(Laboratory Item) 374

70-0132

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A SUMMARY OF SEDIMENT SIZE AND COMPOSITION, CHEMISTRY, AND SPECIFIC GRAVITY OF NINE GRABS FOR RIVERINE; AUG 1968. (YDB-1)

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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 successively 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	Phlegar 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 - coarser 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.

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

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.

$$\text{Skewness} = \frac{1}{100} \quad 2\ s^{-3} \sum f \quad (X_i - X)^3$$

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.

$$\text{Kurtosis} = \frac{1}{100} \quad s^{-4} \quad \sum f \quad (X_i - X)^4 - 3$$

$CACO_3$

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.

LOG FOR GRAB SAMPLES

09005024

Project No: 374
Location: YDB-1

Logged By E. ACHSTETTER
Date Logged 5 JAN. 1970

	La No.	Color	Calc. Mat.	Sediment Type	Remarks
Sample No: 954 Lat: 10° 17.8'N Long: 107° 04.0'E Date: AUG. 28, 1968 Water depth: 18m	374 1	10YR4/2	YES	MEDIUM TO COARSE SAND & SHELL	INSUFFICIENT SEDIMENT FOR CHEMISTRY, REFERENCE OR SPECIFIC GRAVITY
Sample No: 2204 Lat: 09° 31.3'N Long: 106° 35.1'E Date: AUG. 30, 1968 Water depth: 18m	374 2	5YR5/2	NO	CLAYEY SILT	SPECIFIC GRAVITY 2.680
Sample No: 2215 Lat: 10° 07.0'N Long: 106° 59.3'E Date: AUG. 30, 1968 Water depth: 24m	374 3	10YR4/2	NO	SANDY CLAYEY SILT	SPECIFIC GRAVITY 2.684
Sample No: 2218 Lat: 09° 44.7'N Long: 106° 47.9'E Date: AUG. 30, 1968 Water depth: 23m	374 4	10YR4/2	YES	SILTY FINE SAND	SHELL FRAGMENTS SPECIFIC GRAVITY 2.674
Sample No: 2228 Lat: 10° 18.6'N Long: 107° 14.7'E Date: AUG. 28, 1968 Water depth: 24m	374 5	5Y3/2	YES	FINE TO MEDIUM SAND	SHELL FRAGMENTS SPECIFIC GRAVITY 2.657
Sample No: 2238 Lat: 09° 16.6'N Long: 106° 20.4'E Date: AUG. 31, 1968 Water depth: 23m	374 6	10YR4/2	NO	CLAYEY SILT	SPECIFIC GRAVITY 2.702
Sample No: 2277 Lat: 09° 56.8'N Long: 106° 51.3'E Date: AUG. 30, 1968 Water depth: 16m	374 7	10YR4/2	NO	CLAYEY SILT	SPECIFIC GRAVITY 2.716
Sample No: 2285 Lat: 09° 41.7'N Long: 106° 41.8'E Date: AUG. 30, 1968 Water depth: 25m	374 8	10YR4/2	NO	CLAYEY SILT	SPECIFIC GRAVITY 2.719
Sample No: 2278 Lat: 09° 21.6'N Long: 106° 27.0'E Date: AUG. 31, 1968 Water depth 23m					SAMPLE NOT RECEIVED

SEDIMENT SIZE AND COMPOSITION DATA.

CRUISE YDB-1 SAMPLE 954 LATITUDE 10 17.8 N LONGITUDE 107 4.0 E TAKEN 28AUG68 MARSDEN SQ. 62
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 18.0 ANALYZED 5JAN70

ID. NO.	374 1					
INTERVAL	0.0- 0.0					
MM	PER	PER	PER	PER	PER	PER
16.0000	0.000					
8.0000	4.329					
4.0000	1.456					
2.0000	1.102					
1.0000	1.141					
0.5000	2.794					
0.2500	14.207					
0.1250	63.440					
0.0625	7.635					
0.0312	1.338					
0.0156	0.000					
0.0078	0.000					
0.0039	0.590					
0.0020	0.000					
0.0010	0.000					
0.0010-	1.968					
GRAVEL	6.887					
SAND	89.217					
SILT	1.928					
CLAY	1.968					
MEAN (MM)	0.2205					
MEAN (PHI)	2.1812					
STAN DEV	1.9724					
SKEWNESS	0.1433					
KURTOSIS	7.2100					
CACO3	0.000					
ORG CARBON	0.000					
COLOR	10YR4/2					
DOM CONST	QUARTZ					
SEC CONST	SHELL GLAUCONITE					

REMARKS 1 - SCUBA DIVER
REMARKS 2 - SIZE SAMPLE ONLY

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SEDIMENT SIZE AND COMPOSITION DATA

CRUISE YOB-1 SAMPLE 2204 LATITUDE 9 31.3 N LONGITUDE 106 35.1 E TAKEN 30AUG68 MARSDEN SQ. 26
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 18.0 ANALYZED 5JAN70

ID. NO. 374 2
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	0.000					
1.0000	0.067					
0.5000	0.067					
0.2500	0.067					
0.1250	0.067					
0.0625	3.239					
0.0312	7.085					
0.0156	8.435					
0.0078	11.471					
0.0039	11.471					
0.0020	8.097					
0.0010	8.435					
0.0010-	41.498					
GRAVEL	0.000					
SAND	3.509					
SILT	38.462					
CLAY	58.030					
MEAN (MM)	0.0031					
MEAN (PHI)	8.3516					
STAN DEV	2.2701					
SKEWNESS	-0.3165					
KURTOSIS	-0.7976					
CACO3	7.000					
ORG CARBON	0.000					
COLOR	5YR5/2					
DOM CONST	QUARTZ					
SEC CONST	ORGANIC MAT'L					

REMARKS 1 - SCUBA DIVER
REMARKS 2 - SPECIFIC GRAVITY 2.680

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SEDIMENT SIZE AND COMPOSITION DATA

CRUISE YDB-1 SAMPLE 2215 LATITUDE 10 7.0 N LONGITUDE 106 59.3 E TAKEN 30AUG68 MARSDEN SQ. 62
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 24.0 ANALYZED 5JAN70

ID. NO.	374 3					
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	0.176					
1.0000	1.058					
0.5000	2.703					
0.2500	6.522					
0.1250	14.571					
0.0625	16.334					
0.0312	12.515					
0.0156	3.819					
0.0078	5.582					
0.0039	4.113					
0.0020	4.113					
0.0010	0.294					
0.0010-	28.202					
GRAVEL	0.176					
SAND	41.187					
SILT	26.028					
CLAY	32.609					
MEAN (MM)	0.0177					
MEAN (PHI)	5.8226					
STAN DEV	3.4439					
SKEWNESS	0.1177					
KURTOSIS	-1.3841					
CACO3	12.000					
ORG CARBON	0.000					
COLOR	10YR4/2					
DOM CONST	QUARTZ					
SEC CONST	GLAUCONITE					

REMARKS 1 - SCUBA DIVER
REMARKS 2 - SPECIFIC GRAVITY 2.684

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SEDIMENT SIZE AND COMPOSITION DATA

CRUISE YCB-1 SAMPLE 2218 LATITUDE 9 44.7 N LONGITUDE 106 47.9 E TAKEN 30AUG68 MARSDEN SQ. 26
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 23.0 ANALYZED 5JAN70

ID. NO. 374 4
INTERVAL 0.0- 0.0

MM	PER	PER	PER	PER	PER	PER
16.0000	0.000					
8.0000	0.000					
4.0000	0.171					
2.0000	0.597					
1.0000	0.967					
0.5000	1.735					
0.2500	4.381					
0.1250	56.102					
0.0625	10.839					
0.0312	2.020					
0.0156	2.134					
0.0078	3.129					
0.0039	1.991					
0.0020	2.845					
0.0010	0.996					
0.0010-	12.091					
GRAVEL	0.768					
SAND	74.026					
SILT	9.275					
CLAY	15.932					
MEAN (MM)	0.0623					
MEAN (PHI)	4.0053					
STAN DEV	2.9501					
SKEWNESS	0.6437					
KURTOSIS	0.4312					
CACO3	11.000					
ORG CARBON	0.000					
COLOR	10YR4/2					
DOM CONST	QUARTZ					
SEC CONST	GLAUCONITE					

REMARKS 1 - SCUBA DIVER
REMARKS 2 - SPECIFIC GRAVITY 2.674

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SEDIMENT SIZE AND COMPOSITION DATA

CRUISE YDB-1 SAMPLE 2228 LATITUDE 10 18.6 N LONGITUDE 107 14.7 E TAKEN 28AUG68 MARSDEN SQ. 62
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 24.0 ANALYZED 5JAN70

ID. NO. 374 5
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	0.078					
1.0000	0.389					
0.5000	1.451					
0.2500	5.545					
0.1250	17.777					
0.0625	58.772					
0.0312	5.364					
0.0156	1.425					
0.0078	1.166					
0.0039	0.259					
0.0020	0.259					
0.0010	0.000					
0.0010-	7.515					
GRAVEL	0.078					
SAND	83.934					
SILT	8.215					
CLAY	7.774					
MEAN (MM)	0.0711					
MEAN (PHI)	3.8148					
STAN DEV	2.1253					
SKEWNESS	1.0986					
KURTOSIS	4.7643					
CACO3	11.000					
ORG CARBON	0.000					
COLOR	5Y3/2					
DOM CONST	QUARTZ +					
SEC CONST	SHELL GLAUCONITE					

REMARKS 1 - SCUBA DIVER
REMARKS 2 - SPECIFIC GRAVITY 2.657

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SEDIMENT SIZE AND COMPOSITION DATA

CRUISE YCB-1 SAMPLE 2238 LATITUDE 9 16.6 N LONGITUDE 106 20.4 E TAKEN 31AUG68 MARSDEN SQ. 26
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 23.0 ANALYZED 5JAN70

ID. NO. 374 6
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	0.000					
1.0000	0.025					
0.5000	0.025					
0.2500	0.025					
0.1250	0.025					
0.0625	0.505					
0.0312	27.335					
0.0156	29.152					
0.0078	9.844					
0.0039	6.184					
0.0020	3.407					
0.0010	3.786					
0.0010-	19.687					
GRAVEL	0.000					
SAND	0.606					
SILT	72.514					
CLAY	26.880					
MEAN (MM)	0.0098					
MEAN (PHI)	6.6721					
STAN DEV	2.2630					
SKEWNESS	0.3669					
KURTOSIS	-0.9588					
CACO3	5.000					
ORG CARBON	0.000					
COLOR	10YR4/2					
DOM CONST	QUARTZ					
SEC CONST	MICA ORGANIC MAT'L					

REMARKS 1 - SCUBA DIVER
REMARKS 2 - SPECIFIC GRAVITY 2.702

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SEDIMENT SIZE AND COMPOSITION DATA

CRUISE YCB-1 SAMPLE 2277 LATITUDE 9 56.8 N LONGITUDE 106 51.3 E TAKEN 30AUG68 MARSDEN SQ. 26
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 16.0 ANALYZED 5JAN70

ID. NO. 374 7
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	0.000						
1.0000	0.032						
0.5000	0.032						
0.2500	0.032						
0.1250	0.064						
0.0625	0.767						
0.0312	50.192						
0.0156	18.850						
0.0078	5.112						
0.0039	2.875						
0.0020	3.195						
0.0010	0.958						
0.0010-	17.891						
GRAVEL	0.000						
SAND	0.927						
SILT	77.029						
CLAY	22.045						
MEAN (MM)	0.0144						
MEAN (PHI)	6.1134						
STAN DEV	2.2949						
SKEWNESS	0.5581						
KURTOSIS	-0.3458						
CACO3	6.000						
ORG CARBON	0.000						
COLOR	10YR4/2						
DOM CONST	QUARTZ						
SEC CONST	MICA ORGANIC MATL						

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REMARKS 1 - SCUBA DIVER
REMARKS 2 - SPECIFIC GRAVITY 2.716

SEDIMENT SIZE AND COMPOSITION DATA

CRUISE YCB-1 SAMPLE 2285 LATITUDE 9 41.7 N LONGITUDE 106 41.8 E TAKEN 30AUG68 MARSDEN SQ. 26
CORER TYPE LENGTH 0.0 PENETRATION 0.0 DEPTH 25.0 ANALYZED 5JAN70

ID. NO. 374 8
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	0.079					
1.0000	0.079					
0.5000	0.079					
0.2500	0.197					
0.1250	1.421					
0.0625	2.527					
0.0312	4.027					
0.0156	9.870					
0.0078	11.646					
0.0039	10.067					
0.0020	8.685					
0.0010	8.883					
0.0010-	42.440					
GRAVEL	0.079					
SAND	4.303					
SILT	35.610					
CLAY	60.008					
MEAN (MM)	0.0030					
MEAN (PHI)	8.4001					
STAN DEV	2.3041					
SKEWNESS	-0.4036					
KURTOSIS	-0.2278					
CACO3	9.000					
ORG CARBON	0.000					
COLOR	10YR4/2					
DOM CONST	QUARTZ					
SEC CONST	MICA FORAMS					

REMARKS 1 - SCUBA DIVER
REMARKS 2 - SPECIFIC GRAVITY 2.719

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