Geol Source 2120. 1

MGGR09005022

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Laboratory Item No. 231

00836

MGG09005022

A SUMMARY OF ENGINEERING PROPERTIES AND SEDIMENT SIZE AND COMPOSITION ANALYSES: GIBRALTAR CRUISE NO. 1

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Geological Laboratory
Oceanographic Branch
Marine Surveys Division

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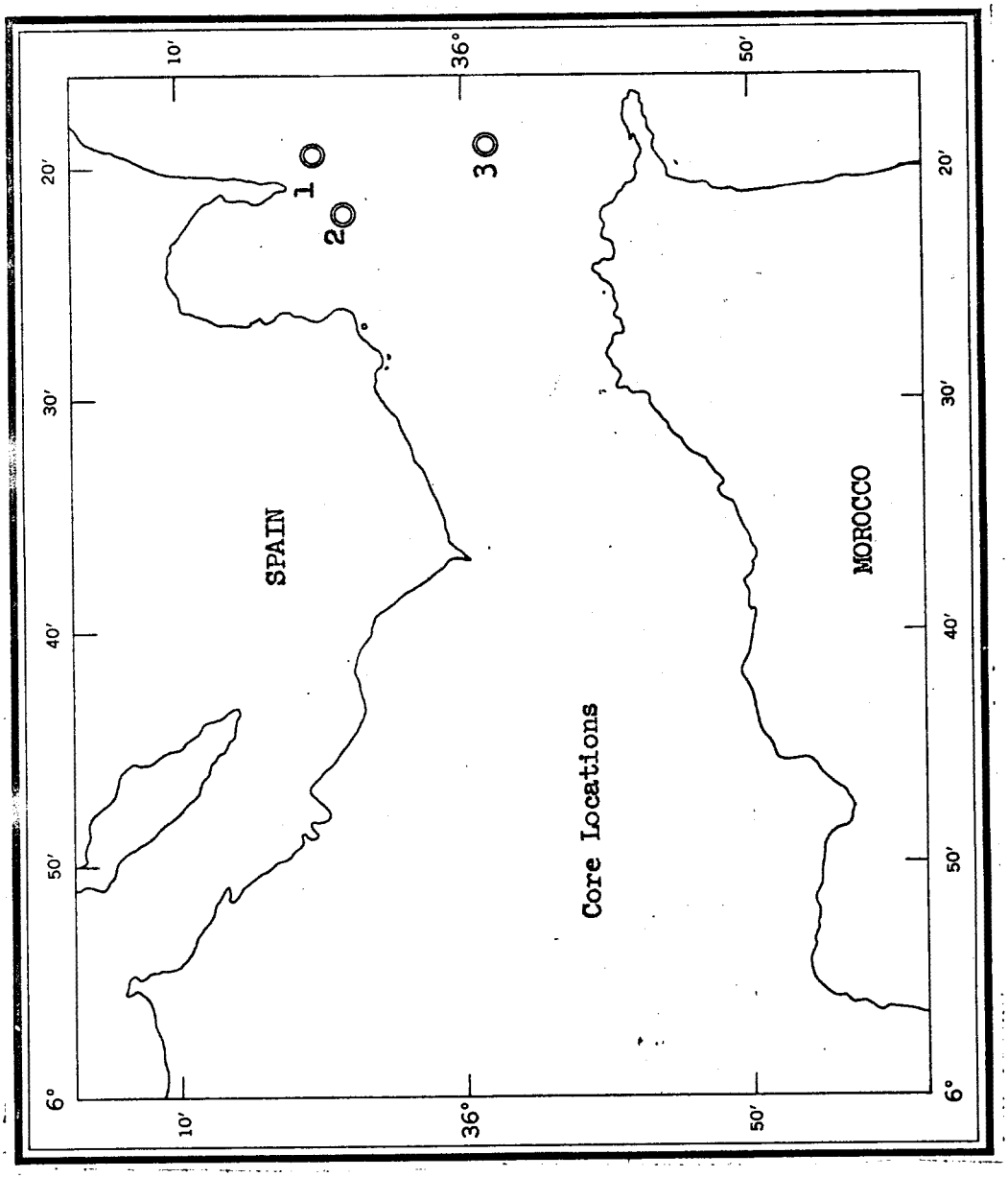

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PRNC-NAVOCEANO-3167/18 B (4-63)

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

109-65

ANALYZED BY Oser

DATE 22 oct. 64

1. CRUISE NO.	4. SAMPLE NO. 1	7. TYPE CORER Kullenberg	
2. LATITUDE 36° 05' 12" N	5. DATE TAKEN (Day, month, year) 18 May; 1964	8. CORE LENGTH (cm) 63	
3. LONGITUDE 5° 19' 6" W	6. WATER DEPTH (m) 700	9. CORER PENETRATION (cm)	

10. SUBSAMPLE DEPTH IN CORE (cm)	0-10	10-17	17-30	30-45	45-52	52-63						
11. WET UNIT WEIGHT (g/cm³)		1.86			1.86							
12. SPECIFIC GRAVITY OF SOLIDS		2.67			2.72							
13. WATER CONTENT (% dry weight)	32.35	39.44	35.35	36.16	34.69	34.20						
14. VOID RATIO		.97			.94							
15. SATURATED VOID RATIO		1.05			.97							
16. POROSITY (%)		49.2			48.4							
17. LIQUID LIMIT												
18. PLASTIC LIMIT												
19. PLASTICITY INDEX												
20. LIQUIDITY INDEX												
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)												
REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)		55			74							
REMOLD (g/cm²)		11										
24. SENSITIVITY		5										
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY												
28. SLUMP (%)												

29. REMARKS

1. Core turned black on outside.
2. Appears to be desiccated
3. Core very sandy
4. Shell fragments throughout core
5. H_2S odor present.

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

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

ANALYZED BY OSSR

DATE 22 Oct 64

109-55

1. CRUISE NO.	4. SAMPLE NO. 2	7. TYPE CORER Kullenberg	
2. LATITUDE 35° 59' 12" N	5. DATE TAKEN (Day, month, year) 16 May 64	8. CORE LENGTH (cm) 110	
3. LONGITUDE 5° 19' 6" W	6. WATER DEPTH (m) 620	9. CORER PENETRATION (cm)	

10. SUBSAMPLE DEPTH IN CORE (cm)	0-15	15-22	22-40	40-52	52-70	70-85	85-100	100-107	107-110			
11. WET UNIT WEIGHT (g/cm³)		1.86						1.93				
12. SPECIFIC GRAVITY OF SOLIDS		2.73						2.67				
13. WATER CONTENT (% dry weight)	30.15	33.12	33.61	32.83	33.03	27.27	31.94	30.08	28.53			
14. VOID RATIO		.94						.80				
15. SATURATED VOID RATIO		.90						.80				
16. POROSITY (%)		48.4						44.4				
17. LIQUID LIMIT												
18. PLASTIC LIMIT												
19. PLASTICITY INDEX												
20. LIQUIDITY INDEX												
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)												
REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)		87						66				
REMOLD (g/cm²)								19				
24. SENSITIVITY								3				
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY												
28. SLUMP (%)												

29. REMARKS

1. No water on top of core
2. core very sandy
3. core split 2" at bottom 52 cm.
4. core beginning to turn black
5. H_2S odor present
6. shell fragments and spicules throughout core.

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MGG09005022

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

CORE ANALYSIS SUMMARY SHEET
ENGINEERING PROPERTIES

109-65

ANALYZED BY Oser

DATE 22 oct. 64

1. CRUISE NO.	4. SAMPLE NO. 3	7. TYPE CORER Kullenberg
2. LATITUDE 36 ° 04 ' 18 " N	5. DATE TAKEN (Day, month, year)	8. CORE LENGTH (cm) 74
3. LONGITUDE 5 ° 22 ' 6 " W	6. WATER DEPTH (m) 900	9. CORER PENETRATION (cm)

10. SUBSAMPLE DEPTH IN CORE (cm)	0-10	10-17	17-25	25-31	31-38	38-48	48-55	55-64	64-74			
11. WET UNIT WEIGHT (g/cm³)		1.49					1.77					
12. SPECIFIC GRAVITY OF SOLIDS		2.66					2.67					
13. WATER CONTENT (% dry weight)	12.58	13.66	20.92	22.16	20.05	20.36	20.21	21.04	19.02			
14. VOID RATIO		1.03					.83					
15. SATURATED VOID RATIO		.36					.54					
16. POROSITY (%)												
17. LIQUID LIMIT												
18. PLASTIC LIMIT												
19. PLASTICITY INDEX												
20. LIQUIDITY INDEX												
21. COMPRESSION INDEX FROM LL												
22. COMPRESSIVE STRENGTH NATURAL (g/cm²)												
REMOLD (g/cm²)												
23. COHESION NATURAL (g/cm²)		95					148					
REMOLD (g/cm²)												
24. SENSITIVITY												
25. ANGLE OF INTERNAL FRICTION (°)												
26. ACTIVITY												
27. MODULUS OF ELASTICITY												
28. SLUMP (%)												

29. REMARKS

1. Course sand, well packed in liner
2. low % saturation indicates desiccation (data doubtful)
3. Shell fragments throughout core.

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

CORE ANALYSIS SUMMARY SHEET
SEDIMENT SIZE AND COMPOSITION

109-65

ANALYZED BY GLOVER

DATE Oct. 64

1. CRUISE NO.		4. SAMPLE NO. 1		7. TYPE CORER Kullenberg
2. LATITUDE 36° 05' 12" N		5. DATE TAKEN (DAY, MO., YR.) 18 May 64		8. CORE LENGTH (cm) 63
3. LONGITUDE 5° 19' 6" W		6. WATER DEPTH (m) 700		9. CORER PENETRATION (cm)

10. LABORATORY NUMBER	231-1	231-2	231-3	231-4
11. SUBSAMPLE DEPTH IN CORE (cm)	0-10	10-17	45-52	52-63
12. COLOR (GSA ROCK COLOR CHART) [F] FIELD [L] LAB DETERMINATION	5Y 3/2 [L]	5Y 3/2 [L]	5Y 3/2 [L]	5Y 3/2 [L]
13. ODOR				
14. SIZE & COMPOSITION ANALYSIS				
a. > 4 (mm) (%)				
b. 4 to 2 (mm) (%)				
c. 2 to 1 mm (%)				
d. 1 to .500 mm (%)	TRACE	TRACE	TRACE	TRACE
e. .500 to .250 mm (%)	5	3	5	6
f. .250 to .125 mm (%)	29	6	45	41
g. .125 to .062 mm (%)	28	35	28	25
h. .062 to .031 mm (%)	8	6	4	7
i. .031 to .016 mm (%)	7	11	1	3
j. .016 to .008 mm (%)				
k. .008 to .004 mm (%)	5	5	4	1
l. .004 to .002 mm (%)				
m. .002 to .001 mm (%)	4	10	6	6
n. < .001 mm (%)	14	24	7	11
o. Median Diameter (mm)	.0854	.0344	.1259	.1174
p. Sorting Coefficient	2.76	8.13	1.58	1.83
q. Skewness	0.37	0.09	0.71	0.61
r. Standard Deviation (mm)				
s. Sediment Type	Cl. Sand	Cl. Sand	Sand	Cl. Sand
t. Dominant Minerals (%)				
u. Secondary Minerals (%)				
v. Calcium Carbonate (%)	15	16	19	22
w. Organic Carbon (%)				

15. REMARKS

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

CORE ANALYSIS SUMMARY SHEET
SEDIMENT SIZE AND COMPOSITION

109-55

MGG09005022

ANALYZED BY GLOVER

DATE Oct. 64

1. CRUISE NO.	
2. LATITUDE	35° 59' 12" N
3. LONGITUDE	5° 19' 6" W
4. SAMPLE NO.	2
5. DATE TAKEN (DAY, MO., YR.)	16 May, 1964
6. WATER DEPTH (m)	620
7. TYPE CORER	Kullenberg
8. CORE LENGTH (cm)	110
9. CORER PENETRATION (cm)	

10. LABORATORY NUMBER	231-5	231-6	231-7	231-8
11. SUBSAMPLE DEPTH IN CORE (cm)	0-15	15-22	100-107	107-110
12. COLOR (GSA ROCK COLOR CHART) [F] FIELD [L] LAB DETERMINATION	5Y 3/2 [L]	5Y 3/2 [L]	5Y 3/2 [L]	5Y 3/2 [L]
13. ODOR				
14. SIZE & COMPOSITION ANALYSIS				
a. > 4 (mm) (%)				
b. 4 to 2 (mm) (%)		1	7	8
c. 2 to 1 mm (%)	TRACE	TRACE	3	5
d. 1 to .500 mm (%)	TRACE	1	6	8
e. .500 to .250 mm (%)	11	15	33	21
f. .250 to .125 mm (%)	54	45	27	36
g. .125 to .062 mm (%)	8	9	6	7
h. .062 to .031 mm (%)	3	2	2	1
i. .031 to .016 mm (%)	2	2	1	1
j. .016 to .008 mm (%)				
k. .008 to .004 mm (%)	4	3	2	2
l. .004 to .002 mm (%)				
m. .002 to .001 mm (%)	5	5	3	3
n. < .001 mm (%)	13	17	10	8
o. Median Diameter (mm)	.1466	.1487	.2432	.2073
p. Sorting Coefficient	2.36	3.73	1.81	1.75
q. Skewness	0.33	0.15	0.88	1.14
r. Standard Deviation (mm)				
s. Sediment Type	Cl. Sand	Cl. Sand	Sand	Sand
t. Dominant Minerals (%)				
u. Secondary Minerals (%)				
v. Calcium Carbonate (%)	14	16	35	36
w. Organic Carbon (%)				

15. REMARKS

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

CORE ANALYSIS SUMMARY SHEET
SEDIMENT SIZE AND COMPOSITION

ANALYZED BY: GLOVER

DATE: Oct. 64

109-65

1. CRUISE NO.	
2. LATITUDE	36° 04' 18" N
3. LONGITUDE	5° 22' 6" W
4. SAMPLE NO.	3
5. DATE TAKEN (DAY, MO., YR.)	
6. WATER DEPTH (m)	900
7. TYPE CORER	Kullenberg
8. CORE LENGTH (cm)	74
9. CORER PENETRATION (cm)	

10. LABORATORY NUMBER	231-9	231-10	231-11
11. SUBSAMPLE DEPTH IN CORE (cm)	0-10	10-17	48-53
12. COLOR (GSA ROCK COLOR CHART) [F] FIELD [L] LAB DETERMINATION	10YR 5/4 10YR 4/2 L 5Y 5/2	5Y 3/2 5Y 5/2 L 10YR 4/2	5Y 3/2 5Y 5/2 L 10YR 4/2
13. ODOR			
14. SIZE & COMPOSITION ANALYSIS			
a. > 4 (mm) (%)			
b. 4 to 2 (mm) (%)		TRACE	2
c. 2 to 1 mm (%)	3	3	3
d. 1 to .500 mm (%)	30	32	21
e. .500 to .250 mm (%)	58	61	61
f. .250 to .125 mm (%)	7	3	12
g. .125 to .062 mm (%)	TRACE	TRACE	TRACE
h. .062 to .031 mm (%)	TRACE	TRACE	TRACE
i. .031 to .016 mm (%)	1	0	1
j. .016 to .008 mm (%)			
k. .008 to .004 mm (%)	1	1	0
l. .004 to .002 mm (%)			
m. .002 to .001 mm (%)	0	0	0
n. < .001 mm (%)	0	0	0
o. Median Diameter (mm)	.4204	.4444	.3869
p. Sorting Coefficient	1.30	1.30	1.31
q. Skewness	1.01	1.04	0.99
r. Standard Deviation (mm)			
s. Sediment Type	Sand	Sand	Sand
t. Dominant Minerals (%)			
u. Secondary Minerals (%)			
v. Calcium Carbonate (%)	24	17	15
w. Organic Carbon (%)			

15. REMARKS

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