PNEUMATIC HAMMER CORE **CORE # G-7**

PROJECT: Galveston Island Beach Replenishment

STATE PLANNING COORDINATES
3340302.83
546951.51

LAT./LONG. COORDINATES
29°16.282° N
094°47.697° W

WATER DEPTH
20'4"

DATE
5/10/94

START TIME
1727

END TIME
1731

CORE DIAMETER
3"

LENGTH OF BARREL
20 '

PENETRATION DEPTH
14'11"

LENGTH RECOVERED
14'1"

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.	CONTACT	LITHOLOGY	DESCRIPTION	GRAIN SIZE (PHI) MEAN	%SAND	%MUD
				Very shelly muddy sand Heavy bioturbation 5YR5/1	2.86	82.86	9.35
32	12	12		Clay 5Y4/1			
64	24	13		Slightly muddy very fine sand to muddier sand near base 5Y6/1	3.14	85.28	14.72
96	36	32		Interbedded muddy sand and clay			
128	48	52		Slightly muddy very fine sand to clean sand near base, shells at base 5Y6/1	3.06	97.55	2.45
160	60	64		Interlaminated clay and muddy sand S:C=50:50			
192	72	77		Interbedded clay and muddy sand S:C=30:70			
224	84	91		Slightly muddy, very fine sand 5Y6/1			
256	96	108					
288	108			Interbedded (clayey sand and sandy clay) to interlaminated clayey sand and sandy clay S:C=30:70			
320	120	136		Muddy sand 5YR6/1			
352	132	140		Clay with v. thin laminae of muddy/clayey sand 5YR3/1			
384	144	149		Very fine sand with normal gradation of muddy to clean sand downunit	3.00	91.02	8.81
416	156	162		Clay 5Y5/1			
448	168	165		Muddy sand, gradational downunit to clean sand			
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	a	t10207.dat	Date	06-28-1994
Sample name	**g-7-.5'**			
Data collected on	6/15/94			
Total settling time (min)	10.08333			
Settling distance (cm)	140			

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9982994	5.160657	8.5			
-0.8747208	5.517602	11.9	-1	-0.875	3.4
-0.748297	5.916911	11.9	-0.875	-0.75	0
-0.624169	6.346457	14.7	-0.75	-0.625	2.8
-0.4998313	6.818354	15.3	-0.625	-0.5	0.6000004
-0.3737053	7.344702	15.3	-0.5	-0.375	0
-0.2499688	7.913401	15.3	-0.375	-0.25	0
-0.1246694	8.548652	15.3	-0.25	-0.125	0
5.06E-04	9.250454	15.3	-0.125	0	0
0.1251883	10.02486	15.3	0	0.125	0
0.2498167	10.89001	15.3	0.125	0.25	0
0.3752411	11.84591	15.3	0.25	0.375	0
0.5004252	12.91676	15.3	0.375	0.5	0
0.6250972	14.1086	15.3	0.5	0.625	0
0.750494	15.45171	15.3	0.625	0.75	0
0.8752092	16.9521	15.3	0.75	0.875	0
1.000263	18.64611	15.3	0.875	1	0
1.125242	20.5578	15.3	1	1.125	0
1.250291	22.72374	15.3	1.125	1.25	0
1.375171	25.18004	15.3	1.25	1.375	0
1.500206	27.98123	15.3	1.375	1.5	0
1.625015	31.1756	15.3	1.5	1.625	0
1.750015	34.84189	15.3	1.625	1.75	0
1.875066	39.05887	15.3	1.75	1.875	0
2.000126	43.92308	15.3	1.875	2	0
2.125031	49.54357	15.3	2.	2.125	0
2.250048	56.07149	15.3	2.125	2.25	0
2.375074	63.67023	15.3	2.25	2.375	0
2.500018	72.53357	15.3	2.375	2.5	0
2.625001	82.90919	15.3	2.5	2.625	0
2.750043	95.0878	15.3	2.625	2.75	0
2.875031	109.4019	15.3	2.75	2.875	0
3.000041	126.2693	26.8	2.875	3	11.5
3.12503	146.1739	48.8	3	3.125	22
3.250026	169.7028	70.7	3.125	3.25	21.9
3.375	197.5449	79.2	3.25	3.375	8.5
3.50001	230.5413	80.5	3.375	3.5	1.300003
3.625012	269.6671	85.4	3.5	3.625	4.900002
3.750011	316.0946	87.8	3.625	3.75	2.400002
3.875009	371.2162	90.2	3.75	3.875	2.399994
4.000007	436.6895	90.2	3.875	4	0
4.125002	514.4802	90.2	4	4.125	0

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

	.125 CHI	.125 PHI
Mean	5.943062	2.859164
Standard deviation	1.940401	1.122977
Skewness	-1.698511	-2.833783
Kurtosis	4.152488	9.519463

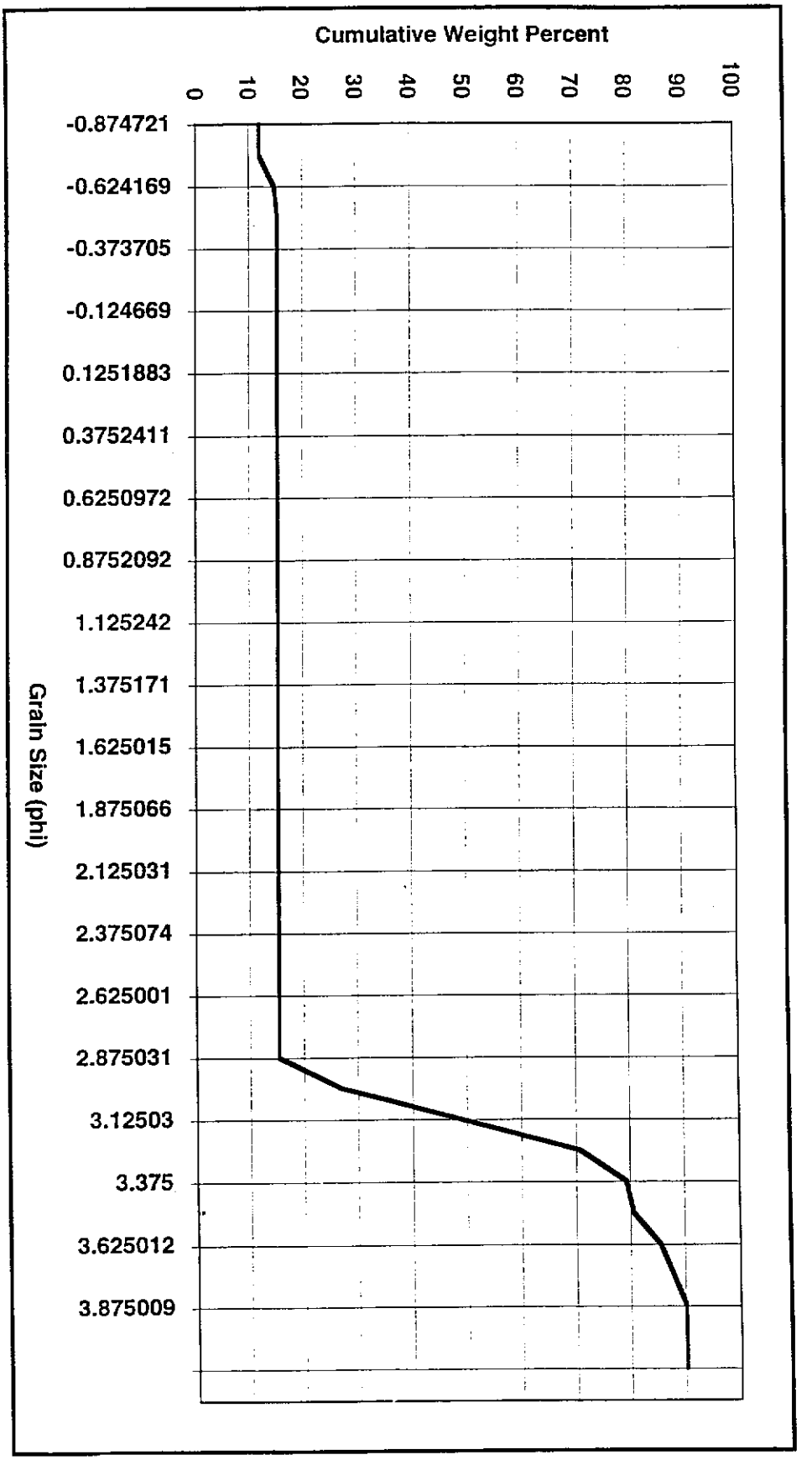
GRAPHIC MEASURES (Folk and Ward, 1957)

	.125 CHI	.125 PHI
Mean	5.399461	1.999251
Standard deviation	2.332716	1.849699
Skewness	-0.6242748	-0.7568051
Kurtosis	5.851658	7.85098

MODES

Number	Velocity	CHI	PHI	Freq. %
1	0.5496554	7.507257	3.579695	3.65855
2	23.1405	2.111508	-.7086125	3.658538
3	0.2951594	8.40429	4.063167	3.658527
4	0.2456528	8.669164	4.202505	2.439034
5	0.2562624	8.608163	4.170523	2.439034

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)
-0.874721
-0.624169
-0.373705
-0.124669
0.1251883
0.3752411
0.6250972
0.8752092
1.125242
1.375171
1.625015
1.875066
2.125031
2.375074
2.625001
2.875031
3.12503
3.375
3.625012
3.875009

File	a	t10307.dat	Date	06-28-1994
Sample name	**g-7-2'**			
Date collected on	6/15/94			
Total settling time (min)	10.1			
Settling distance (cm)	140			

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9995988	5.157067	8.6			
-0.873707	5.520661	11.3	-1	-0.875	2.7
-0.7490051	5.914571	11.3	-0.875	-0.75	0
-0.6246192	6.344827	11.5	-0.75	-0.625	0.1999998
-0.4985216	6.823564	11.5	-0.625	-0.5	0
-0.3737008	7.344722	11.5	-0.5	-0.375	0
-0.2497699	7.914361	11.5	-0.375	-0.25	0
-0.1242921	8.550662	11.5	-0.25	-0.125	0
1.53E-05	9.247563	11.5	-0.125	0	0
0.1258686	10.02931	11.5	0	0.125	0
0.2506245	10.88983	11.5	0.125	0.25	0
0.375414	11.84731	11.5	0.25	0.375	0
0.5001053	12.91386	11.5	0.375	0.5	0
0.625006	14.10768	11.5	0.5	0.625	0
0.7500741	15.44695	11.5	0.625	0.75	0
0.8750312	16.94983	11.5	0.75	0.875	0
1.000299	18.64663	11.5	0.875	1	0
1.125096	20.55543	11.5	1	1.125	0
1.250028	22.71889	11.5	1.125	1.25	0
1.375133	25.17924	11.5	1.25	1.375	0
1.500113	27.979	11.5	1.375	1.5	0
1.625126	31.17865	11.5	1.5	1.625	0
1.750112	34.84495	11.5	1.625	1.75	0
1.875008	39.05676	11.5	1.75	1.875	0
2.000123	43.92294	11.5	1.875	2	0
2.125095	49.54666	11.5	2	2.125	0
2.250079	56.07325	11.5	2.125	2.25	0
2.375015	63.66637	11.5	2.25	2.375	0
2.5	72.53223	11.5	2.375	2.5	0
2.625039	82.91265	11.5	2.5	2.625	0
2.750037	95.08716	11.5	2.625	2.75	0
2.875024	109.401	11.5	2.75	2.875	0
3.000019	126.266	24.3	2.875	3	12.8
3.125026	146.1732	40.4	3	3.125	16.1
3.250004	169.6982	59.6	3.125	3.25	19.2
3.375024	197.5505	76.9	3.25	3.375	17.3
3.500008	230.5408	79.7	3.375	3.5	2.799995
3.625005	269.6645	86.5	3.5	3.625	6.800003
3.750015	316.096	88.5	3.625	3.75	2
3.875012	371.2178	89.6	3.75	3.875	1.099998
4.000008	436.69	92.3	3.875	4	2.700005
4.125006	514.4825	96.2	4	4.125	3.899994

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

	.125 CHI	.125 PHI
Mean	6.310848	3.135131
Standard deviation	1.857535	0.8037622
Skewness	-2.085654	-4.127987
Kurtosis	6.015166	21.61331

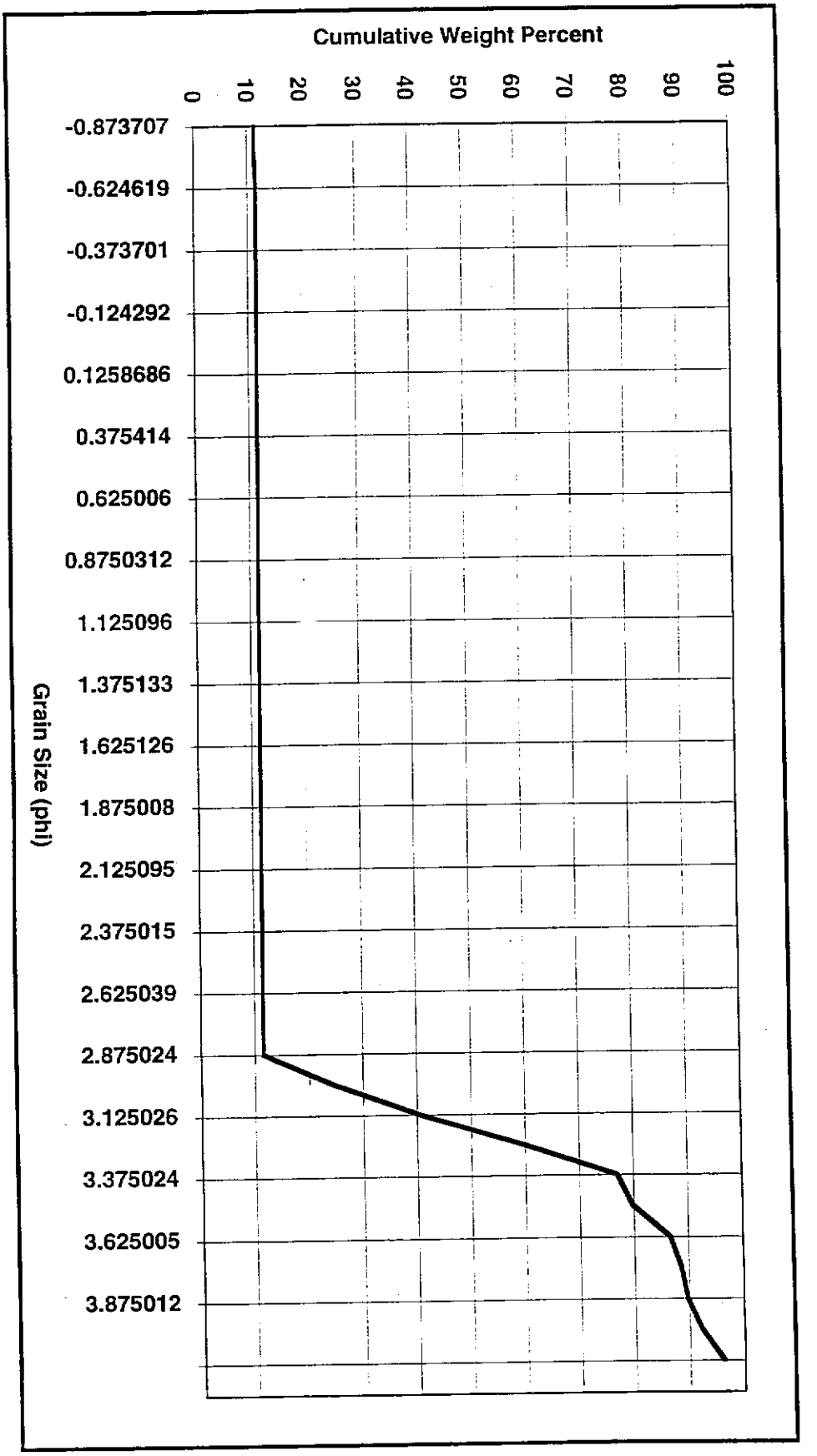
GRAPHIC MEASURES (Folk and Ward, 1957)

	.125 CHI	.125 PHI
Mean	6.870435	3.215497
Standard deviation	1.2059	0.9218554
Skewness	-0.2731208	-0.3522353
Kurtosis	4.04167	5.719222

MODES

Number	Velocity	CHI	PHI	Freq. %
1	0.8685079	6.847245	3.207218	2.884626
2	0.2655438	8.556834	4.143564	2.884624
3	1.452976	6.104846	2.761956	2.884617
4	28.87789	1.791963	-1.116111	2.884617
5	0.4639018	7.751965	3.713726	2.884609

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)
-0.873707
-0.624619
-0.373701
-0.124292
0.1258686
0.375414
0.625006
0.8750312
1.125096
1.375133
1.625126
1.875008
2.125095
2.375015
2.625039
2.875024
3.125026
3.375024
3.625005
3.875012

File	a	t10407.dat	Date	06-28-1994
Sample name	g-7-4.5'			
Data collected on	6/15/94			
Total settling time (min)	10.08333			
Settling distance (cm)	140			

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9982994	5.160657	3.3			
-0.8747208	5.517602	4.8	-1	-0.875	1.5
-0.748297	5.916911	4.8	-0.875	-0.75	0
-0.624169	6.346457	5.8	-0.75	-0.625	1
-0.4998313	6.818354	6.7	-0.625	-0.5	0.8999996
-0.3737053	7.344702	6.7	-0.5	-0.375	0
-0.2499688	7.913401	8.2	-0.375	-0.25	1.5
-0.1246694	8.548652	8.3	-0.25	-0.125	0.1000004
5.06E-04	9.250454	8.3	-0.125	0	0
0.1251883	10.02486	8.3	0	0.125	0
0.2498167	10.89001	8.3	0.125	0.25	0
0.3752411	11.84591	8.3	0.25	0.375	0
0.5004252	12.91676	8.3	0.375	0.5	0
0.6250972	14.1086	9.5	0.5	0.625	1.2
0.750494	15.45171	9.5	0.625	0.75	0
0.8752092	16.9521	9.5	0.75	0.875	0
1.000263	18.64611	9.5	0.875	1	0
1.125242	20.5578	9.5	1	1.125	0
1.250291	22.72374	9.5	1.125	1.25	0
1.375171	25.18004	9.5	1.25	1.375	0
1.500206	27.98123	9.5	1.375	1.5	0
1.625015	31.1756	9.5	1.5	1.625	0
1.750015	34.84189	9.5	1.625	1.75	0
1.875066	39.05887	9.5	1.75	1.875	0
2.000126	43.92308	9.5	1.875	2	0
2.125031	49.54357	9.5	2	2.125	0
2.250048	56.07149	9.5	2.125	2.25	0
2.375074	63.67023	9.5	2.25	2.375	0
2.500018	72.53357	9.5	2.375	2.5	0
2.625001	82.90919	9.5	2.5	2.625	0
2.750043	95.0878	9.5	2.625	2.75	0
2.875031	109.4019	16.7	2.75	2.875	7.200001
3.000041	126.2693	38.3	2.875	3	21.6
3.12503	146.1739	62.7	3	3.125	24.4
3.250026	169.7028	78.3	3.125	3.25	15.6
3.375	197.5449	81.7	3.25	3.375	3.399994
3.50001	230.5413	90	3.375	3.5	8.300003
3.625012	269.6671	90	3.5	3.625	0
3.750011	316.0946	90	3.625	3.75	0
3.875009	371.2162	91	3.75	3.875	1
4.000007	436.6895	91	3.875	4	0
4.125002	514.4802	91.7	4	4.125	0.6999969

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

	.125 CHI	.125 PHI
Mean	6.246011	2.8528
Standard deviation	1.495359	0.9230418
Skewness	-2.390583	-3.189933
Kurtosis	7.988779	12.23264

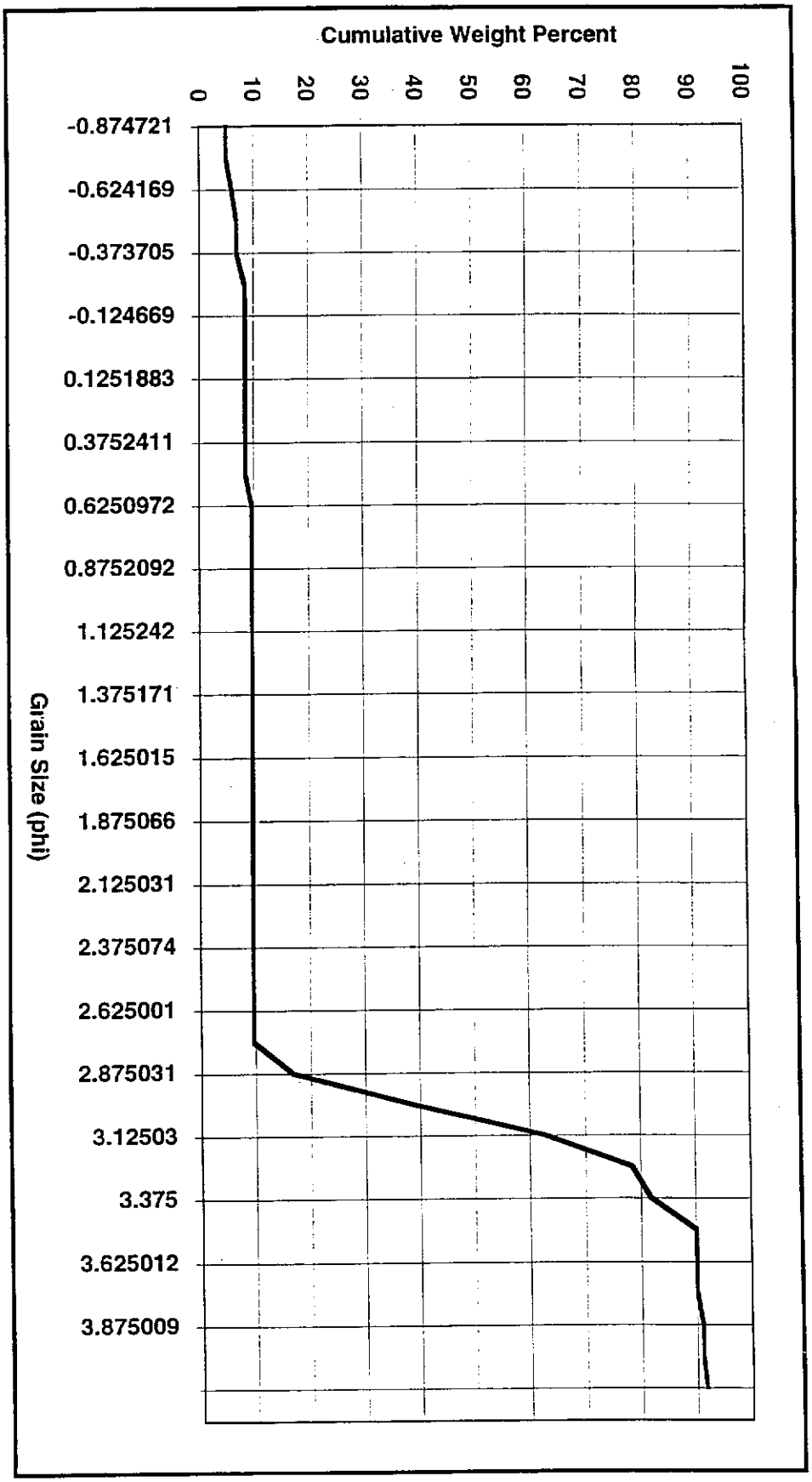
GRAPHIC MEASURES (Folk and Ward, 1957)

	.125 CHI	.125 PHI
Mean	6.640219	3.083476
Standard deviation	1.109667	0.8173307
Skewness	-0.2253769	-0.3718492
Kurtosis	5.357109	6.987305

MODES

Number	Velocity	CHI	PHI	Freq. %
1	1.23746	6.336475	2.904527	2.500002
2	0.3044802	8.359436	4.039444	2.499996
3	1.028466	6.603362	3.064529	2.499994
4	1.157025	6.433436	2.963157	2.499994
5	3.005259	5.056367	2.061578	2.499994

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)
-0.874721
-0.624169
-0.373705
-0.124669
0.1251883
0.3752411
0.6250972
0.8752092
1.125242
1.375171
1.625015
1.875066
2.125031
2.375074
2.625001
2.875031
3.12503
3.375
3.625012
3.875009

File	a	t10507.dat	Date	06-28-1994
Sample name	**g-7-12.8'**			
Date collected on	6/15/94			
Total settling time (min)	10.08333			
Settling distance (cm)	140			

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9982994	5.160657	9.4			
-0.8747208	5.517602	9.4	-1	-0.875	0
-0.748297	5.916911	9.4	-0.875	-0.75	0
-0.624169	6.346457	9.4	-0.75	-0.625	0
-0.4998313	6.818354	9.4	-0.625	-0.5	0
-0.3737053	7.344702	9.4	-0.5	-0.375	0
-0.2499688	7.913401	12.2	-0.375	-0.25	2.8
-0.1246694	8.548652	12.5	-0.25	-0.125	0.3000002
5.06E-04	9.250454	12.5	-0.125	0	0
0.1251883	10.02486	12.5	0	0.125	0
0.2498167	10.89001	12.5	0.125	0.25	0
0.3752411	11.84591	12.5	0.25	0.375	0
0.5004252	12.91676	12.5	0.375	0.5	0
0.6250972	14.1086	12.5	0.5	0.625	0
0.750494	15.45171	15.6	0.625	0.75	3.1
0.8752092	16.9521	15.6	0.75	0.875	0
1.000263	18.64611	15.6	0.875	1	0
1.125242	20.5578	15.6	1	1.125	0
1.250291	22.72374	15.6	1.125	1.25	0
1.375171	25.18004	15.6	1.25	1.375	0
1.500206	27.98123	15.6	1.375	1.5	0
1.625015	31.1756	15.6	1.5	1.625	0
1.750015	34.84189	15.6	1.625	1.75	0
1.875066	39.05887	15.6	1.75	1.875	0
2.000126	43.92308	15.6	1.875	2	0
2.125031	49.54357	15.6	2	2.125	0
2.250048	56.07149	15.6	2.125	2.25	0
2.375074	63.67023	15.6	2.25	2.375	0
2.500018	72.53357	15.6	2.375	2.5	0
2.625001	82.90919	15.6	2.5	2.625	0
2.750043	95.0878	15.6	2.625	2.75	0
2.875031	109.4019	15.6	2.75	2.875	0
3.000041	126.2693	15.6	2.875	3	0
3.12503	146.1739	29.3	3	3.125	13.7
3.250026	169.7028	60.9	3.125	3.25	31.6
3.375	197.5449	64	3.25	3.375	3.099998
3.50001	230.5413	78.1	3.375	3.5	14.1
3.625012	269.6671	84.4	3.5	3.625	6.300003
3.750011	316.0946	84.4	3.625	3.75	0
3.875009	371.2162	90.6	3.75	3.875	6.199997
4.000007	436.6895	90.6	3.875	4	0
4.125002	514.4802	90.6	4	4.125	0

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

	.125 CHI	.125 PHI
Mean	6.166155	3.062808
Standard deviation	2.053701	0.8616149
Skewness	-1.756063	-2.989413
Kurtosis	4.519938	11.13338

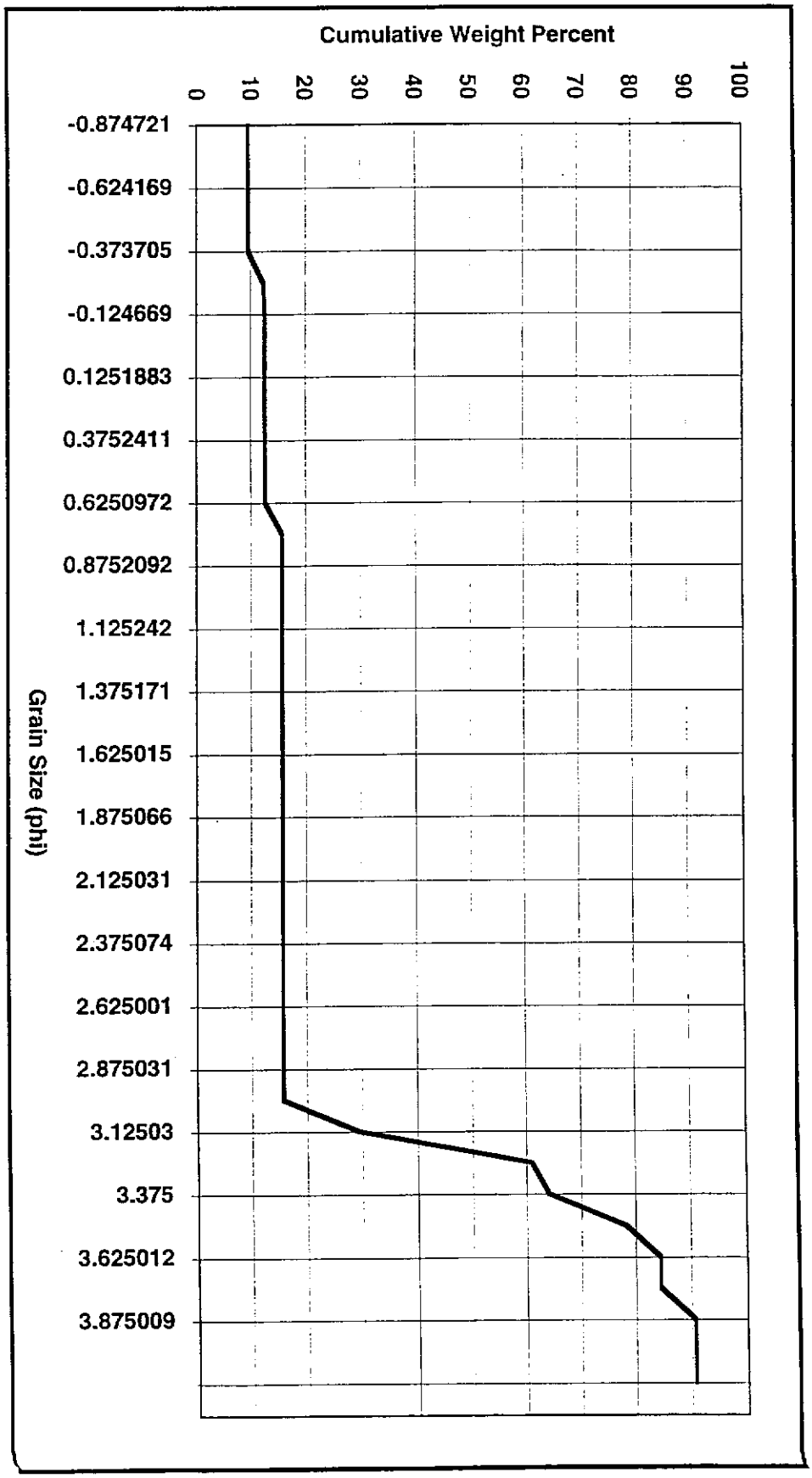
GRAPHIC MEASURES (Folk and Ward, 1957)

	.125 CHI	.125 PHI
Mean	6.900914	3.234322
Standard deviation	1.222248	0.9481817
Skewness	-0.4111159	-0.5340551
Kurtosis	5.34815	7.664857

MODES

Number	Velocity	CHI	PHI	Freq. %
1	0.4045541	7.949451	3.820612	4.687489
2	0.4810914	7.699473	3.685131	4.687489
3	1.033058	6.596935	3.060725	4.687487
4	3.453805	4.855669	1.914957	4.687487
5	4.366131	4.517501	1.656956	4.687487

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	*0.9659*			


Cumulative Weight Percent
0
10
20
30
40
50
60
70
80
90
100
Grain Size (phi)
-0.874721
-0.624169
-0.373705
-0.124669
0.1251883
0.3752411
0.6250972
0.8752092
1.125242
1.375171
1.625015
1.875066
2.125031
2.375074
2.625001
2.875031
3.12503
3.375
3.625012
3.875009

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