GC1
.U423
no. M-5

NATIONAL OCEANOGRAPHIC DATA CENTER

MANUAL SERIES

INSTRUCTIONS FOR CODING AND KEYPUNCHING THE GEOLOGICAL SAMPLE INFORMATION FORM FOR CORE, GRAB, AND DREDGE SAMPLES

PUBLICATION M-5

1966

The National Oceanographic Data Center is sponsored by U. S. Government agencies having an interest in the marine environment; it is governed by an Advisory Board composed of representatives of these activities and the National Academy of Sciences. The U. S. Naval Oceanographic Office is assigned responsibility for management of the National Oceanographic Data Center.

The Sponsoring Agencies are:

Atomic Energy Commission
Bureau of Commercial Fisheries
Coast Guard
Coastal Engineering Research Center
Department of the Navy
Environmental Science Services Administration
Federal Water Pollution Control Administration
Geological Survey
Health, Education & Welfare
National Science Foundation

X-77539

NATIONAL OCEANOGRAPHIC DATA CENTER

MANUAL SERIES

INSTRUCTIONS FOR CODING AND KEYPUNCHING THE GEOLOGICAL SAMPLE INFORMATION FORM FOR CORE, GRAB, AND DREDGE SAMPLES

PUBLICATION M-5

[Rev.]

GEOPHYSICAL SCIENCES LIBRARY
JAN 1 1969
E.S.S.A.
U. S. DEPT. OF COMMERCE

525.8
U58NODC
M-5
Rev.
1966

1966

X-27599

FOREWORD

In keeping with its charter, the National Oceanographic Data Center (NODC) has undertaken development of a storage and retrieval system for marine geological information. The system is being developed in two steps. The first provides the basic identification of cruise, station, instrument used, and the types of samples taken. The second will provide the actual data obtained through laboratory and other analyses.

This manual provides instructions, codes, and conversion tables for completing the first step; i.e., for filling in the Geological Sample Information Form. It can be used also as an aid for interpreting the punch cards and Electronic Accounting Machine listings. Other manuals will be issued to include the instructions, codes, and conversion tables for step two when these data forms have been agreed upon by the responsible ad hoc committees and approved by the NODC Interagency Advisory Board.

W C Jacobs

W. C. JACOBS
Director
National Oceanographic Data Center

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

The Interagency Advisory Board of the National Oceanographic Data Center (NODC) appointed Dr. Harris B. Stewart, Jr., of the Environmental Science Services Administration (Institute for Oceanography) as Chairman of an ad hoc committee to furnish guidance to the NODC for the development of a storage-retrieval system for geological information. The system outlined in this publication is based on the guidance of this committee and the opinions solicited from the scientific community. The manual's purpose is to indicate the procedure used by the NODC in coding data from core, grab, and dredge operations. Agencies and institutions are encouraged to use NODC systems when furnishing information to NODC.

Because of the lack of standardization in laboratory and reporting techniques, it was suggested that the development of the geological system be accomplished in two phases. The system developed in the first phase will allow for the storage and retrieval of information concerning the where, who, what, and when of a marine geological survey. Although this initial step will provide only limited geological data per se, it will make easily accessible very useful information on what has been accomplished.

The system developed during the second phase will allow for archiving actual data, including laboratory analyses. Schemes for handling the chemical analyses, physical properties, and mineralogy of bottom sediments and a scheme for handling the engineering properties of bottom sediments are being prepared, and a study is being made on a bottom mineral resources format. The progress of the development of these systems is given in the NODC technical report series.

GENERAL INSTRUCTIONS

These general instructions have been prepared as an aid in making entries and to obtain uniformity in the coding of data on the Geological Sample Information Form. This form permits the coding of data for a Master Identification Card (Card Type 1), a Sampling Information Card (Card Type 2), and a Sample Description Card (Card Type 3).

Card Type 1 used alone can serve as the Geological Sample Index, but the system used in this way provides only minimal information on the sampling method and sample obtained.

The heading items on the upper part of the form are needed for index cards. An item need not be repeated on subsequent sheets, but new information should be provided as required.

1. Columns 1 through 9 are coded at the NODC, except by special arrangement.

2. On punch cards, Columns 1 through 15 of Card Types 2 and 3 will be machine reproduced from Card Type 1 during processing. If punched outside the NODC, the reference number in Columns 1 through 5 should be obtained from the Data Center prior to processing or left blank and hand annotated.

3. Leave columns blank if data are not available or observations are not made.

4. Prefix zeros to fill a field; do not suffix zeros to fill a field of information, unless required for decimal positioning.

5. Use the standard rounding procedures when rounding is necessary.

Example: > 5, add one (1) to preceding column
< 5, drop
5, round to nearest even number

6. Convert local time to Greenwich Mean Time (GMT). This may require an adjustment to the day, month, and year.

7. For new dredge data (underway sampling), the position given should be the midpoint of the dredge run or the position where the sample was known to have been taken. For historic dredge data, this usually is the initial position. If otherwise, please annotate in Remarks space.

DETAILED INSTRUCTIONS

These instructions, codes, and conversion tables have been assembled to assist in the coding of the specific information on the Geological Sample Information Form (Figure 1). This form contains three categories referred to as Card Types 1, 2, and 3.

CODING THE MASTER IDENTIFICATION CARD (CARD TYPE 1)

The completed Master Identification Card contains the identification information for the cruise and its related stations, as well as basic data on the nature of the sample obtained. The first 15 columns contain the processing information required by the NODC and need not be coded by the originator. These columns have not been included on the coding form for Card Types 2 and 3; the information must be duplicated into these cards from the Master Identification Card at the machine reproduction stage.

Columns 16 through 75 of Card Type 1 provide the time of sampling; the originator's identification information, his country and institution; the sampling position and depth; bottom sediment type; whether photographs were taken; sampling device; and the source (laboratory or field description) of the data. Columns 76 through 80 are used for subject-sequencing information to be completed prior to keypunching.

Columns 1-5 — NODC REFERENCE NUMBER

These columns provide a cumulative identification reference number which is assigned by the NODC prior to processing. This number should be obtained from the NODC for cards punched outside the NODC or left blank and hand annotated.

Columns 6-9 — NODC CONSECUTIVE NUMBER

Consecutive numbers are assigned and coded by the NODC, unless the card is keypunched outside the NODC. Stations or samples included within a single NODC reference number are consecutively numbered, starting with 0001 regardless of originator's numbering and then consecutively in the order in which they appear in the source. One consecutive number includes

two samples only if both are taken during one lowering. Additional samples from the same position but from another lowering are assigned a new NODC consecutive number.

Columns 10-12 MARSDEN SQUARE

The number identifying the Marsden Square containing the station located by geographic coordinates in Columns 41 through 53 is entered in these columns. A Marsden Square Chart (Figure 2) is provided to show how this number is related to the geographic coordinates. The programming note for computing this number is given in Appendix A.

Columns 13-14 ONE-DEGREE SQUARE

The number identifying the degree square of the Marsden Square within which the station is located is entered in these columns. A chart (Figure 3) showing the position of one-degree divisions within a Marsden Square is provided. Note that the degree square is obtained by combining the unit numbers of the degrees of latitude and longitude.

Example: 25°20'N and 137°49'W is coded 57.

Column 15 DEPTH RANGE

Enter the depth range within which the sample was taken in meters according to the following code.

Depth Range (Meters)	Code
0-49	0
50-99	1
100-199	2
200-499	3
500-999	4
1000-1999	5
2000-2999	6
3000-3999	7
4000-5999	8
> 6000	9

Columns 16-17 YEAR

Enter the last two digits of the year as determined by GMT. For nineteenth century data, place a red dash above the entry in Column 16 and overpunch X in Column 16 on the card.

Columns 18-19 MONTH

Enter the month as determined by GMT, using Arabic numerals 01 through 12.

Columns 20-21 DAY

Enter the day of the month as determined by GMT, using Arabic numerals 01 through 31.

Columns 22-23 HOUR

Enter the station time to the nearest hour as determined by GMT, using Arabic numerals 01 through 24. Conversion from local time to GMT is given in Table 1.

Columns 24-25 SHIP

The code designation for the ship collecting the sample will be entered at the NODC.

Columns 26-29 ORIGINATOR'S CRUISE NUMBER

The originator's cruise number will be entered at the NODC.

Columns 30-35 ORIGINATOR'S STATION OR SAMPLE NUMBER

Enter the originator's station or sample number placing the first character in Column 30.

Columns 36-37 COUNTRY

The code designation for the country of the agency sponsoring or operating the vessel regardless of the ship registry will be entered at the NODC.

Columns 38-39 INSTITUTION

The code designation for the sponsoring institution will be entered at the NODC.

Column 40 POSITIONAL ACCURACY

Enter the estimated accuracy of the position reported or of the navigational system used according to the following code. Enter system used in upper right-hand heading of coding form.

Category	Code
Less than 0.2 nautical miles	1
Between 0.2 and less than 1 nautical mile . .	2
Between 1 and less than 3 nautical miles . . .	3
Between 3 and less than 10 nautical miles . .	4
Between 10 and less than 20 nautical miles . .	5
Greater than or equal to 20 nautical miles . .	6

Columns 41-46 LATITUDE

Enter the latitude in degrees, minutes, and hundredths of a minute where the sampler touched bottom. Table 2 converts seconds to hundredths of a minute. If reported to tenths of a minute, enter in Column 45 and leave Column 46 blank. Enter N or S in the column headed B following Column 46; if S is entered on the coding form, overpunch X in Column 44 on the card. For dredge operations, see note 7, General Instructions.

Columns 47-53 LONGITUDE

Enter the longitude in degrees, minutes, and hundredths of a minute where the sampler touched bottom. Table 2 converts seconds to hundredths of a minute. If reported to tenths of a minute, enter in Column 52 and leave Column 53 blank. Enter E or W in the column headed B following Column 53; if E is entered on the coding form, overpunch X in Column 51 on the card. For dredge operations, see note 7, General Instructions.

Column 54 SOUNDING DEVICE

Enter the type of device used to determine the depth to the bottom according to the following code.

Type	Code
Echo sounder	1
Wire sounder	2
Both echo and wire sounder	3
Chart	4
Other (Identify in Remarks space) .	9

Columns 55-58 DEPTH

Enter the sounding depth in meters of the geographic position reported in Columns 41 through 53. Enter in Remarks space uncertain soundings and those given as a range. Prefix zeros to fill the field. Table 3 converts fathoms to meters; Table 4 converts feet to meters. If depth is greater than 9,999 meters, enter the letter code given below in Column 55 (on both the coding form and punch card) and enter the hundreds, tens, and units digits in Columns 56 through 58.

Example: Code 10,999 meters as A999.

Depth Range	Code
10,000 through 10,999 meters	A
11,000 through 11,999 meters	B

Column 59 CORRECTION

Enter the numeral 1 if the depth value coded in Columns 55 through 58 has been corrected. Enter the numeral 2 if depth is uncorrected. Enter the numeral 3 if the depth is questionable. Leave blank if unknown. Annotate correction system in Remarks space.

Columns 60-61 SAMPLE OBTAINED

Enter the general nature of the sample obtained according to the following code in Column 61. Enter second dominant fraction in Column 60. Card Type 3 is used for a more detailed sample description.

	Code
Coarser than sand	0
Sand	1
Silt	2
Clay	3
Ooze	4
Mud	5
Rocks, rock fragments	6
Organic material (shell, peat, wood, coral, etc.)	7
Nodules, slabs, or concretions (manganese, phosphate, iron, glauconite)	8
Hard bottom (No recovery or only trace amount recovered--not resulting from equipment failure)	9

Enter code for nature of trace material in Column 61.

Column 62 TYPE OF ANALYSIS

Category	Code
Laboratory	1
Megascopic (Shipboard, log sheets, etc.)	2
Other (Identify in Remarks space)	3

Column 63 SAMPLING METHOD

Enter method of sampling according to the following code.

Sampling Method	Code
Core	1
Grab	2
Dredge (underway sampling)	3
Sounding sample (lead line, anchor, etc.)	4
Unknown--sediment description available (charts, etc.)	5
Other (Report in Remarks space)	9

Columns 64-65 PHOTOGRAPHY

Enter the numeral 1 in Column 64 if a bottom photograph is taken during sampling. Enter the numeral 1 in Column 65 if a photograph of a sample is taken. Leave blank if not taken or unknown. Enter photo identification number in Remarks space if known.

Columns 66-75

Columns 66 through 75 are not coded at this time.

Column 76 CARD TYPE

The preprinted numeral 1 on the coding form indicates Card Type 1, the Master Identification Card; this numeral must be entered in Column 76 of the punch card.

Columns 77-78 CARD NUMBER

These numbers indicate sorting and print-out sequence within a station (NODC consecutive number).

Columns 79-80 DECK NUMBER

The preprinted numerals 41 are assigned by NODC to identify this deck as the NODC Geological Sample Information Deck; these numerals must be entered in Columns 79 and 80 of the punch card.

CODING THE SAMPLING INFORMATION CARD (CARD TYPE 2)

The second portion of the Geological Sample Information Form is devoted to the coding of sampling information. The second row is used for coding additional data obtained during the same lowering, such as would be obtained by a triggering mechanism.

Columns 1-15

These columns do not appear on the coding form. The information should be reproduced from Card Type 1 during the keypunching operation.

Columns 16-17 DEVICE USED

Enter the type of device used to obtain the sample from the following code. Column 16 identifies a core, grab, or dredge sampler, and Column 17 indicates the particular type of sampler. The subsampler data are provided in the second row.

Column 16

Primary Sampler	Subsampler
Core 1	Secondary Core Sampler 4
Grab 2	Secondary Grab Sampler 5
Dredge 3	Secondary Dredge Sampler 6

Column 17

Corer	Grab	Dredge (Underway)	Code
Undifferentiated (Unknown)	Undifferentiated (Unknown)	Undifferentiated (Unknown)	0
Gravity	Orange peel	Pipe	1
Piston	Hand or scuba diver (suited or nonsuited)	Chain bag	2
Suction	Eckman, Pettersson, etc.	Metal box	3
Vibrating	Lead line or anchor	Trawl	4
Impact	Submersible vehicle	Bucket	5
Hand (Hand driven or scuba)	Suspended sediment collector	Scoop	6
Expendable		Barge (Shovel)	7
Rotary		Suction	8
Other (Identify in Remarks space)	Other (Identify in Remarks space)	Other (Identify in Remarks space)	9

Column 18 SAMPLER CONDITION

Enter the condition of the sampler when brought back on board according to the code given below.

	Code
Unreported or unknown	Leave blank
Generally good	1
Barrel bent or broken	2
Piston malfunctioned	3
Core catcher damaged	4
Cutting edge damaged	5
Sampler lost or excessively damaged	6
Other (Identify in Remarks space)	9

Columns 19-22 TOTAL WEIGHT

For core operations only. Enter the total weight of the coring device (including all added weights) in kilograms to nearest kilogram. Prefix zeros to complete the field. Table 5 converts pounds to kilograms.

Columns 23-24 FREE-FALL DISTANCE

Enter the free-fall distance of the corer in meters to nearest meter. Prefix zeros to fill the field. Tables 3 and 4 convert fathoms and feet, respectively to meters.

Columns 25-27 PENETRATION

Enter the ocean bottom penetration of the corer in meters to the nearest tenth. Tables 4 and 6 convert feet and inches, respectively, to meters. Table 6 must be rounded to the nearest tenth of a meter. Report in Remarks space how penetration was determined.

Columns 28-30 DIAMETER

Enter the diameter of the core or the inside diameter of the corer to the nearest tenth of a centimeter. Prefix zeros to fill the field. Table 7 converts inches to centimeters.

Columns 31-34 LENGTH

Enter the total length of the core obtained, including the disturbed portion, in centimeters to the nearest centimeter. Enter undisturbed length if total length is unknown. Prefix zeros to fill the field. Tables 7 and 8 convert inches and feet, respectively, to centimeters. For trace amount enter the letter T in Column 34.

Column 35 CORE CONDITION

Enter the condition of the core as initially obtained according to the code given below. Conditions other than those outlined should be listed in the Remarks space.

Core Condition	Code
Unknown	Leave blank
Entire core generally undisturbed	1
Upper portion missing, remainder generally undisturbed	2
Upper portion disturbed, remainder generally undisturbed	3
Lower portion sucked or disturbed, remainder generally undisturbed	4
Badly disturbed	5
Unusable, excessive loss	6
No core	7
Other (Identify in Remarks space)	9

Columns 36-39 DISTURBED PORTION

Enter length of disturbed portion of core when known, in centimeters. Top or bottom position of this disturbed portion can be determined from preceding column (Column 35).

Column 40 CORE SECTIONING

Core Sectioning	Code
Core unsectioned	0
Core in about 1-meter sections	1
Core in about 2-meter sections	2
Core in about 3-meter sections	3
Core in about 4-meter sections	4
Core in unequal sections	5
Other (Identify in Remarks space)	9

Column 41 — CORE EXTRACTION

Enter the numeral 1 if the core is removed from its casing, barrel, or liner. Enter the numeral 2 if the core is not removed from its casing, barrel, or liner. Leave blank if unknown.

Columns 42-44 — VOLUME

Enter the volume of grab or dredge samples in cubic decimeters. Prefix zeros to complete the field. For volumes less than 1 dm^3, enter the letter T in Column 44 to indicate trace. Note: 1 $dm.^3$ equals 1 liter.

Columns 45-47 — PRESERVATION

Enter the sample preservation technique, coding water condition in Column 45, bacteria in Column 46, and structure in Column 47. Enter the required information according to the codes given below:

Water (Column 45)	Code
No preservation technique applied or unknown	0
Sealed to preserve entire water content	1
Sealed to preserve partial water content	2

Bacteria (Column 46)	Code
No preservative added or unknown	0
Bacteriostatic agent added	1
Bactericide added	2
Frozen	3
Chilled but not frozen	4
Other (Identify in Remarks space)	9

Structure (Column 47)	Code
No preservation technique applied or unknown . . .	0
Sediment-water interface preserved	1
Peel technique applied	2
Imbedded in plastic	3
Other (Identify in Remarks space)	9

Columns 48-75 SAMPLING REMARKS

Enter additional sampling information in the Remarks space above Columns 48-75. The information will be entered into these columns by the NODC.

Column 76 CARD TYPE

The preprinted numeral 2 on the coding form indicates Card Type 2, the Sampling Information Card; this numeral must be entered in Column 76 of the punch card.

Columns 77-78 CARD NUMBER

These numbers indicate sorting and print-out sequence within a station (NODC consecutive number).

Columns 79-80 DECK NUMBER

The preprinted numerals 41 are assigned by NODC to identify this deck as the Geological Sample Information Deck; these numerals must be entered in Columns 79-80 of the punch card.

CODING THE SAMPLE DESCRIPTION CARD (CARD TYPE 3)

The third portion of the Geological Sample Information Form is devoted to the coding of a basic sample description. For core samples, the length of the uppermost segment described is given in Columns 16 through 23. Detailed chemical, physical, and mineralogical analyses, when available, will be coded on other NODC forms.

Row 2 is used for coding sample data obtained by sampling equipment coded on row 2, Card Type 2.

Columns 1-15

These columns do not appear on the coding form. The information should be reproduced from Card Type 1 during the keypunching operation.

Columns 16-23 CORE INTERVAL

Enter the top and bottom in centimeters of the uppermost core segment described.

Columns 24-32 COLOR

Enter the Munsell color code number for the color of the wet sample beginning in Column 24. Do not suffix zeros to fill the field.

Column 33

Report the presence of odors in this column according to the codes given below.

	Code
Unknown or none	Leave blank
H_2S odor present	1
Fetid non-H_2S odor present (musty, earthy, bituminous)	2
Sharp, pungent odor present (formalin)	3

Columns 34-75 SEDIMENT DESCRIPTION

Write the description of the sediments in the space provided above Columns 34-75. This information will be inserted in Columns 34-75 by NODC prior to keypunching. Abbreviations will be used if necessary.

Column 76 CARD TYPE

The preprinted numeral 3 on the coding form indicates Card Type 3, the Sample Description Card; this numeral must be entered in Column 76 of the punch card.

Columns 77-78 CARD NUMBER

These numbers indicate sorting and print-out sequence within a station (NODC consecutive number).

Columns 79-80 DECK NUMBER

The preprinted numerals 41 are assigned by NODC to identify this deck as the Geological Sample Information Deck; these numerals must be entered in Columns 79 and 80 of the punch card.

TABLE 1

Conversion from local time to Greenwich mean time (GMT)

WEST LONGITUDE — TIME-ZONE CONVERSION TABLE — EAST LONGITUDE

PRECEDING DAY

+12	+11	+10	+9	+8	+7	+6	+5	+4	+3	+2	+1	0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−10	−11	−12
Time Zone	172° 30′	157° 30′	142° 30′	127° 30′	112° 30′	97° 30′	82° 30′	67° 30′	52° 30′	37° 30′	22° 30′	07° 30′	GMT 07° 30′	22° 30′	37° 30′	52° 30′	67° 30′	82° 30′	97° 30′	112° 30′	127° 30′	142° 30′	157° 30′	172° 30′
Y	X	W	V	U	T	S	R	Q	P	O	N	Z	A	B	C	D	E	F	G	H	I	K	L	M
24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01
02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02
03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03
04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04
05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05
06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06
07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07
08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10
11	12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11
12	13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
20	21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
22	23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
23	24 00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23

FOLLOWING DAY

EXPLANATION:

If day change (diagonal) line is crossed from right to left, subtract one day; from left to right, add one day.

To convert from local time to any other time, locate local time in zone column and proceed horizontally to zone wanted. Example 05 in L (-11) time is 18 GMT of preceding day.

TABLE 2

Conversion from Seconds to Hundredths of a Minute

Seconds	0	1	2	3	4	5	6	7	8	9
0	0.00	0.02	0.03	0.05	0.07	0.08	0.10	0.12	0.13	0.15
10	0.17	0.18	0.20	0.22	0.23	0.25	0.27	0.28	0.30	0.32
20	0.33	0.35	0.37	0.38	0.40	0.42	0.43	0.45	0.47	0.48
30	0.50	0.52	0.53	0.55	0.57	0.58	0.60	0.62	0.63	0.65
40	0.67	0.68	0.70	0.72	0.73	0.75	0.77	0.78	0.80	0.82
50	0.83	0.85	0.87	0.88	0.90	0.92	0.93	0.95	0.97	0.98

TABLE 3

Conversion from Fathoms to Meters
(1 fathom = 1.8288 meters)

Fathoms	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
Meters	0	0	0	1	1	1	1	1	1	2
Fathoms	0	1	2	3	4	5	6	7	8	9
00	0000	0002	0004	0005	0007	0009	0011	0013	0015	0016
10	0018	0020	0022	0024	0026	0027	0029	0031	0033	0035
20	0037	0038	0040	0042	0044	0045	0048	0049	0051	0053
30	0055	0057	0059	0060	0062	0064	0066	0068	0069	0071
40	0073	0075	0077	0079	0080	0082	0084	0086	0088	0090
50	0091	0093	0095	0097	0099	0101	0102	0104	0106	0108
60	0110	0112	0113	0115	0117	0119	0121	0123	0124	0126
70	0128	0130	0132	0134	0135	0137	0139	0141	0143	0144
80	0146	0148	0150	0152	0154	0155	0157	0159	0161	0163
90	0165	0166	0168	0170	0172	0174	0176	0177	0179	0181
100	0183	0185	0187	0188	0190	0192	0194	0196	0198	0199
110	0201	0203	0205	0207	0208	0210	0212	0214	0216	0218
120	0219	0221	0223	0225	0227	0229	0230	0232	0234	0236
130	0238	0240	0241	0243	0245	0247	0249	0251	0252	0254
140	0256	0258	0260	0262	0263	0265	0267	0269	0271	0272
150	0274	0276	0278	0280	0282	0283	0285	0287	0289	0291
160	0293	0294	0296	0298	0300	0302	0304	0305	0307	0309
170	0311	0313	0315	0316	0318	0320	0322	0324	0326	0327
180	0329	0331	0333	0335	0336	0338	0340	0342	0344	0346
190	0347	0349	0351	0353	0355	0357	0358	0360	0362	0364
200	0366	0368	0369	0371	0373	0375	0377	0379	0380	0382
210	0384	0386	0388	0390	0391	0393	0395	0397	0399	0401
220	0402	0404	0406	0408	0410	0411	0413	0415	0417	0419
230	0421	0422	0424	0426	0428	0430	0432	0433	0435	0437
240	0439	0441	0443	0444	0446	0448	0450	0452	0454	0455
250	0457	0459	0461	0463	0465	0466	0468	0470	0472	0474
260	0475	0477	0479	0481	0483	0485	0486	0488	0490	0492
270	0494	0496	0497	0499	0501	0503	0505	0507	0508	0510
280	0512	0514	0516	0518	0519	0521	0523	0525	0527	0529
290	0530	0532	0534	0536	0538	0539	0541	0543	0545	0547

(TABLE 5 Con.)

TABLE 3 (Con.)

Conversion from Fathoms to Meters
(1 fathom = 1.8288 meters)

Fathoms	00	10	20	30	40	50	60	70	80	90
300	0549	0567	0585	0604	0622	0640	0658	0677	0695	0713
400	0732	0750	0768	0786	0805	0823	0841	0860	0878	0896
500	0914	0933	0951	0969	0988	1006	1024	1042	1061	1079
600	1097	1116	1134	1152	1170	1189	1207	1225	1244	1262
700	1280	1298	1317	1335	1353	1372	1390	1408	1426	1445
800	1463	1481	1500	1518	1536	1554	1573	1591	1609	1628
900	1646	1664	1682	1701	1719	1737	1756	1774	1792	1811

Fathoms	000	100	200	300	400	500	600	700	800	900
1000	1829	2012	2195	2377	2560	2743	2926	3109	3292	3475
2000	3658	3840	4023	4206	4389	4572	4755	4938	5121	5304
3000	5486	5669	5852	6035	6218	6401	6584	6767	6949	7132
4000	7315	7498	7681	7864	8047	8230	8412	8595	8778	8961
5000	9144	9327	9510	9693	9876	10058	10241	10424	10607	10790

TABLE 4

Conversion from Feet to Meters
(1 foot = 0.3048 meter)

Feet	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
Meters	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3
Feet	0	1	2	3	4	5	6	7	8	9
00	0.0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
10	3.0	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.5	5.8
20	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8
30	9.1	9.4	9.8	10.1	10.4	10.7	11.0	11.3	11.6	11.9
40	12.2	12.5	12.8	13.1	13.4	13.7	14.0	14.3	14.6	14.9
50	15.2	15.5	15.8	16.2	16.5	16.8	17.1	17.4	17.7	18.0
60	18.3	18.6	18.9	19.2	19.5	19.8	20.1	20.4	20.7	21.0
70	21.3	21.6	21.9	22.3	22.6	22.9	23.2	23.5	23.8	24.1
80	24.4	24.7	25.0	25.3	25.6	25.9	26.2	26.5	26.8	27.1
90	27.4	27.7	28.0	28.3	28.7	29.0	29.3	29.6	29.9	30.2
100	30.5	30.8	31.1	31.4	31.7	32.0	32.3	32.6	32.9	33.2
110	33.5	33.8	34.1	34.4	34.7	35.1	35.4	35.7	36.0	36.3
120	36.6	36.9	37.2	37.5	37.8	38.1	38.4	38.7	39.0	39.3
130	39.6	39.9	40.2	40.5	40.8	41.1	41.5	41.8	42.1	42.4
140	42.7	43.0	43.3	43.6	43.9	44.2	44.5	44.8	45.1	45.4
150	45.7	46.0	46.3	46.6	46.9	47.2	47.5	47.9	48.2	48.5
160	48.8	49.1	49.4	49.7	50.0	50.3	50.6	50.9	51.2	51.5
170	51.8	52.1	52.4	52.7	53.0	53.3	53.6	53.9	54.3	54.6
180	54.9	55.2	55.5	55.8	56.1	56.4	56.7	57.0	57.3	57.6
190	57.9	58.2	58.5	58.8	59.1	59.4	59.7	60.0	60.4	60.7
200	61.0	61.3	61.6	61.9	62.2	62.5	62.8	63.1	63.4	63.7
210	64.0	64.3	64.6	64.9	65.2	65.5	65.8	66.1	66.4	66.8
220	67.1	67.4	67.7	68.0	68.3	68.6	68.9	69.2	69.5	69.8
230	70.1	70.4	70.7	71.0	71.3	71.6	71.9	72.2	72.5	72.8
240	73.2	73.5	73.8	74.1	74.4	74.7	75.0	75.3	75.6	75.9
250	76.2	76.5	76.8	77.1	77.4	77.7	78.0	78.3	78.6	78.9
260	79.2	79.6	79.9	80.2	80.5	80.8	81.1	81.4	81.7	82.0
270	82.3	82.6	82.9	83.2	83.5	83.8	84.1	84.4	84.7	85.0
280	85.3	85.6	86.0	86.3	86.6	86.9	87.2	87.5	87.8	88.1
290	88.4	88.7	89.0	89.3	89.6	89.9	90.2	90.5	90.8	91.1

(TABLE 6 Con.)

TABLE 4 (Con.)

Conversion from Feet to Meters
(1 foot = 0.3048 meter)

Feet	00	10	20	30	40	50	60	70	80	90
300	91.4	94.5	97.5	100.6	103.6	106.7	109.7	112.8	115.8	118.9
400	121.9	125.0	128.0	131.1	134.1	137.2	140.2	143.3	146.3	149.4
500	152.4	155.4	158.5	161.5	164.6	167.6	170.7	173.7	176.8	179.8
600	182.9	185.9	189.0	192.0	195.1	198.1	201.2	204.2	207.3	210.3
700	213.4	216.4	219.5	222.5	225.6	228.6	231.6	234.7	237.7	240.8
800	243.8	246.9	249.9	253.0	256.0	259.1	262.1	265.2	268.2	271.3
900	274.3	277.4	280.4	283.5	286.5	289.6	292.6	295.7	298.7	301.8
1000	304.8	307.8	310.9	313.9	317.0	320.0	323.1	326.1	329.2	332.2
1100	335.3	338.3	341.4	344.4	347.5	350.5	353.6	356.6	359.7	362.7
1200	365.8	368.8	371.9	374.9	378.0	381.0	384.0	387.1	390.1	393.2
1300	396.2	399.3	402.3	405.3	408.4	411.5	414.5	417.6	420.6	423.7
1400	426.7	429.8	432.8	435.9	438.9	442.0	445.0	448.1	451.1	454.2
1500	457.2	460.2	463.3	466.3	469.4	472.4	475.5	478.5	481.6	484.6
1600	487.7	490.7	493.8	496.8	499.9	502.9	506.0	509.0	512.1	515.1
1700	518.2	521.2	524.3	527.3	530.4	533.4	536.4	539.5	542.5	545.6
1800	548.6	551.7	554.7	557.8	560.8	563.9	566.9	570.0	573.0	576.1
1900	579.1	582.2	585.2	588.3	591.3	594.4	597.4	600.5	603.5	606.6
2000	609.6	612.6	615.7	618.7	621.8	624.8	627.9	630.9	634.0	637.0
2100	640.1	643.1	646.2	649.2	652.3	655.3	658.4	661.4	664.5	667.5
2200	670.6	673.6	676.7	679.7	682.8	685.8	688.8	691.9	694.9	698.0
2300	701.0	704.1	707.1	710.2	713.2	716.3	719.3	722.4	725.4	728.5
2400	731.5	734.6	737.6	740.7	743.7	746.8	749.8	752.9	755.9	759.0
2500	762.0	765.0	768.1	771.1	774.2	777.2	780.3	783.3	786.4	789.4
2600	792.5	795.5	798.6	801.6	804.7	807.7	810.8	813.8	816.9	819.9
2700	823.0	826.0	829.1	832.1	835.2	838.2	841.2	844.3	847.3	850.4
2800	853.4	856.5	859.5	862.6	865.6	868.7	871.7	874.8	877.8	880.9
2900	883.9	887.0	890.0	893.1	896.1	899.2	902.2	905.3	908.3	911.4
3000	914.4	917.4	920.5	923.5	926.6	929.6	932.7	935.7	938.8	941.8
3100	944.9	947.9	951.0	954.0	957.1	960.1	963.2	966.2	969.3	972.3
3200	975.4	978.4	981.5	984.5	987.6	990.6	993.6	996.7	999.7	1002.8

TABLE 5

Conversion from Pounds to Kilograms (to the Nearest Kilogram)
(1 pound = 0.4536 kilogram)

Pounds	0	1	2	3	4	5	6	7	8	9
0	-	-	1	1	2	2	3	3	4	4
10	5	5	5	6	6	7	7	8	8	9
20	9	10	10	10	11	11	12	12	13	13
30	14	14	15	15	15	16	16	17	17	18
40	18	19	19	20	20	20	21	21	22	22
50	23	23	24	24	24	25	25	26	26	27
60	27	28	28	29	29	29	30	30	31	31
70	32	32	33	33	34	34	34	35	35	36
80	36	37	37	38	38	39	39	39	40	40
90	41	41	42	42	43	43	44	44	44	45

TABLE 6

Conversion from Inches to Meters
(1 inch = 0.0254 meter)

Inches	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
Meters	0	0.003	0.005	0.008	0.010	0.013	0.015	0.018	0.020	0.023
Inches	0	1	2	3	4	5	6	7	8	9
0	0.000	0.025	0.051	0.076	0.102	0.127	0.152	0.178	0.203	0.229
10	0.254	0.279	0.305	0.330	0.356	0.381	0.406	0.432	0.457	0.483
20	0.508	0.533	0.559	0.584	0.610	0.635	0.660	0.689	0.711	0.737
30	0.762	0.787	0.813	0.838	0.864	0.889	0.914	0.940	0.965	0.991
40	1.016	1.041	1.067	1.092	1.118	1.143	1.168	1.194	1.219	1.245
50	1.270	1.295	1.321	1.346	1.372	1.397	1.422	1.448	1.473	1.499
60	1.524	1.549	1.575	1.600	1.626	1.651	1.676	1.702	1.727	1.753

TABLE 7

Conversion from Inches to Centimeters
(1 inch = 2.54 centimeters)

Inches	0	1	2	3	4	5	6	7	8	9	10	11	12
	0	2.5	5.1	7.6	10.2	12.7	15.2	17.8	20.3	22.9	25.4	27.9	30.5

TABLE 8

Conversion from Feet to Centimeters (to Nearest Centimeter)
(1 foot = 30.48 centimeters)

Feet	0	1	2	3	4	5	6	7	8	9
0	000	30	61	91	122	152	183	213	244	274
10	305	335	366	396	427	457	488	513	549	579
20	610	640	671	701	731	762	792	823	853	844
30	914	945	975	1006	1036	1067	1097	1128	1158	1189
40	1219	1250	1280	1311	1341	1372	1402	1433	1463	1494
50	1524	1554	1585	1615	1646	1676	1707	1737	1768	1798
60	1829	1859	1890	1920	1951	1981	2012	2042	2073	2103
70	2134	2164	2195	2225	2256	2286	2316	2347	2377	2408
80	2438	2469	2499	2530	2560	2591	2621	2652	2682	2713
90	2743	2774	2804	2835	2865	2896	2926	2957	2987	3018

APPENDIX A

EXPLANATION OF THE NODC LISTING FORMAT

Two types of listings are available: the Archive Listing and the Publication Listing.

The Archive Listing printed on plain tabulating paper is used for routine release of data. Stations are double spaced and are listed in continuous order. Columnar headings are not printed· identification of fields is accomplished by use of a template provided with each listing.

The Publication Listing is identical in format to the Archive Listing but is printed on heavy white paper suitable for photo-offset lithographic reproduction, and includes the columnar heading.

An example of the NODC Publication Listing is shown in Appendix C.

The following is a complete description of the entries, units, and codes appearing on the listing.

CARD TYPE I TEMPLATE

ENTRY		DESCRIPTION OF FIELD
NODC		
	REF. NO.	This number is assigned by NODC for data storage and retrieval purposes. Reference sources for each cruise are available.
	CONSEC. NO.	This number is assigned by NODC consecutively for each station. The NODC Reference and Consecutive Numbers define each station in the NODC archives.
MARS. SQ. 10° SQ. 1° SQ.		Marsden Square number(s) according to the Marsden Square system (FIGURES 2 & 3)
DEPTH RANGE		This number indicates sounding depth as a range and is used for data storage and retrieval purposes.
STATION TIME (GMT)		Date and time given by originator in GMT.
YR.		Year
MO.		Month
DAY		Day of month
HR.		Station hour to nearest hour

ENTRY	DESCRIPTION OF FIELD
ORIGINATOR's IDENTIFICATION	
SHIP CODE	NODC Ship code. This code indicates name of ship.
CRUISE NO.	Cruise Number as assigned by Originator.
STAT./SAMPLE NO.	Station or Sample number as assigned by Originator.
COUNT.	NODC country code. This code (both numeric and alphanumeric) indicates the nationality of the originator.
INST.	Institution code. This code (both numeric and alphanumeric) reflects the agency or institution conducting the survey.
LATITUDE	
ACC.	Code for navigational accuracy.
DEG.	In degrees, minutes, and hundredths of minutes, N. or S.
MIN. 1/100	
LONGITUDE	
DEG.	In degrees, minutes, and hundredths of minutes, E. or W.
MIN. 1/100	
SND. DEV.	Code indicating device used for recording sounding depth.
DEPTH m.	Sounding depth in meters.
CORR.	Code indicates if sounding depth is corrected or uncorrected.
SAMPLE OBT.	Code for general nature of sample obtained.
ANAL.	Code indicating the nature of the sample analysis.
SAMP. MET.	Code for general type of sampling apparatus used.

ENTRY	DESCRIPTION OF FIELD
PHOTO	
BOT.	Code indicates if bottom photograph was taken during sampling.
SAMP.	Code indicates if a photograph of the sample was taken.
CARD TYPE	Card type I identifies the Master Identification Card.
CARD NO.	Number indicates print-out sequence within a station (NODC consecutive number).
DECK NO.	Deck 41 identifies the NODC Geological Sample Information Deck.

CARD TYPE II TEMPLATE

ENTRY	DESCRIPTION OF FIELD
DEV.	Code indicates type of primary sampler used to obtain sample and subsampler used if an additional sample was obtained.
COND.	Code describes condition of samples when brought back on board.
TOT. WT. Kg.	Total weight (including all added weights) of the coring device.
FREE FL. m.	Free Fall distance to the nearest meter.
PENET. m. 1/10	Ocean bottom penetration of the corer in meters to nearest tenth.
DIAM. cm. 1/10	Core diameter or inside diameter of corer to nearest tenth of a centimeter.
LENGTH cm.	Total length of core, including disturbed portion, to nearest centimeter.

ENTRY	DESCRIPTION OF FIELD
COND.	Code describes condition of core as initially obtained.
DIST. PORT. cm.	Length of disturbed portion of core in centimeters.
SEC.	Code describes core sectioning procedure.
EXT.	Indicates if the core is removed from the casing, barrel, or liner of coring device.
VOLUME $dm.^3$	Volume of grab or dredge sample in cubic decimeters.
PRESERVATION H_2O	Code indicates water preservation technique.
BAC.	Code indicates bacteria preservation technique.
STRUC.	Code indicates structure preservation technique.
SAMPLING REMARKS	Originator's additional comments concerning the sampling at this station.
CARD TYPE	Card type II identifies the Sampling Information Card.
CARD NO.	Number indicates print-out sequence within a station (NODC consecutive numbers).
DECK NO.	Deck 41 identifies NODC Geological Sample Information Deck.

CARD TYPE III TEMPLATE

ENTRY	DESCRIPTION OF FIELD
CORE INTERVAL	
TOP	Beginning of uppermost core segment in centimeters.
BOTTOM	Bottom of uppermost core segment in centimeters.

ENTRY	DESCRIPTION OF FIELD
MUNSELL COLOR	Munsell color code number for the color of the wet sample segment.
ODOR	Code indicates presence of odors.
SEDIMENT DESCRIPTION	Description of sediment (numeric and alphanumeric). This entry may be abbreviated.
CARD TYPE	Card type III identifies the Sample Description Card.
CARD NO.	Number indicates print-out sequence within a station (NODC consecutive number).
DECK NO.	Deck 41 identifies the NODC Geological Sample Information Deck.

APPENDIX B

LISTING FORMAT

NODC GEOLOGICAL SAMPLE INFORMATION

NODC		MARSDEN SQ.		DEPTH	STATION TIME (GMT)				ORIGINATOR'S IDENTIFICATION				LATITUDE			LONGITUDE		SND.	DEPTH		SAMPLE			PHOTO			CARD	CARD	DECK
REF. NO.	CONSEC. NO.	10° SQ.	1° SQ.	RANGE	YR.	MO.	DAY	HR.	SHIP CODE	CRUISE NO.	STAT./ SAMPLE NO.	COUNT.	INST.	ACC.	DEG.	MIN. 1/100	DEG.	MIN. 1/100	DEV.	m.	CORR.	OBT.	ANAL	SAMP. MET.	BOT.	SAMP.	TYPE	NO.	NO.
10732	0013	325	42	8	66	06	21	17	WL	24A	621AB2	31	07	3	62	07.93N	132	54.6 W	1	4679	1	68	1	1	1	1	1	01	41

DEV.	COND.	TOT. WT. kg.	FREE FL m.	PENET. m. 1/10	DIAM. cm. 1/10	LENGTH cm.	COND.	DIST. PORT. cm.	SEC.	EXT.	VOLUME dm.3	PRESERVATION H_2O	BAC.	STRUC.	SAMPLING REMARKS			
12	4	0610	60	01.8	06.9	1369	1	1012	2	4		0	2	4	END OF TGST DECK	2	02	41

CORE INTERVAL TOP — BOTTOM	MUNSELL COLOR	ODOR	SEDIMENT DESCRIPTION			
0002-0009	613YR10/1	2	DK GN ROCK FRAG MN NOD DIAM 2CM GASTR FOS	3	03	41

41 9 1234 01 00.6 02.5 0125 3 0010 1 3 0 0 2 SAMPLE PARTIALLY WASHED OUT 2 04 41

0000-0006 10YR4/2 1 MED GY-BLK MN FRAG SLABS 2CM TER SAND 3 05 41

12345 0001 228 69 0 66062416 RW682 7215A 31 26 1 62 32.18N 110 34.4 W 3 0033 1 23 2 1 11 1 1 01 41

12 3 0005 01 01.9 05.3 1328 5 1611 1 1 0 1 2 CORE PARTLY DESICCATED 2 02 41

0008-0120 10YR4/2 2 MEDIUM GRAY SILTY CLAY ORGANIC MATERIAL 3 03 41

41 5 0001 00 00.8 02.5 0127 1 0026 0 2 2 3 1 TRIGGER CORE DISTURBED 2 04 41

0000-0008 5YR3/2 3 DARK BROWN GLOBIGERINA OOZE MN STN CO FRAG 3 05 41

12345 0002 228 98 1 66062310 MW682 19 31 26 2 72 45.9 N 069 28.31W 0062 2 14 1 2 11 1 1 01 41

21 1060 610 3 2 02 41

10YRB/2 3 SANDY OOZE FORAM SHL SL TR PT QTZ PHOS RK 3 03 41

61 1208 018 3 2 04 41

10YR10/2 3 LT GY GRNL SAND ORG MAT FOS CORAL CGL PUM 3 05 41

16028 1385 292 05 9 66062208 GH21346721 31 08 2 69 39 N 132 45.6 W 1 A272 2 03 1 1 11 2 1 01 41

11 1 0012 06 01.8 02.5 0678 1 0060 3 2 2 9 3 2 02 41

0000-0016 10GY4/1 3 LT BRN GRAVELLY CLAY CPT CONTRD CMT CALCRK 3 03 41

60 0008 125 3 DREDGE USED AS TRIGGER DEVIC 2 04 41

20GY10/2 0 LT OLV GY SANDY GRAVEL SI SS SFT STRA ROCK 3 05 41

FIGURE 1

NODC GEOLOGICAL SAMPLE INFORMATION FORM

NODC				
REFERENCE NUMBER	CONSECUTIVE NUMBER	MARSDEN SQUARE	1° SQ.	DEPTH RANGE
1 2 3 4 5	6 7 8 9	10 11 12	13 14	15

SHIP ______________________

CRUISE NO. ______________________

EXPEDITION/PROJECT ______________________

INSTITUTION TAKING SAMPLE ______________________

SAMPLER TYPE ______________________

SENIOR SCIENTIST ______________________

COUNTRY ______________________

CRUISE EXPEDITION DATE: FROM ____________ TO ____________

GENERAL AREA/ TOPO. ______________________

INSTITUTION RETAINING SAMPLE ______________________

NAVIGATION SYSTEM ______________________

THIS FORM RECORDED BY ____________ DATE ____________

REMARKS

MASTER IDENTIFICATION CARD–TYPE 1

Group	Field	Columns	Preprinted
GMT	YEAR	16 17	
	MONTH	18 19	
	DAY	20 21	
	HOUR	22 23	
ORIGINATOR'S IDENTIFICATION	SHIP	24 25	
	CRUISE NUMBER	26 27 28 29	
	STATION OR SAMPLE NUMBER	30 31 32 33 34 35	
	COUNTRY	36 37	
	INSTITUTION	38 39	
POSITION	ACCURACY	40	
LATITUDE	DEGREE	41 42	
	MINUTE 1/100	43 44 45 46	
	N S	B	
LONGITUDE	DEGREE	47 48 49	
	MINUTE 1/100	50 51 52 53	
	E W	B	
DEPTH	SOUNDING DEVICE	54	
	m.	55 56 57 58	
	CORRECTION	59	
	SAMPLE OBTAINED	60 61	
	TYPE OF ANALYSIS	62	
	SAMPLING METHOD	63	
PHOTO	BOTTOM	64	
	SAMPLE	65	
		66 67 68 69 70 71 72 73 74 75	
	CARD TYPE	76	1
	CARD NO.	77 78	
	DECK NO.	79 80	4 1

SAMPLING INFORMATION CARD–TYPE 2

Group	Field	Columns	Preprinted
SAMPLER	DEVICE	16 17	
	CONDITION	18	
	TOTAL WEIGHT kg.	19 20 21 22	
CORER	FREE FALL DISTANCE m.	23 24	
	PENETRATION m. 1/10	25 26 27	
SAMPLE – CORE	DIAMETER cm. 1/10	28 29 30	
	LENGTH cm.	31 32 33 34	
	COND.	35	
	DISTURBED PORTION cm.	36 37 38 39	
	SECTION	40	
	EXTRACTION	41	
GRAB DREDGE	VOLUME dm.³	42 43 44	
PRESERV.	WATER	45	
	BACTERIA	46	
	STRUCTURE	47	
	REMARKS (SAMPLING):	48–75	
	CARD TYPE	76	2 / 2
	CARD NO.	77 78	
	DECK NO.	79 80	4 1 / 4 1

SAMPLE DESCRIPTION CARD–TYPE 3

Group	Field	Columns	Preprinted
CORE INTERVAL	TOP cm.	16 17 18 19	
	BOTTOM cm.	20 21 22 23	
	MUNSELL COLOR CODE	24 25 26 27 28 29 30 31 32	
	ODOR	33	
	SEDIMENT DESCRIPTION:	34–75	
	CARD TYPE	76	3 / 3
	CARD NO.	77 78	
	DECK NO.	79 80	4 1 / 4 1

Figure 2

MARSDEN SQUARE CHART

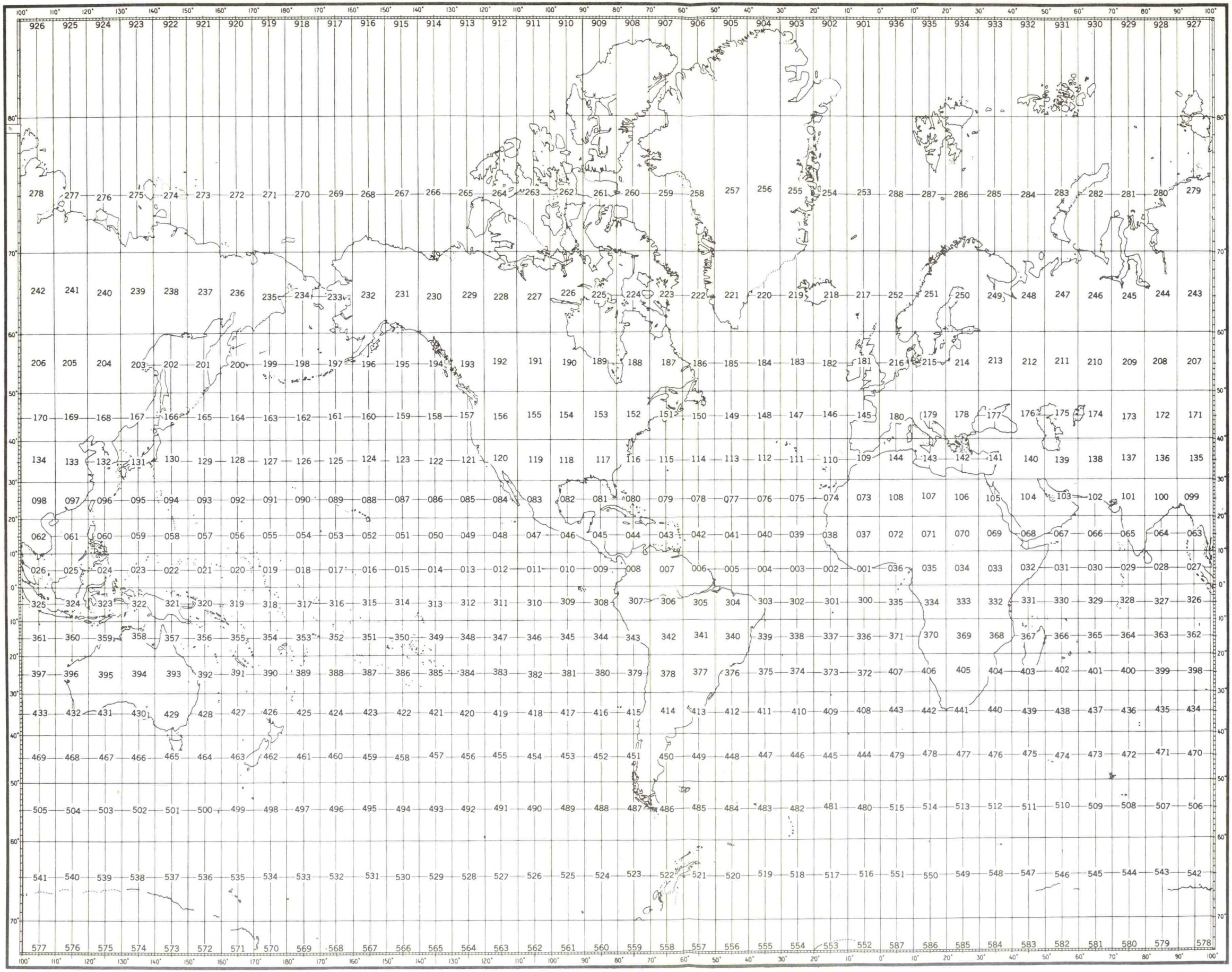
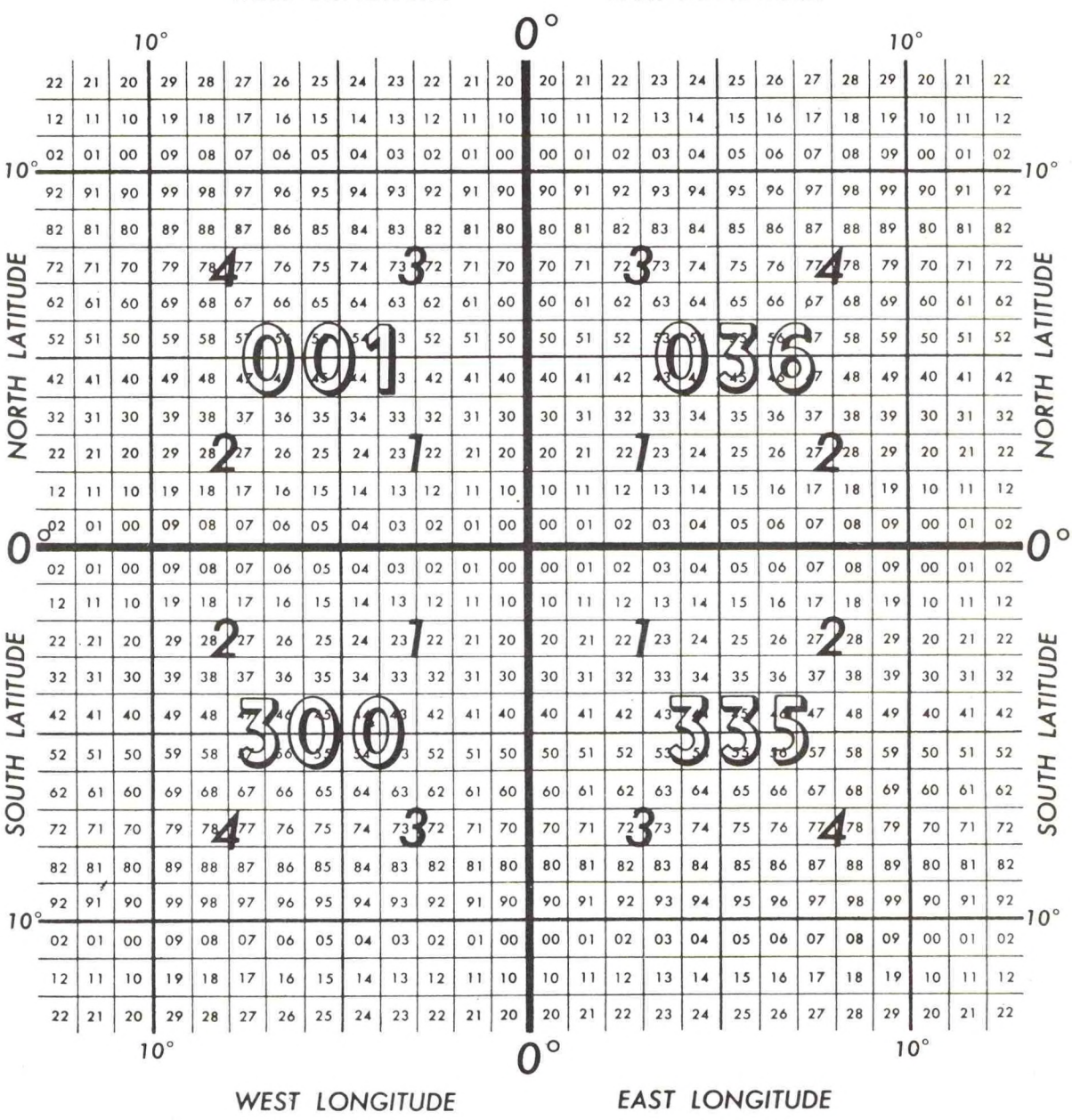


FIGURE 3

ONE DEGREE DIVISIONS OF MARSDEN SQUARES



85 — ONE DEGREE SQUARE

4 — QUADRANT

001 — MARSDEN SQUARE

National Oceanographic Data Center
Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples, 1966, (Rev. Nov. 1966)
(Publication M-5 in the NODC Manual Series.)

This manual provides instructions, codes, and tables for encoding the NODC Geological Sample Information Form, punching the geological decks, and interpreting machine listings of geological data and information.

1. Oceanography
2. Geology
3. Marine Geology
4. Bottom Sediments

Title: i. Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples.

ii. Publication M-5 in the NODC Manual Series.

National Oceanographic Data Center
Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples, 1966, (Rev. Nov. 1966)
(Publication M-5 in the NODC Manual Series.)

This manual provides instructions, codes, and tables for encoding the NODC Geological Sample Information Form, punching the geological decks, and interpreting machine listings of geological data and information.

1. Oceanography
2. Geology
3. Marine Geology
4. Bottom Sediments

Title: i. Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples.

ii. Publication M-5 in the NODC Manual Series.

National Oceanographic Data Center
Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples, 1966, (Rev. Nov. 1966)
(Publication M-5 in the NODC Manual Series.)

This manual provides instructions, codes, and tables for encoding the NODC Geological Sample Information Form, punching the geological decks, and interpreting machine listings of geological data and information.

1. Oceanography
2. Geology
3. Marine Geology
4. Bottom Sediments

Title: i. Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples.

ii Publication M-5 in the NODC Manual Series.

National Oceanographic Data Center
Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples, 1966, (Rev. Nov. 1966)
(Publication M-5 in the NODC Manual Series.)

This manual provides instructions, codes, and tables for encoding the NODC Geological Sample Information Form, punching the geological decks, and interpreting machine listings of geological data and information.

1. Oceanography
2. Geology
3. Marine Geology
4. Bottom Sediments

Title: i. Instructions for Coding and Keypunching the Geological Sample Information Form for Core, Grab, and Dredge Samples.

ii. Publication M-5 in the NODC Manual Series.