	47.47	*****
9.00	53.54	*****
9.50	58.59	*****
10.00	64.65	*****
10.50	70.71	*****
11.00	75.76	*****
11.50	84.85	*****
12.00	92.42	*****
*****	100.00	

MEAN ST.DEV. SKEWNESS KURTOSIS

8.47 2.12 .01 -1.25

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN 8.71	5TH 5.37	16TH 6.15	25TH 6.73
		75TH 10.93	84TH 11.45	95TH*****

PCT. GRAVEL	.00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00
			(SEDIGRAPH) 42.42	(SEDIGRAPH) 57.58

GRAVEL+SAND	.00	SILT/(SILT+CLAY)	42.42	PCT.GRAV+SAND/SILT+CLAY	.00
-------------	-----	------------------	-------	-------------------------	-----

LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD (SCS)-MUD

02/11/83

PHI	PCT. CUMPCT.	
0	0.00	
4.00	0.00	0.00
4.50	0.00	0.00
5.00	1.01	1.01
5.50	4.04	5.05
6.00	7.07	12.12
6.50	7.07	19.19
7.00	6.06	25.25
7.50	8.08	33.33
8.00	6.06	39.39
8.50	5.05	44.44
9.00	6.06	50.51
9.50	6.06	56.57
10.00	5.05	61.62
10.50	7.07	68.69
11.00	6.06	74.75
11.50	13.13	87.88
0	8.08	95.96
****	4.04	100.00

MEAN ST.DEV. SKEWNESS KURTOSIS

8.73	2.10	-.05	-1.32	KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI
8.86	2.25	-.07	.66	FOLK GRAPHIC STATISTICAL PARAMETERS FOLK AND WARD, 1957

PERCENTILES	MEDIAN	8.96	5TH	5.49	16TH	6.27	25TH	6.98
			75TH	11.01	84TH	11.35	95TH	11.94
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
			(SEDIGRAPH)	39.39	(SEDIGRAPH)	60.61		
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	39.39	PCT.GRAV+SAND/SILT+CLAY	.00			
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/11/83

PHI	PCT. CUM PCT.	
0	0.00	
4.00	0.00	
4.50	.51	*
5.00	.51	*
5.50	1.52	**
6.00	3.05	***
6.50	6.09	*****
7.00	8.12	*****
7.50	8.12	*****
8.00	6.09	*****
8.50	6.09	*****
9.00	7.11	*****
9.50	6.09	*****
10.00	6.09	*****
10.50	6.09	*****
11.00	7.11	*****
11.50	7.11	*****
12.00	5.08	*****
12.50	15.23	*****
13.00	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.68 1.88 -.02 -1.07 KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	9.23	5TH	5.90	16TH	6.77	25TH	7.32	
			75TH	11.17	84TH	11.92	95TH	*****	
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00		
				(SEDIGRAPH)	34.01	(SEDIGRAPH)	65.99		
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	34.01	PCT.GRAV+SAND/SILT+CLAY			.00		
LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD				(SCS)-MUD					

02/11/83

PHI	PCT. CUMPCT.	
4.00	0.00	0.00
4.50	.51	*
5.00	1.52	.51
5.50	2.02	**
6.00	5.05	2.02
6.50	8.08	4.04
7.00	8.08	9.09
7.50	8.08	17.17
8.00	6.06	25.25
8.50	6.06	33.33
9.00	6.06	39.39
9.50	5.05	45.45
10.00	6.06	51.52
10.50	6.57	56.57
11.00	1.52	62.63
11.50	11.11	69.19
12.00	2.02	70.71
12.50	16.16	81.82
13.00	100.00	83.84

MEAN ST.DEV. SKEWNESS KURTOSIS

8.36 1.94 .04 -1.11 KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.88	5TH	5.60	15TH	6.43	25TH	6.98
			75TH	11.19	84TH	*****	95TH	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	39.39	(SEDIGRAPH)	60.61	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	39.39	PCT.GRAV+SAND/SILT+CLAY			.00	
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/11/83

PHI	PCT. CUM PCT.	
5.00	0.00	
4.00	0.00	
4.50	1.00	*
5.00	2.00	**
5.50	3.00	*****
6.00	8.00	*****
6.50	15.00	*****
7.00	23.00	*****
7.50	30.00	*****
8.00	37.00	*****
8.50	43.00	*****
9.00	49.00	*****
9.50	55.00	*****
10.00	61.00	*****
10.50	66.00	****
11.00	70.00	*****
11.50	75.00	*****
12.00	80.00	****
12.50	84.00	*****
13.00	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.08 2.02 .09 -1.06

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN 8.58	5TH 5.20	16TH 6.05	25TH 6.64
		75TH 11.00	84TH 12.00	95TH*****
PCT. GRAVEL	.00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00
			(SEDIGRAPH) 43.00	(SEDIGRAPH) 57.00
GRAVEL+SAND	.00	SILT/(SILT+CLAY) 43.00	PCT.GRAV+SAND/SILT+CLAY	.00
LABELS SHEPARD	-SILTY CLAY	FOLK (GMS)-MUD		(SCS)-MUD

02/11/83

PHI	PCT. CUMFCT.		
0	0.00	0.00	
4.00	.51		*
4.50	1.52	.51	**
5.00	5.05	2.02	*****
5.50	6.06	7.07	*****
6.00	6.06	13.13	*****
6.50	7.07	19.19	*****
7.00	8.08	26.26	*****
7.50	7.07	34.34	*****
8.00	7.07	41.41	*****
8.50	8.08	48.48	*****
9.00	6.06	56.57	*****
9.50	7.07	62.63	*****
10.00	5.05	69.70	*****
10.50	5.05	74.75	*****
11.00	5.05	79.80	*****
11.50	3.03	84.85	***
0	12.12	87.88	*****
*****	100.00		

MEAN ST.DEV. SKEWNESS KURTOSIS

8.22 1.90 .03 -.98 KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES
FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.59	5TH	5.30	16TH	6.24	25TH	6.91
			75TH	10.53	84TH	11.42	95TH	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	41.41	(SEDIGRAPH)	58.59	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	41.41	PCT.GRAV+SAND/SILT+CLAY	.00			
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				

02/11/83

PHI	PCT. CUMPCT.	
0	0.00	
0.50	0.00	
1.00	1.00	*
1.50	1.00	*
2.00	2.00	***
2.50	3.00	***
3.00	5.00	*****
3.50	6.00	*****
4.00	11.00	*****
4.50	8.00	*****
5.00	19.00	*****
5.50	6.00	*****
6.00	25.00	*****
6.50	8.00	*****
7.00	33.00	*****
7.50	7.00	*****
8.00	40.00	*****
8.50	6.00	*****
9.00	46.00	*****
9.50	7.00	*****
10.00	53.00	*****
10.50	6.00	*****
11.00	59.00	*****
11.50	6.00	*****
12.00	65.00	*****
12.50	7.00	*****
13.00	72.00	*****
13.50	6.00	*****
14.00	78.00	*****
14.50	5.00	*****
15.00	83.00	*****
15.50	4.00	*****
16.00	87.00	*****
16.50	13.00	*****
17.00	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.35 1.94 .01 -1.05 KROMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.79	5TH	5.50	16TH	6.31	25TH	7.00
			75TH	10.75	84TH	11.63	95TH	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	40.00	(SEDIGRAPH)	60.00	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	40.00	PCT. GRAV+SAND/SILT+CLAY			.00	
LABELS SHEPARD -SILTY CLAY FOLK(GMS)-MUD				(SCS)-MUD				

02/11/83

PHI	PCT. CUM PCT.	
5.00	0.00	0.00
4.00	0.00	0.00
4.50	2.00	**
5.00	5.00	*****
5.50	7.00	*****
6.00	15.00	*****
6.50	25.00	*****
7.00	32.00	*****
7.50	41.00	*****
8.00	48.00	*****
8.50	54.00	*****
9.00	61.00	*****
9.50	66.00	*****
10.00	72.00	*****
10.50	77.00	*****
11.00	81.00	*****
11.50	86.00	*****
12.00	90.00	*****
12.50	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.04 1.95 .14 -1.02

KRUMBEIN + PETTIJHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN 8.17	5TH 5.30	15TH 6.05	25TH 6.50
		75TH 10.30	84TH 11.30	95TH*****
PCT. GRAVEL .00	SAND 0.00	SILT (PIPETTE) 0.00	CLAY (PIPETTE) 0.00	
		(SEDIGRAPH) 48.00	(SEDIGRAPH) 52.00	
GRAVEL+SAND .00	SILT/(SILT+CLAY) 48.00	PCT.GRAV+SAND/SILT+CLAY .00		
LABELS SHEPARD -SILTY CLAY		FOLK(GMS)-MUD		(SCS)-MUD

PHI PCT. CUMPCT.

02/11/83

5.00	0.00	0.00	
4.50	0.00	0.00	
5.00	1.01	1.01	*
5.50	4.04	5.05	*****
6.00	8.08	13.13	*****
6.50	9.09	22.22	*****
7.00	7.07	29.29	*****
7.50	9.09	38.38	*****
8.00	6.06	44.44	*****
8.50	6.06	50.51	*****
9.00	7.07	57.58	*****
9.50	7.07	64.65	*****
10.00	5.05	69.70	*****
10.50	5.05	74.75	*****
11.00	5.05	79.80	*****
11.50	4.04	83.84	****
12.00	3.03	86.87	***
13.13	13.13	100.00	*****

MEAN ST.DEV. SKEWNESS KURTOSIS

8.10 1.88 .12 -1.03

KRUMBEIN + PETTIJOHN (1938) MOMENT MEASURES FOR SIZE RANGE 4.0 TO 12.0 PHI

> 5 PERCENT OF THE FINES ARE NOT RESOLVED, OBTAIN FOLK STATS. GRAPHICALLY

PERCENTILES	MEDIAN	8.46	5TH	5.49	16TH	6.15	25TH	6.70
			75TH	10.53	84TH	11.53	95TH	*****
PCT. GRAVEL	.00	SAND	0.00	SILT (PIPETTE)	0.00	CLAY (PIPETTE)	0.00	
				(SEDIGRAPH)	44.44	(SEDIGRAPH)	55.56	
GRAVEL+SAND	.00	SILT/(SILT+CLAY)	44.44	PCT.GRAV+SAND/SILT+CLAY			.00	
LABELS SHEPARD	-SILTY CLAY	FOLK(GMS)-MUD		(SCS)-MUD				