PNEUMATIC HAMMER CORE **CORE # G-37**

PROJECT: Galveston Island Beach Replenishment

STATE PLANNING COORDINATES
3353969.31
556844.45

LAT./LONG COORDINATES
29°17.832° N
094°45.059° W

WATER DEPTH
21'4"

DATE
5/18/94

START TIME
1005

END TIME
1008

CORE DIAMETER
3"

LENGTH OF BARREL
20 '

PENETRATION DEPTH
13'11"

LENGTH RECOVERED
12'5"

SUPPORT VESSEL:
R/V Lonestar

POSITIONING:
Trimble Differential GPS

ANALYSIS BY:
M. Hamilton
Rice University

ANALYSIS METHODS:
Visual Logging
Auto. Settling Tube

DEPTH CM.	DEPTH IN.		LITHOLOGY	DESCRIPTION	GRAIN SIZE (PHI) MEAN	%SAND	%MUD
32	12			Very fine sand; moderate bioturbation 5Y6/1	2.62	93.74	6.26
64	24	24		Clay 5Y4/1			
		28		Laminated (textural) very fine sand 5Y6/1			
96	36	36		Interlaminated clayey sand, sandy clay, clay S:C=20:80			
		45					
128	48	53		Laminated (textural) very fine sand 5Y6/1	3.00	97.07	2.93
160	60			Clay with occasional lams of clayey sand 5Y4/1			
192	72	81		Very fine sand; shell frags t/o 5Y6/1			
224	84			Clay 5Y4/1			
256	96	101		Very fine sand; shell frags t/o 5Y6/1			
288	108	118		Primarily clay with very thin lams of sandy clay	2.81	97.42	2.43
320	120			Interlaminated clay, clayey sand, and muddy sand S:C=20:80			
352	132	138					
384	144			Clay 5Y4/1			
416	156	154		Muddy sand; moderate bioturbation 5Y6/1			
448	168						
480	180						
	192						

SAND | MUDDY SAND | MUDDY SAND/CLAY INTERLAM. | MUDDY SAND/CLAY INTERBEDS | CLAYEY SAND | SANDY CLAY

SHELLY SAND | SHELL HASH | CLAY | MUD

File	c	t65037.dat	Date	06-28-1994	
Sample name	g-37-1'				
Data collected on	6/28/94				
Total settling time (min)	8.083333				
Settling distance (cm)	140				
Water temperature (degrees C)	21				
	CUMULATIVE WEIGHT %			INDIVIDUAL WEIGHT %	
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9983899	5.160407	1.5			
-0.8741565	5.519304	4.2	-1	-0.875	2.7
-0.7497373	5.912152	4.2	-0.875	-0.75	0
-0.6249025	6.343801	4.2	-0.75	-0.625	0
-0.4996436	6.819101	12	-0.625	-0.5	7.8
-0.3741167	7.342902	12	-0.5	-0.375	0
-0.2495951	7.915204	12	-0.375	-0.25	0
-0.1243118	8.550557	12.5	-0.25	-0.125	0.5
2.51E-04	9.248951	12.5	-0.125	0	0
0.1252035	10.02496	12.5	0	0.125	0
0.2504074	10.88826	12.5	0.125	0.25	0
0.3755682	11.84856	12.5	0.25	0.375	0
0.5002926	12.91556	12.5	0.375	0.5	0
0.6251016	14.10865	12.5	0.5	0.625	0
0.7501019	15.44726	12.5	0.625	0.75	0
0.8750971	16.95067	16.5	0.75	0.875	4
1.000072	18.64336	16.5	0.875	1	0
1.125025	20.55427	16.5	1	1.125	0
1.250206	22.72218	16.5	1.125	1.25	0
1.375222	25.18113	16.5	1.25	1.375	0
1.500138	27.9796	16.5	1.375	1.5	0
1.625023	31.17583	16.5	1.5	1.625	0
1.750034	34.84249	16.5	1.625	1.75	0
1.875017	39.05711	16.5	1.75	1.875	0
2.000092	43.92166	16.5	1.875	2	0
2.125015	49.54277	16.5	2	2.125	0
2.250037	56.07092	16.5	2.125	2.25	0
2.375007	63.66588	16.5	2.25	2.375	0
2.500056	72.53645	16.5	2.375	2.5	0
2.625015	82.9105	16.5	2.5	2.625	0
2.750009	95.08424	20.4	2.625	2.75	3.9
2.875026	109.4013	20.4	2.75	2.875	0
3.000012	126.2651	20.4	2.875	3	0
3.125005	146.1695	30.8	3	3.125	10.4
3.250022	169.7019	45.8	3.125	3.25	15
3.375003	197.5455	62.5	3.25	3.375	16.7
3.500006	230.5401	84.8	3.375	3.5	22.3
3.625005	269.6649	84.8	3.5	3.625	0
3.75001	316.0943	84.8	3.625	3.75	0
3.875005	371.2144	84.8	3.75	3.875	0
4.000007	436.6894	84.8	3.875	4	0

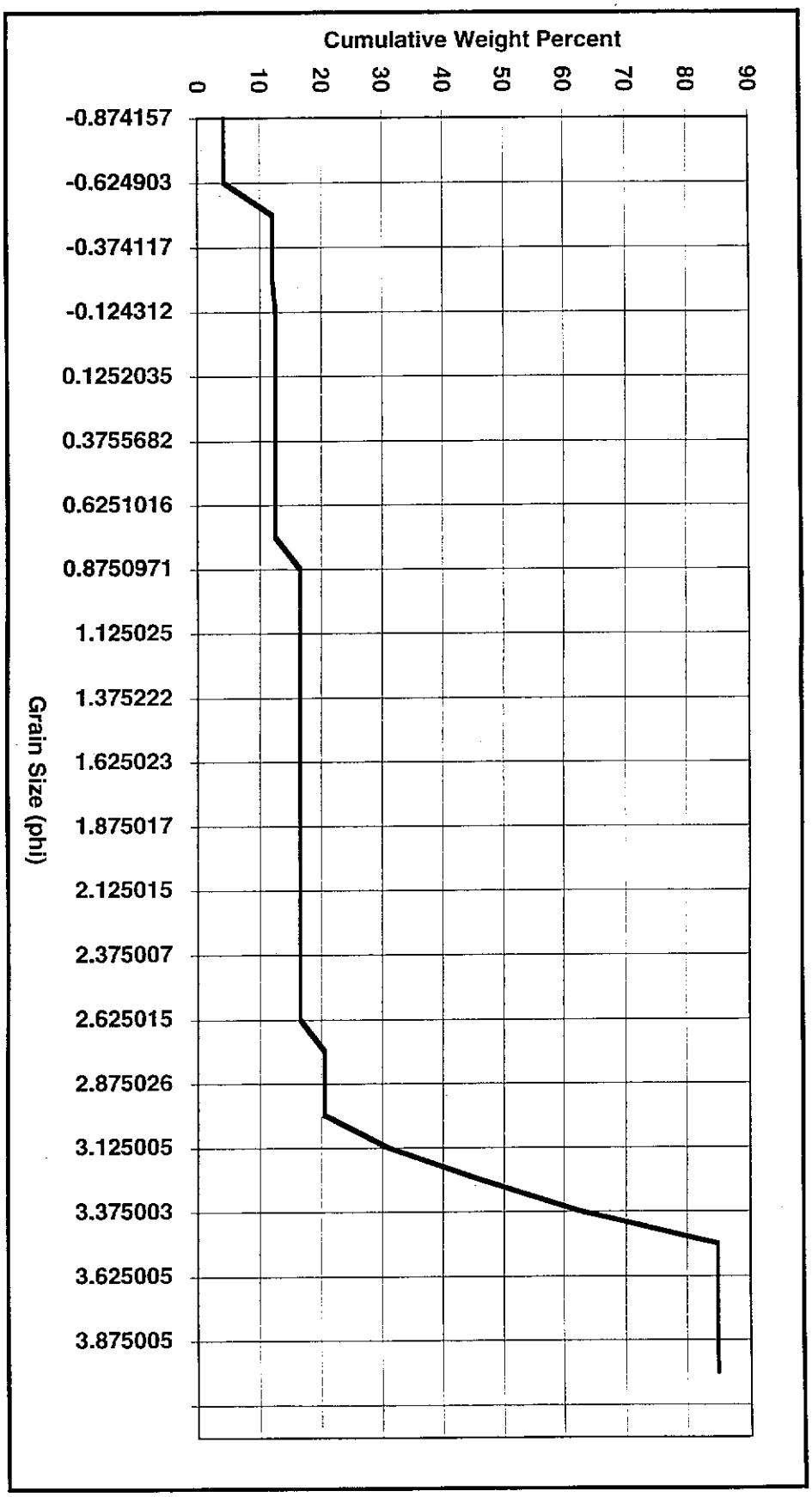
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)		
	.125 CHI	.125 PHI
Mean	6.326009	2.621324
Standard deviation	1.726563	1.38582
Skewness	-1.814467	-1.745285
Kurtosis	4.666644	4.309913

GRAPHIC MEASURES (Folk and Ward, 1957)		
	.125 CHI	.125 PHI
Mean	5.934009	2.51566
Standard deviation	1.863507	1.353338
Skewness	-0.6740234	-0.7566145
Kurtosis	2.218317	2.824663

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	1.781851	5.81048	2.57512	8.333346 ;
2	0.3329409	8.230518	3.971035	6.250027 ;
3	0.6128658	7.350213	3.492635	6.250027 ;
4	0.8018327	6.962483	3.273595	6.250025 ;
5	4.810997	4.377521	1.545851	6.250005 ;

PARAMETERS USED				
Number of data points	1000			
Gibbs eq. constants	0.055804	0.003114	4.5	8.71E-03
Dynamic viscosity (poises)	0.01			
Acceleration of gravity (cm/s)	979.21			
Fluid density (g/ml)	0.998			
Particle density (g/cm3)	2.65			
Size conversion using Komar FORAM correction, RD	0.9859			


Cumulative Weight Percent
0
10
20
30
40
50
60
70
80
90
Grain Size (phi)
-0.874157
-0.624903
-0.374117
-0.124312
0.1252035
0.3755682
0.6251016
0.8750971
1.125025
1.375222
1.625023
1.875017
2.125015
2.375007
2.625015
2.875026
3.125005
3.375003
3.625005
3.875005

65037

T66037.ASCxls

File	c	t66037.dat	Date	06-28-1994	
Sample name	g-37-4'3"				
Date collected on	6/28/94				
Total settling time (min)	8.066667				
Settling distance (cm)	140				
Water temperature (degrees C)	21				
	CUMULATIVE WEIGHT %			INDIVIDUAL WEIGHT %	
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9987372	5.159447	13.3			
-0.8747199	5.517604	13.3	-1	-0.875	0
-0.7490318	5.914483	13.3	-0.875	-0.75	0
-0.6245047	6.345241	13.3	-0.75	-0.625	0
-0.4995278	6.819561	13.3	-0.625	-0.5	0
-0.3742583	7.342282	13.3	-0.5	-0.375	0
-0.2499682	7.913404	13.3	-0.375	-0.25	0
-0.1248957	8.547447	13.3	-0.25	-0.125	0
3.00E-04	9.249241	13.3	-0.125	0	0
0.125003	10.02365	13.3	0	0.125	0
0.2506482	10.89001	13.3	0.125	0.25	0
0.3755397	11.84833	13.3	0.25	0.375	0
0.5000237	12.91313	13.3	0.375	0.5	0
0.625097	14.1086	20	0.5	0.625	6.7
0.7502809	15.44929	20	0.625	0.75	0
0.8750191	16.94968	20	0.75	0.875	0
1.000091	18.64364	20	0.875	1	0
1.125097	20.55544	20	1	1.125	0
1.250028	22.71888	20	1.125	1.25	0
1.375058	25.17768	20	1.25	1.375	0
1.500153	27.97997	20	1.375	1.5	0
1.625151	31.17932	20	1.5	1.625	0
1.750058	34.84326	20	1.625	1.75	0
1.875066	39.05887	20	1.75	1.875	0
2.00001	43.91824	20	1.875	2	0
2.125005	49.54228	20	2	2.125	0
2.250048	56.07149	20	2.125	2.25	0
2.375071	63.67005	20	2.25	2.375	0
2.500061	72.53685	20	2.375	2.5	0
2.625054	82.91396	20	2.5	2.625	0
2.750031	95.08652	20	2.625	2.75	0
2.875004	109.3985	20	2.75	2.875	0
3.000021	126.2663	27.5	2.875	3	7.5
3.125024	146.1729	33.3	3	3.125	5.799999
3.250015	169.7004	55.9	3.125	3.25	22.6
3.37502	197.5495	73.3	3.25	3.375	17.4
3.500002	230.539	84.5	3.375	3.5	11.2
3.625007	269.6655	84.5	3.5	3.625	0
3.750002	316.0906	86.7	3.625	3.75	2.199997
3.875004	371.2139	86.7	3.75	3.875	0
4.000007	436.6891	86.7	3.875	4	0

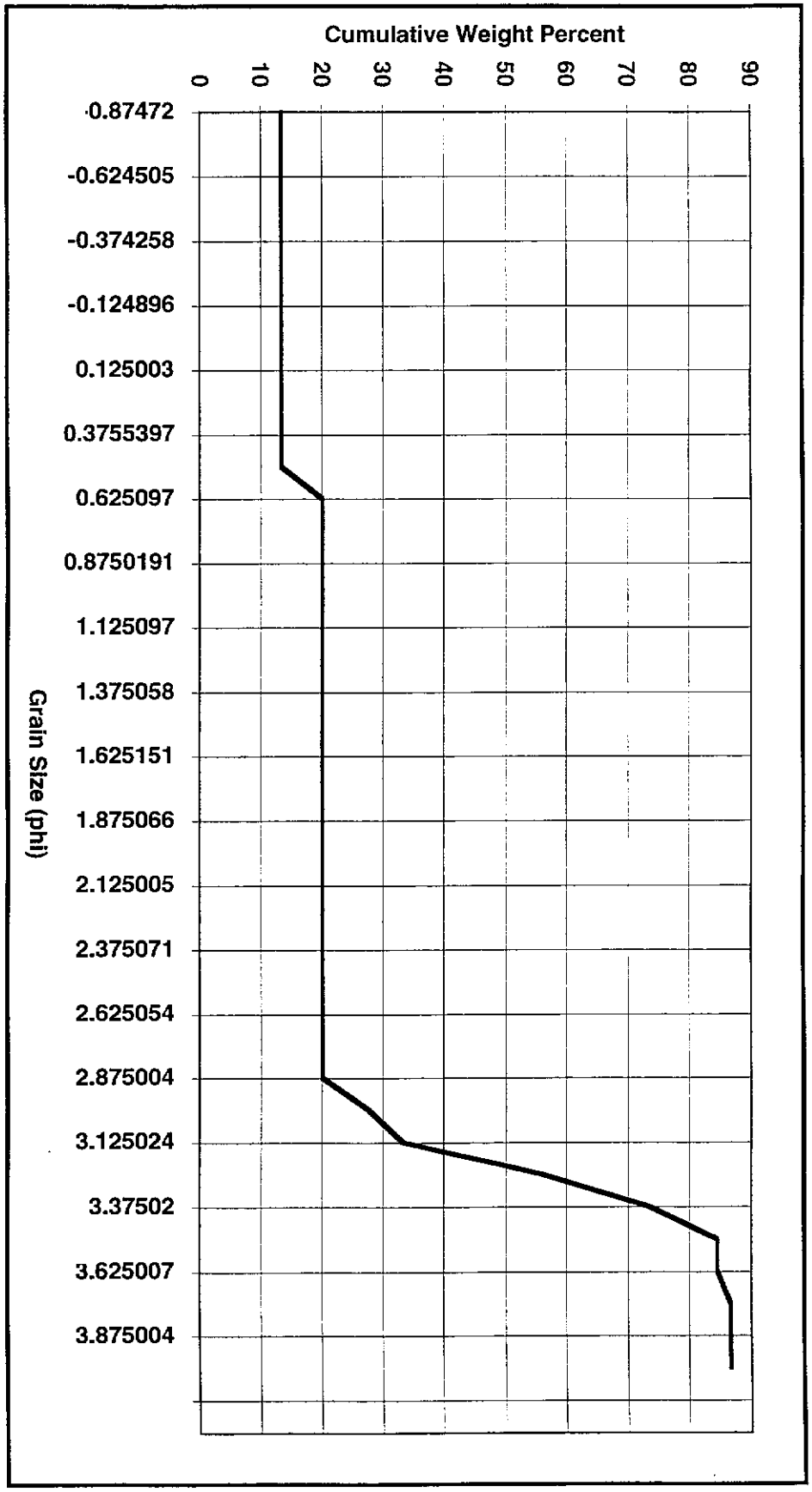
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)	.125 CHI	.125 PHI
Mean	6.410596	2.995232
Standard deviation	1.275995	0.7876343
Skewness	-1.306466	-2.622246
Kurtosis	3.835865	8.34761

GRAPHIC MEASURES (Folk and Ward, 1957)	.125 CHI	.125 PHI
Mean	5.712077	2.355235
Standard deviation	2.533928	2.707911
Skewness	-0.9171941	-1.002785
Kurtosis	2.183121	4.366268

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	0.7416826	7.074982	3.337801	10.00004
2	1.112524	6.49002	2.997102	10.00001
3	0.296369	8.39839	4.060049	6.666698
4	0.314751	8.311573	4.014086	6.666698
5	0.3796013	8.041299	3.869974	6.666698

PARAMETERS USED				
Number of data points	1000			
Gibbs eq. constants	0.055804	0.003114	4.5	6.71E-03
Dynamic viscosity (poises)	0.01			
Acceleration of gravity (cm/s)	979.21			
Fluid density (g/ml)	0.998			
Particle density (g/cm3)	2.65			
Size conversion using Komar FORAM correction, RD	0.9859			


Cumulative Weight Percent
0
10
20
30
40
50
60
70
80
90
Grain Size (phi)
-0.87472
-0.624505
-0.374258
-0.124896
0.125003
0.3755397
0.625097
0.8750191
1.125097
1.375058
1.625151
1.875066
2.125005
2.375071
2.625054
2.875004
3.125024
3.37502
3.625007
3.875004

66037

File	c	t67037.dat	Date	06-28-1994	
Sample name	g-37-9'9"				
Data collected on	6/28/94				
Total settling time (min)	8.083333				
Settling distance (cm)	140				
Water temperature (degrees C)	21				
	CUMULATIVE WEIGHT %			INDIVIDUAL WEIGHT %	
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9983899	5.160407	20.8			
-0.8741565	5.519304	26.8	-1	-0.875	6
-0.7497373	5.912152	28.6	-0.875	-0.75	1.800001
-0.6249025	6.343801	28.6	-0.75	-0.625	0
-0.4996436	6.819101	28.6	-0.625	-0.5	0
-0.3741167	7.342902	28.6	-0.5	-0.375	0
-0.2495951	7.915204	28.6	-0.375	-0.25	0
-0.1243118	8.550557	28.6	-0.25	-0.125	0
2.51E-04	9.248951	28.6	-0.125	0	0
0.1252035	10.02496	28.6	0	0.125	0
0.2504074	10.88826	28.6	0.125	0.25	0
0.3755682	11.84856	28.6	0.25	0.375	0
0.5002926	12.91556	28.6	0.375	0.5	0
0.6251016	14.10865	28.6	0.5	0.625	0
0.7501019	15.44726	28.6	0.625	0.75	0
0.8750971	16.95067	28.6	0.75	0.875	0
1.000072	18.64336	28.6	0.875	1	0
1.125025	20.55427	28.6	1	1.125	0
1.250206	22.72218	28.6	1.125	1.25	0
1.375222	25.18113	28.6	1.25	1.375	0
1.500138	27.9796	28.6	1.375	1.5	0
1.625023	31.17583	28.6	1.5	1.625	0
1.750034	34.84249	28.6	1.625	1.75	0
1.875017	39.05711	28.6	1.75	1.875	0
2.000092	43.92166	31.2	1.875	2	2.6
2.125015	49.54277	31.2	2	2.125	0
2.250037	56.07092	31.2	2.125	2.25	0
2.375007	63.66588	31.2	2.25	2.375	0
2.500056	72.53645	31.2	2.375	2.5	0
2.625015	82.9105	31.2	2.5	2.625	0
2.750009	95.08424	31.2	2.625	2.75	0
2.875026	109.4013	31.2	2.75	2.875	0
3.000012	126.2651	31.2	2.875	3	0
3.125005	146.1695	47.6	3	3.125	16.4
3.250022	169.7019	57.1	3.125	3.25	9.5
3.375003	197.5455	71.4	3.25	3.375	14.3
3.500006	230.5401	81	3.375	3.5	9.599998
3.625005	269.6649	85.7	3.5	3.625	4.699997
3.75001	316.0943	90.5	3.625	3.75	4.800003
3.875005	371.2144	93.4	3.75	3.875	2.900002
4.000007	436.6894	93.4	3.875	4	0

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

	.125 CHI	.125 PHI
Mean	5.06913	2.814394
Standard deviation	2.541341	1.332592
Skewness	-0.6521419	-2.279583
Kurtosis	1.501017	6.602741

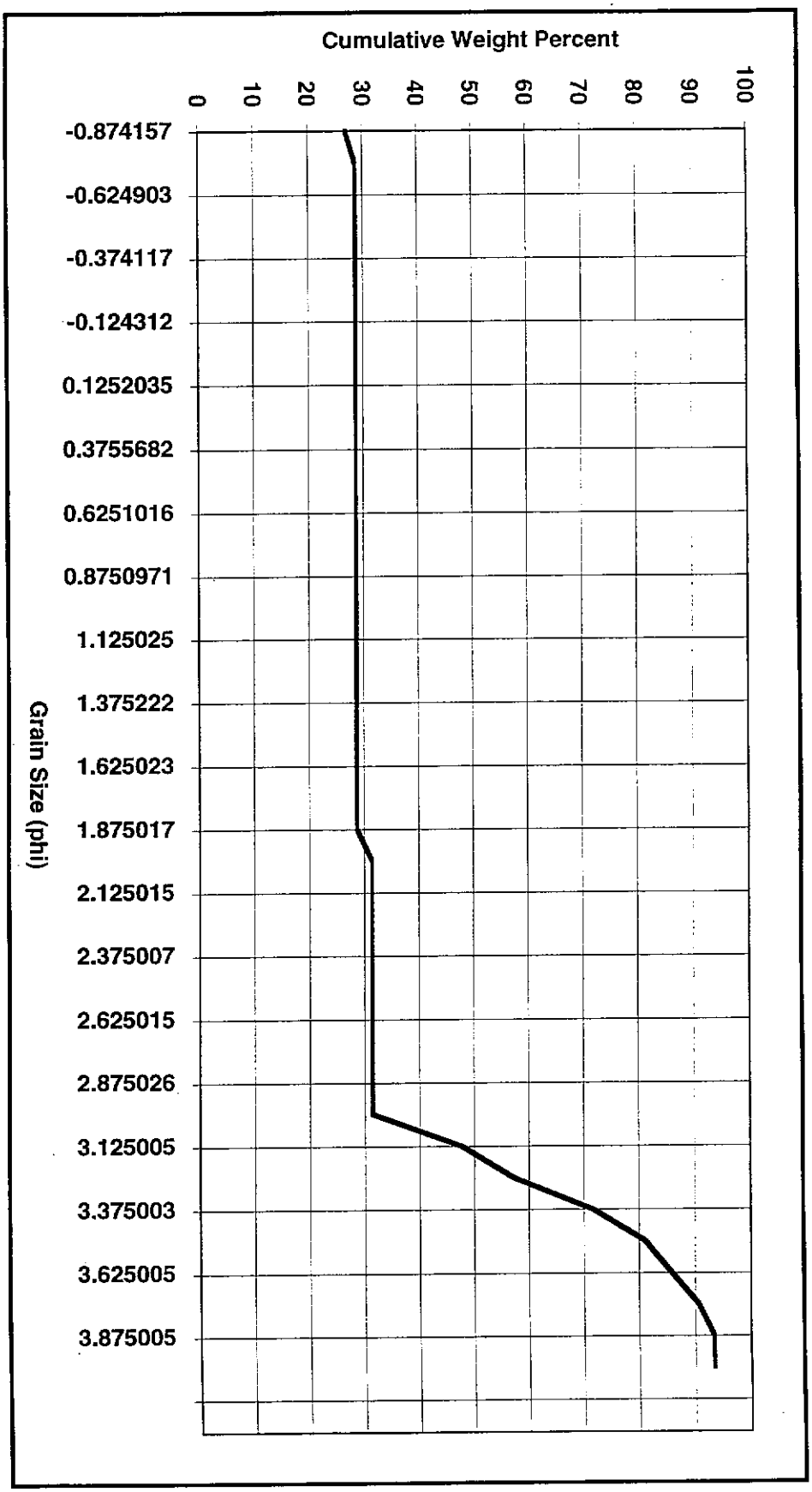
GRAPHIC MEASURES (Folk and Ward, 1957)

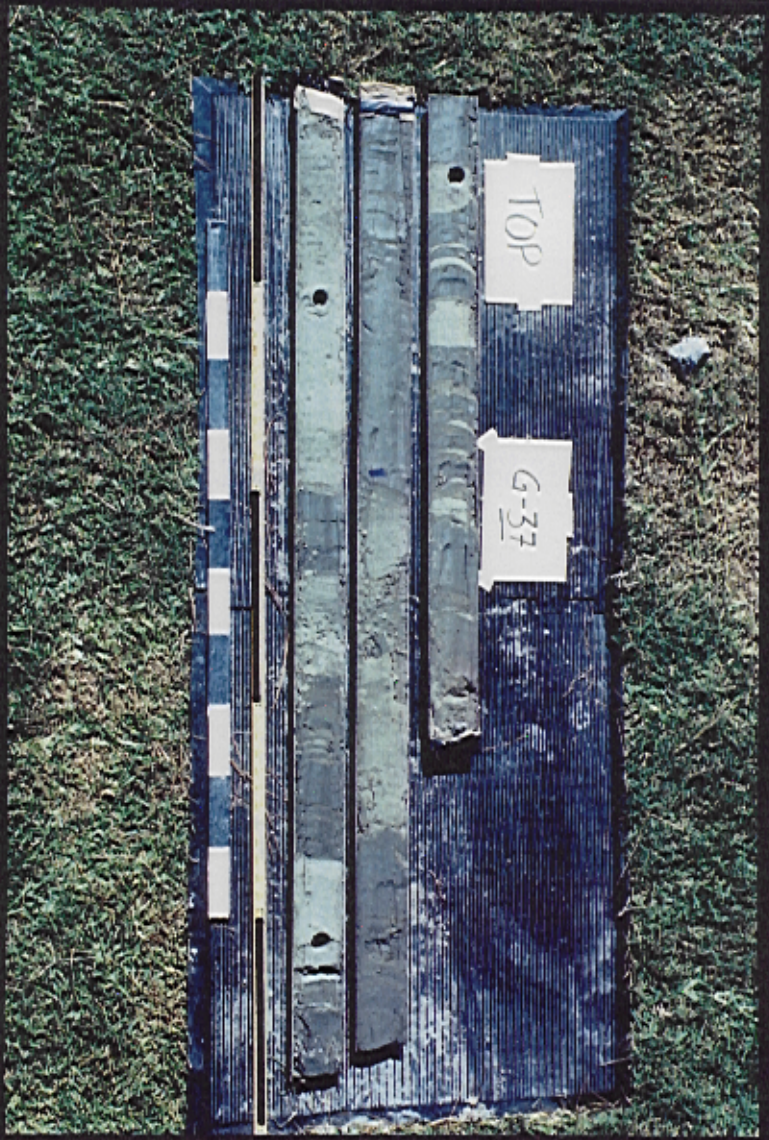
	.125 CHI	.125 PHI
Mean	5.124234	1.719909
Standard deviation	2.207487	1.89353
Skewness	-0.8396207	-0.8996751
Kurtosis	0.4791124	0.4940363

MODES

Number	Velocity	CHI	PHI	Freq. %
1	0.4153378	7.911499	3.800152	7.142883 ;
2	0.3900808	8.002011	3.848885	7.142879 ;
3	0.7616353	7.036684	3.316007	7.142879 ;
4	0.7865389	6.990266	3.289504	7.142879 ;
5	0.9785078	6.675201	3.106889	7.14286 ;

PARAMETERS USED				
Number of data points	*1000*			
Gibbs eq. constants	*0.055804*	*0.003114*	*4.5*	*8.71E-03*
Dynamic viscosity (poises)	*0.01*			
Acceleration of gravity (cm/s)	*979.21*			
Fluid density (g/ml)	*0.998*			
Particle density (g/cm3)	*2.65*			
Size conversion using Komar FORAM correction, RD	*0.9859*			


Cumulative Weight Percent
0
10
20
30
40
50
60
70
80
90
100
Grain Size (phi)
-0.874157
-0.624903
-0.374117
-0.124312
0.1252035
0.3755682
0.6251016
0.8750971
1.125025
1.375222
1.625023
1.875017
2.125015
2.375007
2.625015
2.875026
3.125005
3.375003
3.625005
3.875005


TOP
G-37