PNEUMATIC HAMMER CORE **CORE # G-35**

PROJECT: Galveston Island Beach Replenishment

STATE PLANNING COORDINATES
3348950.34
552029.66

LAT./LONG. COORDINATES
29°17.068° N
094°46.036° W

WATER DEPTH
23'5"

DATE
5/17/94

START TIME
1027

END TIME
1051

CORE DIAMETER
3"

LENGTH OF BARREL
20 '

PENETRATION DEPTH
16'2"

LENGTH RECOVERED
15'0"

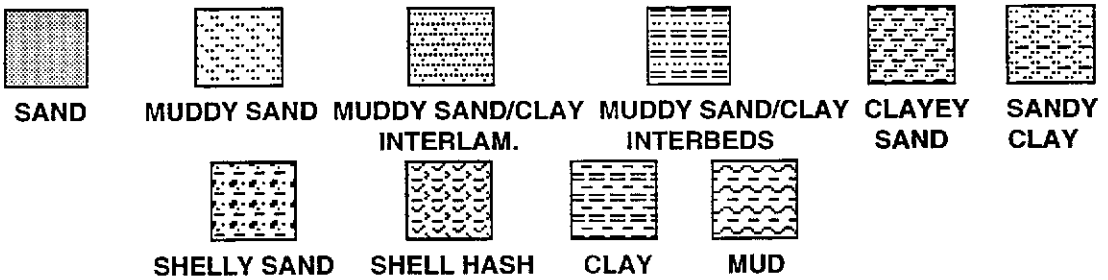
SUPPORT VESSEL:
R/V Lonestar

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
32	12	17		Interlaminated clayey sand and sandy clay; heavy bioturbation S:C=40:60	2.90	97.01	2.55
64	24			Slightly muddy, very fine sand; isolated lams of sandy clay t/o; heavy bioturbation 5Y6/1	3.04	96.50	3.50
96	36						
128	48	57					
160	60			Shelly muddy sand; heavy bioturbation	2.92	86.66	8.42
192	72	73		Clay 5Y4/1			
		76		Laminated muddy sands 5Y5/1			
224	84	81		Clay 5Y4/1			
256	96	97		Laminated muddy sands 5Y5/1			
		101		Clay 5Y4/1			
288	108	104		Slightly muddy, highly laminated sand 5Y5/1	3.08	97.55	2.95
320	120	124		Clay with isolated sandy clay laminae; moderate bioturbation 5Y4/1			
352	132	138					
384	144			Highly laminated to laminated, fine sand; clay and organics concetrated in lams; sands cleaner downcore 5Y4/1-5Y5/1	2.73	82.25	17.75
416	156						
448	168	170		Clay 5Y4/1			
480	180	180					
	192						



File	a	t84035.dat	Date	06-27-1994
Sample name	g-35-6"			
Data collected on	06-26-1994			
Total settling time (min)	10.08333			
Settling distance (cm)	140			
Water temperature (degrees C)	21			

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9982994	5.160657	2.9			
-0.8747208	5.517602	2.9	-1	-0.875	0
-0.748297	5.916911	2.9	-0.875	-0.75	0
-0.624169	6.346457	3.7	-0.75	-0.625	0.8
-0.4998313	6.818354	3.7	-0.625	-0.5	0
-0.3737053	7.344702	3.7	-0.5	-0.375	0
-0.2499688	7.913401	3.7	-0.375	-0.25	0
-0.1246694	8.548652	3.7	-0.25	-0.125	0
5.06E-04	9.250454	3.7	-0.125	0	0
0.1251883	10.02486	3.7	0	0.125	0
0.2498167	10.89001	4.4	0.125	0.25	0.7
0.3752411	11.84591	4.4	0.25	0.375	0
0.5004252	12.91676	4.4	0.375	0.5	0
0.6250972	14.1086	4.4	0.5	0.625	0
0.750494	15.45171	4.4	0.625	0.75	0
0.8752092	16.9521	4.4	0.75	0.875	0
1.000263	18.64611	4.4	0.875	1	0
1.125242	20.5578	5.9	1	1.125	1.5
1.250291	22.72374	5.9	1.125	1.25	0
1.375171	25.18004	5.9	1.25	1.375	0
1.500206	27.98123	5.9	1.375	1.5	0
1.625015	31.1756	5.9	1.5	1.625	0
1.750015	34.84189	5.9	1.625	1.75	0
1.875066	39.05887	5.9	1.75	1.875	0
2.000126	43.92308	5.9	1.875	2	0
2.125031	49.54357	7.2	2	2.125	1.3
2.250048	56.07149	7.2	2.125	2.25	0
2.375074	63.67023	7.2	2.25	2.375	0
2.500018	72.53357	7.2	2.375	2.5	0
2.625001	82.90919	8.8	2.5	2.625	1.6
2.750043	95.0878	15.9	2.625	2.75	7.099999
2.875031	109.4019	30.9	2.75	2.875	15
3.000041	126.2693	56.7	2.875	3	25.8
3.12503	146.1739	71.2	3	3.125	14.5
3.250026	169.7028	86	3.125	3.25	14.8
3.375	197.5449	88.9	3.25	3.375	2.900002
3.50001	230.5413	92.6	3.375	3.5	3.699997
3.625012	269.6671	93	3.5	3.625	0.4000015
3.750011	316.0946	93	3.625	3.75	0
3.875009	371.2162	93	3.75	3.875	0
4.000007	436.6895	93	3.875	4	0
4.125002	514.4802	94.1	4	4.125	1.099998

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

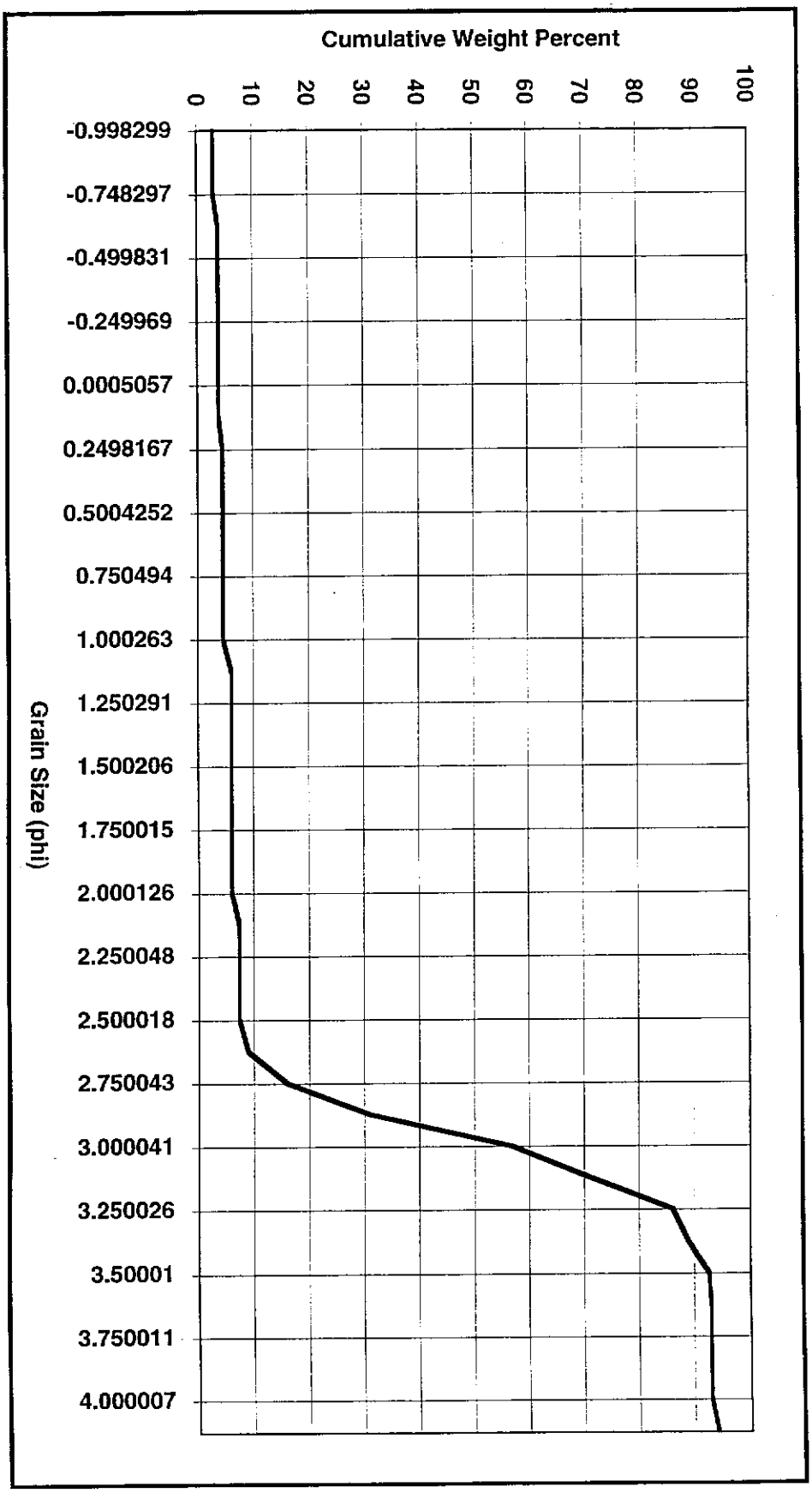
	.125 CHI	.125 PHI
Mean	6.462418	2.903646
Standard deviation	0.598754	0.5431631
Skewness	-1.776195	-3.994218
Kurtosis	16.40054	24.1396

GRAPHIC MEASURES (Folk and Ward, 1957)

	.125 CHI	.125 PHI
Mean	6.462943	2.978206
Standard deviation	0.7267733	0.4816787
Skewness	-0.5502192	-0.7339242
Kurtosis	2.750099	3.134881

MODES				
Number	Velocity	CH	PHI	Freq. %
1	1.117898	6.483067	2.992942	3.67647 ;
2	0.5948713	7.393207	3.516557	2.941174 ;
3	1.033058	6.596935	3.060725	2.205893 ;
4	0.2361275	8.726218	4.232363	2.205891 ;
5	0.3485014	8.164619	3.935931	2.205891 ;

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)
-0.998299
-0.748297
-0.499831
-0.249969
0.0005057
0.2498167
0.5004252
0.750494
1.000263
1.250291
1.500206
1.750015
2.000126
2.250048
2.500018
2.750043
3.000041
3.250026
3.50001
3.750011
4.000007

84035

File	a	t85035.dat	Date	06-27-1994	
Sample name	g-35-2'6"				
Data collected on	06-26-1994				
Total settling time (min)	10.1				
Settling distance (cm)	140				
Water temperature (degrees C)	21				

	CUMULATIVE WEIGHT %			INDIVIDUAL WEIGHT %	
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9995988	5.157067	10			
-0.873707	5.520661	10	-1	-0.875	0
-0.7490051	5.914571	10	-0.875	-0.75	0
-0.6246192	6.344827	10	-0.75	-0.625	0
-0.4985216	6.823564	10	-0.625	-0.5	0
-0.3737008	7.344722	10	-0.5	-0.375	0
-0.2497699	7.914361	10	-0.375	-0.25	0
-0.1242921	8.550662	10	-0.25	-0.125	0
1.53E-05	9.247563	10	-0.125	0	0
0.1258686	10.02931	10	0	0.125	0
0.2506245	10.88983	10	0.125	0.25	0
0.375414	11.84731	10	0.25	0.375	0
0.5001053	12.91386	10	0.375	0.5	0
0.625006	14.10768	10	0.5	0.625	0
0.7500741	15.44695	10	0.625	0.75	0
0.8750312	16.94983	10	0.75	0.875	0
1.000299	18.64663	10	0.875	1	0
1.125096	20.55543	10	1	1.125	0
1.250028	22.71889	10	1.125	1.25	0
1.375133	25.17924	10	1.25	1.375	0
1.500113	27.979	10	1.375	1.5	0
1.625126	31.17865	10	1.5	1.625	0
1.750112	34.84495	11.1	1.625	1.75	1.1
1.875008	39.05676	11.1	1.75	1.875	0
2.000123	43.92294	11.1	1.875	2	0
2.125095	49.54666	11.1	2	2.125	0
2.250079	56.07325	11.1	2.125	2.25	0
2.375015	63.66637	11.1	2.25	2.375	0
2.5	72.53223	11.1	2.375	2.5	0
2.625039	82.91265	11.1	2.5	2.625	0
2.750037	95.08716	15.4	2.625	2.75	4.299999
2.875024	109.401	24.4	2.75	2.875	9
3.000019	126.266	51.1	2.875	3	26.7
3.125026	146.1732	68.4	3	3.125	17.3
3.250004	169.6982	80.1	3.125	3.25	11.7
3.375024	197.5505	88.9	3.25	3.375	8.800003
3.500008	230.5408	88.9	3.375	3.5	0
3.625005	269.6645	88.9	3.5	3.625	0
3.750015	316.096	89.8	3.625	3.75	0.9000015
3.875012	371.2178	93.3	3.75	3.875	3.5
4.000008	436.69	93.3	3.875	4	0
4.125006	514.4825	93.3	4	4.125	0

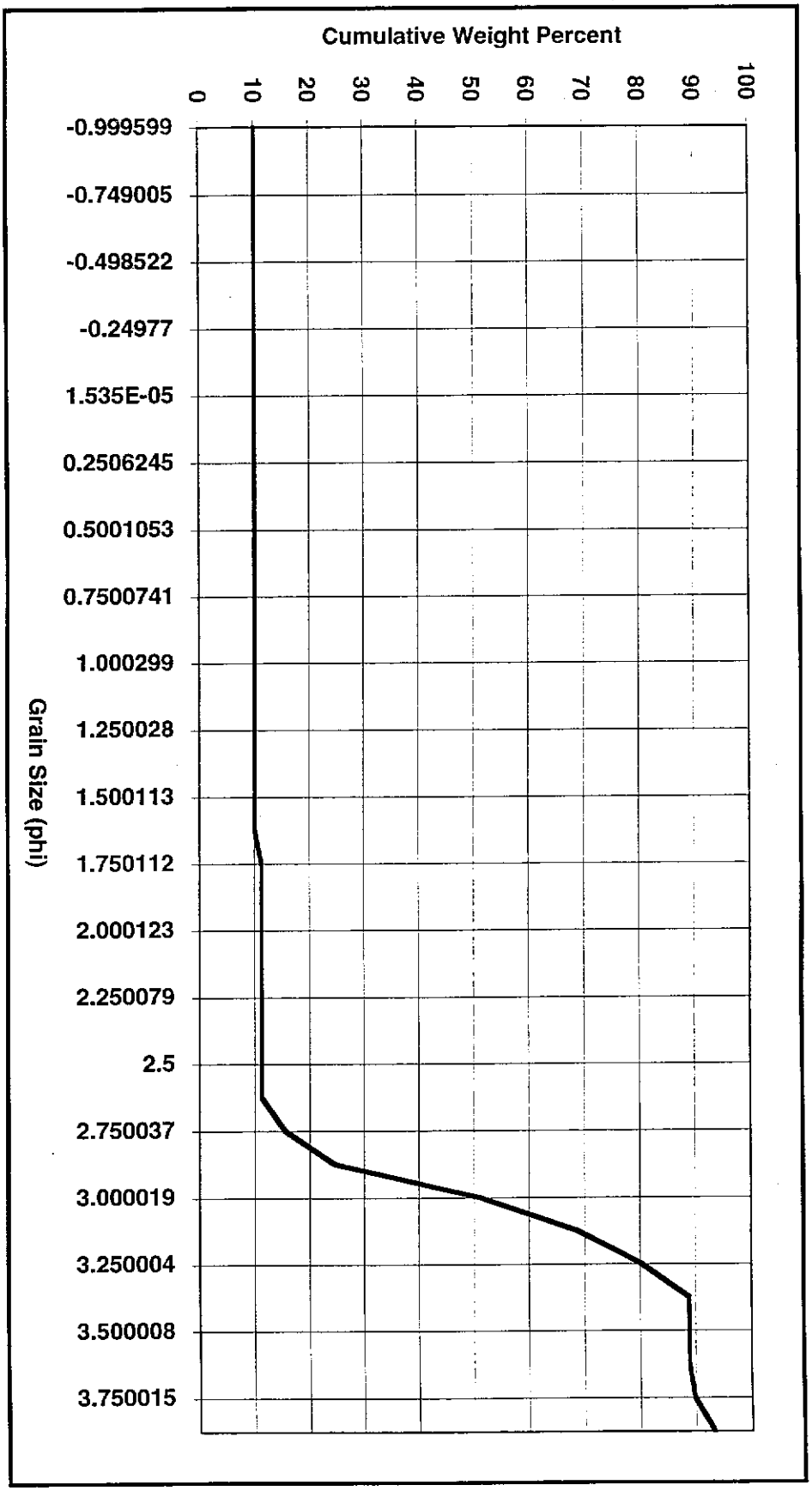
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)		
	.125 CHI	.125 PHI
Mean	6.700546	3.040141
Standard deviation	0.4452165	0.2830858
Skewness	2.352327	-0.5149412
Kurtosis	9.663259	9.777042

GRAPHIC MEASURES (Folk and Ward, 1957)		
	.125 CHI	.125 PHI
Mean	3.958039	-0.284684
Standard deviation	3.916601	4.811452
Skewness	-0.8316836	-0.9774466
Kurtosis	7.859734	16.58998

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	1.248773	6.323344	2.896542	3.333335
2	0.3004202	8.378802	4.049692	3.333324
3	0.7831292	6.996534	3.293089	2.222233
4	0.8462384	6.88472	3.228873	2.222233
5	1.035978	6.592863	3.058314	2.222231

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)
-0.999599
-0.749005
-0.498522
-0.24977
1.535E-05
0.2506245
0.5001053
0.7500741
1.000299
1.250028
1.500113
1.750112
2.000123
2.250079
2.5
2.750037
3.000019
3.250004
3.500008
3.750015

85035

T86035.ASCII

File	a	t86035.dat	Date	06-27-1994	
Sample name	g-35-5'6"				
Data collected on	06-26-1994				
Total settling time (min)	10.08333				
Settling distance (cm)	140				
Water temperature (degrees C)	21				

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9982994	5.160657	5.2			
-0.8747208	5.517602	6.7	-1	-0.875	1.5
-0.748297	5.916911	6.7	-0.875	-0.75	0
-0.624169	6.346457	7.8	-0.75	-0.625	1.1
-0.4998313	6.818354	8.6	-0.625	-0.5	0.8000002
-0.3737053	7.344702	8.6	-0.5	-0.375	0
-0.2499688	7.913401	8.6	-0.375	-0.25	0
-0.1246694	8.548652	8.6	-0.25	-0.125	0
5.06E-04	9.250454	8.6	-0.125	0	0
0.1251883	10.02486	8.6	0	0.125	0
0.2498167	10.89001	8.6	0.125	0.25	0
0.3752411	11.84591	8.6	0.25	0.375	0
0.5004252	12.91676	8.6	0.375	0.5	0
0.6250972	14.1086	8.6	0.5	0.625	0
0.750494	15.45171	8.6	0.625	0.75	0
0.8752092	16.9521	8.6	0.75	0.875	0
1.000263	18.64611	8.6	0.875	1	0
1.125242	20.5578	8.6	1	1.125	0
1.250291	22.72374	8.6	1.125	1.25	0
1.375171	25.18004	8.6	1.25	1.375	0
1.500206	27.98123	9.9	1.375	1.5	1.299999
1.625015	31.1756	10.3	1.5	1.625	0.4000006
1.750015	34.84189	10.3	1.625	1.75	0
1.875068	39.05887	10.3	1.75	1.875	0
2.000126	43.92308	10.3	1.875	2	0
2.125031	49.54357	10.3	2	2.125	0
2.250048	56.07149	10.3	2.125	2.25	0
2.375074	63.67023	10.3	2.25	2.375	0
2.500018	72.53357	10.3	2.375	2.5	0
2.625001	82.90919	10.3	2.5	2.625	0
2.750043	95.0878	12.1	2.625	2.75	1.8
2.875031	109.4019	22.4	2.75	2.875	10.3
3.000041	126.2693	40.2	2.875	3	17.8
3.12503	146.1739	60.3	3	3.125	20.1
3.250026	169.7028	78.4	3.125	3.25	18.1
3.375	197.5449	86.2	3.25	3.375	7.799995
3.50001	230.5413	91.3	3.375	3.5	5.100006
3.625012	269.6671	94.8	3.5	3.625	3.5
3.750011	316.0946	94.8	3.625	3.75	0
3.875009	371.2162	95.6	3.75	3.875	0.7999954
4.000007	436.6895	95.6	3.875	4	0
4.125002	514.4802	95.6	4	4.125	0

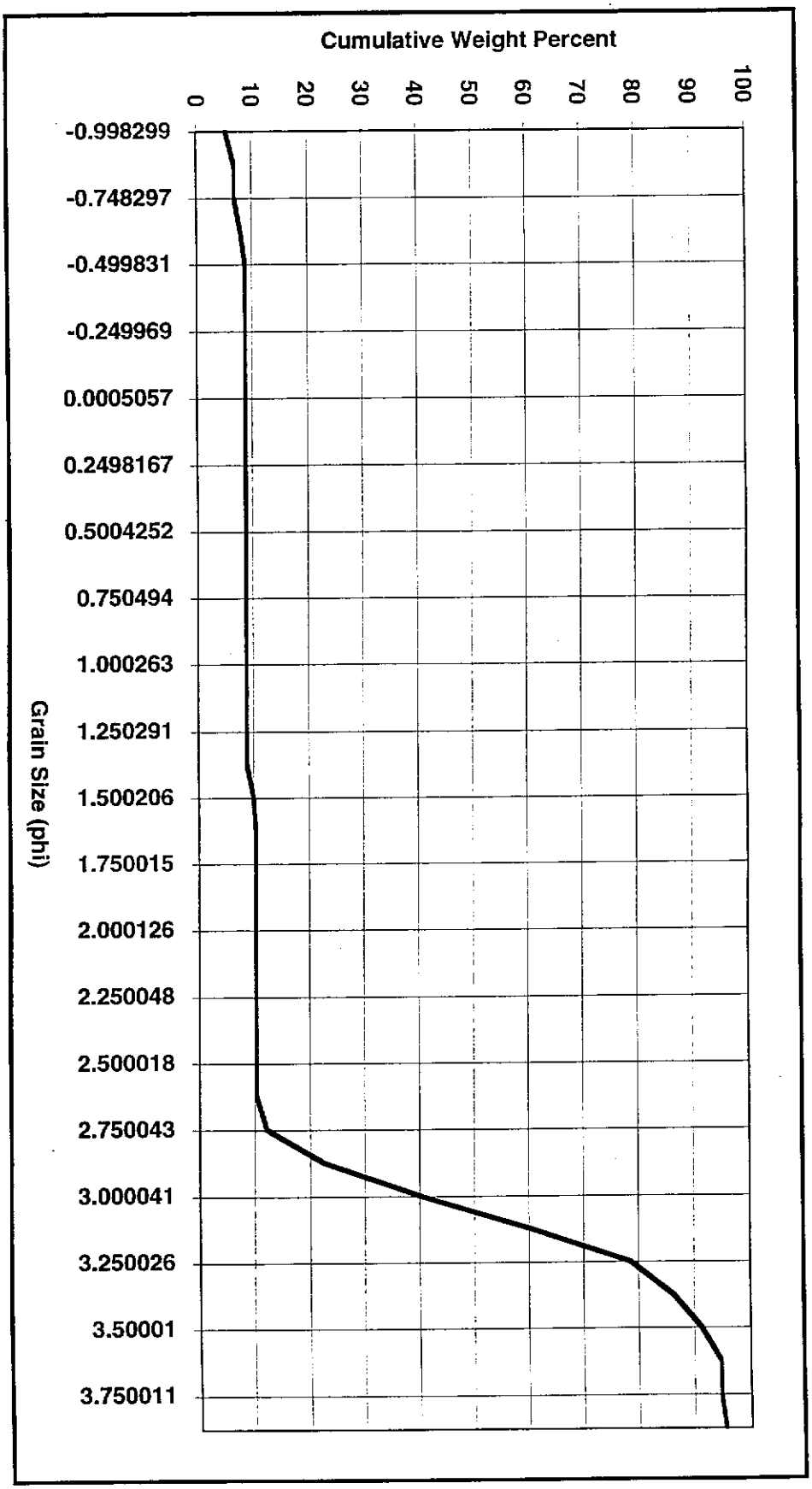
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)		
	.125 CHI	.125 PHI
Mean	6.183177	2.921598
Standard deviation	1.578537	0.7906175
Skewness	-2.359367	-3.894655
Kurtosis	7.780062	18.30676

GRAPHIC MEASURES (Folk and Ward, 1957)		
	.125 CHI	.125 PHI
Mean	6.560328	3.035355
Standard deviation	1.093497	0.8489757
Skewness	-0.6380059	-0.9221843
Kurtosis	4.339173	6.002165

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	1.701507	5.877043	2.617962	2.586217
2	3.403014	4.877043	1.930793	2.586217
3	0.94451	6.726218	3.136801	2.586203
4	0.7393129	7.079599	3.340424	2.586201
5	0.795206	6.974456	3.280455	2.586201

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)
-0.998299
-0.748297
-0.499831
-0.249969
0.0005057
0.2498167
0.5004252
0.750494
1.000263
1.250291
1.500206
1.750015
2.000126
2.250048
2.500018
2.750043
3.000041
3.250026
3.50001
3.750011

86035

File	a	187035.dat	Date	06-27-1994
Sample name	g-35-9'6"			
Date collected on	06-26-1994			
Total settling time (min)	10.08333			
Settling distance (cm)	140			
Water temperature (degrees C)	21			

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9982994	5.160657	4.8			
-0.8747208	5.517602	4.8	-1	-0.875	0
-0.748297	5.916911	4.8	-0.875	-0.75	0
-0.624169	6.346457	4.8	-0.75	-0.625	0
-0.4998313	6.818354	4.8	-0.625	-0.5	0
-0.3737053	7.344702	4.8	-0.5	-0.375	0
-0.2499688	7.913401	4.8	-0.375	-0.25	0
-0.1246694	8.548652	4.8	-0.25	-0.125	0
5.06E-04	9.250454	4.8	-0.125	0	0
0.1251883	10.02486	4.8	0	0.125	0
0.2498167	10.89001	4.8	0.125	0.25	0
0.3752411	11.84591	4.8	0.25	0.375	0
0.5004252	12.91676	4.8	0.375	0.5	0
0.6250972	14.1086	4.8	0.5	0.625	0
0.750494	15.45171	4.8	0.625	0.75	0
0.8752092	16.9521	4.8	0.75	0.875	0
1.000263	18.64611	4.8	0.875	1	0
1.125242	20.5578	4.8	1	1.125	0
1.250291	22.72374	4.8	1.125	1.25	0
1.375171	25.18004	4.8	1.25	1.375	0
1.500206	27.98123	4.8	1.375	1.5	0
1.625015	31.1756	4.8	1.5	1.625	0
1.750015	34.84189	4.8	1.625	1.75	0
1.875066	39.05887	4.8	1.75	1.875	0
2.000126	43.92308	4.8	1.875	2	0
2.125031	49.54357	4.8	2	2.125	0
2.250048	56.07149	4.8	2.125	2.25	0
2.375074	63.67023	4.8	2.25	2.375	0
2.500018	72.53357	4.8	2.375	2.5	0
2.625001	82.90919	4.8	2.5	2.625	0
2.750043	95.0878	7.8	2.625	2.75	3
2.875031	109.4019	21	2.75	2.875	13.2
3.000041	126.2693	37.1	2.875	3	16.1
3.12503	146.1739	57.7	3	3.125	20.6
3.250026	169.7028	75.8	3.125	3.25	18.1
3.375	197.5449	83.9	3.25	3.375	8.099998
3.50001	230.5413	83.9	3.375	3.5	0
3.625012	269.6671	88.7	3.5	3.625	4.799995
3.750011	316.0946	90.3	3.625	3.75	1.600006
3.875009	371.2162	90.3	3.75	3.875	0
4.000007	436.6895	90.3	3.875	4	0
4.125002	514.4802	90.3	4	4.125	0

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

	.125 CHI	.125 PHI
Mean	6.500493	3.07712
Standard deviation	0.9573591	0.2188309
Skewness	-4.492228	0.6435325
Kurtosis	25.81417	3.337331

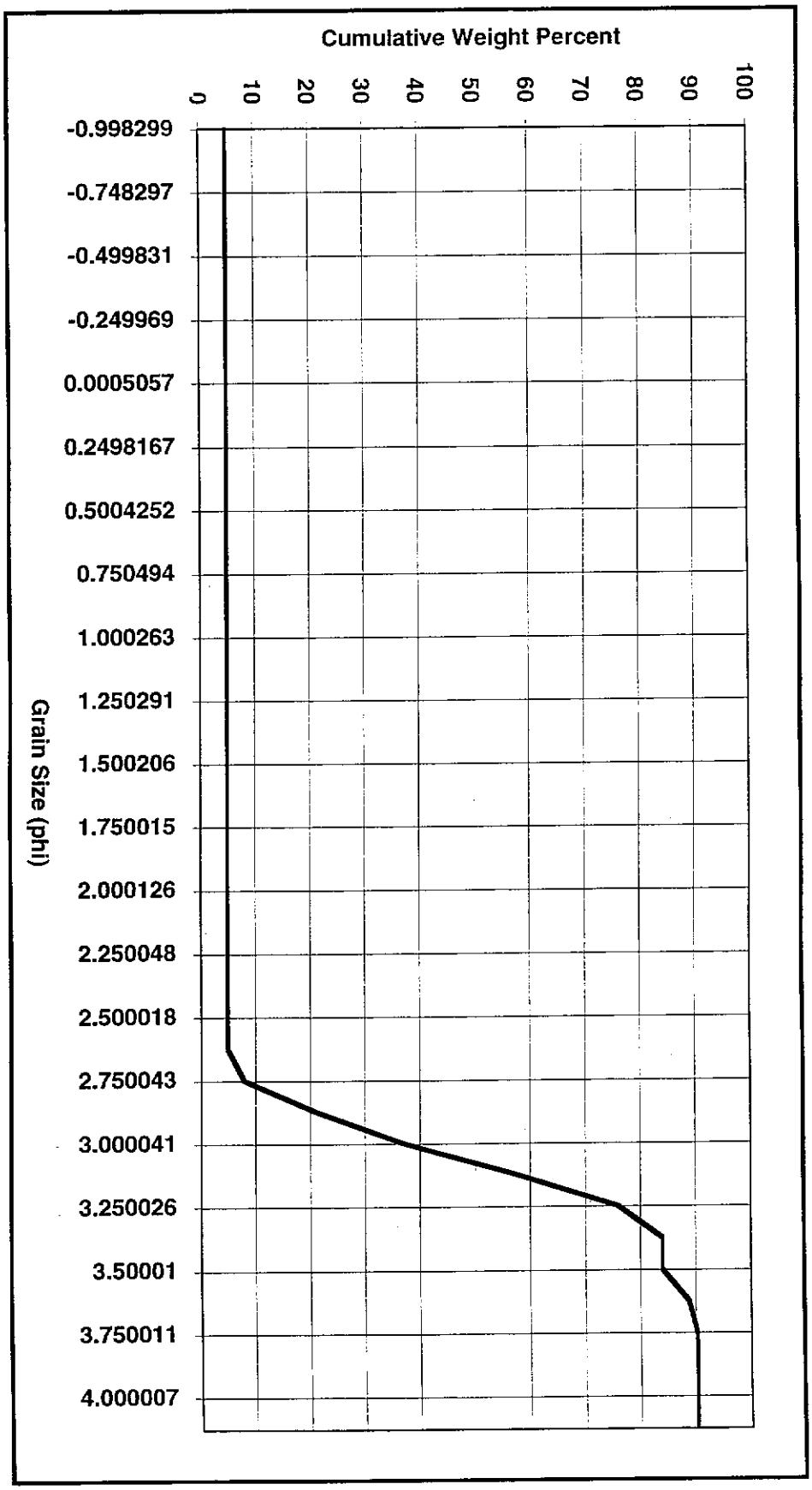
GRAPHIC MEASURES (Folk and Ward, 1957)

	.125 CHI	.125 PHI
Mean	6.712491	3.123963
Standard deviation	0.7066842	0.4299079
Skewness	-3.66E-02	-0.1350104
Kurtosis	2.367165	2.492573

MODES

Number	Velocity	CHI	PHI	Freq. %
1	0.2936611	8.411632	4.067046	2.419365
2	0.4399334	7.828499	3.755275	2.419365
3	0.5176845	7.593711	3.627264	2.419365
4	0.9974352	6.647561	3.090625	2.419365
5	1.086408	6.52429	3.017568	2.419363

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
100
90
80
70
60
50
40
30
20
10
0
Grain Size (phi)
-0.998299
-0.748297
-0.499831
-0.249969
0.0005057
0.2498167
0.5004252
0.750494
1.000263
1.250291
1.500206
1.750015
2.000126
2.250048
2.500018
2.750043
3.000041
3.250026
3.50001
3.750011
4.000007

87035

File	a	t88035.dat	Date	06-27-1994
Sample name	g-35-13'			
Data collected on	06-26-1994			
Total settling time (min)	10.1			
Settling distance (cm)	140			
Water temperature (degrees C)	21			

	CUMULATIVE WEIGHT %		INDIVIDUAL WEIGHT %		
PHI	TIME(SEC)	% VALUE	RANGE		% VALUE
-0.9995988	5.157067	7.6			
-0.873707	5.520661	10.6	-1	-0.875	3
-0.7490051	5.914571	10.6	-0.875	-0.75	0
-0.6246192	6.344827	10.9	-0.75	-0.625	0.2999992
-0.4985216	6.823564	12.5	-0.625	-0.5	1.6
-0.3737008	7.344722	13	-0.5	-0.375	0.5
-0.2497699	7.914361	13	-0.375	-0.25	0
-0.1242921	8.550662	15	-0.25	-0.125	2
1.53E-05	9.247563	15.2	-0.125	0	0.1999998
0.1258686	10.02931	15.2	0	0.125	0
0.2506245	10.88983	15.2	0.125	0.25	0
0.375414	11.84731	17.4	0.25	0.375	2.2
0.5001053	12.91386	18.1	0.375	0.5	0.7000008
0.625006	14.10768	18.1	0.5	0.625	0
0.7500741	15.44695	18.1	0.625	0.75	0
0.8750312	16.94983	18.1	0.75	0.875	0
1.000299	18.64663	18.1	0.875	1	0
1.125096	20.55543	18.1	1	1.125	0
1.250028	22.71889	18.1	1.125	1.25	0
1.375133	25.17924	18.1	1.25	1.375	0
1.500113	27.979	18.1	1.375	1.5	0
1.625126	31.17865	18.1	1.5	1.625	0
1.750112	34.84495	18.1	1.625	1.75	0
1.875008	39.05676	20.8	1.75	1.875	2.699999
2.000123	43.92294	20.8	1.875	2	0
2.125095	49.54666	20.8	2	2.125	0
2.250079	56.07325	20.8	2.125	2.25	0
2.375015	63.66637	20.8	2.25	2.375	0
2.5	72.53223	20.8	2.375	2.5	0
2.625039	82.91265	20.8	2.5	2.625	0
2.750037	95.08716	21.5	2.625	2.75	0.7000008
2.875024	109.401	21.7	2.75	2.875	0.2000008
3.000019	126.266	34.8	2.875	3	13.1
3.125026	146.1732	56.1	3	3.125	21.3
3.250004	169.6982	78.2	3.125	3.25	22.1
3.375024	197.5505	82.6	3.25	3.375	4.400002
3.500008	230.5408	87	3.375	3.5	4.400002
3.625005	269.6645	87	3.5	3.625	0
3.750015	316.096	87	3.625	3.75	0
3.875012	371.2178	91.3	3.75	3.875	4.300003
4.000008	436.69	94.8	3.875	4	3.5
4.125006	514.4825	94.8	4	4.125	0

SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)

	.125 CHI	.125 PHI
Mean	5.793947	2.727494
Standard deviation	1.986783	1.19725
Skewness	-1.457005	-2.075431
Kurtosis	3.505372	6.075772

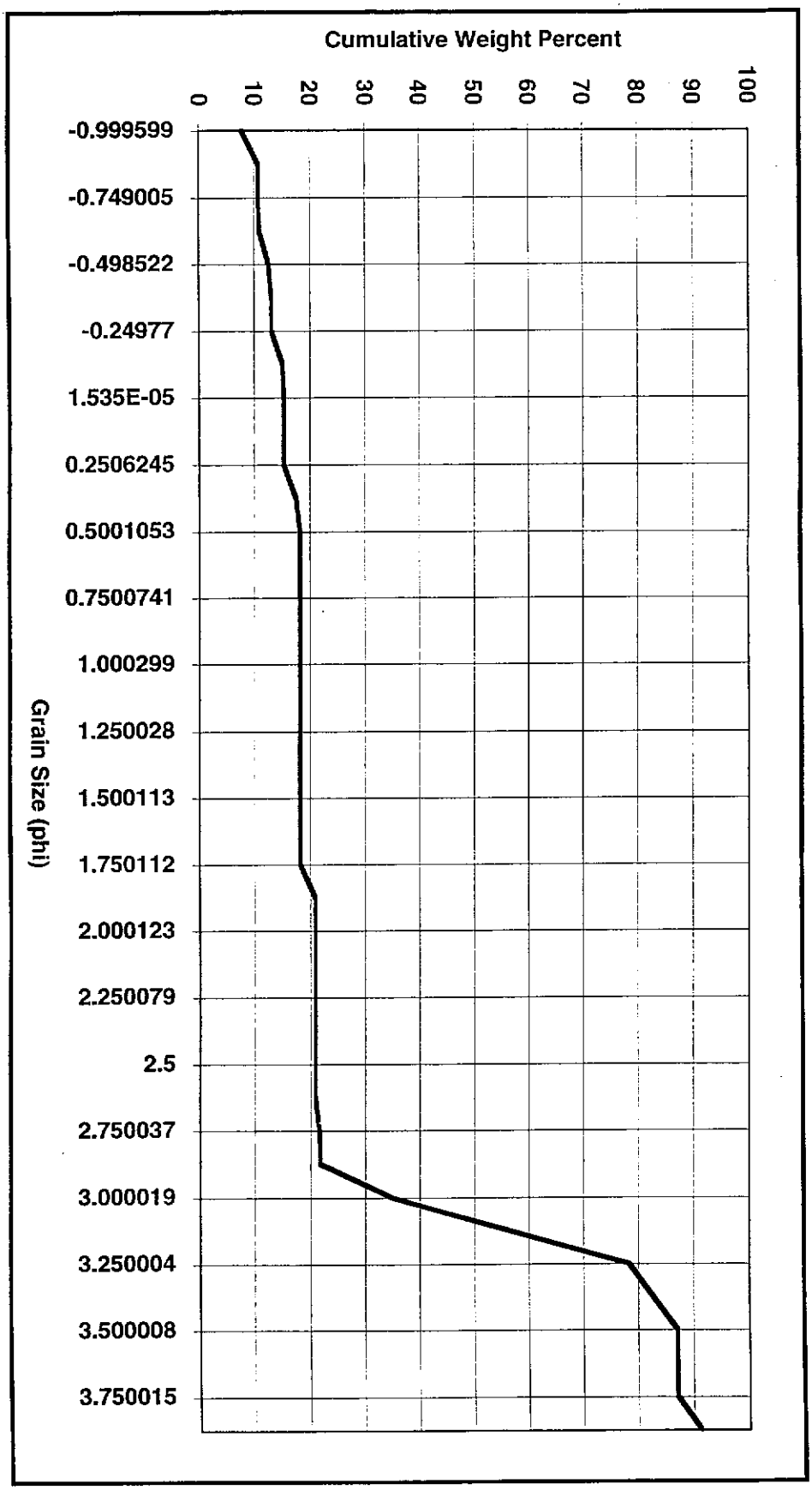
GRAPHIC MEASURES (Folk and Ward, 1957)

	.125 CHI	.125 PHI
Mean	5.541566	2.220119
Standard deviation	1.907896	1.502159
Skewness	-0.760886	-0.8564236
Kurtosis	5.259893	7.379115

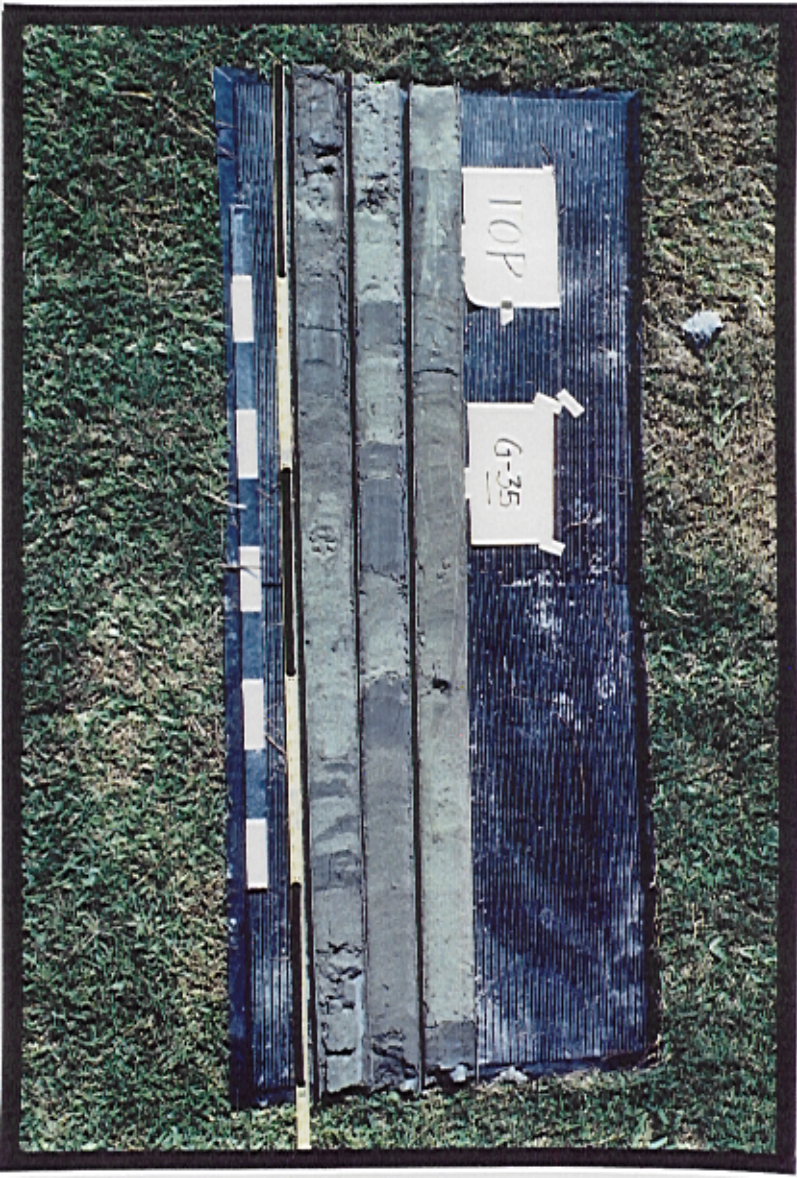
MODES

Number	Velocity	CHI	PHI	Freq. %
1	0.5298695	7.560147	3.608825	3.260883
2	0.2584151	8.596094	4.164188	3.260864
3	0.2667703	8.550186	4.140069	3.260864
4	0.2524843	8.629591	4.181764	2.173923
5	0.2734001	8.514771	4.121437	2.173923

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)
-0.999599
-0.749005
-0.498522
-0.24977
1.535E-05
0.2506245
0.5001053
0.7500741
1.000299
1.250028
1.500113
1.750112
2.000123
2.250079
2.5
2.750037
3.000019
3.250004
3.500008
3.750015

88035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