PNEUMATIC HAMMER CORE **CORE # G-24**

PROJECT: Galveston Island Beach Replenishment

STATE PLANNING COORDINATES
3349255.66
550057.88

LAT./LONG COORDINATES
29°16.741° N
094°45.992° W

WATER DEPTH
25'5"

DATE
5/16/94

START TIME
1136

END TIME
1139

CORE DIAMETER
3"

LENGTH OF BARREL
20 '

PENETRATION DEPTH
13'8"

LENGTH RECOVERED
13'4"

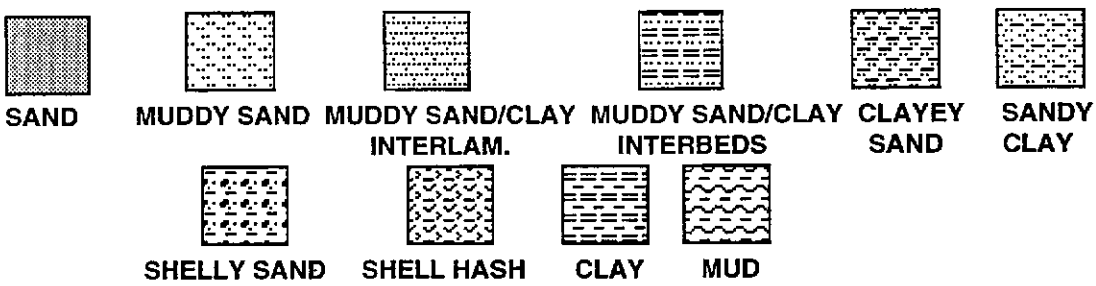
SUPPORT VESSEL:
R/V Lonestar

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
					2.59	97.56	1.41
32	12			Clean, fine to medium sand with abundant shell frags DREDGE SPOIL SAND 5YR8/4			
64	24				2.51	96.66	2.39
96	36	42		Concentrated shelly sand			
		43		Slightly silty sand			
128	48	51		Clay 5YR4/1			
160	60			Interlaminated to interbedded clay and muddy sand	3.27	47.66	52.34
192	72						
224	84			Bioturbated muddy sand 5Y4/1			
256	96			Interbedded and interlaminated clay and slightly muddy sand S:C=50:50			
288	108	114					
320	120	122		Fine to very fine sand; shelly 5Y6/1	3.02	89.44	10.06
352	132			Interlaminated sand and clay S:C=50:50			
384	144			Sandy clay to clayey sand 5Y4/1			
416	156	159		Fine sand 5Y6/1			
448	168						
480	180						
	192						



File	a	160024.dat	Date	06-27-1994	
Sample name	g-24-1'				
Data collected on	06-24-1994				
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	4.3			
-0.8747208	5.517602	4.3	-1	-0.875	0
-0.748297	5.916911	4.3	-0.875	-0.75	0
-0.624169	6.346457	4.3	-0.75	-0.625	0
-0.4998313	6.818354	4.3	-0.625	-0.5	0
-0.3737053	7.344702	5.2	-0.5	-0.375	0.8999996
-0.2499688	7.913401	8.1	-0.375	-0.25	2.900001
-0.1246694	8.548652	10.7	-0.25	-0.125	2.599999
5.06E-04	9.250454	13.1	-0.125	0	2.400001
0.1251883	10.02486	13.9	0	0.125	0.7999992
0.2498167	10.89001	13.9	0.125	0.25	0
0.3752411	11.84591	13.9	0.25	0.375	0
0.5004252	12.91676	15.7	0.375	0.5	1.8
0.6250972	14.1086	16.7	0.5	0.625	1.000001
0.750494	15.45171	16.7	0.625	0.75	0
0.8752092	16.9521	16.7	0.75	0.875	0
1.000263	18.64611	16.7	0.875	1	0
1.125242	20.5578	16.7	1	1.125	0
1.250291	22.72374	16.7	1.125	1.25	0
1.375171	25.18004	16.7	1.25	1.375	0
1.500206	27.98123	16.7	1.375	1.5	0
1.625015	31.1756	16.7	1.5	1.625	0
1.750015	34.84189	16.7	1.625	1.75	0
1.875066	39.05887	16.7	1.75	1.875	0
2.000126	43.92308	16.7	1.875	2	0
2.125031	49.54357	16.7	2	2.125	0
2.250048	56.07149	16.7	2.125	2.25	0
2.375074	63.67023	19.4	2.25	2.375	2.699999
2.500018	72.53357	19.4	2.375	2.5	0
2.625001	82.90919	19.4	2.5	2.625	0
2.750043	95.0878	35.6	2.625	2.75	16.2
2.875031	109.4019	61.6	2.75	2.875	26
3.000041	126.2693	71.4	2.875	3	9.800003
3.12503	146.1739	76.7	3	3.125	5.299995
3.250026	169.7028	76.7	3.125	3.25	0
3.375	197.5449	79.1	3.25	3.375	2.400002
3.50001	230.5413	83.3	3.375	3.5	4.200005
3.625012	269.6671	86.1	3.5	3.625	2.799995
3.750011	316.0946	86.1	3.625	3.75	0
3.875009	371.2162	86.1	3.75	3.875	0
4.000007	436.6895	95	3.875	4	8.900002
4.125002	514.4802	95	4	4.125	0

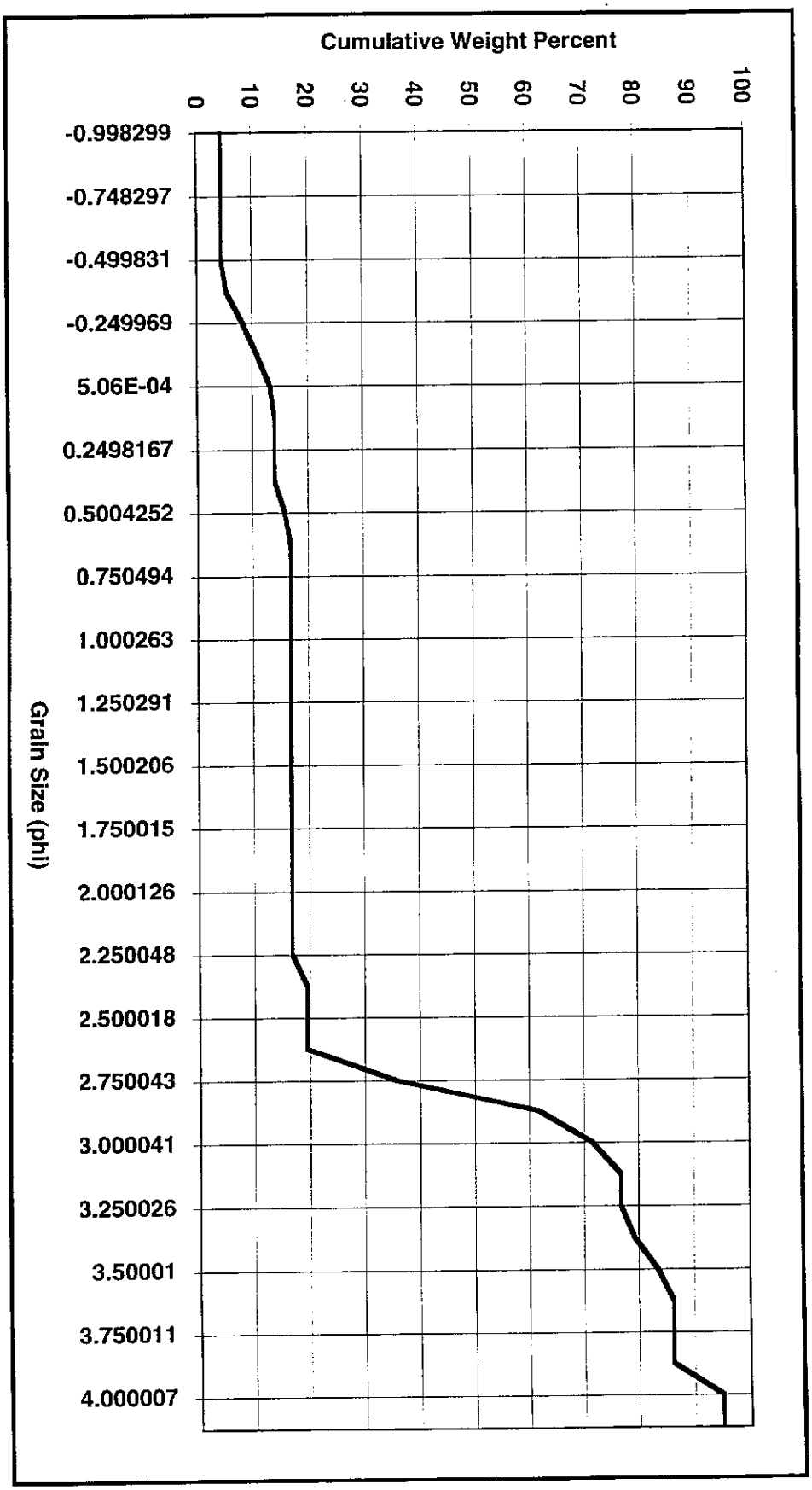
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)		
	.125 CHI	.125 PHI
Mean	6.510216	2.588685
Standard deviation	0.9317373	1.122479
Skewness	-0.9016346	-1.606786
Kurtosis	6.610855	4.703414

GRAPHIC MEASURES (Folk and Ward, 1957)		
	.125 CHI	.125 PHI
Mean	5.51669	2.237351
Standard deviation	2.598705	2.686389
Skewness	-0.6414124	-0.8180561
Kurtosis	7.413425	14.74575

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	1.553053	6.008749	2.701694	5.55555 ;
2	0.2390547	8.708444	4.223067	4.166683 ;
3	0.2594226	8.59048	4.161241	4.166683 ;
4	0.3240966	8.269361	3.991683	4.166683 ;
5	0.4582276	7.76972	3.72338	4.166683 ;

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
5.06E-04
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

File	a	t61024.dat	Date	06-27-1994	
Sample name	g-24-2'6"				
Data collected on	06-25-1994				
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	3.5			
-0.873707	5.520661	3.5	-1	-0.875	0
-0.7490051	5.914571	3.5	-0.875	-0.75	0
-0.6246192	6.344827	3.5	-0.75	-0.625	0
-0.4985216	6.823564	3.5	-0.625	-0.5	0
-0.3737008	7.344722	3.5	-0.5	-0.375	0
-0.2497699	7.914361	3.5	-0.375	-0.25	0
-0.1242921	8.550662	3.5	-0.25	-0.125	0
1.53E-05	9.247563	3.5	-0.125	0	0
0.1258686	10.02931	3.5	0	0.125	0
0.2506245	10.88983	3.5	0.125	0.25	0
0.375414	11.84731	4.2	0.25	0.375	0.6999998
0.5001053	12.91386	4.2	0.375	0.5	0
0.625006	14.10768	4.2	0.5	0.625	0
0.7500741	15.44695	4.2	0.625	0.75	0
0.8750312	16.94983	4.2	0.75	0.875	0
1.000299	18.64663	4.2	0.875	1	0
1.125096	20.55543	4.2	1	1.125	0
1.250028	22.71889	4.2	1.125	1.25	0
1.375133	25.17924	8.5	1.25	1.375	4.3
1.500113	27.979	8.5	1.375	1.5	0
1.625126	31.17865	8.5	1.5	1.625	0
1.750112	34.84495	8.5	1.625	1.75	0
1.875008	39.05676	9.1	1.75	1.875	0.6000004
2.000123	43.92294	9.1	1.875	2	0
2.125095	49.54666	13.4	2	2.125	4.299999
2.250079	56.07325	19	2.125	2.25	5.6
2.375015	63.66637	25.3	2.25	2.375	6.299999
2.5	72.53223	43.7	2.375	2.5	18.4
2.625039	82.91265	59.4	2.5	2.625	15.7
2.750037	95.08716	74.8	2.625	2.75	15.4
2.875024	109.401	84.5	2.75	2.875	9.699997
3.000019	126.266	86.4	2.875	3	1.900002
3.125026	146.1732	87.3	3	3.125	0.9000015
3.250004	169.6982	91.5	3.125	3.25	4.199997
3.375024	197.5505	91.5	3.25	3.375	0
3.500008	230.5408	92.2	3.375	3.5	0.6999969
3.625005	269.6645	92.2	3.5	3.625	0
3.750015	316.096	92.2	3.625	3.75	0
3.875012	371.2178	93	3.75	3.875	0.8000031
4.000008	436.69	93.8	3.875	4	0.8000031
4.125006	514.4825	93.8	4	4.125	0

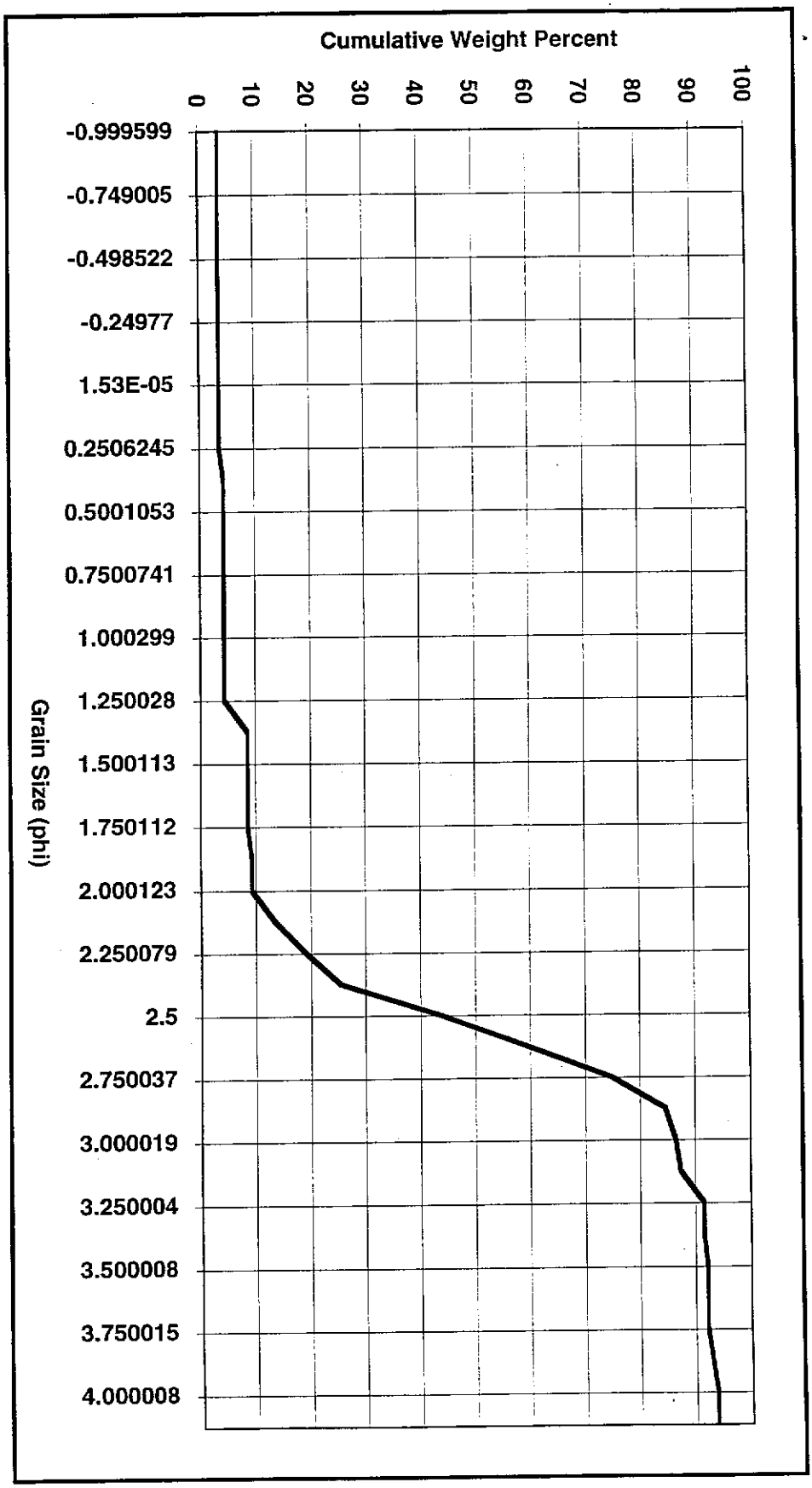
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)		
	.125 CHI	.125 PHI
Mean	5.886344	2.510728
Standard deviation	0.6819226	0.4608701
Skewness	1.465864	-1.02602
Kurtosis	6.507339	8.062696

GRAPHIC MEASURES (Folk and Ward, 1957)		
	.125 CHI	.125 PHI
Mean	5.720243	2.508947
Standard deviation	1.51522	1.727477
Skewness	-2.256835	-4.833369
Kurtosis	5.774538	11.00842

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	2.008897	5.637453	2.462016	3.521126 ;
2	2.852137	5.131813	2.115524	2.816899 ;
3	1.67408	5.900487	2.632966	2.112684 ;
4	0.5385154	7.536797	3.595976	2.112682 ;
5	0.9315448	6.746159	3.148455	2.112682 ;

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
1.53E-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
4.000008

61024

File	a	t62024.dat	Date	06-27-1994	
Sample name	g-24-5'				
Data collected on	06-24-1994				
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	18.3			
-0.873707	5.520661	18.3	-1	-0.875	0
-0.7490051	5.914571	18.3	-0.875	-0.75	0
-0.6246192	6.344827	18.4	-0.75	-0.625	0.1000004
-0.4985216	6.823564	19.5	-0.625	-0.5	1.1
-0.3737008	7.344722	21.7	-0.5	-0.375	2.200001
-0.2497699	7.914361	24.2	-0.375	-0.25	2.5
-0.1242921	8.550662	24.2	-0.25	-0.125	0
1.53E-05	9.247563	24.2	-0.125	0	0
0.1258686	10.02931	24.2	0	0.125	0
0.2506245	10.88983	24.2	0.125	0.25	0
0.375414	11.84731	24.2	0.25	0.375	0
0.5001053	12.91386	24.2	0.375	0.5	0
0.625006	14.10768	24.2	0.5	0.625	0
0.7500741	15.44695	24.2	0.625	0.75	0
0.8750312	16.94983	24.2	0.75	0.875	0
1.000299	18.64663	24.2	0.875	1	0
1.125096	20.55543	24.2	1	1.125	0
1.250028	22.71889	24.2	1.125	1.25	0
1.375133	25.17924	24.2	1.25	1.375	0
1.500113	27.979	24.2	1.375	1.5	0
1.625126	31.17865	24.2	1.5	1.625	0
1.750112	34.84495	24.2	1.625	1.75	0
1.875008	39.05676	24.2	1.75	1.875	0
2.000123	43.92294	24.2	1.875	2	0
2.125095	49.54666	24.2	2	2.125	0
2.250079	56.07325	24.2	2.125	2.25	0
2.375015	63.66637	24.2	2.25	2.375	0
2.5	72.53223	24.2	2.375	2.5	0
2.625039	82.91265	24.2	2.5	2.625	0
2.750037	95.08716	24.2	2.625	2.75	0
2.875024	109.401	24.2	2.75	2.875	0
3.000019	126.266	24.2	2.875	3	0
3.125026	146.1732	24.2	3	3.125	0
3.250004	169.6982	24.2	3.125	3.25	0
3.375024	197.5505	24.2	3.25	3.375	0
3.500008	230.5408	24.2	3.375	3.5	0
3.625005	269.6645	58.5	3.5	3.625	34.3
3.750015	316.096	73.2	3.625	3.75	14.7
3.875012	371.2178	82.9	3.75	3.875	9.700005
4.000008	436.69	82.9	3.875	4	0
4.125006	514.4825	82.9	4	4.125	0

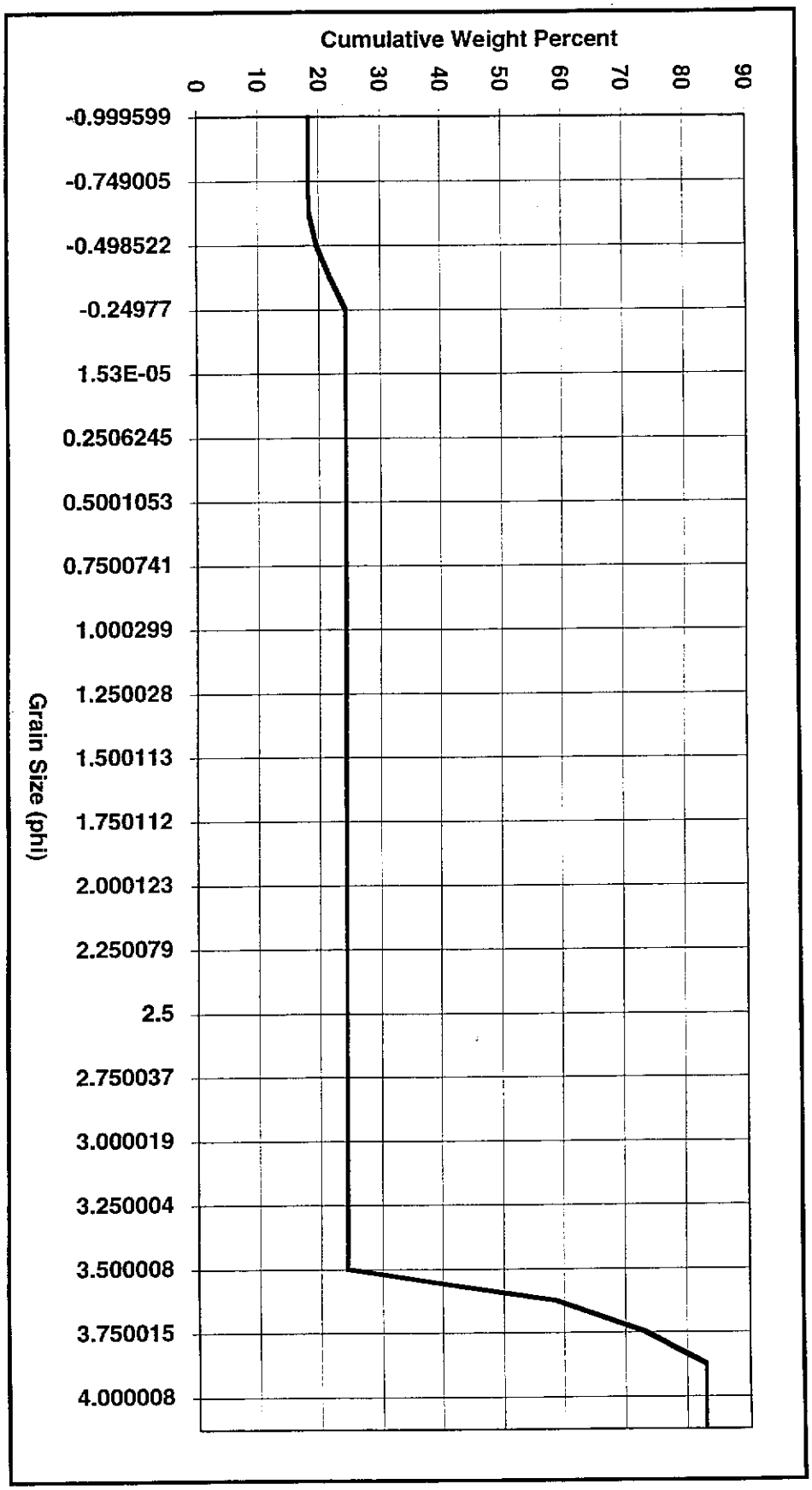
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)	.125 CHI	.125 PHI
Mean	7.793832	3.26548
Standard deviation	0.3237938	1.169792
Skewness.	0.928332	-2.809304
Kurtosis	2.53595	8.974237

GRAPHIC MEASURES (Folk and Ward, 1957)	.125 CHI	.125 PHI
Mean	4.601308	1.30E-02
Standard deviation	4.293763	5.095052
Skewness	-0.9058738	-1.012548
Kurtosis	3.543654	7.672676

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	0.816336	6.936621	3.258753	4.878044 ;
2	1.248773	6.323344	2.896542	4.878044 ;
3	7.70077	3.698853	.9673277	4.878044 ;
4	0.2538715	8.621686	4.177618	3.65855 ;
5	0.301991	8.371279	4.045712	3.65855 ;

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)
-0.999599
-0.749005
-0.498522
-0.24977
1.53E-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
4.000008

62024

File	a	t63024.dat	Date	06-27-1994	
Sample name	g-24-7'6"				
Data collected on	06-25-1994				
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	3.6			
-0.8747208	5.517602	5.2	-1	-0.875	1.6
-0.748297	5.916911	5.2	-0.875	-0.75	0
-0.624169	6.346457	5.5	-0.75	-0.625	0.3000002
-0.4998313	6.818354	6.8	-0.625	-0.5	1.3
-0.3737053	7.344702	6.8	-0.5	-0.375	0
-0.2499688	7.913401	6.8	-0.375	-0.25	0
-0.1246694	8.548652	6.8	-0.25	-0.125	0
5.06E-04	9.250454	6.8	-0.125	0	0
0.1251883	10.02486	6.8	0	0.125	0
0.2498167	10.89001	6.8	0.125	0.25	0
0.3752411	11.84591	6.8	0.25	0.375	0
0.5004252	12.91676	6.8	0.375	0.5	0
0.6250972	14.1086	6.8	0.5	0.625	0
0.750494	15.45171	6.8	0.625	0.75	0
0.8752092	16.9521	6.8	0.75	0.875	0
1.000263	18.64611	6.8	0.875	1	0
1.125242	20.5578	6.8	1	1.125	0
1.250291	22.72374	6.8	1.125	1.25	0
1.375171	25.18004	6.8	1.25	1.375	0
1.500206	27.98123	6.8	1.375	1.5	0
1.625015	31.1756	6.8	1.5	1.625	0
1.750015	34.84189	6.8	1.625	1.75	0
1.875066	39.05887	6.8	1.75	1.875	0
2.000126	43.92308	6.8	1.875	2	0
2.125031	49.54357	6.8	2	2.125	0
2.250048	56.07149	6.8	2.125	2.25	0
2.375074	63.67023	6.8	2.25	2.375	0
2.500018	72.53357	6.8	2.375	2.5	0
2.625001	82.90919	6.8	2.5	2.625	0
2.750043	95.0878	12.7	2.625	2.75	5.9
2.875031	109.4019	16.4	2.75	2.875	3.7
3.000041	126.2693	30.9	2.875	3	14.5
3.12503	146.1739	49.1	3	3.125	18.2
3.250026	169.7028	70	3.125	3.25	20.9
3.375	197.5449	75.4	3.25	3.375	5.400002
3.50001	230.5413	78.2	3.375	3.5	2.799995
3.625012	269.6671	80.5	3.5	3.625	2.300003
3.750011	316.0946	85.5	3.625	3.75	5
3.875009	371.2162	85.5	3.75	3.875	0
4.000007	436.6895	89.5	3.875	4	4
4.125002	514.4802	90.2	4	4.125	0.6999969

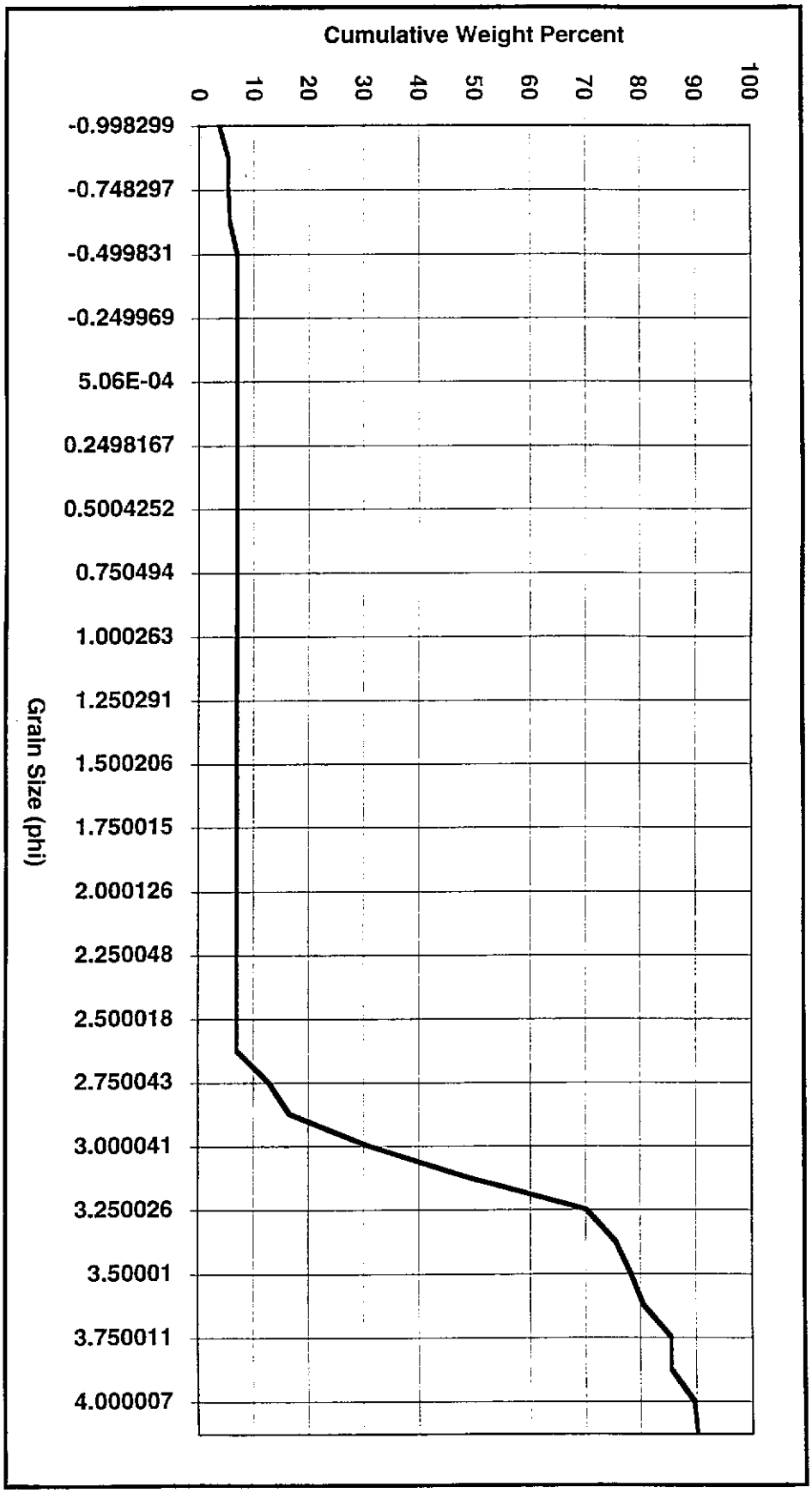
SEDIDAT STATISTICS

GROUPED MOMENT MEASURES (McBride, 1971)		
	.125 CHI	.125 PHI
Mean	6.684965	3.019775
Standard deviation	1.101667	0.7996774
Skewness	-2.585978	-3.799805
Kurtosis	12.55774	18.86829

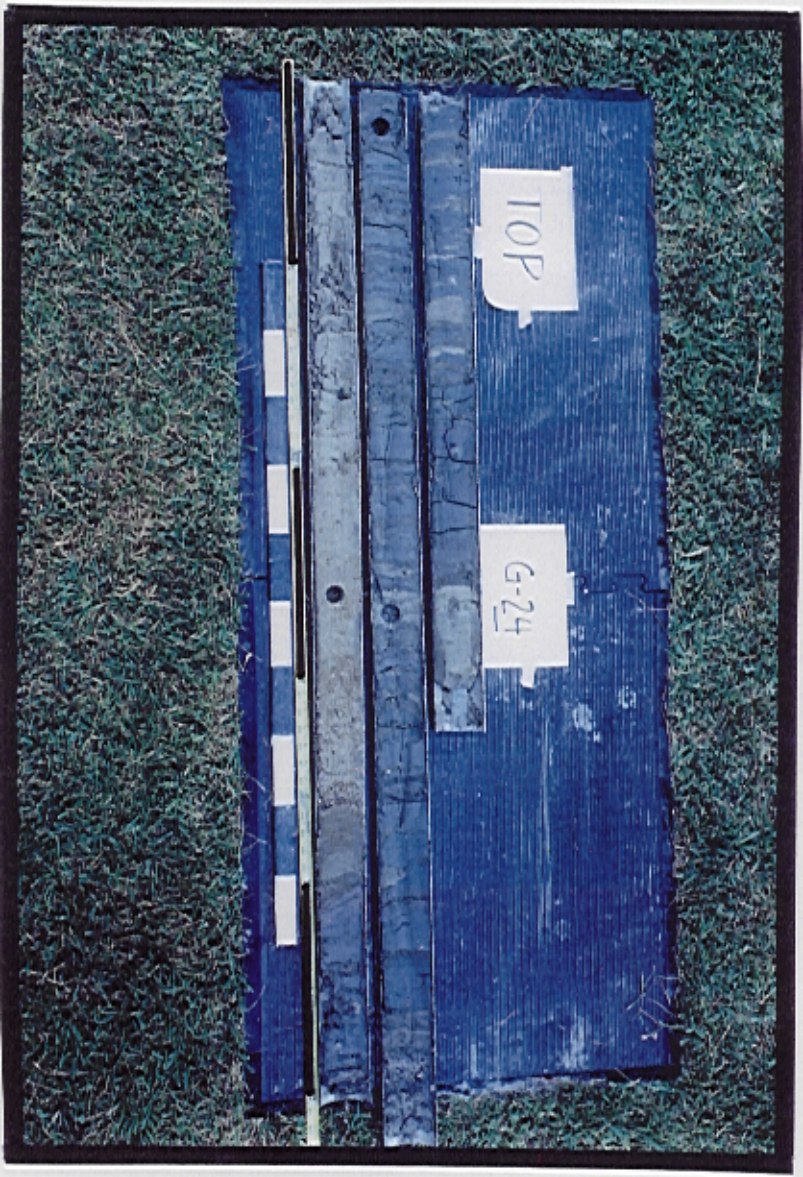
GRAPHIC MEASURES (Folk and Ward, 1957)		
	.125 CHI	.125 PHI
Mean	6.78792	3.167446
Standard deviation	1.216215	0.8807003
Skewness	-0.6351822	-1.152045
Kurtosis	3.893822	5.107862

MODES				
Number	Velocity	CHI	PHI	Freq. %
1	0.3291678	8.246962	3.97978	3.63636 ;
2	0.8798667	6.828499	3.19636	2.727283 ;
3	1.211544	6.367009	2.923054	2.727283 ;
4	0.2993596	8.383904	4.052391	2.727268 ;
5	0.505251	7.628784	3.646492	2.727268 ;

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, PD	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
5.06E-04
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

63024

G-24

1/3 2/3 3/3