MGG 09005074

Laboratory Item 373

A SUMMARY OF SEDIMENT SIZE AND COMPOSITION OF TWO GRABS FROM THE AREA OF THE DRY TORTUGAS

Sediment Size and Composition
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Original

Prepared for:
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Geological Laboraotyr-Laboratories Branch
Nearshore Surveys Division
Oceanographic Surveys Department

U. S. Naval Oceanographic Office
Washington, D. C. 20390

LOG FOR GRAB SAMPLES

Project No: 373
Location:

Logged By ACHSTETTER
Date Logged 28 APR. 69

	La No.	Color	Calc. Mat.	Sediment Type	Remarks
Sample No: COMER 1 Lat: 24° N Long: 83° W Date: Water depth:	373 1	5Y 7/2	YES	SAND & SHELL	SIZE ONLY
Sample No: FLOWER 2 Lat: 24° N Long: 83° W Date: Water depth:	373-2	5Y 7/2	YES	SAND & SHELL	SIZE ONLY
Sample No: Lat: Long: Date: Water depth:					
Sample No: Lat: Long: Date: Water depth:					
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Sample No: Lat: Long: Date: Water depth:					

The results of the sediment size and composition analyses are printed out in tabular form.

The following is an explanation of the terms encountered on the data printout sheet:

CRUISE	A number assigned to each cruise for identification purposes.
SAMPLE	A consecutive number applied to each core taken successive throughout the cruise.
LATITUDE	Expressed in degrees, minutes, and tenths of minutes.
LONGITUDE	Expressed in degrees, minutes, and tenths of minutes.
TAKEN	Date in day, month, and year that core was taken.
CORER TYPE	Letters corresponding to sampling device code below.

Corers		Grabs	
HYP	Hydroplastic piston	SPK	Shipek Sediment Sampler
HYG	Hydroplastic gravity	HLP	Alpine Heavy Duty Grab
KUP	Kullenberg piston	SMS	Small Mud Snapper
KUG	Kullenberg gravity	VVS	Van Veen Grab
PHL	Phleger gravity	BED	Birge-Ekman Dredge
MEG	Modified Ewing gravity	DLS	Dietz-LaFond Snapper
MEP	Modified Ewing piston	OPG	Orange Peel Grab
VIB	Vibrocorer	SBS	Scoopfish Bottom Sampler
BOM	Boomerang		
EWP	Ewing piston		
EWG	Ewing gravity		

LENGTH	Length of core recorded in centimeters as observed in the laboratory.
PENETRATION	Penetration of coring device recorded in centimeters as observed in the field.
DEPTH	The uncorrected sonic sounding in meters.
ANALYZED	Date in day, month, and year that core was analyzed in the laboratory.
I.D. No.	Three or four digit laboratory project number followed by consecutive number assigned to each subsample analyzed.
INTERVAL	Interval of subsample as measured in centimeters from the top of the core.
MM	Particle diameter size intervals based on Wentworth size grades in millimeters.

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

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

Class ranges are:

1. Gravel - coaser than 2 mm
2. Sand - 2 to 0.0625 mm
3. Silt - 0.0625 to 0.0039 mm
4. Clay - finer than 0.0039

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

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

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

$$s = \sqrt{\Sigma f\,(X_i - X)^2/100}$$

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.

$$\text{Skewness} = \frac{1}{100}\; 2\, s^{-3}\; \Sigma f\,(X_i - \bar{X})^3$$

KURTOSIS — A measure of the peakedness of the distribution. Positive values denote a "leptokurtic" 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.

$$\text{Kurtosis} = \frac{1}{100}\; s^{-4}\; \Sigma f\,(X_i - \bar{X})^4 - 3$$

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

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

COLOR	Wet sediment color, based on the Geological Society of America Rock-Color Chart, as determined in the laboratory.
DOM CONST	Dominant constituent (s) comprising the sample assemblage.
SEC CONST	Secondary constituent (s) comprising the sample assemblage.

SEDIMENT SIZE AND COMPOSITICN DATA

CRUISE SAMPLE 1 LATITUDE 24 0.0 N LONGITUDE 83 0.0 W TAKEN 0 0 MARSDEN SQ. 0
CORER TYPE U LENGTH 0.0 PENETRATION 0.0 DEPTH 0.0 ANALYZEC 23 6 69

2x3

ID. NO. 373 1
INTERVAL 0.0- 0.0

MM	PER	PER	PER	PER	PER	PER
16.0000	0.000					
8.0000	0.000					
4.0000	0.000					
2.0000	2.118					
1.0000	16.627					
0.5000	27.458					
0.2500	23.981					
0.1250	9.632					
0.0625	4.636					
0.0312	7.594					
0.0156	1.399					
0.0078	0.320					
0.0039	0.520					
0.0020	1.998					
0.0010	0.520					
0.0010-	3.197					
GRAVEL	2.118					
SAND	82.334					
SILT	9.832					
CLAY	5.715					
MEAN (MM)	0.2835					
MEAN (PHI)	1.8185					
STAN DEV	2.5272					
SKEWNESS	0.9122					
KURTOSIS	3.4132					
CACO3	0.000					
ORG CARBON	0.000					
COLOR	5Y7/2					
DOM CONST	SHELL FRAG					
SEC CONST	CORALS					

REMARKS 1 -
REMARKS 2 -

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE SAMPLE 2 LATITUDE 24 0.0 N LONGITUDE 83 0.0 W TAKEN 0 0 MARSDEN SQ. 0
CORER TYPE 0 LENGTH 0.0 PENETRATION 0.0 DEPTH 0.0 ANALYZED 23 6 69

ID. NO. 373 2
INTERVAL 0.0- 0.0

MM	PER	PER	PER	PER	PER	PER	PER
16.0000	0.000						
8.0000	0.000						
4.0000	0.000						
2.0000	3.353						
1.0000	15.108						
0.5000	22.170						
0.2500	19.250						
0.1250	15.621						
0.0625	9.270						
0.0312	6.312						
0.0156	2.170						
0.0078	0.986						
0.0039	0.513						
0.0020	0.986						
0.0010	0.394						
0.0010-	3.866						
GRAVEL	3.353						
SAND	81.420						
SILT	9.980						
CLAY	5.247						
MEAN (MM)	0.2462						
MEAN (PHI)	2.0219						
STAN DEV	2.5682						
SKEWNESS	0.8002						
KURTOSIS	2.8958						
CACO3	0.000						
ORG CARBON	0.000						
COLOR	5Y7/2						
DOM CONST	SHELL FRAG						
SEC CONST	CORALS						

REMARKS 1 -
REMARKS 2 -