70-1009

00911

Laboratory Item No. 249

MGG09005030

A SUMMARY OF ENGINEERING PROPERTIES, SIZE AND COMPOSITION ANALYSES OF CORES FROM GULF OF MEXICO - AREA LIMA (626-015)

Ship OMEGA, SQS Jan 1965

Engineering Properties
Prepared by: Nowell T. Stiles
Linda K. Glover

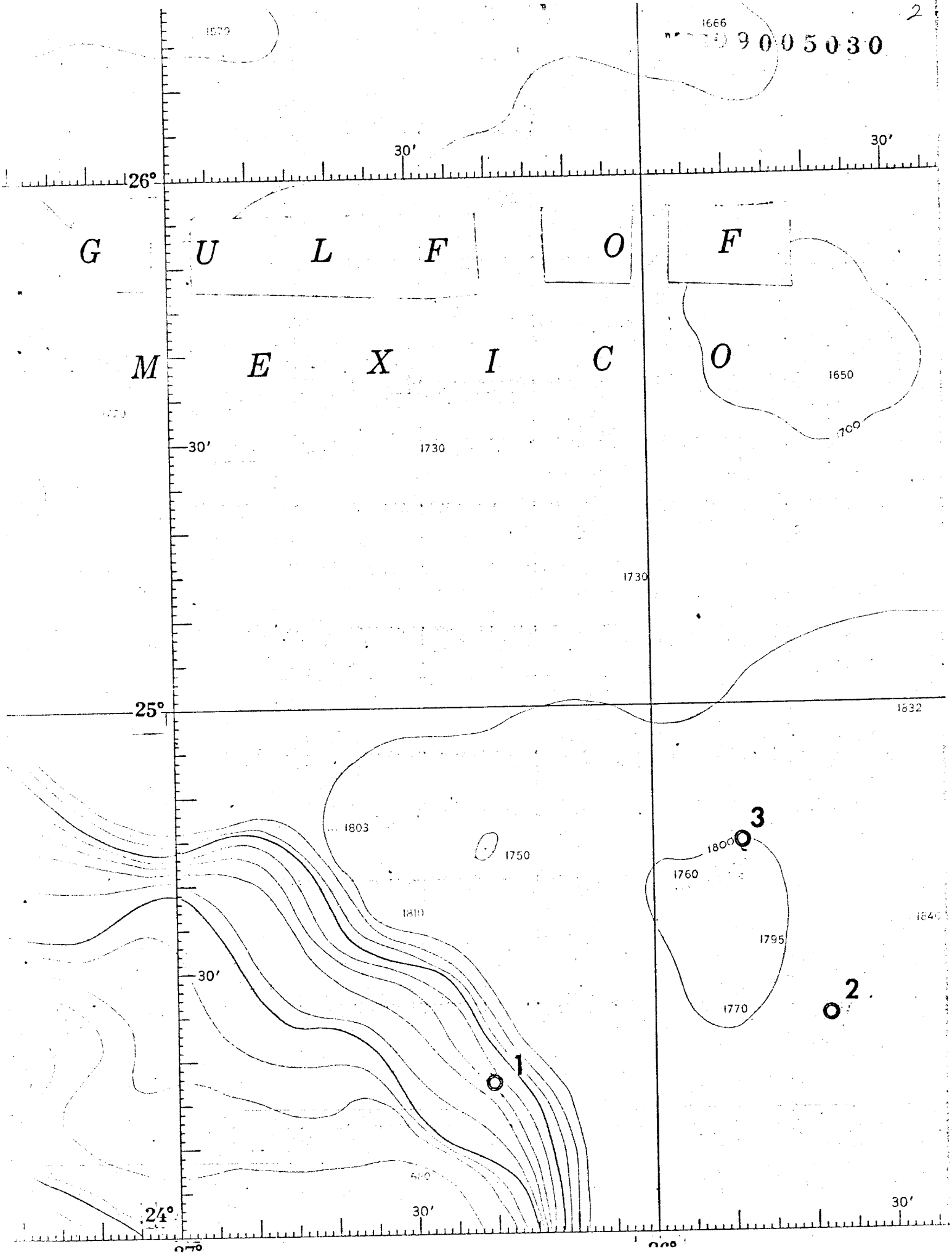
081-46,45

Size and Composition
Prepared by: David S. Hill

GEOLOGY LAB. FILE COPY

May 1965

Geological Laboratory Branch
Ocean Surveys Division
Oceanographic Surveys Dept.



9005030
2
1666
30′
30′
26°
G U L F O F
M E X I C O
1650
1700
30′
1730
1730
25°
1832
1803
1750
1800
3
1760
1810
1795
1840
30′
2
1770
1
24°
30′
30′

EXPLANATION OF DATA PAGES
CORE ANALYSIS SUMMARY SHEET
Engineering Properties
NAVOCEANO (EXP) 3167/18B (Rev. 1-63)

Results of engineering properties, core analysis performed by the U. S. Naval Oceanographic Office Geological Laboratory are recorded on Core Analysis Summary Sheet Engineering Properties.

The following is a description of the terms employed on the Core Analysis Summary Sheet:

1. Cruise Number. A number assigned to each cruise for identification purposes.

2. Latitude. Expressed in degrees, minutes, and seconds.

3. Longitude. Expressed in degrees, minutes, and seconds.

4. Sample Number. A consecutive number, commencing with 1, applied to each core taken successively throughout the cruise.

5. Date Taken. Day (GMT), month, and year.

6. Water Depth (m). The uncorrected sonic sounding recorded in meters.

7. Type Corer. Identified by the name of device employed.

8. Core Length(cm). Recorded in centimeters as observed in the laboratory.

9. Core Penetration (cm). Recorded in centimeters as observed in the field.

10. Subsample Depth in Core (cm). Interval of subsample as measured in centimeters from the top of the core.

11. Wet Unit Weight (g/cm^3). The weight (solids plus water) per unit volume of the sediment mass.

12. Specific Gravity of Solids. The ratio of weight in air of a given volume of a sediment at 20°C to the weight in air of an equal volume of distilled water at 20°C.

13. Water Content (% dry weight). The ratio, in percent, of the weight of water in a given mass of the sediment sample to the weight of the solid particles.

14. Void Ratio. The ratio of the volume of void spaces to the volume of solid particles in the sediment sample as computed from Wet Unit Weight, Specific Gravity of Solids, and Water Content.

15. Saturated Void Ratio. The Void Ratio at 100 percent saturation as computed from Water Content and Specific Gravity of Solids.

$$\text{Saturated Void Ratio} = \frac{\text{Water Content X Specific Gravity of Solids}}{100}$$

16. Porosity (%). The ratio, usually expressed as a percentage, of the volume of voids of a sediment mass to the total volume of the sediment mass.

17. Liquid Limit. Water Content, in percent, at which a pat of sediment cut by a groove of standard dimension will flow together for a distance of 1/2 inch under the impact of 25 blows in a standard liquid limit apparatus.

18. Plastic Limit. Water Content, in percent, at which a sediment will just begin to crumble when rolled into a thread approximately 1/8 inch in diameter.

19. Plasticity Index. The numerical difference between the Liquid Limit and Plastic Limit of the sediment mass.

20. Liquidity Index. The ratio, expressed in percentage, of (1) the natural water content of the sediment sample minus its Plastic Limit to (2) its Plasticity Index.

21. Compression Index. The slope of the linear portion of the Pressure-Void Ratio curve on a semi-log plot.

22. Compressive Strength. The load per unit area required to shear an unconfined, natural or remolded, sediment mass.

23. Cohesion. The shearing strength per unit area under zero externally applied load.

24. Sensitivity. The ratio of the natural to the remolded strength. It is a measure of the loss of strength due to remolding the sediment mass.

25. Angle of Internal Friction (°). The angle between the abscissa and the tangent of the curve representing the relationship of "shearing resistance" to "normal stress" acting within a sediment mass.

26. Activity. The ratio of the Plasticity Index to the clay fraction percentage (< .002 mm) of the sediment mass.

27. Modulus of Elasticity. The ratio of stress to strain of the sediment mass.

28. Slump (%). The ratio, in percent, of the amount of height change immediately before the compressive strength test to the original height of a cylinder of sediment.

EXPLANATION OF COMPUTER DATA SHEET
SEDIMENT SIZE AND COMPOSITION

Results of sediment-size and -composition core analysis performed by the U. S. Naval Oceanographic Office Geological Laboratory are tabulated on Computer Data Sheet Sediment Size and Composition.

The following is an explanation of the terms employed on the Computer Data Sheet:

1. CRUISE. A number assigned to each cruise for identification purposes.

2. SAMPLE. A consecutive number applied to each core taken successively throughout the cruise.

3. LATITUDE. Expressed in degrees, minutes, and tenths of minutes.

4. LONGITUDE. Expressed in degrees, minutes, and tenths of minutes.

5. TAKEN. Date in month, day, and year that core was taken.

6. CORER TYPE. Number corresponding to sampling device code below.

1. Hydroplastic piston	6. Orange Peel
2. Hydroplastic gravity	7. Ewing
3. Kullenberg piston	8. Vibrocorer
4. Kullenberg gravity	9. Dredge
5. Phleger gravity	0. Other

7. LENGTH. Length of core recorded in centimeters as observed in the laboratory.

8. PENETRATION. Penetration of coring device recorded in centimeters as observed in the field.

9. DEPTH. The uncorrected sonic sounding recorded in meters.

10. ANALYZED. Date in month, day, and year that core was analyzed in the laboratory.

11. ID. NO. Three digit laboratory project number followed by consecutive number assigned to each subsample analyzed.

12. INTERVAL. Interval of subsample as measured in centimeters from the top of the core.

13. MM. Particle diameter size intervals based on Wentworth size grades in millimeters.

14. PER. Percent of total sample weight within the given size interval.

15. GRAVEL, SAND, SILT, CLAY. Percent of total sample weight within the four size classes.

Class ranges are:	Gravel	-	coarser than 2 mm
	Sand	-	2 to 0.0625 mm
	Silt	-	0.0625 to 0.0039 mm
	Clay	-	finer than 0.0039 mm

16. MEAN (MM). The geometric mean of the distribution expressed in millimeters.

17. MEAN (PHI). The logarithmic mean of the distribution expressed in phi units ($-\log_2$ of the diameter in millimeters).

18. STAN DEV. Standard deviation. A measure of the degree of spread or dispersion of the distribution about the mean expressed in phi units.

$$\sigma = \sqrt{\sum f (X_i - \bar{X})^2 / 100}$$

19. SKEWNESS. A measure of the asymmetry of the distribution. Positive values denote skewness of the distribution toward the fine particles, negative values denote skewness toward the coarse particles. A normal distribution has a skewness of 0.

$$\alpha_3 = \frac{1}{100} \sigma^{-3} \sum f (X_i - \bar{X})^3$$

20. KURTOSIS. A measure of the peakedness of the distribution. Positive values denote a "leptokurtic" distribution, or a distribution more "peaked" than normal. Negative values denote a "platykurtic" distribution, or a distribution more "flat" than normal. A normal curve has a kurtosis of 0.

$$\alpha_4 = \frac{1}{100} \sigma^{-4} \sum f (X_i - \bar{X})^4 - 3$$

21. $CACO_3$. Percent calcium carbonate of the total sample weight as determined by the insoluble residue method.

22. ORG CARBON. Percent organic carbon of the total sample weight as determined by the Allison method.

23. COLOR. Wet sediment color, based on the Geological Society of America Rock-Color Chart, as determined in the laboratory.

24. DOM MINERAL. Dominant mineral (s) comprising the sample assemblage.

25. SEC MINERAL. Secondary mineral (s) comprising the sample assemblage.

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE — SAMPLE 1 — LATITUDE 24 17.9 N — LONGITUDE 86 20.4 W — TAKEN 1/25/65
CORER TYPE 1 — LENGTH 601.0 — PENETRATION 0.0 — DEPTH 3695.0 — ANALYZED 5/01/65

ID. NO.	249 1	249 2	249 3	249 4	249 5	249 6
INTERVAL	13.0- 20.0	23.0- 30.0	33.0- 40.0	43.0- 50.0	53.0- 60.0	63.0- 70.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.107	0.113	0.151	0.091	0.095	0.091
1.0000	0.107	0.113	0.151	0.091	0.095	0.091
0.5000	0.107	0.113	0.151	0.091	0.095	0.091
0.2500	0.107	0.113	0.151	0.091	0.095	0.091
0.1250	0.107	0.113	0.151	0.091	0.095	0.091
0.0625	0.107	0.113	0.151	0.091	0.095	0.091
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	2.671	3.386	2.269	1.825	0.095	5.018
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	2.671	2.822	5.295	4.106	16.083	3.650
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	23.504	14.673	16.641	17.792	16.083	16.423
0.0005	3.205	15.237	11.346	14.599	10.880	13.686
0.0000-	67.308	63.205	63.540	61.131	56.291	60.675
GRAVEL	0.107	0.113	0.151	0.091	0.095	0.091
SAND	0.534	0.564	0.756	0.456	0.473	0.456
SILT	5.342	6.208	7.564	5.931	16.178	8.668
CLAY	94.017	93.115	91.528	93.522	83.254	90.785
MEAN (MM)	0.0006	0.0006	0.0006	0.0006	0.0008	0.0006
MEAN (PHI)	10.6635	10.6670	10.6104	10.6670	10.3609	10.5300
STAN DEV	1.5449	1.5755	1.6369	1.4482	1.6445	1.6926
SKEWNESS	-1.4972	-1.5497	-1.5067	-1.5074	-0.9288	-1.2612
KURTOSIS	12.5460	12.8270	12.7221	13.8983	5.8089	7.9273
CACO3	12.000	11.000	16.000	12.000	14.000	17.000
ORG CARBON	0.154	0.000	0.000	0.000	0.000	0.148
COLOR	5Y3/1	5YR4/1	5YR4/1	5YR4/1	10YR4/2	10YR4/2
DOM MINERAL						
SEC MINERAL						

USGS 0905030

ID. NO.	249 7	249 8	249 9	249 10	249 11	249 12
INTERVAL	73.0- 80.0	83.0- 90.0	90.0- 93.0	103.0-110.0	113.0-120.0	125.0-132.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.098	0.088	0.107	0.090	0.081	0.096
1.0000	0.098	0.088	0.107	0.090	0.081	0.096
0.5000	0.098	0.088	0.107	0.090	0.081	0.096
0.2500	0.098	0.088	0.107	0.090	0.081	0.096
0.1250	0.098	0.088	0.107	0.090	0.081	0.096
0.0625	0.098	0.088	0.107	0.090	0.081	0.096
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	3.445	3.095	2.137	2.260	2.023	1.441
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	9.350	4.421	3.739	7.233	4.854	0.961
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	12.795	15.915	18.162	17.179	17.799	8.646
0.0005	13.780	15.051	13.355	14.014	14.968	12.008
0.0000-	66.039	61.068	61.966	58.770	59.871	76.369
GRAVEL	0.098	0.088	0.107	0.090	0.081	0.096
SAND	0.492	0.442	0.534	0.452	0.405	0.480
SILT	12.795	7.515	5.876	9.494	6.877	2.402
CLAY	86.614	91.954	93.483	89.964	92.638	97.022
MEAN (MM)	0.0007	0.0006	0.0006	0.0007	0.0006	0.0005
MEAN (PHI)	10.4636	10.6132	10.6581	10.5344	10.6278	11.0216
STAN DEV	1.7263	1.5564	1.4981	1.5748	1.4681	1.2497
SKEWNESS	-1.1257	-1.3819	-1.5369	-1.2440	-1.3919	-2.4039
KURTOSIS	6.6099	10.5700	13.9726	9.1346	11.7834	31.2041
CACO3	16.000	15.000	8.000	15.000	13.000	14.000
ORG CARBON	0.000	0.000	0.000	0.000	0.000	0.120
COLOR	10YR4/2	10YR4/2	10YR4/2	10YR4/2	10YR4/2	5YR4/1
DOM MINERAL						
SEC MINERAL						

MGG 0 9 0 0 5 0 3 0

ID. NO.	249 13	249 14	249 15	249 16	249 17	249 18
INTERVAL	135.0-142.0	145.0-152.0	155.0-162.0	165.0-172.0	175.0-182.0	185.0-192.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.093	0.137	0.096	0.149	0.160	0.107
1.0000	0.093	0.137	0.096	0.149	0.160	0.107
0.5000	0.093	0.137	0.096	0.149	0.160	0.107
0.2500	0.093	0.137	0.096	0.149	0.160	0.107
0.1250	0.093	0.137	0.096	0.149	0.160	0.107
0.0625	0.093	0.137	0.096	0.149	0.160	0.107
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	2.775	1.368	1.434	0.149	6.390	2.137
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	4.625	4.104	2.868	2.232	0.000	5.342
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	11.101	12.996	13.384	14.137	15.176	14.423
0.0005	7.401	12.312	13.384	11.905	9.585	10.150
0.0000-	73.543	68.399	68.356	70.685	67.891	67.308
GRAVEL	0.093	0.137	0.096	0.149	0.160	0.107
SAND	0.463	0.684	0.478	0.744	0.799	0.534
SILT	7.401	5.472	4.302	2.381	6.390	7.479
CLAY	92.044	93.707	95.124	96.726	92.652	91.880
MEAN (MM)	0.0006	0.0006	0.0005	0.0005	0.0006	0.0006
MEAN (PHI)	10.7942	10.7845	10.8375	10.9062	10.6166	10.7009
STAN DEV	1.5451	1.4863	1.3618	1.3241	1.8187	1.5457
SKEWNESS	-1.5512	-1.8099	-1.8456	-2.3296	-1.4650	-1.4968
KURTOSIS	12.4296	18.4481	19.9638	31.4599	9.9419	12.5751
CACO3	16.000	17.000	14.000	14.000	15.000	16.000
ORG CARBON	0.000	0.000	0.000	0.000	0.000	0.000
COLOR	5YR4/1	5YR4/1	5YR4/1	5YR4/1	5YR4/1	5YR4/1
DOM MINERAL						
SEC MINERAL						

0900503 0

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE
CORER TYPE 1

SAMPLE 1 LENGTH 601.0 LATITUDE 24 17.9 N PENETRATION 0.0 LONGITUDE 86 20.4 W DEPTH 3695.0 TAKEN 1/25/65 ANALYZED 5/01/65

ID. NO.	249 19	249 20	249 21	249 22	249 23	249 24
INTERVAL	195.0-202.0	205.0-212.0	215.0-222.0	225.0-232.0	235.0-242.0	255.0-262.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.107	0.091	0.093	0.105	0.112	0.087
1.0000	0.107	0.091	0.093	0.105	0.112	0.087
0.5000	0.107	0.091	0.093	0.105	0.112	0.087
0.2500	0.107	0.091	0.093	0.105	0.112	0.087
0.1250	0.107	0.091	0.093	0.105	0.112	0.087
0.0625	0.107	0.091	0.093	0.105	0.112	0.087
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	0.107	1.825	0.465	2.092	2.245	7.853
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	1.601	7.755	4.647	4.707	2.806	16.143
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	12.807	17.336	14.405	14.644	14.590	11.780
0.0005	13.340	10.493	11.617	12.029	12.907	10.908
0.0000-	71.505	62.044	68.309	65.900	66.779	52.792
GRAVEL	0.107	0.091	0.093	0.105	0.112	0.087
SAND	0.534	0.456	0.465	0.523	0.561	0.436
SILT	1.708	9.580	5.112	6.799	5.051	23.997
CLAY	97.652	89.872	94.331	92.573	94.276	75.480
MEAN (MM)	0.0005	0.0007	0.0006	0.0006	0.0006	0.0010
MEAN (PHI)	10.9728	10.5712	10.8234	10.7071	10.7615	9.9834
STAN DEV	1.1777	1.5662	1.3329	1.5146	1.4787	2.0695
SKEWNESS	-2.4695	-1.2488	-1.7515	-1.5406	-1.7170	-0.6718
KURTOSIS	37.6491	9.3268	19.5382	13.4912	16.4699	1.4695
CACO3	6.000	15.000	16.000	14.000	4.000	16.000
ORG CARBON	0.000	0.000	0.000	0.000	0.161	0.146
COLOR	5YR4/1	5YR4/1	5YR4/1	5YR4/1	5YR4/1	10YR3/2
DOM MINERAL						
SEC MINERAL						

MGG09005030

ID. NO.	249 25	249 26	249 27	249 28	249 29	249 30
INTERVAL	265.0-272.0	275.0-282.0	285.0-292.0	295.0-302.0	305.0-312.0	315.0-322.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.121	0.106	0.121	0.113	0.126	0.107
1.0000	0.121	0.106	0.121	0.113	0.126	0.107
0.5000	0.121	0.106	0.121	0.113	0.126	0.107
0.2500	0.121	0.106	0.121	0.113	0.126	0.107
0.1250	0.121	0.106	0.121	0.113	0.126	0.107
0.0625	0.121	0.106	0.121	0.113	0.126	0.107
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	2.421	1.586	0.121	1.693	0.628	0.107
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	6.659	8.457	1.814	1.129	3.141	3.202
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	10.291	9.514	9.069	12.980	8.794	14.408
0.0005	13.923	13.742	16.324	12.415	13.819	9.605
0.0000-	65.981	66.068	71.947	71.106	72.864	72.038
GRAVEL	0.121	0.106	0.121	0.113	0.126	0.107
SAND	0.605	0.529	0.605	0.564	0.628	0.534
SILT	9.080	10.042	1.935	2.822	3.769	3.308
CLAY	90.194	89.323	97.340	96.501	95.477	96.051
MEAN (MM)	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005
MEAN (PHI)	10.6671	10.6723	10.9994	10.8984	10.9435	10.9141
STAN DEV	1.6175	1.5731	1.1959	1.3557	1.3274	1.2667
SKEWNESS	-1.4662	-1.4057	-2.6589	-2.0994	-2.2461	-2.0917
KURTOSIS	11.5389	11.0544	40.6580	24.4856	28.1935	27.5179
CACO3	4.000	7.000	15.000	15.000	4.000	13.000
ORG CARBON	0.000	0.000	0.000	0.000	0.135	0.000
COLOR	10YR3/2	5YR4/1	10YR3/2	10YR3/2	5YR3/4	5YR3/4
DOM MINERAL						
SEC MINERAL						

MGG09005030

ID. NO.	249 31	249 32	249 33	249 34	249 35	249 36
INTERVAL	325.0-332.0	335.0-342.0	345.0-352.0	355.0-362.0	367.0-374.0	375.0-382.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.137	0.101	0.151	0.110	0.196	0.129
1.0000	0.137	0.101	0.151	0.110	0.196	0.129
0.5000	0.137	0.101	0.151	0.110	0.196	0.129
0.2500	0.137	0.101	0.151	0.110	0.196	0.129
0.1250	0.137	0.101	0.151	0.110	0.196	0.129
0.0625	0.137	0.101	0.151	0.110	0.196	0.129
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	2.052	2.523	0.151	0.549	0.978	0.129
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	0.684	2.523	0.000	4.940	8.806	5.148
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	11.628	9.082	12.840	9.879	4.892	9.653
0.0005	12.312	14.127	12.840	13.721	25.440	14.801
0.0000-	72.503	71.140	73.263	70.252	58.708	69.498
GRAVEL	0.137	0.101	0.151	0.110	0.196	0.129
SAND	0.684	0.505	0.755	0.549	0.978	0.644
SILT	2.736	5.045	0.151	5.488	9.785	5.277
CLAY	96.443	94.349	98.943	93.853	89.041	93.951
MEAN (MM)	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005
MEAN (PHI)	10.9077	10.8613	11.0106	10.8655	10.6135	10.8642
STAN DEV	1.4193	1.4469	1.2176	1.3650	1.6596	1.3689
SKEWNESS	-2.1656	-1.8518	-2.9093	-1.9063	-1.6445	-2.0083
KURTOSIS	24.5782	17.9499	46.4473	21.4021	14.6981	23.7963
CACO3	13.000	14.000	7.000	6.000	5.000	4.000
ORG CARBON	0.000	0.000	0.000	0.134	0.000	0.000
COLOR	5YR3/4	5YR3/4	5YR3/4	5YR3/4	10YR3/2	10YR3/2
DOM MINERAL						
SEC MINERAL						

MCG09005030

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE — SAMPLE 1 — LATITUDE 24 17.9 N — LONGITUDE 86 20.4 W — TAKEN 1/25/65
CORER TYPE 1 — LENGTH 601.0 — PENETRATION 0.0 — DEPTH 3695.0 — ANALYZED 5/01/65

ID. NO.	249 37	249 38	249 39	249 40	249 41	249 42
INTERVAL	385.0-392.0	395.0-402.0	405.0-412.0	415.0-422.0	425.0-432.0	435.0-442.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.129	0.307	0.118	0.129	0.092	0.105
1.0000	0.129	0.307	0.118	0.129	0.092	0.105
0.5000	0.129	0.307	0.118	0.129	0.092	0.105
0.2500	0.129	0.307	0.118	0.129	0.092	0.105
0.1250	0.129	0.307	0.118	0.129	0.092	0.105
0.0625	0.129	0.307	0.118	0.129	0.092	0.105
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	0.644	1.534	2.364	0.644	0.092	0.105
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	8.376	13.804	1.182	5.155	2.760	0.000
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	8.376	10.736	11.820	14.175	15.639	13.655
0.0005	14.820	10.736	17.730	14.820	18.399	16.282
0.0000-	67.010	61.350	66.194	64.433	62.557	69.328
GRAVEL	0.129	0.307	0.118	0.129	0.092	0.105
SAND	0.644	1.534	0.591	0.644	0.460	0.525
SILT	9.021	15.337	3.546	5.799	2.852	0.105
CLAY	90.206	82.822	95.745	93.428	96.596	99.265
MEAN (MM)	0.0006	0.0008	0.0006	0.0006	0.0005	0.0005
MEAN (PHI)	10.7294	10.3405	10.8227	10.7423	10.8293	10.9916
STAN DEV	1.5286	2.0090	1.4263	1.4397	1.2080	1.0962
SKEWNESS	-1.5910	-1.2637	-1.9642	-1.7559	-2.0012	-2.8043
KURTOSIS	14.6133	8.4275	20.8417	18.7194	27.7143	49.1262
CACO3	12.000	14.000	14.000	8.000	16.000	14.000
ORG CARBON	0.149	0.000	0.000	0.000	0.163	0.000
COLOR	5Y 4/1	5Y 4/1	5Y 4/1	5Y 4/1	5Y 4/1	5Y 4/1
DOM MINERAL						
SEC MINERAL						

MGG 0 9 0 0 5 0 3 0

ID. NO.	249 43	249 44	249 45	249 46	249 47	249 48
INTERVAL	445.0-452.0	455.0-462.0	465.0-472.0	475.0-482.0	485.0-492.0	495.0-502.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.119	0.126	0.104	0.125	0.089	0.112
1.0000	0.119	0.126	0.104	0.125	0.089	0.112
0.5000	0.119	0.126	0.104	0.125	0.089	0.112
0.2500	0.119	0.126	0.104	0.125	0.089	0.112
0.1250	0.119	0.126	0.104	0.125	0.089	0.112
0.0625	0.119	0.126	0.104	0.125	0.089	0.112
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	2.378	2.513	0.104	0.624	3.122	4.464
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	4.756	3.141	4.158	2.497	6.690	7.254
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	11.891	9.422	6.757	10.612	16.949	7.813
0.0005	16.647	16.960	16.112	13.733	17.841	24.554
0.0000-	63.615	67.211	72.245	71.785	54.862	55.246
GRAVEL	0.119	0.126	0.104	0.125	0.089	0.112
SAND	0.595	0.628	0.520	0.624	0.446	0.558
SILT	7.134	5.653	4.262	3.121	9.813	11.719
CLAY	92.152	93.593	95.114	96.130	89.652	87.612
MEAN (MM)	0.0006	0.0006	0.0005	0.0005	0.0007	0.0007
MEAN (PHI)	10.6879	10.7864	10.9657	10.9345	10.4715	10.4699
STAN DEV	1.5515	1.5157	1.2468	1.3092	1.6121	1.7386
SKEWNESS	-1.5808	-1.7936	-2.2523	-2.2720	-1.2098	-1.2449
KURTOSIS	13.7329	16.9347	29.8707	29.3620	8.3034	7.6935
CACO3	15.000	8.000	15.000	6.000	12.000	6.000
ORG CARBON	0.000	0.000	0.000	0.121	0.000	0.137
COLOR	5Y 4/1	5Y 4/1	5Y 4/1	5Y 4/1	5Y 4/1	5Y 2/1
DOM MINERAL						
SEC MINERAL						

MGG 0 9 0 0 5 0 3 0

ID. NO.	249 49	249 50	249 51	249 52	249 53	249 54
INTERVAL	505.0-512.0	515.0-522.0	525.0-532.0	535.0-542.0	545.0-552.0	555.0-562.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.105	0.123	0.120	0.125	0.110	0.000
1.0000	0.105	0.123	0.120	0.125	0.110	0.093
0.5000	0.105	0.123	0.120	0.125	0.110	0.093
0.2500	0.105	0.123	0.120	0.125	0.110	0.464
0.1250	0.105	0.123	0.120	0.125	0.110	0.464
0.0625	0.105	0.123	0.120	0.125	0.110	0.929
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	3.138	0.613	1.203	3.121	6.623	6.964
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	4.184	3.064	9.025	7.491	3.863	12.535
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	12.029	11.029	12.635	13.733	12.693	14.392
0.0005	15.690	17.157	15.644	13.733	15.453	12.999
0.0000-	64.331	67.402	60.770	61.174	60.706	51.068
GRAVEL	0.105	0.123	0.120	0.125	0.110	0.000
SAND	0.523	0.613	0.602	0.624	0.552	2.043
SILT	7.322	3.676	10.229	10.612	10.486	19.499
CLAY	92.050	95.588	89.049	88.639	88.852	78.459
MEAN (MM)	0.0006	0.0005	0.0007	0.0007	0.0007	0.0010
MEAN (PHI)	10.6810	10.8713	10.5818	10.5225	10.4702	9.9791
STAN DEV	1.5738	1.3268	1.5853	1.7032	1.8313	2.1414
SKEWNESS	-1.5107	-2.1299	-1.3631	-1.2835	-1.2021	-0.7906
KURTOSIS	12.0976	26.5707	11.0865	8.8878	6.5718	2.1867
CACO3	4.000	12.000	15.000	15.000	5.000	4.000
ORG CARBON	0.000	0.000	0.000	0.116	0.000	0.000
COLOR	5Y 4/1	5Y 4/1	5Y 4/1	N3	5Y 4/1	5Y 4/1
DOM MINERAL						
SEC MINERAL						

MGG 0 9 0 0 5 0 3 0

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE
CORER TYPE 1

SAMPLE 1
LENGTH 601.0

LATITUDE 24 17.9 N
PENETRATION 0.0

LONGITUDE 86 20.4 W
DEPTH 3695.0

TAKEN 1/25/65
ANALYZED 5/01/65

ID. NO.	249 55	249 56	249 57			
INTERVAL	565.0-572.0	575.0-582.0	585.0-592.0			
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000			
2.0000	0.107	0.131	0.123			
1.0000	0.107	0.131	0.123			
0.5000	0.107	0.131	0.123			
0.2500	0.107	0.131	0.123			
0.1250	0.107	0.131	0.123			
0.0625	0.107	0.131	0.123			
0.0312	0.000	0.000	0.000			
0.0156	3.222	1.314	4.316			
0.0078	0.000	0.000	0.000			
0.0039	5.371	7.227	8.015			
0.0020	0.000	0.000	0.000			
0.0010	16.649	18.397	12.947			
0.0005	14.501	13.141	14.180			
0.0000-	59.613	59.133	59.803			
GRAVEL	0.107	0.131	0.123			
SAND	0.537	0.657	0.617			
SILT	8.593	8.541	12.330			
CLAY	90.763	90.670	86.930			
MEAN (MM)	0.0007	0.0007	0.0007			
MEAN (PHI)	10.5462	10.5499	10.4420			
STAN DEV	1.6279	1.5768	1.7927			
SKEWNESS	-1.3298	-1.3986	-1.1702			
KURTOSIS	9.7850	12.1055	6.9416			
CACO3	13.000	8.000	13.000			
ORG CARBON	0.000	0.000	0.107			
COLOR	5Y 4/1	5Y 4/1	5Y 4/1			
DOM MINERAL						
SEC MINERAL						

MGG 09005030

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE SAMPLE 2 LATITUDE 24 25.2 N LONGITUDE 85 39.0 W TAKEN 1/27/65
CORER TYPE 2 LENGTH 140.0 PENETRATION 0.0 DEPTH 3695.0 ANALYZED 5/02/65

ID. NO.	249 58	249 59	249 60	249 61	249 62	249 63
INTERVAL	0.0- 7.0	12.0- 19.0	19.0- 26.0	32.0- 39.0	39.0- 46.0	49.0- 56.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.000	0.000	0.000	0.146	0.086	0.000
1.0000	0.000	0.069	0.085	0.146	0.086	0.000
0.5000	4.403	0.343	0.085	0.146	0.086	0.083
0.2500	10.692	1.030	1.280	0.146	0.086	0.083
0.1250	6.289	1.717	6.399	0.146	0.086	0.413
0.0625	5.660	4.808	23.038	0.730	0.086	0.413
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	11.321	19.918	45.648	2.190	5.146	6.601
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	7.547	17.857	6.399	1.460	11.578	11.551
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	11.321	10.989	1.706	9.489	12.864	11.139
0.0005	10.692	9.959	1.706	14.599	13.293	12.789
0.0000-	32.075	33.310	13.652	70.803	56.604	56.931
GRAVEL	0.000	0.000	0.000	0.146	0.086	0.000
SAND	27.044	7.967	30.887	1.314	0.429	0.990
SILT	18.868	37.775	52.048	3.650	16.724	18.152
CLAY	54.088	54.258	17.065	94.891	82.762	80.858
MEAN (MM)	0.0051	0.0026	0.0169	0.0005	0.0008	0.0008
MEAN (PHI)	7.6132	8.5831	5.8874	10.8358	10.2839	10.2038
STAN DEV	3.9334	2.8409	2.7340	1.5720	1.8590	1.9744
SKEWNESS	-0.2590	-0.2874	0.4845	-1.9663	-0.9110	-0.8040
KURTOSIS	-1.3058	-0.7794	0.0310	18.8424	3.7820	1.9373
CACO3	41.000	28.000	55.000	11.000	15.000	14.000
ORG CARBON	0.074	0.000	0.000	0.000	0.000	0.000
COLOR	10YR6/2	10YR6/2	10YR6/2	5YR5/2	5YR5/2	5YR5/2
DOM MINERAL						
SEC MINERAL						

MGG09005030

TD. NO.	249 64	249 65	249 66	249 67	249 68	249 69
INTERVAL	59.0- 66.0	69.0- 76.0	79.0- 86.0	92.0- 99.0	99.0-106.0	109.0-116.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.105	0.000	0.096	0.000	0.000	0.093
1.0000	0.105	0.000	0.096	0.099	0.107	0.093
0.5000	0.105	0.095	0.096	0.099	0.107	0.093
0.2500	0.105	0.095	0.096	0.988	0.534	0.093
0.1250	0.105	0.095	0.096	2.470	2.134	0.093
0.0625	1.047	0.475	0.096	2.964	1.601	0.093
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	1.571	8.072	10.567	12.846	6.937	6.041
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	6.283	16.144	7.205	11.364	9.072	8.364
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	8.377	13.295	14.409	11.364	12.273	11.617
0.0005	15.707	11.871	13.929	11.364	12.807	16.264
0.0000-	66.492	49.858	53.314	46.443	54.429	57.156
GRAVEL	0.105	0.000	0.096	0.000	0.000	0.093
SAND	1.466	0.760	0.480	6.621	4.482	0.465
SILT	7.853	24.217	17.771	24.209	16.009	14.405
CLAY	90.576	75.024	81.652	69.170	79.509	85.037
MEAN (MM)	0.0006	0.0010	0.0009	0.0015	0.0010	0.0008
MEAN (PHI)	10.6885	9.9188	10.0898	9.3528	9.9493	10.3494
STAN DEV	1.6488	2.0567	2.0823	2.7474	2.3944	1.8568
SKEWNESS	-1.5349	-0.5902	-0.8181	-0.5691	-0.8690	-1.0179
KURTOSIS	11.7425	0.4991	2.3055	0.1928	2.3379	4.6496
CACO3	14.000	14.000	5.000	14.000	17.000	4.000
ORG CARBON	0.160	0.000	0.000	0.000	0.000	0.000
COLOR	5YR4/1	5YR4/1	5YR4/1	5YR4/1	5YR4/1	5YR5/1
DOM MINERAL						
SEC MINERAL						

MCG 0 9 0 0 5 0 3 0

	120	130				
ID. NO.	249 70	249 71				
INTERVAL	119.0-126.0	129.0-136.0				
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000				
2.0000	0.000	0.101				
1.0000	0.108	0.101				
0.5000	0.108	0.101				
0.2500	0.108	0.101				
0.1250	0.539	0.506				
0.0625	1.078	0.506				
0.0312	0.000	0.000				
0.0156	4.310	5.056				
0.0078	0.000	0.000				
0.0039	5.388	12.639				
0.0020	0.000	0.000				
0.0010	12.931	8.595				
0.0005	14.009	14.156				
0.0000-	61.422	58.140				
GRAVEL	0.000	0.101				
SAND	1.940	1.314				
SILT	9.698	17.695				
CLAY	88.362	80.890				
MEAN (MM)	0.0007	0.0008				
MEAN (PHI)	10.4569	10.2452				
STAN DEV	1.8715	2.0065				
SKEWNESS	-1.1944	-0.9470				
KURTOSIS	6.0363	3.8104				
CACO3	14.000	14.000				
ORG CARBON	0.000	0.143				
COLOR	5YR4/1	5YR4/1				
DOM MINERAL						
SEC MINERAL						

MGG09005030

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE — SAMPLE 3 — LATITUDE 24 44.9 N — LONGITUDE 85 48.8 W — TAKEN 1/29/65
CORER TYPE 2 — LENGTH 121.0 — PENETRATION 0.0 — DEPTH 3695.0 — ANALYZED 5/03/65

ID. NO.	249 72	249 73	249 74	249 75	249 76	249 77
INTERVAL	0.0- 7.0	11.0- 18.0	18.0- 25.0	25.0- 32.0	35.0- 42.0	45.0- 52.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.000	0.000	0.000	0.197	0.151	0.175
1.0000	0.106	0.095	0.000	0.197	0.151	0.175
0.5000	2.114	1.894	0.135	0.197	0.151	0.175
0.2500	10.571	9.943	1.350	0.197	0.151	0.175
0.1250	7.400	7.102	3.374	0.197	0.151	0.175
0.0625	6.871	6.629	6.073	0.197	0.151	0.175
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	14.271	14.205	16.194	0.197	0.756	1.751
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	11.099	12.784	19.568	9.862	1.513	1.751
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	7.928	8.996	5.398	24.655	18.154	19.264
0.0005	8.985	8.996	12.821	0.000	15.129	14.011
0.0000-	30.655	29.356	35.088	64.103	63.540	62.172
GRAVEL	0.000	0.000	0.000	0.197	0.151	0.175
SAND	27.061	25.663	10.931	0.986	0.756	0.876
SILT	25.370	26.989	35.762	10.059	2.269	3.503
CLAY	47.569	47.348	53.306	88.757	96.823	95.447
MEAN (MM)	0.0058	0.0056	0.0026	0.0007	0.0006	0.0006
MEAN (PHI)	7.4334	7.4830	8.5702	10.4763	10.7844	10.6891
STAN DEV	3.8020	3.7200	2.9755	1.7107	1.3810	1.5340
SKEWNESS	-0.1806	-0.1949	-0.3052	-1.3409	-2.1034	-1.8628
KURTOSIS	-1.3750	-1.3065	-0.8606	11.4183	26.2531	19.5146
CACO3	52.000	54.000	35.000	5.000	14.000	14.000
ORG CARBON	0.052	0.000	0.000	0.000	0.000	0.000
COLOR	10YR6/2	10YR6/2	10YR6/2	10YR6/2	5Y4/1	5Y4/1
DOM MINERAL						
SEC MINERAL						

MGG09005030

ID. NO.	249 78	249 79	249 80	249 81	249 82	249 83
INTERVAL	55.0- 62.0	65.0- 72.0	75.0- 82.0	85.0- 92.0	95.0-102.0	105.0-112.0
MM	PER	PER	PER	PER	PER	PER
4.0000	0.000	0.000	0.000	0.000	0.000	0.000
2.0000	0.111	0.101	0.118	0.215	0.131	0.105
1.0000	0.111	0.101	0.118	0.215	0.131	0.105
0.5000	0.111	0.101	0.118	0.215	0.131	0.105
0.2500	0.111	0.101	0.118	0.215	0.131	0.105
0.1250	0.111	0.101	0.118	0.215	0.131	0.105
0.0625	0.111	0.101	0.118	0.215	0.131	0.105
0.0312	0.000	0.000	0.000	0.000	0.000	0.000
0.0156	0.111	1.521	1.763	4.292	0.657	3.138
0.0078	0.000	0.000	0.000	0.000	0.000	0.000
0.0039	3.326	1.014	15.276	6.438	3.942	9.937
0.0020	0.000	0.000	0.000	0.000	0.000	0.000
0.0010	14.967	16.227	7.051	10.730	12.484	16.736
0.0005	14.967	14.199	14.689	11.803	14.455	11.506
0.0000-	65.965	66.430	60.517	65.451	67.674	58.054
GRAVEL	0.111	0.101	0.118	0.215	0.131	0.105
SAND	0.554	0.507	0.588	1.073	0.657	0.523
SILT	3.437	2.535	17.039	10.730	4.599	13.075
CLAY	95.898	96.856	82.256	87.983	94.612	86.297
MEAN (MM)	0.0005	0.0005	0.0007	0.0007	0.0006	0.0007
MEAN (PHI)	10.8415	10.8377	10.4213	10.5172	10.8259	10.3985
STAN DEV	1.2805	1.3233	1.7725	1.9009	1.3961	1.7324
SKEWNESS	-2.0236	-1.9859	-1.0482	-1.3712	-1.9629	-1.0746
KURTOSIS	26.4216	23.5263	5.9731	9.1653	22.5792	6.3809
CACO3	9.000	3.000	14.000	14.000	14.000	15.000
ORG CARBON	0.140	0.000	0.000	0.000	0.000	0.250
COLOR	5YR4/1	5YR4/1	5YR4/1	5YR4/1	5YR4/1	5YR4/1
DOM MINERAL						
SEC MINERAL						

24

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

081-46

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.	4. SAMPLE NO. BS-1 Section 1	7. TYPE CORER EWING (LINER)
2. LATITUDE 24 ° 17.9 ' N "	5. DATE TAKEN (Day, month, year) 25 JAN 65	8. CORE LENGTH (cm) 601
3. LONGITUDE 86 ° 20.4 ' W "	6. WATER DEPTH (m) 3700	9. CORER PENETRATION (cm)

10. SUBSAMPLE DEPTH IN CORE (cm)	0-7	13-20	23-30	33-40	43-50	53-60	63-70	73-80	83-90	93-100	103-110	113-120
11. WET UNIT WEIGHT (g/cm³)	1.29	1.32	1.33	1.34	1.33	1.35	1.37	1.38	1.34	1.36	1.37	1.35
12. SPECIFIC GRAVITY OF SOLIDS		2.68	2.68	2.71	2.66	2.75	2.74	2.67	2.71	2.69	2.73	2.73
13. WATER CONTENT (% dry weight)	175.0	172.3	153.5	153.2	149.0	148.7	142.5	142.8	152.7	147.4	139.3	146.8
14. VOID RATIO		4.53	4.11	4.12	3.98	4.07	3.85	3.70	4.11	3.89	3.77	3.99
15. SATURATED VOID RATIO		4.62	4.11	4.15	3.96	4.09	3.90	3.81	4.14	3.96	3.80	4.01
16. POROSITY (%)		81.9	80.4	80.5	79.9	80.3	79.4	78.7	80.4	79.6	79.0	80.0
17. LIQUID LIMIT												
18. PLASTIC LIMIT												
19. PLASTICITY INDEX												
20. LIQUIDITY INDEX												
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)	8		24		14		24		26		32	
REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)	4	12	12	14	7	11	12	14	13	16	16	23
REMOLD (g/cm²)				3		11		3		9		11
24. SENSITIVITY				5		1		5		2		2
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY (g/cm²)	42		77		218		63		120		112	
28. SLUMP (%)	5		12		9		4		5		11	

29. REMARKS

09005030

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.	4. SAMPLE NO. BS-1 SECTION 2	7. TYPE CORER EWING (LINER)	
2. LATITUDE 24 ° 17.9 ' N "	5. DATE TAKEN (Day, month, year) 25 JAN 65	8. CORE LENGTH (cm) 601	
3. LONGITUDE 86 ° 20.4 ' W "	6. WATER DEPTH (m) 3700	9. CORER PENETRATION (cm)	

10. SUBSAMPLE DEPTH IN CORE (cm)	125-132	135-142	145-152	155-162	165-172	175-182	185-192	195-202	205-212	215-222	225-232	235-242
11. WET UNIT WEIGHT (g/cm³)	1.37	1.37	1.37	1.37	1.37	1.40	1.39	1.39	1.39	1.41	1.42	
12. SPECIFIC GRAVITY OF SOLIDS	2.67	2.73	2.67	2.68	2.72	2.68	2.69	2.68	2.68	2.69	2.68	2.72
13. WATER CONTENT (% dry weight)	144.8	140.3	144.9	135.7	139.5	134.8	126.7	133.8	131.2	124.2	117.5	131.9
14. VOID RATIO	3.77	3.79	3.77	3.61	3.76	3.49	3.38	3.57	3.46	3.28	3.11	
15. SATURATED VOID RATIO	3.87	3.83	3.87	3.64	3.80	3.61	3.41	3.58	3.52	3.34	3.15	
16. POROSITY (%)	79.0	79.1	79.0	78.3	79.0	77.7	77.2	77.8	77.6	76.6	75.7	
17. LIQUID LIMIT			109.0									
18. PLASTIC LIMIT			41.1									
19. PLASTICITY INDEX			67.9									
20. LIQUIDITY INDEX			0.97									
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)	32		26		34		36		36		40	
REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)	16	18	13	21	17	24	18	21	18	15	20	26
REMOLD (g/cm²)		11		14		14		8		10		7
24. SENSITIVITY		2		2		2		3		2		4
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY (g/cm²)	120		134		127		197		98		162	
28. SLUMP (%)	0		11		10		10		11		0	

29. REMARKS

MGG09005030

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.	4. SAMPLE NO. BS-1 section 3	7. TYPE CORER EWING (LINER)
2. LATITUDE 24 ° 17.9 N "	5. DATE TAKEN (Day, month, year) 25 JAN 65	8. CORE LENGTH (cm) 601
3. LONGITUDE 86 ° 20.4 W "	6. WATER DEPTH (m) 3700	9. CORER PENETRATION (cm)

10. SUBSAMPLE DEPTH IN CORE (cm)	255-262	265-272	275-282	285-292	295-302	305-312	315-322	325-332	335-342	345-352	355-362
11. WET UNIT WEIGHT (g/cm³)	1.50	1.41	1.40	1.41	1.42	1.40	1.39	1.40	1.40	1.43	1.43
12. SPECIFIC GRAVITY OF SOLIDS	2.69	2.70	2.70	2.70	2.71	2.71	2.72	2.72	2.72	2.72	2.71
13. WATER CONTENT (% dry weight)	95.8	122.4	127.2	125.0	121.8	125.1	128.7	126.4	122.9	118.7	118.0
14. VOID RATIO	2.57	3.26	3.38	3.31	3.23	3.36	3.48	3.40	3.33	3.16	3.13
15. SATURATED VOID RATIO	2.58	3.31	3.44	3.37	3.30	3.39	3.50	3.44	3.34	3.23	3.20
16. POROSITY (%)	71.5	76.5	77.2	76.8	76.4	77.1	77.7	77.3	76.9	76.0	75.8
17. LIQUID LIMIT		108.0									
18. PLASTIC LIMIT		42.8									
19. PLASTICITY INDEX		65.2									
20. LIQUIDITY INDEX		1.11									
21. COMPRESSION INDEX FROM LL											
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)		60	60		66	66		70	74		66
REMOLD (g/cm²)											
23. COHESION NATURAL (g/cm²)	47	30	30	39	33	33		35	37	39	33
REMOLD (g/cm²)	17			15			13			13	
24. SENSITIVITY	3			3						3	
25. ANGLE OF INTERNAL FRICTION (°)											
26. ACTIVITY											
27. MODULUS OF ELASTICITY (g/cm²)		352	450		380	359		246	323		330
28. SLUMP (%)		3	3		6	5		3	5		9

29. REMARKS

MSG09005030

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.
2. LATITUDE 24 ° 17.9 N "
3. LONGITUDE 86 ° 20.4 W "
4. SAMPLE NO. BS-1 Section 4
5. DATE TAKEN (Day, month, year) 25 JAN 65
6. WATER DEPTH (m) 3700
7. TYPE CORER EWING (LINER)
8. CORE LENGTH (cm) 601
9. CORER PENETRATION (cm)

10. SUBSAMPLE DEPTH IN CORE (cm)	367-374	375-382	385-392	395-402	405-412	415-422	425-432	435-442	445-452	455-462	465-472	475-482
11. WET UNIT WEIGHT (g/cm³)	1.44	1.42	1.45	1.41	1.42	1.44	1.43	1.43	1.46	1.44	1.43	1.45
12. SPECIFIC GRAVITY OF SOLIDS	2.74	2.73	2.74	2.75	2.74	2.74	2.74	2.74	2.72	2.70	2.75	2.70
13. WATER CONTENT (% dry weight)	110.8	118.9	113.4	117.4	122.1	115.6	114.1	113.1	101.3	113.8	113.4	113.3
14. VOID RATIO	3.01	3.21	3.03	3.24	3.24	3.10	3.10	3.08	2.75	3.01	3.10	2.97
15. SATURATED VOID RATIO	3.04	3.25	3.11	3.22	3.22	3.17	3.13	3.10	2.76	3.07	3.12	3.06
16. POROSITY (%)	75.1	76.2	75.2	76.4	76.6	75.6	75.6	75.5	73.3	75.1	75.6	74.8
17. LIQUID LIMIT							111.5					
18. PLASTIC LIMIT							45.0					
19. PLASTICITY INDEX							66.5					
20. LIQUIDITY INDEX							1.04					
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)		86	92		96	96		106	96		102	110
22. COMPRESSIVE STRENGTH REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)	49	43	46	36	48	48	65	53	48	57	51	55
23. COHESION REMOLD (g/cm²)	9			23			25			27		
24. SENSITIVITY	5			2			3			2		
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY (g/cm²)		584	541		605	569		520	682		724	738
28. SLUMP (%)		1	5		8	11		7	4		5	10

29. REMARKS

0090050 30

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.	4. SAMPLE NO. BS-1 SECTION 5	7. TYPE CORER EWING (LINER)	
2. LATITUDE 24 ° 17.9N "	5. DATE TAKEN (Day, month, year) 25 JAN 65	8. CORE LENGTH (cm) 601	
3. LONGITUDE 86 ° 20.4 W "	6. WATER DEPTH (m) 3700	9. CORER PENETRATION (cm)	

10. SUBSAMPLE DEPTH IN CORE (cm)	485-492	495-502	505-512	515-522	525-532	535-542	545-552	555-562	565-572	575-582	585-592
11. WET UNIT WEIGHT (g/cm³)	1.47	1.52	1.43	1.43	1.54	1.47	1.52	1.51	1.45	1.47	1.45
12. SPECIFIC GRAVITY OF SOLIDS	2.74	2.69	2.74	2.73	2.72	2.76	2.69	2.73	2.74	2.73	2.74
13. WATER CONTENT (% dry weight)	99.4	94.0	110.2	113.5	85.2	103.1	96.8	90.8	104.9	103.8	101.4
14. VOID RATIO	2.72	2.43	3.03	3.08	2.27	2.81	2.48	2.45	2.87	2.79	2.81
15. SATURATED VOID RATIO	2.72	2.53	3.02	3.10	2.32	2.85	2.60	2.48	2.87	2.83	2.78
16. POROSITY (%)	73.1	70.8	75.2	75.5	69.4	73.8	71.3	71.0	74.2	73.6	738
17. LIQUID LIMIT					100.8						
18. PLASTIC LIMIT					36.1						
19. PLASTICITY INDEX					64.7						
20. LIQUIDITY INDEX					0.99						
21. COMPRESSION INDEX FROM LL											
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)		126	120		118	106	108	106	106		124
REMOLD (g/cm²)											
23. COHESION NATURAL (g/cm²)	82	63	60	70	59	53	54	53	53	59	62
REMOLD (g/cm²)	20			37						25	
24. SENSITIVITY	4			2						2	
25. ANGLE OF INTERNAL FRICTION (°)											
26. ACTIVITY											
27. MODULUS OF ELASTICITY (g/cm.²)		1048	879		738	787	949	921	977		830
28. SLUMP (%)		8	12		2	8	4	8	6		5

29. REMARKS

28

090050 30

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.
2. LATITUDE 24 ° 25.2' N "
3. LONGITUDE 85 ° 39.0' W "
4. SAMPLE NO. BS-2
5. DATE TAKEN (Day, month, year) 27 JAN 65
6. WATER DEPTH (m) 3700
7. TYPE CORER KULLENBERG
8. CORE LENGTH (cm) 140
9. CORER PENETRATION (cm)

10. SUBSAMPLE DEPTH IN CORE (cm)	0-7	12-19	19-26	32-39	39-46	49-56	59-66	69-76	79-86	92-99	99-106	109-116
11. WET UNIT WEIGHT (g/cm³)	1.43	1.60	1.57	1.39	1.40	1.41	1.43	1.43	1.45	1.52	1.48	1.46
12. SPECIFIC GRAVITY OF SOLIDS	2.72	2.70	2.70	2.73	2.72	2.72	2.68	2.69	2.69	2.72	2.71	2.76
13. WATER CONTENT (% dry weight)	110.3	72.9	78.7	130.1	122.8	116.3	110.4	89.4	114.8	112.8	95.6	102.7
14. VOID RATIO	3.00	1.92	2.07	3.53	3.33	3.17	2.94	2.47	2.98	2.81	2.58	2.83
15. SATURATED VOID RATIO	3.03	1.97	2.13	3.57	3.34	3.16	2.96	2.27	3.09	3.07	2.59	2.83
16. POROSITY (%)	75.0	65.8	67.4	77.9	76.9	76.0	74.6	71.2	74.9	73.8	72.1	73.9
17. LIQUID LIMIT						84.0						
18. PLASTIC LIMIT						25.8						
19. PLASTICITY INDEX						58.2						
20. LIQUIDITY INDEX						1.36						
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)								32		38		
22. COMPRESSIVE STRENGTH REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)	9				13	16	13	16	21	19	28	37
23. COHESION REMOLD (g/cm²)	2				4	7	10		11		6	15
24. SENSITIVITY	4				4	2	1		2		5	2
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY (g/cm²)								154		281		
28. SLUMP (%)								9		10		

29. REMARKS

MGG00005030

30

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.		4. SAMPLE NO. BS-2						7. TYPE CORER KULLENBERG					
2. LATITUDE 24 ° 25.2 ' N "		5. DATE TAKEN (Day, month, year) 27 JAN 65						8. CORE LENGTH (cm) 140					
3. LONGITUDE 85 ° 39.0 ' W "		6. WATER DEPTH (m) 3700						9. CORER PENETRATION (cm)					
10. SUBSAMPLE DEPTH IN CORE (cm)		119-126	129-136										
11. WET UNIT WEIGHT (g/cm^3)		1.54	1.50										
12. SPECIFIC GRAVITY OF SOLIDS		2.66	2.72										
13. WATER CONTENT (% dry weight)		88.3	93.7										
14. VOID RATIO		2.25	2.51										
15. SATURATED VOID RATIO		2.35	2.55										
16. POROSITY (%)		69.2	71.5										
17. LIQUID LIMIT													
18. PLASTIC LIMIT													
19. PLASTICITY INDEX													
20. LIQUIDITY INDEX													
21. COMPRESSION INDEX FROM LL													
22. COMPRESSIVE STRENGTH	NATURAL (g/cm^2)	50											
	REMOLD (g/cm^2)												
23. COHESION	NATURAL (g/cm^2)	25	39										
	REMOLD (g/cm^2)		11										
24. SENSITIVITY			3										
25. ANGLE OF INTERNAL FRICTION (°)													
26. ACTIVITY													
27. MODULUS OF ELASTICITY (g/cm^2)		520											
28. SLUMP (%)		12											

29. REMARKS

MGG09005030

PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY STILES, GLOVER

DATE MAY 65

1. CRUISE NO.
2. LATITUDE 24° 44.9' N "
3. LONGITUDE 85° 48.8' W "
4. SAMPLE NO. 85-3
5. DATE TAKEN (Day, month, year) 29 JAN 65
6. WATER DEPTH (m) 3700
7. TYPE CORER KULLENBERG
8. CORE LENGTH (cm) 121
9. CORER PENETRATION (cm)

10. SUBSAMPLE DEPTH IN CORE (cm)	0-7	11-18	18-25	25-32	35-42	45-52	55-62	65-72	75-82	85-92	95-102	105-112
11. WET UNIT WEIGHT (g/cm³)	1.47	1.43	1.49	1.41	1.37	1.36	1.39	1.36	1.39	1.40	1.39	1.44
12. SPECIFIC GRAVITY OF SOLIDS	2.73	2.72	2.73	2.71	2.68	2.70	2.70	2.72	2.71	2.72	2.68	2.69
13. WATER CONTENT (% dry weight)	102.7	114.7	92.5	127.3	143.6	137.1	128.4	140.0	131.7	122.8	121.1	110.1
14. VOID RATIO	2.76	3.08	2.53	3.37	3.77	3.71	3.44	3.80	3.52	3.33	3.26	2.92
15. SATURATED VOID RATIO	2.73	3.12	2.53	3.45	3.85	3.70	3.47	3.81	3.57	3.34	3.25	2.96
16. POROSITY (%)	73.4	75.5	71.7	77.1	79.0	78.8	77.5	79.2	77.9	76.9	76.5	74.5
17. LIQUID LIMIT						107.4						
18. PLASTIC LIMIT						40.9						
19. PLASTICITY INDEX						66.5						
20. LIQUIDITY INDEX						1.23						
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)							26		36			
REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)				27	19	20	13		18	24		30
REMOLD (g/cm²)				14	4	8				9		8
24. SENSITIVITY				2	4	3				3		4
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY (g/cm²)							176		295			
28. SLUMP (%)							8		4			

29. REMARKS

MGG09005030