IR NO. 67-77

INFORMAL REPORT

OCEANOGRAPHIC DATA REPORT SAN CLEMENTE ISLAND AREA OCTOBER TO DECEMBER 1966

ROBERT K. OSER
JAMES L. BERGER
LOUIS J. FRANC
Bottom Environmental Surveys Project
Developmental Surveys Division
Oceanographic Surveys Department

SEPTEMBER 1967

NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D. C. 20390

INFORMAL REPORT

The Informal Report (IR) as produced at the Naval Oceanographic Office is a means for personnel to issue timely scientific and technical preliminary reports of their investigations. These are primarily informal documents used to report preliminary findings or useful byproducts of investigations and work to members of the scientific and industrial communities.

Informal Reports are assigned sequential numbers for each calendar year; the digits preceding the dash indicate the year.

The distribution made of this report is determined primarily by the author. Information concerning obtaining additional copies or being placed on a distribution list for all future Informal Reports in a given area of interest or specialty field, should be obtained from:

Distribution Control Department
Code 4420
Naval Oceanographic Office
Washington, D. C. 20390

ABSTRACT

This report presents sediment, deep towed profiler, physical oceanography, visibility, and current data collected in the San Clemente Island Test Range from October to December 1966 aboard the USNS DAVIS (T-AGOR 5). The sediments vary in size from clays to sand and the bearing strength ranges from 0.8 g/cm^2 near the tops of several cores to 58.7 g/cm^2 for near the bottom of one of the longer cores (80 - 87cm interval). The deep towed profiler traces show hillocks six feet in height and subbottom reflecting layers from 3 to 50 feet below the sediment surface. Sea water temperature values range from 18.5°C at the surface to 2.85°C at 1483 meters depth in San Clemente Basin. Minimum sound velocity values for the area occur between 700 and 800 meters depth. Alpha values for the water column range from 0.03 ln/m (150-200 meters depth) to 0.28 ln/m (30-40 meters depth). This represents visibility ranges from about 130 meters to 14 meters respectively. Tidal forces appear to exert an influence on the current regime to the greatest depth measured (1829 meters). Current speeds for the water column range from zero to about 1.5 knots with rotary direction vectors. Instrumentation development pertinent to the survey is also discussed. Conclusions reached in this report are tentative based on the limited amount of survey data available. More seasonal investigations of the currents, temperature, and visibility, and more detailed measurements of sea floor topography and sediments are essential in order to clearly define the oceanographic environment.

This Manuscript has been reviewed and is approved for release as an UNCLASSIFIED Informal Report.

Bernard C. Byrnes
Director
Developmental Surveys Division

CONTENTS

FIGURES

FIGURES (CONTINUED)

APPENDIXES

PLATES

TABLES

I. INTRODUCTION

General

From October to December 1966, the Bottom Environmental Survey Project (BESP) of the Naval Oceanographic Office (NAVOCEANO) conducted an oceanographic environmental survey in the vicinity of San Clemente Island. The purpose of the survey was to obtain oceanographic information for the support of the Deep Submergence Systems Program (DSSP).

Messrs. R. K. Oser and R. P. Kopenski were NAVOCEANO Project Leaders. They were assisted by Messrs. J. H. Rohrhirsch, J. Frankel, R. S. Rushton, K. M. Olson, M. G. Fagot, J. L. Berger, M. Car, J. D. Hawes, W. Carriker, and A. R. Mooney.

Operations

The survey was conducted aboard USNS CHARLES H. DAVIS (T-AGOR 5) (Figure 1) from 11 October to 12 December 1966. Observations were made in two areas designated Area I and Area II. Area I borders the northeast side of San Clemente Island and Area II, about 12 miles square, is located in the San Clemente Basin (Figure 2). The observations and instrument tests made were as follows:

64 Kullenberg and Boomerang Cores

35 Ramsay probes (temperature, sound velocity, depth)

9 Nansen casts

6 Taut-wire current meter sites (arrays)

52 Miles of Deep Towed Profiler (DTP) track

18 Camera/visibility lowerings (36 hours). Results to be published separately.

13 Transmissometer lowerings

1 Bottom transmissometer drift (5 miles)

9 K-Meter lowerings

1 Test lowering of 16-inch diameter Corning glass spheres to 560 fathoms

1 Test firing of IEC explosive cutter on 9/16 inch diameter nylon line at 40-foot depth

1 Test firing of IEC explosive cutter on 1/2 inch wire cable at 3900-foot depth

Data

Original records for most of the data are retained by NAVOCEANO. Transmissometer lowerings, K-meter, and bottom transmissometer drift data are retained by the Naval Undersea Warfare Center (NUWC), Pasadena, California. Copies of the transmissometer data were given to the NAVOCEANO Project Leaders after completion of the survey.

FIGURE 1. USNS CHARLES H. DAVIS (T-AGOR 5).

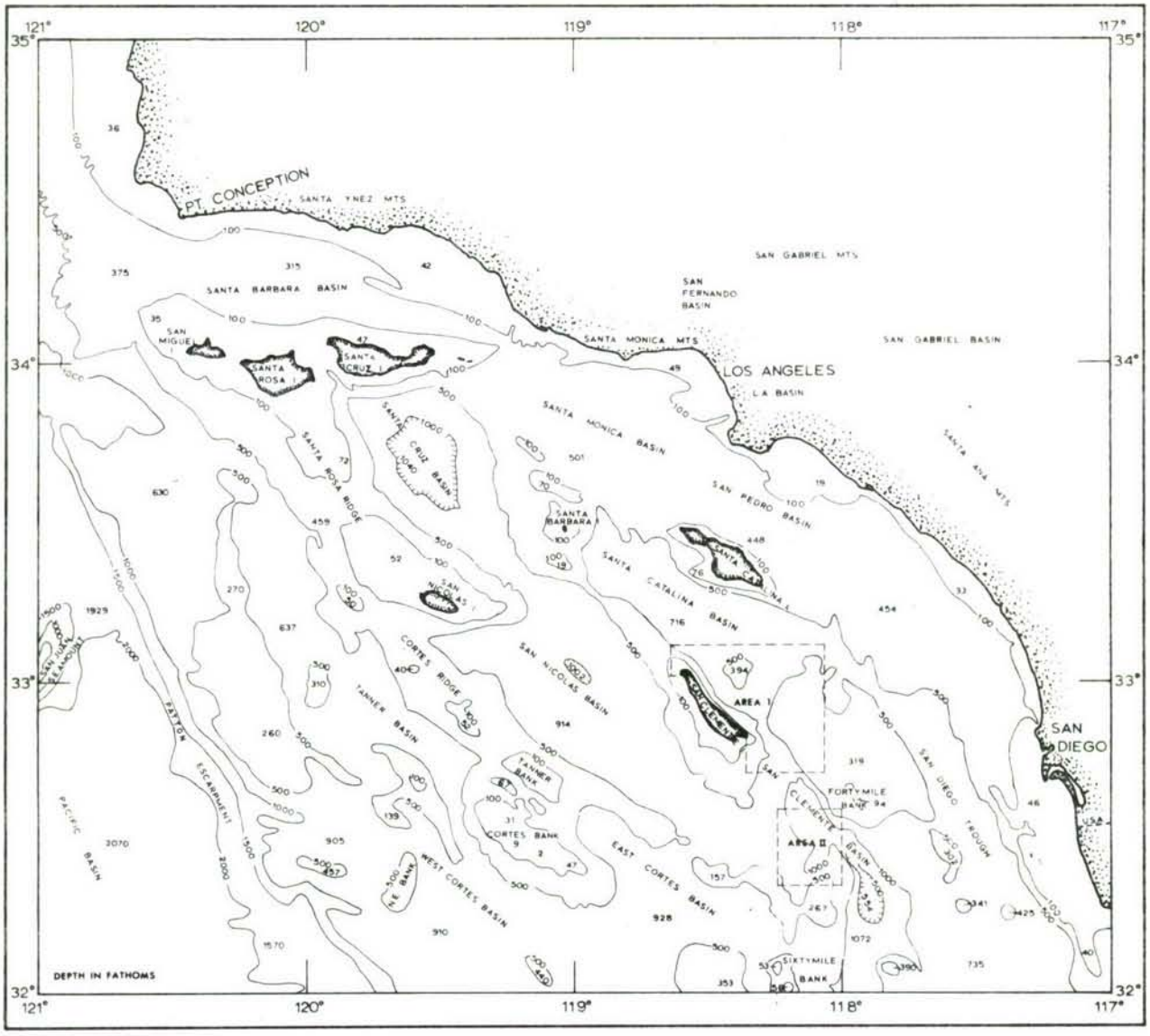


FIGURE 2. BATHYMETRY OF THE CONTINENTAL BORDERLAND.

II. GEOLOGY

General

The great majority of the world's continental land masses are bordered by gently sloping marine terraces termed continental shelves. These shelves encompass the area from the low water tidal mark seaward as much as 200 miles to the edge of the steep continental slope. Continental shelves are generally relatively flat features exhibiting only minor relief. In the vicinity of San Clemente Island and off the southern California coast, this is not the case. Here the shelf has a complex topography consisting of deep basins and high, steep-walled blocks (Figure 2).

To distinguish the physiography of this marine basin and range province, which is topographically similar more to the contiguous land area than to the continental shelf it represents, the term "continental borderland" has been applied by Shepard and Emery (1941). The borderland extends seaward approximately 140 miles and is terminated by the steep Patton Escarpment which slopes down to the Pacific Basin. The northern limit of the continental borderland is near Point Conception, California. North of the Point, the shelf is typically flat. The borderland area consists of a series of northwest-southeast striking islands, ridges, basins, and troughs that are truncated by steep, rocky fault escarpments.

Geomorphology

Area I is adjacent to the northeast side of San Clemente Island and consists of three distinct geomorphic features - the southern part of the Santa Catalina Basin, a prominent subsurface dome, and the San Clemente Escarpment (Figure 3). The basin is a structual feature bounded on the north and south by the steep fault scarps adjacent to San Clemente and

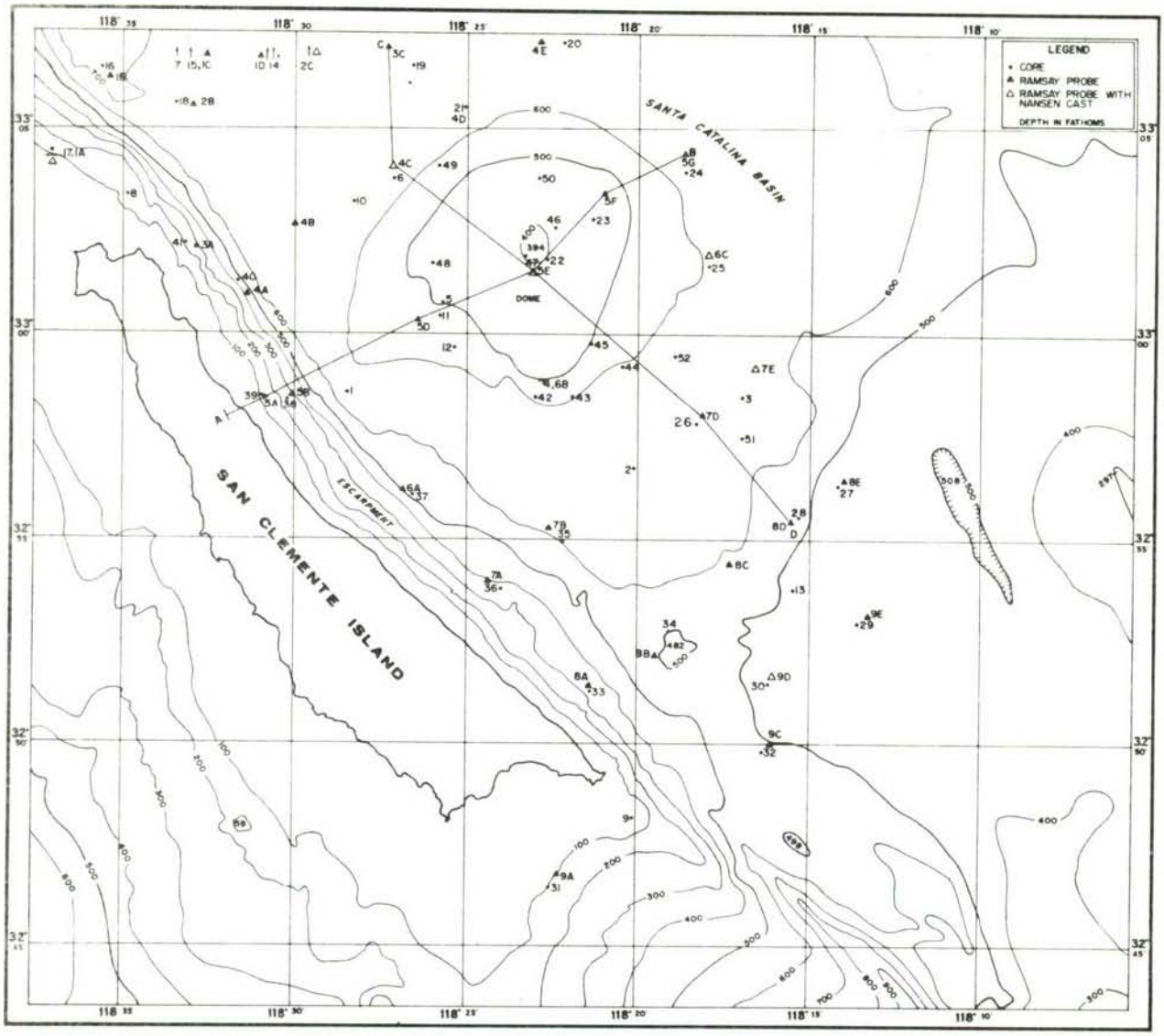


FIGURE 3. STATION LOCATIONS—AREA I.

Santa Catalina Islands (Plate I). The basin is relatively flat because of filling and leveling by organic debris and by clastic sediments borne outward from the mainland. In Area I the basin has a maximum depth of about 700 fathoms. Approximately 8 miles northeast of San Clemente Island, a prominent near circular, subsurface dome disrupts the otherwise nearly flat basin plain. The structure is approximately 8 miles across at its base and rises at an average gradient of 4° from a maximum depth of 600 fathoms to a minimum depth of 394 fathoms (Figures 3 and 4). The San Clemente fault scarp which forms the steep northeast slope of the island continues from sea level to the basin floor. This rocky linear feature has an average gradient of about 17° along its island portion.

Area II is located within the confines of San Clemente Basin which is situated between 15 and 70 miles southeast of San Clemente Island. This basin is considerably deeper than the Santa Catalina Basin (Figure 5). The marked difference in depth is a function of the availability of terrigenously derived sediments. The eastern side of San Clemente Basin is bordered by Forty Mile Bank which rises to within 43 fathoms of the surface. This topographic high serves as an effective block to the sediments derived from the mainland. Because of the relative paucity of detrital material, the floor of San Clemente Basin is deep and irregular.

Sediment Characteristics

According to Emery (1952) the groups of shelf sediments found within the continental borderland off southern California are:

a. Authigenic - Composed of glauconite and phosphorite

b. Organic - Consisting of foraminifera tests and shells

c. Residual - Consisting of material weathered from underlying rock

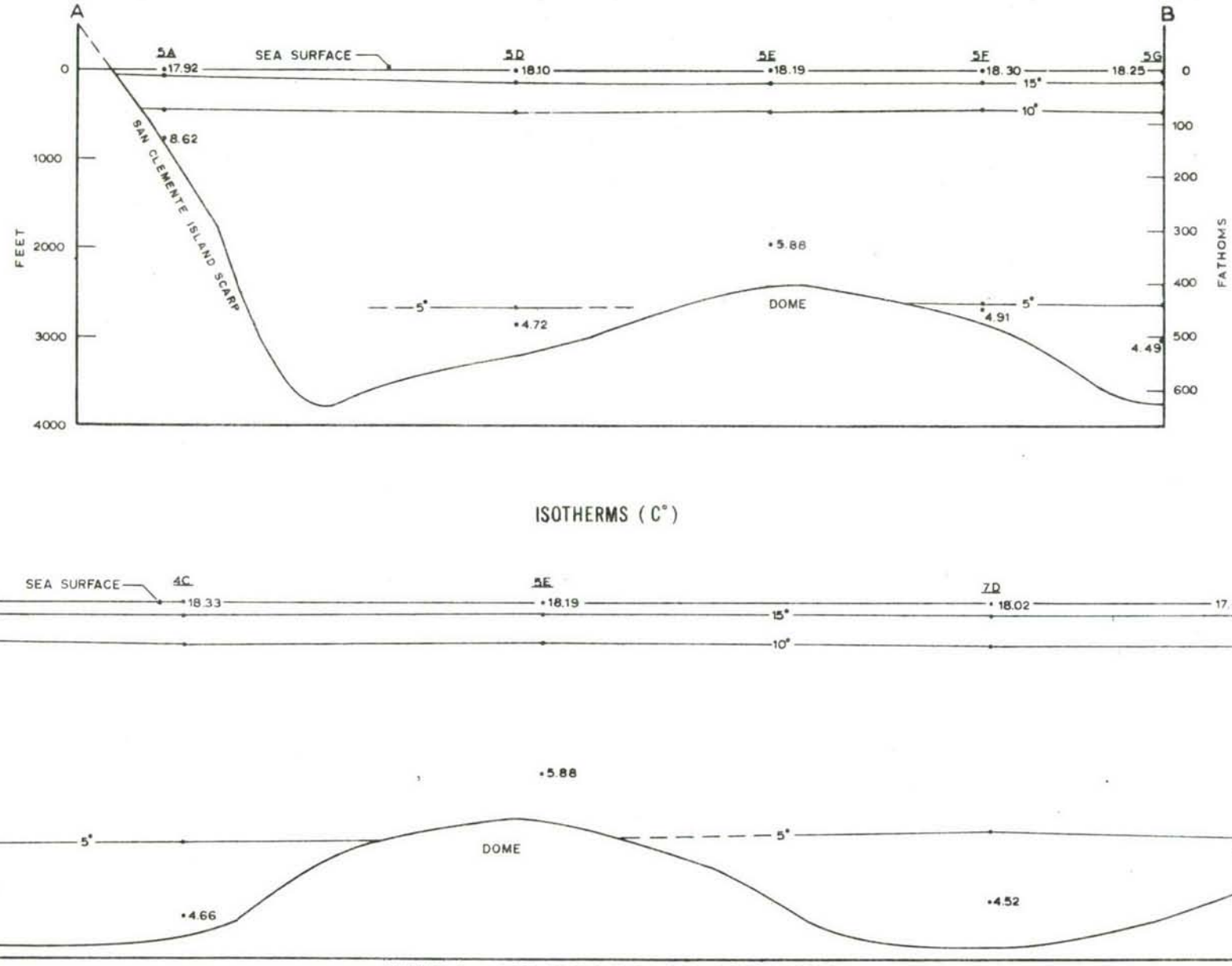


FIGURE 4. CROSS SECTIONS THROUGH DOME—AREA I.

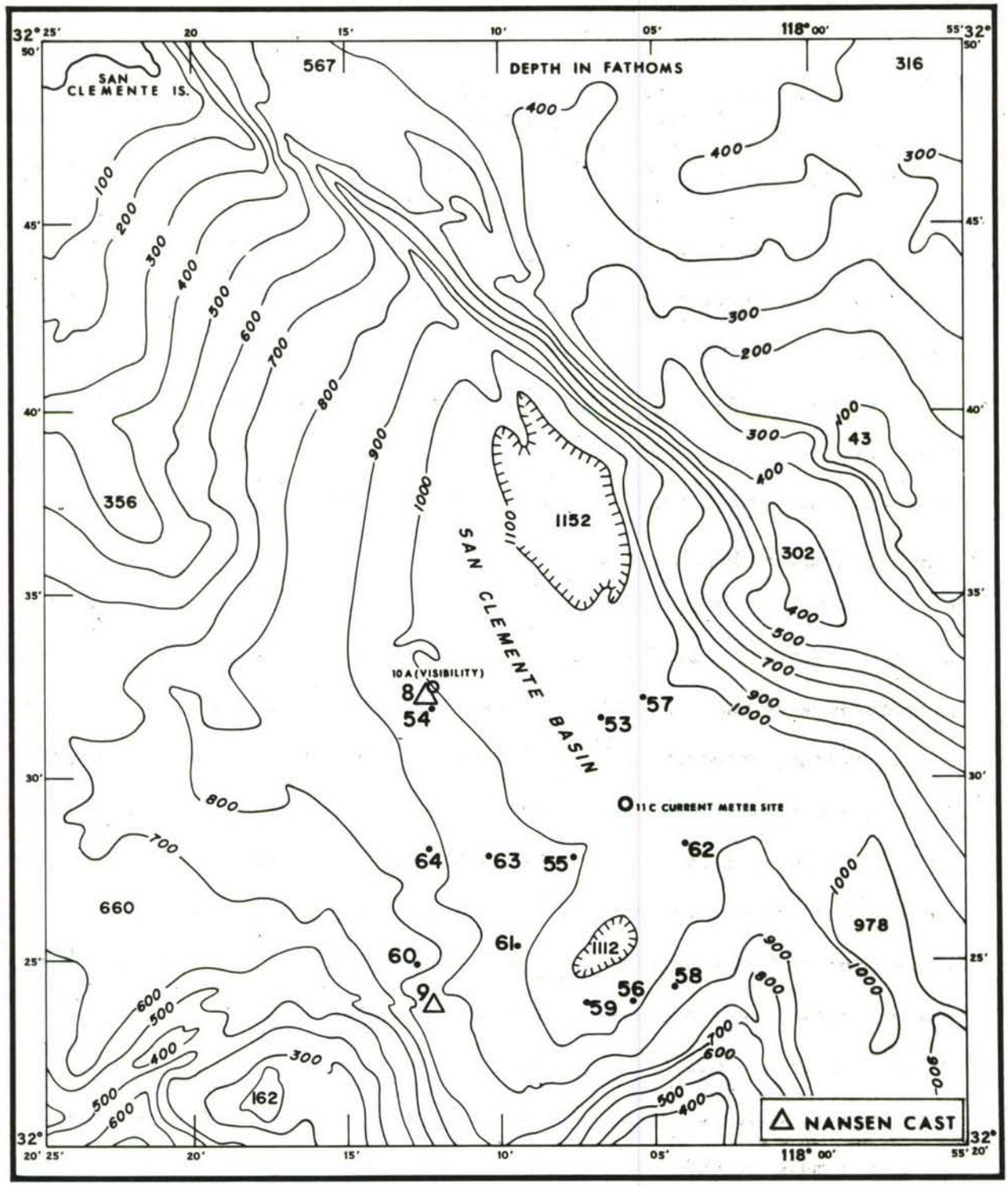


FIGURE 5. STATION LOCATIONS AND BATHYMETRY—AREA II.

d. Relict - Consisting of sedimentary remnants from an earlier geologic environment

e. Detrital - Consisting of clastic sediments derived from river mouths, beaches, and sea cliffs

Of these five sources, Revelle and Shepard (1939) have indicated that sediments of stream derivation are the most important source of depositional material in the continental borderland. During periods of flooding, streams and rivers of southern California carry sediments to the sea. Ocean currents then disperse the sediments over the borderland. Topographic highs of the borderland are swept free of fine sediment by ocean currents.

Methods and Procedures

In Area I, cores were obtained with both the Kullenberg and Boomerang coring devices. In Area II, only the Kullenberg corer was used. Standard procedures were used for obtaining and preserving the samples for analysis of engineering properties. Figure 6 shows a Precision Graphic Recorder (PGR) trace of a corer being lowered at station 14. The signal was emitted by a 12 KHz pinger fastened to the cable above the corer. Analyses of core samples for engineering properties were made as soon as possible after collection to insure against erroneous results owing to dehydration and disturbance. These analyses were made at the NAVOCEANO Pacific Support Group, San Diego, California. The cores were analyzed at the geology labatory, NAVOCEANO, for grain size distribution. Further analyses of the data were made by BESP.

Analysis and Results

Sediment types for Areas I and II are shown in Figure 7 and the data sediment characteristics are presented in NAVOCEANO Laboratory Item No. 303, "A Summary of Engineering Properties, Sediment Size, and Composition Analysis of Cores from the Continental Borderland Near San Clemente Island, October

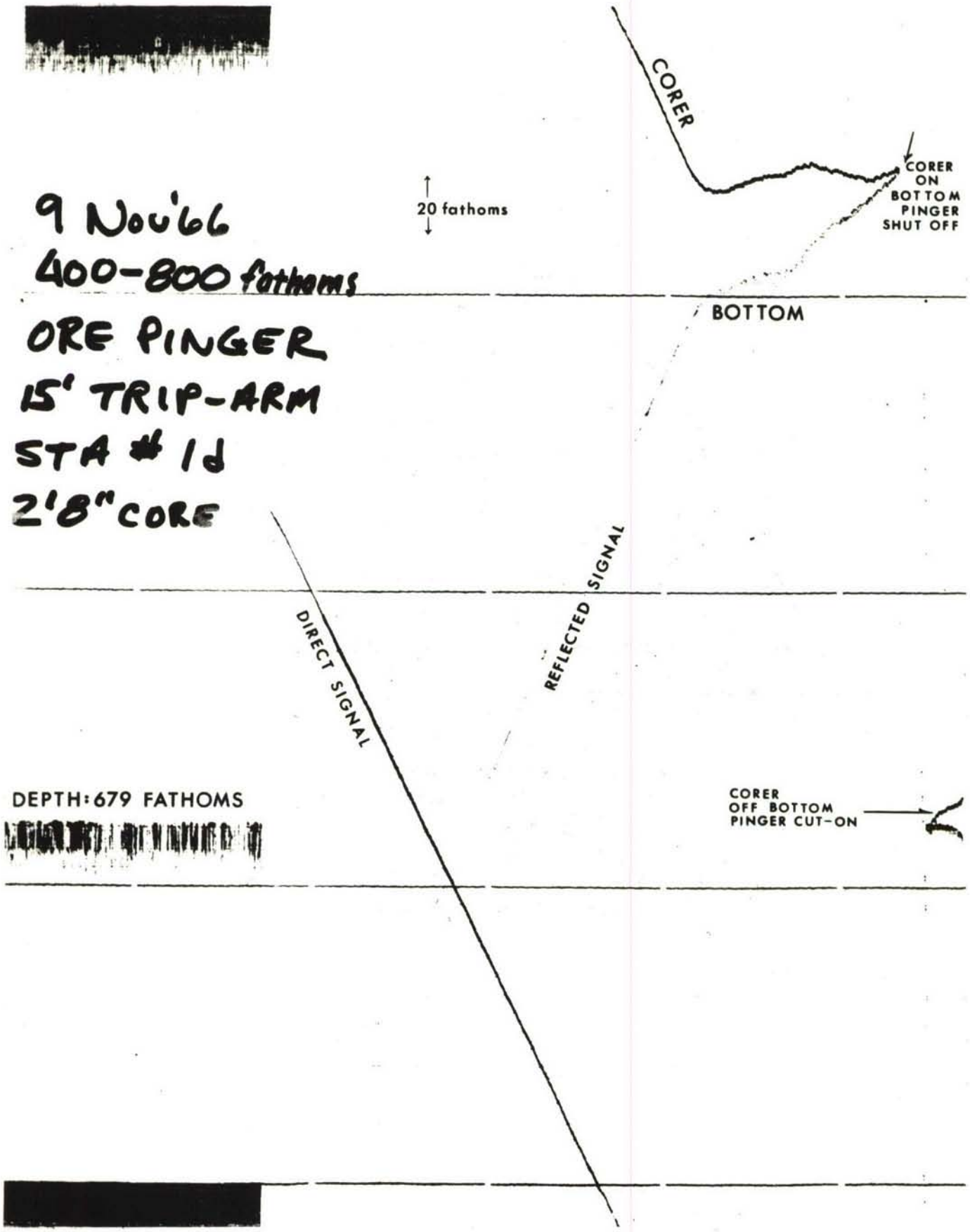


FIGURE 6. PINGER RECORD—CORE 14.

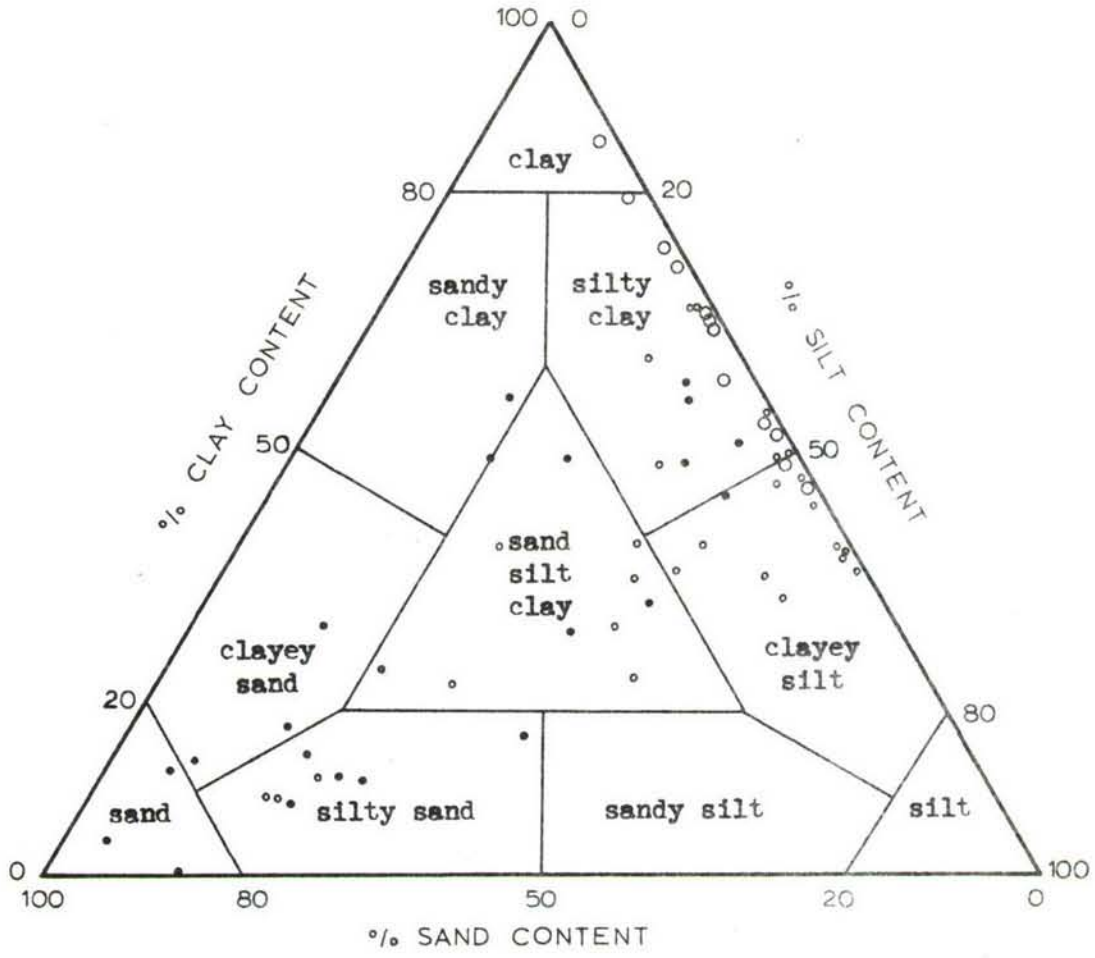


FIGURE 7. NOMENCLATURE OF SEDIMENT TYPES—AREAS I AND II.
(After Shepard, 1954, p.157)

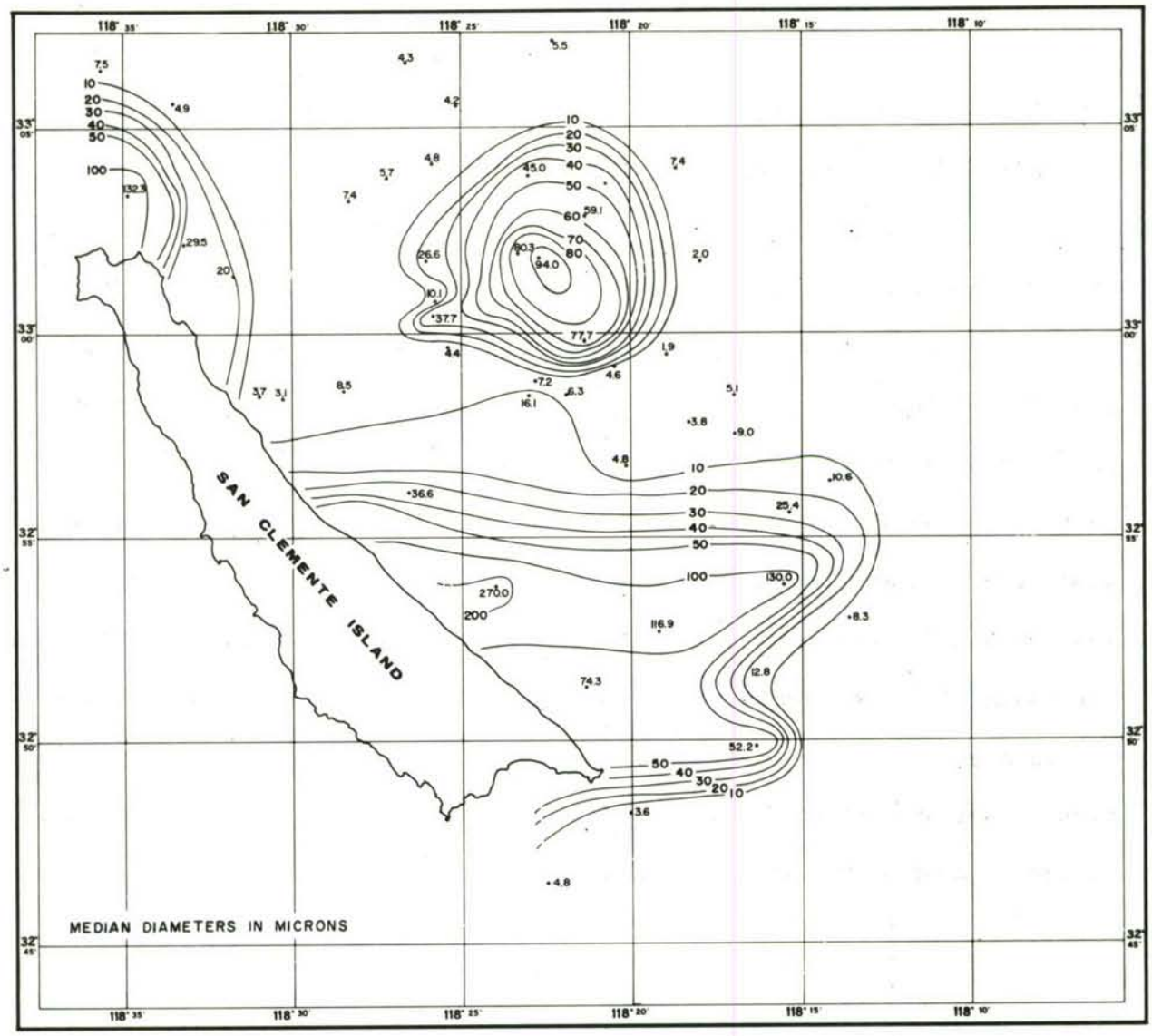


FIGURE 8. ISOPLETHS—MEDIAN DIAMETERS OF SURFACE SEDIMENTS—AREA I.

1966-December 1966. The types of sediments (Figure 7) are based only on analyses of cores obtained during the survey.

The San Clemente Island scarp is mantled by a sand and gravel veneer with interstitial silt and clay. The sediment is predominately residual although aerial erosion of the island and shells of marine organisms have contributed significantly to the material. Figure 8 shows median diameter contours in microns of the surface sediments in Area I. The high concentration of coarse sediments along the eastward flank of the island occurs along the highest and steepest part of the island scarp. It is likely that the tongue of coarse material which extends from the water line outward onto the basin floor is a function of subaerial erosion of the island scarp.

In Area I, basin sediments consist mostly of olive-gray, clayey silts with lesser amounts of interspersed foraminiferal-test sand. In addition, layers of sand up to several inches thick were found. These strata are

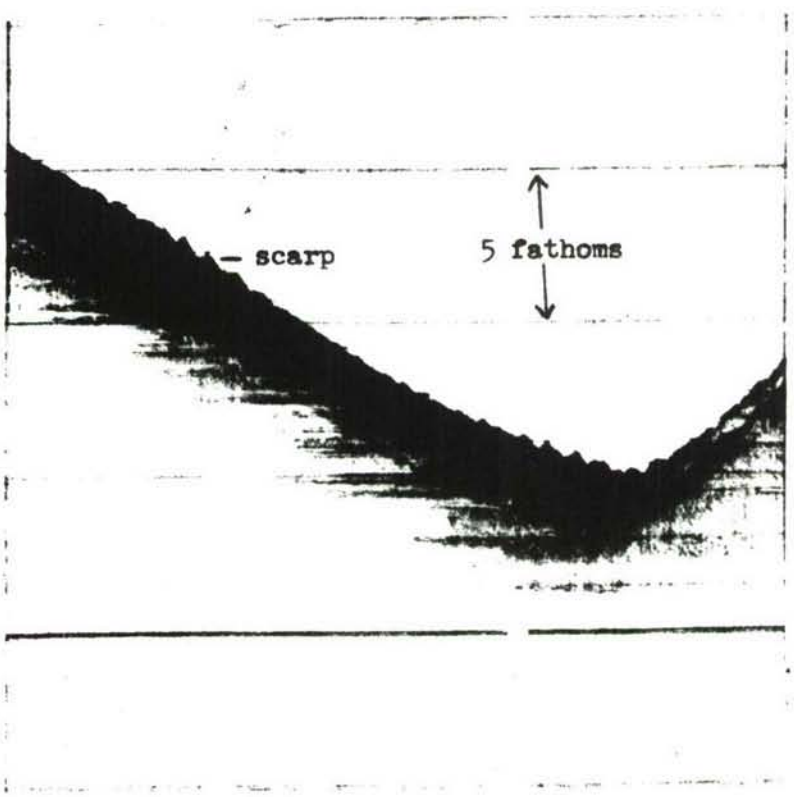


FIGURE 9. DTP RECORD—SUBBOTTOM STRATA—BASE OF SCARP.

attributed to sediment slumping and/or turbidity currents that were initiated on the steep island scarp and subsurface dome. The material at the bottom of the slope has settled out as a function of density. The depositional sequence began with sand on the bottom, grading upward to silts and clays. Figure 9 shows several of the sand strata at the base of the San Clemente scarp.

The sediment on the dome differs substantially from the material on the adjacent basin floor. Above the 500 fathom contour, the samples were predominately sand with lesser amounts of gravel, silt, and clay. This was substantiated in Area I, where extensive coring attempts on the escarpment and dome yielded small quantities of sediment, and by the core cutters that were scored as a result of hitting rock. The topographic lows, and in particular the basins of the area, are the recipients of the finer clastics. The submerged topographic highs are mantled with coarser residual and relict sediments.

In Area II, sediments consist of olive-gray, silty-clay with only traces of foraminiferal sand. Laboratory analysis has shown the $CaCO_3$ constitutes from 13 to 48 percent of the sample weight. Traces of mica were also found.

Engineering Properties

Bearing strength of sediments is defined as the average load per unit area (grams per square centimeter) required to produce failure, by rupture, of the supporting sediment mass. The uppermost bearing strength tests (vane shear) were usually conducted at the 15-centimeter core depth. The sediment above this level was usually of a fluid consistency and could not accurately be analyzed for bearing strength.

In Area I the sediment bearing strength values for the 15-22cm core interval range from 5.0 to 38.7 g/cm^2 with an average value of about 9 g/cm^2. The dome appears to consist of rock outcrops and sand which would have a higher bearing capacity than the basin floor sediments. Samples obtained near the top of the dome and on the scarp consisted of small amounts of unconsolidated sand. No engineering tests were made on these samples. In Area II the values range from 0.8 to 22.0 g/cm^2 for the 15-22cm interval with an average value of about 7 g/cm^2. The overall strength of the sediments increases almost linearly from top to bottom of the cores. The strengths average 28 g/cm^2 in Area I and 19 g/cm^2 in Area II for the 65-72 core interval. Figure 10 shows plots of bearing strength versus core interval for six typical core samples of Areas I and II.

The average length of cores from the basin in Area I was less than that of cores from Area II. This was attributed to the presence of a very dry and dense sediment layer occurring at various depths within the sediments in Area I. The extreme hardness of the layer was such that a 425 pound corer, falling at terminal velocity, failed to penetrate the layer more than several inches in most instances.

An important feature of the engineering properties of sediments is sensitivity. Sensitivity is defined as the ratio of the natural strength of a sample to the remolded (disturbed) strength of sample. The average sensitivity of the core samples was about 2.0 which indicates that the sediment when disturbed and remolded lost about 50 percent of its original undisturbed strength. Sensitivity values range from 1.1 to 24.8 with most values grouped near 2.0 (NAVOCEANO Lab. No. 303).

High Resolution Profiling

A Deep Towed Profiler (Figure 11) which was designed in-house (NAVOCEANO IM NO. 67-12) was towed in Area I as shown in Figure 12. Records obtained

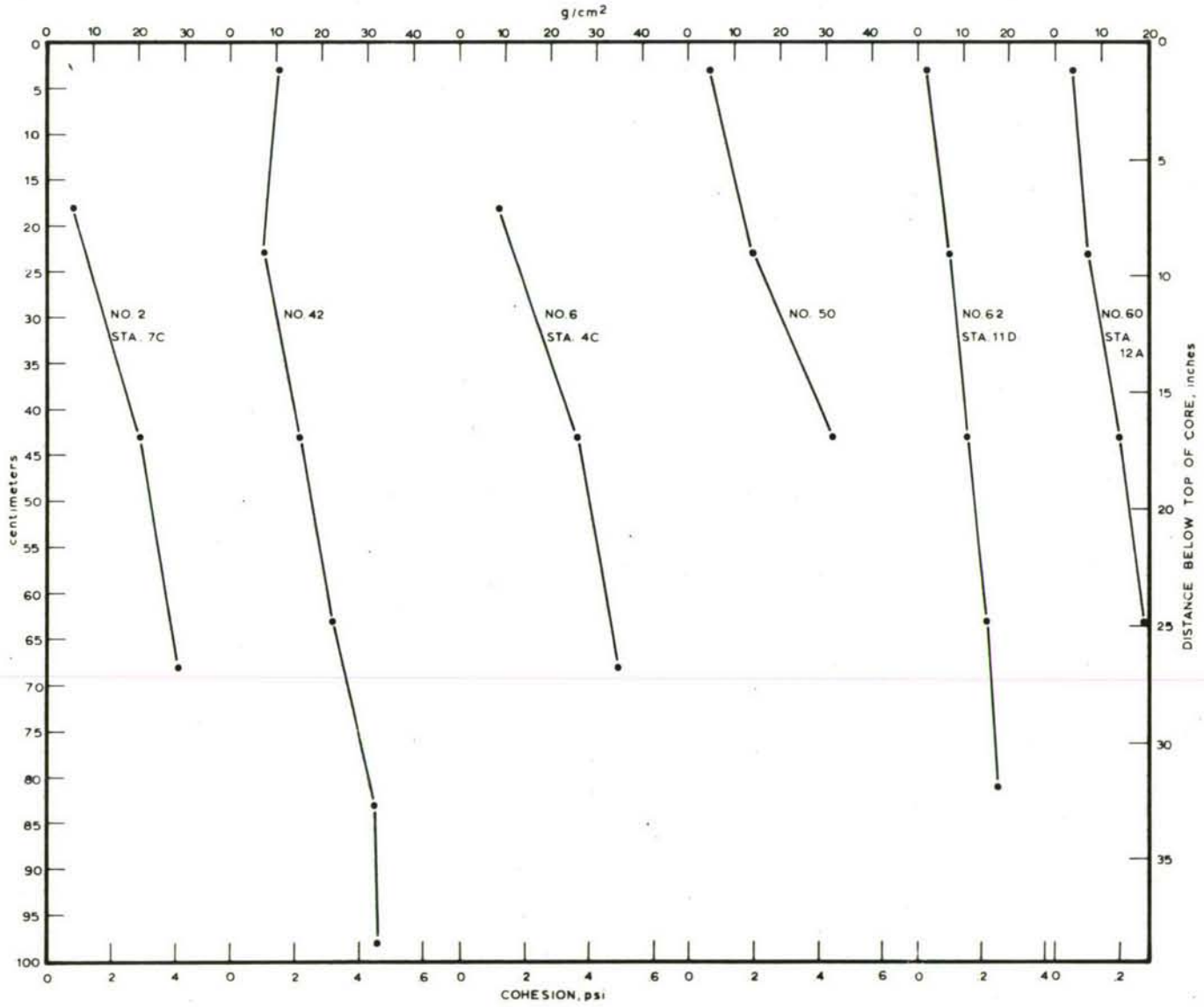


FIGURE 10. BEARING STRENGTH VERSUS DEPTH—TYPICAL CORES.

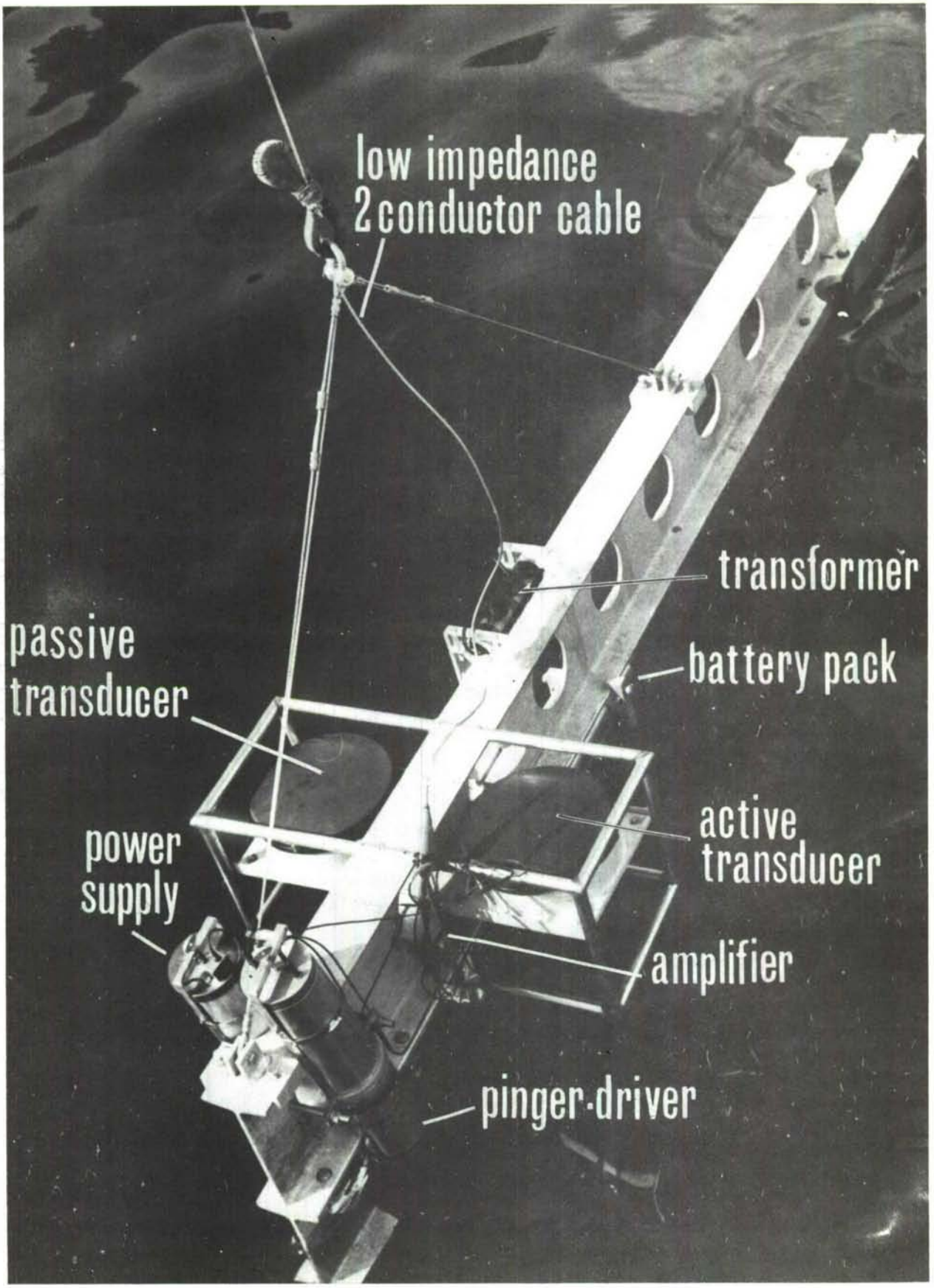


FIGURE 11. DEEP TOWED HIGH RESOLUTION PROFILER (DTP).

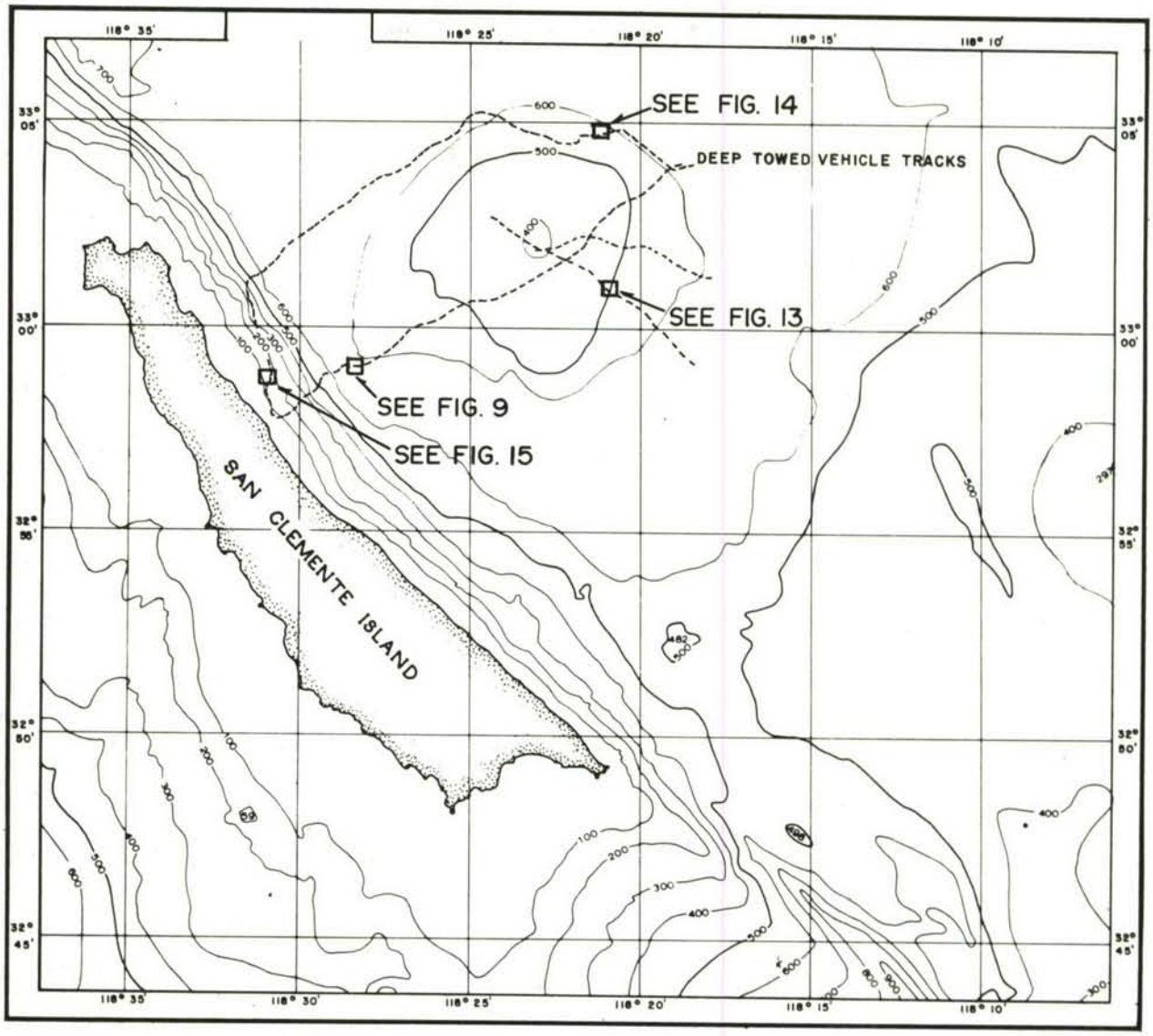


FIGURE 12. DTP TRACK CHART.

while towing the DTP across the dome showed a relatively smooth bottom with no subbottom reflectors above the 500 fathom contour. Near the top, small hills are superimposed on the dome. These features are 6 to 50 feet in height and were detected only near the top of the dome. Traces of the bottom below the 500-fathom isobath of the dome and the basin floor show a generally smooth bottom with from one to three subbottom reflecting layers. These reflectors occur between 3 and 50 feet below the sediment surface.

Small hillocks are shown in Figure 13. These hillocks which are on the southeast flank of the dome are approximately 12 feet high and are 400 feet long. The bottom shown to the left of the hillocks has a subbottom reflecting layer several feet below the sediment surface. The hillocks appear to have no stratification and are probably rock outcrops. The bottom in Figure 14 on the northeast flank of the dome shows substantially more subbottom stratification than on the southeast flank. The signal penetrated the bottom to depths in excess of 30 feet. Two strong subbottom sonic reflecting layers, their thicknesses, and changes in slope are shown.

The sharply defined bottom trace shown in Figure 15 was obtained while towing the fish up the San Clemente Island escarpment. Here the bottom is composed of solid rock with a veneer of fine material. Near the bottom of the escarpment approximately six, thin reflectors are present (Figure 9). These strata are a result of sediment slumping and/or turbidity currents that initiated on the escarpment.

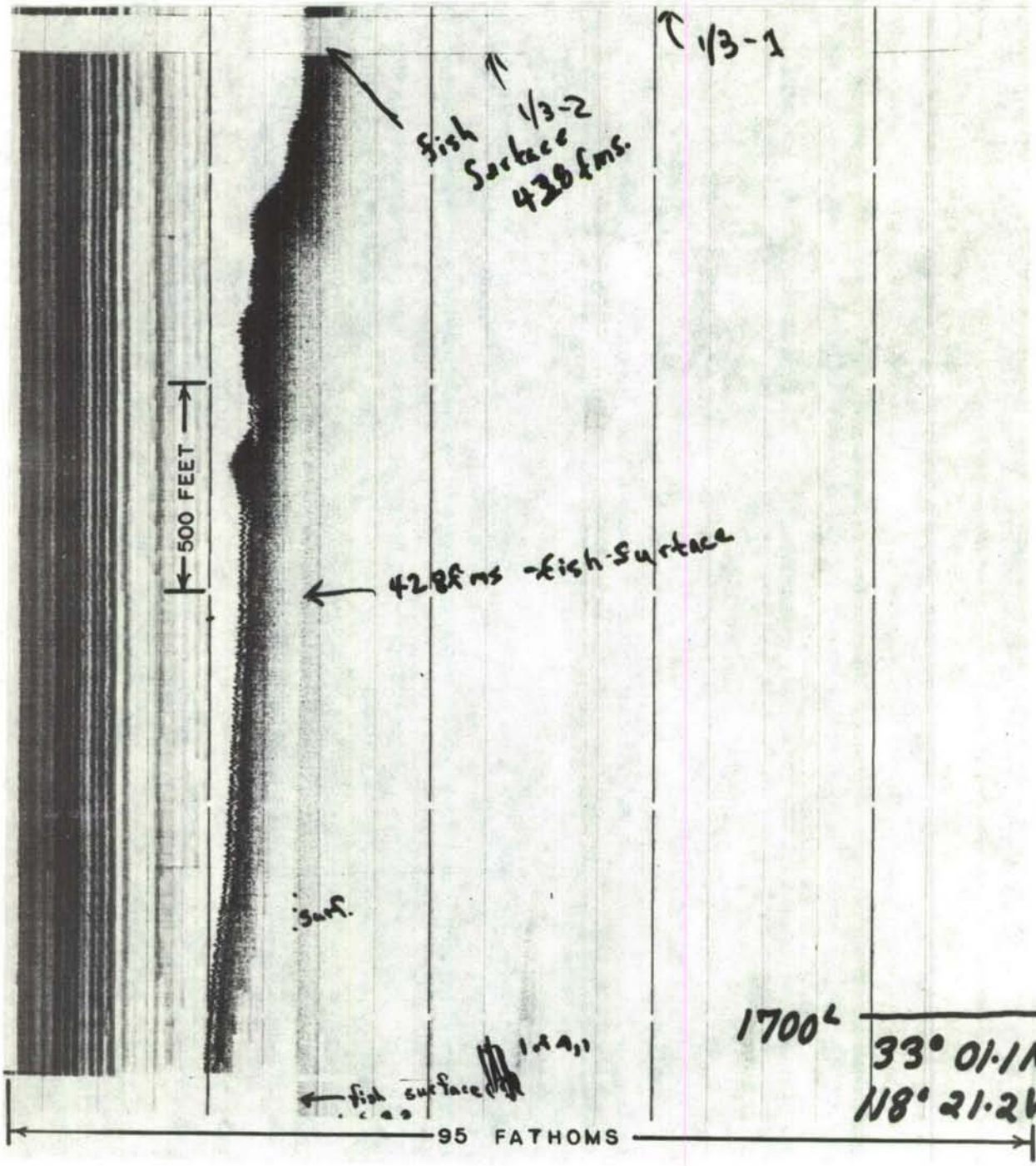


FIGURE 13. DTP RECORD—SOUTHEAST FLANK OF DOME.

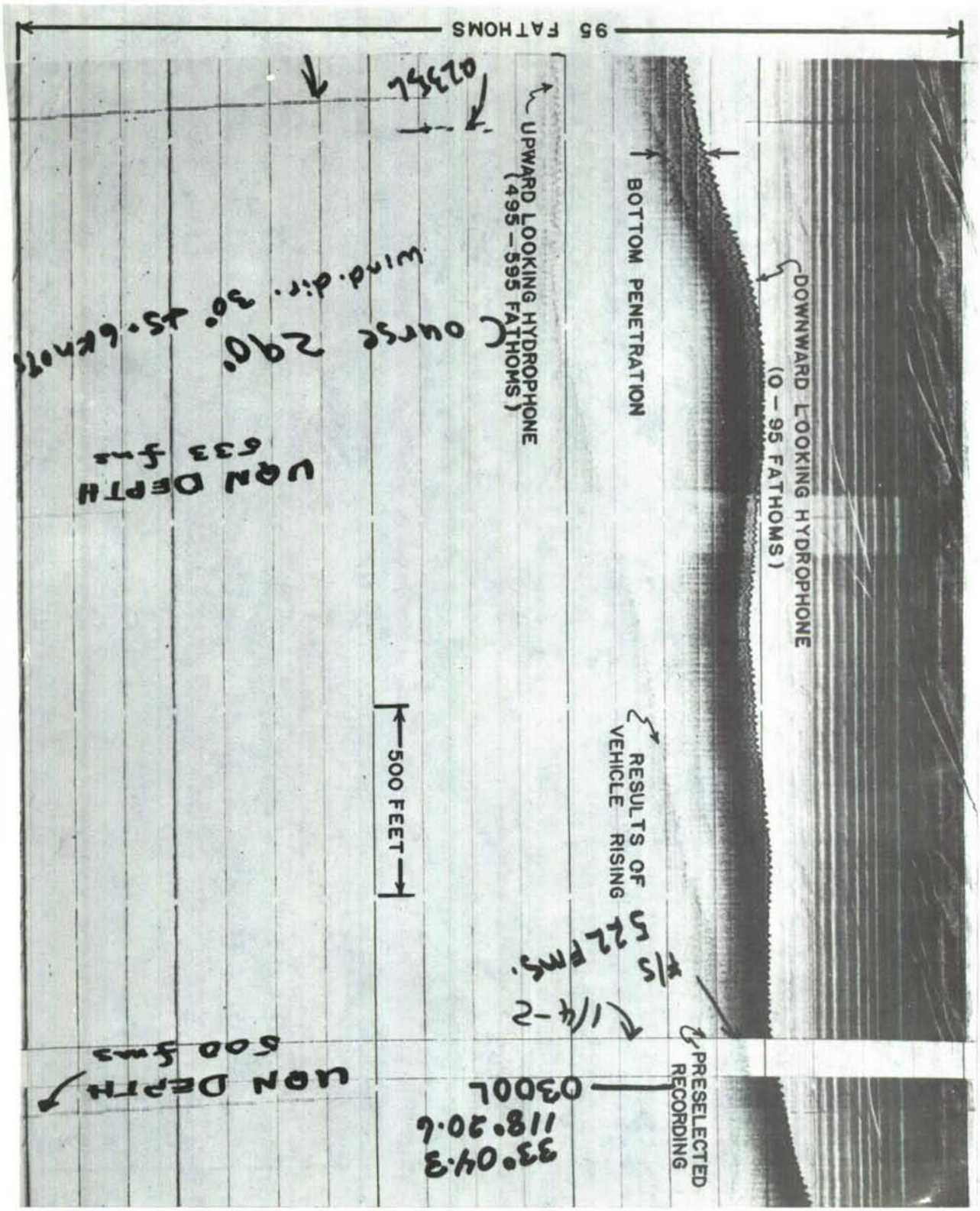


FIGURE 14. DTP RECORD—NORTHEAST FLANK OF DOME.

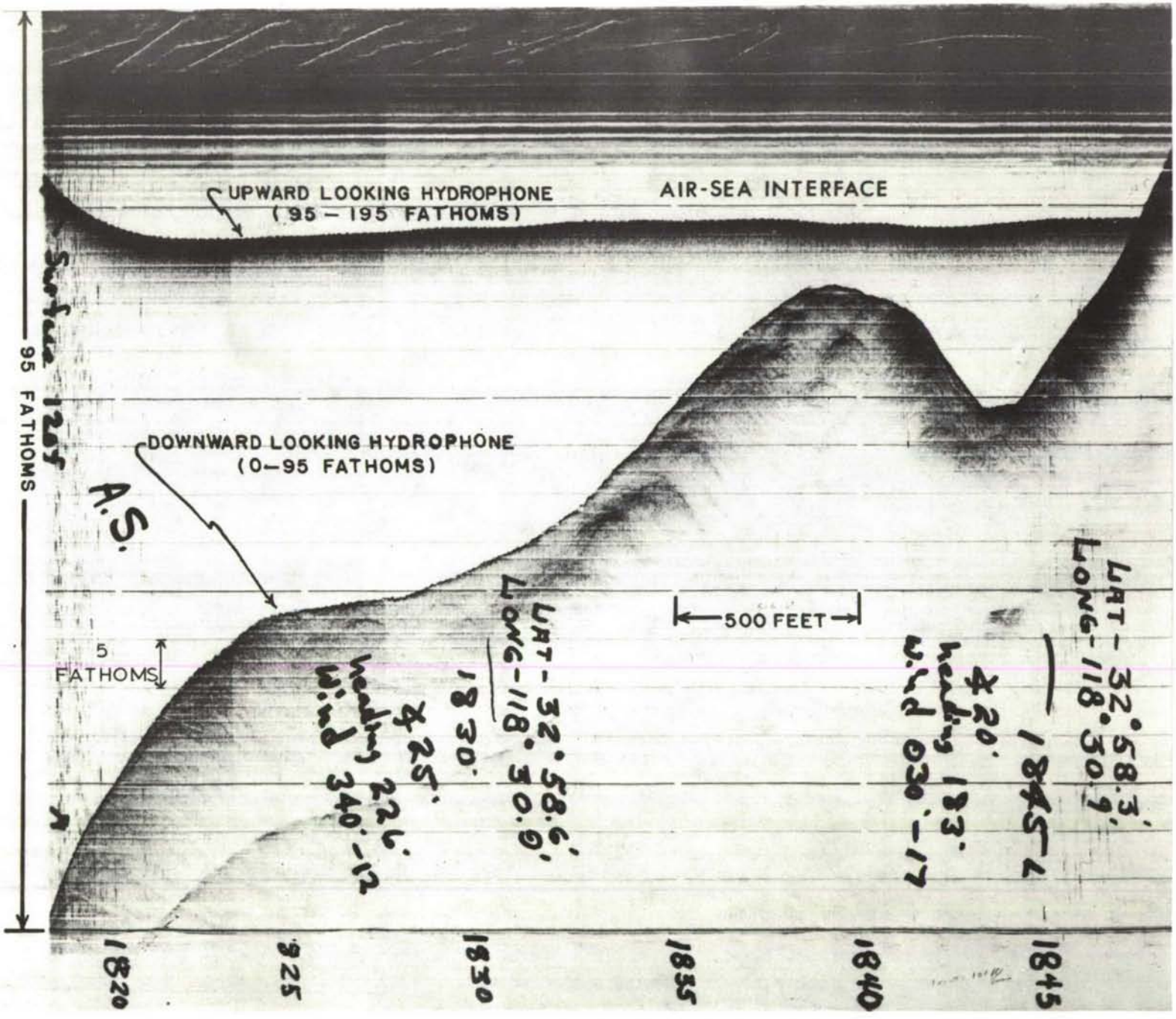


FIGURE 15. DTP RECORD—SAN CLEMENTE ESCARPMENT.

III. PHYSICAL OCEANOGRAPHY

General

Numerous oceanographic investigations have been made of the continental borderland. A brief summary of sea surface temperatures and salinities in the vicinity of Areas I and II are as follows:

	Jan	May	Aug	Nov
Mean Temperature (°C)	14.4	15.6	18.3	16.7
Mean Salinity (0/00)	33.5	33.5	33.5	34.0

In addition, average monthly wind, sea, and swell data conditions are listed in Appendix A. The area is apparently characterized by small seasonal excursions of temperature and salinity. Results similar to those obtained from this survey were obtained by NAVOCEANO during a survey in September and October 1965 of the area between San Clemente and San Nicolas Islands (report in preparation). Sound velocity profiles were similar; however, time series observations indicated variations of as much as 1.5 m/sec during a 24-hour period.

Methods and Procedures

Temperature, salinity, sound velocity, and visibility data were obtained in Areas I and II.

Temperature and salinity data were taken by standard Nansen casts at 7 stations in Area I and at 2 stations in Area II. The Nansen cast data in Area I were taken concurrently with the Ramsay Probe to confirm the sound velocity-temperature data.

Temperatures and sound velocities were measured at 35 stations in Area I. These data were obtained with a Ramsay, Mark-1, Deep-Sea Probe. The probe

is battery powered, frequency modulated, automatic digital recording, temperature and sound velocity measuring instrument.

Visibility data were measured at 13 stations with a prototype transmissometer constructed by Scripps Institution of Oceanography, La Jolla, California. The transmissometer has a folded beam, 2-meter water path, and gives a continuous analog trace of the coefficient of attenuation of light with depth, in natural log units per meter (ln/m).

Analysis and Results

The thermal structure of the waters off San Clemente Island was very stable during the survey period. Spatially the isotherms in the area varied little with depth as indicated by comparative data for stations shown in Figures 4 and 16. An isothermal layer, 17° to 18°C, was found from the surface to approximately 30 or 40 meters. At this depth a relatively sharp negative gradient occurred with an average temperature drop of 5°C per 35 meters (Figure 16). Below the thermocline, the negative gradient decreased to an almost linear rate of about 1°C per 125 meters. At station 6A the probe was placed on the bottom at 923 meters (504 fathoms), where a minimum temperature of 4.58°C was recorded.

Sound Velocity

Because the sound velocity characteristics of a water mass are chiefly a function of thermal characteristics, the sound velocity profiles in the area closely resemble those of the temperature profiles (Figure 17). An isovelocity condition of 1,516 to 1,517 m/sec., exists from the surface to depths of 30 or 40 meters. At this depth a sharp negative gradient occurred which was similar to that of the temperature profiles. Below the steep gradient, the sound velocity decreased at a rate of approximately 1 meter per

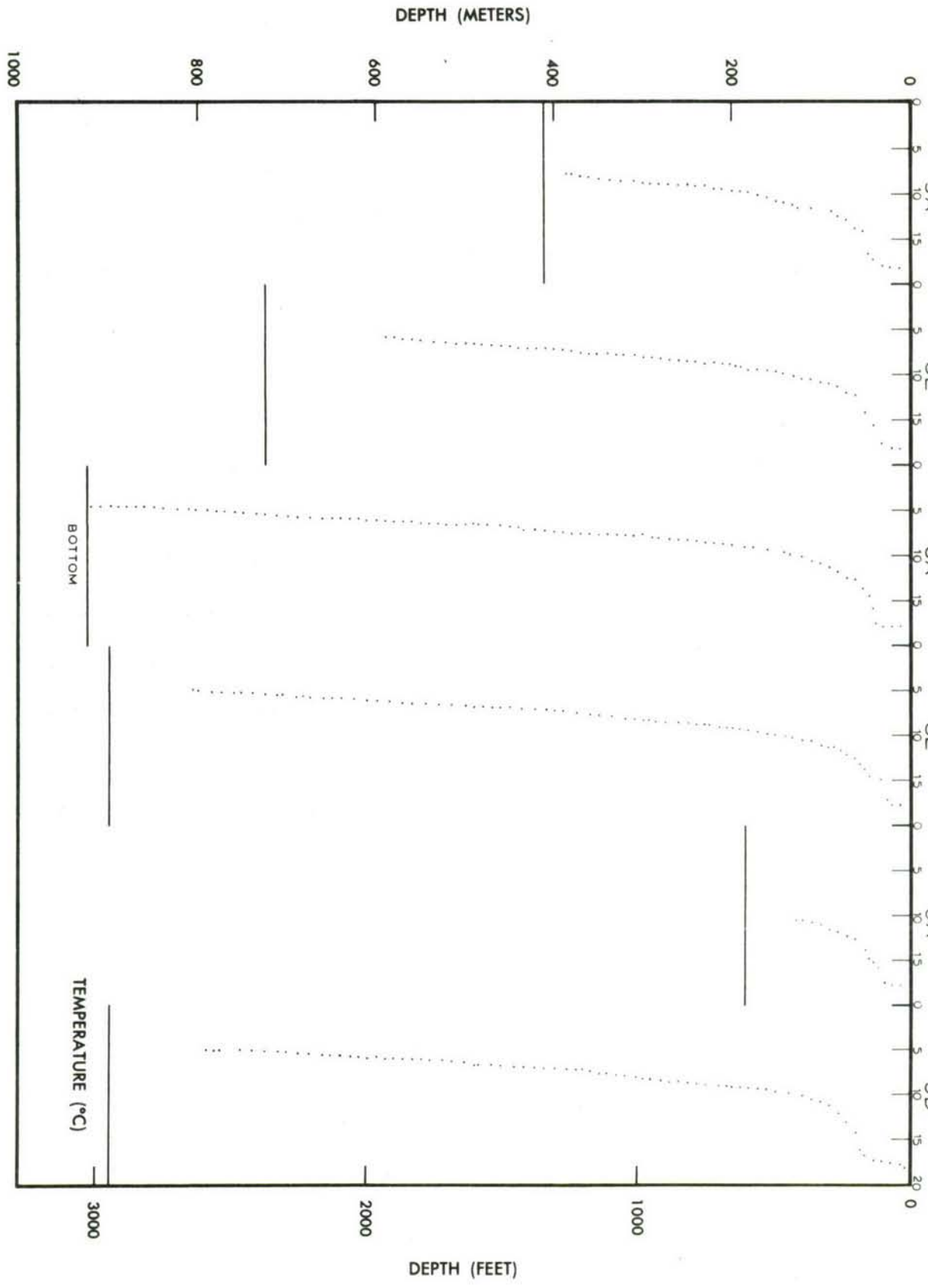


FIGURE 16. TYPICAL TEMPERATURE PROFILES—AREA I.

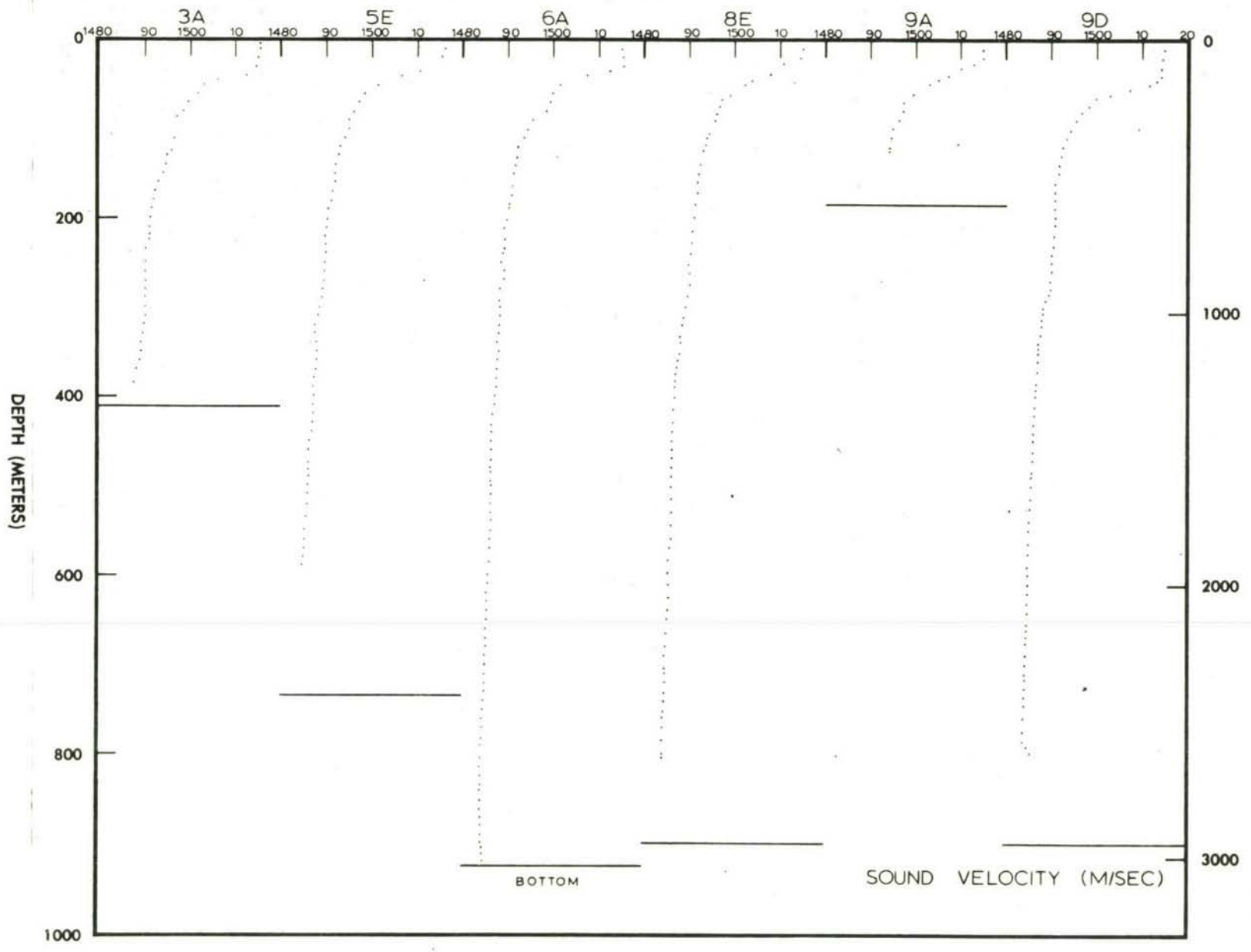


FIGURE 17. TYPICAL SOUND VELOCITY PROFILES—AREA I.

second per 100 meters of depth. A positive gradient was found only at the deeper stations where the depth was in excess of approximately 800 meters.

Visibility

Visibility measurements were taken at the locations shown in Figures 5 and 18. The most conventional measurement of visibility is the attenuation coefficient (α) in natural log per meter (ln/m) units. This unit is inversely proportional to the attenuation length (α^{-1}) which is an easier unit to work with since it is directly related to visibility ranges. Under artificial lighting conditions, the visibility range in meters is $4(\alpha-1)$.

Maximum and minimum alpha readings were plotted for each station in Area I. Maximum alpha readings varied from 0.03 ln/m to 0.11 ln/m and were highest northeast of the dome (Figure 19). Alpha values of the surface and bottom water also increased northeast of the dome (Figures 20 and 21). The visibility minimum for the water column generally occurs between 30 and 40 meters (Figure 22).

Graphs of alpha and percent transmission per meter (T) versus depth are presented in Figures 23-29. All of the curves in Figures 23-29 are similar and these similarities can be used to analyze the general nature of visibility in the San Clemente area. The most turbid water occurs between 30 and 40 meters depth. The strong positive gradient shows the rapid relative increase in visibility with depth. Below this depth the gradient decreases until it reaches zero between 150 and 200 meters. At this point visibility is at a maximum and this maximum value is indicated by a line drawn tangent to the curve on each graph. Visibility deteriorates with depth at a very slow rate to bottom after the maximum is reached.

At Station 4E the transmissometer was lowered twice (Figure 25). Although the observations were made 60 hours apart, the curves are almost identical

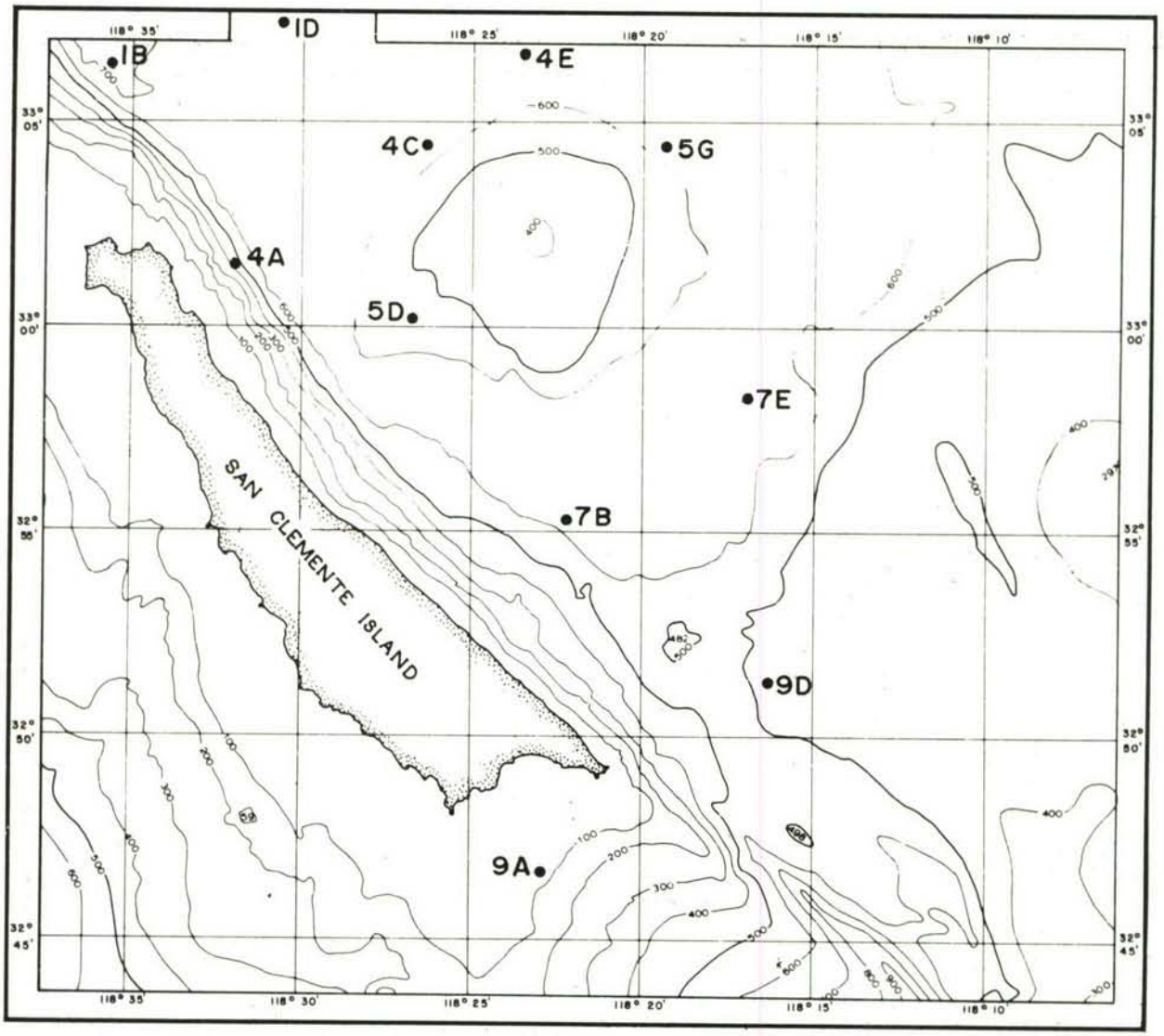


FIGURE 18. TRANSMISSOMETER STATIONS AREA I.

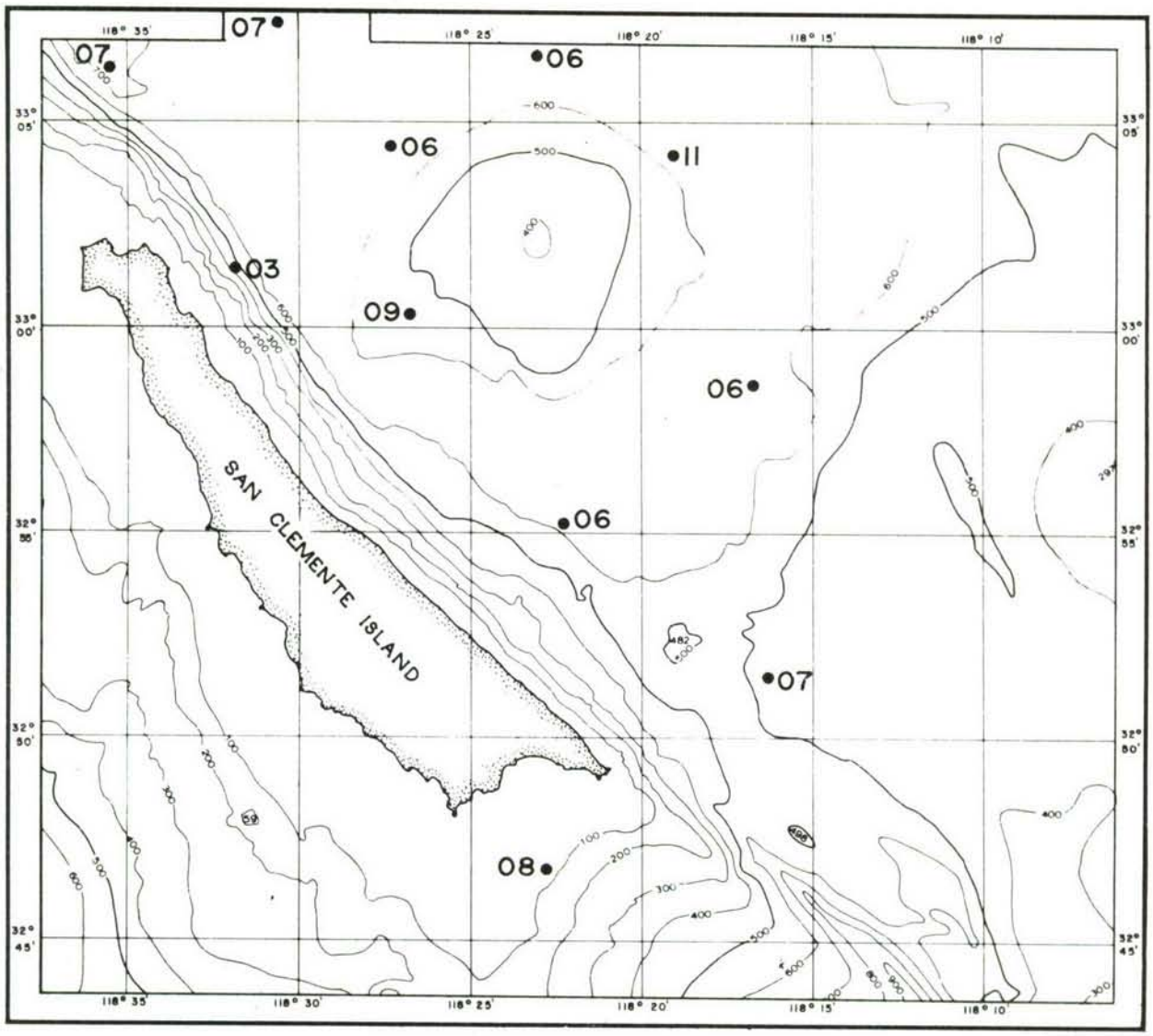


FIGURE 19. MAXIMUM VISIBILITY (In/m) —AREA I.

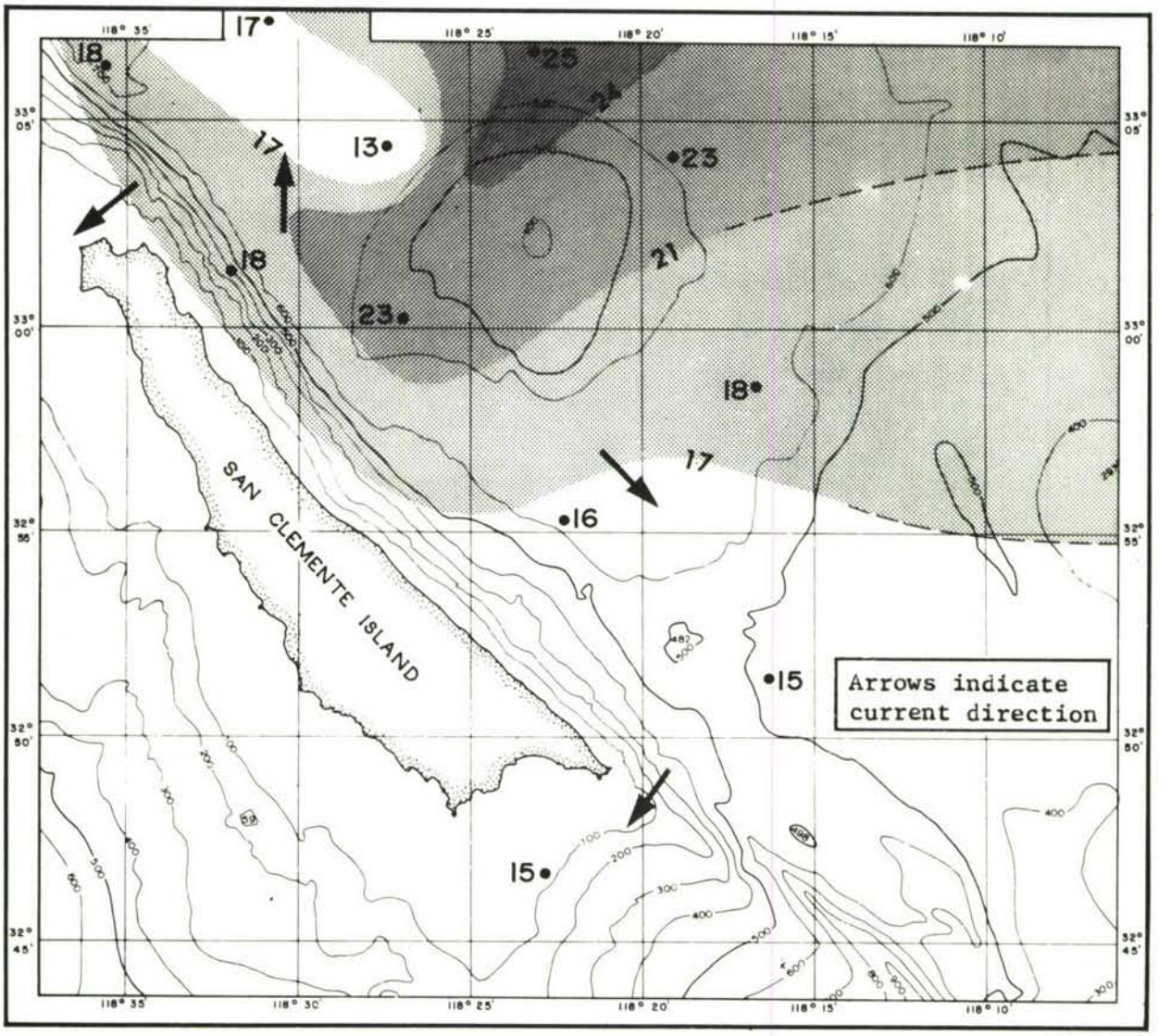


FIGURE 20. SURFACE VISIBILITY (In/m)—AREA I.

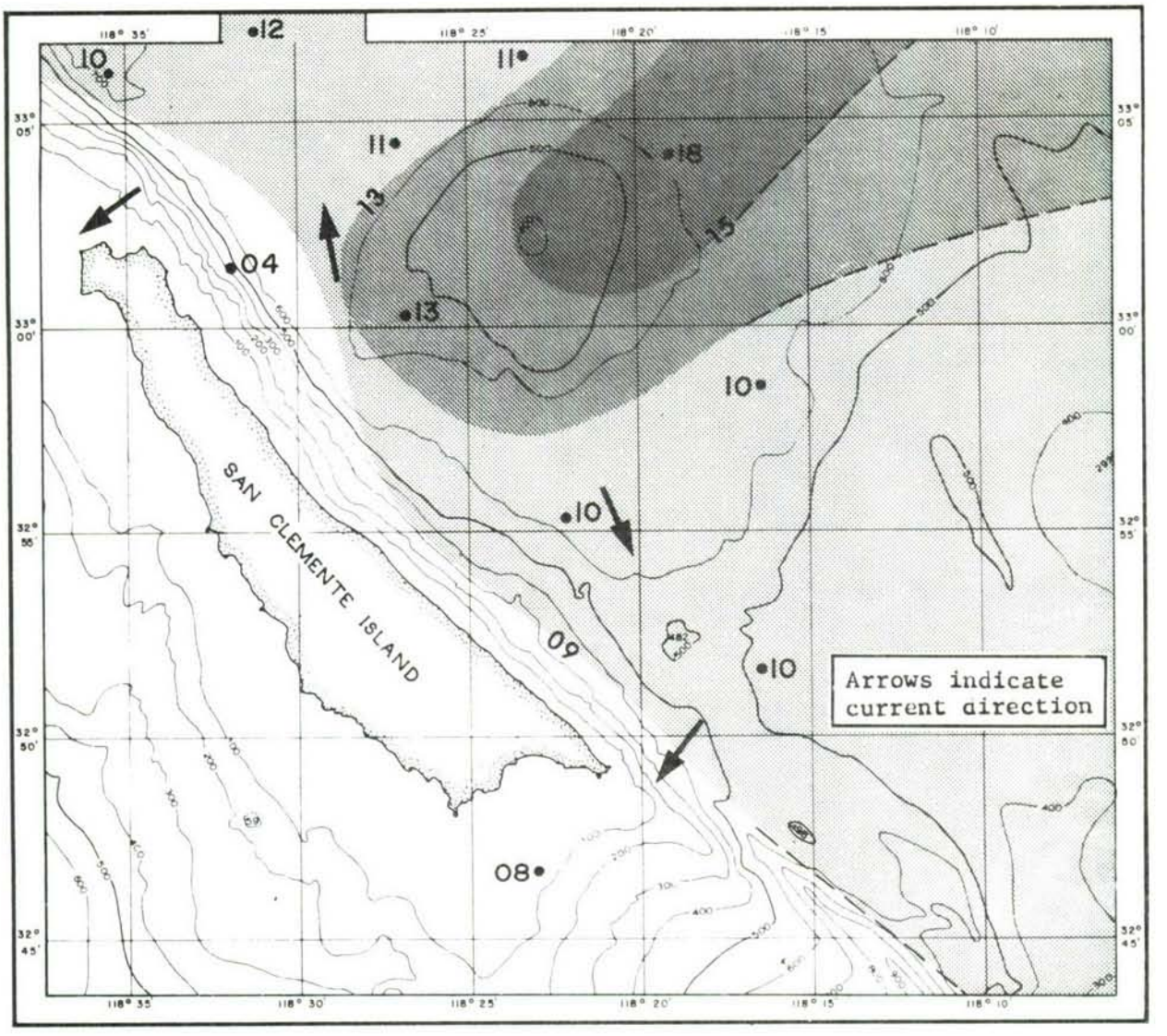


FIGURE 21. BOTTOM VISIBILITY (ln/m)—AREA I.

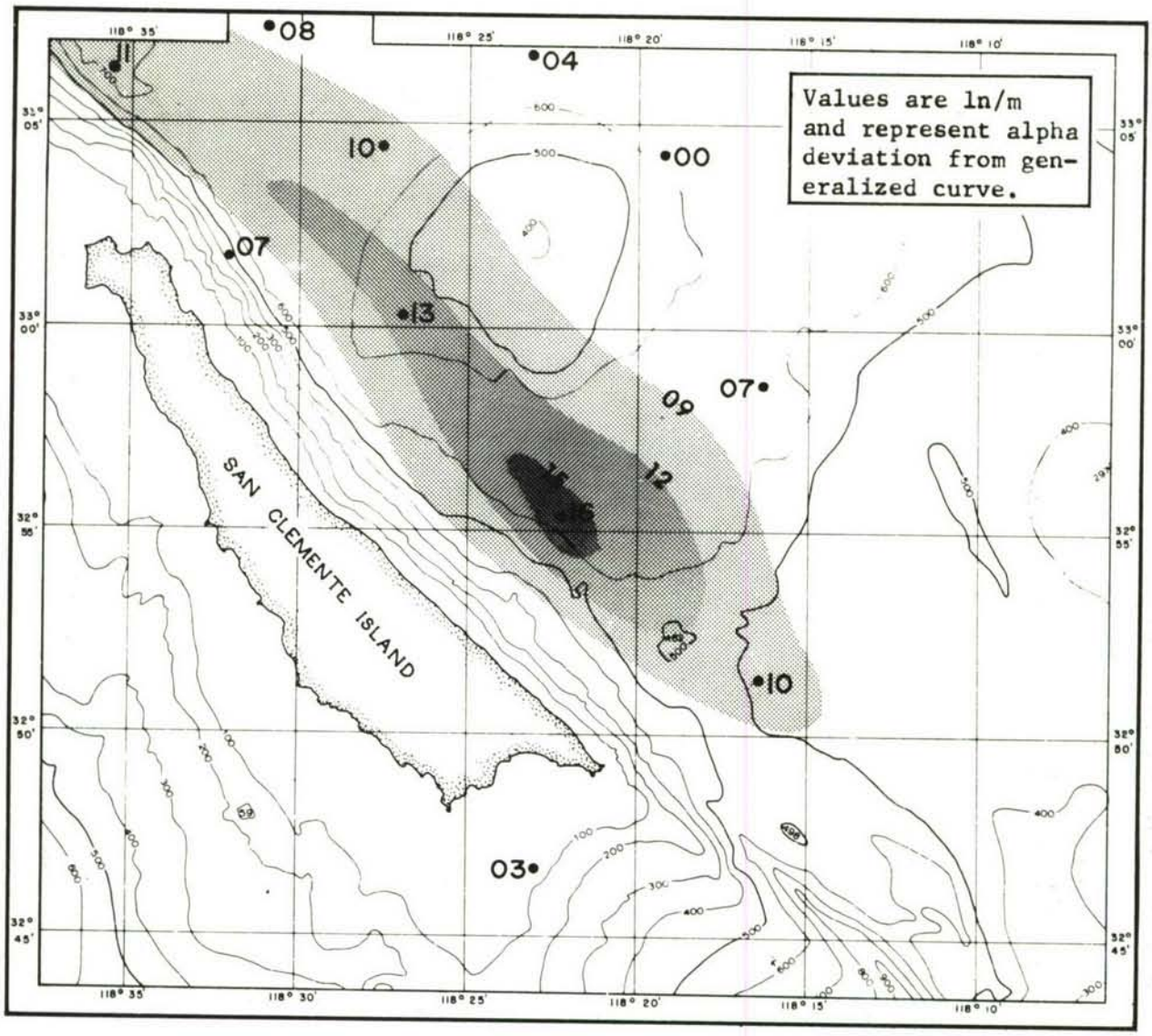


FIGURE 22. MINIMUM VISIBILITY LAYER—30 TO 40 METER DEPTH—AREA I.

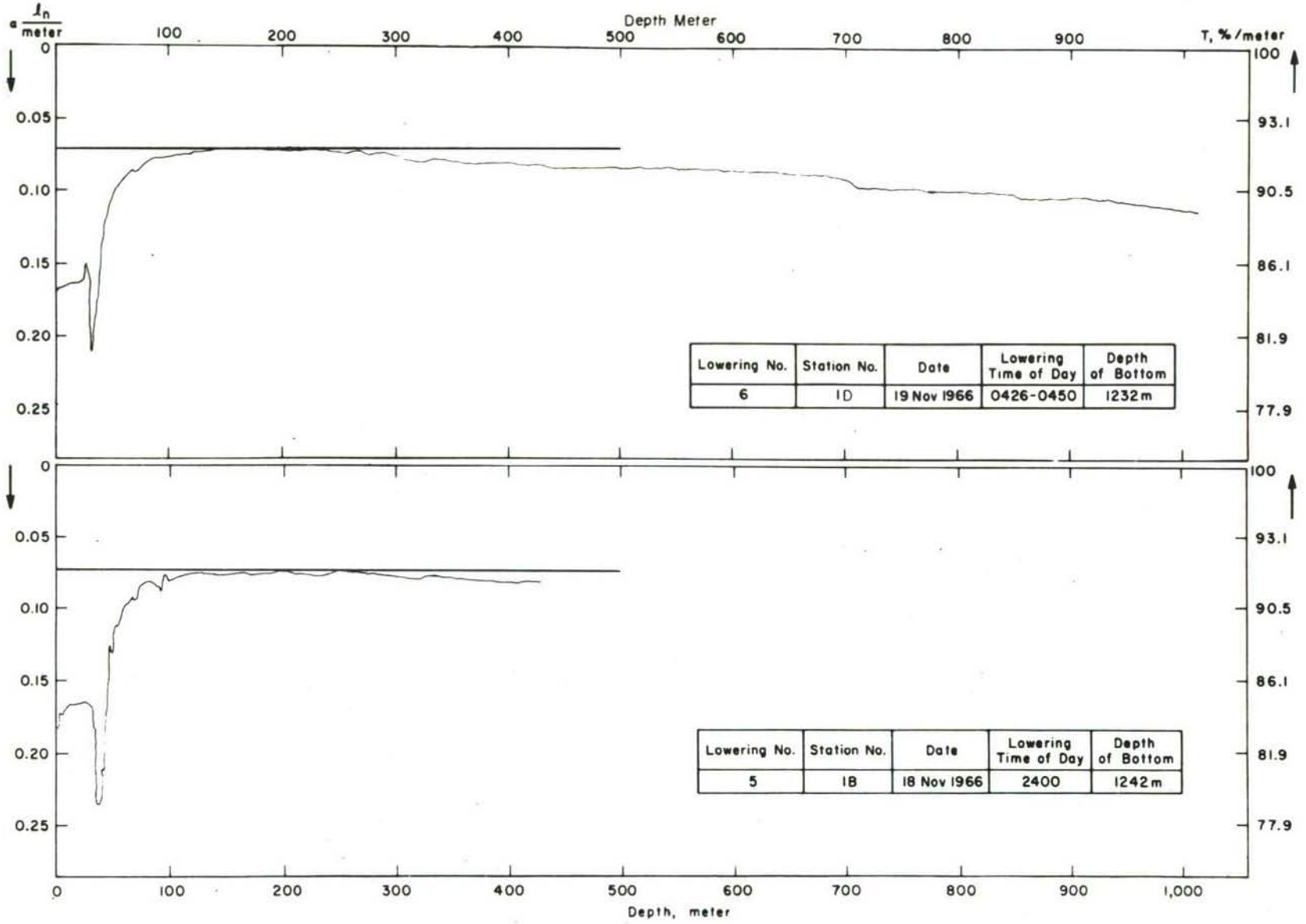


FIGURE 23. ALPHA VS DEPTH—STATION 1B AND 1D.

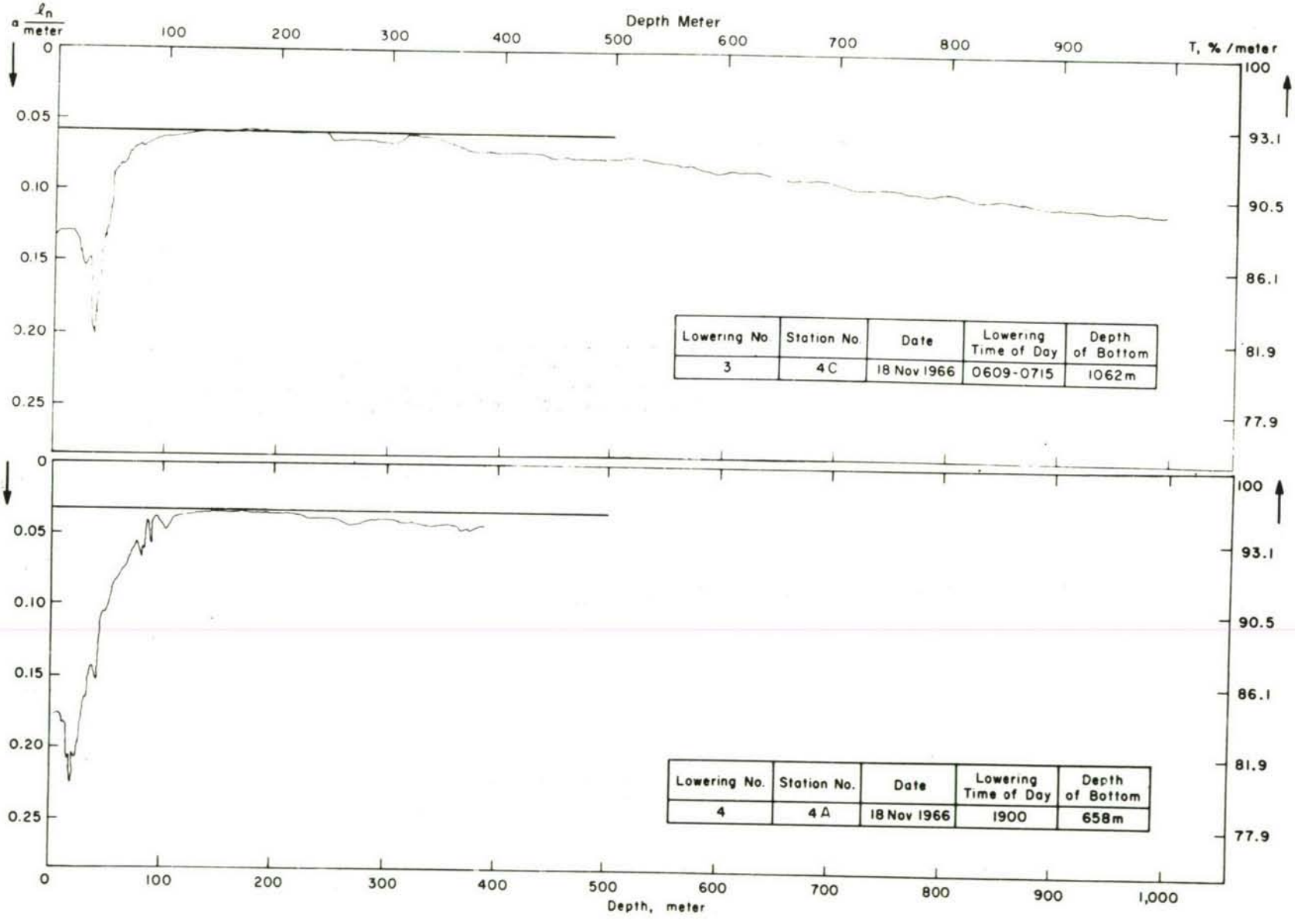


FIGURE 24. ALPHA VS DEPTH—STATION 4A AND 4C.

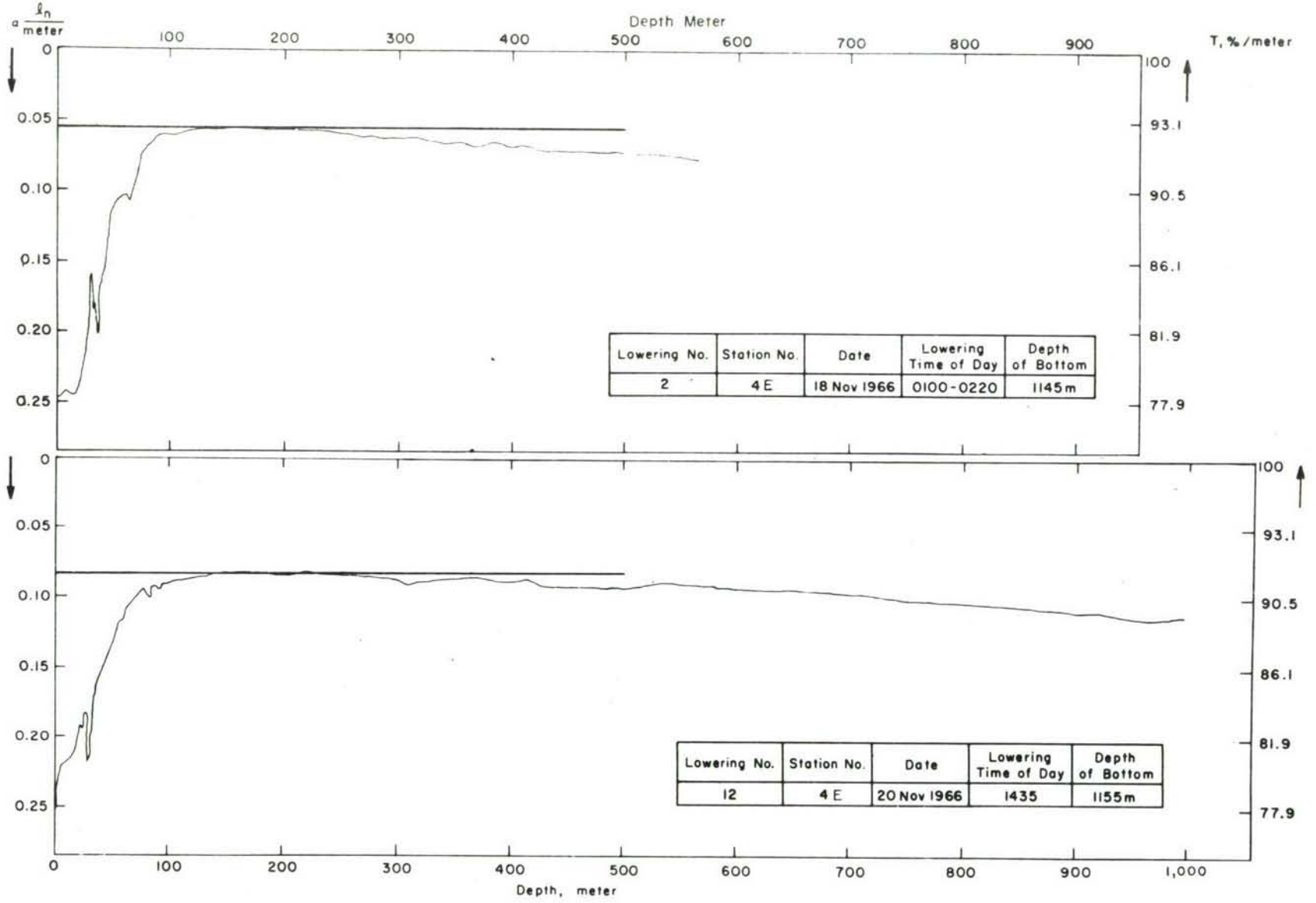


FIGURE 25. ALPHA VS DEPTH—STATION 4E.

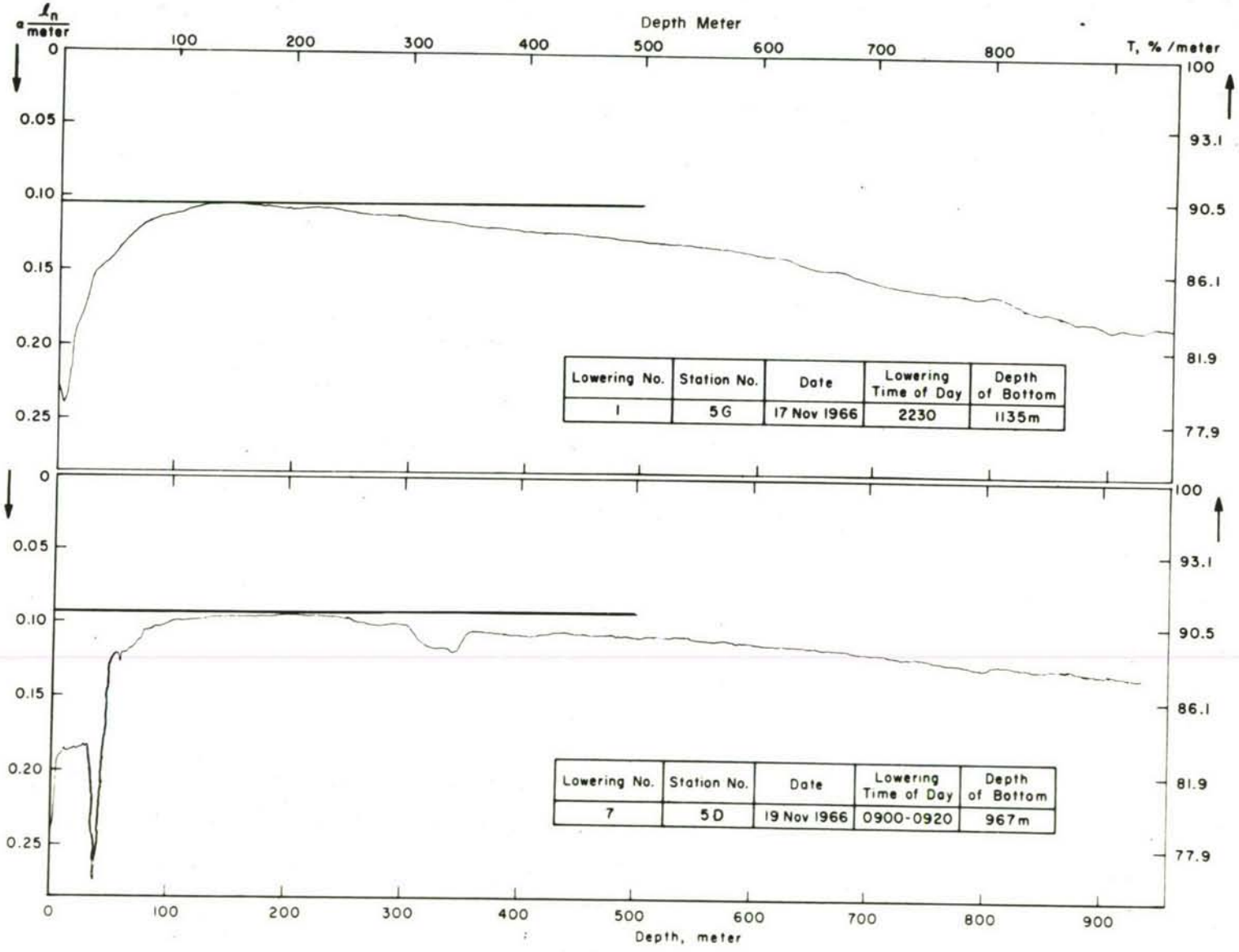


FIGURE 26. ALPHA VS DEPTH—STATION 5D AND 5G.

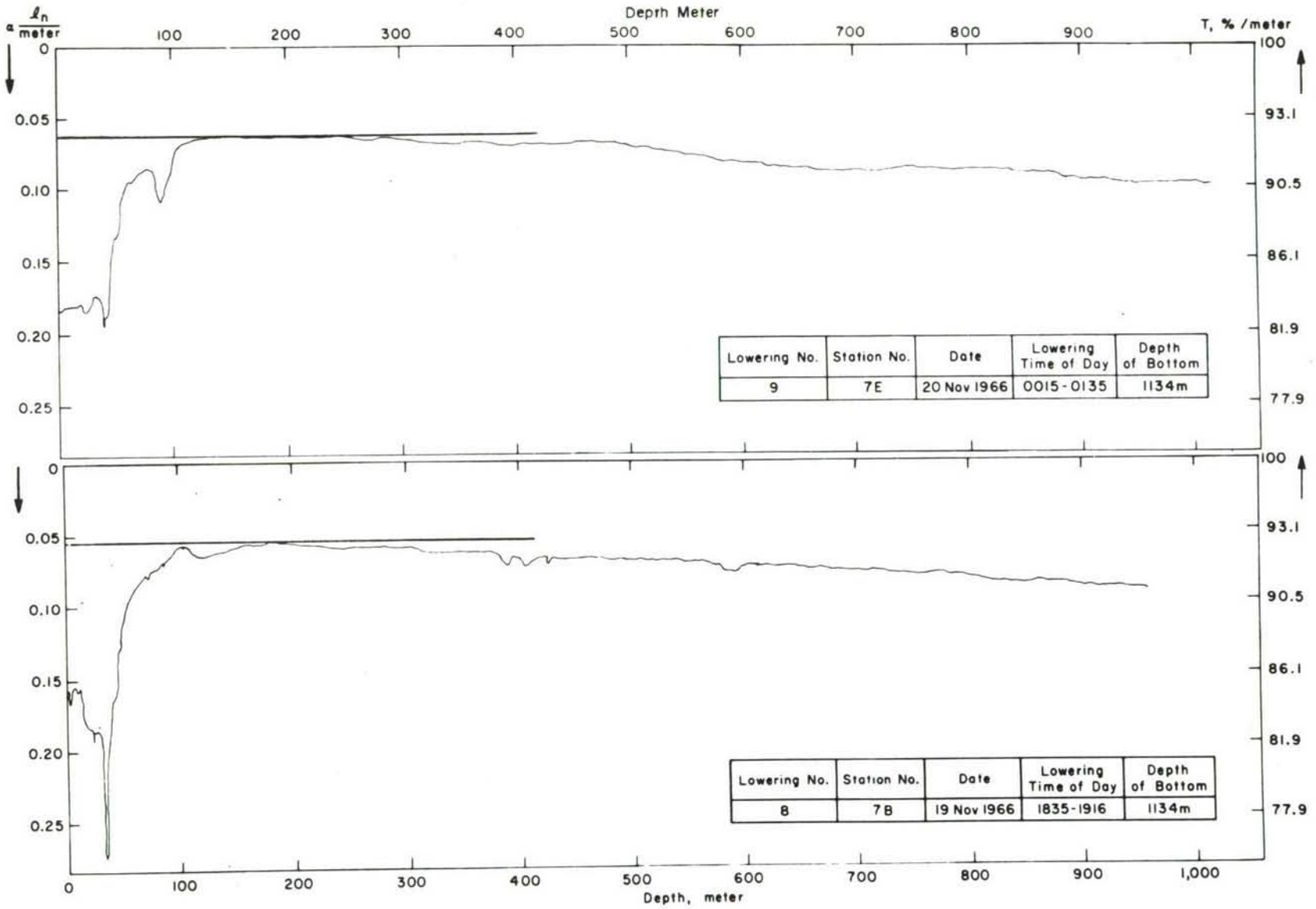


FIGURE 27. ALPHA VS DEPTH—STATION 7B AND 7E.

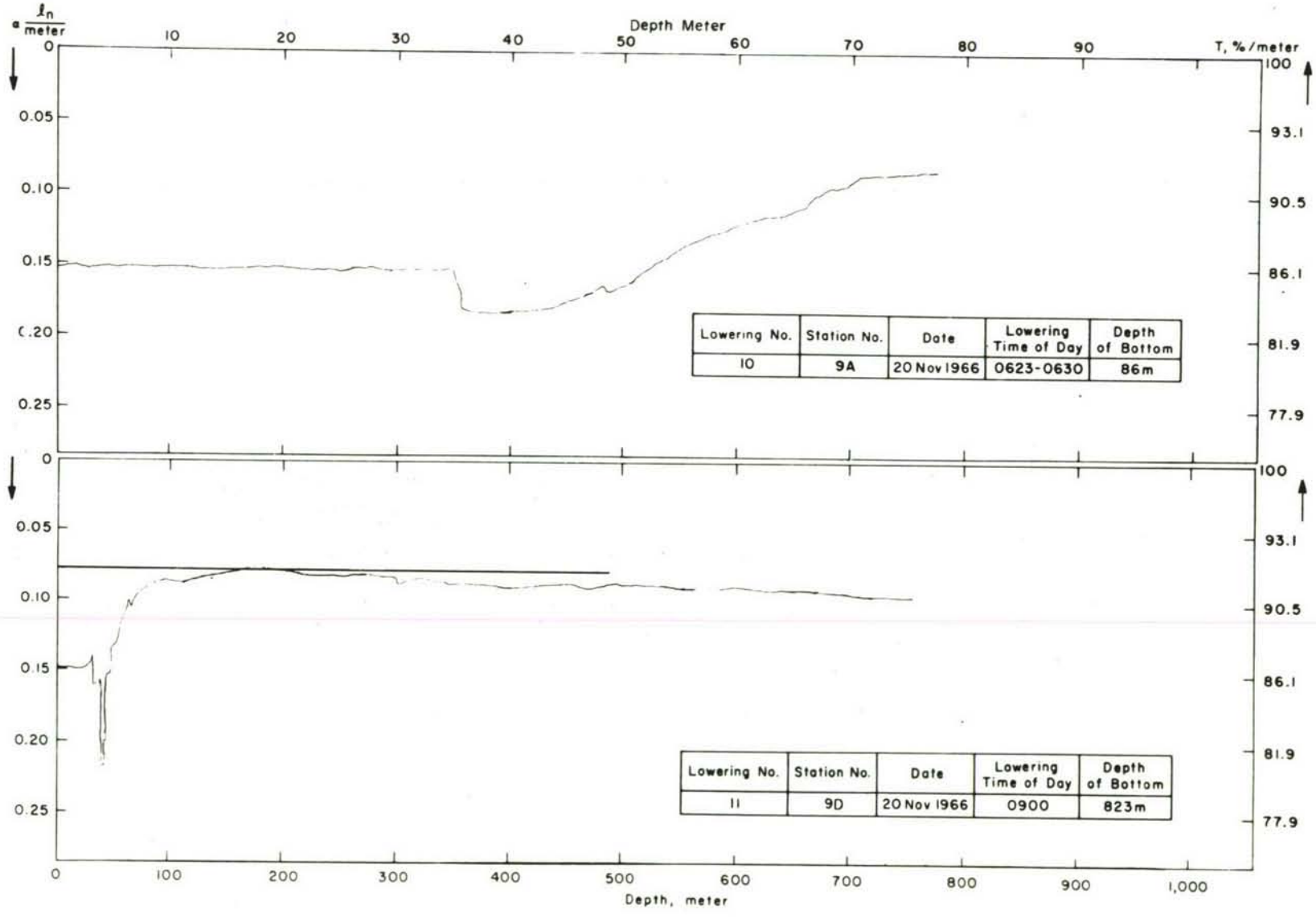


FIGURE 28. ALPHA VS DEPTH—STATION 9A AND 9D.

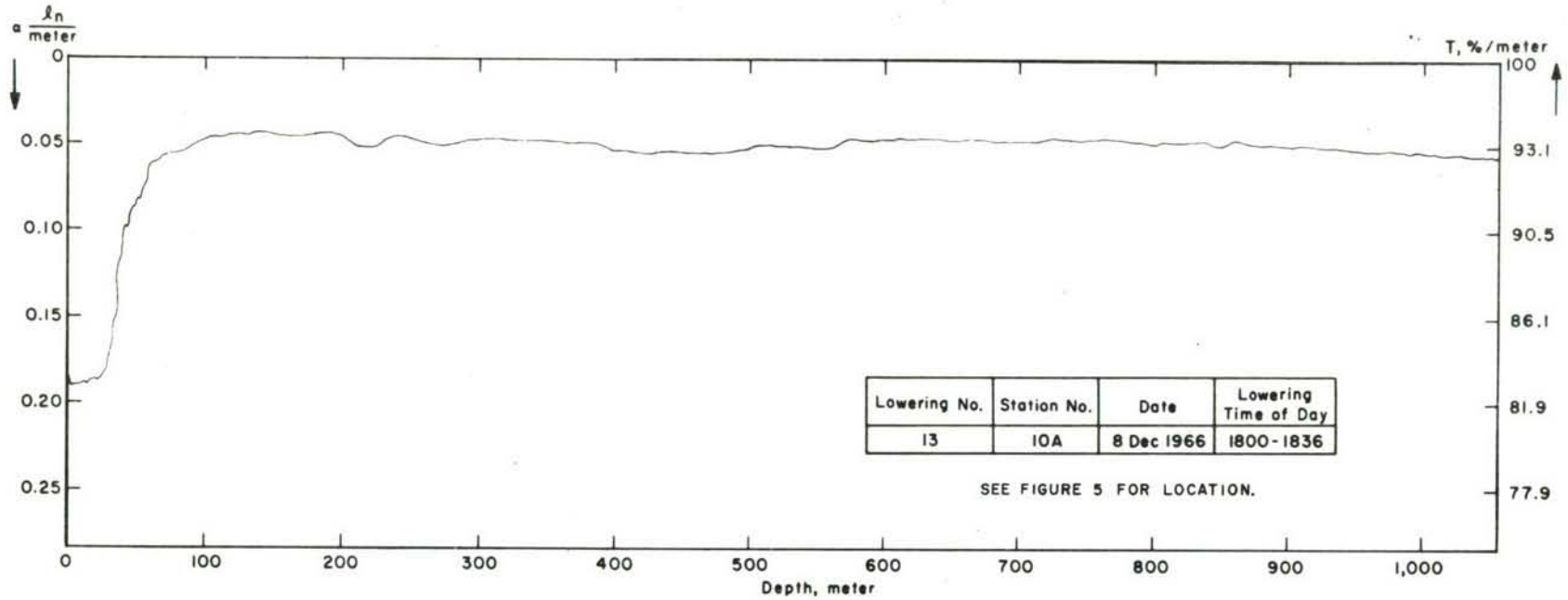


FIGURE 29. ALPHA VS DEPTH—STATION 10A—AREA II.

in shape. The major difference is the shift to higher alpha values in the second lowering, representing a general loss of visibility with time. Comparison of Figures 20 and 21 indicates a turbid water mass northeast of the island gradually decreasing to less turbid water in the direction of the island.

Consideration of the time dependence of the data from the two 4E stations and the synoptic currents as shown on Figures 20 and 21, suggests a turbid water mass that was moving toward the island from the northeast.

The simple form of the graph of the lowering at station 5G (Figure 26) is a model representation of the visibility characteristics of the water mass. However, it does not show all the characteristics common to this area as evidenced by a comparison with the other graphs. The most obvious and important deviation from the simple form, common to the other graphs, is an increase in alpha between the depths of approximately 30 and 40 meters. This phenomena coincides with a strong thermocline. The increase in alpha occurred abruptly at discrete depths and did not affect the water above or below. Consequently, an aqueous determinant was unlikely. Rather, the visibility losses were probably the result of plankton concentrations at the thermocline. Measurements of the deviations of alpha from the smoothed curve (in alpha units) provide a measure of the density of the determinant. A plot of the concentration of the determinants is presented in Figure 22. This figure indicates that an elongated cloud, probably of plankton, was concentrated in Area I.

Briefly summarized, visibility in Area I was as follows:

a. Maximum visibility ranges (minimum alpha values) were between 150 and 200 meters water depth.

b. Minimum visibility ranges (maximum alpha values) were generally between 30 and 40 meters water depth and probably were the results of plankton concentrations at the thermocline.

c. Alpha values ranged from 0.28 ln/m to 0.03 ln/m representing visibility ranges from about 14 to 130 meters.

d. Visibility varied with time as observed at station 4E. The largest fluctuations appear to depend on the currents.

IV. CURRENTS

General

Current meters were planted at the five sites shown in Figure 30. In addition observations were made at site 11C, located about 25 miles southeast of San Clemente Island in a water depth of 6,078 feet (Figure 5). Geodyne Model A-100 current meters with an accuracy of ±3 percent at 0.3 knot and a direction resolution of ± 2.5 degrees were used.

A total of 19 current meters were used at depths ranging from 225 feet to 6,066 feet (Table I). Data were obtained from 9 meters which provided information for 2 sites at 500 feet, 2 sites at 2,200 feet, and 5 sites near the ocean bottom (Figure 31).

Methods and Procedures

Figure 32 shows a typical current meter array. The damping plate, shown above the anchor, was used to reduce the rate of descent as the array free-fell to the bottom. Meters at the bottom of the array were located between 12 and 36 feet above bottom depending on the site. The meters were suspended by 9/16-inch nylon line; a stretch factor of 7 percent was used to calculate (corrected) depths.

Deployment of the array began when the buoys were put over the side. The line was paid out slowly and each component attached in proper order. The ship advanced slowly in the direction of the proposed site to keep the array laid out properly.

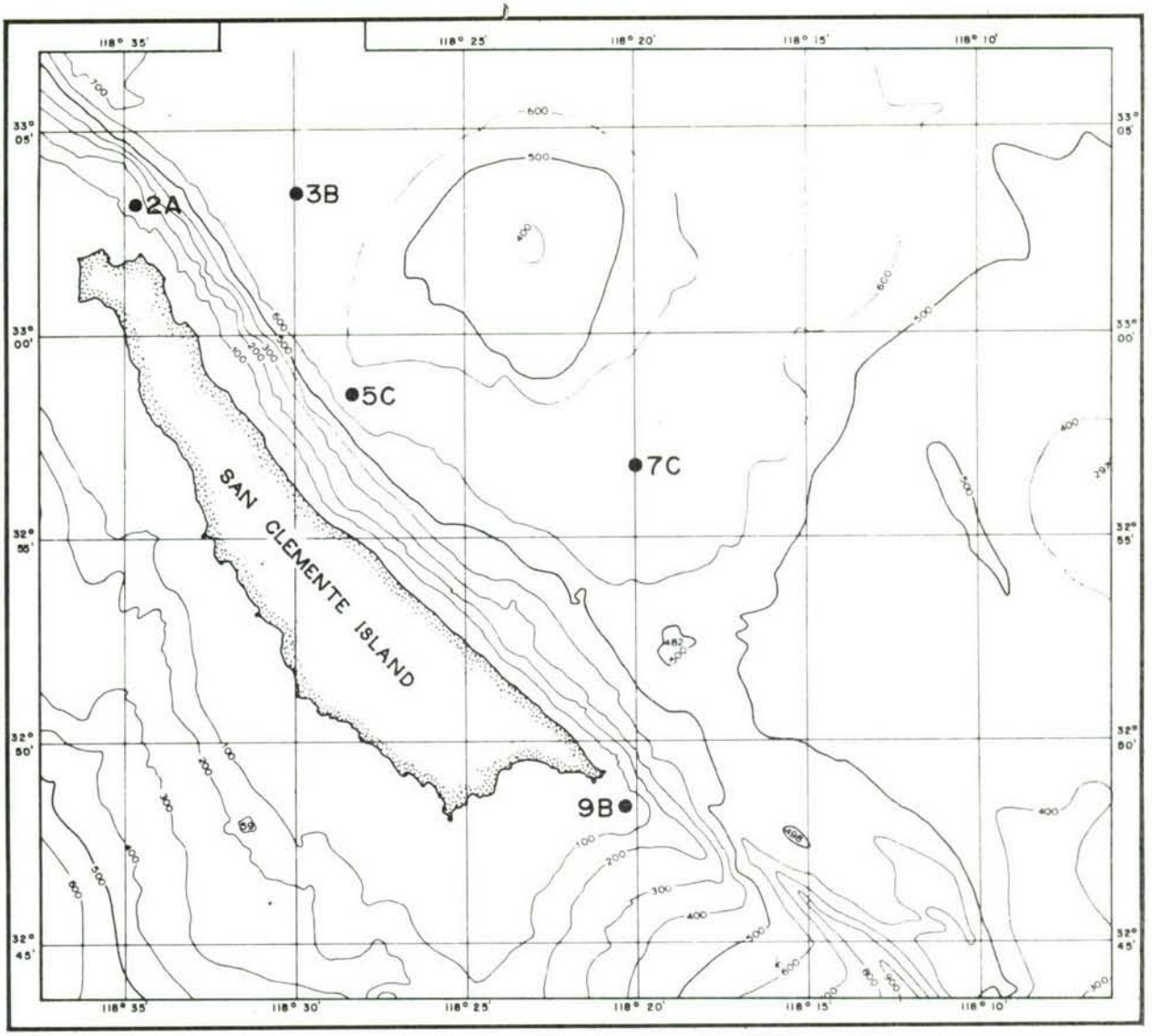


FIGURE 30. SITES—CURRENT OBSERVATIONS.

TABLE I. CURRENT METER DEPTH LIST AND OBSERVATION PERIOD

SITE	LATTITUDE (North)	LONGITUDE (West)	WATER DEPTH (Feet)	DEPTH OF METER (Feet)	OBSERVATION PERIOD Begin	End
2A	33°03.4'	118°34.8'	870	834	24 Oct 1966	22 Nov 1966
				858	No Data	
3B	33°04.3	118°29.8'	3960	500	25 Oct	4 Dec
				2205	25 Oct	4 Dec
				3923	No Data	
				3957	No Data	
5C	32°58.8'	118°28.8'	3750	225	No Data	
				1830	No Data	
				3714	No Data	
				3737	22 Oct	19 Nov
7C	32°56.7'	118°19.8'	4080	536	26 Oct	23 Nov
				2195	26 Oct	23 Nov
				4040	No Data	
				4053	26 Oct	23 Nov
9B	32°48.3'	118°20.1'	300	264	No Data	
				288	25 Oct (Direction Data Only)	22 Nov
11C	32°28.4'	118°06.4	6078	1015	No Data	
				6043	No Data	
				6066	16 Nov	9 Dec

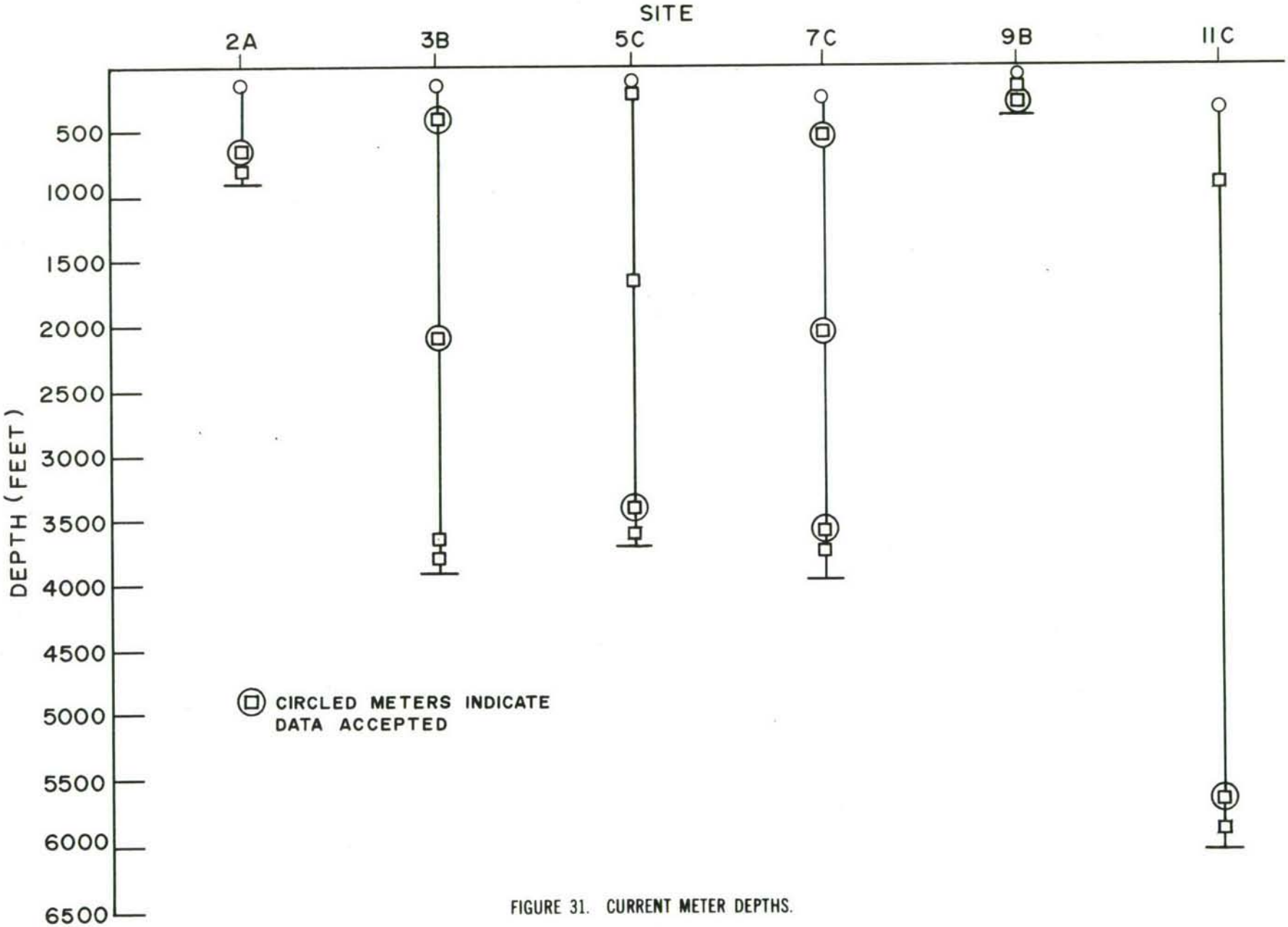


FIGURE 31. CURRENT METER DEPTHS.

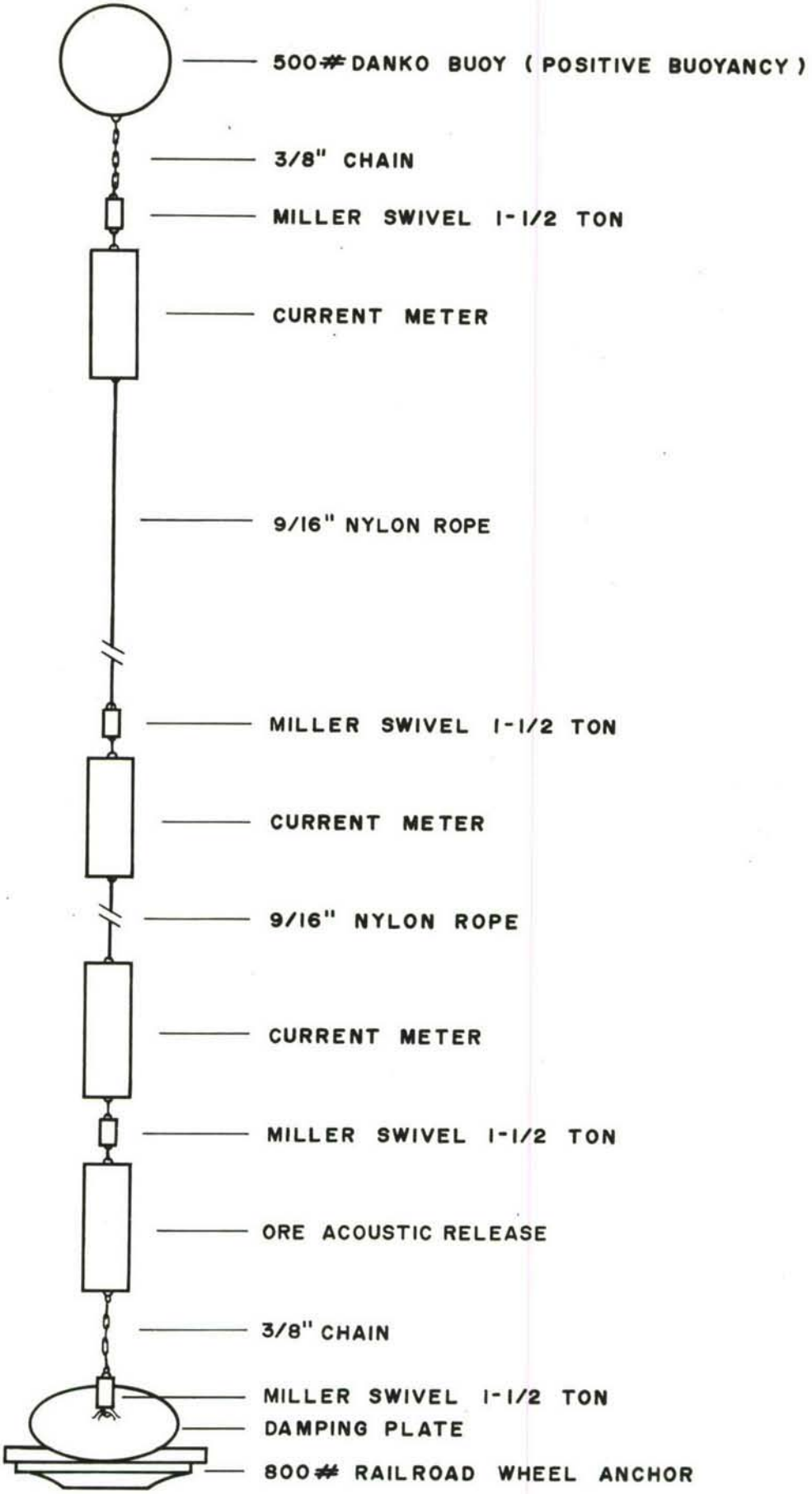


FIGURE 32. TYPICAL CURRENT METER ARRAY.

Geodyne Model A-100 current meters encode the data on standard 16mm photographic film. The meters were adjusted to strobe every 5 seconds during 50-second recording periods. A sampling rate of 10 minutes per hour was selected to make the record statistically valid and allow a recording life of sufficient length.

Most of the arrays were implanted in late October and retrieved in late November or early December. Retrieval was initiated by actuating Ocean Research Equipment, Inc. anchor releases by means of a coded acoustic signal transmitted from the surface vessel.

The raw data were processed by the Geodyne Corporation, Waltham, Massachusetts. Analyses of the data were made by the Bottom Environmental Survey Project, NAVOCEANO.

Analysis and Results

Tides - To evaluate the effects of tidal forces on the currents in the area, especially those at or near the ocean bottom, tide data were requested from the Coast and Geodetic Survey. No observed data were available for San Clemente Island; as a result, data from observations made in Los Angeles Harbor were used (U. S. Coast and Geodetic Survey). No attempt was made to separate the non-tidal and tidal components.

Tides in the San Clemente Island area are mixed; that is, two high waters and two low waters occur each tidal day, with large inequalities in their heights. During the time of the observations, highest high waters and lowest low waters took place several hours before and after the time of New Moon. The time of least vertical excursion between the daily high waters occurred one day before the First Quarter phase of the moon.

Currents - Current meters were planted at select sites around the dome located northeast of San Clemente Island. Arrays 3B, 5C, and 7C (Figure 30)

were each placed about 6 miles from the summit of the dome. Where mean current speeds are given, the speeds were averaged over various periods of time, ranging from 1 to 6 hours. Short-term fluctuations in speed are evident, but usually non-consistent, and higher speeds usually occurred during times of lower semidiurnal waters.

Two meters on each of arrays 3B and 7C were located at about the same depths: 500 feet and 2,200 feet. Comparison of the records (Appendix B) shows some similarities in the current directions, but the current speeds are dissimilar.

At the 500-foot depth, prevailing directions at site 7C are southeast and northeast; at site 3B they are northeast and southeast, with an additional strong component to the northwest.

Currents at 500 feet, site 7C, fluctuated in speed from less than 0.20 knot to 0.31 knot from the beginning of the record until 4 November. On that date, currents increased to 1.00 knot, after which the speed fluctuated between 0.50 and 1.30 knot. The current speeds did not exceed 0.20 knot at the 500-foot depth at site 3B.

At the 2,200-foot depth, the prevailing directions at site 7C are southeast and southwest. At site 3B there are three principal directional components, northeast, south, and northwest.

The current speed at 2,200 feet in site 3B did not exceed 0.20 knot, whereas at site 7C, at that depth, there were several periods (usually associated with low waters, and especially at the time of new moon) when the current speeds reached 0.40 knots and averaged about 0.21 knots.

Most data obtained near the bottom were of poor quality; as a result, interpretation was difficult. There are similarities in the records obtained

by the near bottom meters at site 2A and 5C. Direction vs Time plots show that the currents were rotary most of the time (Appendix B). The change of the tidal height with time compares favorably with the change in speed of the current. Resemblence of the tide curve to variation of current speed is an indication that the currents were influenced by the tides.

The mean current speed for the recording period at site 2A, computed for those speeds which had significant frequencies of occurrence, was 0.05 knot. (Zero current speed was not included in the computations.) The frequency of occurrence of zero speed was about equal to that of the combined frequencies of all other speeds, and its inclusion would have reduced the mean to a misinterpreted value. As stated above, a favorable comparison exists between the tide curve and time variation of current speed at this site. These times usually corresponded to the periods of high and low waters, and it is then when appreciable current speeds were attained; and it is to these periods that the mean speed applies. The maximum speed of a significant frequency of occurrence was 0.15 knot. These speed values compare favorable with those of observations made nearby (Carrison, et al, 1961).

Mean current speeds at site 5C (using the same computational procedures as for site 2A) was 0.09 knot. The maximum speed was 0.23 knots for a significant frequency of occurrence.

The bottom meter at site 9B malfunctioned in such a manner as to record only direction. No speed data are available. Two distinct directional components are shown in the polar coordinate histogram plot of direction (Appendix B): east-northeast and south-southeast.

At site 11C, Area II, three main direction components are evident (Appendix B) from data obtained from the meter located near-bottom: north-northeast, southwest and west. The currents appear to have been rotary during the First Quarter phase of the moon, but changed to reversing after Full Moon. This indicates that a tidal component is present. The mean speed at 6066 - 10 foot depth (12-feet above bottom) was 0.08 knot, and the maximum speed of a significant frequency of occurrence was 0.38 knot.

Conclusions

As stated above, 9 of the 19 meters implanted functioned properly. Because of a lack of adequate sampling of the water column, a definitive account of the current regime in the San Clemente Island area cannot be made. Also, in order to gain an understanding of the current patterns, the effects of topography, and seasonal variations, a prolonged series of observations should be made within and adjacent to the area.

From the data that are available, several conclusions were made concerning the currents in the area: (1) tide forces exerted an influence to the deepest depth sampled (6,000 feet); (2) bottom currents attained speeds as great as 0.20 knot; (3) current speeds at the 500-foot depth just south of the dome were relatively high (0.20 - 1.30 knots).

V. INSTRUMENTATION DEVELOPMENT

Purpose

The instrumentation developments of this project are intended to provide a capability for measuring the environmental parameters that cannot be measured easily with conventional configurations of instruments that are used for normal oceanographic operations. For the most part, the developments involved design, fabrication, and testing of systems comprised of conventional instruments arranged in novel configurations. The instruments were designed to measure micro-bathymetry, currents, visibility, and sediment characteristics.

Systems

Deep Towed High Resolution Profiler (DTP) - The performance objective of the DTP was to obtain high resolution bathymetry or bottom roughness data along with high resolution subbottom profiling. The system needed to be relatively inexpensive and capable of being readily rigged for deployment from different ships (Figure 11).

By positioning a 12 KH_z transducer near the bottom, a 30^o beam width (at-3db point) provides fairly high resolution of the bottom topography. The close proximity of the instrument to the bottom minimizes spreading and attenuation losses of acoustic energy. With modest acoustic energy output, good penetration and resolution of the subbottom reflecting horizons are obtained. An upward-looking transducer is used to determine the depth and horizontal stability of the system by monitoring the acoustic signal reflected from the sea surface.

Transducers are keyed by the recording and control systems aboard the tow ship. Signals for keying the transducers, and signals received when the

transducers are in the listening mode, are transmitted through an armored, coaxial tow cable.

Results of field testing this first system, at San Clemente Island, indicated that high resolution bathymetry and subbottom profiling could be obtained with a system towed close to the bottom. The DTP was capable of being readily rigged, and is comprised of off-the-shelf equipment. The problems encountered include: (1) severe limitations on tow speed; (2) the ships roll motions were transmitted via the cable to the towed vehicle and resulted in the motions being superimposed on the recordings of the bottom topography; (3) limited battery capacity which required recovery of the system to change batteries after about four hours of operation; (4) limited capability for changing pulse duration and repetition rate; and (5) in areas with greatly changing depth or steep bottom slopes, the winch had to lower or raise the towed vehicle to avoid bottom contact while continuing to maintain the desired topographic resolution.

Photographic Visibility Systems - Two systems were built and field tested to determine if near bottom visibility could be determined by photographic techniques.

A system using conventional deep-operating oceanographic camera components was used to photograph a target composed of 6 wedged shaped colors grading from white to black. Eight targets were mounted at fixed distances from the camera on the supporting frame. The targets were arranged so that their surface was normal to the incident light. A capability also existed for switching from one light source-camera pair to the other pair without retrieving the system. A pinger mounted on the camera framework was monitored by the ship's UQN to allow winch adjustments for controlling the tow-

ing depth. The data chamber of one camera was modified by removing the depth gauge and mounting a meter for monitoring battery voltage, in order that light intensity coorelations could be made by observing the recorded voltage values on the data-frame portion of the photographic record.

A moored photographic-visibility system, similar to the towed system, was constructed. The moored system employed gray, wedge targets mounted in a frame below the camera mounting; however, this system employed a special timing circuitry that controlled exposures at fixed intervals for up to 30 days. The system is shown in Figure 33. A special feature of the system was a set of 6 tubes, each 30 inches long, that were loaded with 1/2-inch diameter steel balls. Periodically timing circuitry fired a squib that caused one of the tubes to open and drop the column of balls which fell to the bottom (within the field view of the camera). When the balls were dropped, the camera system made exposures every 10 seconds for a period of 5 minutes, before returning to the usual rate. By photographing the falling steel balls and the turbidity created, it was anticipated that an indication would be obtained of the character of the sediments and bottom currents in relation to the degradation of near bottom visibility. Initial indications were that this system should perform properly in deep water; however, this array was lost due to the parting of a nylon line used to support the system. Efforts to retrieve this system are continuing.

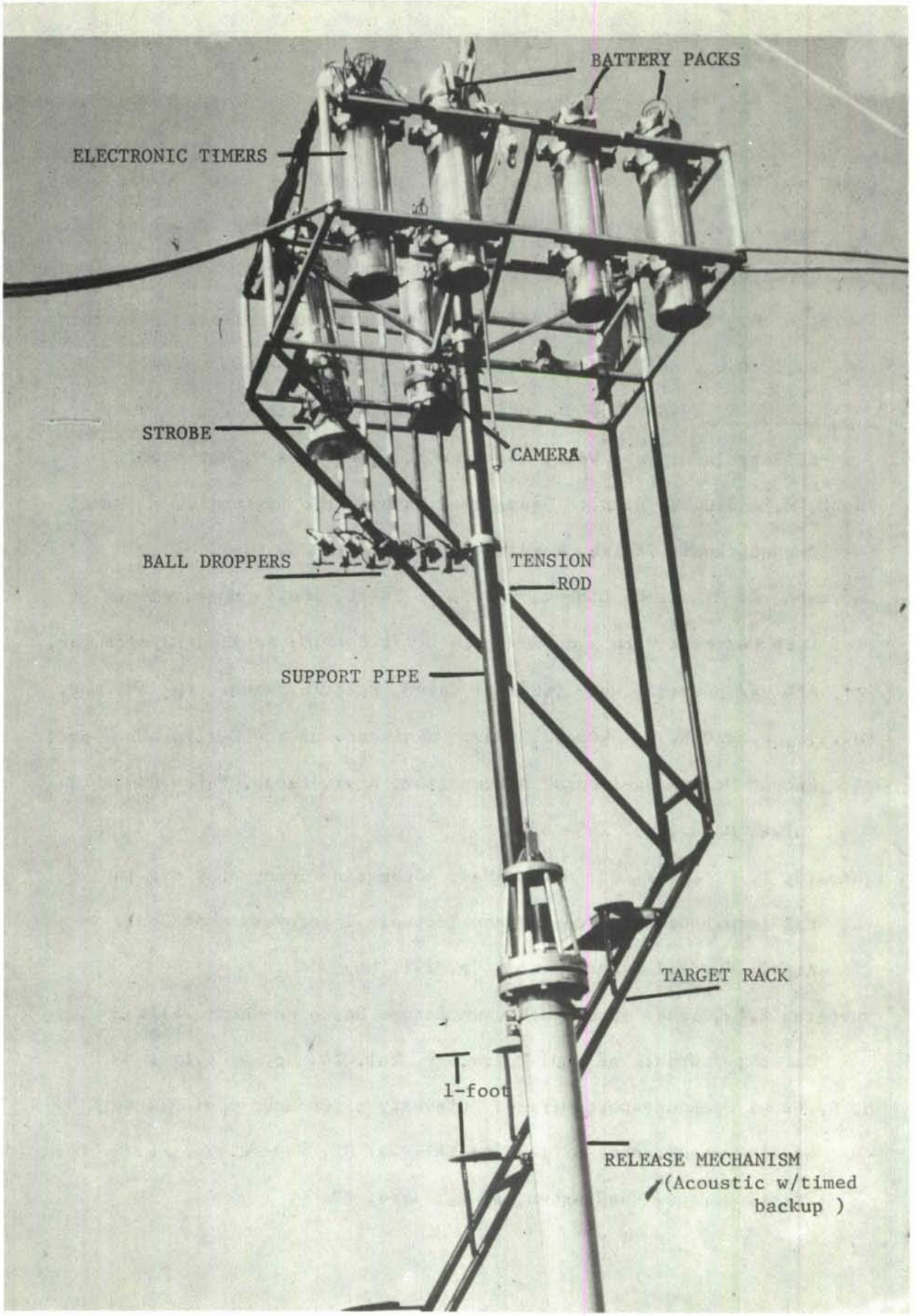


FIGURE 33. BOTTOM MOUNTED CAMERA SYSTEM.

VI. REFERENCES

Coast and Geodetic Survey: Tide Tables, High and Low Water Predictions, West Coast of North and South America, Including the Hawaiian Islands, 1966; U. S. Department of Commerce, ESSA. pp. 224.

Emery, K. O., 1952: Continental Shelf Sediments of Southern California; Bull. Geol. Soc. Amer., Vol 63, No. 11, pp/1105-1108. Nov.

_____1960: The Sea Off Southern California a Modern Habitat of Petroleum; John Wiley and Sons Inc., N.Y., N.Y., pp. 104.

Fagot, M. and Oser, R. K.: Deep-Towed Bathymetric System; U. S. Naval Oceanographic Office, Washington, D. C., IM NO. 67-12, 14 p.

Garrison, G. R., E. H. Linger, and T. E. Ewart, 1961: Measurements of Deep Currents with a Submersible Drift Bottle; Applied Physics Lab., APL/UW/TE/60-35, Wash. (State) Univ., Seattle, Wash., pp. 58. May.

Revelle, R. and F. P. Shepard, 1939: Sediments of the California Coast; Recent Marine Sediments, A Symposium; Amer. Assoc. Petroleum Geol., Tulsa, Okla., pp. 245-282.

Shepard, F. P. and K. O. Emery, 1941: Submarine Topography Off the California Coast: Canyons and Tectonic Interpretation; Geol. Soc. Amer., Special Paper No. 31, pp. 171. May

Shepard, F.P., 1954: Sediment Nomenclature Based on Sand: Silt: Clay Ratios; Journals of Sed. Petrology, Vol. 24. No. 3, p.157.

U. S. Naval Oceanographic Office: Glossary of Oceanographic Terms; U. S. Naval Oceanographic Office Special Pub. 35, 2nd edition; U. S. Government Print. Office, Washington, D. C., 1966, 204 p.

APPENDIX A

PHYSICAL OCEANOGRAPHIC DATA

Ramsay Probe, Nansen Cast, Sea State, Swell,

and Monthly Wind Force Data

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015183	07001872
05000006	06015183	07001872
05000010	06015183	07001869
05000015	06015179	07001861
05000021	06015175	07001843
05000026	06015165	07001812
05000029	06015157	07001774
05000033	06015134	07001717
05000036	06015106	07001597
05000039	06015087	07001533
05000043	06015076	07001475
05000047	06015052	07001405
05000050	06015037	07001333
05000055	06015027	07001292
05000057	06015017	07001270
05000062	06015008	07001218
05000065	06015005	07001202
05000070	06015000	07001189
05000071	06015001	07001188
05000073	06014998	07001178
05000075	06014987	07001141
05000076	06014986	07001129
05000078	06014985	07001126
05000083	06014983	07001121
05000085	06014980	07001103
05000089	06014979	07001098
05000092	06014978	07001095
05000095	06014976	07001089
05000099	06014974	07001075
05000103	06014973	07001071
05000106	06014967	07001047
05000110	06014966	07001040
05000114	06014965	07001039
05000117	06014965	07001034
05000121	06014960	07001014
05000124	06014959	07001006
05000129	06014958	07001005
05000132	06014958	07000997
05000136	06014957	07000995
05000139	06014957	07000991
05000143	06014954	07000983
05000147	06014954	07000980
05000151	06014951	07000972
05000154	06014947	07000952
05000158	06014947	07000949
05000161	06014947	07000947
05000165	06014945	07000940
05000169	06014944	07000936
05000172	06014943	07000931
05000175	06014940	07000923
05000179	06014940	07000912
05000183	06014938	07000912
05000186	06014937	07000905
05000190	06014936	07000898
05000193	06014934	07000892
05000196	06014933	07000887
05000200	06014931	07000878
05000204	06014931	07000873
05000208	06014930	07000872
05000212	06014929	07000867
05000215	06014928	07000861

CHANNEL IDENTIFIERS

EXPLANATORY NOTE:

CHANNEL 05–DEPTH IN WHOLE METERS

CHANNEL 06–SOUND VELOCITY IN TENTHS OF METERS PER SECOND

CHANNEL 07–TEMPERATURE IN HUNDRETHS °C

STATION	DATE	TIME	LOCATION	CRUISE
1A	3 NOV, 1966	16:21Z	33°04.0′N × 118°38.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015161	07001837
05000003	06015162	07001837
05000008	06015163	07001837
05000011	06015163	07001838
05000014	06015163	07001838
05000018	06015164	07001838
05000023	06015163	07001832
05000027	06015164	07001831
05000031	06015154	07001826
05000036	06015094	07001724
05000041	06015056	07001514
05000044	06015042	07001470
05000049	06015031	07001409
05000055	06015007	07001372
05000059	06014994	07001299
05000064	06014984	07001262
05000069	06014978	07001231
05000073	06014977	07001219
05000078	06014971	07001206
05000083	06014965	07001173
05000087	06014965	07001166
05000092	06014960	07001154
05000096	06014954	07001134
05000101	06014949	07001122
05000106	06014943	07001096
05000112	06014937	07001077
05000117	06014935	07001062
05000121	06014931	07001048
05000127	06014930	07001035
05000132	06014930	07001030
05000137	06014930	07001029
05000143	06014925	07001018
05000148	06014924	07001008
05000153	06014917	07000995
05000158	06014915	07000981
05000163	06014912	07000968
05000169	06014911	07000961
05000174	06014910	07000951
05000177	06014910	07000945
05000183	06014909	07000942
05000187	06014908	07000940
05000198	06014901	07000920
05000203	06014900	07000914
05000208	06014903	07000910
05000213	06014904	07000915
05000219	06014903	07000911
05000223	06014902	07000907

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000229	06014898	07000900
05000233	06014898	07000891
05000239	06014897	07000887
05000244	06014896	07000880
05000249	06014894	07000874
05000254	06014894	07000872
05000259	06014894	07000868
05000264	06014894	07000864
05000268	06014895	07000862
05000273	06014894	07000862
05000278	06014893	07000858
05000280	06014893	07000854
05000284	06014894	07000853
05000290	06014894	07000853
05000294	06014893	07000850
05000298	06014889	07000845
05000304	06014887	07000832
05000306	06014885	07000827
05000311	06014883	07000815
05000317	06014883	07000816
05000321	06014881	07000807
05000327	06014882	07000806
05000330	06014881	07000802
05000334	06014881	07000800
05000339	06014882	07000798
05000344	06014881	07000796
05000349	06014879	07000793
05000354	06014877	07000783
05000360	06014876	07000777
05000364	06014877	07000776
05000368	06014877	07000773
05000373	06014877	07000773
05000377	06014876	07000771
05000383	06014876	07000765
05000389	06014875	07000762
05000394	06014876	07000760
05000399	06014875	07000755
05000403	06014874	07000753
05000408	06014872	07000746
05000412	06014872	07000745
05000417	06014871	07000739
05000422	06014869	07000734
05000429	06014868	07000727
05000433	06014869	07000725
05000437	06014868	07000723
05000442	06014867	07000718
05000446	06014867	07000716

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000451	06014866	07000712
05000457	06014866	07000709
05000463	06014865	07000705
05000468	06014866	07000703
05000472	06014866	07000702
05000477	06014867	07000701
05000483	06014867	07000698
05000487	06014866	07000696
05000492	06014865	07000694
05000496	06014865	07000685
05000503	06014865	07000685
05000508	06014862	07000681
05000512	06014862	07000677
05000518	06014862	07000673
05000521	06014862	07000671
05000526	06014861	07000669
05000531	06014860	07000664
05000536	06014860	07000661
05000542	06014861	07000660
05000547	06014860	07000657
05000552	06014860	07000654
05000557	06014860	07000651
05000561	06014860	07000649
05000565	06014860	07000649
05000570	06014860	07000647
05000576	06014860	07000643
05000580	06014858	07000640
05000586	06014858	07000635
05000591	06014858	07000632
05000595	06014856	07000627
05000600	06014855	07000624
05000605	06014856	07000621
05000610	06014855	07000618
05000615	06014855	07000615
05000621	06014855	07000614
05000626	06014855	07000611
05000631	06014855	07000609
05000634	06014855	07000607
05000639	06014854	07000604
05000644	06014853	07000601
05000650	06014853	07000597
05000655	06014853	07000596
05000661	06014854	07000594
05000666	06014854	07000593
05000670	06014854	07000591
05000675	06014854	07000589
05000679	06014853	07000584

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000683	06014853	07000584
05000688	06014852	07000581
05000693	06014851	07000577
05000699	06014850	07000573
05000704	06014851	07000569
05000709	06014851	07000567
05000714	06014850	07000566
05000718	06014850	07000563
05000723	06014850	07000560
05000728	06014850	07000559
05000733	06014850	07000555
05000738	06014849	07000553
05000743	06014848	07000549
05000748	06014848	07000546
05000754	06014847	07000542
05000757	06014846	07000538
05000762	06014846	07000536
05000767	06014846	07000534
05000771	06014846	07000532
05000777	06014846	07000530
05000782	06014845	07000528
05000786	06014845	07000525
05000794	06014844	07000521
05000797	06014844	07000518
05000802	06014844	07000515
05000807	06014844	07000512
05000810	06014844	07000510
05000815	06014844	07000505
05000821	06014843	07000507
05000825	06014844	07000506
05000831	06014844	07000504
05000836	06014844	07000503
05000841	06014844	07000499
05000846	06014845	07000498
05000850	06014845	07000497
05000855	06014844	07000495
05000860	06014844	07000495
05000865	06014844	07000492
05000870	06014845	07000491
05000876	06014846	07000491
05000881	06014846	07000489
05000886	06014847	07000488
05000891	06014847	07000487
05000896	06014848	07000487
05000900	06014848	07000486
05000905	06014848	07000485
05000908	06014848	07000484
05000915	06014848	07000481

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000921	06014849	07000481
05000925	06014849	07000480
05000932	06014850	07000478
05000936	06014850	07000477
05000941	06014851	07000476
05000945	06014851	07000476
05000950	06014851	07000474
05000954	06014851	07000474
05000959	06014852	07000473
05000963	06014853	07000472
05000970	06014853	07000472
05000975	06014853	07000472
05000980	06014855	07000472
05000987	06014855	07000471
05000991	06014856	07000471
05000996	06014857	07000470
05000999	06014858	07000471
05001005	06014858	07000471
05001010	06014859	07000470
05001014	06014859	07000471
05001020	06014861	07000470
05001026	06014862	07000470
05001030	06014862	07000470
05001036	06014864	07000471
05001041	06014864	07000470
05001045	06014864	07000470
05001050	06014865	07000469
05001055	06014866	07000470
05001060	06014867	07000470
05001065	06014868	07000469
05001071	06014869	07000469
05001076	06014870	07000469
05001081	06014870	07000470
05001086	06014870	07000470
05001090	06014872	07000469
05001094	06014872	07000469
05001099	06014873	07000469
05001105	06014874	07000469
05001109	06014874	07000469
05001115	06014876	07000469
05001120	06014876	07000469
05001125	06014876	07000469
05001130	06014877	07000469
05001134	06014878	07000469
05001139	06014878	07000469
05001144	06014879	07000469
05001149	06014880	07000469
05001154	06014880	07000461

STATION	DATE	TIME	LOCATION	CRUISE
1B	11 NOV, 1966	02:30Z	33°06.2'N × 118°35.4'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000008	06015162	07001839
05000012	06015162	07001840
05000016	06015161	07001831
05000020	06015161	07001828
05000024	06015161	07001829
05000027	06015160	07001827
05000031	06015162	07001736
05000034	06015097	07001698
05000039	06015062	07001576
05000044	06015035	07001446
05000047	06015024	07001405
05000051	06015010	07001358
05000056	06015002	07001311
05000061	06014988	07001278
05000066	06014988	07001255
05000070	06014985	07001244
05000075	06014980	07001233
05000079	06014978	07001214
05000084	06014972	07001210
05000088	06014966	07001177
05000094	06014965	07001165
05000099	06014959	07001154
05000102	06014952	07001135
05000107	06014943	07001099
05000111	06014939	07001078
05000117	06014936	07001068
05000121	06014931	07001047
05000125	06014924	07001038
05000130	06014920	07001014
05000134	06014921	07001003
05000138	06014922	07001007
05000144	06014922	07001005
05000150	06014919	07001000
05000154	06014918	07000990
05000159	06014918	07000984
05000164	06014915	07000980
05000167	06014914	07000972
05000172	06014913	07000966
05000177	06014911	07000957
05000182	06014909	07000951
05000187	06014906	07000939
05000192	06014906	07000934
05000196	06014906	07000933
05000199	06014904	07000929
05000204	06014904	07000922
05000209	06014906	07000924
05000214	06014905	07000920
05000218	06014903	07000915

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000224	06014903	07000911
05000227	06014902	07000908
05000232	06014900	07000902
05000235	06014898	07000891
05000240	06014898	07000890
05000245	06014896	07000884
05000250	06014895	07000878
05000256	06014895	07000875
05000259	06014895	07000873
05000263	06014894	07000870
05000267	06014893	07000863
05000272	06014893	07000861
05000276	06014894	07000856
05000283	06014894	07000860
05000286	06014890	07000851
05000291	06014891	07000847
05000295	06014891	07000845
05000299	06014889	07000841
05000304	06014889	07000836
05000308	06014889	07000833
05000315	06014885	07000825
05000319	06014886	07000819
05000323	06014887	07000821
05000328	06014887	07000819
05000331	06014885	07000815
05000336	06014885	07000812
05000341	06014884	07000809
05000345	06014883	07000805
05000351	06014881	07000798
05000355	06014882	07000793
05000359	06014881	07000792
05000363	06014879	07000785
05000368	06014879	07000784
05000371	06014880	07000781
05000377	06014880	07000779
05000382	06014880	07000777
05000387	06014880	07000776
05000392	06014879	07000771
05000396	06014879	07000770
05000400	06014877	07000767
05000405	06014877	07000761
05000409	06014877	07000758
05000412	06014876	07000757
05000418	06014875	07000754
05000423	06014875	07000748
05000428	06014873	07000744
05000432	06014872	07000739
05000436	06014872	07000734

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000440	06014871	07000732
05000445	06014872	07000729
05000449	06014870	07000727
05000455	06014870	07000723
05000460	06014870	07000718
05000463	06014870	07000717
05000467	06014869	07000713
05000471	06014869	07000710
05000476	06014869	07000710
05000482	06014868	07000706
05000486	06014868	07000702
05000492	06014867	07000698
05000495	06014865	07000694
05000499	06014866	07000691
05000504	06014865	07000688
05000507	06014865	07000686
05000512	06014865	07000685
05000518	06014865	07000683
05000522	06014863	07000680
05000526	06014863	07000674
05000532	06014863	07000670
05000537	06014862	07000667
05000541	06014862	07000664
05000546	06014861	07000663
05000550	06014861	07000660
05000554	06014860	07000657
05000558	06014860	07000654
05000563	06014860	07000652
05000568	06014860	07000648
05000574	06014859	07000647
05000577	06014860	07000644
05000582	06014860	07000642
05000586	06014860	07000641
05000589	06014860	07000640
05000595	06014858	07000636
05000600	06014858	07000634
05000603	06014858	07000632
05000610	06014859	07000628
05000614	06014858	07000627
05000618	06014857	07000622
05000622	06014857	07000620
05000625	06014856	07000619
05000631	06014855	07000614
05000635	06014856	07000610
05000640	06014855	07000608
05000645	06014856	07000606
05000650	06014855	07000604
05000655	06014854	07000600

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000658	06014854	07000597
05000663	06014852	07000594
05000667	06014852	07000591
05000672	06014851	07000588
05000676	06014852	07000585
05000682	06014850	07000582
05000686	06014851	07000579
05000691	06014851	07000577
05000694	06014851	07000576
05000699	06014851	07000574
05000704	06014851	07000573
05000708	06014852	07000572
05000714	06014851	07000570
05000717	06014851	07000567
05000723	06014851	07000566
05000728	06014851	07000564
05000732	06014851	07000561
05000736	06014851	07000559
05000740	06014851	07000557
05000744	06014851	07000555
05000749	06014851	07000554
05000754	06014850	07000552
05000759	06014849	07000548
05000765	06014849	07000543
05000767	06014844	07000525
05000772	06014843	07000517
05000783	06014843	07000513
05000788	06014843	07000511
05000792	06014843	07000510
05000796	06014842	07000506
05000800	06014842	07000503
05000804	06014842	07000502
05000810	06014842	07000501
05000815	06014842	07000499
05000820	06014842	07000497
05000825	06014841	07000494
05000830	06014842	07000492
05000833	06014843	07000492
05000838	06014844	07000492
05000842	06014844	07000491
05000848	06014844	07000490
05000852	06014844	07000489
05000856	06014844	07000487
05000863	06014845	07000485
05000866	06014846	07000485
05000872	06014846	07000484
05000875	06014846	07000483
05000880	06014847	07000483

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000883	06014847	07000482
05000889	06014848	07000482
05000894	06014848	07000480
05000899	06014848	07000479
05000904	06014848	07000478
05000909	06014850	07000478
05000912	06014849	07000478
05000916	06014850	07000478
05000920	06014850	07000476
05000926	06014851	07000475
05000930	06014851	07000475
05000934	06014852	07000475
05000940	06014853	07000475
05000944	06014853	07000475
05000946	06014854	07000475
05000952	06014855	07000475
05000958	06014856	07000475
05000961	06014856	07000475
05000967	06014857	07000475
05000972	06014857	07000473
05000976	06014858	07000474
05000980	06014858	07000474
05000984	06014859	07000473
05000988	06014859	07000473
05000993	06014860	07000473
05000997	06014861	07000472
05001002	06014862	07000472
05001006	06014863	07000472
05001011	06014863	07000472
05001016	06014863	07000472
05001020	06014864	07000472
05001024	06014865	07000471
05001028	06014865	07000471
05001033	06014866	07000470
05001037	06014866	07000471
05001042	06014867	07000471
05001047	06014868	07000470
05001051	06014868	07000471
05001055	06014869	07000470
05001061	06014870	07000470
05001064	06014871	07000469
05001069	06014871	07000469
05001072	06014872	07000470
05001077	06014873	07000469
05001080	06014872	07000469
05001086	06014874	07000469
05001092	06014875	07000469
05001097	06014875	07000468

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05001100	06014876	07000469
05001107	06014876	07000469
05001110	06014877	07000468
05001114	06014878	07000468
05001119	06014878	07000468
05001121	06014879	07000467
05001128	06014879	07000467
05001133	06014880	07000467
05001137	06014880	07000467
05001142	06014881	07000466
05001146	06014882	07000467
05001150	06014882	07000466
05001154	06014883	07000466
05001159	06014884	07000466
05001162	06014884	07000466
05001167	06014885	07000467
05001172	06014886	07000467
05001178	06014886	07000466
05001181	06014887	07000466
05001185	06014888	07000466
05001190	06014888	07000466
05001195	06014889	07000466

STATION	DATE	TIME	LOCATION	CRUISE
1C	11 NOV, 1966	03:31Z	33°08.2′N × 118°33.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015164	07001851
05000001	06015165	07001852
05000002	06015164	07001849
05000007	06015165	07001848
05000012	06015166	07001849
05000015	06015166	07001849
05000021	06015166	07001848
05000024	06015166	07001845
05000028	06015146	07001840
05000032	06015087	07001686
05000036	06015070	07001555
05000040	06015054	07001508
05000044	06015041	07001458
05000048	06015034	07001422
05000053	06015007	07001373
05000056	06015002	07001313
05000059	06015000	07001301
05000063	06014994	07001289
05000068	06014982	07001256
05000072	06014973	07001212
05000076	06014971	07001207
05000081	06014966	07001182
05000089	06014955	07001146
05000093	06014947	07001121
05000096	06014945	07001111
05000100	06014945	07001097
05000104	06014946	07001102
05000109	06014935	07001088
05000112	06014932	07001063
05000117	06014931	07001050
05000122	06014932	07001046
05000125	06014929	07001042
05000129	06014928	07001034
05000132	06014927	07001027
05000136	06014923	07001019
05000141	06014923	07001010
05000145	06014921	07001005
05000150	06014918	07000992
05000155	06014917	07000986
05000158	06014916	07000981
05000163	06014914	07000978
05000167	06014912	07000966
05000172	06014909	07000956
05000177	06014909	07000948
05000182	06014909	07000948
05000186	06014908	07000944
05000189	06014908	07000940
05000194	06014908	07000938

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000197	06014905	07000936
05000201	06014903	07000924
05000205	06014903	07000920
05000217	06014903	07000914
05000249	06014904	07000913
05000258	06014904	07000911
05000267	06014897	07000878
05000279	06014895	07000865
05000281	06014894	07000861
05000284	06014893	07000859
05000288	06014895	07000856
05000295	06014893	07000858
05000315	06014891	07000837
05000319	06014891	07000836
05000333	06014888	07000826
05000337	06014886	07000819
05000339	06014887	07000815
05000345	06014886	07000813
05000351	06014885	07000807
05000396	06014884	07000804
05000419	06014884	07000800
05000430	06014876	07000747
05000435	06014875	07000744
05000444	06014876	07000741
05000449	06014876	07000740
05000454	06014875	07000738
05000457	06014874	07000735
05000460	06014874	07000732
05000465	06014870	07000725
05000470	06014867	07000712
05000487	06014867	07000703
05000492	06014868	07000701
05000495	06014868	07000699
05000500	06014868	07000699
05000505	06014867	07000697
05000510	06014867	07000694
05000514	06014867	07000691
05000517	06014867	07000690
05000521	06014866	07000685
05000528	06014864	07000682
05000529	06014864	07000676
05000534	06014864	07000674
05000539	06014863	07000673
05000543	06014863	07000668
05000549	06014864	07000666
05000554	06014864	07000666
05000557	06014863	07000665
05000562	06014863	07000661

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000568	06014862	07000658
05000570	06014861	07000653
05000573	06014861	07000651
05000577	06014861	07000650
05000581	06014860	07000647
05000587	06014859	07000643
05000590	06014858	07000639
05000595	06014857	07000635
05000599	06014858	07000632
05000603	06014856	07000630
05000607	06014856	07000627
05000611	06014857	07000625
05000616	06014856	07000624
05000620	06014856	07000621
05000625	06014856	07000618
05000630	06014856	07000615
05000632	06014854	07000612
05000637	06014853	07000607
05000641	06014854	07000605
05000645	06014853	07000604
05000650	06014852	07000600
05000655	06014852	07000596
05000659	06014851	07000593
05000663	06014852	07000592
05000668	06014851	07000591
05000673	06014851	07000588
05000676	06014851	07000585
05000679	06014850	07000583
05000684	06014850	07000581
05000689	06014849	07000578
05000693	06014850	07000575
05000698	06014849	07000574
05000703	06014850	07000572
05000706	06014850	07000570
05000710	06014850	07000568
05000714	06014850	07000567
05000717	06014850	07000566
05000722	06014850	07000563
05000727	06014849	07000561
05000732	06014849	07000558
05000736	06014848	07000555
05000740	06014848	07000553
05000745	06014848	07000551
05000749	06014848	07000550
05000752	06014847	07000547
05000756	06014847	07000544
05000760	06014848	07000544
05000765	06014848	07000542

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000770	06014848	07000540
05000775	06014847	07000539
05000779	06014847	07000534
05000783	06014846	07000533
05000788	06014846	07000531
05000790	06014846	07000529
05000795	06014846	07000525
05000800	06014846	07000525
05000805	06014846	07000523
05000809	06014846	07000520
05000813	06014845	07000519
05000816	06014845	07000516
05000820	06014845	07000514
05000825	06014845	07000512
05000828	06014845	07000511
05000834	06014845	07000509
05000838	06014845	07000507
05000843	06014845	07000506
05000848	06014845	07000505
05000852	06014845	07000503
05000856	06014845	07000501
05000859	06014845	07000499
05000863	06014845	07000499
05000868	06014845	07000498
05000871	06014846	07000497
05000877	06014846	07000496
05000881	06014846	07000494
05000885	06014847	07000492
05000890	06014846	07000492
05000893	06014847	07000491
05000897	06014847	07000491
05000901	06014848	07000489
05000904	06014848	07000489
05000911	06014848	07000488
05000916	06014849	07000486
05000920	06014848	07000485
05000924	06014849	07000484
05000928	06014849	07000484
05000932	06014850	07000483
05000936	06014850	07000481
05000940	06014850	07000481
05000944	06014850	07000480
05000950	06014852	07000480
05000954	06014852	07000479
05000958	06014852	07000478
05000963	06014853	07000478
05000966	06014853	07000477
05000970	06014853	07000477

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000974	06014854	07000477
05000978	06014855	07000476
05000982	06014856	07000476
05000988	06014856	07000476
05000991	06014856	07000476
05000994	06014857	07000475
05001000	06014857	07000475
05001004	06014858	07000474
05001007	06014858	07000475
05001011	06014859	07000474
05001017	06014859	07000474
05001020	06014859	07000473
05001025	06014861	07000473
05001028	06014861	07000472
05001033	06014862	07000472
05001036	06014862	07000472
05001041	06014862	07000471
05001044	06014863	07000472
05001049	06014864	07000471
05001054	06014865	07000471
05001057	06014865	07000471
05001064	06014866	07000471
05001066	06014866	07000471
05001070	06014867	07000470
05001074	06014867	07000470
05001077	06014868	07000470
05001084	06014868	07000470
05001088	06014869	07000470
05001092	06014869	07000469
05001096	06014870	07000469
05001099	06014870	07000469
05001103	06014871	07000469
05001108	06014872	07000469
05001113	06014873	07000469
05001117	06014873	07000468
05001121	06014874	07000469
05001125	06014874	07000468
05001128	06014875	07000468
05001133	06014876	07000469
05001136	06014876	07000468
05001142	06014877	07000468
05001145	06014877	07000468
05001150	06014878	07000468
05001152	06014878	07000468
05001157	06014879	07000468
05001161	06014880	07000467
05001166	06014881	07000467
05001171	06014882	07000467

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05001175	06014882	07000467
05001179	06014882	07000467
05001183	06014883	07000467
05001189	06014883	07000467

STATION	DATE	TIME	LOCATION	CRUISE
1D	11 NOV, 1966	04:31Z	33°09.6′N × 118°30.7′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015165	07001848
05000007	06015166	07001848
05000013	06015165	07001848
05000017	06015166	07001848
05000022	06015167	07001848
05000027	06015166	07001844
05000031	06015154	07001838
05000035	06015099	07001698
05000040	06015089	07001610
05000044	06015064	07001557
05000048	06015042	07001471
05000051	06015036	07001421
05000056	06015029	07001402
05000060	06015002	07001356
05000063	06014993	07001289
05000068	06014988	07001268
05000071	06014976	07001242
05000075	06014971	07001209
05000079	06014958	07001176
05000084	06014959	07001154
05000089	06014958	07001149
05000092	06014954	07001143
05000099	06014938	07001090
05000102	06014937	07001080
05000101	06014937	07001077
05000102	06014939	07001077
05000107	06014939	07001076
05000111	06014941	07001080
05000114	06014936	07001073
05000118	06014933	07001060
05000122	06014932	07001051
05000125	06014929	07001042
05000129	06014928	07001032
05000134	06014927	07001027
05000137	06014926	07001023
05000140	06014925	07001019
05000145	06014922	07001010
05000149	06014921	07001000
05000155	06014920	07000998
05000159	06014915	07000985
05000163	06014914	07000975
05000168	06014914	07000971
05000171	06014913	07000966
05000176	06014910	07000960

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000180	06014910	07000952
05000186	06014911	07000950
05000190	06014909	07000947
05000195	06014906	07000939
05000199	06014902	07000924
05000202	06014902	07000919
05000207	06014902	07000917
05000212	06014903	07000915
05000217	06014902	07000913
05000221	06014901	07000907
05000226	06014900	07000904
05000230	06014898	07000895
05000234	06014898	07000893
05000237	06014898	07000892
05000241	06014898	07000887
05000246	06014898	07000886
05000252	06014896	07000882
05000256	06014895	07000874
05000261	06014894	07000872
05000264	06014895	07000870
05000267	06014895	07000868
05000272	06014892	07000863
05000277	06014892	07000858
05000282	06014891	07000854
05000287	06014891	07000850
05000291	06014891	07000846
05000294	06014890	07000843
05000299	06014890	07000840
05000303	06014890	07000839
05000307	06014889	07000838
05000312	06014889	07000835
05000317	06014889	07000831
05000322	06014888	07000828
05000325	06014887	07000823
05000329	06014885	07000818
05000334	06014884	07000812
05000337	06014883	07000809
05000341	06014884	07000806
05000345	06014884	07000804
05000350	06014883	07000802
05000351	06014884	07000800
05000352	06014884	07000800
05000354	06014883	07000799
05000359	06014882	07000795

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000362	06014882	07000792
05000366	06014881	07000791
05000372	06014880	07000786
05000376	06014879	07000780
05000380	06014877	07000777
05000383	06014877	07000773
05000389	06014876	07000768
05000394	06014876	07000765
05000398	06014876	07000763
05000403	06014875	07000760
05000408	06014875	07000756
05000411	06014876	07000756
05000414	06014875	07000754
05000419	06014875	07000752
05000423	06014875	07000748
05000429	06014875	07000746
05000433	06014874	07000744
05000437	06014874	07000739
05000441	06014873	07000736
05000446	06014873	07000736
05000448	06014873	07000734
05000454	06014872	07000729
05000458	06014872	07000726
05000462	06014872	07000725
05000468	06014872	07000723
05000471	06014870	07000718
05000476	06014870	07000714
05000480	06014870	07000713
05000484	06014869	07000710
05000488	06014869	07000706
05000493	06014867	07000702
05000498	06014867	07000699
05000503	06014867	07000697
05000506	06014867	07000694
05000510	06014867	07000693
05000515	06014867	07000690
05000519	06014867	07000689
05000523	06014865	07000685
05000527	06014864	07000678
05000531	06014865	07000677
05000536	06014863	07000675
05000541	06014863	07000672
05000546	06014865	07000670
05000549	06014864	07000669

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000554	06014863	07000667
05000558	06014863	07000664
05000561	06014862	07000659
05000565	06014862	07000656
05000570	06014862	07000656
05000574	06014861	07000652
05000579	06014861	07000650
05000583	06014861	07000648
05000589	06014860	07000645
05000592	06014860	07000641
05000595	06014858	07000637
05000598	06014859	07000636
05000600	06014859	07000636
05000603	06014859	07000633
05000606	06014858	07000631
05000610	06014857	07000629
05000616	06014858	07000626
05000619	06014856	07000624
05000623	06014856	07000621
05000627	06014857	07000620
05000632	06014856	07000616
05000636	06014855	07000614
05000639	06014854	07000609
05000643	06014854	07000606
05000648	06014854	07000604
05000653	06014854	07000601
05000658	06014854	07000599
05000662	06014853	07000598
05000667	06014854	07000594
05000670	06014853	07000594
05000673	06014853	07000592
05000678	06014853	07000589
05000682	06014853	07000589
05000687	06014852	07000584
05000691	06014852	07000582
05000696	06014852	07000580
05000700	06014852	07000578
05000703	06014852	07000577
05000707	06014852	07000575
05000711	06014851	07000573
05000716	06014851	07000572
05000720	06014852	07000569
05000725	06014852	07000569
05000730	06014852	07000567

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000735	06014852	07000567
05000738	06014852	07000564
05000742	06014851	07000562
05000746	06014852	07000560
05000749	06014851	07000558
05000753	06014851	07000556
05000759	06014851	07000554
05000769	06014852	07000553
05000768	06014850	07000550
05000772	06014850	07000546
05000776	06014849	07000543
05000779	06014850	07000541
05000784	06014849	07000539
05000787	06014848	07000537
05000793	06014849	07000535
05000796	06014849	07000533
05000802	06014849	07000531
05000806	06014848	07000530
05000810	06014848	07000526
05000814	06014847	07000523
05000818	06014846	07000520
05000821	06014847	07000518
05000825	06014846	07000518
05000830	06014845	07000513
05000834	06014845	07000510
05000840	06014846	07000509
05000844	06014845	07000507
05000846	06014846	07000505
05000847	06014845	07000504
05000848	06014845	07000504
05000849	06014845	07000503
05000853	06014846	07000502
05000858	06014845	07000501
05000863	06014845	07000500
05000868	06014845	07000498
05000872	06014845	07000495
05000876	06014845	07000495
05000881	06014846	07000494
05000885	06014846	07000491
05000890	06014846	07000490
05000894	06014846	07000488
05000899	06014846	07000488
05000902	06014847	07000487
05000909	06014847	07000485

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000913	06014847	07000484
05000917	06014847	07000483
05000922	06014848	07000483
05000927	06014849	07000483
05000931	06014849	07000482
05000936	06014850	07000481
05000940	06014851	07000481
05000945	06014851	07000480
05000950	06014851	07000479
05000955	06014851	07000479
05000959	06014852	07000478
05000962	06014853	07000478
05000967	06014854	07000478
05000972	06014854	07000477
05000977	06014854	07000477
05000980	06014855	07000476
05000985	06014856	07000476
05000990	06014856	07000476
05000994	06014857	07000476
05000999	06014857	07000476
05001003	06014858	07000475
05001008	06014859	07000475
05001013	06014859	07000474
05001016	06014860	07000475
05001022	06014860	07000474
05001025	06014862	07000473
05001030	06014861	07000473
05001035	06014863	07000473
05001039	06014863	07000472
05001044	06014864	07000472
05001049	06014864	07000473
05001053	06014865	07000472
05001058	06014865	07000472
05001062	06014866	07000472
05001066	06014867	07000472
05001071	06014867	07000471
05001076	06014868	07000471
05001080	06014869	07000471
05001085	06014869	07000470
05001089	06014869	07000470
05001092	06014870	07000470
05001094	06014871	07000470
05001095	06014871	07000470
05001096	06014871	07000470
05001097	06014871	07000470
05001098	06014871	07000469
05001097	06014871	07000469
05001098	06014871	07000470

STATION	DATE	TIME	LOCATION	CRUISE
2C	11 NOV, 1966	05:35Z	33°07.5′N × 118°29.5′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000003	06015161	07001840
05000008	06015163	07001840
05000011	06015164	07001840
05000016	06015164	07001841
05000021	06015164	07001840
05000025	06015165	07001840
05000029	06015166	07001840
05000032	06015164	07001840
05000036	06015146	07001805
05000041	06015121	07001740
05000046	06015093	07001642
05000049	06015069	07001577
05000053	06015023	07001441
05000057	06015007	07001350
05000061	06014991	07001295
05000066	06014981	07001252
05000070	06014980	07001231
05000075	06014979	07001224
05000079	06014976	07001211
05000084	06014971	07001198
05000089	06014963	07001180
05000094	06014961	07001157
05000098	06014957	07001150
05000103	06014952	07001125
05000108	06014949	07001111
05000113	06014945	07001101
05000117	06014944	07001087
05000123	06014941	07001081
05000128	06014937	07001065
05000133	06014933	07001051
05000136	06014930	07001037
05000142	06014927	07001026
05000146	06014926	07001019
05000150	06014926	07001016
05000154	06014922	07001004
05000157	06014920	07000998
05000160	06014917	07000989
05000164	06014915	07000972
05000168	06014915	07000972
05000172	06014915	07000972
05000175	06014911	07000963
05000179	06014909	07000953

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000182	06014909	07000949
05000185	06014907	07000943
05000189	06014906	07000936
05000193	06014903	07000930
05000196	06014902	07000921
05000200	06014903	07000920
05000203	06014903	07000921
05000207	06014903	07000919
05000210	06014903	07000916
05000214	06014901	07000914
05000228	06014897	07000893
05000235	06014896	07000890
05000238	06014896	07000887
05000242	06014894	07000882
05000244	06014893	07000874
05000251	06014894	07000873
05000269	06014892	07000861
05000272	06014892	07000859
05000296	06014890	07000856
05000302	06014881	07000817
05000307	06014879	07000812
05000336	06014878	07000792
05000340	06014880	07000793
05000360	06014877	07000782
05000365	06014876	07000776
05000375	06014878	07000775
05000380	06014877	07000774
05000394	06014876	07000764
05000398	06014876	07000761
05000412	06014875	07000753
05000417	06014875	07000752
05000435	06014874	07000741
05000445	06014873	07000734
05000449	06014871	07000731
05000457	06014869	07000722
05000484	06014870	07000713
05000487	06014870	07000710
05000493	06014869	07000707
05000505	06014867	07000698
05000512	06014866	07000689
05000520	06014866	07000684
05000523	06014866	07000682
05000528	06014865	07000681

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000534	06014866	07000678
05000543	06014865	07000675
05000552	06014864	07000666
05000555	06014864	07000664
05000560	06014863	07000663
05000565	06014864	07000662
05000569	06014864	07000659
05000576	06014863	07000656
05000581	06014862	07000653
05000583	06014862	07000649
05000587	06014861	07000647
05000591	06014861	07000646
05000595	06014861	07000643
05000601	06014861	07000640
05000605	06014860	07000638
05000609	06014859	07000632
05000615	06014860	07000631
05000618	06014859	07000629
05000622	06014859	07000626
05000626	06014857	07000622
05000631	06014858	07000619
05000636	06014858	07000617
05000641	06014858	07000617
05000646	06014858	07000614
05000650	06014858	07000613
05000654	06014857	07000610
05000659	06014857	07000608
05000661	06014857	07000607
05000666	06014857	07000604
05000672	06014856	07000601
05000677	06014855	07000596
05000681	06014856	07000594
05000686	06014856	07000594
05000690	06014855	07000592
05000694	06014856	07000591
05000698	06014855	07000590
05000702	06014855	07000585
05000706	06014855	07000584
05000711	06014855	07000582
05000716	06014855	07000580
05000721	06014855	07000576
05000725	06014854	07000574
05000730	06014853	07000572

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000735	06014853	07000568
05000737	06014853	07000565
05000742	06014852	07000562
05000744	06014851	07000560
05000751	06014852	07000557
05000755	06014851	07000554
05000760	06014850	07000551
05000765	06014850	07000547
05000770	06014851	07000547
05000774	06014849	07000545
05000779	06014849	07000540
05000783	06014849	07000538
05000786	06014848	07000537
05000791	06014849	07000536
05000794	06014849	07000535
05000799	06014849	07000533
05000806	06014849	07000530
05000811	06014849	07000529
05000816	06014850	07000528
05000821	06014851	07000527
05000825	06014850	07000526
05000830	06014849	07000521
05000833	06014849	07000519
05000839	06014849	07000516
05000844	06014849	07000515
05000847	06014848	07000514
05000852	06014848	07000510
05000855	06014849	07000509
05000858	06014849	07000508
05000863	06014849	07000506
05000868	06014849	0000505
05000872	06014848	07000504
05000878	06014848	07000500
05000883	06014849	07000499
05000887	06014848	07000498
05000893	06014849	07000495
05000896	06014849	07000494
05000899	06014849	07000493
05000904	06014849	07000492
05000907	06014849	07000491
05000912	06014849	07000489
05000916	06014849	07000488
05000921	06014849	07000486

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000926	06014849	07000485
05000931	06014850	07000484
05000936	06014850	07000483
05000940	06014851	07000483
05000945	06014852	07000482
05000949	06014852	07000482
05000952	06014852	07000481
05000956	06014853	07000480
05000960	06014853	07000481
05000966	06014854	07000479
05000971	06014855	07000479
05000975	06014855	07000480
05000979	06014856	07000479
05000983	06014856	07000479
05000989	06014857	07000478
05000993	06014857	07000478
05000996	06014858	07000477
05001000	06014858	07000477
05001005	06014859	07000476
05001009	06014860	07000476
05001015	06014860	07000476
05001020	06014861	07000476
05001023	06014862	07000475
05001029	06014862	07000476
05001033	06014863	07000476
05001038	06014864	07000476
05001043	06014865	07000475
05001047	06014866	07000475
05001052	06014866	07000474
05001058	06014866	07000474
05001060	06014867	07000474
05001065	06014867	07000473
05001069	06014868	07000474
05001072	06014868	07000473
05001076	06014868	07000473
05001080	06014869	07000473
05001084	06014870	07000472
05001088	06014870	07000472
05001092	06014871	07000472
05001095	06014871	07000473

STATION	DATE	TIME	LOCATION	CRUISE
2B	11 NOV, 1966	07:16Z	33°05.5′N × 118°33.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000001	06015156	07001821
05000002	06015156	07001822
05000004	06015157	07001821
05000006	06015157	07001822
05000008	06015158	07001821
05000011	06015157	07001822
05000013	06015158	07001822
05000018	06015159	07001822
05000021	06015160	07001822
05000025	06015159	07001821
05000027	06015154	07001815
05000030	06015146	07001787
05000034	06015137	07001759
05000043	06015134	07001733
05000041	06015124	07001720
05000051	06015029	07001414
05000055	06015028	07001391
05000060	06015016	07001378
05000064	06014999	07001320
05000067	06014995	07001280
05000071	06014996	07001276
05000074	06014991	07001271
05000079	06014986	07001249
05000083	06014976	07001222
05000087	06014969	07001197
05000125	06014960	07001158
05000128	06014954	07001140
05000132	06014949	07001117
05000138	06014948	07001105
05000140	06014946	07001098
05000144	06014945	07001093
05000147	06014941	07001082
05000151	06014939	07001074
05000155	06014935	07001061
05000160	06014932	07001045
05000164	06014928	07001033
05000167	06014925	07001021
05000171	06014923	07001008
05000175	06014922	07001005
05000178	06014923	07001004
05000181	06014919	07000998
05000187	06014916	07000983
05000190	06014915	07000976
05000194	06014914	07000974
05000197	06014913	07000967
05000201	06014912	07000962
05000204	06014910	07000956
05000208	06014910	07000953
05000212	06014910	07000950
05000217	06014910	07000948
05000220	06014909	07000944
05000224	06014909	07000941
05000227	06014905	07000938
05000231	06014904	07000927
05000235	06014901	07000922
05000239	06014900	07000910
05000243	06014902	07000909
05000247	06014901	07000910

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000250	06014902	07000907
05000252	06014901	07000905
05000256	06014902	07000905
05000260	06014901	07000904
05000265	06014900	07000898
05000269	06014901	07000897
05000272	06014900	07000896
05000277	06014900	07000891
05000279	06014901	07000891
05000283	06014902	07000892
05000286	06014901	07000890
05000291	06014902	07000888
05000295	06014901	07000886
05000299	06014900	07000883
05000302	06014900	07000880
05000305	06014900	07000879
05000309	06014900	07000877
05000313	06014900	07000874
05000318	06014899	07000871
05000323	06014898	07000869
05000326	06014896	07000860
05000328	06014895	07000855
05000332	06014894	07000852
05000335	06014892	07000846
05000340	06014892	07000842
05000343	06014891	07000839
05000348	06014891	07000837
05000352	06014890	07000832
05000355	06014890	07000829
05000358	06014888	07000826
05000362	06014887	07000821
05000366	06014885	07000816
05000369	06014883	07000808
05000374	06014881	07000801
05000378	06014878	07000792
05000383	06014877	07000785
05000385	06014877	07000783
05000386	06014877	07000782

STATION	DATE	TIME	LOCATION	CRUISE
3A	11 NOV, 1966	08:24Z	33°02.1′N × 118°32.9′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000001	06015153	07001810
05000002	06015153	07001810
05000004	06015153	07001810
05000007	06015154	07001811
05000011	06015155	07001810
05000015	06015155	07001810
05000019	06015156	07001811
05000022	06015157	07001811
05000026	06015156	07001810
05000030	06015152	07001803
05000034	06015141	07001768
05000038	06015130	07001739
05000042	06015092	07001650
05000047	06015054	07001522
05000055	06015021	07001371
05000064	06014984	07001265
05000068	06014974	07001230
05000072	06014968	07001200
05000077	06014966	07001180
05000081	06014965	07001174
05000085	06014964	07001168
05000089	06014959	07001156
05000094	06014954	07001139
05000098	06014945	07001113
05000102	06014940	07001086
05000106	06014940	07001077
05000110	06014939	07001075
05000114	06014938	07001070
05000118	06014936	07001062
05000122	06014930	07001049
05000126	06014927	07001031
05000130	06014925	07001024
05000134	06014923	07001015
05000138	06014922	07001009
05000143	06014918	07000997
05000146	06014918	07000987
05000151	06014917	07000985
05000155	06014916	07000979
05000159	06014915	07000974
05000164	06014913	07000970
05000168	06014910	07000960
05000173	06014910	07000953
05000178	06014911	07000954
05000182	06014910	07000948
05000188	06014910	07000947
05000192	06014910	07000943
05000197	06014910	07000942
05000202	06014909	07000938
05000208	06014907	07000932
05000213	06014906	07000925
05000218	06014906	07000916
05000223	06014908	07000922
05000228	06014908	07000923
05000233	06014907	07000916
05000238	06014905	07000909
05000244	06014902	07000901
05000249	06014902	07000893
05000253	06014901	07000891
05000259	06014901	07000888
05000265	06014900	07000883
05000269	06014900	07000880
05000275	06014901	07000879
05000280	06014900	07000875
05000285	06014901	07000872
05000291	06014901	07000871
05000296	06014898	07000867
05000302	06014896	07000857
05000306	06014895	07000850
05000312	06014893	07000845
05000317	06014892	07000837
05000322	06014889	07000831
05000327	06014885	07000819
05000333	06014884	07000809
05000338	06014882	07000803
05000344	06014879	07000794
05000349	06014878	07000786
05000354	06014875	07000779
05000360	06014874	07000773
05000365	06014874	07000768
05000370	06014873	07000763
05000375	06014874	07000762
05000380	06014873	07000759
05000386	06014873	07000756
05000389	06014872	07000752
05000395	06014870	07000746
05000399	06014870	07000742
05000405	06014869	07000738
05000409	06014869	07000735
05000415	06014870	07000734
05000419	06014869	07000731
05000425	06014869	07000730
05000429	06014869	07000726
05000435	06014868	07000724
05000440	06014868	07000720
05000445	06014868	07000719
05000449	06014869	07000717
05000454	06014869	07000715
05000459	06014868	07000713
05000465	06014868	07000708
05000470	06014868	07000706
05000474	06014868	07000704
05000480	06014868	07000702
05000484	06014868	07000700
05000489	06014868	07000698
05000494	06014868	07000697
05000499	06014868	07000695
05000504	06014868	07000694
05000508	06014868	07000692
05000514	06014868	07000691
05000519	06014867	07000686
05000523	06014867	07000684
05000529	06014867	07000682
05000534	06014867	07000678
05000538	06014866	07000675
05000544	06014867	07000673
05000548	06014866	07000670
05000553	06014865	07000666
05000558	06014866	07000665
05000564	06014865	07000663
05000568	06014865	07000659
05000573	06014863	07000656
05000578	06014862	07000648
05000583	06014863	07000646
05000588	06014863	07000645
05000592	06014863	07000644
05000597	06014863	07000642
05000602	06014863	07000641
05000607	06014863	07000639
05000613	06014862	07000634
05000617	06014861	07000632
05000622	06014860	07000626
05000626	06014859	07000621
05000632	06014857	07000616
05000637	06014856	07000611
05000641	06014856	07000608
05000646	06014857	07000605
05000651	06014856	07000604
05000656	06014855	07000600
05000661	06014855	07000598
05000665	06014856	07000596
05000670	06014855	07000593
05000676	06014855	07000591
05000680	06014856	07000590
05000686	06014855	07000588

STATION	DATE	TIME	LOCATION	CRUISE
4 A	11 NOV, 1966	08:59Z	33°00.9'N × 118°31.4'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000001	06015155	07001817
05000002	06015156	07001818
05000004	06015156	07001818
05000009	06015157	07001819
05000012	06015158	07001819
05000018	06015159	07001819
05000022	06015160	07001821
05000026	06015160	07001822
05000029	06015151	07001810
05000034	06015123	07001763
05000038	06015067	07001608
05000043	06015038	07001475
05000049	06015031	07001408
05000053	06015006	07001364
05000057	06014998	07001299
05000060	06014994	07001284
05000064	06014984	07001258
05000068	06014978	07001224
05000075	06014971	07001206
05000079	06014968	07001184
05000083	06014963	07001173
05000088	06014961	07001154
05000091	06014959	07001149
05000095	06014954	07001143
05000100	06014947	07001111
05000104	06014944	07001101
05000110	06014942	07001084
05000114	06014941	07001076
05000118	06014938	07001073
05000121	06014932	07001060
05000126	06014931	07001039
05000131	06014930	07001034
05000134	06014930	07001030
05000139	06014928	07001026
05000144	06014923	07001010
05000148	06014921	07001001
05000152	06014918	07000991
05000156	06014915	07000980
05000159	06014913	07000971
05000165	06014912	07000963
05000169	06014912	07000957
05000174	06014911	07000956
05000178	06014909	07000950

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000183	06014909	07000945
05000186	06014907	07000939
05000190	06014907	07000937
05000194	06014905	07000932
05000198	06014905	07000925
05000204	06014906	07000925
05000209	06014906	07000924
05000213	06014904	07000919
05000216	06014903	07000913
05000220	06014901	07000908
05000224	06014900	07000901
05000228	06014900	07000898
05000233	06014901	07000896
05000238	06014900	07000894
05000242	06014899	07000891
05000246	06014899	07000887
05000249	06014898	07000885
05000253	06014897	07000881
05000257	06014896	07000873
05000262	06014895	07000873
05000267	06014892	07000859
05000272	06014894	07000860
05000275	06014894	07000859
05000281	06014892	07000854
05000284	06014891	07000849
05000288	06014891	07000846
05000292	06014890	07000844
05000296	06014889	07000840
05000300	06014885	07000830
05000305	06014885	07000825
05000309	06014883	07000818
05000314	06014883	07000813
05000319	06014883	07000811
05000322	06014879	07000804
05000326	06014879	07000796
05000329	06014879	07000798
05000334	06014880	07000792
05000338	06014882	07000794
05000342	06014881	07000799
05000348	06014878	07000787
05000352	06014879	07000784
05000356	06014879	07000782
05000360	06014878	07000779
05000363	06014877	07000777

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000367	06014876	07000773
05000372	06014876	07000768
05000376	06014876	07000766
05000381	06014875	07000762
05000386	06014875	07000759
05000390	06014874	07000758
05000393	06014874	07000754
05000397	06014874	07000753
05000402	06014873	07000749
05000406	06014871	07000742
05000410	06014871	07000740
05000415	06014872	07000738
05000419	06014871	07000739
05000424	06014871	07000734
05000428	06014870	07000731
05000432	06014869	07000727
05000436	06014870	07000725
05000439	06014869	07000723
05000443	06014868	07000719
05000448	06014867	07000715
05000453	06014867	07000713
05000457	06014866	07000708
05000462	06014867	07000707
05000466	06014868	07000706
05000470	06014867	07000705
05000474	06014866	07000702
05000478	06014866	07000697
05000481	06014866	07000695
05000485	06014866	07000694
05000490	06014867	07000695
05000495	06014867	07000694
05000500	06014867	07000694
05000504	06014867	07000691
05000507	06014868	07000689
05000511	06014868	07000688
05000515	06014868	07000687
05000519	06014867	07000685
05000524	06014867	07000684
05000530	06014866	07000679
05000534	06014865	07000674
05000539	06014865	07000672
05000542	06014866	07000669
05000546	06014865	07000669

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000550	06014864	07000666
05000554	06014864	07000663
05000558	06014863	07000659
05000562	06014862	07000655
05000567	06014862	07000653
05000572	06014861	07000650
05000576	06014862	07000647
05000580	06014860	07000644
05000584	06014860	07000641
05000587	06014860	07000640
05000591	06014860	07000636
05000595	06014860	07000635
05000600	06014859	07000631
05000604	06014860	07000630
05000608	06014860	07000628
05000614	06014860	07000626
05000618	06014859	07000625
05000623	06014859	07000621
05000627	06014858	07000619
05000631	06014858	07000615
05000635	06014857	07000613
05000638	06014857	07000611
05000642	06014857	07000610
05000646	06014857	07000608
05000650	06014856	07000606
05000655	06014856	07000603
05000658	06014856	07000601
05000664	06014856	07000599
05000668	06014856	07000597
05000673	06014855	07000593
05000677	06014855	07000592
05000680	06014855	07000589
05000684	06014855	07000586
05000687	06014855	07000584
05000692	06014856	07000585
05000696	06014855	07000582
05000702	06014855	07000580
05000705	06014855	07000580
05000710	06014855	07000577
05000715	06014855	07000574
05000718	06014855	07000573
05000723	06014854	07000570
05000725	06014853	07000568
05000729	06014852	07000562

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000734	06014852	07000560
05000738	06014851	07000557
05000743	06014851	07000554
05000748	06014850	07000551
05000753	06014850	07000548
05000756	06014851	07000547
05000760	06014850	07000546
05000765	06014851	07000543
05000768	06014851	07000543
05000772	06014852	07000542
05000775	06014850	07000541
05000779	06014850	07000538
05000784	06014851	07000537
05000789	06014850	07000535
05000794	06014850	07000531
05000799	06014850	07000529
05000803	06014849	07000527
05000808	06014848	07000523
05000812	06014848	07000520
05000816	06014848	07000516
05000820	06014847	07000515
05000823	06014846	07000513
05000827	06014847	07000512
05000830	06014847	07000509
05000834	06014846	07000508
05000838	06014846	07000506
05000843	06014846	07000503
05000848	06014846	07000502
05000853	06014846	07000500
05000858	06014846	07000498
05000860	06014846	07000497
05000865	06014846	07000496
05000869	06014847	07000495
05000873	06014847	07000494
05000877	06014848	07000494
05000880	06014847	07000492
05000885	06014847	07000489
05000889	06014847	07000487
05000895	06014847	07000487
05000899	06014848	07000486
05000903	06014848	07000485
05000908	06014849	07000484
05000911	06014848	07000483
05000919	06014849	07000482

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000919	06014849	07000480
05000923	06014850	07000480
05000927	06014850	07000480
05000932	06014850	07000479
05000936	06014851	07000478
05000944	06014852	07000477
05000920	06014851	07000477
05000958	06014852	07000475
05000930	06014853	07000475
05000933	06014853	07000475
05000966	06014854	07000475
05000962	06014854	07000475
05000945	06014854	07000475
05000949	06014855	07000474
05000982	06014855	07000473
05000996	06014856	07000474
05000958	06014857	07000473
05000960	06014857	07000473
05000962	06014856	07000473
05001143	06014857	07000473
05000964	06014857	07000474
05000964	06014857	07000473
05000965	06014857	07000473

STATION	DATE	TIME	LOCATION	CRUISE
4B	11 NOV, 1966	09:52Z	33°02.7′N × 118°30.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015161	07001833
05000006	06015161	07001833
05000008	06015162	07001832
05000012	06015163	07001833
05000016	06015163	07001833
05000019	06015164	07001833
05000023	06015164	07001833
05000025	06015165	07001833
05000028	06015165	07001833
05000032	06015161	07001831
05000037	06015154	07001809
05000041	06015108	07001761
05000044	06015068	07001562
05000049	06015056	07001498
05000053	06015035	07001454
05000058	06015015	07001374
05000062	06014997	07001304
05000066	06014995	07001276
05000070	06014990	07001270
05000075	06014972	07001230
05000080	06014967	07001185
05000084	06014966	07001173
05000089	06014962	07001159
05000093	06014961	07001150
05000096	06014960	07001145
05000099	06014959	07001132
05000100	06014956	07001132
05000101	06014950	07001116
05000104	06014949	07001102
05000107	06014947	07001099
05000112	06014946	07001054
05000115	06014943	07001084
05000119	06014939	07001069
05000124	06014932	07001056
05000127	06014932	07001040
05000132	06014932	07001038
05000136	06014930	07001036
05000140	06014927	07001021
05000143	06014926	07001014
05000146	06014925	07001011
05000151	06014920	07000997
05000154	06014918	07000984

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000158	06014910	07000967
05000164	06014910	07000959
05000169	06014910	07000955
05000173	06014911	07000952
05000179	06014910	07000948
05000183	06014910	07000946
05000188	06014905	07000940
05000192	06014901	07000923
05000196	06014899	07000911
05000200	06014898	07000910
05000205	06014898	07000903
05000209	06014897	07000898
05000214	06014898	07000895
05000218	06014896	07000893
05000222	06014896	07000888
05000226	06014895	07000887
05000230	06014894	07000882
05000234	06014894	07000878
05000239	06014891	07000877
05000244	06014887	07000859
05000249	06014887	07000855
05000253	06014887	07000852
05000257	06014888	07000849
05000261	06014888	07000850
05000264	06014887	07000843
05000269	06014886	07000840
05000274	06014884	07000833
05000279	06014883	07000830
05000284	06014883	07000827
05000288	06014884	07000824
05000292	06014886	07000823
05000296	06014884	07000825
05000299	06014886	07000821
05000303	06014887	07000825
05000309	06014886	07000821
05000313	06014885	07000819
05000317	06014885	07000814
05000322	06014883	07000812
05000326	06014880	07000803
05000329	06014880	07000797
05000334	06014881	07000796
05000338	06014882	07000797
05000343	06014881	07000794

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000348	06014881	07000793
05000349	06014881	07000789
05000350	06014880	07000788
05000353	06014879	07000785
05000355	06014879	07000783
05000360	06014878	07000780
05000362	06014879	07000779
05000368	06014879	07000778
05000372	06014879	07000776
05000376	06014879	07000773
05000380	06014878	07000772
05000384	06014877	07000767
05000389	06014878	07000765
05000395	06014878	07000762
05000398	06014878	07000760
05000403	06014877	07000758
05000408	06014876	07000755
05000411	06014877	07000752
05000416	06014876	07000750
05000419	06014875	07000747
05000423	06014874	07000742
05000426	06014874	07000739
05000432	06014873	07000736
05000437	06014871	07000731
05000441	06014872	07000728
05000447	06014871	07000725
05000451	06014871	07000722
05000455	06014872	07000720
05000459	06014871	07000719
05000463	06014871	07000717
05000467	06014871	07000715
05000471	06014870	07000713
05000474	06014869	07000708
05000480	06014869	07000705
05000484	06014869	07000703
05000489	06014869	07000700
05000494	06014869	07000698
05000498	06014868	07000696
05000503	06014869	07000694
05000507	06014868	07000691
05000511	06014868	07000689
05000515	06014868	07000686
05000518	06014867	07000685

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000521	06014867	07000681
05000526	06014865	07000677
05000530	06014866	07000675
05000536	06014865	07000673
05000541	06014865	07000669
05000545	06014864	07000666
05000551	06014864	07000663
05000554	06014864	07000661
05000557	06014864	07000660
05000562	06014864	07000658
05000565	06014864	07000656
05000569	06014864	07000655
05000573	06014862	07000652
05000578	06014861	07000647
05000583	06014859	07000640
05000589	06014859	07000636
05000592	06014859	07000634
05000596	06014858	07000631
05000597	06014859	07000630
05000598	06014859	07000629
05000599	06014859	07000630
05000600	06014859	07000630
05000603	06014858	07000626
05000605	06014858	07000625
05000608	06014858	07000624
05000612	06014859	07000624
05000615	06014859	07000624
05000619	06014859	07000623
05000623	06014859	07000622
05000627	06014859	07000620
05000632	06014858	07000616
05000637	06014857	07000610
05000642	06014856	07000607
05000647	06014855	07000604
05000652	06014856	07000601
05000658	06014856	07000600
05000663	06014854	07000595
05000669	06014854	07000590
05000673	06014854	07000588
05000677	06014853	07000585
05000681	06014853	07000583
05000685	06014853	07000581
05000690	06014852	07000578

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000694	06014851	07000575
05000699	06014851	07000571
05000705	06014851	07000567
05000710	06014850	07000565
05000715	06014850	07000563
05000719	06014850	07000561
05000724	06014850	07000558
05000729	06014850	07000556
05000731	06014850	07000555
05000736	06014851	07000554
05000742	06014851	07000554
05000746	06014850	07000553
05000751	06014850	07000549
05000756	06014851	07000546
05000761	06014850	07000545
05000766	06014849	07000542
05000771	06014849	07000538
05000774	06014849	07000536
05000779	06014848	07000533
05000783	06014847	07000529
05000789	06014848	07000527
05000794	06014847	07000526
05000799	06014847	07000521
05000804	06014846	07000519
05000809	06014846	07000517
05000814	06014846	07000515
05000819	06014846	07000513
05000823	06014846	07000510
05000827	06014847	07000510
05000831	06014847	07000509
05000835	06014847	07000507
05000840	06014847	07000506
05000847	06014847	07000504
05000855	06014846	07000488
05000860	06006376	07000488
05000864	06014847	07000487
05000869	06008735	07000485
05000874	06014848	07000485
05000876	06014848	07000484
05000881	06014848	07000484
05000885	06014849	07000483
05000890	06014849	07000482
05000894	06014850	07000482
05000899	06014850	07000481

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000903	06014851	07000480
05000907	06014852	07000480
05000911	06014852	07000479
05000916	06014853	07000478
05000920	06014853	07000479
05000924	06014853	07000478
05000927	06014854	07000477
05000931	06014854	07000476
05000936	06014854	07000476
05000940	06014855	07000475
05000944	06014855	07000475
05000947	06014855	07000474
05000951	06014856	07000473
05000955	06014856	07000473
05000958	06014856	07000472
05000960	06014857	07000472
05000963	06014857	07000471
05000968	06014857	07000471
05000973	06014858	07000471
05000978	06014858	07000470
05000982	06014859	07000470
05000985	06014859	07000470
05000989	06014860	07000470
05000991	06014861	07000470
05000995	06014861	07000470
05001001	06014862	07000469
05001004	06014862	07000469
05001009	06014863	07000469
05001013	06014864	07000468
05001018	06014864	07000467
05001019	06014864	07000467
05001023	06014865	07000467
05001028	06014866	07000467
05001031	06014866	07000467
05001036	06014866	07000467
05001039	06014867	07000467
05001043	06014868	07000467
05001049	06014868	07000467
05001052	06014869	07000466
05001058	06014870	07000466
05001061	06014870	07000467
05001064	06014871	07000466
05001067	06014872	07000466
05001070	06014871	07000466

STATION	DATE	TIME	LOCATION	CRUISE
4C	11 NOV, 1966	10:52Z	33°04.1'N × 118°27.1'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015163	07001843
05000003	06015163	07001842
05000005	06015163	07001839
05000007	06015163	07001840
05000010	06015163	07001839
05000012	06015164	07001839
05000014	06015164	07001840
05000017	06015165	07001840
05000021	06015166	07001839
05000025	06015166	07001839
05000029	06015163	07001843
05000032	06015146	07001818
05000035	06015124	07001721
05000037	06015116	07001687
05000042	06015086	07001648
05000047	06015048	07001498
05000050	06015031	07001429
05000054	06015010	07001363
05000058	06015000	07001310
05000062	06014997	07001293
05000065	06014985	07001256
05000070	06014979	07001235
05000075	06014971	07001200
05000079	06014970	07001193
05000083	06014966	07001177
05000087	06014965	07001171
05000090	06014961	07001157
05000094	06014954	07001136
05000098	06014949	07001116
05000103	06014946	07001103
05000108	06014942	07001087
05000111	06014939	07001078
05000116	06014934	07001063
05000119	06014933	07001049
05000124	06014931	07001042
05000126	06014930	07001035
05000130	06014929	07001028
05000135	06014926	07001023
05000139	06014922	07001007
05000144	06014919	07000997
05000148	06014917	07000989
05000152	06014914	07000978
05000157	06014912	07000967
05000193	06014902	07000922
05000196	06014902	07000916
05000199	06014902	07000915
05000203	06014903	07000914
05000207	06014903	07000913

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000212	06014903	07000913
05000216	06014903	07000909
05000221	06014901	07000906
05000224	06014900	07000899
05000229	06014897	07000892
05000232	06014897	07000886
05000235	06014897	07000885
05000239	06014896	07000882
05000244	06014896	07000880
05000249	06014896	07000877
05000253	06014895	07000875
05000257	06014894	07000870
05000261	06014894	07000865
05000265	06014894	07000863
05000269	06014894	07000861
05000271	06014893	07000860
05000283	06014891	07000849
05000288	06014892	07000846
05000292	06014892	07000845
05000296	06014891	07000844
05000300	06014892	07000842
05000303	06014891	07000841
05000307	06014888	07000833
05000311	06014889	07000828
05000314	06014889	07000828
05000323	06014889	07000825
05000328	06014890	07000824
05000333	06014888	07000821
05000336	06014887	07000814
05000340	06014886	07000811
05000343	06014886	07000808
05000347	06014886	07000807
05000351	06014886	07000805
05000354	06014885	07000802
05000358	06014883	07000796
05000363	06014883	07000792
05000368	06014884	07000791
05000372	06014884	07000789
05000377	06014881	07000784
05000379	06014881	07000779
05000384	06014880	07000773
05000387	06014878	07000771
05000390	06014878	07000766
05000394	06014878	07000765
05000397	06014878	07000764
05000401	06014879	07000763
05000406	06014879	07000762
05000411	06014878	07000759

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000415	06014878	07000755
05000420	06014877	07000752
05000424	06014876	07000748
05000427	06014876	07000745
05000430	06014876	07000743
05000435	06014875	07000740
05000438	06014874	07000738
05000442	06014874	07000733
05000442	06014872	07000730
05000450	06014871	07000724
05000455	06014869	07000719
05000459	06014869	07000716
05000462	06014868	07000714
05000468	06014868	07000710
05000471	06014869	07000709
05000475	06014868	07000705
05000478	06014868	07000704
05000482	06014868	07000701
05000486	06014867	07000698
05000489	06014866	07000695
05000495	06014867	07000693
05000499	06014867	07000691
05000504	06014867	07000690
05000508	06014867	07000689
05000512	06014866	07000686
05000515	06014865	07000682
05000519	06014864	07000678
05000522	06014863	07000674
05000523	06014864	07000673
05000528	06014863	07000672
05000534	06014864	07000669
05000538	06014864	07000668
05000542	06014865	07000667
05000547	06014865	07000665
05000549	06014865	07000665
05000555	06014864	07000662
05000560	06014865	07000659
05000563	06014863	07000658
05000567	06014864	07000656
05000570	06014864	07000656
05000573	06014864	07000655
05000575	06014864	07000653
05000582	06014864	07000651
05000584	06014863	07000649
05000605	06014860	07000631
05000609	06014859	07000627
05000611	06014859	07000626
05000617	06014858	07000622

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000621	06014857	07000617
05000632	06014857	07000614
05000635	06014857	07000609
05000642	06014857	07000608
05000646	06014855	07000604
05000650	06014856	07000601
05000653	06014855	07000598
05000658	06014854	07000596
05000660	06014855	07000594
05000666	06014855	07000593
05000670	06014854	07000591
05000676	06014854	07000587
05000681	06014852	07000582
05000682	06014852	07000579
05000688	06014851	07000577
05000695	06014851	07000574
05000699	06014851	07000573
05000704	06014850	07000567
05000707	06014850	07000565
05000711	06014850	07000564
05000715	06014851	07000563
05000720	06014851	07000562
05000724	06014850	07000560
05000728	06014849	07000555
05000735	06014849	07000553
05000736	06014849	07000550
050 0744	06014849	070 0549
050 0749	06014848	070 0546
050 0753	06014849	070 0543
050 0757	06014848	070 0542
050 0761	06014850	070 0541
050 0765	06014849	070 0541
050 0769	06014848	070 0540
050 0774	06014847	070 0534
050 0778	06014848	07000531
050 0783	06014848	070 0530
050 0787	06014846	07000526
050 0793	06014847	070 0524
050 0798	06014847	070 0523
050 0802	06014846	070 0520
050 0807	06014845	07000516
050 0810	06014844	0700 0513
050 0814	06014844	0700 0511
050 0819	06014844	070 0509
050 0824	06014844	070 0506
050 0829	06014844	070 0503
050 0832	06014843	070 500

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000838	06014843	07000498
05000844	06014844	07000496
05000847	06014844	07000496
05000852	06014844	07000494
05000857	06014844	07000492
05000861	06014844	07000491
05000864	06014844	07000490
05000868	06014844	07000489
05000873	06014844	07000487
05000877	06014845	07000485
05000882	06014844	07000484
05000886	06014845	07000484
05000891	06014846	07000484
05000897	06014846	07000483
05000902	06014846	07000482
05000926	06014852	07000475
05000928	06014855	07000471
05000930	06014852	07000475
05000925	06014853	07000474
05000936	06014853	07000473
05000938	06014854	07000473
05000940	06014854	07000473
05000949	06014855	07000472
05000960	06014856	07000471
05000970	06014858	07000471
05000976	06014858	07000471
05000973	06014858	07000471
05000984	06014859	07000470
05000985	06014860	07000470
05000991	06014860	07000470
05000995	06014860	07000470
05000999	06014861	07000470
05001003	06014862	07000469
05001004	06014863	07000469
05001012	06014864	07000469
05001018	06014864	07000469
05001021	06014864	07000468
05001030	06014866	07000468
05001036	06014867	07000467
05001040	06014867	07000467
05001044	06014868	07000468
05001048	06014868	07000467
05001053	06014869	07000467
05001057	06014869	07000467
05001060	06014871	07000466
05001067	06014870	07000466
05001071	06014871	07000466
05001075	06014872	07000466

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05001080	06014872	07000466
05001082	06014873	07000466
05001087	06014873	07000465
05001093	06014874	07000465
05001096	06014875	07000465
05001097	06014876	07000465
05001106	06014876	07000464
05001108	06014877	07000465
05001116	06014878	07000464
05001120	06014879	07000464
05001124	06014879	07000464
05001126	06014879	07000463
05001131	06014880	07000463
05001135	06014881	07000463
05001140	06014881	07000463
05001146	06014882	07000463
05001149	06014883	07000463
05001156	06014883	07000462
05001157	06014884	07000462
05001164	06014885	07000462

STATION	DATE	TIME	LOCATION	CRUISE
3C	11 NOV, 1966	12:34Z	33°06.9′N × 118°27.3′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000004	0601 5164	07001822
05000007	0601 5166	07001823
05000014	0601 5167	07001823
05000026	0601 5139	07001762
05000031	0601 5127	07001712
05000035	0601 5092	07001639
05000040	0601 5060	07001508
05000045	0601 5038	07001463
05000050	0601 5021	07001402
05000055	0601 5011	07001383
05000059	0601 4989	07001345
05000064	0601 4983	07001077
05000071	0601 4982	07097777
05000075	0601 4980	07097776
05000080	0601 4967	07097774
05000084	0601 4964	07097773
05000090	0601 4960	07096696
05000095	0601 4953	07096696
05000100	0601 4946	07096696
05000106	0601 4945	07096696
05000111	0601 4944	07096696
05000116	0601 4940	07097768
05000120	0601 4935	07097768
05000124	0601 4929	07097766
05000130	0601 4928	07097766
05000135	0601 4925	07097765
05000141	0601 4920	07097765
05000146	0601 4917	07097763
05000151	0601 4915	07097764
05000155	0601 4910	07097763
05000159	0601 4910	07097762
05000163	0601 4909	07097762
05000169	0601 4909	07097762
05000175	0601 4909	07096890
05000179	0601 4907	07096696
05000185	0601 4905	07096696
05000191	0601 4902	07096696
05000195	0601 4900	07000824
05000199	0601 4898	07000824
05000204	0601 4899	07000824
05000208	0601 4899	07000825
05000214	0601 4894	07000823
05000219	0601 4892	07000822

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000224	0601 4895	07000821
05000230	0601 4891	07000821
05000235	0601 4891	07000821
05000239	0601 4890	07000821
05000243	0601 4889	07000821
05000247	0601 4888	07000820
05000252	0601 4889	07000820
05000258	0601 4889	07000820
05000263	0601 4889	07000820
05000269	0601 4888	07000820
05000274	0601 4886	07000819
05000278	0601 4885	07000818
05000282	0601 4886	07000818
05000287	0601 4887	07000819
05000290	0601 4887	07000819
05000296	0601 4888	07000819
05000301	0601 4885	07000818
05000306	0601 4885	07000819
05000312	0601 4884	07000818
05000317	0601 4884	07000818
05000323	0601 4885	07000818
05000327	0601 4885	07000818
05000331	0601 4884	07000818
05000336	0601 4884	07096696
05000340	0601 4884	07096696
05000345	0601 4882	07096696
05000353	0601 4878	07096696
05000359	0601 4879	07096696
05000366	0601 4879	07096696
05000371	0601 4880	07096696
05000375	0601 4879	07000805
05000380	0601 4879	07000802
05000383	0601 4879	07000802
05000389	0601 4879	07000787
05000393	0601 4878	07000816
05000399	0601 4877	07000815
05000397	0601 4876	07000778
05000409	0601 4874	07000787
05000413	0601 4871	07000791
05000419	0601 4871	07000804
05000423	0601 4870	07000777
05000427	0601 4870	07000781
05000432	0601 4868	07000773

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000428	0601 4867	07000799
05000429	0601 4865	07000715
05000446	0601 4864	07000755
05000442	0601 4865	07000730
05000452	0601 4865	07000767
05000463	0601 4864	07000751
05000464	0601 4864	07000770
05000472	0601 4863	07000784
05000475	0601 4862	07000783
05000481	0601 4862	07000784
05000485	0601 4863	07000789
05000492	0601 4863	07000783
05000490	0601 4864	07000747
05000500	0601 4863	07000746
05000508	0601 4864	07000809
05000512	0601 4863	07000782
05000517	0601 4863	07000792
05000521	0601 4864	07000810
05000525	0601 4861	07000762
05000527	0601 4861	07000778
05000530	0601 4860	07000745
05000539	0601 4860	07000734
05000545	0601 4860	07000777
05000551	0601 4859	07000747
05000552	0601 4860	07000770
05000560	0601 4859	07000808
05000565	0601 4859	07000794
05000567	0601 4859	07000791
05000572	0601 4857	07000791
05000578	0601 4855	07000787
05000581	0601 4855	07000771
05000586	0601 4854	07000722
05000578	0601 4853	07000761
05000595	0601 4853	07000765
05000604	0601 4853	07000769
05000609	0601 4852	07000805
05000613	0601 4853	07000773
05000614	0601 4852	07000760
05000621	0601 4852	07000801
05000626	0601 4851	07000805
05000630	0601 4851	07000791
05000635	0601 4850	07000777
05000642	0601 4850	07000794
05000646	0601 4851	07000766

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000652	0601 4850	07000794
05000657	0601 4851	07000777
05000661	0601 4849	07000804
05000666	0601 4849	07000790
05000671	0601 4848	07000767
05000675	0601 4848	
05000677	0601 4848	
05000683	0601 4848	
05000686	0601 4848	
05000694	0601 4847	
05000699	0601 4847	
05000704	0601 4846	
05000708	0601 4845	
05000714	0601 4845	
05000719	0601 4845	
05000723	0601 4845	
05000727	0601 4845	
05000732	0601 4845	
05000736	0601 4844	
05000741	0601 4844	
05000745	0601 4843	
05000752	0601 4843	
05000756	0601 4843	
05000761	0601 4842	
05000767	0601 4841	
05000771	0601 4841	
05000775	0601 4841	
05000779	0601 4841	
05000783	0601 4841	
05000788	0601 4842	
05000792	0601 4841	
05000799	0601 4842	
05000804	0601 4843	
05000809	0601 4842	
05000815	0601 4842	
05000819	0601 4841	
05000824	0601 4841	
05000828	0601 4840	
05000832	0601 4840	
05000837	0601 4840	
05000841	0601 4840	
05000846	0601 4840	
05000850	0601 4840	
05000855	0601 4840	
05000861	0601 4840	
05000867	0601 4841	
05000871	0601 4841	

DEPTH (M)	SD. VEL. (M/S)
05000876	0601 4841
05000881	0601 4841
05000885	0601 4842
05000889	0601 4842
05000894	0601 4843
05000898	0601 4843
05000903	0601 4844
05000908	0601 4844
05000913	0601 4845
05000918	0601 4845
05000924	0601 4847
05000929	0601 4847
05000933	0601 4847
05000939	0601 4848
05000942	0601 4848
05000947	0601 4849
05000951	0601 4849
05000955	0601 4850
05000960	0601 4851
05000965	0601 4852
05000969	0601 4853
05000975	0601 4854
05000979	0601 4854
05000985	0601 4855
05000990	0601 4855
05000994	0601 4855
05000998	0601 4856
05001005	0601 4856

STATION	DATE	TIME	LOCATION	CRUISE
4D	11 NOV, 1966	13:48Z	33°05.5'N × 118°25.0'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015162	07001814
05000002	06015163	07001813
05000007	06015163	07001813
05000012	06015164	07001812
05000019	06015163	07001813
05000024	06015149	07001810
05000030	06015093	07001690
05000036	06015064	07001535
05000041	06015053	07001480
05000046	06015021	07001391
05000051	06015004	07001335
05000057	06014985	07001259
05000063	06014976	07001212
05000068	06014975	07001193
05000072	06014969	07001183
05000077	06014968	07001162
05000086	06014961	07001149
05000093	06014953	07001125
05000098	06014948	07001092
05000104	06014937	07001070
05000109	06014933	07001040
05000114	06014930	07001030
05000118	06014931	07001024
05000122	06014928	07001017
05000128	06014926	07001007
05000134	06014925	07000996
05000139	06014923	07000992
05000144	06014923	07000983
05000149	06014921	07000976
05000153	06014918	07000966
05000158	06014916	07000960
05000164	06014912	07000947
05000168	06014912	07000940
05000174	06014912	07000934
05000180	06014910	07000932
05000185	06014909	07000922
05000190	06014908	07000921
05000196	06014906	07000910
05000200	06014904	07000905
05000204	06014900	07000892
05000210	06014900	07000884
05000215	06014904	07000891
05000220	06014901	07000886
05000225	06014897	07000875
05000230	06014896	07000867
05000236	06014894	07000896
05000241	06014896	07000855

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000245	06014893	07000853
05000250	06014892	07000846
05000254	06014892	07000842
05000260	06014891	07000839
05000265	06014891	07000834
05000271	06014890	07000830
05000277	06014889	07000825
05000282	06014889	07000822
05000287	06014890	07000822
05000291	06014889	07000820
05000295	06014889	07000817
05000300	06014889	07000813
05000305	06014887	07000807
05000311	06014887	07000803
05000317	06014887	07000801
05000322	06014887	07000798
05000327	06014887	07000795
05000331	06014887	07000793
05000336	06014884	07000787
05000340	06014883	07000780
05000345	06014883	07000777
05000350	06014882	07000772
05000356	06014880	07000767
05000361	06014880	07000764
05000367	06014879	07000758
05000372	06014879	07000756
05000378	06014880	07000753
05000383	06014880	07000751
05000388	06014880	07000751
05000392	06014880	07000750
05000397	06014881	07000749
05000401	06014879	07000745
05000408	06014879	07000741
05000413	06014876	07000734
05000417	06014875	07000728
05000424	06014874	07000720
05000429	06014872	07000716
05000434	06014872	07000711
05000438	06014870	07000708
05000442	06014870	07000701
05000447	06014869	07000698
05000452	06014869	07000695
05000457	06014869	07000692
05000462	06014868	07000691
05000468	06014868	07000687
05000474	06014868	07000683
05000479	06014868	07000681

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000484	06014867	07000677
05000488	06014866	07000674
05000493	06014867	07000673
05000497	06014866	07000669
05000502	06014866	07000665
05000508	06014866	07000663
05000514	06014865	07000660
05000519	06014864	07000657
05000525	06014864	07000651
05000530	06014863	07000648
05000534	06014863	07000645
05000539	06014862	07000641
05000543	06014862	07000639
05000548	06014862	07000637
05000554	06014863	07000635
05000559	06014862	07000633
05000565	06014863	07000632
05000571	06014862	07000628
05000576	06014859	07000622
05000580	06014857	07000615
05000585	06014858	07000612
05000589	06014858	07000610
05000594	06014858	07000607
05000598	06014857	07000606
05000603	06014857	07000602
05000609	06014857	07000600
05000615	06014856	07000596
05000620	06014856	07000593
05000625	06014855	07000589
05000631	06014854	07000586
05000636	06014853	07000582
05000640	06014853	07000578
05000644	06014853	07000574
05000649	06014853	07000573
05000654	06014852	07000570
05000659	06014851	07000565
05000664	06014850	07000562
05000669	06014850	07000560
05000676	06014850	07000557
05000681	06014850	07000555
05000686	06014851	07000552
05000691	06014850	07000550
05000696	06014849	07000547
05000701	06014850	07000544
05000705	06014850	07000543
05000710	06014850	07000541
05000715	06014850	07000539
05000719	06014849	07000537

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000724	06014849	07000534
05000730	06014849	07000532
05000736	06014849	07000527
05000741	06014849	07000526
05000746	06014848	07000524
05000752	06014848	07000519
05000756	06014847	07000518
05000762	06014848	07000515
05000765	06014848	07000513
05000771	06014848	07000512
05000775	06014847	07000510
05000779	06014847	07000506
05000785	06014846	07000504
05000790	06014846	07000502
05000796	06014845	07000498
05000802	06014844	07000492
05000807	06014844	07000490
05000813	06014845	07000489
05000818	06014844	07000486
05000823	06014843	07000482
05000828	06014843	07000478
05000832	06014842	07000475
05000836	06014843	07000474
05000841	06014843	07000472
05000846	06014841	07000470
05000851	06014842	07000466
05000858	06014843	07000466
05000862	06014843	07000464
05000868	06014843	07000462
05000873	06014843	07000460
05000879	06014843	07000459
05000883	06014844	07000458
05000889	06014845	07000459
05000893	06014845	07000457
05000897	06014845	07000458
05000902	06014846	07000457
05000907	06014847	07000456
05000912	06014847	07000455
05000918	06014848	07000455
05000924	06014849	07000454
05000929	06014849	07000454
05000935	06014850	07000453
05000939	06014850	07000453
05000944	06014851	07000453
05000948	06014852	07000452
05000953	06014852	07000451
05000957	06014853	07000451
05000962	06014854	07000451

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000967	06014855	07000451
05000973	06014855	07000450
05000978	06014856	07000450
05000984	06014856	07000450
05000989	06014857	07000449
05000994	06014858	07000449
05001000	06014858	07000449
05001004	06014860	07000448
05001009	06014860	07000448
05001013	06014860	07000447
05001017	06014861	07000448
05001022	06014862	07000448

DOWN SAMPLING ONLY STATION

STATION	DATE	TIME	LOCATION	CRUISE
4E	11 NOV, 1966	15:45Z	33°07.2'N × 118°22.8'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015164	07001826
05000001	06015164	07001825
05000006	06015164	07001825
05000010	06015164	07001816
05000018	06015109	07001717
05000037	06015076	07001591
05000048	06015039	07001419
05000052	06015031	07001386
05000056	06015013	07001344
05000062	06015008	07001307
05000066	06015008	07001295
05000071	06014997	07001282
05000074	06014987	07001237
05000080	06014975	07001212
05000083	06014970	07001172
05000089	06014964	07001160
05000093	06014950	07001123
05000098	06014946	07001087
05000103	06014945	07001079
05000106	06014941	07001068
05000111	06014938	07001054
05000115	06014934	07001039
05000120	06014931	07001027
05000124	06014930	07001018
05000128	06014930	07001013
05000134	06014930	07001010
05000137	06014929	07001007
05000142	06014929	07001003
05000147	06014925	07000999
05000151	06014924	07000985
05000157	06014921	07000979
05000161	06014918	07000966
05000165	06014918	07000960
05000170	06014911	07000951
05000173	06014910	07000932
05000179	06014909	07000930
05000183	06014909	07000927
05000187	06014909	07000923
05000192	06014909	07000918
05000196	06014908	07000916
05000200	06014909	07000910
05000205	06014909	07000916
05000210	06014907	07000904
05000215	06014907	07000902
05000219	06014908	07000902
05000223	06014908	07000899
05000227	06014906	07000897
05000232	06014905	07000889

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000236	01014905	07000886
05000241	06014904	07000880
05000245	06014904	07000877
05000249	06014903	07000874
05000255	06014903	07000871
05000263	06014901	07000866
05000267	06014901	07000860
05000272	06014901	07000857
05000275	06014900	07000855
05000281	06014899	07000849
05000285	06014896	07000840
05000289	06014897	07000838
05000293	06014895	07000834
05000298	06014895	07000830
05000303	06014894	07000827
05000307	06014894	07000824
05000311	06014894	07000822
05000316	06014893	07000819
05000321	06014893	07000815
05000324	06014892	07000812
05000329	06014891	07000807
05000334	06014890	07000800
05000338	06014889	07000798
05000342	06014888	07000795
05000346	06014887	07000788
05000351	06014887	07000786
05000356	06014886	07000780
05000360	06014885	07000777
05000364	06014882	07000771
05000369	06014880	07000761
05000374	06014880	07000759
05000378	06014878	07000754
05000382	06014879	07000751
05000390	06014878	07000745
05000395	06014877	07000743
05000400	06014875	07000736
05000404	06014874	07000731
05000408	06014874	07000728
05000412	06014874	07000724
05000418	06014873	07000722
05000421	06014871	07000717
05000427	06014871	07000711
05000430	06014871	07000708
05000434	06014870	07000707
05000439	06014870	07000705
05000443	06014869	07000700
05000449	06014870	07000700
05000452	06014870	07000698

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000457	06014869	07000694
05000461	06014869	07000692
05000466	06014867	07000687
05000470	06014866	07000682
05000475	06014866	07000678
05000479	06014865	07000675
05000483	06014865	07000671
05000487	06014863	07000669
05000491	06014862	07000665
05000497	06014861	07000660
05000502	06014860	07000652
05000506	06014859	07000650
05000510	06014859	07000647
05000514	06014859	07000644
05000518	06014857	07000640
05000524	06014856	07000634
05000527	06014856	07000631
05000532	06014856	07000629
05000536	06014856	07000627
05000541	06014856	07000624
05000546	06014855	07000622
05000550	06014854	07000620
05000554	06014855	07000618
05000558	06014854	07000616
05000562	06014853	07000611
05000565	06014854	07000609
05000572	06014853	07000606
05000577	06014853	07000603
05000581	06014853	07000602
05000584	06014852	07000599
05000589	06014852	07000596
05000594	06014851	07000594
05000598	06014853	07000593
05000603	06014852	07000591
05000606	06014852	07000590
05000610	06014851	07000586
05000614	06014850	07000582
05000619	06014850	07000580
05000624	06014850	07000578
05000629	06014849	07000575
05000633	06014849	07000573
05000636	06014850	07000571
05000640	06014849	07000569
05000645	06014847	07000566
05000649	06014848	07000561
05000654	06014848	07000561
05000659	06014848	07000559
05000663	06014848	07000557

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000668	06014849	07000556
05000672	06014848	07000554
05000676	06014848	07000552
05000681	06014848	07000549
05000685	06014848	07000548
05000690	06014848	07000547
05000694	06014848	07000545
05000697	06014848	07000543
05000702	06014848	07000542
05000706	06014847	07000539
05000712	06014847	07000537
05000716	06014848	07000535
05000719	06014849	07000534
05000724	06014849	07000534
05000732	06014848	07000531
05000738	06014849	07000528
05000742	06014849	07000527
05000746	06014849	07000526
05000750	06014848	07000524
05000755	06014847	07000520
05000759	06014846	07000515
05000764	06014846	07000513
05000768	06014846	07000511
05000772	06014845	07000509
05000776	06014845	07000507
05000780	06014845	07000504
05000784	06014845	07000502
05000790	06014845	07000501
05000795	06014845	07000500
05000799	06014847	07000499
05000803	06014845	07000497
05000807	06014846	07000494
05000811	06014845	07000493
05000816	06014845	07000489
05000821	06014844	07000487
05000826	06014845	07000484
05000830	06014844	07000482
05000833	06014845	07000481
05000839	06014844	07000481
05000842	06014844	07000479
05000847	06014843	07000474
05000851	06014843	07000472
05000856	06014844	07000471
05000859	06014844	07000470
05000863	06014845	07000469
05000869	06014845	07000468
05000873	06014845	07000466
05000878	06014845	07000466

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000882	06014846	07000465
05000886	06014846	07000465
05000890	06014847	07000464
05000895	06014846	07000463
05000899	06014846	07000461
05000904	06014847	07000460
05000909	06014848	07000459
05000913	06014848	07000459
05000918	06014849	07000458
05000923	06014849	07000457
05000926	06014849	07000457
05000930	06014850	07000457
05000934	06014850	07000456
05000939	06014850	07000455
05000943	06014851	07000455
05000947	06014851	07000454
05000953	06014852	07000453
05000957	06014852	07000453
05000962	06014853	07000452
05000967	06014854	07000451
05000971	06014854	07000451
05000977	06014855	07000450
05000981	06014855	07000451
05000987	06014856	07000450
05000992	06014857	07000450
05000997	06014858	07000449
05001002	06014858	07000450
05001007	06014859	07000449

25

STATION	DATE	TIME	LOCATION	CRUISE
5G	12 NOV, 1966	03:01Z	33°04.4'N × 118°18.7'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	0601.5165	07001830
05000001	0601.5165	07001830
05000003	0601.5166	07001830
05000008	0601.5165	07001830
05000013	0601.5164	07001820
05000018	0601.5165	07001818
05000021	0601.5165	07001816
05000025	0601.5154	07001814
05000030	0601.5134	07001783
05000035	0601.5100	07001686
05000038	0601.5066	07001531
05000043	0601.5040	07001466
05000047	0601.5030	07001395
05000052	0601.5007	07001339
05000061	0601.4996	07001268
05000066	0601.4992	07001250
05000069	0601.4989	07001238
05000074	0601.4983	07001220
05000078	0601.4971	07001198
05000083	0601.4966	07001163
05000087	0601.4955	07001135
05000092	0601.4951	07001105
05000095	0601.4949	07001097
05000099	0601.4944	07001079
05000105	0601.4941	07001071
05000109	0601.4934	07001049
05000114	0601.4931	07001033
05000118	0601.4929	07001020
05000121	0601.4929	07001016
05000126	0601.4927	07001009
05000131	0601.4925	07001001
05000135	0601.4923	07000992
05000140	0601.4922	07000985
05000145	0601.4919	07000977
05000148	0601.4920	07000970
05000153	0601.4920	07000970
05000156	0601.4919	07000968
05000161	0601.4916	07000960
05000166	0601.4915	07000950
05000170	0601.4913	07000944
05000175	0601.4908	07000932
05000179	0601.4903	07000916
05000182	0601.4902	07000908
05000187	0601.4903	07000901
05000192	0601.4903	07000904
05000201	0601.4901	07000894
05000205	0601.4902	07000892
05000209	0601.4902	07000890
05000213	0601.4901	07000889

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000216	0601.4901	07000885
05000221	0601.4902	07000881
05000226	0601.4904	07000886
05000231	0601.4904	07000885
05000236	0601.4904	07000883
05000240	0601.4904	07000880
05000244	0601.4902	07000876
05000248	0601.4901	07000871
05000251	0601.4900	07000863
05000255	0601.4898	07000861
05000260	0601.4895	07000851
05000265	0601.4894	07000844
05000269	0601.4892	07000837
05000274	0601.4894	07000837
05000278	0601.4898	07000839
05000282	0601.4898	07000844
05000286	0601.4895	07000842
05000290	0601.4893	07000830
05000294	0601.4892	07000823
05000299	0601.4889	07000819
05000303	0601.4889	07000812
05000308	0601.4888	07000807
05000314	0601.4886	07000802
05000318	0601.4885	07000796
05000322	0601.4885	07000794
05000327	0601.4885	07000790
05000330	0601.4884	07000788
05000333	0601.4884	07000785
05000338	0601.4883	07000780
05000342	0601.4882	07000777
05000348	0601.4882	07000773
05000352	0601.4883	07000772
05000358	0601.4882	07000771
05000361	0601.4882	07000769
05000366	0601.4881	07000765
05000369	0601.4882	07000762
05000373	0601.4881	07000760
05000378	0601.4881	07000758
05000382	0601.4881	07000756
05000387	0601.4881	07000754
05000392	0601.4881	07000753
05000396	0601.4880	07000749
05000401	0601.4879	07000745
05000406	0601.4878	07000742
05000410	0601.4877	07000737
05000414	0601.4877	07000732
05000417	0601.4875	07000728
05000422	0601.4874	07000722

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000427	0601.4873	07000717
05000432	0601.4872	07000712
05000436	0601.4870	07000708
05000440	0601.4869	07000702
05000444	0601.4868	07000697
05000448	0601.4867	07000693
05000452	0601.4867	07000691
05000457	0601.4868	07000689
05000461	0601.4866	07000686
05000467	0601.4866	07000682
05000470	0601.4866	07000680
05000476	0601.4866	07000678
05000480	0601.4865	07000674
05000483	0601.4864	07000671
05000487	0601.4863	07000666
05000491	0601.4860	07000660
05000496	0601.4859	07000652
05000500	0601.4859	07000649
05000504	0601.4857	07000646
05000509	0601.4857	07000640
05000515	0601.4857	07000639
05000519	0601.4857	07000637
05000523	0601.4858	07000636
05000529	0601.4857	07000633
05000531	0601.4856	07000631
05000535	0601.4856	07000626
05000539	0601.4856	07000626
05000544	0601.4854	07000621
05000549	0601.4853	07000615
05000555	0601.4852	07000612
05000558	0601.4852	07000607
05000563	0601.4852	07000607
05000567	0601.4850	07000602
05000570	0601.4850	07000598
05000574	0601.4851	07000596
05000579	0601.4850	07000595
05000583	0601.4851	07000594
05000587	0601.4851	07000594
05000593	0601.4851	07000593
05000597	0601.4852	07000592
05000600	0601.4851	07000589
05000604	0601.4850	07000586
05000607	0601.4850	07000584
05000612	0601.4850	07000581
05000617	0601.4850	07000579
05000621	0601.4850	07000578
05000626	0601.4849	07000574

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000630	0601.4849	07000572
05000634	0601.4848	07000568
05000638	0601.4846	07000563
05000642	0601.4847	07000561
05000646	0601.4847	07000561
05000650	0601.4848	07000560
05000656	0601.4849	07000560
05000661	0601.4848	07000558
05000665	0601.4848	07000555
05000670	0601.4847	07000553
05000673	0601.4847	07000549
05000677	0601.4848	07000549
05000681	0601.4848	07000548
05000685	0601.4849	07000547
05000691	0601.4849	07000547
05000695	0601.4850	07000547
05000700	0601.4851	07000546
05000704	0601.4850	07000545
05000707	0601.4850	07000541
05000710	0601.4849	07000540
05000716	0601.4848	07000537
05000721	0601.4848	07000533
05000725	0601.4849	07000533
05000729	0601.4849	07000533
05000734	0601.4849	07000531
05000738	0601.4848	07000529
05000741	0601.4847	07000524
05000746	0601.4847	07000521
05000751	0601.4847	07000519
05000755	0601.4847	07000517
05000760	0601.4847	07000515
05000764	0601.4845	07000511
05000768	0601.4846	07000509
05000772	0601.4846	07000509
05000776	0601.4846	07000507
05000781	0601.4846	07000505
05000784	0601.4847	07000504
05000789	0601.4848	07000504
05000794	0601.4847	07000503
05000799	0601.4847	07000501
05000803	0601.4845	07000498
05000807	0601.4845	07000494
05000811	0601.4845	07000491

STATION	DATE	TIME	LOCATION	CRUISE
5F	12 NOV, 1966	04:01Z	33°03.4′N × 118°21.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015162	07001819
05000005	06015163	07001819
05000010	06015164	07001819
05000014	06015164	07001818
05000018	06015164	07001817
05000021	06015163	07001814
05000026	06015155	07001805
05000031	06015135	07001754
05000035	06015105	07001680
05000039	06015068	07001562
05000043	06015054	07001483
05000048	06015024	07001413
05000052	06015014	07001337
05000056	06014999	07001310
05000060	06014986	07001248
05000064	06014982	07001225
05000069	06014972	07001213
05000074	06014961	07001150
05000078	06014963	07001144
05000082	06014961	07001142
05000086	06014957	07001125
05000090	06014950	07001113
05000096	06014948	07001091
05000099	06014950	07001088
05000105	06014950	07001088
05000107	06014945	07001085
05000111	06014943	07001064
05000115	06014942	07001063
05000120	06014938	07001051
05000126	06014930	07001025
05000130	06014929	07001013
05000134	06014928	07001008
05000138	06014926	07001000
05000142	06014924	07000992
05000146	06014922	07000985
05000147	06014922	07000979
05000148	06014922	07000979
05000151	06014920	07000976
05000155	06014919	07000970
05000160	06014919	07000964
05000164	06014918	07000960
05000168	06014917	07000954
05000172	06014915	07000949
05000178	06014914	07000944
05000182	06014911	07000940
05000187	06014908	07000923
05000191	06014906	07000918
05000195	06014903	07000907
05000198	06014902	07000900
05000202	06014902	07000894
05000207	06014902	07000894
05000211	06014901	07000889
05000216	06014901	07000885
05000219	06014897	07000883
05000224	06014896	07000864
05000228	06014901	07000873
05000233	06014901	07000877
05000236	06014901	07000874

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000240	06014901	07000871
05000245	06014899	07000868
05000250	06014898	07000862
05000254	06014895	07000857
05000258	06014895	07000852
05000261	06014896	07000846
05000265	06014897	07000851
05000270	06014896	07000847
05000274	06014893	07000841
05000280	06014891	07000830
05000284	06014890	07000825
05000286	06014890	07000822
05000291	06014891	07000820
05000293	06014891	07000819
05000294	06014890	07000819
05000295	06014891	07000818
05000296	06014889	07000818
05000301	06014888	07000812
05000304	06014888	07000808
05000309	06014886	07000802
05000312	06014882	07000795
05000316	06014879	07000782
05000322	06014879	07000779
05000326	06014879	07000777
05000331	06014879	07000775
05000335	06014879	07000770
05000339	06014880	07000771
05000343	06014880	07000770
05000348	06014881	07000770
05000353	06014880	07000767
05000357	06014880	07000765
05000361	06014880	07000763
05000366	06014881	07000762
05000369	06014879	07000759
05000374	06014877	07000752
05000378	06014876	07000745
05000382	06014875	07000739
05000387	06014875	07000737
05000390	06014874	07000736
05000392	06014875	07000735
05000393	06014875	07000734
05000396	06014875	07000733
05000400	06014875	07000733
05000404	06014875	07000731
05000406	06014875	07000729
05000409	06014874	07000726
05000412	06014874	07000725
05000416	06014874	07000724
05000419	06014875	07000723
05000422	06014875	07000723
05000427	06014874	07000721
05000431	06014872	07000713
05000434	06014872	07000711
05000437	06014871	07000708
05000440	06014870	07000706
05000443	06014869	07000701
05000447	06014867	07000697

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000451	06014866	07000689
05000455	06014867	07000688
05000458	06014867	07000687
05000461	06014866	07000685
05000465	06014866	07000683
05000468	06014865	07000680
05000473	06014864	07000675
05000475	06014864	07000674
05000479	06014864	07000672
05000483	06014865	07000670
05000486	06014864	07000669
05000490	06014865	07000668
05000492	06014864	07000667
05000495	06014861	07000661
05000499	06014860	07000653
05000502	06014861	07000653
05000506	06014861	07000652
05000509	06014861	07000651
05000513	06014861	07000649
05000517	06014860	07000646
05000522	06014858	07000640
05000526	06014858	07000636
05000529	06014857	07000633
05000534	06014857	07000631
05000537	06014856	07000626
05000542	06014855	07000624
05000547	06014854	07000619
05000550	06014854	07000618
05000555	06014854	07000615
05000559	06014854	07000612
05000562	06014854	07000611
05000566	06014853	07000609
05000569	06014852	07000604
05000574	06014851	07000601
05000579	06014851	07000597
05000582	06014850	07000593
05000586	06014849	07000590
05000589	06014849	07000588

STATION	DATE	TIME	LOCATION	CRUISE
5E	12 NOV, 1966	04:30Z	33°01.5′N × 118°23.1′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015159	07001810
05000006	06015159	07001809
05000011	06015160	07001810
05000015	06015161	07001809
05000019	06015159	07001809
05000023	06015155	07001801
05000026	06015138	07001768
05000030	06015090	07001670
05000035	06015067	07001537
05000039	06015058	07001481
05000043	06015048	07001469
05000046	06015031	07001410
05000051	06015016	07001361
05000054	06015004	07001341
05000059	06014988	07001260
05000063	06014978	07001222
05000067	06014968	07001195
05000071	06014964	07001167
05000075	06014962	07001152
05000080	06014963	07001144
05000085	06014961	07001144
05000092	06014950	07001109
05000096	06014947	07001095
05000099	06014944	07001081
05000104	06014944	07001072
05000109	06014943	07001069
05000113	06014939	07001063
05000118	06014935	07001044
05000122	06014933	07001028
05000124	06014932	07001024
05000129	06014932	07001021
05000134	06014931	07001020
05000138	06014927	07001009
05000143	06014919	07000988
05000147	06014918	07000974
05000150	06014918	07000970
05000154	06014914	07000965
05000157	06014912	07000952
05000162	06014913	07000948
05000168	06014912	07000944
05000171	06014910	07000939
05000175	06014910	07000934

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000178	06014908	07000927
05000183	06014907	07000924
05000187	06014902	07000912
05000192	06014902	07000899
05000200	06014901	07000900
05000212	06014902	07000888
05000216	06014902	07000892
05000221	06014901	07000887
05000225	06014902	07000887
05000229	06014901	07000884
05000234	06014901	07000882
05000237	06014902	07000878
05000241	06014900	07000878
05000245	06014895	07000867
05000249	06014891	07000850
05000252	06014890	07000845
05000257	06014893	07000843
05000261	06014898	07000849
05000265	06014900	07000858
05000270	06014900	07000858
05000273	06014900	07000856
05000277	06014899	07000852
05000282	06014898	07000849
05000286	06014897	07000846
05000290	06014896	07000840
05000294	06014895	07000838
05000302	06014886	07000811
05000305	06014883	07000803
05000309	06014882	07000796
05000314	06014880	07000790
05000319	06014880	07000783
05000323	06014882	07000786
05000327	06014882	07000787
05000330	06014882	07000784
05000333	06014881	07000781
05000338	06014881	07000778
05000342	06014881	07000776
05000347	06014880	07000774
05000352	06014878	07000767
05000356	06014877	07000760
05000362	06014878	07000758
05000366	06014876	07000757
05000370	06014875	07000750

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000375	06014876	07000749
05000379	06014875	07000747
05000383	06014875	07000744
05000387	06014874	07000742
05000391	06014874	07000737
05000394	06014874	07000735
05000399	06014874	07000733
05000402	06014874	07000732
05000407	06014874	07000730
05000410	06014873	07000728
05000414	06014871	07000720
05000418	06014871	07000717
05000422	06014871	07000717
05000426	06014869	07000714
05000429	06014867	07000703
05000433	06014868	07000704
05000438	06014868	07000703
05000441	06014867	07000699
05000444	06014868	07000697
05000448	06014867	07000696
05000453	06014865	07000689
05000456	06014866	07000688
05000461	06014866	07000687
05000465	06014865	07000684
05000468	06014864	07000679
05000472	06014863	07000675
05000476	06014862	07000672
05000480	06014863	07000669
05000484	06014862	07000667
05000488	06014863	07000666
05000491	06014862	07000664
05000496	06014861	07000661
05000499	06014862	07000660
05000503	06014860	07000657
05000507	06014860	07000654
05000511	06014860	07000650
05000514	06014860	07000649
05000519	06014860	07000647
05000523	06014860	07000645
05000525	06014860	07000644
05000530	06014859	07000639
05000534	06014857	07000635
05000538	06014856	07000630

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000541	06014856	07000628
05000546	06014856	07000625
05000550	06014855	07000621
05000553	06014855	07000620
05000557	06014856	07000619
05000562	06014856	07000618
05000566	06014856	07000618
05000570	06014856	07000617
05000575	06014857	07000616
05000578	06014855	07000613
05000584	06014855	07000609
05000589	06014854	07000605
05000593	06014855	07000604
05000599	06014855	07000602
05000603	06014855	07000600
05000607	06014853	07000598
05000611	06014853	07000592
05000615	06014853	07000591
05000619	06014854	07000590
05000623	06014853	07000588
05000629	06014853	07000586
05000633	06014853	07000584
05000638	06014853	07000580
05000641	06014852	07000578
05000646	06014851	07000574
05000649	06014851	07000572
05000653	06014851	07000569
05000659	06014851	07000568
05000663	06014851	07000565
05000667	06014851	07000564
05000672	06014851	07000563
05000676	06014850	07000559
05000679	06014849	07000555
05000683	06014848	07000553
05000687	06014849	07000551
05000692	06014849	07000550
05000697	06014850	07000548
05000701	06014850	07000548
05000706	06014850	07000547
05000711	06014850	07000545
05000715	06014850	07000543
05000733	06014850	07000537
05000738	06014850	07000536

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000743	06014851	07000534
05000748	06014850	07000532
05000753	06014849	07000528
05000756	06014849	07000526
05000760	06014849	07000523
05000765	06014848	07000520
05000768	06014849	07000519
05000774	06014849	07000516
05000779	06014849	07000515
05000784	06014849	07000513
05000789	06014849	07000512
05000793	06014849	07000511
05000798	06014849	07000507
05000801	06014849	07000505
05000806	06014849	07000505
05000810	06014848	07000503
05000814	06014848	07000500
05000820	06014848	07000499
05000825	06014849	07000498
05000829	06014850	07000498
05000834	06014851	07000497
05000837	06014851	07000496
05000841	06014850	07000495
05000846	06014850	07000491
05000851	06014850	07000487
05000857	06014850	07000487
05000861	06014850	07000486
05000867	06014849	07000482
05000871	06014849	07000481
05000875	06014850	07000480
05000881	06014851	07000480
05000885	06014851	07000479
05000890	06014850	07000478
05000894	06014850	07000475
05000898	06014850	07000473
05000900	06014850	07000472
05000899	06014850	07000472
05000900	06014850	07000472

STATION	DATE	TIME	LOCATION	CRUISE
5D	12 NOV, 1966	05:17Z	33°00.2'N × 118°26.4'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD.VEL. (M/S)	TEMP. C°
05000001	06015153	07001790
05000007	06015152	07001789
05000010	06015149	07001777
05000016	06015147	07001767
05000020	06015138	07001750
05000025	06015114	07001692
05000029	06015082	07001613
05000033	06015067	07001516
05000037	06015047	07001481
05000041	06015034	07001404
05000046	06015014	07001371
05000051	06015011	07001312
05000056	06015002	07001304
05000061	06014981	07001247
05000066	06014973	07001199
05000070	06014968	07001177
05000073	06014966	07001163
05000077	06014961	07001149
05000082	06014959	07001133
05000086	06014953	07001121
05000090	06014950	07001102
05000094	06014945	07001092
05000099	06014940	07001069
05000104	06014940	07001061
05000109	06014938	07001054
05000112	06014937	07001048
05000116	06014933	07001042
05000122	06014929	07001024
05000125	06014927	07001011
05000130	06014926	07001004
05000134	06014922	07000996
05000138	06014921	07000986
05000142	06014919	07000981
05000147	06014916	07000966
05000152	06014916	07000964
05000157	06014916	07000960
05000161	06014916	07000956
05000165	06014914	07000952
05000169	06014913	07000945
05000174	06014911	07000941
05000178	06014911	07000934
05000182	06014912	07000932
05000186	06014910	07000930
05000191	06014907	07000922
05000196	06014907	07000914
05000200	06014903	07000905
05000204	06014901	07000897
05000209	06014900	07000891
05000212	06014899	07000886
05000218	06014899	07000883
05000222	06014900	07000881
05000227	06014900	07000880
05000230	06014900	07000876
05000234	06014898	07000875
05000239	06014898	07000870
05000243	06014896	07000864
05000248	06014896	07000859
05000253	06014896	07000858
05000257	06014896	07000855

DEPTH (M)	SD.VEL. (M/S)	TEMP C°
05000262	06014896	07000853
05000265	06014896	07000851
05000269	06014896	07000850
05000274	06014896	07000850
05000279	06014895	07000842
05000283	06014894	07000837
05000289	06014892	07000833
05000292	06014890	07000824
05000296	06014891	07000821
05000300	06014890	07000821
05000305	06014889	07000816
05000309	06014889	07000811
05000314	06014888	07000810
05000319	06014885	07000803
05000323	06014881	07000791
05000327	06014881	07000784
05000331	06014881	07000781
05000336	06014880	07000778
05000340	06014880	07000776
05000345	06014879	07000773
05000350	06014879	07000770
05000355	06014877	07000764
05000359	06014876	07000759
05000363	06014876	07000755
05000367	06014876	07000752
05000371	06014875	07000749
05000376	06014874	07000745
05000380	06014873	07000741
05000385	06014873	07000737
05000389	06014871	07000733
05000393	06014871	07000728
05000398	06014871	07000725
05000404	06014870	07000723
05000408	06014869	07000719
05000412	06014868	07000715
05000416	06014868	07000711
05000420	06014867	07000707
05000424	06014868	07000706
05000429	06014867	07000704
05000433	06014867	07000700
05000437	06014865	07000696
05000443	06014865	07000693
05000447	06014864	07000690
05000453	06014865	07000687
05000457	06014865	07000686
05000460	06014865	07000685
05000464	06014864	07000682
05000468	06014864	07000678
05000473	06014864	07000677
05000478	06014863	07000674
05000483	06014861	07000669
05000488	06014860	07000661
05000493	06014860	07000660
05000497	06014861	07000660
05000501	06014862	07000659
05000504	06014861	07000655
05000509	06014860	07000654
05000514	06014861	07000652

DEPTH (M)	SD.VEL. (M/S)	TEMP. C°
05000519	06014861	07000650
05000524	06014861	07000647
05000525	06014861	07000646

STATION	DATE	TIME	LOCATION	CRUISE
5B	12 NOV, 1966	06:21Z	32°58.5'N × 118°30.1'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015152	07001799
05000002	06015150	07001787
05000007	06015135	07001750
05000012	06015107	07001675
05000016	06015089	07001621
05000020	06015071	07001580
05000024	06015058	07001496
05000029	06015048	07001496
05000033	06015042	07001428
05000038	06015033	07001398
05000042	06015021	07001368
05000047	06015013	07001331
05000051	06014996	07001301
05000055	06014989	07001285
05000059	06014979	07001232
05000064	06014975	07001202
05000069	06014967	07001177
05000074	06014961	07001151
05000078	06014958	07001134
05000084	06014953	07001120
05000087	06014950	07001105
05000092	06014947	07001090
05000096	06014944	07001082
05000099	06014939	07001065
05000103	06014937	07001056
05000108	06014936	07001045
05000112	06014935	07001043
05000117	06014932	07001033
05000122	06014930	07001023
05000127	06014930	07001017
05000130	06014927	07001012
05000135	06014925	07001001
05000138	06014924	07000992
05000142	06014922	07000989
05000147	06014920	07000980
05000153	06014917	07000970
05000157	06014916	07000962
05000162	06014916	07000958
05000166	06014914	07000954
05000169	06014915	07000948
05000173	06014915	07000948
05000177	06014914	07000943
05000182	06014912	07000937
05000186	06014912	07000935
05000191	06014910	07000928
05000196	06014909	07000922
05000201	06014908	07000917
05000205	06014908	07000912
05000209	06014906	07000907
05000213	06014906	07000903
05000217	06014900	07000893
05000221	06014899	07000879
05000226	06014896	07000875
05000231	06014895	07000867
05000236	06014895	07000863
05000236	06014895	07000863
05000235	06014895	07000862
05000236	06014895	07000862

STATION	DATE	TIME	LOCATION	CRUISE
5A	12 NOV, 1966	06:56Z	32°58.4′N × 118°30.9′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015153	07001792
05000001	06015154	07001794
05000005	06015153	07001791
05000009	06015153	07001792
05000013	06015154	07001791
05000017	06015155	07001792
05000021	06015156	07001791
05000026	06015156	07001791
05000032	06015157	07001792
05000037	06015126	07001771
05000042	06015075	07001598
05000047	06015030	07001450
05000052	06015014	07001363
05000056	06014996	07001300
05000060	06014996	07001266
05000065	06014995	07001260
05000070	06014994	07001250
05000075	06014977	07001227
05000080	06014968	07001176
05000085	06014960	07001147
05000089	06014955	07001126
05000093	06014950	07001106
05000098	06014947	07001090
05000103	06014941	07001074
05000113	06014928	07001025
05000119	06014925	07001012
05000123	06014923	07001001
05000127	06014922	07000993
05000132	06014920	07000988
05000137	06014917	07000977
05000142	06014916	07000970
05000146	06014910	07000958
05000160	06014910	07000939
05000165	06014909	07000935
05000169	06014909	07000931
05000175	06014907	07000926
05000180	06014903	07000915
05000185	06014902	07000906
05000190	06014901	07000902
05000194	06014899	07000895
05000199	06014897	07000887
05000203	06014896	07000882
05000208	06014895	07000876
05000213	06014892	07000869
05000217	06014893	07000864
05000224	06014895	07000864
05000228	06014894	07000863
05000231	06014893	07000859
05000235	06014892	07000855
05000241	06014890	07000846
05000246	06014889	07000842
05000251	06014887	07000835
05000256	06014889	07000832
05000265	06014896	07000846
05000269	06014894	07000845
05000273	06014891	07000836
05000278	06014889	07000827
05000283	06014886	07000817
05000289	06014887	07000811

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000293	06014884	07000807
05000299	06014884	07000804
05000303	06014886	07000802
05000309	06014885	07000799
05000313	06014883	07000797
05000317	06014882	07000795
05000322	06014884	07000792
05000326	06014883	07000791
05000332	06014881	07000784
05000337	06014880	07000776
05000341	06014879	07000771
05000347	06014879	07000768
05000352	06014880	07000767
05000357	06014878	07000764
05000361	06014879	07000760
05000365	06014879	07000759
05000369	06014878	07000756
05000374	06014878	07000754
05000379	06014877	07000749
05000384	06014877	07000746
05000390	06014877	07000743
05000395	06014876	07000740
05000399	06014874	07000737
05000404	06014873	07000727
05000409	06014871	07000725
05000413	06014869	07000716
05000417	06014869	07000712
05000423	06014869	07000710
05000428	06014870	07000708
05000433	06014869	07000707
05000438	06014867	07000697
05000442	06014867	07000695
05000447	06014866	07000693
05000451	06014866	07000688
05000455	06014865	07000685
05000461	06014865	07000682
05000466	06014864	07000678
05000472	06014863	07000674
05000477	06014864	07000673
05000482	06014864	07000671
05000486	06014864	07000670
05000491	06014865	07000668
05000495	06014865	07000668
05000500	06014865	07000667
05000503	06014865	07000666
05000508	06014865	07000663
05000513	06014865	07000661
05000519	06014864	07000658
05000524	06014862	07000653
05000529	06014862	07000647
05000534	06014862	07000645
05000540	06014861	07000642
05000545	06014861	07000639
05000549	06014861	07000637
05000553	06014861	07000635
05000557	06014861	07000634
05000561	06014861	07000631

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000576	06014859	07000622
05000582	06014859	07000619
05000587	06014858	07000615
05000593	06014859	07000613
05000598	06014858	07000611
05000601	06014858	07000607
05000606	06014858	07000603
05000610	06014857	07000602
05000615	06014857	07000601
05000619	06014856	07000598
05000624	06014857	07000595
05000629	06014857	07000593
05000633	06014856	07000591
05000639	06014856	07000587
05000645	06014856	07000585
05000649	06014856	07000583
05000654	06014856	07000582
05000659	06014856	07000580
05000662	06014856	07000578
05000667	06014857	07000577
05000672	06014855	07000573
05000676	06014854	07000568
05000681	06014854	07000566
05000688	06014853	07000563
05000693	06014853	07000559
05000698	06014853	07000555
05000702	06014852	07000553
05000708	06014852	07000550
05000712	06014851	07000547
05000716	06014851	07000543
05000720	06014851	07000540
05000725	06014849	07000538
05000730	06014850	07000536
05000734	06014850	07000534
05000740	06014848	07000531
05000745	06014848	07000525
05000750	06014848	07000522
05000755	06014847	07000519
05000761	06014845	07000515
05000764	06014846	07000512
05000769	06014846	07000510
05000773	06014845	07000507
05000778	06014846	07000505
05000783	06014845	07000504
05000787	06014844	07000501
05000792	06014844	07000498
05000798	06014844	07000494
05000804	06014843	07000492
05000810	06014843	07000488
05000814	06014843	07000486
05000818	06014843	07000484
05000824	06014843	07000484
05000827	06014844	07000483
05000831	06014844	07000481
05000836	06014844	07000480
05000841	06014844	07000477
05000847	06014845	07000476
05000852	06014844	07000475
05000857	06014844	07000472

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000862	06014844	07000471
05000868	06014844	07000469
05000872	06014845	07000468
05000877	06014846	07000466
05000881	06014845	07000466
05000885	06014846	07000465
05000889	06014846	07000463
05000894	06014846	07000462
05000899	06014846	07000462
05000905	06014847	07000461
05000911	06014848	07000460
05000916	06014849	07000459
05000921	06014849	07000459
05000923	06014849	07000458

STATION	DATE	TIME	LOCATION	CRUISE
6A	12 NOV, 1966	07:41Z	32°56.2′N × 118°26.9′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015155	07001805
05000001	06015155	07001800
05000004	06015154	07001797
05000007	06015155	07001797
05000011	06015156	07001796
05000016	06015157	07001796
05000020	06015157	07001795
05000027	06015158	07001796
05000034	06015158	07001795
05000041	06015123	07001779
05000046	06015060	07001566
05000053	06015025	07001424
05000059	06015014	07001344
05000066	06015001	07001309
05000073	06014990	07001253
05000079	06014982	07001215
05000086	06014959	07001186
05000092	06014952	07001118
05000099	06014946	07001099
05000105	06014939	07001069
05000111	06014935	07001051
05000117	06014931	07001034
05000124	06014927	07001016
05000131	06014922	07001002
05000138	06014917	07000980
05000145	06014914	07000967
05000152	06014912	07000955
05000159	06014911	07000948
05000164	06014909	07000936
05000171	06014910	07000937
05000178	06014909	07000930
05000185	06014906	07000919
05000193	06014901	07000905
05000199	06014895	07000890
05000205	06014894	07000873
05000212	06014894	07000874
05000218	06014893	07000867
05000224	06014893	07000863
05000231	06014891	07000857
05000237	06014890	07000850
05000244	06014890	07000845
05000250	06014890	07000840
05000256	06014892	07000842
05000262	06014890	07000840
05000268	06014890	07000833
05000275	06014891	07000832
05000280	06014888	07000828
05000287	06014888	07000818
05000294	06014887	07000816
05000302	06014884	07000806
05000308	06014883	07000802
05000315	06014881	07000792
05000321	06014881	07000788
05000327	06014882	07000783
05000334	06014880	07000779
05000342	06014881	07000775
05000348	06014879	07000771
05000356	06014878	07000764
05000364	06014876	07000759
05000370	06014876	07000752

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000376	06014876	07000749
05000382	06014877	07000745
05000388	06014876	07000744
05000395	06014876	07000740
05000401	06014876	07000737
05000409	06014873	07000732
05000417	06014871	07000723
05000423	06014869	07000711
05000430	06014869	07000707
05000437	06014870	07000706
05000442	06014868	07000701
05000449	06014868	07000696
05000455	06014868	07000694
05000462	06014869	07000692
05000470	06014868	07000687
05000477	06014867	07000683
05000485	06014867	07000678
05000491	06014866	07000675
05000498	06014865	07000670
05000504	06014866	07000666
05000511	06014865	07000664
05000517	06014864	07000660
05000523	06014865	07000656
05000530	06014863	07000653
05000537	06014863	07000647
05000544	06014860	07000641
05000551	06014860	07000634
05000558	06014860	07000631
05000566	06014859	07000627
05000572	06014858	07000623
05000578	06014857	07000619
05000583	06014857	07000613
05000590	06014857	07000611
05000596	06014856	07000606
05000603	06014855	07000602
05000610	06014856	07000597
05000617	06014856	07000597
05000624	06014855	07000594
05000632	06014856	07000591
05000639	06014855	07000587
05000646	06014855	07000585
05000651	06014856	07000580
05000658	06014855	07000579
05000664	06014855	07000577
05000670	06014854	07000572
05000677	06014853	07000568
05000684	06014854	07000565
05000690	06014855	07000564
05000698	06014855	07000562
05000700	06014855	07000560

STATION	DATE	TIME	LOCATION	CRUISE
7A	12 NOV, 1966	08:37Z	32°53.9′N × 118°24.3′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015162	07001824
05000001	06015162	07001820
05000006	06015162	07001818
05000011	06015163	07001818
05000017	06015164	07001815
05000022	06015165	07001818
05000028	06015166	07001818
05000034	06015143	07001814
05000039	06015073	07001615
05000045	06015043	07001475
05000051	06015018	07001387
05000057	06015012	07001325
05000062	06015010	07001310
05000067	06015004	07001301
05000073	06014995	07001264
05000079	06014988	07001233
05000086	06014982	07001213
05000092	06014965	07001180
05000099	06014958	07001130
05000106	06014948	07001111
05000112	06014943	07001073
05000117	06014941	07001063
05000123	06014937	07001048
05000129	06014929	07001025
05000135	06014925	07001008
05000142	06014920	07000989
05000149	06014918	07000973
05000156	06014916	07000963
05000162	06014913	07000954
05000167	06014913	07000943
05000173	06014913	07000942
05000179	06014914	07000941
05000185	06014913	07000938
05000192	06014909	07000928
05000199	06014909	07000917
05000205	06014910	07000921
05000211	06014907	07000906
05000218	06014907	07000903
05000223	06014906	07000899
05000229	06014905	07000894
05000234	06014901	07000884
05000240	06014902	07000878
05000247	06014901	07000875
05000253	06014899	07000867
05000260	06014899	07000852
05000267	06014898	07000854
05000273	06014899	07000852
05000279	06014896	07000850
05000285	06014890	07000835
05000290	06014889	07000821
05000295	06014892	07000819
05000302	06014892	07000824
05000309	06014891	07000821
05000315	06014889	07000810
05000322	06014887	07000805
05000328	06014886	07000798
05000334	06014884	07000794
05000340	06014883	07000784

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000346	06014883	07000781
05000352	06014881	07000775
05000358	06014880	07000769
05000363	06014878	07000764
05000370	06014877	07000755
05000376	06014876	07000750
05000383	06014877	07000748
05000390	06014875	07000743
05000395	06014873	07000736
05000400	06014873	07000731
05000406	06014872	07000728
05000411	06014872	07000725
05000419	06014871	07000716
05000425	06014869	07000712
05000432	06014867	07000707
05000439	06014866	07000699
05000444	06014866	07000694
05000450	06014866	07000693
05000456	06014867	07000692
05000462	06014867	07000689
05000467	06014866	07000686
05000473	06014866	07000681
05000479	06014865	07000677
05000485	06014865	07000673
05000491	06014864	07000670
05000497	06014864	07000665
05000504	06014864	07000663
05000510	06014862	07000658
05000517	06014862	07000653
05000524	06014861	07000650
05000530	06014860	07000643
05000535	06014860	07000642
05000541	06014860	07000638
05000547	06014859	07000634
05000552	06014859	07000632
05000558	06014858	07000627
05000564	06014858	07000625
05000570	06014857	07000620
05000577	06014857	07000616
05000584	06014856	07000612
05000591	06014857	07000611
05000597	06014855	07000604
05000602	06014853	07000599
05000609	06014853	07000592
05000615	06014852	07000589
05000621	06014852	07000585
05000626	06014852	07000584
05000631	06014852	07000581
05000638	06014853	07000580
05000643	06014853	07000578
05000650	06014852	07000575
05000656	06014852	07000573
05000662	06014851	07000566
05000669	06014851	07000564
05000676	06014852	07000562
05000682	06014852	07000560
05000687	06014852	07000558
05000694	06014852	07000556
05000698	06014851	07000553

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000704	06014851	07000550
05000710	06014851	07000546
05000717	06014851	07000543
05000724	06014850	07000541
05000730	06014850	07000537
05000737	06014850	07000536
05000744	06014849	07000529
05000749	06014849	07000527
05000756	06014848	07000522
05000762	06014847	07000518
05000768	06014847	07000514
05000774	06014846	07000512
05000780	06014846	07000508
05000786	06014846	07000506
05000791	06014847	07000504
05000797	06014847	07000502
05000803	06014847	07000501
05000809	06014848	07000500
05000817	06014847	07000496
05000823	06014847	07000494
05000829	06014847	07000491
05000836	06014846	07000488
05000842	06014846	07000485
05000849	06014848	07000483
05000855	06014848	07000483
05000860	06014848	07000480
05000866	06014847	07000477
05000871	06014847	07000475
05000877	06014847	07000472
05000884	06014847	07000469
05000890	06014848	07000468
05000897	06014849	07000468
05000903	06014848	07000465
05000910	06014848	07000463
05000917	06014849	07000461
05000923	06014850	07000461
05000930	06014850	07000455
05000935	06014851	07000455
05000942	06014852	07000455
05000948	06014853	07000455
05000953	06014853	07000457
05000958	06014854	07000457
05000964	06014855	07000456
05000971	06014855	07000455
05000977	06014856	07000455
05000983	06014857	07000453
05000991	06014858	07000453
05000997	06014858	07000453
05001004	06014860	07000452
05001010	06014860	07000451
05001016	06014861	07000451
05001022	06014861	07000452
05001028	06014862	07000451
05001034	06014864	07000450
05001040	06014864	07000450
05001045	06014865	07000450
05001050	06014866	07000450
05001056	06014867	07000450
05001063	06014868	07000449

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05001070	06014869	07000449
05001076	06014870	07000448
05001082	06014871	07000449
05001089	06014872	07000449
05001097	06014873	07000449
05001102	06014874	07000448
05001108	06014875	07000449
05001117	06014876	07000448

STATION	DATE	TIME	LOCATION	CRUISE
7B	12 NOV, 1966	09:19Z	32°55.2′N × 118°22.6′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000001	06015163	07001822
05000006	06015163	07001821
05000011	06015164	07001821
05000019	06015166	07001821
05000026	06015165	07001821
05000032	06015128	07001789
05000038	06015046	07001531
05000045	06015018	07001399
05000052	06015004	07001323
05000060	06014997	07001283
05000067	06014995	07001263
05000073	06014982	07001223
05000081	06014967	07001196
05000088	06014957	07001146
05000094	06014955	07001116
05000101	06014947	07001101
05000108	06014943	07001074
05000114	06014937	07001059
05000122	06014931	07001036
05000128	06014926	07001014
05000136	06014922	07000998
05000144	06014918	07000979
05000152	06014915	07000966
05000159	06014910	07000951
05000167	06014907	07000935
05000175	06014906	07000926
05000181	06014903	07000914
05000189	06014905	07000909
05000196	06014903	07000909
05000204	06014901	07000894
05000211	06014901	07000890
05000219	06014902	07000885
05000227	06014902	07000884
05000233	06014903	07000881
05000240	06014903	07000880
05000247	06014898	07000871
05000255	06014898	07000862
05000262	06014896	07000852
05000271	06014895	07000847
05000278	06014894	07000841
05000286	06014893	07000836
05000293	06014890	07000832
05000300	06014890	07000818
05000306	06014888	07000813
05000314	06014889	07000807
05000321	06014890	07000806
05000328	06014888	07000805
05000336	06014886	07000795
05000344	06014883	07000786
05000352	06014881	07000776
05000360	06014879	07000767
05000368	06014878	07000760
05000374	06014878	07000754
05000382	06014877	07000749
05000388	06014873	07000743
05000395	06014873	07000734
05000402	06014874	07000730
05000410	06014871	07000726
05000418	06014870	07000716
05000425	06014870	07000711
05000433	06014870	07000709
05000439	06014868	07000703
05000446	06014867	07000696
05000453	06014867	07000694
05000460	06014868	07000689
05000469	06014868	07000687
05000476	06014867	07000684
05000484	06014866	07000680
05000491	06014867	07000679
05000497	06014867	07000674
05000504	06014867	07000671
05000511	06014868	07000669
05000519	06014865	07000662
05000526	06014864	07000655
05000533	06014861	07000648
05000539	06014860	07000639
05000547	06014860	07000636
05000553	06014860	07000631
05000561	06014860	07000630
05000568	06014858	07000625
05000576	06014858	07000619
05000583	06014858	07000615
05000591	06014858	07000613
05000598	06014857	07000608
05000606	06014857	07000604
05000613	06014857	07000601
05000620	06014858	07000599
05000627	06014857	07000595
05000635	06014854	07000591
05000643	06014853	07000580
05000650	06014854	07000578
05000658	06014853	07000576
05000665	06014853	07000570
05000673	06014853	07000568
05000679	06014853	07000565
05000687	06014852	07000559
05000695	06014851	07000554
05000702	06014851	07000550
05000710	06014851	07000549
05000717	06014850	07000543
05000725	06014850	07000540
05000733	06014850	07000539
05000740	06014849	07000534
05000747	06014847	07000526
05000755	06014846	07000519
05000762	06014846	07000515
05000770	06014846	07000512
05000777	06014847	07000510
05000785	06014848	07000509
05000793	06014848	07000507
05000800	06014849	07000505
05000807	06014849	07000504
05000816	06014849	07000502
05000822	06014850	07000501
05000830	06014850	07000497
05000838	06014851	07000495
05000845	06014851	07000494
05000853	06014852	07000493
05000861	06014851	07000491
05000868	06014850	07000488

STATION	DATE	TIME	LOCATION	CRUISE
6B	12 NOV, 1966	10:18Z	32°58.8′N × 118°22.7′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015162	07001818
05000001	06015161	07001818
05000003	06015161	07001817
05000004	06015162	07001817
05000006	06015162	07001818
05000009	06015163	07001818
05000011	06015163	07001817
05000015	06015163	07001818
05000018	06015164	07001818
05000022	06015165	07001818
05000026	06015165	07001818
05000029	06015166	07001818
05000032	06015165	07001816
05000035	06015155	07001805
05000038	06015132	07001749
05000042	06015109	07001674
05000046	06015068	07001538
05000049	06015059	07001481
05000050	06015057	07001453
05000051	06015058	07001454
05000052	06015051	07001449
05000055	06015037	07001412
05000061	06015013	07001378
05000066	06014994	07001286
05000073	06014974	07001229
05000081	06014956	07001157
05000088	06014946	07001110
05000096	06014943	07001079
05000102	06014939	07001067
05000110	06014933	07001050
05000117	06014929	07001024
05000124	06014926	07001012
05000131	06014921	07000993
05000139	06014918	07000980
05000146	06014917	07000970
05000155	06014917	07000965
05000162	06014911	07000955
05000171	06014909	07000935
05000178	06014908	07000927
05000186	06014906	07000920
05000194	06014909	07000914
05000202	06014910	07000921
05000210	06014908	07000912
05000218	06014907	07000905
05000226	06014908	07000901
05000234	06014905	07000893
05000241	06014902	07000879
05000250	06014900	07000869
05000258	06014897	07000860
05000265	06014894	07000852
05000273	06014895	07000842
05000282	06014894	07000837
05000289	06014892	07000832
05000296	06014891	07000822
05000300	06014890	07000817
05000301	06014890	07000817
05000305	06014890	07000815
05000312	06014889	07000810
05000320	06014889	07000805

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000327	06014888	07000802
05000335	06014887	07000796
05000344	06014886	07000788
05000352	06014885	07000782
05000359	06014884	07000779
05000367	06014882	07000771
05000375	06014878	07000759
05000384	06014877	07000748
05000393	06014877	07000745
05000401	06014874	07000737
05000411	06014872	07000726
05000420	06014872	07000720
05000429	06014870	07000712
05000438	06014868	07000706
05000446	06014866	07000696
05000455	06014866	07000690
05000463	06014866	07000686
05000472	06014864	07000679
05000483	06014864	07000673
05000491	06014864	07000668
05000499	06014863	07000663
05000508	06014862	07000658
05000516	06014861	07000652
05000524	06014860	07000648
05000532	06014859	07000641
05000541	06014858	07000634
05000548	06014858	07000630
05000550	06014857	07000627
05000551	06014858	07000627
05000554	06014858	07000626
05000562	06014856	07000619
05000569	06014855	07000617
05000577	06014854	07000611
05000583	06014853	07000605
05000591	06014854	07000600
05000598	06014853	07000597
05000606	06014852	07000593
05000613	06014851	07000587
05000621	06014851	07000583
05000629	06014851	07000578
05000637	06014852	07000578
05000645	06014851	07000574
05000652	06014852	07000571
05000660	06014852	07000568
05000668	06014852	07000565
05000676	06014851	07000561
05000685	06014852	07000560
05000693	06014852	07000557
05000702	06014852	07000553
05000711	06014851	07000550
05000719	06014852	07000547
05000727	06014852	07000544
05000736	06014852	07000541
05000745	06014853	07000538
05000752	06014854	07000536
05000760	06014853	07000532
05000768	06014853	07000530
05000775	06014853	07000527
05000783	06014852	07000523

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000790	06014853	07000522
05000796	06014852	07000518
05000798	06014853	07000515
05000799	06014852	07000516
05000801	06014852	07000514
05000806	06014850	07000509
05000814	06014851	07000506
05000819	06014850	07000502
05000827	06014849	07000498
05000835	06014848	07000491
05000842	06014848	07000488
05000850	06014848	07000486
05000857	06014848	07000483
05000866	06014847	07000478
05000873	06014847	07000473
05000882	06014848	07000471
05000891	06014849	07000471
05000898	06014850	07000470
05000907	06014850	07000469
05000916	06014852	07000467
05000924	06014853	07000466
05000933	06014854	07000466
05000941	06014854	07000464
05000950	06014855	07000463
05000958	06014856	07000461
05000967	06014856	07000460
05000976	06014858	07000459
05000982	06014859	07000458
05000989	06014860	07000457
05000997	06014859	07000455
05001004	06014860	07000453
05001013	06014861	07000453
05001021	06014862	07000452
05001028	06014864	07000452
05001036	06014865	07000451
05001042	06014865	07000451
05001047	06014866	07000450
05001048	06014866	07000450
05001049	06014866	07000450
05001052	06014866	07000451
05001053	06014866	07000450

17

STATION	DATE	TIME	LOCATION	CRUISE
6C	12 NOV, 1966	11:11Z	33°01.6′N × 118°18.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000001	06015155	07001801
05000004	06015156	07001800
05000007	06015156	07001798
05000012	06015157	07001798
05000016	06015158	07001798
05000020	06015158	07001797
05000023	06015158	07001794
05000028	06015154	07001788
05000033	06015144	07001769
05000037	06015098	07001687
05000041	06015059	07001512
05000045	06015049	07001455
05000049	06015040	07001423
05000054	06015026	07001390
05000057	06015011	07001341
05000063	06015003	07001298
05000068	06014990	07001260
05000071	06014987	07001232
05000076	06014987	07001227
05000086	06014968	07001180
05000092	06014965	07001150
05000096	06014960	07001140
05000101	06014948	07001105
05000105	06014944	07001082
05000111	06014942	07001062
05000117	06014939	07001060
05000122	06014935	07001041
05000127	06014934	07001030
05000132	06014932	07001022
05000137	06014930	07001016
05000142	06014927	07001003
05000147	06014925	07000992
05000152	06014923	07000986
05000159	06014922	07000977
05000163	06014925	07000976
05000168	06014923	07000977
05000173	06014919	07000966
05000178	06014915	07000947
05000184	06014915	07000944
05000189	06014916	07000941
05000196	06014913	07000932
05000201	06014913	07000926
05000206	06014911	07000925
05000210	06014909	07000914
05000215	06014908	07000908
05000220	06014909	07000905
05000226	06014909	07000903
05000232	06014907	07000899
05000237	06014904	07000888
05000242	06014902	07000878
05000247	06014901	07000872
05000251	06014901	07000868
05000257	06014899	07000862
05000262	06014899	07000859
05000268	06014898	07000854
05000274	06014898	07000853
05000279	06014897	07000847
05000283	06014895	07000838
05000288	06014894	07000835

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000293	06014892	07000828
05000298	06014892	07000824
05000304	06014892	07000821
05000309	06014890	07000816
05000314	06014889	07000809
05000321	06014888	07000803
05000326	06014886	07000797
05000331	06014886	07000795
05000335	06014885	07000788
05000339	06014885	07000787
05000345	06014883	07000781
05000350	06014882	07000774
05000355	06014882	07000772
05000360	06014880	07000765
05000366	06014879	07000761
05000372	06014879	07000756
05000378	06014877	07000751
05000384	06014875	07000744
05000389	06014874	07000739
05000393	06014874	07000735
05000398	06014874	07000733
05000402	06014873	07000728
05000408	06014872	07000724
05000413	06014872	07000718
05000419	06014873	07000718
05000425	06014872	07000716
05000431	06014870	07000711
05000435	06014869	07000704
05000441	06014869	07000703
05000445	06014869	07000700
05000450	06014868	07000698
05000455	06014868	07000693
05000460	06014867	07000689
05000465	06014866	07000685
05000471	06014866	07000680
05000477	06014864	07000676
05000483	06014864	07000671
05000488	06014864	07000668
05000493	06014863	07000663
05000497	06014861	07000661
05000501	06014862	07000657
05000507	06014862	07000654
05000512	06014862	07000652
05000517	06014862	07000652
05000523	06014861	07000648
05000529	06014861	07000644
05000534	06014861	07000641
05000540	06014861	07000639
05000544	06014861	07000638
05000548	06014861	07000636
05000554	06014860	07000633
05000559	06014860	07000630
05000564	06014859	07000626
05000570	06014860	07000623
05000576	06014859	07000622
05000581	06014860	07000618
05000587	06014859	07000616
05000592	06014858	07000613
05000597	06014857	07000608

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000601	06014856	07000603
05000605	06014855	07000601
05000612	06014853	07000593
05000617	06014852	07000585
05000624	06014852	07000583
05000631	06014850	07000577
05000637	06014850	07000573
05000643	06014849	07000568
05000648	06014849	07000565
05000654	06014850	07000564
05000660	06014850	07000563
05000667	06014849	07000560
05000673	06014848	07000553
05000680	06014849	07000552
05000686	06014849	07000551
05000693	06014850	07000549
05000698	06014848	07000546
05000704	06014848	07000541
05000710	06014849	07000539
05000715	06014848	07000536
05000720	06014849	07000535
05000727	06014849	07000533
05000733	06014849	07000532
05000739	06014847	07000527
05000747	06014847	07000522
05000753	06014847	07000518
05000759	06014846	07000515
05000766	06014846	07000511
05000772	06014845	07000508
05000778	06014845	07000504
05000783	06014845	07000503
05000790	06014845	07000500
05000794	06014845	07000497
05000801	06014845	07000496
05000807	06014844	07000493
05000814	06014844	07000490
05000821	06014844	07000485
05000828	06014845	07000483
05000834	06014845	07000481
05000840	06014844	07000479
05000846	06014845	07000476
05000853	06014845	07000475
05000859	06014845	07000473
05000864	06014845	07000472
05000869	06014845	07000470
05000875	06014846	07000469
05000881	06014847	07000467
05000888	06014848	07000467
05000895	06014848	07000464
05000902	06014849	07000464
05000908	06014850	07000462
05000914	06014850	07000462
05000921	06014850	07000462
05000927	06014851	07000459
05000935	06014852	07000458
05000941	06014853	07000458
05000947	06014854	07000458
05000953	06014854	07000458
05000960	06014854	07000456

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000965	06014855	07000455
05000971	06014856	07000455
05000976	06014857	07000454
05000982	06014857	07000454
05000988	06014858	07000454
05000993	06014859	07000453
05001000	06014860	07000453
05001007	06014861	07000453
05001013	06014861	07000453
05001020	06014863	07000453
05001027	06014863	07000452

STATION	DATE	TIME	LOCATION	CRUISE
7D	12 NOV, 1966	12:29Z	32°58.0′N × 118°18.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015156	07001800
05000006	06015158	07001800
05000013	06015158	07001800
05000019	06015158	07001799
05000024	06015151	07001790
05000031	06015134	07001749
05000036	06015110	07001686
05000041	06015076	07001577
05000046	06015050	07001498
05000053	06015038	07001421
05000060	06015023	07001379
05000065	06015002	07001315
05000071	06014996	07001266
05000077	06014975	07001228
05000082	06014959	07001154
05000088	06014955	07001125
05000094	06014945	07001110
05000100	06014941	07001070
05000101	06014940	07001059
05000102	06014939	07001058
05000104	06014939	07001056
05000111	06014940	07001053
05000117	06014937	07001047
05000124	06014933	07001033
05000131	06014931	07001021
05000138	06014928	07001008
05000144	06014926	07000994
05000151	06014925	07000990
05000157	06014925	07000982
05000163	06014922	07000975
05000170	06014921	07000970
05000177	06014916	07000954
05000183	06014913	07000940
05000190	06014911	07000933
05000197	06014911	07000924
05000204	06014909	07000921
05000210	06014908	07000911
05000217	06014908	07000906
05000223	06014907	07000901
05000229	06014905	07000895
05000236	06014903	07000882
05000243	06014902	07000879
05000249	06014899	07000870

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000255	06014897	07000861
05000262	06014895	07000850
05000268	06014894	07000843
05000275	06014893	07000836
05000282	06014892	07000833
05000288	06014891	07000827
05000295	06014890	07000820
05000301	06014890	07000816
05000307	06014890	07000814
05000314	06014890	07000811
05000321	06014891	07000808
05000327	06014889	07000808
05000334	06014885	07000791
05000340	06014886	07000788
05000346	06014884	07000782
05000349	06014883	07000776
05000350	06014883	07000776
05000352	06014881	07000772
05000356	06014879	07000766
05000363	06014877	07000757
05000371	06014878	07000753
05000376	06014876	07000750
05000383	06014876	07000744
05000391	06014875	07000741
05000396	06014874	07000735
05000403	06014873	07000730
05000408	06014873	07000726
05000415	06014872	07000722
05000421	06014874	07000721
05000427	06014874	07000719
05000432	06014873	07000716
05000439	06014870	07000701
05000445	06014869	07000702
05000452	06014868	07000696
05000459	06014868	07000692
05000464	06014867	07000688
05000470	06014867	07000683
05000476	06014866	07000680
05000482	06014867	07000677
05000488	06014866	07000674
05000495	06014866	07000672
05000501	06014865	07000667
05000508	06014865	07000664

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000514	06014865	07000662
05000521	06014866	07000658
05000527	06014864	07000656
05000534	06014865	07000652
05000539	06014863	07000650
05000545	06014863	07000644
05000550	06014862	07000640
05000557	06014861	07000634
05000563	06014859	07000629
05000570	06014859	07000624
05000576	06014858	07000619
05000583	06014857	07000613
05000589	06014857	07000610
05000595	06014857	07000607
05000596	06014856	07000603
05000597	06014856	07000603
05000600	06014856	07000602
05000601	06014855	07000601
05000605	06014854	07000599
05000611	06014854	07000594
05000617	06014853	07000590
05000624	06014854	07000588
05000627	06014854	07000586
05000633	06014853	07000583
05000643	06014852	07000578
05000652	06014848	07000566
05000657	06014848	07000561
05000665	06014848	07000557
05000642	06014848	07000555
05000672	06014847	07000553
05000678	06014847	07000550
05000655	06014847	07000547
05000663	06014847	07000544
05000674	06014848	07000543
05000680	06014848	07000541
05000694	06014848	07000535
05000700	06014848	07000531
05000706	06014848	07000531
05000718	06014847	07000525
05000723	06014848	07000524
05000727	06014848	07000522
05000733	06014849	07000521

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000738	06014848	07000519
05000754	06014847	07000511
05000761	06014847	07000505
05000767	06014847	07000504
05000771	06014846	07000501
05000778	06014846	07000499
05000781	06014847	07000497
05000786	06014846	07000495
05000793	06014846	07000494
05000797	06014847	07000491
05000804	06014846	07000488
05000810	06014846	07000485
05000813	06014846	07000482
05000815	06014846	07000482
05000817	06014846	07000482
05000824	06014846	07000481
05000831	06014847	07000478
05000836	06014846	07000476
05000842	06014846	07000473
05000850	06014846	07000470
05000858	06014847	07000468
05000863	06014847	07000468
05000869	06014847	07000465
05000878	06014848	07000464
05000884	06014848	07000462
05000892	06014849	07000461
05000896	06014849	07000460
05000902	06014849	07000458
05000910	06014850	07000457
05000918	06014851	07000456
05000925	06014852	07000455
05000929	06014852	07000454
05000937	06014854	07000453
05000943	06014854	07000453
05000951	06014855	07000452
05000958	06014856	07000451
05000964	06014857	07000451
05000970	06014858	07000450
05000975	06014858	07000451
05000984	06014859	07000450
05000991	06014860	07000450
05000996	06014861	07000449
05001005	06014862	07000449
05001009	06014863	07000449
05001015	06014864	07000449

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05001022	06014865	07000449
05001030	06014866	07000448
05001037	06014867	07000449
05001042	06014869	07000449
05001047	06014869	07000448
05001053	06014870	07000448
05001057	06014871	07000448
05001058	06014870	07000448
05001060	06014870	07000448

STATION	DATE	TIME	LOCATION	CRUISE
7E	12 NOV, 1966	13:29Z	32°59.2′N × 118°16.6′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000000	06015152	07001788
05000001	06015152	07001794
05000008	06015152	07001782
05000015	06015153	07001781
05000020	06015146	07001779
05000027	06015108	07001701
05000046	06015039	07001450
05000051	06015024	07001374
05000057	06014999	07001319
05000063	06014990	07001254
05000071	06014973	07001230
05000077	06014963	07001164
05000084	06014961	07001143
05000091	06014957	07001134
05000098	06014949	07001105
05000105	06014946	07001088
05000110	06014940	07001063
05000118	06014937	07001056
05000125	06014932	07001026
05000132	06014932	07001020
05000139	06014929	07001010
05000145	06014926	07001005
05000152	06014922	07000986
05000159	06014920	07000972
05000166	06014920	07000965
05000173	06014918	07000961
05000186	06014916	07000946
05000193	06014911	07000932
05000199	06014911	07000921
05000206	06014909	07000917
05000214	06014907	07000909
05000220	06014907	07000901
05000227	06014905	07000893
05000233	06014904	07000891
05000240	06014903	07000882
05000247	06014900	07000873
05000254	06014900	07000866
05000261	06014903	07000867
05000267	06014902	07000865
05000274	06014901	07000861
05000286	06014896	07000842
05000294	06014895	07000837
05000301	06014893	07000828
05000308	06014891	07000820
05000313	06014889	07000813
05000320	06014888	07000805
05000327	06014887	07000800
05000334	06014886	07000794
05000340	06014883	07000785
05000347	06014880	07000777
05000353	06014880	07000766
05000361	06014878	07000763
05000368	06014875	07000753
05000375	06014874	07000745
05000381	06014874	07000739
05000388	06014874	07000738
05000395	06014872	07000731
05000401	06014871	07000724
05000408	06014870	07000721
05000415	06014869	07000713
05000422	06014869	07000708
05000430	06014869	07000705
05000437	06014869	07000703
05000442	06014868	07000699
05000450	06014867	07000693
05000455	06014867	07000690
05000461	06014868	07000690
05000469	06014867	07000685
05000476	06014867	07000680
05000483	06014865	07000677
05000490	06014866	07000673
05000496	06014865	07000670
05000503	06014864	07000663
05000509	06014864	07000660
05000516	06014863	07000655
05000523	06014864	07000651
05000530	06014863	07000649
05000538	06014862	07000645
05000545	06014863	07000641
05000552	06014862	07000637
05000558	06014861	07000633
05000565	06014860	07000628
05000570	06014859	07000625
05000577	06014860	07000621
05000584	06014858	07000618
05000590	06014858	07000612
05000598	06014859	07000611
05000605	06014860	07000611
05000612	06014858	07000605
05000619	06014859	07000601
05000625	06014858	07000599
05000632	06014857	07000594
05000638	06014856	07000589
05000644	06014855	07000583
05000651	06014854	07000580
05000658	06014854	07000574
05000665	06014853	07000571
05000673	06014851	07000564
05000678	06014850	07000557
05000686	06014850	07000554
05000691	06014849	07000552
05000698	06014850	07000548
05000704	06014850	07000546
05000711	06014850	07000544
05000718	06014849	07000537
05000725	06014846	07000531
05000733	06014846	07000525
05000741	06014846	07000523
05000747	06014847	07000522
05000754	06014846	07000516
05000760	06014847	07000515
05000767	06014848	07000515
05000773	06014846	07000511
05000778	06014847	07000506
05000786	06014846	07000505
05000792	06014846	07000502
05000800	06014847	07000500
05000806	06014847	07000498

STATION	DATE	TIME	LOCATION	CRUISE
8E	12 NOV, 1966	14:52Z	32°56.4′N × 118°14.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015148	07001772
05000010	06015147	07001771
05000018	06015139	07001743
05000026	06015128	07001723
05000036	06015069	07001624
05000044	06015035	07001438
05000053	06015015	07001374
05000061	06014988	07001296
05000071	06014968	07001199
05000081	06014958	07001155
05000091	06014948	07001113
05000102	06014941	07001079
05000111	06014936	07001057
05000121	06014934	07001038
05000131	06014931	07001023
05000141	06014928	07001008
05000151	06014927	07000998
05000160	06014925	07000989
05000170	06014919	07000968
05000180	06014920	07000952
05000188	06014916	07000956
05000198	06014909	07000929
05000206	06014908	07000914
05000215	06014908	07000907
05000222	06014907	07000901
05000232	06014906	07000896
05000242	06014906	07000888
05000251	06014904	07000882
05000260	06014903	07000874
05000269	06014901	07000865
05000277	06014899	07000855
05000286	06014896	07000843
05000294	06014893	07000834
05000303	06014889	07000820
05000313	06014885	07000805
05000322	06014881	07000791
05000332	06014878	07000775
05000339	06014877	07000769
05000348	06014876	07000763
05000357	06014875	07000755
05000365	06014872	07000746
05000376	06014872	07000737
05000384	06014872	07000731
05000393	06014872	07000730
05000402	06014872	07000726
05000410	06014872	07000723
05000419	06014869	07000716
05000429	06014869	07000707
05000437	06014869	07000704
05000447	06014868	07000699
05000456	06014867	07000693
05000464	06014866	07000686
05000472	06014865	07000682
05000480	06014866	07000677
05000489	06014866	07000675
05000498	06014864	07000668
05000509	06014864	07000664
05000517	06014864	07000659
05000526	06014863	07000656

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000535	06014863	07000649
05000544	06014861	07000642
05000552	06014861	07000635
05000560	06014861	07000633
05000570	06014858	07000626
05000588	06014857	07000611
05000597	06014856	07000606
05000604	06014857	07000602
05000613	06014855	07000598
05000620	06014854	07000592
05000629	06014853	07000589
05000639	06014852	07000579
05000647	06014852	07000575
05000658	06014851	07000569
05000666	06014850	07000563
05000675	06014851	07000560
05000683	06014851	07000558
05000691	06014850	07000554
05000699	06014849	07000547
05000708	06014849	07000545
05000717	06014848	07000539
05000726	06014848	07000534
05000735	06014847	07000528
05000745	06014847	07000525
05000753	06014849	07000523
05000761	06014849	07000521
05000770	06014847	07000516
05000777	06014847	07000511
05000787	06014847	07000509
05000795	06014847	07000503
05000806	06014848	07000500
05000815	06014848	07000497
05000823	06014850	07000496
05000832	06014851	07000496

STATION	DATE	TIME	LOCATION	CRUISE
8D	12 NOV, 1966	15:25Z	32°55.4′N × 118°15.6′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000001	06015151	07001784
05000003	06015151	07001782
05000007	06015151	07001782
05000012	06015151	07001780
05000019	06015150	07001776
05000026	06015147	07001764
05000032	06015142	07001748
05000038	06015103	07001692
05000047	06015053	07001530
05000053	06015031	07001411
05000061	06015009	07001354
05000066	06014989	07001264
05000074	06014972	07001214
05000082	06014964	07001162
05000088	06014962	07001148
05000094	06014954	07001127
05000102	06014951	07001105
05000109	06014947	07001082
05000116	06014941	07001068
05000123	06014932	07001038
05000131	06014925	07001012
05000138	06014923	07000993
05000144	06014923	07000985
05000152	06014924	07000985
05000160	06014923	07000976
05000167	06014918	07000962
05000173	06014918	07000952
05000180	06014921	07000956
05000188	06014913	07000948
05000203	06014909	07000915
05000209	06014910	07000915
05000217	06014909	07000907
05000223	06014908	07000904
05000231	06014909	07000900
05000237	06014909	07000897
05000245	06014908	07000893
05000252	06014907	07000885
05000258	06014905	07000880
05000266	06014902	07000869
05000272	06014900	07000857
05000280	06014899	07000850
05000287	06014895	07000842
05000294	06014892	07000829
05000300	06014890	07000821
05000307	06014888	07000808
05000314	06014888	07000804
05000322	06014886	07000798
05000329	06014885	07000792
05000335	06014883	07000785
05000341	06014881	07000777
05000348	06014880	07000770
05000355	06014881	07000767
05000362	06014880	07000764
05000369	06014879	07000757
05000376	06014877	07000750
05000383	06014875	07000742
05000390	06014874	07000737
05000396	06014873	07000730
05000403	06014873	07000726
05000411	06014873	07000723
05000417	06014873	07000719
05000431	06014874	07000716
05000437	06014874	07000713
05000443	06014872	07000710
05000451	06014870	07000702
05000458	06014870	07000697
05000465	06014870	07000693
05000472	06014868	07000687
05000478	06014868	07000683
05000485	06014868	07000679
05000491	06014868	07000676
05000498	06014867	07000672
05000505	06014867	07000669
05000511	06014867	07000664
05000518	06014867	07000663
05000525	06014864	07000655
05000531	06014864	07000649
05000538	06014862	07000643
05000544	06014861	07000638
05000552	06014861	07000633
05000558	06014861	07000630
05000565	06014860	07000625
05000572	06014859	07000622
05000578	06014859	07000618
05000585	06014858	07000613
05000591	06014858	07000609
05000598	06014856	07000605
05000604	06014856	07000600
05000611	06014856	07000597
05000617	06014856	07000595
05000624	06014855	07000591
05000631	06014855	07000586
05000638	06014855	07000583
05000645	06014854	07000579
05000650	06014854	07000574
05000657	06014854	07000572
05000664	06014853	07000569
05000671	06014852	07000566
05000678	06014851	07000558
05000683	06014852	07000557
05000691	06014851	07000555
05000697	06014852	07000551
05000703	06014851	07000549
05000711	06014851	07000544
05000718	06014850	07000541
05000725	06014850	07000538
05000731	06014850	07000535
05000737	06014850	07000531
05000744	06014849	07000528
05000751	06014848	07000524
05000757	06014847	07000519
05000764	06014846	07000513
05000771	06014846	07000510
05000778	06014845	07000505
05000786	06014845	07000500
05000792	06014845	07000499
05000798	06014844	07000494
05000805	06014844	07000490
05000811	06014844	07000487
05000818	06014843	07000484
05000825	06014844	07000482
05000832	06014844	07000480
05000839	06014844	07000476
05000846	06014844	07000475
05000853	06014846	07000474
05000859	06014846	07000474
05000866	06014846	07000473
05000873	06014847	07000470
05000880	06014847	07000469
05000886	06014848	07000468
05000893	06014849	07000467
05000900	06014849	07000466
05000907	06014850	07000465
05000914	06014850	07000463
05000920	06014850	07000462
05000927	06014852	07000460
05000933	06014853	07000459
05000940	06014853	07000459
05000947	06014854	07000459
05000954	06014854	07000457
05000961	06014855	07000456
05000967	06014856	07000455
05000973	06014857	07000455
05000980	06014858	07000455
05000987	06014859	07000455
05000993	06014860	07000454
05001000	06014860	07000454
05001007	06014861	07000453
05001013	06014862	07000453
05001020	06014862	07000452
05001028	06014864	07000451

STATION	DATE	TIME	LOCATION	CRUISE
8C	13 NOV, 1966	02:58Z	32°54.4′N × 118°17.3′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015148	07001775
05000008	06015149	07001773
05000015	06015150	07001773
05000023	06015150	07001770
05000029	06015141	07001763
05000036	06015102	07001701
05000042	06015051	07001522
05000050	06015025	07001387
05000057	06015008	07001350
05000064	06014990	07001260
05000070	06014986	07001234
05000077	06014979	07001216
05000084	06014965	07001173
05000091	06014952	07001134
05000099	06014944	07001085
05000107	06014942	07001072
05000114	06014935	07001051
05000122	06014927	07001020
05000130	06014921	07000998
05000138	06014916	07000977
05000147	06014915	07000962
05000155	06014918	07000961
05000162	06014916	07000955
05000170	06014913	07000946
05000179	06014913	07000934
05000187	06014913	07000933
05000194	06014912	07000925
05000202	06014911	07000921
05000210	06014910	07000912
05000217	06014909	07000907
05000224	06014908	07000903
05000232	06014907	07000898
05000240	06014906	07000888
05000247	06014903	07000880
05000254	06014901	07000871
05000261	06014899	07000861
05000268	06014894	07000848
05000274	06014893	07000833
05000281	06014892	07000831
05000288	06014892	07000829
05000295	06014893	07000827
05000301	06014891	07000818
05000308	06014890	07000816
05000315	06014890	07000810
05000323	06014889	07000804
05000330	06014887	07000798
05000337	06014886	07000792
05000343	06014886	07000785
05000349	06014886	07000783
05000358	06014886	07000780
05000364	06014884	07000774
05000372	06014882	07000765
05000378	06014879	07000759
05000384	06014878	07000750
05000392	06014879	07000748
05000399	06014880	07000745
05000406	06014879	07000744
05000413	06014877	07000736
05000419	06014876	07000729
05000426	06014876	07000723

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000433	06014875	07000722
05000441	06014872	07000715
05000447	06014869	07000702
05000455	06014869	07000695
05000461	06014868	07000691
05000468	06014868	07000687
05000475	06014867	07000682
05000482	06014867	07000679
05000489	06014867	07000676
05000496	06014866	07000673
05000502	06014865	07000667
05000509	06014864	07000660
05000517	06014864	07000656
05000523	06014864	07000653
05000531	06014862	07000648
05000536	06014863	07000645
05000543	06014862	07000643
05000551	06014862	07000637
05000558	06014862	07000635
05000565	06014861	07000630
05000571	06014860	07000624
05000577	06014858	07000620
05000584	06014856	07000610
05000592	06014855	07000603
05000598	06014855	07000601
05000606	06014856	07000598
05000612	06014856	07000596
05000619	06014856	07000594
05000625	06014855	07000590
05000632	06014854	07000585
05000640	06014853	07000581
05000647	06014854	07000579
05000653	06014854	07000577
05000660	06014854	07000573
05000666	06014853	07000569
05000673	06014852	07000565
05000680	06014851	07000559
05000688	06014851	07000557
05000695	06014849	07000550
05000702	06014848	07000544
05000709	06014849	07000542
05000715	06014849	07000540
05000721	06014849	07000538
05000728	06014848	07000532
05000737	06014847	07000529
05000743	06014846	07000524
05000750	06014843	07000518
05000756	06014844	07000510
05000763	06014844	07000507
05000771	06014844	07000504
05000778	06014843	07000501
05000785	06014843	07000499
05000792	06014842	07000494
05000799	06014842	07000490
05000805	06014843	07000489
05000811	06014843	07000487
05000819	06014844	07000485
05000826	06014844	07000484
05000833	06014845	07000483

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000840	06014846	07000482
05000846	06014846	07000481
05000853	06014847	07000479
05000859	06014848	07000478
05000866	06014849	07000477
05000874	06014847	07000476
05000881	06014846	07000466
05000889	06014846	07000465
05000895	06014847	07000463
05000902	06014848	07000463
05000908	06014847	07000459
05000907	06014847	07000458

STATION	DATE	TIME	LOCATION	CRUISE
8B	13 NOV, 1966	03:42Z	32° 52.2′N × 118° 19.4′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000011	06015155	07001792
05000020	06015157	07001792
05000028	06015080	07001716
05000036	06015035	07001486
05000044	06015016	07001380
05000053	06014993	07001288
05000062	06014987	07001249
05000071	06014975	07001224
05000080	06014967	07001173
05000099	06014945	07001083
05000106	06014943	07001074
05000115	06014938	07001055
05000123	06014935	07001044
05000130	06014929	07001018
05000139	06014922	07000999
05000147	06014920	07000981
05000154	06014917	07000967
05000163	06014914	07000953
05000171	06014911	07000942
05000179	06014911	07000931
05000187	06014909	07000926
05000195	06014903	07000914
05000203	06014898	07000892
05000211	06014895	07000877
05000218	06014895	07000871
05000227	06014899	07000873
05000234	06014899	07000874
05000242	06014898	07000866
05000250	06014899	07000866
05000259	06014899	07000860
05000267	06014898	07000854
05000274	06014898	07000850
05000282	06014898	07000845
05000290	06014897	07000842
05000297	06014894	07000832
05000305	06014893	07000824
05000314	06014883	07000809
05000323	06014881	07000784
05000332	06014880	07000783
05000339	06014878	07000771
05000347	06014877	07000765
05000357	06014874	07000757
05000365	06014874	07000747
05000374	06014874	07000743
05000382	06014874	07000740
05000390	06014874	07000736
05000399	06014874	07000732
05000408	06014872	07000727
05000416	06014869	07000713
05000424	06014866	07000707
05000432	06014866	07000697
05000441	06014866	07000694
05000450	06014867	07000693
05000458	06014865	07000690
05000467	06014865	07000681
05000474	06014865	07000679
05000483	06014863	07000672
05000492	06014862	07000665

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000501	06014861	07000657
05000509	06014862	07000654
05000517	06014861	07000652
05000525	06014859	07000645
05000533	06014856	07000633
05000543	06014856	07000628
05000551	06014854	07000621
05000559	06014854	07000615
05000567	06014854	07000612
05000576	06014854	07000608
05000585	06014853	07000604
05000593	06014853	07000600
05000600	06014852	07000595
05000608	06014852	07000591
05000614	06014852	07000587

STATION	DATE	TIME	LOCATION	CRUISE
8A	13 NOV, 1966	04:29Z	32°51.4'N × 118°21.4'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015149	07001778
05000005	06015149	07001776
05000010	06015150	07001775
05000013	06015151	07001775
05000016	06015151	07001776
05000019	06015150	07001775
05000023	06015145	07001765
05000027	06015130	07001738
05000031	06015104	07001647
05000035	06015082	07001581
05000038	06015076	07001533
05000042	06015071	07001510
05000045	06015054	07001489
05000049	06015031	07001396
05000053	06015030	07001368
05000061	06014995	07001262
05000064	06014992	07001250
05000069	06014984	07001229
05000072	06014981	07001206
05000076	06014978	07001195
05000080	06014978	07001186
05000083	06014977	07001185
05000087	06014974	07001177
05000091	06014964	07001161
05000095	06014952	07001118
05000099	06014950	07001092
05000103	06014950	07001090
05000106	06014949	07001085
05000110	06014949	07001082
05000113	06014949	07001079
05000117	06014947	07001075
05000122	06014946	07001065
05000126	06014944	07001062

STATION	DATE	TIME	LOCATION	CRUISE
9A	13 NOV, 1966	05:22Z	32°46.8′N × 118°22.4′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD.VEL. (M/S)	TEMP. C°
05000000	06015141	07001748
05000001	06015141	07001749
05000002	06015141	07001748
05000010	06015143	07001748
05000018	06015143	07001747
05000026	06015140	07001740
05000033	06015134	07001721
05000041	06015129	07001701
05000056	06015063	07001570
05000064	06015013	07001361
05000070	06014992	07001295
05000077	06014979	07001231
05000083	06014965	07001178
05000090	06014949	07001122
05000097	06014939	07001079
05000104	06014934	07001050
05000112	06014929	07001034
05000117	06014927	07001015
05000125	06014923	07001005
05000132	06014920	07000989
05000140	06014917	07000977
05000147	06014916	07000965
05000154	06014914	07000960
05000160	06014911	07000945
05000168	06014908	07000932
05000175	06014907	07000921
05000182	06014908	07000924
05000189	06014907	07000915
05000196	06014908	07000912
05000203	06014907	07000909
05000211	06014906	07000904
05000219	06014907	07000898
05000226	06014903	07000894
05000233	06014902	07000882
05000239	06014899	07000874
05000247	06014897	07000864
05000254	06014896	07000856
05000261	06014894	07000851
05000268	06014892	07000839
05000275	06014892	07000832
05000289	06014890	07000823
05000297	06014889	07000819
05000304	06014889	07000810
05000311	06014889	07000809
05000319	06014888	07000805
05000326	06014888	07000798
05000332	06014886	07000795
05000339	06014885	07000789
05000346	06014884	07000781
05000355	06014882	07000775
05000361	06014881	07000769
05000368	06014880	07000760
05000375	06014877	07000755
05000382	06014875	07000745
05000389	06014874	07000738
05000396	06014873	07000732
05000404	06014872	07000727
05000412	06014871	07000720
05000418	06014870	07000714

DEPTH (M)	SD.VEL. (M/S)	TEMP. C°
05000425	06014867	07000708
05000432	06014868	07000700
05000439	06014866	07000697
05000446	06014865	07000691
05000454	06014864	07000685
05000462	06014863	07000680
05000469	06014861	07000670
05000476	06014859	07000665
05000482	06014858	07000657
05000489	06014858	07000652
05000496	06014857	07000649
05000503	06014857	07000645
05000511	06014856	07000638
05000518	06014856	07000635
05000525	06014856	07000632
05000531	06014855	07000628
05000539	06014854	07000625
05000545	06014854	07000619
05000553	06014855	07000616
05000561	06014854	07000614
05000567	06014854	07000611
05000573	06014853	07000606
05000580	06014853	07000602
05000587	06014851	07000598
05000594	06014851	07000594
05000601	06014851	07000587
05000608	06014852	07000588
05000615	06014851	07000584
05000624	06014850	07000579
05000630	06014848	07000572
05000637	06014848	07000569
05000643	06014848	07000565
05000650	06014849	07000562
05000658	06014848	07000561
05000665	06014848	07000554
05000672	06014848	07000553
05000679	06014848	07000552
05000684	06014850	07000552
05000692	06014848	07000549
05000699	06014848	07000542
05000707	06014849	07000541
05000714	06014850	07000539
05000720	06014849	07000538
05000727	06014849	07000535
05000733	06014850	07000532
05000740	06014849	07000530
05000747	06014849	07000525
05000755	06014850	07000522
05000762	06014850	07000522
05000767	06014851	07000523
05000775	06014852	07000521
05000782	06014851	07000521
05000788	06014848	07000512
05000796	06014845	07000502
05000803	06014846	07000498
05000809	06014846	07000495
05000816	06014847	07000494

STATION	DATE	TIME	LOCATION	CRUISE
9C	13 NOV, 1966	06:16Z	32°50.0′N × 118°16.0′W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000001	06015149	07001779
05000005	06015148	07001774
05000010	06015149	07001773
05000015	06015149	07001772
05000022	06015145	07001763
05000027	06015143	07001748
05000032	06015142	07001740
05000039	06015142	07001734
05000044	06015134	07001731
05000050	06015116	07001670
05000055	06015074	07001605
05000063	06015028	07001434
05000069	06014997	07001314
05000074	06014982	07001239
05000081	06014969	07001201
05000088	06014956	07001144
05000095	06014946	07001107
05000101	06014942	07001077
05000108	06014936	07001059
05000115	06014931	07001033
05000122	06014927	07001022
05000129	06014924	07001001
05000135	06014922	07000994
05000142	06014919	07000983
05000150	06014917	07000969
05000156	06014915	07000961
05000162	06014914	07000953
05000169	06014914	07000948
05000176	06014915	07000946
05000183	06014915	07000942
05000188	06014912	07000935
05000195	06014913	07000928
05000200	06014911	07000919
05000201	06014911	07000919
05000202	06014908	07000918
05000206	06014907	07000909
05000214	06014906	07000901
05000222	06014906	07000896
05000229	06014905	07000891
05000236	06014905	07000888
05000244	06014903	07000882
05000250	06014902	07000873
05000259	06014902	07000868
05000266	06014901	07000865
05000272	06014899	07000857
05000279	06014897	07000852
05000286	06014896	07000841
05000293	06014892	07000831
05000300	06014889	07000821
05000306	06014886	07000808
05000313	06014882	07000796
05000319	06014882	07000789
05000326	06014880	07000783
05000332	06014878	07000774
05000339	06014876	07000767
05000346	06014876	07000759
05000352	06014874	07000755
05000358	06014872	07000748
05000365	06014870	07000738
05000373	06014870	07000732
05000379	06014869	07000731
05000385	06014869	07000723
05000392	06014868	07000720
05000397	06014869	07000717
05000398	06014868	07000716
05000400	06014868	07000715
05000406	06014866	07000711
05000412	06014864	07000703
05000417	06014865	07000699
05000423	06014864	07000699
05000429	06014864	07000693
05000434	06014863	07000689
05000438	06014863	07000686
05000444	06014863	07000683
05000451	06014862	07000679
05000457	06014862	07000675
05000462	06014862	07000673
05000467	06014861	07000671
05000472	06014860	07000666
05000478	06014859	07000662
05000484	06014859	07000657
05000490	06014858	07000653
05000492	06014858	07000649
05000493	06014858	07000649
05000497	06014858	07000648
05000503	06014858	07000646
05000509	06014859	07000645
05000515	06014858	07000643
05000522	06014858	07000639
05000526	06014856	07000633
05000533	06014855	07000628
05000539	06014854	07000622
05000546	06014854	07000618
05000551	06014854	07000616
05000558	06014853	07000613
05000564	06014852	07000608
05000570	06014851	07000605
05000575	06014851	07000599
05000581	06014850	07000596
05000586	06014850	07000592
05000588	06014851	07000591
05000589	06014850	07000591
05000590	06014850	07000591
05000594	06014850	07000589
05000601	06014851	07000588
05000608	06014852	07000588
05000613	06014852	07000587
05000620	06014850	07000584
05000627	06014850	07000577
05000633	06014850	07000574
05000640	06014851	07000573
05000647	06014851	07000570
05000654	06014850	07000568
05000660	06014849	07000562
05000667	06014848	07000555
05000675	06014847	07000550
05000681	06014847	07000547
05000688	06014847	07000543
05000696	06014847	07000542
05000702	06014844	07000534
05000710	06014845	07000530
05000717	06014845	07000528
05000725	06014846	07000527
05000731	06014847	07000526
05000739	06014847	07000524
05000745	06014847	07000523
05000753	06014847	07000521
05000761	06014847	07000517
05000768	06014847	07000513
05000775	06014848	07000511
05000781	06014848	07000512
05000782	06014849	07000510
05000784	06014849	07000511
05000785	06014849	07000511
05000786	06014849	07000511
05000792	06014850	07000511

STATION	DATE	TIME	LOCATION	CRUISE
9D	13 NOV, 1966	07:05Z	32°51.7'N × 118°16.0'W	056610

RAMSAY PROBE DATA

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000002	06015158	07001808
05000005	06015158	07001806
05000010	06015158	07001805
05000017	06015158	07001803
05000024	06015156	07001798
05000031	06015143	07001778
05000038	06015096	07001695
05000044	06015062	07001523
05000052	06015039	07001457
05000059	06015012	07001356
05000066	06014997	07001311
05000075	06014970	07001204
05000082	06014960	07001154
05000092	06014951	07001129
05000099	06014947	07001099
05000108	06014940	07001071
05000116	06014937	07001054
05000124	06014932	07001027
05000133	06014929	07001018
05000140	06014924	07000998
05000150	06014925	07000985
05000157	06014921	07000981
05000165	06014913	07000954
05000173	06014914	07000946
05000181	06014915	07000946
05000189	06014913	07000936
05000197	06014912	07000928
05000204	06014912	07000922
05000212	06014911	07000917
05000219	06014910	07000913
05000228	06014909	07000906
05000235	06014908	07000900
05000242	06014907	07000895
05000249	06014906	07000889
05000255	06014906	07000882
05000263	06014905	07000877
05000271	06014904	07000872
05000278	06014904	07000865
05000286	06014902	07000860
05000293	06014899	07000851
05000300	06014899	07000844
05000308	06014895	07000836
05000317	06014894	07000823
05000324	06014890	07000814
05000330	06014887	07000802
05000337	06014885	07000793
05000346	06014882	07000781

DEPTH (M)	SD. VEL. (M/S)	TEMP. C°
05000354	06014880	07000772
05000362	06014876	07000759
05000369	06014876	07000753
05000376	06014875	07000746
05000383	06014873	07000740
05000391	06014872	07000732
05000399	06014870	07000725
05000407	06014869	07000719
05000414	06014868	07000712
05000421	06014868	07000708
05000428	06014867	07000705
05000437	06014866	07000696
05000444	06014866	07000695
05000452	06014866	07000689
05000458	06014865	07000687
05000466	06014865	07000680
05000474	06014864	07000675
05000481	06014863	07000671
05000489	06014863	07000667
05000497	06014862	07000662
05000504	06014862	07000658
05000512	06014860	07000651
05000519	06014860	07000648
05000527	06014857	07000640
05000534	06014856	07000630
05000542	06014857	07000628
05000550	06014856	07000625
05000558	06014857	07000622
05000565	06014856	07000618
05000572	06014856	07000613
05000579	06014856	07000611
05000587	06014855	07000606
05000593	06014853	07000600
05000601	06014852	07000594
05000609	06014851	07000588
05000617	06014852	07000585
05000625	06014850	07000580
05000633	06014848	07000571
05000640	06014847	07000567
05000647	06014848	07000563
05000654	06014848	07000559
05000662	06014847	07000556
05000669	06014847	07000552
05000676	06014847	07000551
05000684	06014847	07000549
05000691	06014847	07000543
05000699	06014848	07000542
05000707	06014848	07000540
05000715	06014849	07000539
05000724	06014849	07000535
05000732	06014849	07000531
05000737	06014849	07000530
05000738	06014849	07000529

DOWN SAMPLING ONLY

STATION	DATE	TIME	LOCATION	CRUISE
9E	13 NOV, 1966	08:18Z	32°53.1'N × 118°13.2'W	056610

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	1A	1	11	3	66	16	33° 04.0'	118° 39.5'	229	2.1	275

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1025	16.39	14.39	79		strat	10/10	---	calm	320	1'	5 m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σ_t	SND VEL m/sec
0	18.48	33.49	23.64	1516.1
142	9.78	33.91	26.23	1490.6
208	8.68	34.12	26.40	1487.8

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	2C	2	11	11	66	06	33° 07.5'	118° 29.5'	1207	3.6	300

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1019	18.00	14.72	70		strat	1/10	--	calm	--	0	10m		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σ_t	SND VEL m/sec
0	17.89	33.55	24.21	1514.5
247	8.37	34.15	26.57	1487.2
492	6.52	34.35	27.00	1484.5
740	5.16	34.38	27.18	1483.1
988	4.17	34.46	27.36	1483.1
1088	4.10	34.46	27.37	1484.5

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	4C	3	11	11	66	11	33° 04.1'	118° 27.1'	1152	1.0	280

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1020	16.11	13.33	73		Cum	3/10	--	calm	300	1.5'	10m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σt	SND VEL m/sec
0	17.78	33.53	24.19	1514.0
250	8.12	34.09	26.56	1486.2
500	6.53	34.30	26.96	1484.5
750	5.02	34.42	27.24	1482.8
1000	4.18	34.46	27.36	1483.3
1100	4.10	34.46	27.37	1484.7

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	5E	4	11	12	66	04	33° 01.5'	118° 23.1'	732	3.1	290

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1020	16.11	13.33	73		SCum	1/10	290	1'	--	0	10m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σt	SND VEL m/sec
0	17.83	33.54	24.22	1514.5
99	10.66	33.64	25.79	1493.8
198	8.83	34.03	26.41	1488.1
297	8.06	34.18	26.64	1487.1
447	6.83	34.27	26.89	1484.8
596	5.69	34.35	27.10	1482.8

NANSEN CAST DATA

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	6C	5	11	12	66	11	33° 01.9'	118° 18.0'	1088	4.1	320

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1019	16.11	13.89	78		Cum	--	320	1'	--	0	10m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σt	SND VEL m/sec
0	17.79	33.56	24.24	1514.2
249	8.47	34.14	26.54	1487.7
498	6.36	34.29	26.96	1483.8
747	5.04	34.39	27.22	1482.8
997	4.18	34.45	27.35	1483.3
1047	4.16	34.61	27.48	1484.3

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	7E	6	11	12	66	14	32° 59.2'	118° 16.6'	1134	2.1	320

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1019	16.11	13.33	73		Cum	9/10	320	1'	--	0	10m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σt	SND VEL m/sec
0	17.60	33.52	24.14	1513.5
240	8.68	34.11	26.49	1488.3
480	6.58	34.28	26.93	1484.3
721	5.14	34.39	27.20	1482.7
961	4.19	34.46	27.35	1482.8
1057	4.16	34.46	27.35	1484.2

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	9D	7	11	13	66	07	32° 51.7'	118° 16.0'	845	5.2	310

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1017	16.11	15.00	89		SCum	2/10	320	2'	--	0	10m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σt	SND VEL m/sec
0	17.37	33.46	24.29	1512.8
195	9.19	33.99	26.32	1489.3
289	8.20	34.18	26.64	1487.4
386	7.12	34.23	26.82	1484.8
583	5.70	34.33	27.08	1482.6
782	4.83	34.41	27.25	1582.4

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	10A	8	12	8	66	19	32° 32.5	118° 12.2	1682	4.1	320

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1019	15.00	12.78	78		Cum	2/10	310	2'	325	4'	10m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σt	SND VEL m/sec
0	16.29	33.45	24.51	1509.5
10	16.29	33.45	24.51	1509.7
19	16.28	33.45	24.51	1509.8
29	16.27	33.45	24.51	1509.9
48	13.08	33.25	25.04	1499.7
72	12.13	33.40	25.35	1497.1
97	11.60	33.52	25.52	1495.8
292	8.12	34.17	26.63	1487.0
489	6.47	34.29	26.95	1484.1
686	5.30	34.37	27.16	1482.7
1084	3.81	34.48	27.43	1483.4
1483	2.85	34.56	27.57	1486.1

CRUISE	STATION NUMBER		DATE (GMT)				LATITUDE	LONGITUDE	SONIC DEPTH METERS	WIND	
	ASSIGNED	CONSECUTIVE	MO	DAY	YR	HR	N	W		M/SEC	DIR
056610	12A	9	12	9	66	23	32° 23.9'	118° 11.8'	1564	1.5	050

ANEMO HGT	BAROMETER MBS	TEMPERATURE		HUMIDITY %	WW	CLOUD		SEA		SWELL		VSBY	WATER	
		DRY	WET			TYPE	AMT	DIR	AMT	DIR	AMT		COLOR	TRANS
	1022	21.67	18.33	72		Cir	2/10	---	calm	280	2	10m.		

OBSERVED DEPTH(m)	TEMP °C	SALINITY °/oo	DENSITY σ_t	SND VEL m/sec
0	16.64	33.48	24.46	1510.7
10	16.60	33.47	24.46	1510.7
20	16.58	33.47	24.46	1510.8
29	16.50	33.47	24.48	1510.7
49	13.80	33.29	24.93	1502.1
73	11.98	33.38	25.36	1496.5
98	11.04	33.55	25.72	1494.0
295	8.18	34.15	26.60	1487.3
492	6.60	34.27	26.92	1484.6
689	5.18	34.38	27.18	1482.3
1084	3.76	34.49	27.43	1483.2
1480	2.90	34.56	27.62	1486.3

NANSEN CAST DATA

DOUGLAS SEA AND SWELL CODES

Marsden Square 120:
30°-40° North
110°-120° West

Month: by number

Sub-Marsden Square 28:
32°-33° North
118°-119° West

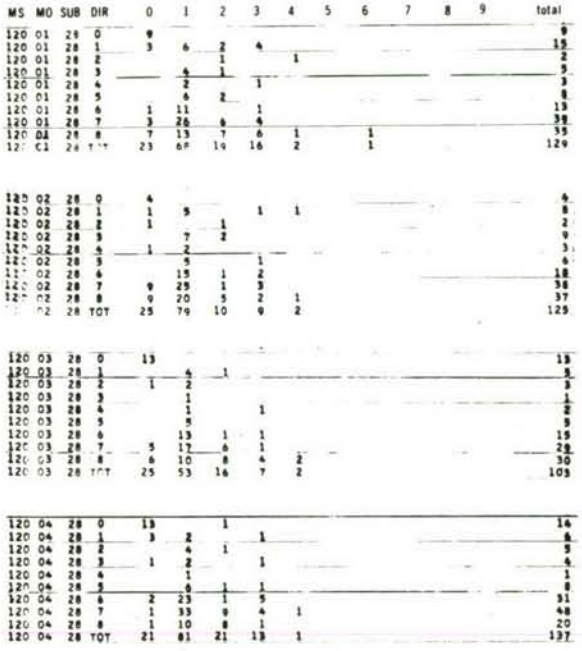
Directions:
0 - Calm
1 - NE
2 - E
3 - SE
4 - S
5 - SW
6 - W
7 - NW
8 - N

Sea State Code

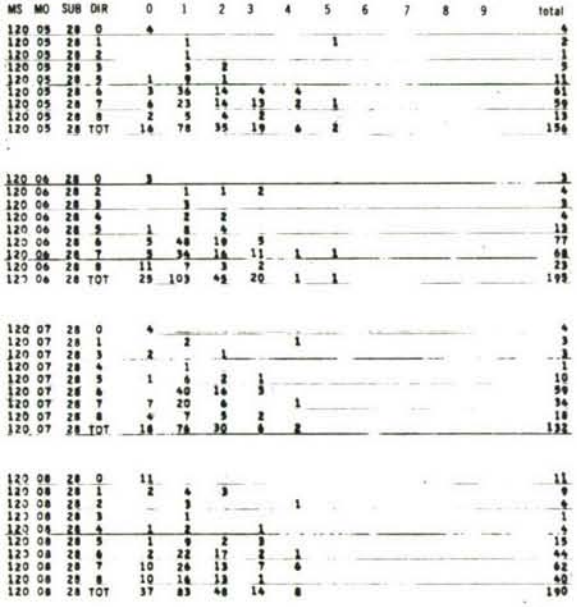
Code	Height	Description
0	0'	calm
1	< 1'	smooth
2	1-3'	slight
3	3-5'	moderate
4	5-8'	rough
5	8-12'	very rough
6	12-20'	high
7	20-40'	very high
8	≥ 40'	mountainous
9	> 40'	phenomenal

Swell Code

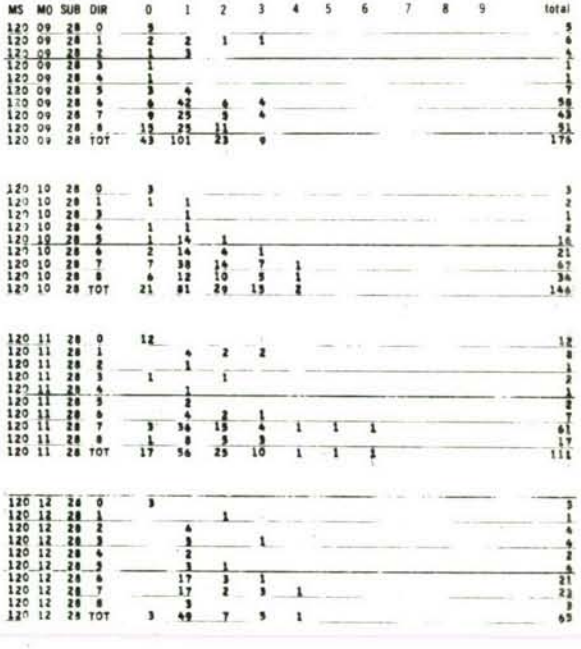
Code	Height	Wave Length
0	0'	none
1	1-6'	0-600'
2	1-6'	over 600'
3	6-12'	0-300'
4	6-12'	300-600'
5	6-12'	over 600'
6	over 12'	0-300'
7	over 12'	300-600'
8	over 12'	over 600'
9	confused	



MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	01	28	0	9										9
120	01	28	1	3	6	2	4							15
120	01	28	2			1		1						2
120	01	28	3		4	1								5
120	01	28	4		2		1							3
120	01	28	5		6	2								8
120	01	28	6	1	11		1							13
120	01	28	7	3	26	6	4							39
120	01	28	8	7	13	7	6	1		1				35
120	01	28	TOT	23	69	19	16	2		1				129
120	02	28	0	4										4
120	02	28	1	1	5		1	1						8
120	02	28	2	1		1								2
120	02	28	3		7	2								9
120	02	28	4	1	2									3
120	02	28	5		5		1							6
120	02	28	6		15	1	2							18
120	02	28	7	9	25	1	3							38
120	02	28	8	9	20	5	2	1						37
120	02	28	TOT	25	79	10	9	2						125
120	03	28	0	13										13
120	03	28	1		4	1								5
120	03	28	2	1	2									3
120	03	28	3		1									1
120	03	28	4		1		1							2
120	03	28	5		5									5
120	03	28	6		13	1	1							15
120	03	28	7	5	17	6	1							29
120	03	28	8	6	10	8	4	2						30
120	03	28	TOT	25	53	16	7	2						103
120	04	28	0	13		1								14
120	04	28	1	3	2		1							6
120	04	28	2		4	1								5
120	04	28	3	1	2		1							4
120	04	28	4		1									1
120	04	28	5		6	1	1							8
120	04	28	6	2	23	1	5							31
120	04	28	7	1	33	9	4	1						48
120	04	28	8	1	10	8	1							20
120	04	28	TOT	21	81	21	13	1						137



MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	05	28	0	4										4
120	05	28	1		1				1					2
120	05	28	2		1									1
120	05	28	3		3	2								5
120	05	28	5	1	8	1								11
120	05	28	6	3	36	14	4	4						61
120	05	28	7	6	23	14	13	2	1					59
120	05	28	8	2	5	4	2							13
120	05	28	TOT	16	78	35	19	6	2					156
120	06	28	0	3										3
120	06	28	2		1	1	2							4
120	06	28	3		3									3
120	06	28	4		2	2								4
120	06	28	5	1	8	4								13
120	06	28	6	5	48	19	5							77
120	06	28	7	5	34	14	11	1	1					66
120	06	28	8	11	7	3	2							23
120	06	28	TOT	25	103	45	20	1	1					195
120	07	28	0	4										4
120	07	28	1		2			1						3
120	07	28	3	2		1								3
120	07	28	4		1									1
120	07	28	5	1	6	2	1							10
120	07	28	6		40	14	5							59
120	07	28	7	7	20	6		1						34
120	07	28	8	4	7	5	2							18
120	07	28	TOT	18	76	30	8	2						132
120	08	28	0	11										11
120	08	28	1	2	4	3								9
120	08	28	2		3			1						4
120	08	28	3		1									1
120	08	28	4	1	2		1							4
120	08	28	5	1	9	2	3							15
120	08	28	6	2	22	17	2	1						44
120	08	28	7	10	26	13	7	6						62
120	08	28	8	10	16	13	1							40
120	08	28	TOT	37	83	48	14	8						190



MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	09	28	0	5										5
120	09	28	1	2	2	1	1							6
120	09	28	2	1	3									4
120	09	28	3	1										1
120	09	28	4	1										1
120	09	28	5	3	4									7
120	09	28	6	6	42	6	4							58
120	09	28	7	9	25	9	4							47
120	09	28	8	13	23	11								51
120	09	28	TOT	43	101	23	9							176
120	10	28	0	3										3
120	10	28	1	1	1									2
120	10	28	3		1									1
120	10	28	4	1	1									2
120	10	28	5	1	14	1								16
120	10	28	6	2	14	4	1							21
120	10	28	7	7	38	14	7	1						67
120	10	28	8	6	12	10	5	1						34
120	10	28	TOT	21	81	29	13	2						146
120	11	28	0	12										12
120	11	28	1		4	2	2							8
120	11	28	2		1									1
120	11	28	3	1		1								2
120	11	28	4		1									1
120	11	28	5		2									2
120	11	28	6		4	2	1							7
120	11	28	7	3	34	15	4	1	1	1				61
120	11	28	8	1	8	5	3							17
120	11	28	TOT	17	56	25	10	1	1	1				111
120	12	28	0	3										3
120	12	28	1		1									1
120	12	28	2		4									4
120	12	28	3		3		1							4
120	12	28	4		2									2
120	12	28	5		3	1								4
120	12	28	6		17	3	1							21
120	12	28	7		17	2	3	1						23
120	12	28	8		3									3
120	12	28	TOT	3	49	7	5	1						65

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	01	28	0	3										3
120	01	28	1		11									11
120	01	28	2		1			1						2
120	01	28	3		4									4
120	01	28	6	1	3	1								5
120	01	28	7	1	17						1			19
120	01	28	8		24									24
120	01	28	TOT	5	60	1		1			1			68

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	05	28	0	3										3
120	05	28	1		1			1						2
120	05	28	3		1									1
120	05	28	5		1									1
120	05	28	6		22	7	5	2						36
120	05	28	7		27	1	1	3						32
120	05	28	8		19									19
120	05	28	TOT	3	71	8	6	6						94

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	09	28	0	6										6
120	09	28	1		2	1								3
120	09	28	2		3									3
120	09	28	3		2									2
120	09	28	5		7									7
120	09	28	6		41	7								48
120	09	28	7		29	3	1	2						35
120	09	28	8		47									47
120	09	28	TOT	6	131	11	1	2						151

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	02	28	1		3									3
120	02	28	2		1			1						2
120	02	28	3		4									4
120	02	28	4		3									3
120	02	28	6		4	1								5
120	02	28	7		12									12
120	02	28	8		33									33
120	02	28	TOT		62	1	1							64

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	06	28	0	3										3
120	06	28	1					1						1
120	06	28	2				1							1
120	06	28	3		1	1	2							4
120	06	28	4		4									4
120	06	28	5	1	5	3								9
120	06	28	6		25	19	3	1						48
120	06	28	7		27	9	3	5						44
120	06	28	8		21									21
120	06	28	TOT	4	83	32	9	7						135

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	10	28	0	13										13
120	10	28	1		3									3
120	10	28	2		1									1
120	10	28	4		3									3
120	10	28	5		6									6
120	10	28	6		14	1								15
120	10	28	7		48	11	2	3						64
120	10	28	8		31	1		4			1			37
120	10	28	TOT	13	106	13	2	7			1			142

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	03	28	0	2										2
120	03	28	1		1									1
120	03	28	2		1									1
120	03	28	3		1									1
120	03	28	4		1									1
120	03	28	5		2	1								3
120	03	28	6		3	1				1				5
120	03	28	7		16			2						18
120	03	28	8		26			2						28
120	03	28	TOT	2	51	2		4		1				60

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	07	28	0	8										8
120	07	28	1		3						1			4
120	07	28	3		2									2
120	07	28	5		3	2								5
120	07	28	6		25	7	3	1						34
120	07	28	7		20	2				1				23
120	07	28	8		16									16
120	07	28	TOT	8	67	11	3	1		1	1			92

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	11	28	0	6										6
120	11	28	1		7									7
120	11	28	2		4									4
120	11	28	4		2									2
120	11	28	6		2	2	2							6
120	11	28	7		34	13	3	3				1		54
120	11	28	8		24	1								25
120	11	28	TOT	6	75	16	5	3				1		104

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	04	28	0	8										8
120	04	28	1		3									3
120	04	28	2		3									3
120	04	28	3		1									1
120	04	28	5		1									1
120	04	28	6		2									2
120	04	28	7		13			1						14
120	04	28	8		14									14
120	04	28	TOT	8	37			1						46

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	08	28	0	12										12
120	08	28	1		8									8
120	08	28	2		1			1						2
120	08	28	4		2	1								3
120	08	28	5		3	1	2							6
120	08	28	6		21	2	3	2						28
120	08	28	7		46	3		1						50
120	08	28	8		35		1	1						37
120	08	28	TOT	12	116	7	6	5						146

MS	MO	SUB	DIR	0	1	2	3	4	5	6	7	8	9	total
120	12	28	0	3										3
120	12	28	1		1									1
120	12	28	2		3	1								4
120	12	28	3		2									2
120	12	28	4		3									3
120	12	28	5		3	1								4
120	12	28	6		8	3		2			1			14
120	12	28	7		8	3	1							12
120	12	28	8		2									2
120	12	28	TOT	3	27	11	1	2			1			49

SWELL

POSITION: 32 - 33 N, 118 -119 W — MONTH: JANUARY

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	2.6	8.3	3.0	1.9	0.1	15.9
NE	1.7	4.1	1.3	0.6	0.1	7.6
E	1.3	3.7	0.9	0.6	0.1	6.7
SE	1.3	2.9	0.7	0.6	0.1	5.7
S	1.3	3.7	1.1	1.1	0.3	7.4
SW	1.1	4.3	1.8	0.7		7.9
W	1.7	9.0	4.4	2.8	0.5	18.3
NW	2.2	11.9	6.6	4.3	0.4	25.4
CALM	5.1					5.1
TOTAL	18.2	47.9	19.8	12.5	1.6	100.0

POSITION: 32 - 33 N, 118 -119 W — MONTH: APRIL

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	1.1	2.5	1.1	0.8	0.1	5.6
NE	1.2	1.9	0.1			3.3
E	0.9	1.8	0.1	0.1		2.9
SE	0.8	2.6	0.7	0.3		4.3
S	1.4	4.7	1.4	0.6		8.1
SW	1.3	6.9	3.7	1.1	0.1	13.1
W	1.9	13.7	9.0	6.2	0.6	31.4
NW	1.8	10.2	7.3	7.0	0.6	26.9
CALM	4.4					4.4
TOTAL	14.8	44.3	23.4	16.1	1.4	100.0

POSITION: 32 - 33 N, 118 -119 W — MONTH: FEBRUARY

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	2.4	7.2	2.6	1.6	0.2	14.0
NE	1.4	4.0	1.0	0.6		7.1
E	1.1	3.6	0.9	0.6		6.2
SE	1.2	2.7	1.0	0.9	0.2	6.0
S	1.1	3.5	1.0	0.7	0.2	6.5
SW	1.0	4.5	2.2	0.6	0.1	8.3
W	1.7	9.6	5.4	3.3	0.5	20.5
NW	1.6	11.3	7.7	5.2	0.8	26.6
CALM	4.8					4.8
TOTAL	16.4	46.4	21.8	13.5	1.9	100.0

POSITION: 32 -33 N, 118 -119 W — MONTH: MAY

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	0.8	2.3	0.9	1.0	0.1	5.1
NE	0.8	1.0	0.1			1.9
E	0.9	1.6	0.2	0.1		2.7
SE	0.9	2.1	0.3	0.1		3.4
S	1.2	4.4	0.8	0.2		6.6
SW	1.4	7.3	2.8	1.4	0.1	13.0
W	2.0	16.8	10.2	6.0	0.4	35.4
NW	1.4	9.8	7.8	7.5	0.6	27.2
CALM	4.7					4.7
TOTAL	14.1	45.3	23.I	16.3	1.2	100.0

POSITION: 32 - 33 N, 118 -119 W — MONTH: MARCH

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	1.8	4.7	1.4	1.1	0.1	9.1
NE	1.6	3.1	0.3	0.2		5.2
E	1.1	2.4	0.3	0.3		4.2
SE	0.9	2.7	0.6	0.4	0.1	4.8
S	1.1	4.4	1.2	0.5	0.1	7.3
SW	1.3	6.1	3.2	1.1	0.1	11.7
W	1.7	12.3	7.2	5.6	0.8	27.6
NW	1.9	9.9	7.1	6.2	0.7	25.7
CALM	4.4					4.4
TOTAL	15.7	45.7	21.3	15.4	1.9	100.0

POSITION: 32 - 33 N, 118 -119 W — MONTH: JUNE

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	0.9	1.9	0.8	0.6		4.2
NE	0.7	0.8	0.1	0.1		1.6
E	0.9	1.6	0.1			2.7
SE	1.1	2.8	0.5	0.1		4.4
S	1.5	6.3	1.4	0.1		9.3
SW	1.8	8.3	3.8	2.0		15.9
W	2.6	17.0	8.0	4.4	0.2	32.2
NW	1.6	9.1	6.6	6.6	0.6	24.5
CALM	5.2					5.2
TOTAL	16.2	47.8	21.2	13.9	0.9	100.0

MONTHLY WIND FORCE DATA

POSITION: 32 - 33 N, 118 -119 W — MONTH: JULY

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	1.0	2.2	1.0	0.6		4.8
NE	0.7	0.7	0.1			1.5
E	0.7	1.0	0.1			1.8
SE	0.9	2.5	0.4			3.9
S	1.6	5.4	0.9	0.1		8.0
SW	1.4	6.4	1.2	0.3		9.3
W	3.1	20.3	8.4	3.8	0.1	35.7
NW	2.0	12.8	8.2	5.1	0.2	28.3
CALM	6.7					6.7
TOTAL	18.2	51.2	20.3	9.9	0.4	100.0

POSITION: 32 - 33 N, 118 -119 W — MONTH: OCTOBER

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	2.2	5.3	1.3	0.9		9.7
NE	1.6	2.4	0.2	0.1		4.3
E	1.1	2.2	0.5	0.3	0.1	4.2
SE	1.1	2.3	0.3	0.1		3.8
S	1.3	4.2	0.6	0.2		6.3
SW	1.4	6.1	2.8	0.7		11.0
W	2.5	14.4	6.4	2.7	0.2	26.2
NW	2.5	13.6	7.4	4.8	0.2	28.5
CALM	5.9					5.9
TOTAL	19.6	50.5	19.5	9.8	0.5	99.9

POSITION: 32 -33 N, 118 - 119 W — MONTH: AUGUST

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	1.1	2.4	0.9	0.6		5.0
NE	0.7	0.7	0.1			1.5
E	0.9	1.2	0.1			2.2
SE	0.9	1.7	0.2			2.9
S	1.3	4.6	0.8	0.1		6.7
SW	1.6	7.3	3.4	1.4		13.7
W	3.2	18.3	9.1	3.3	0.1	33.9
NW	2.3	12.4	8.2	4.5	0.2	27.5
CALM	6.6					6.6
TOTAL	18.5	48.7	22.6	9.9	0.3	100.0

POSITION: 32 - 33 N, 118 -119 W — MONTH: NOVEMBER

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	2.8	7.5	2.8	1.1	0.1	14.3
NE	1.8	4.2	0.9	0.8	0.1	7.8
E	1.5	3.3	0.7	0.4		5.9
SE	1.1	2.1	0.4	0.1		3.8
S	1.1	3.4	0.7	0.2		5.4
SW	1.1	5.2	1.8	0.4		8.5
W	2.1	10.5	4.4	2.5	0.4	19.9
NW	2.6	13.8	7.3	4.4	0.5	28.5
CALM	5.9					5.9
TOTAL	20.0	50.0	19.0	9.9	1.1	100.0

POSITION: 32 - 33 N, 118 -119 W — MONTH: SEPTEMBER

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	1.5	3.1	1.2	1.2	0.1	7.1
NE	1.2	1.1	0.1			2.4
E	1.0	1.6	0.1			2.8
SE	0.8	1.8	0.2	0.1	0.1	3.1
S	1.1	3.3	0.6	0.1		5.1
SW	1.5	6.0	3.7	1.5		12.8
W	2.7	15.2	7.7	3.4	0.1	29.1
NW	2.4	12.8	9.2	7.2	0.4	32.0
CALM	5.6					5.6
TOTAL	17.8	45.0	22.8	13.6	0.8	100.0

POSITION: 32 -33 N, 118 - 119 W — MONTH: DECEMBER

DIRECTION	SPEED (BEAUFORT FORCE) 0-1	2-3	4	5-6	7-12	TOTAL
N	3.1	7.7	2.4	1.5	0.2	14.9
NE	2.3	5.1	1.1	0.9	0.1	9.5
E	2.0	3.9	1.1	0.7	0.1	7.8
SE	1.6	3.9	1.2	0.7	0.1	7.5
S	1.4	3.7	0.8	0.6	0.1	6.6
SW	1.4	4.9	1.5	0.5	0.1	8.4
W	2.1	7.9	3.3	2.0	0.4	15.6
NW	2.8	11.9	5.1	2.9	0.4	23.1
CALM	6.6					6.6
TOTAL	23.3	48.9	16.4	9.9	1.5	100.0

APPENDIX B

CURRENT DATA

Current Meter Record and Tide Height, 5-Day Record,

Polar Coordinate Histograms, Histograms of Rotor Speed, and Scatter Plots

TITLE: **FILM PROCESSING AND READING LOG***

410119
Geodyne Assigned Film No.

FILM IDENTIFICATION BY CUSTOMER Date 6 January 1967

Name [redacted] Thomas G. Long

Address Naval Oceanographic Office
Washington D.C. 20390

338-2A
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. 338
Motor RPM _____, Film Advance Speed 120 in/min, No. Timer Cam Lobes 6
☐ Continuous or, ■ Interval Record, Time Interval Between Records 5 seconds

Cruise 056610, Location: Lat. 33° 03.4'N Long. 118° 34.8'W Meter Depth 36 feet above bottc
Magnetic variation (+ = East, - = West) 14° 26' East
Recording started at 1841 Hours, plus 8 Time Zone, 24 Oct 1966 Date
Recording ended at 1720 Hours, plus8 Time Zone, 22 Nov 1966 Date
Comments:
Station 2 Alpha, Water depth 870 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:
Naval Oceanographic Office
Washington D.C. 20390
Attn: Ronald Kopenski, Code 9100

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
■ Analog strip chart record
■ Magnetic tape record

Other instructions:
1. Process only that data between tape strips on the film.
2. Supply scatter plots and histogram plots.
3. Supply plots of direction versus time and speed versus time.

Customer's Order No. _____

FILM AND READING EVALUATION BY GEODYNE

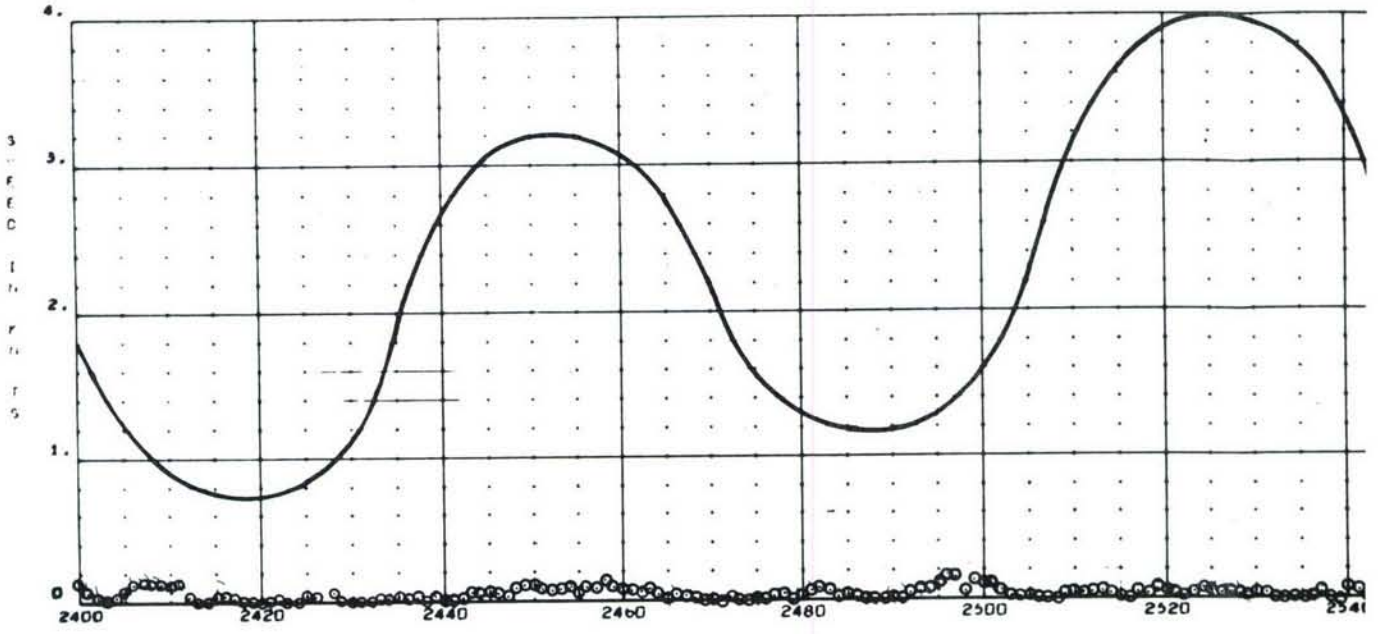
Record started: foot mark 6869 + 11 @ _____ hours, _____ Date
Record ended: foot mark 6909 + 31 @ _____ hours, _____ Date
Total footage 40' 20. Total elapsed time of record _____
FILM EVALUATION: Alignment _____, Density _____
Compass _____, Vane _____, Rotor _____, Time pulse _____
Comments:

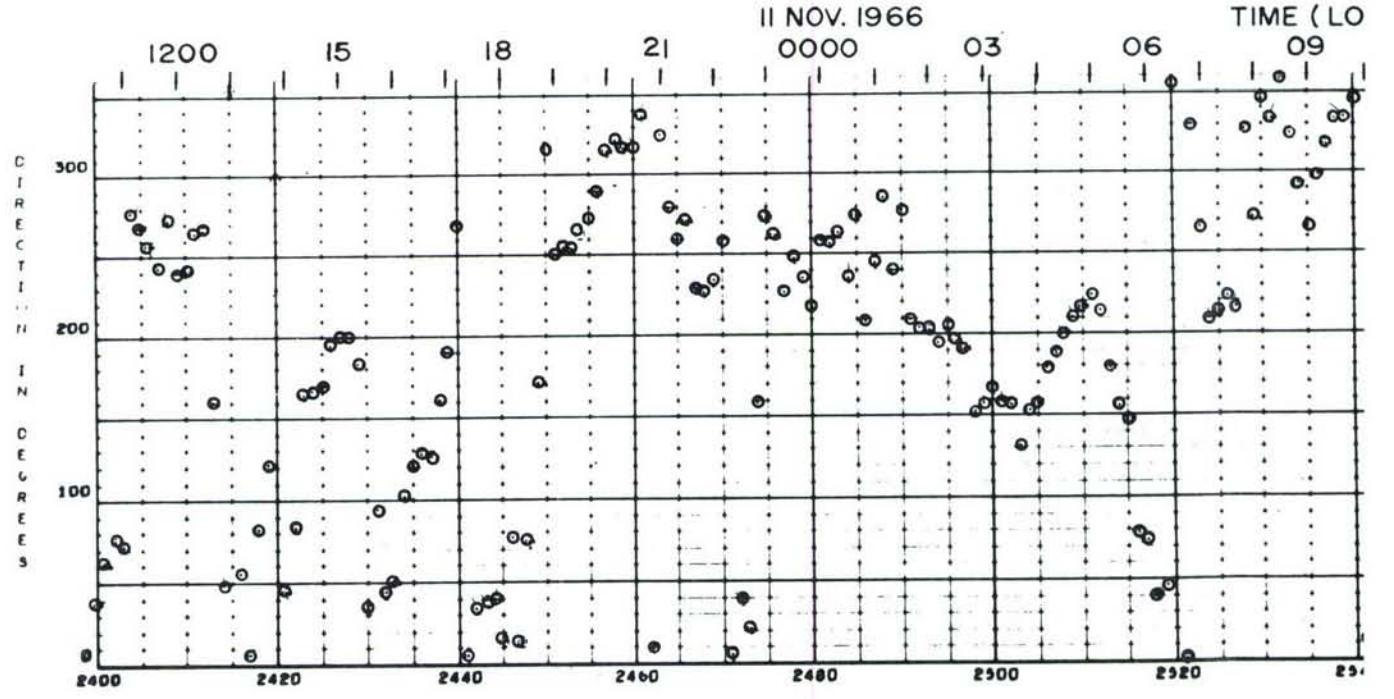
Strip Chart:

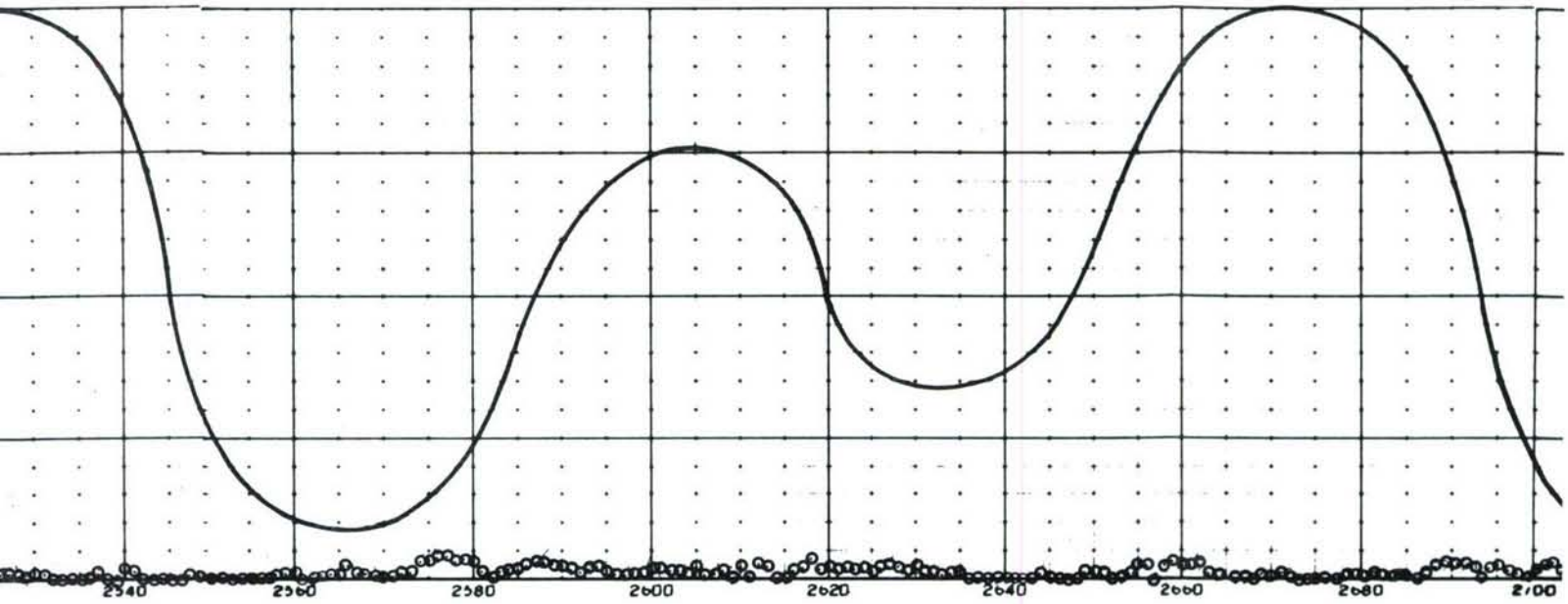
Magnetic Tape: 000519 Part 9

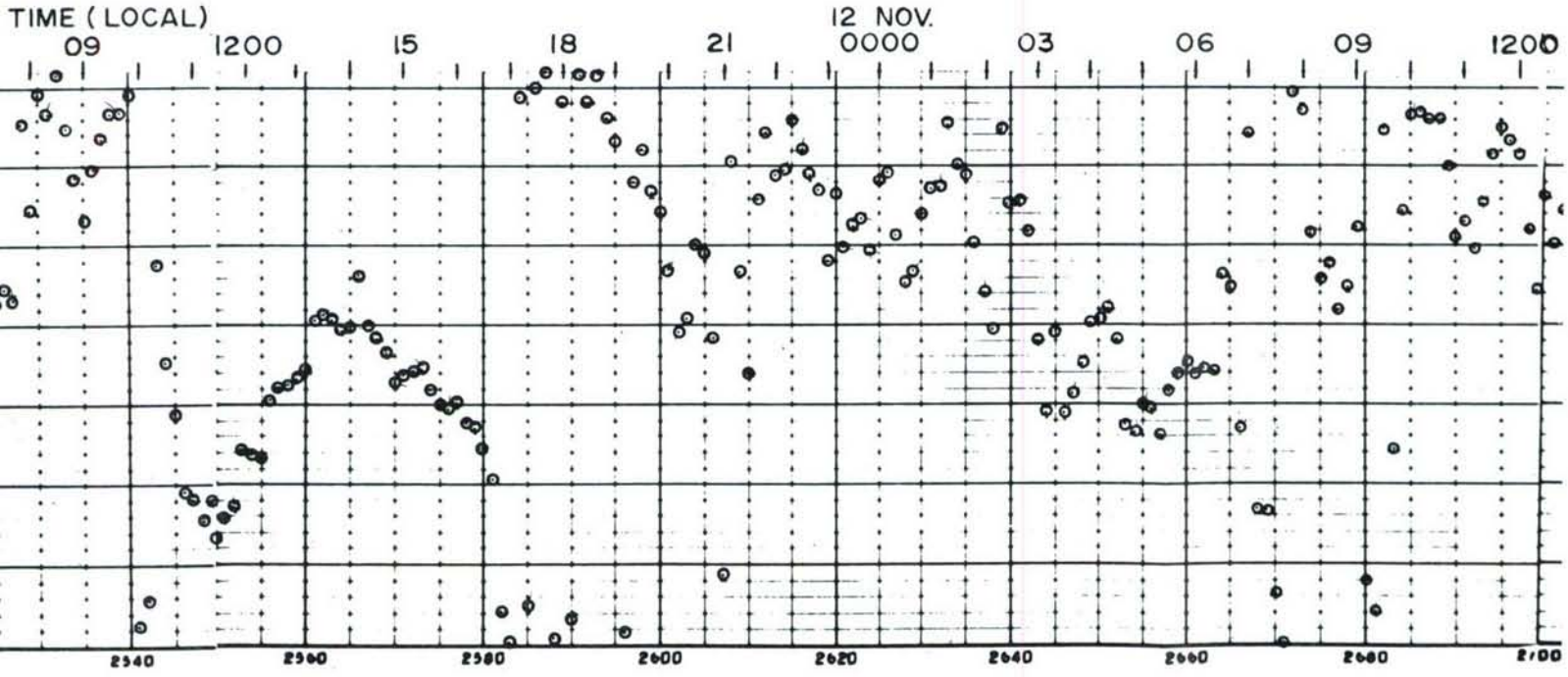
Date Completed: Film Processing _____, Reading 3-14-67

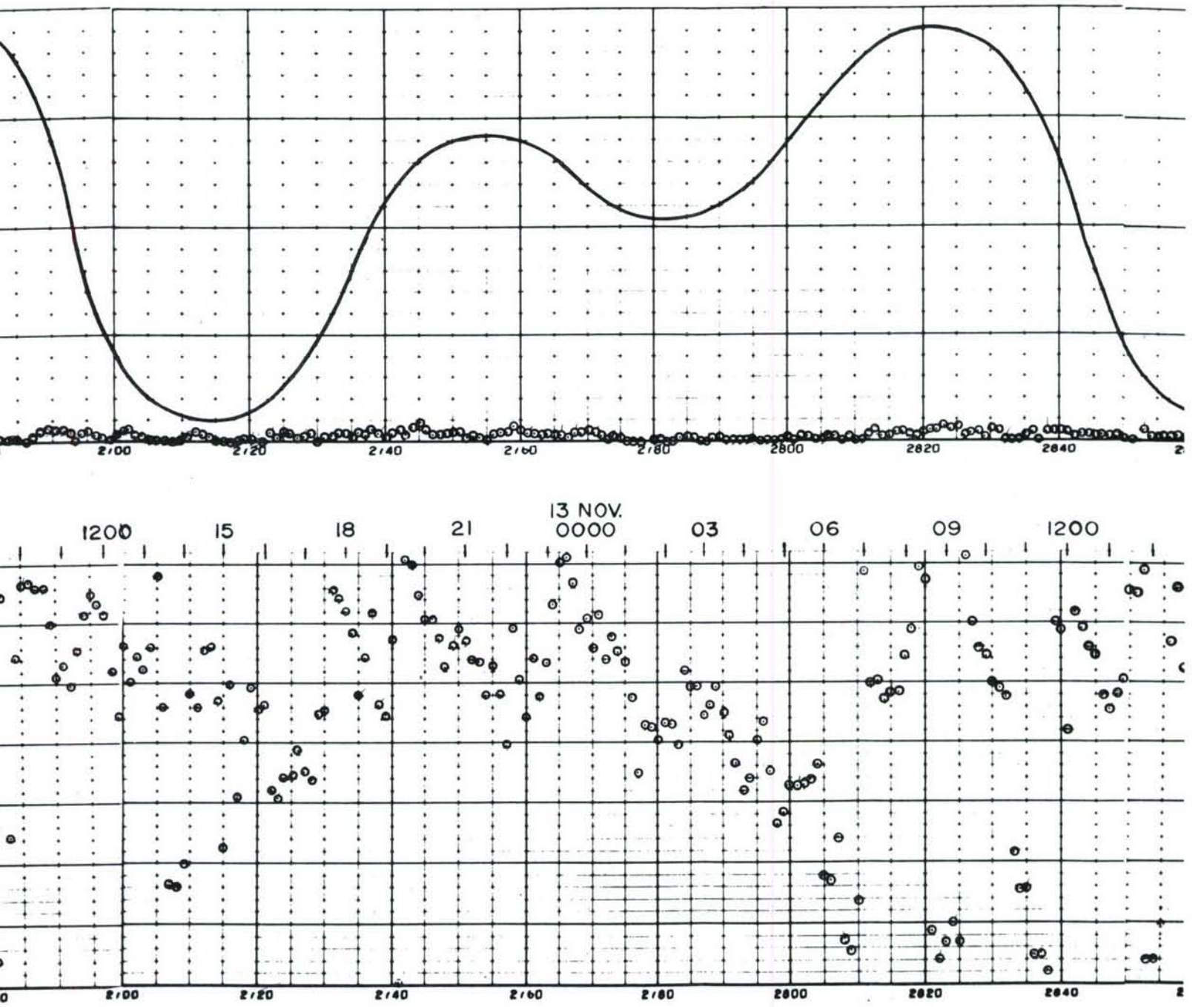
SITE 2A. DATA SHEET—834 FOOT DEPTH (36 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966


4.
3.
2.
1.
0
2400
2420
2440
2460
2480
2500
2520

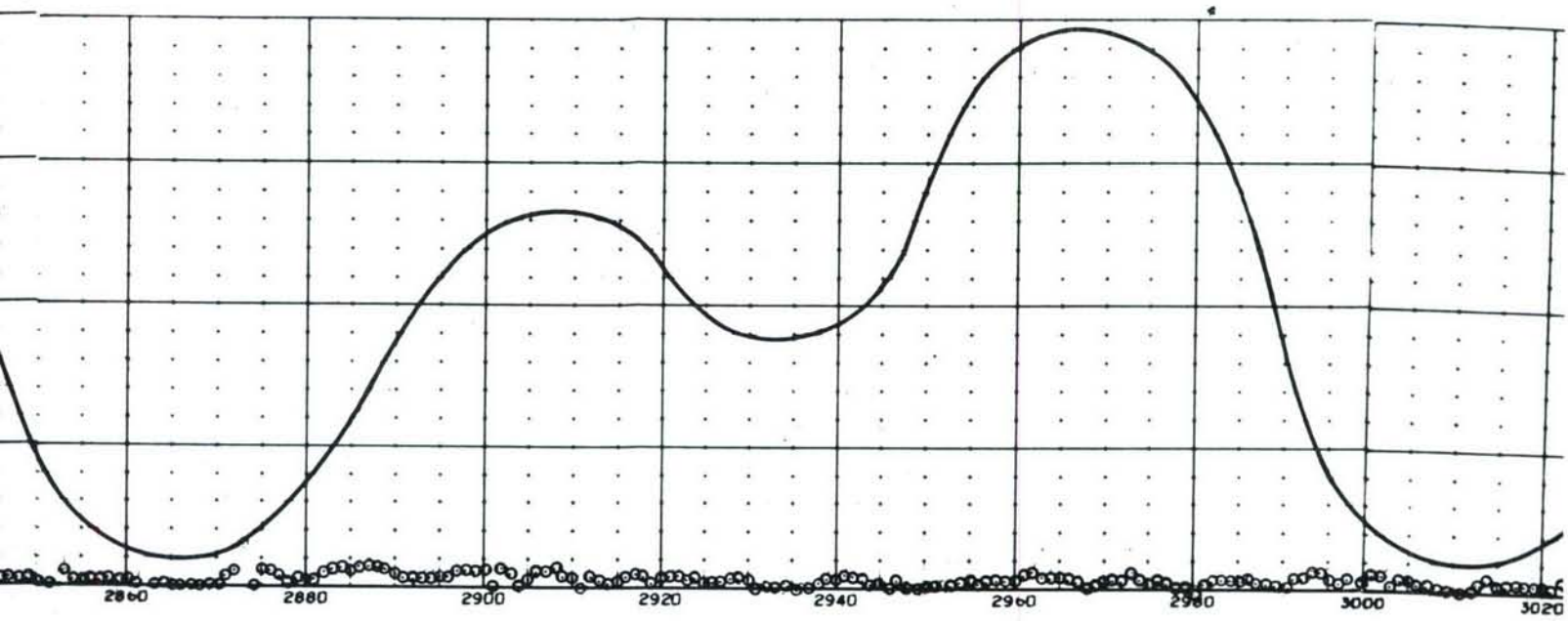

11 NOV. 1966
TIME (LO
1200
15
18
21
0000
03
06
09
300
200
100
0
2400
2420
2440
2460
2480
2500
2520

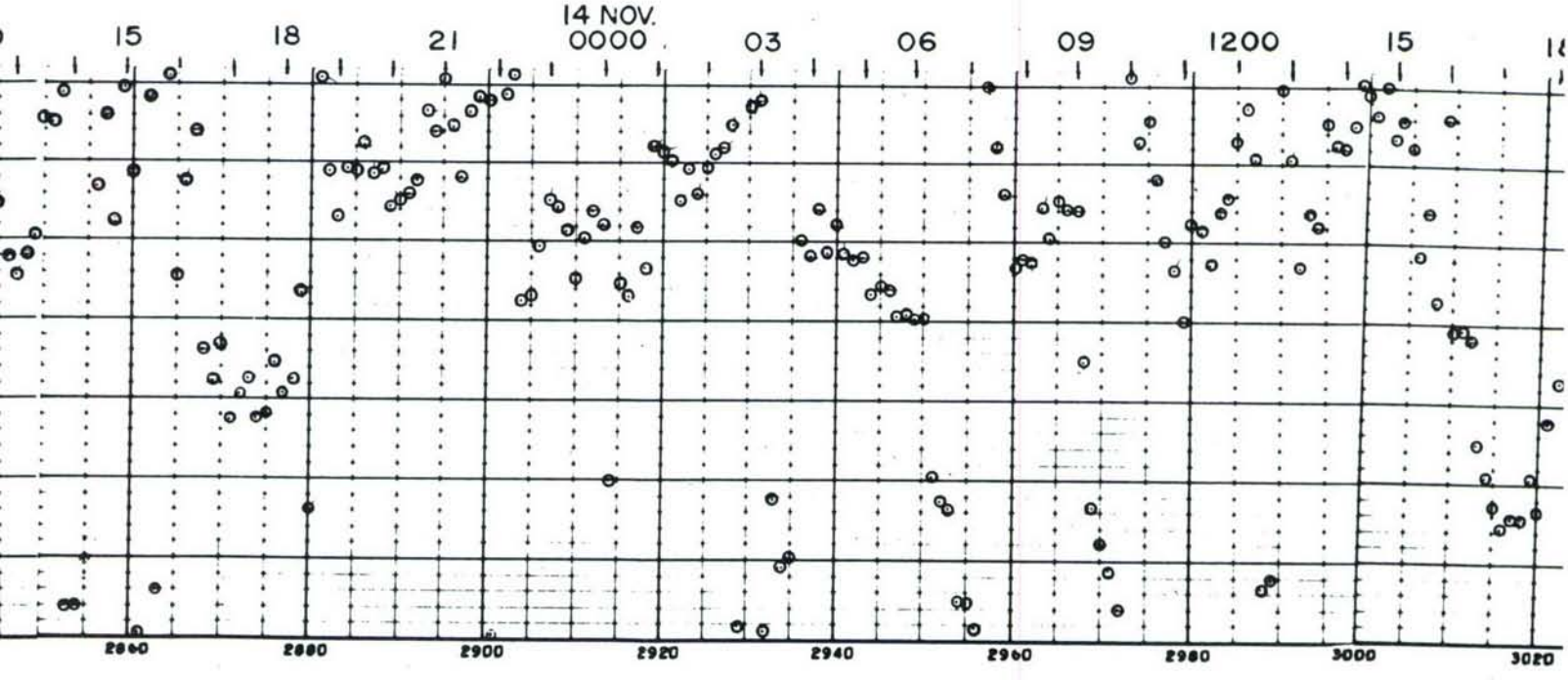

2540
2560
2580
2600
2620
2640
2660
2680
2700

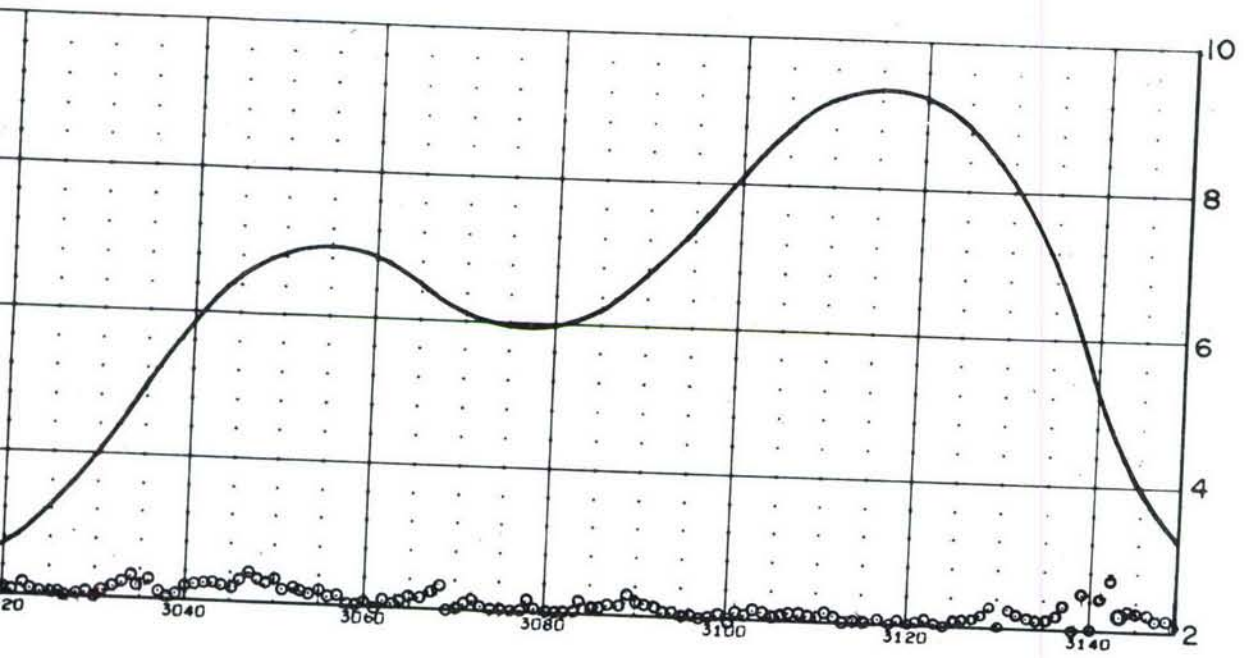

TIME (LOCAL)
09
1200
15
18
21
12 NOV.
0000
03
06
09
1200
2540
2560
2580
2600
2620
2640
2660
2680
2700

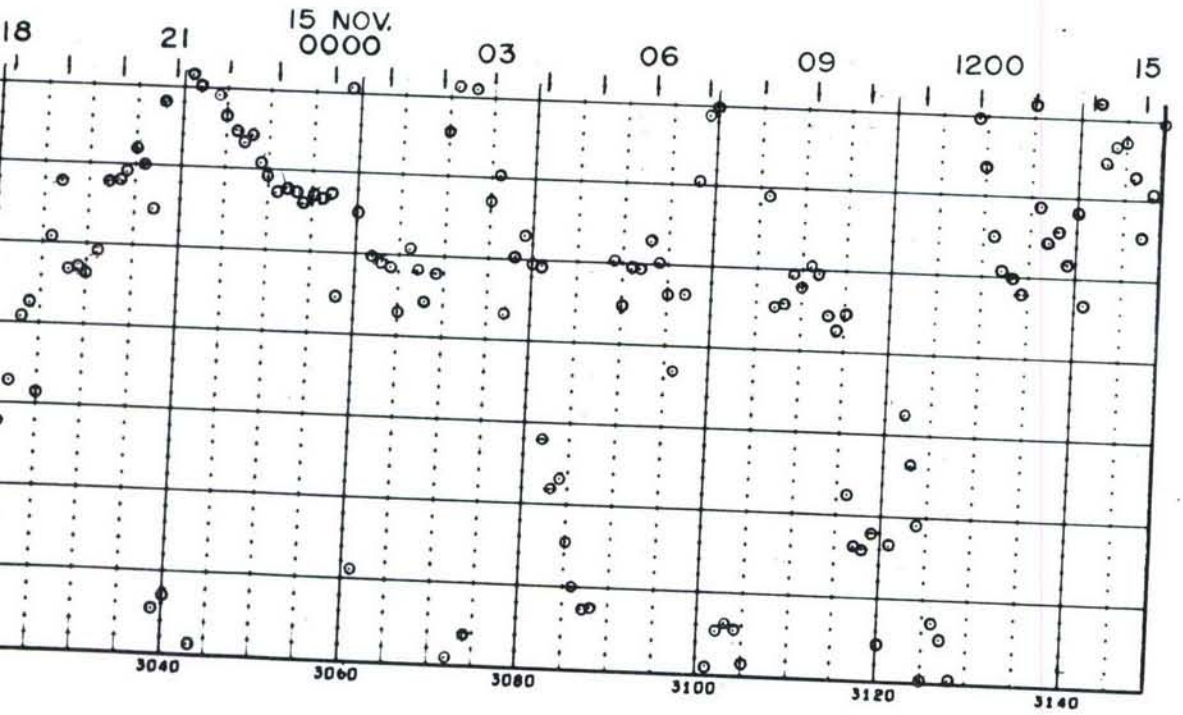


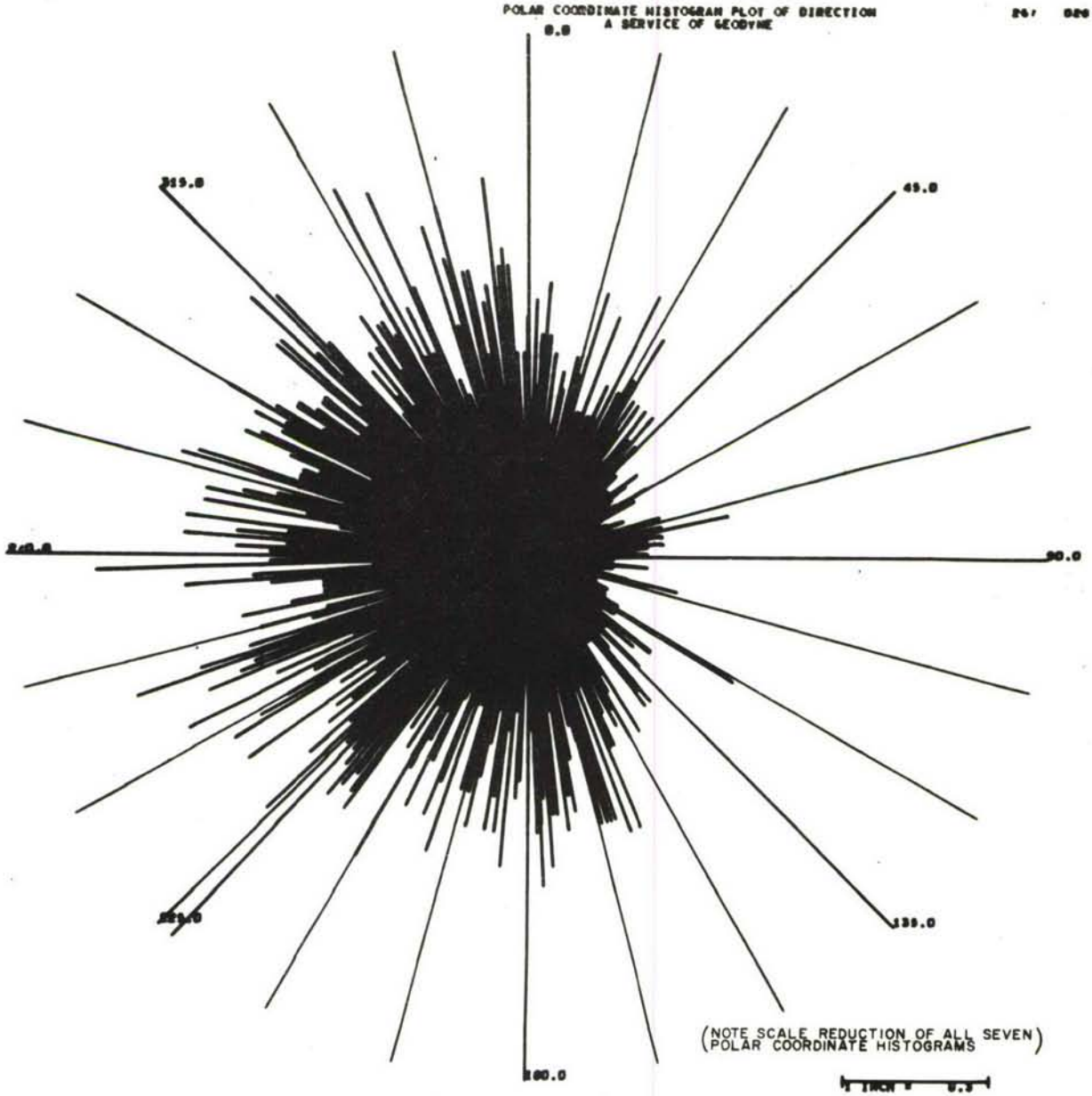
SITE 2A. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—834 FOOT DEPTH (36 FEET ABOVE BOTTOM)


2860
2880
2900
2920
2940
2960
2980
3000
3020

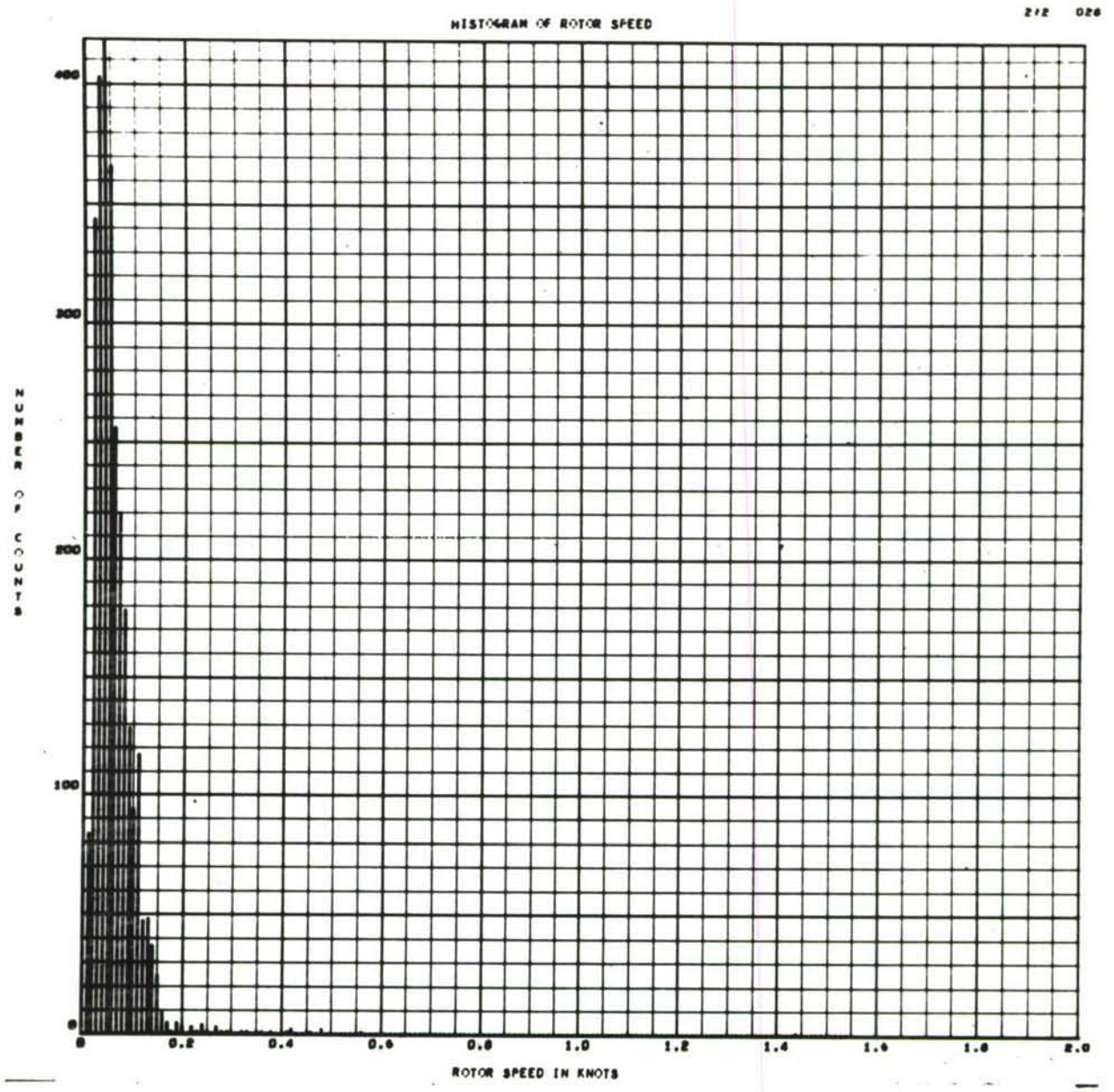

14 NOV.
15
18
21
0000
03
06
09
1200
15
2860
2880
2900
2920
2940
2960
2980
3000
3020


10
8
6
4
2
3040
3060
3080
3100
3120
3140

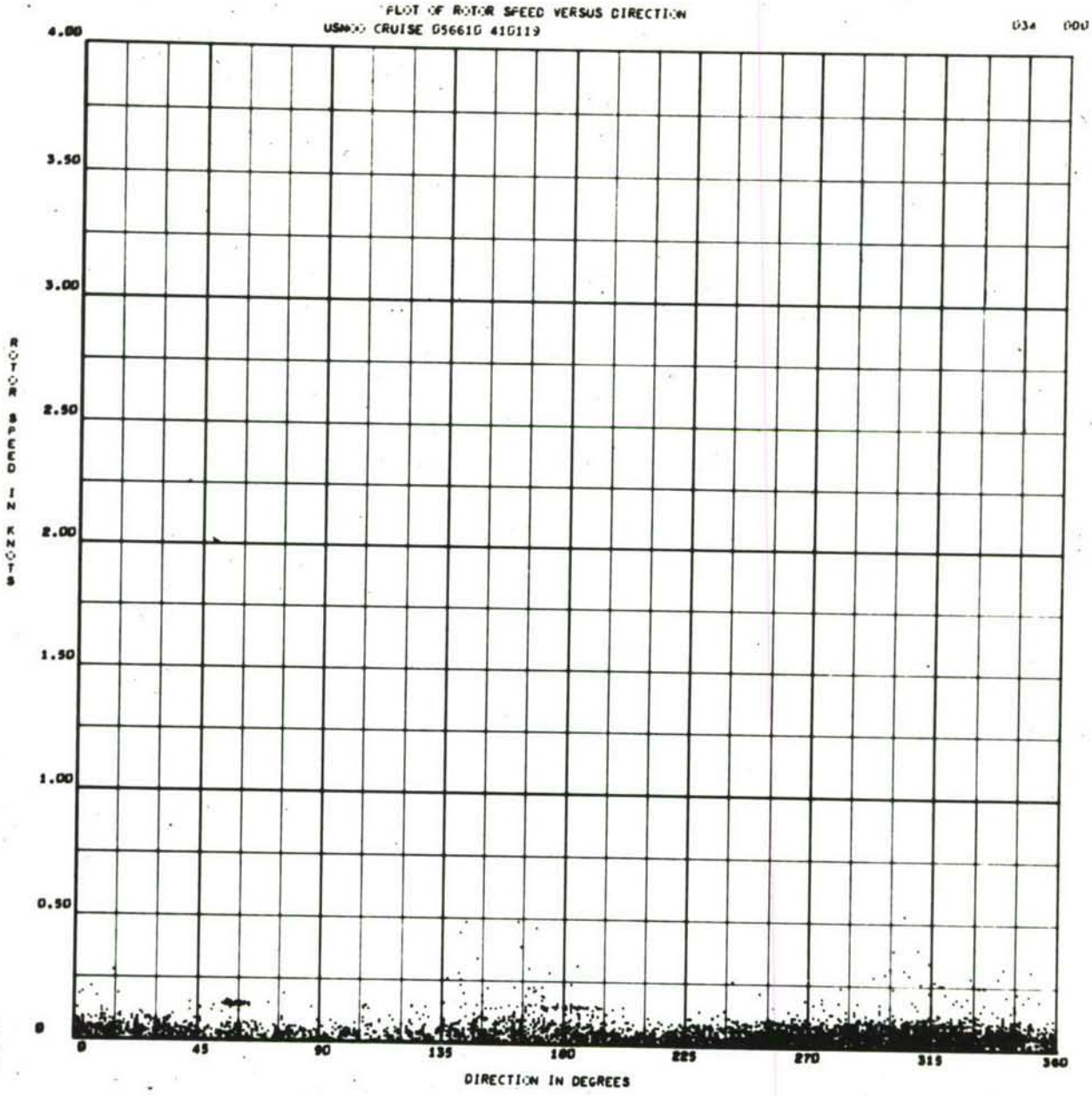

18
21
15 NOV.
0000
03
06
09
1200
15
3040
3060
3080
3100
3120
3140



SITE 2A. POLAR COORDINATE HISTOGRAM 834 FOOT
DEPTH (36 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 2A HISTOGRAM OF ROTOR SPEED 834 FOOT DEPTH
(36 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 2A. SCATTER PLOT 834 FOOT DEPTH
(36 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966

TITLE: **FILM PROCESSING AND READING LOG***

4/0117
Geodyne Assigned Film No.

FILM IDENTIFICATION BY CUSTOMER Date 9 January 1967

Name ~~XXXXXXXXXXXXXXX~~ Thomas G. Long

Address Naval Oceanographic Office
Washington D.C. 20390

335-3B
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. 335
Motor RPM _____, Film Advance Speed .120 in/sec, No. Timer Cam Lobes 6
☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 seconds

Cruise 056610, Location: Lat. 33° 04.3'N Long. 118° 29.8'W Meter Depth 500 feet
Magnetic variation (+ = East, - = West) 14° 26'East
Recording started at 1225 Hours, plus 8 Time Zone, 25 Oct 1966 Date
Recording ended at 1700 Hours, plus 8 Time Zone, 4 Dec 1966 Date
Comments:
Station 3 Bravo, Water depth 3960 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:
Naval Oceanographic Office
Washington D.C. 20390
Attn; Ronald Kopenski, Code 9100

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
~~☒~~ Analog strip chart record
☒ Magnetic tape record

Other instructions:
1. Process only that data between the tape strips on film.
2. Supply plots of direction versus time and speed vesus time. (2)
3. Supply scatter plots and histogram plots.

Customer's Order No. _____

FILM AND READING EVALUATION BY GEODYNE

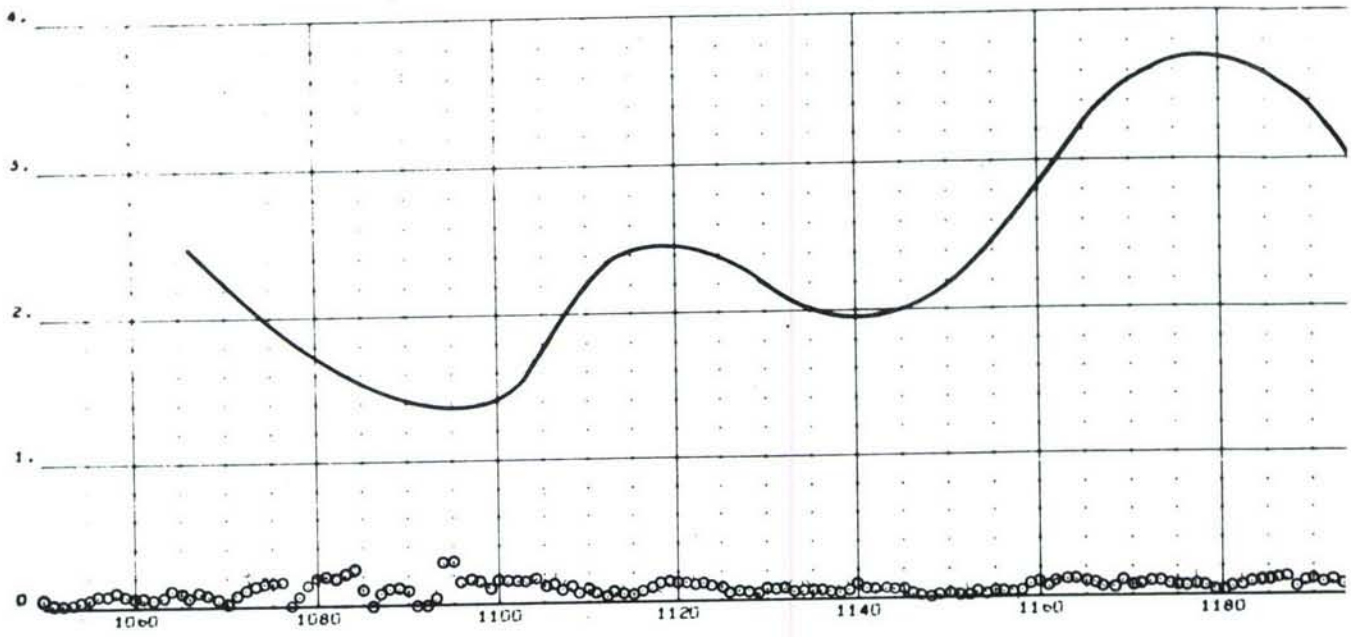
Record started: foot mark 6775 + 10 @ _____ hours, _____ Date
Record ended: foot mark 6814 + 34 @ _____ hours, _____ Date
Total footage 39' 24", Total elapsed time of record _____
FILM EVALUATION: Alignment _____, Density _____
Compass _____, Vane _____, Rotor _____, Time pulse _____
Comments: Continuous,

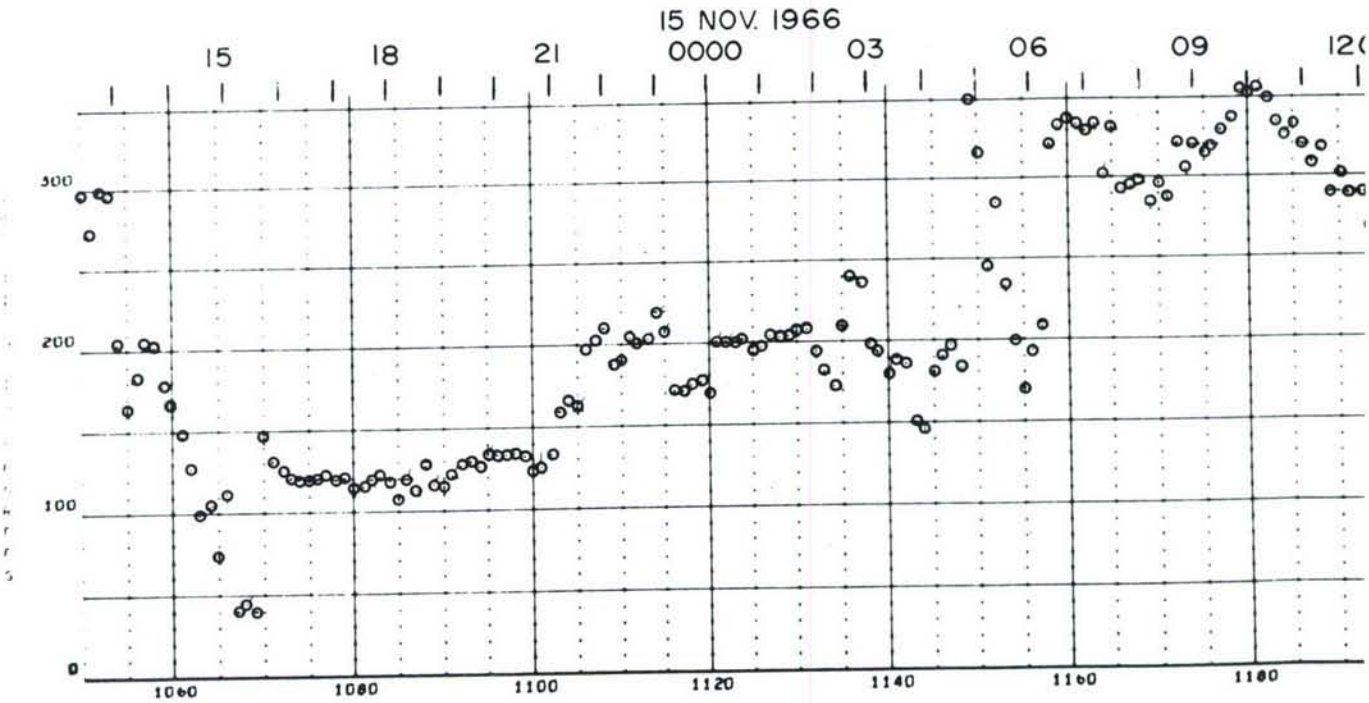
Strip Chart:

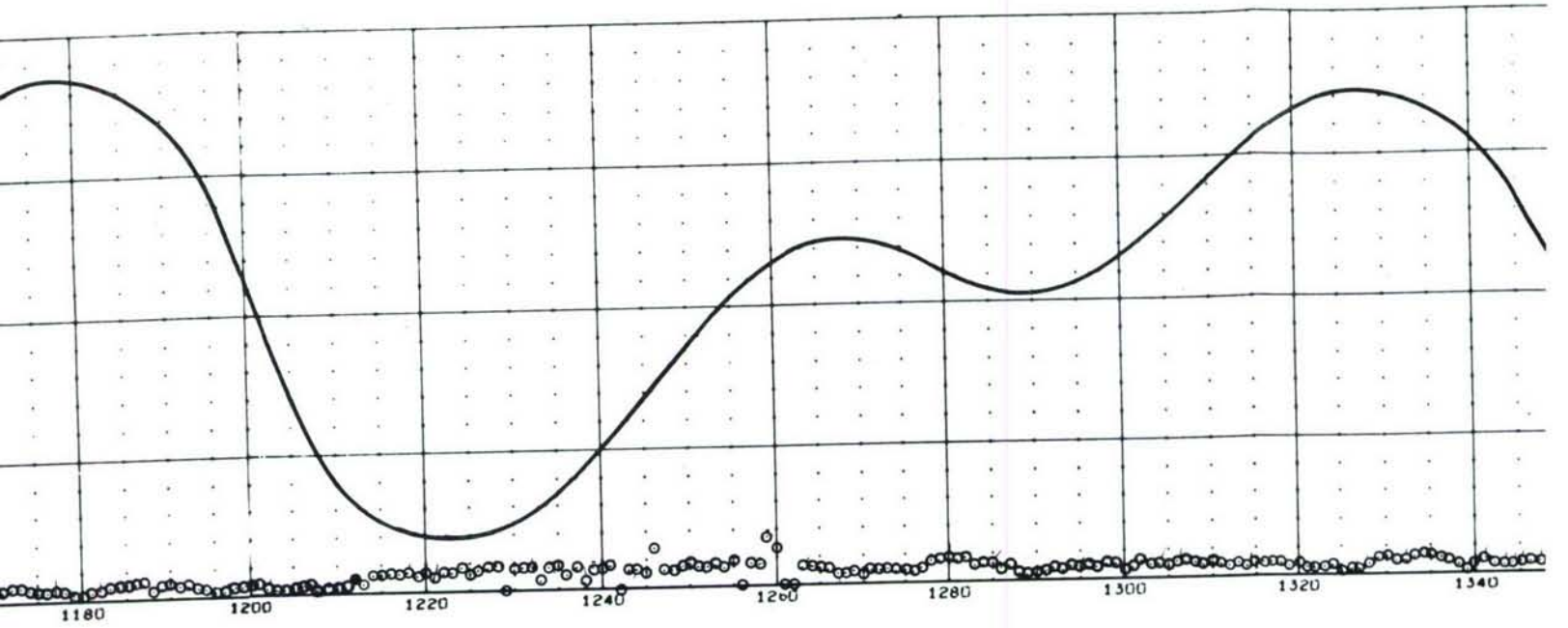
Magnetic Tape: 000519 Part 7

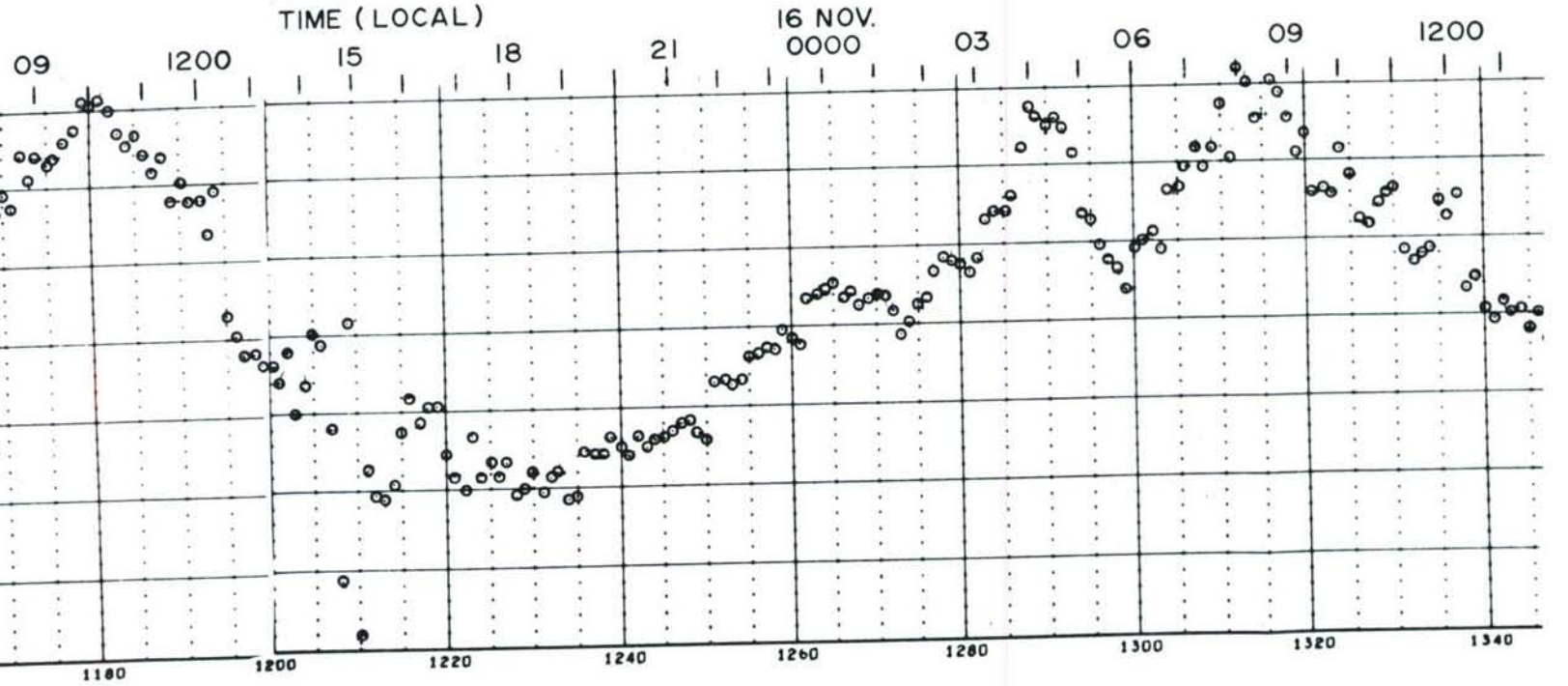
Date Completed: Film Processing _____, Reading 3-14-67

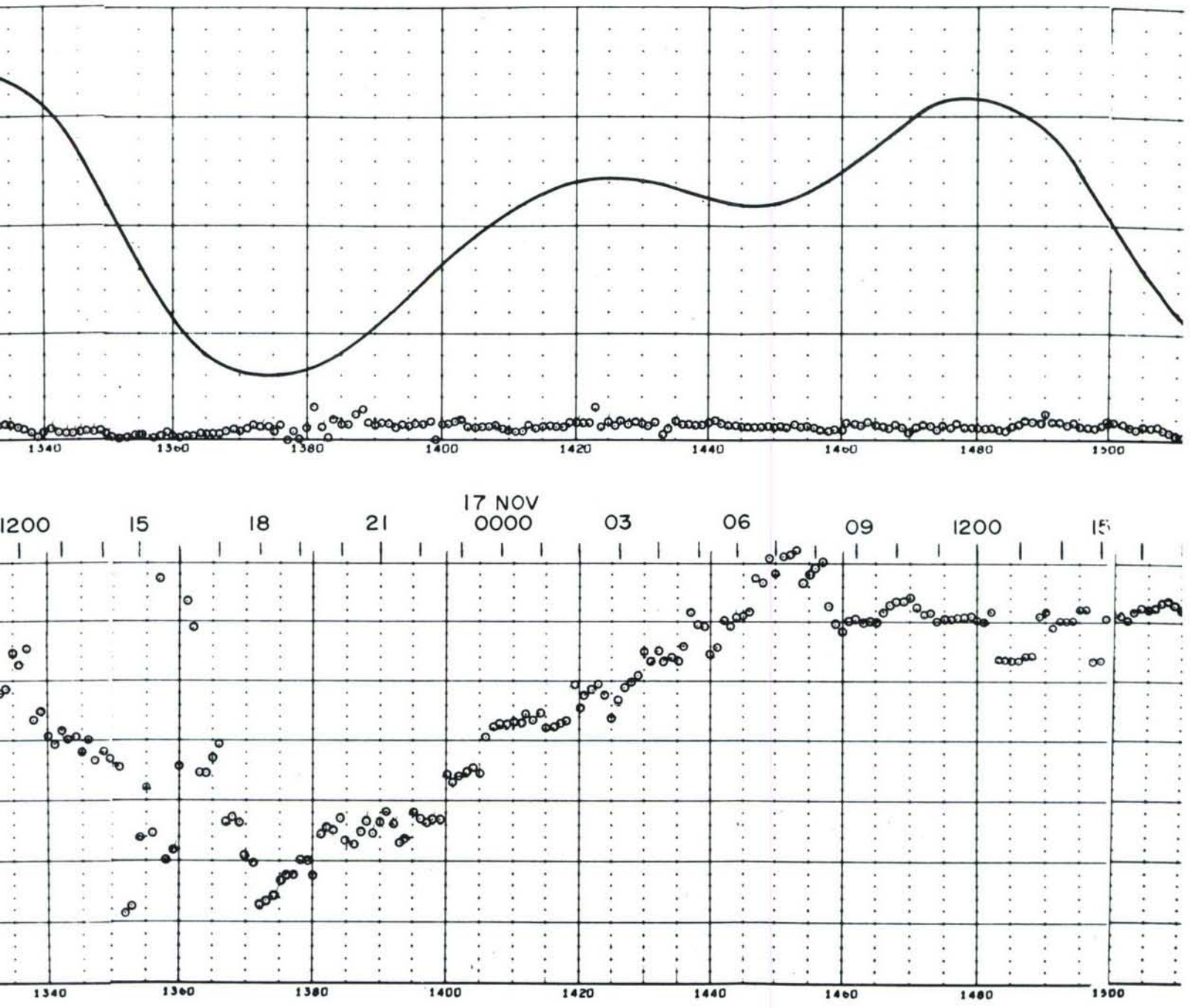
SITE 3B. DATA SHEET—500 FOOT DEPTH (3460 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966


4.
3.
2.
1.
0
1060
1080
1100
1120
1140
1160
1180

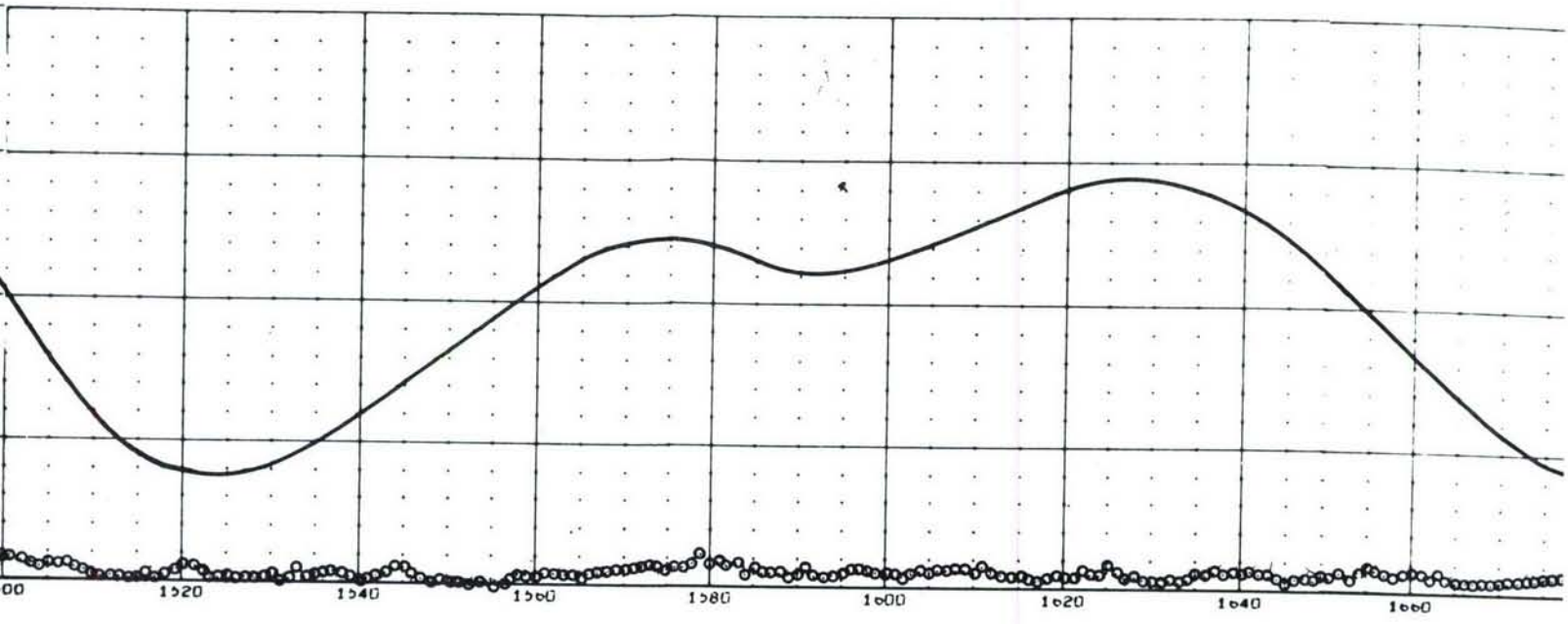

15 NOV. 1966
15
18
21
0000
03
06
09
300
200
100
0
1060
1080
1100
1120
1140
1160
1180

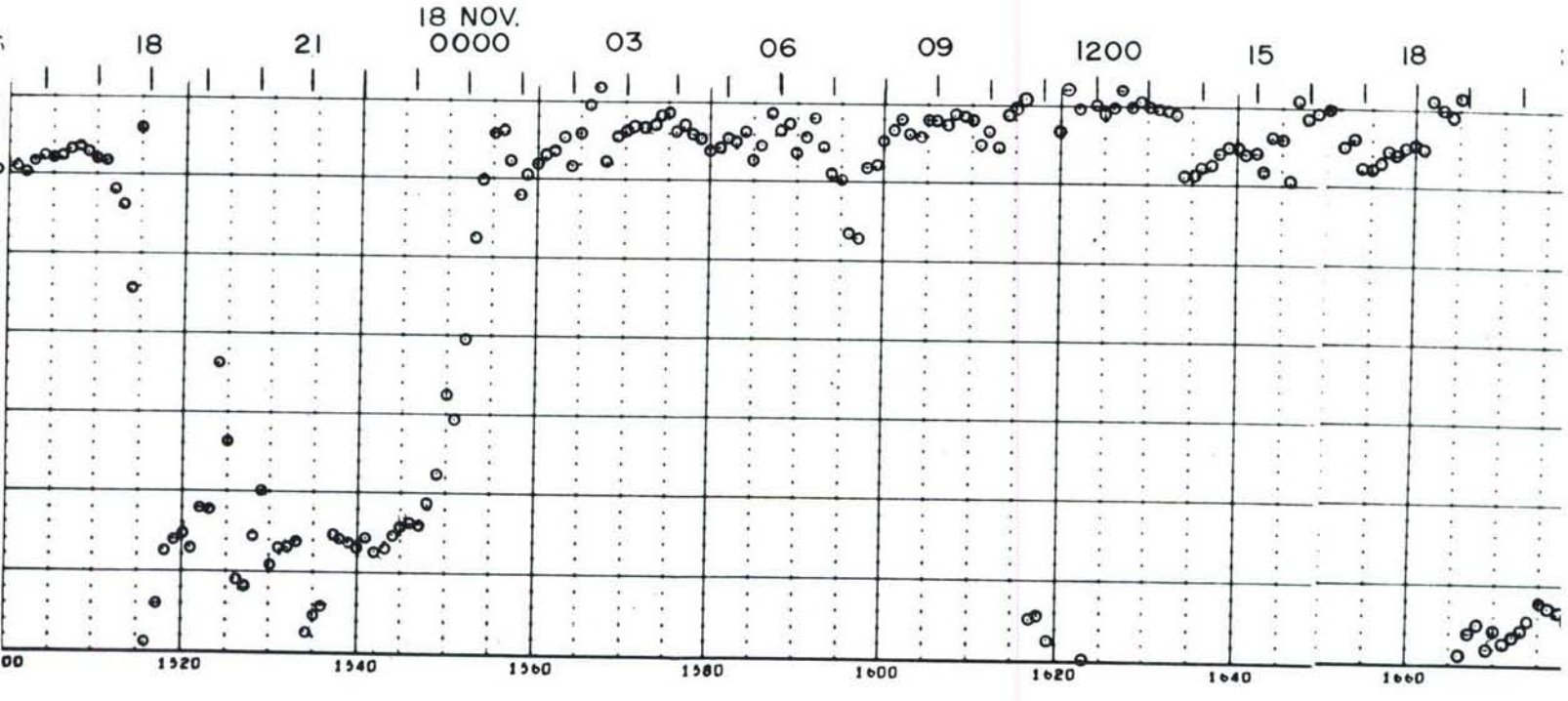

1180
1200
1220
1240
1260
1280
1300
1320
1340

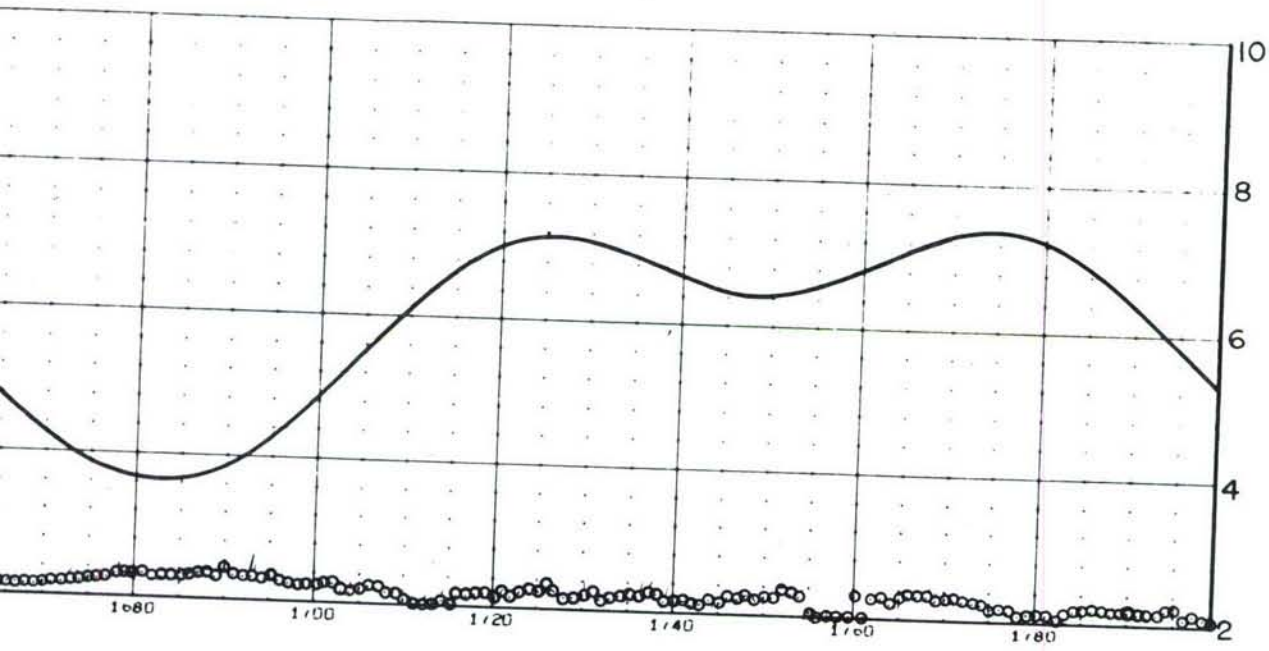

TIME (LOCAL)
09
1200
15
18
21
16 NOV.
0000
03
06
09
1200
1180
1200
1220
1240
1260
1280
1300
1320
1340

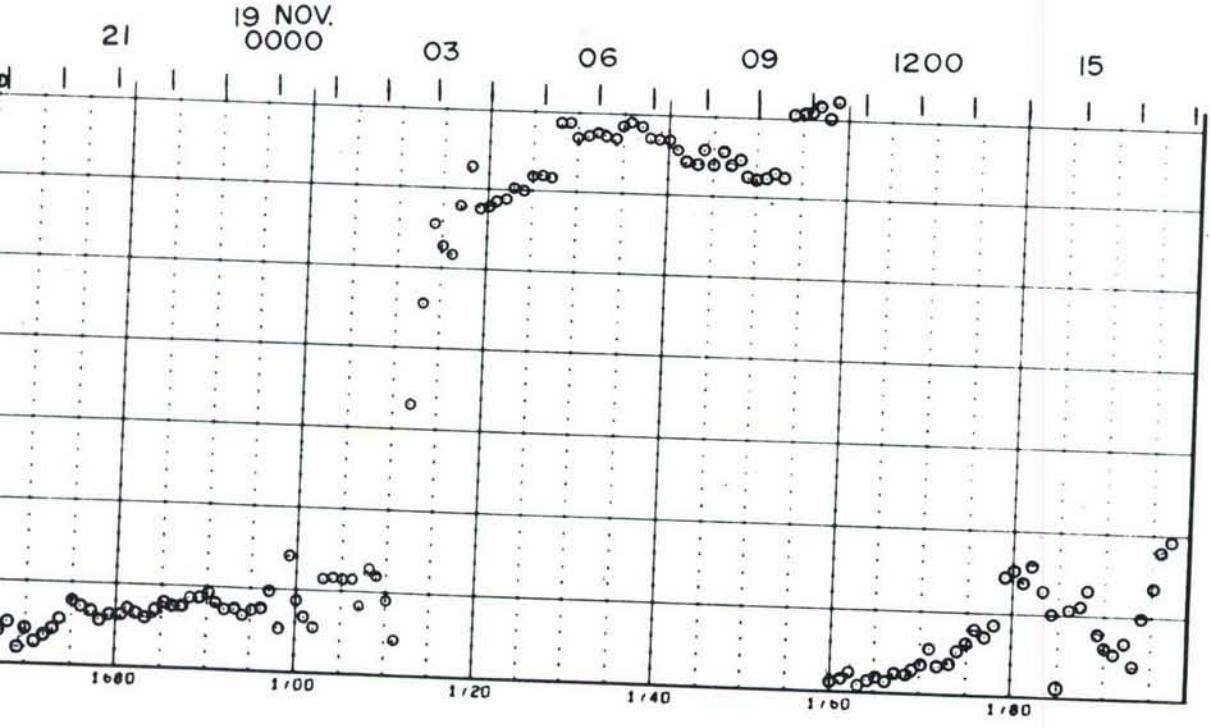


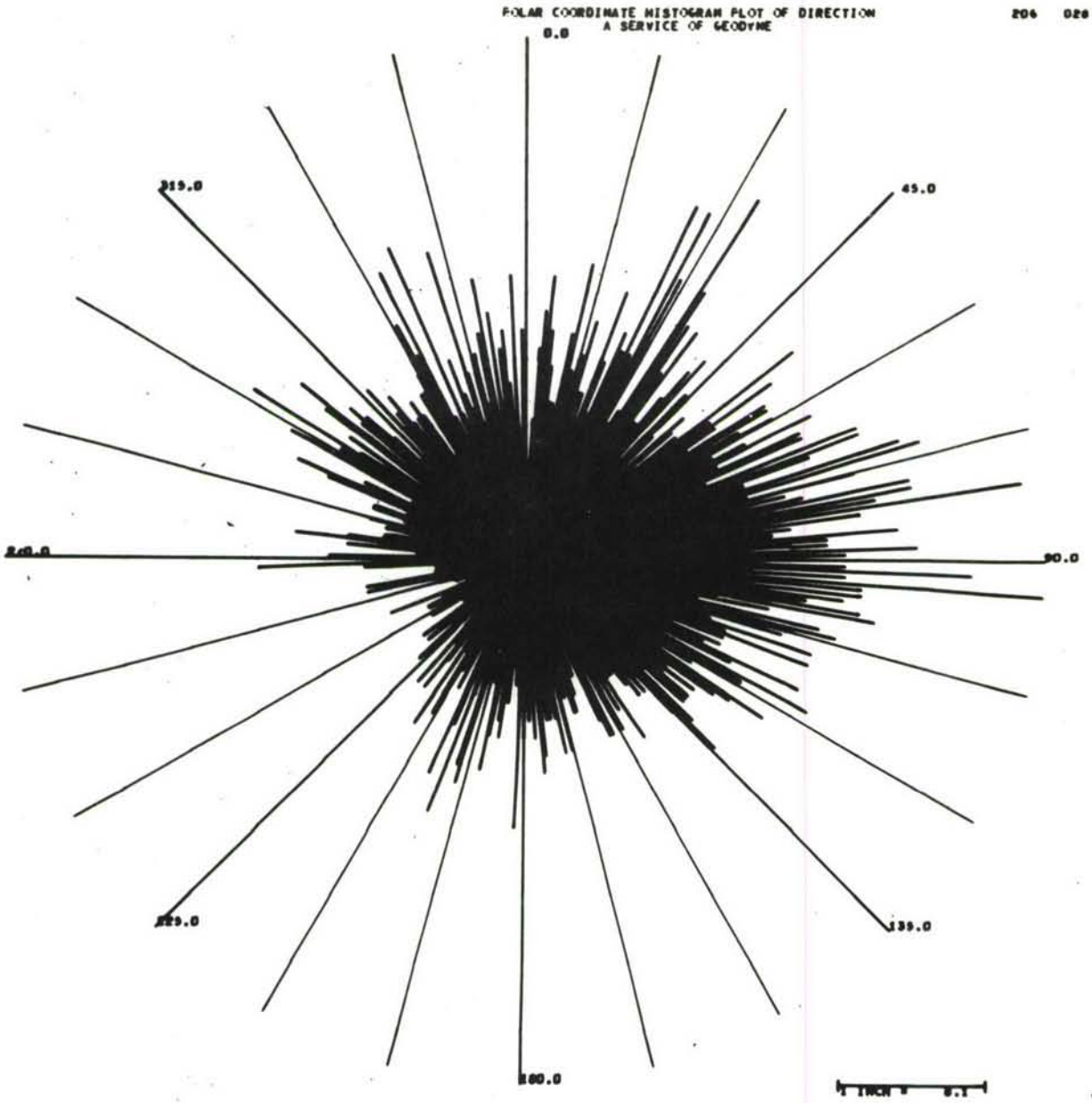
SITE 3B. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—500 FOOT DEPTH (3460 FEET ABOVE BOTTOM)


00
1520
1540
1560
1580
1600
1620
1640
1660

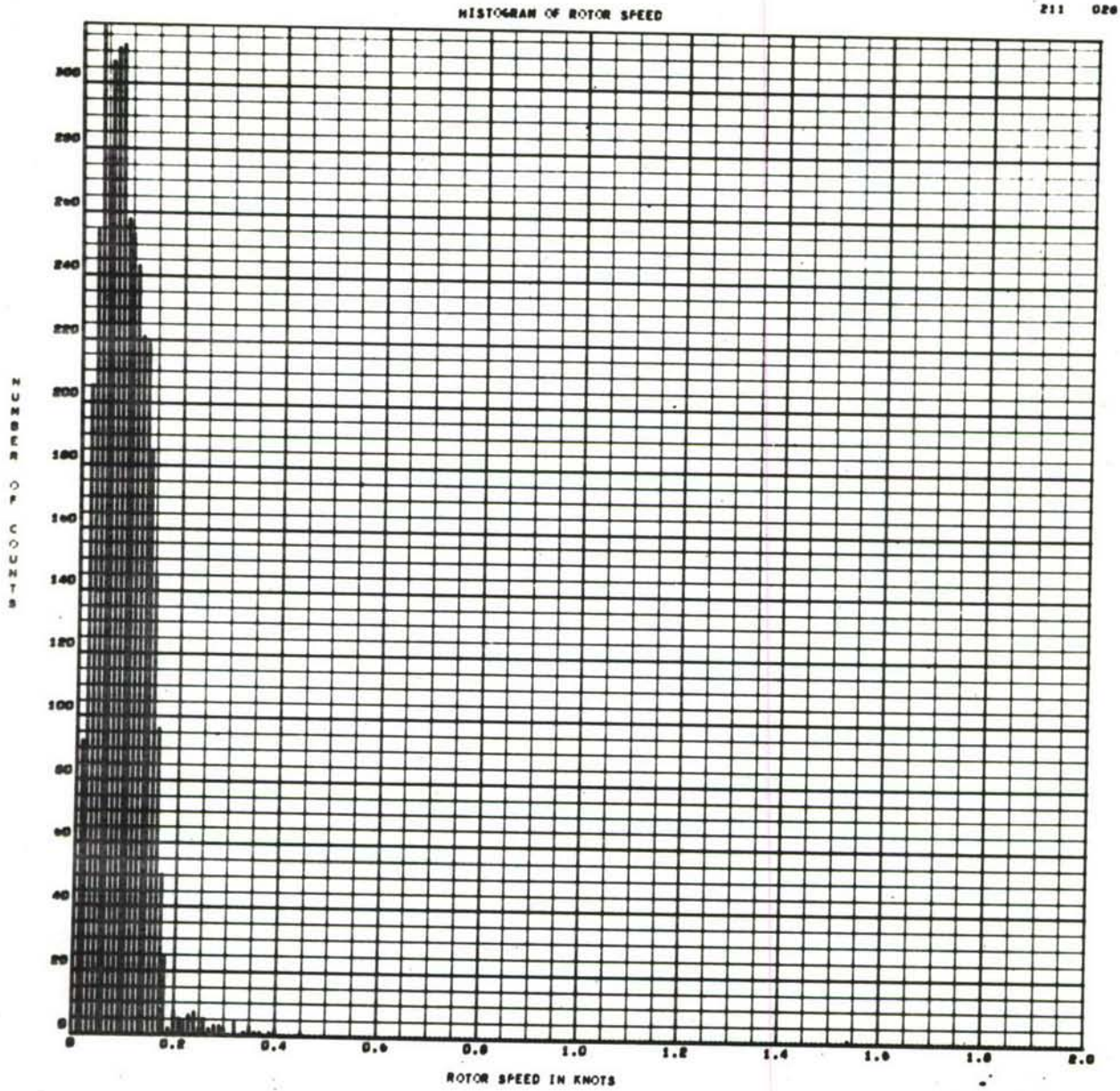

18 NOV.
18
21
0000
03
06
09
1200
15
18
00
1520
1540
1560
1580
1600
1620
1640
1660


10
8
6
4
2
1680
1/00
1/20
1/40
1/60
1/80

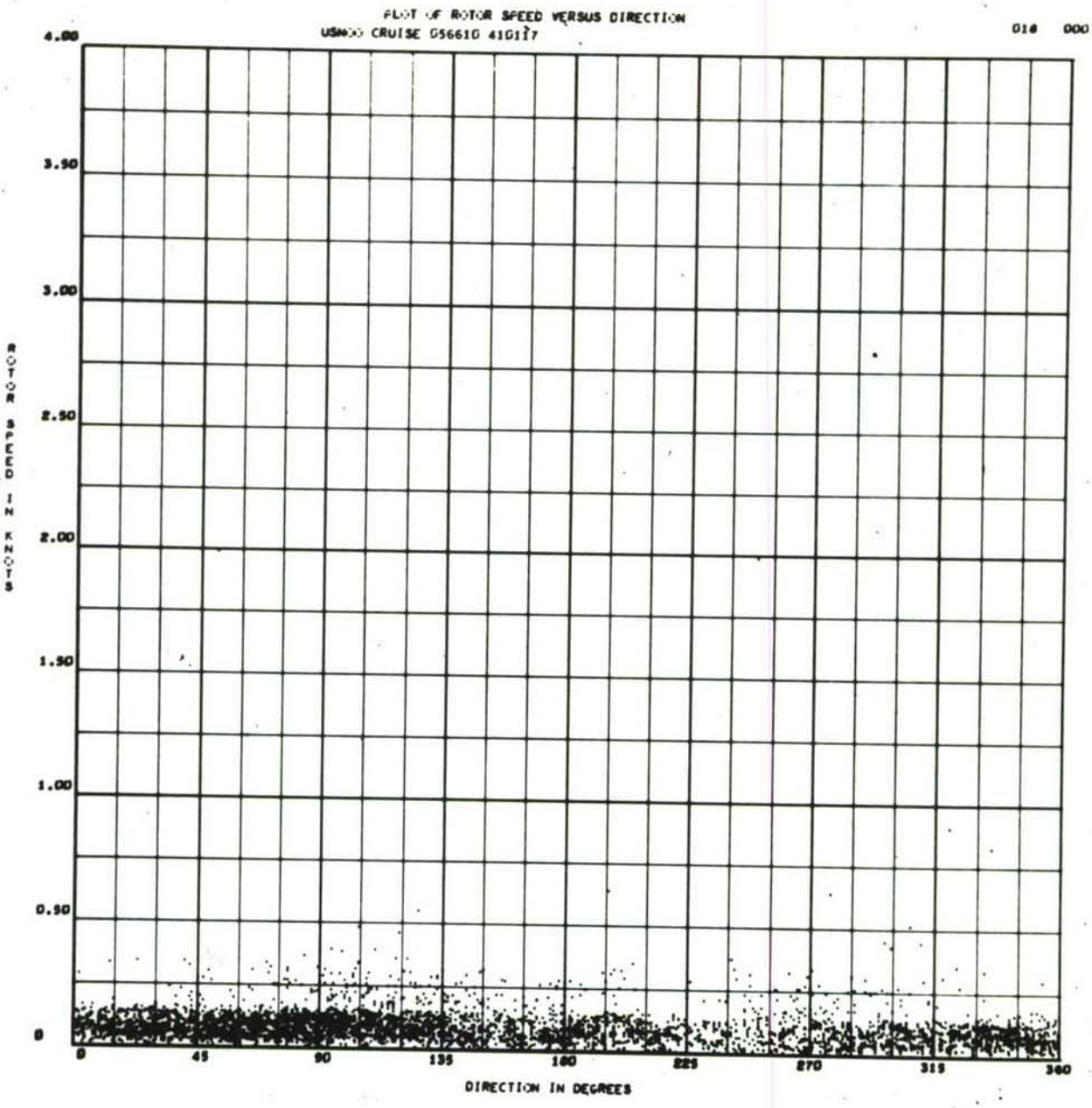

21
19 NOV.
0000
03
06
09
1200
15
1680
1/00
1/20
1/40
1/60
1/80



SITE 3B. POLAR COORDINATE HISTOGRAM 500 FOOT DEPTH
(3460 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966



SITE 3B. HISTOGRAM OF ROTOR SPEED 500 FOOT DEPTH
(3460 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966



SITE 3B. SCATTER PLOT 500 FOOT DEPTH
(3460 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966

TITLE: FILM PROCESSING AND READING LOG* 410118

Geodyne Assigned Film No.

FILM IDENTIFICATION BY CUSTOMER Date 9 January 1967

Name Thomas G. Long

Address Naval Oceanographic Office
Washington D.C. 20390

399-3B
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. 399

Motor RPM _____, Film Advance Speed .120in/sec., No. Timer Cam Lobes 6

☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 sec.

Cruise 056610, Location: Lat. 33° 04.3'N Long. 118° 29.8'W Meter Depth 2205 feet

Magnetic variation (+ = East, - = West) 14° 26'East

Recording started at 1350 Hours, plus 8 Time Zone, 25 Oct 1966 Date

Recording ended at 1930 Hours, plus 8 Time Zone, 4 Dec 1966 Date

Comments:
Station 3 Bravo, Water depth 3960 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:
Naval Oceanographic Office
Washington D.C. 20390
Attn: Ronald Kopenski, Code 9100

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
☒ Analog strip chart record
☒ Magnetic tape record

Other instructions:
1. Process only that data between the tape strips on the film.
2. Supply plots of direction versus time and speed versus time.
3. Supply scatter plots and histogram plots.

Customer's Order No. (3)

FILM AND READING EVALUATION BY GEODYNE

Record started: foot mark 6826 7/16 @ _____ hours, _____ Date

Record ended: foot mark 6857 7/16 @ _____ hours, _____ Date

Total footage 31'70, Total elapsed time of record _____

FILM EVALUATION: Alignment _____, Density _____

Compass _____, Vane _____, Rotor _____, Time pulse _____

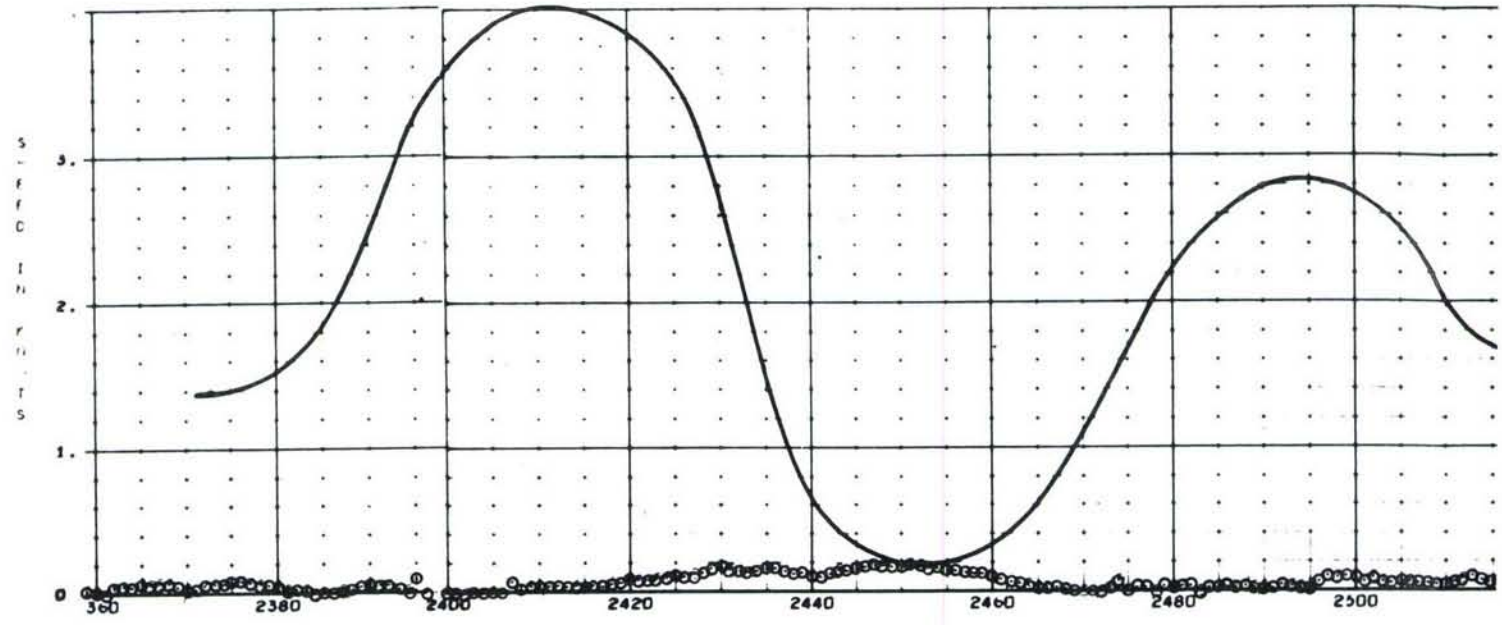
Comments:

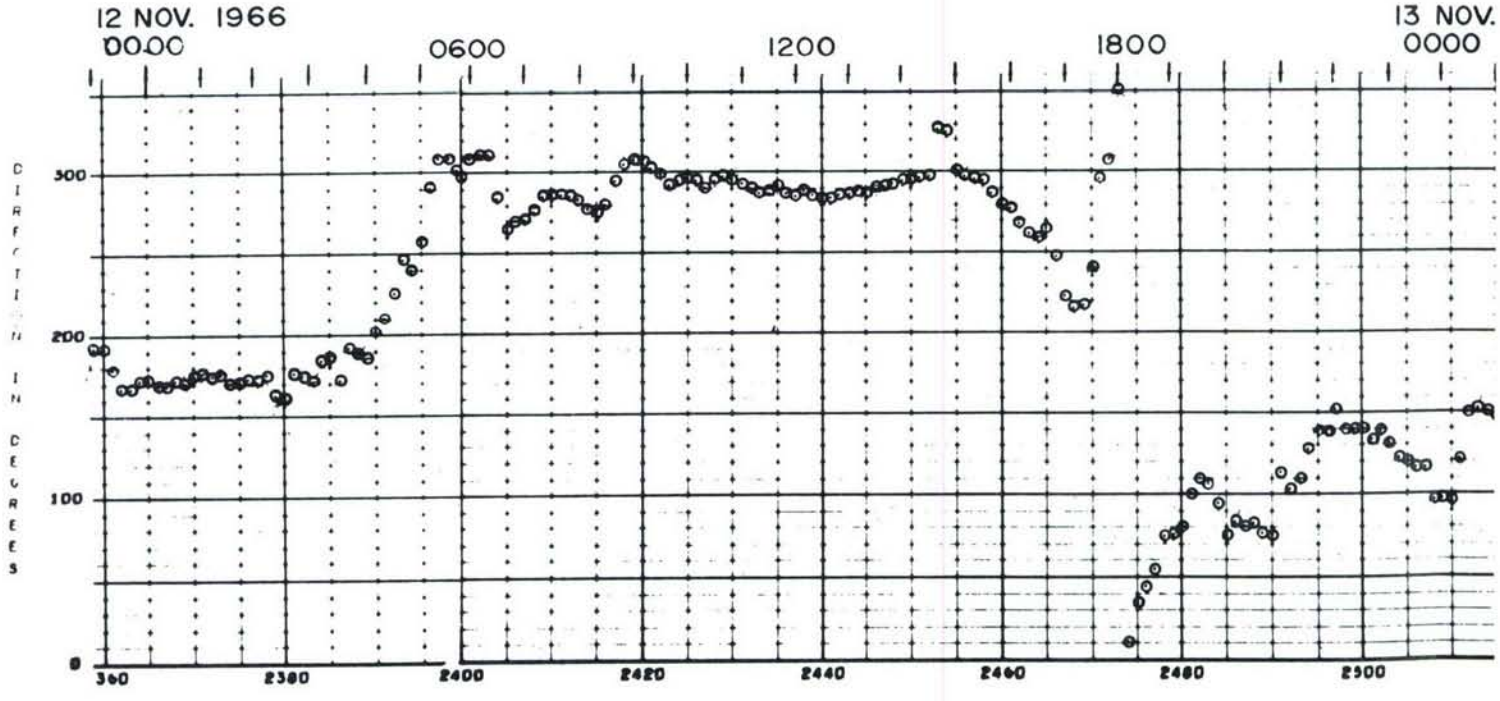
Strip Chart:

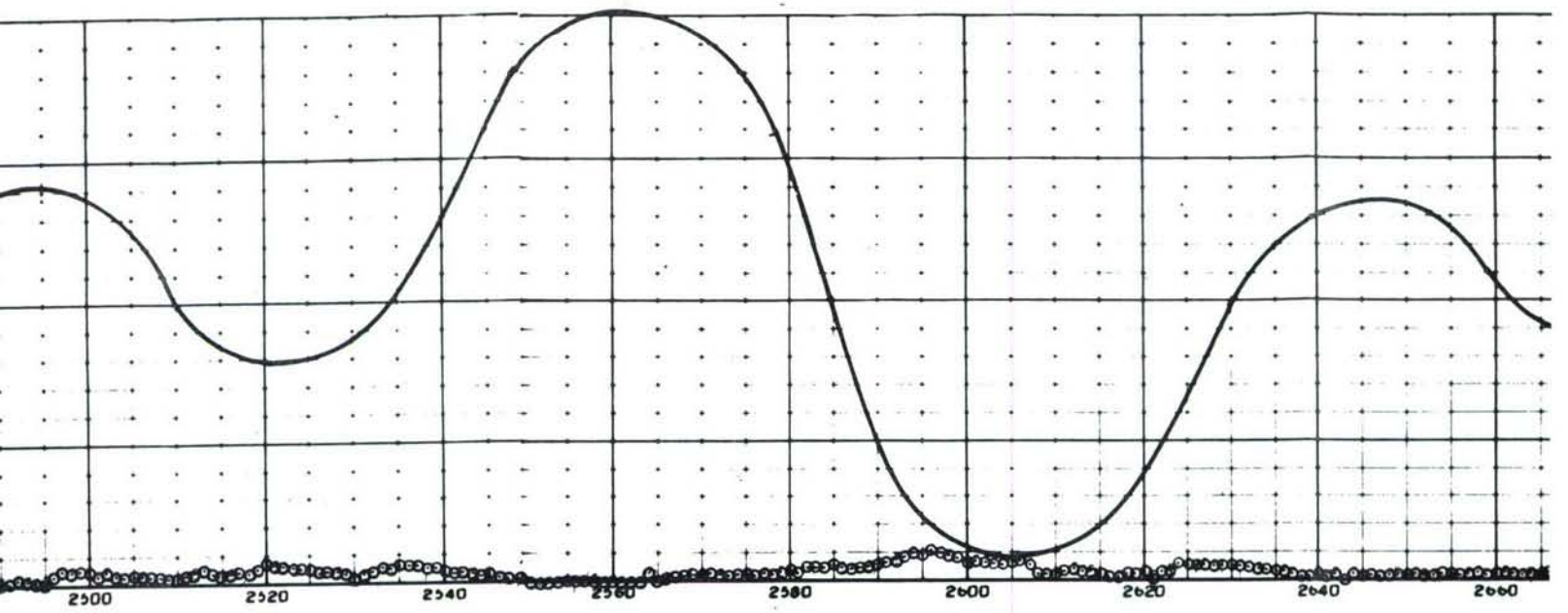
Magnetic Tape: 000519 Part 8

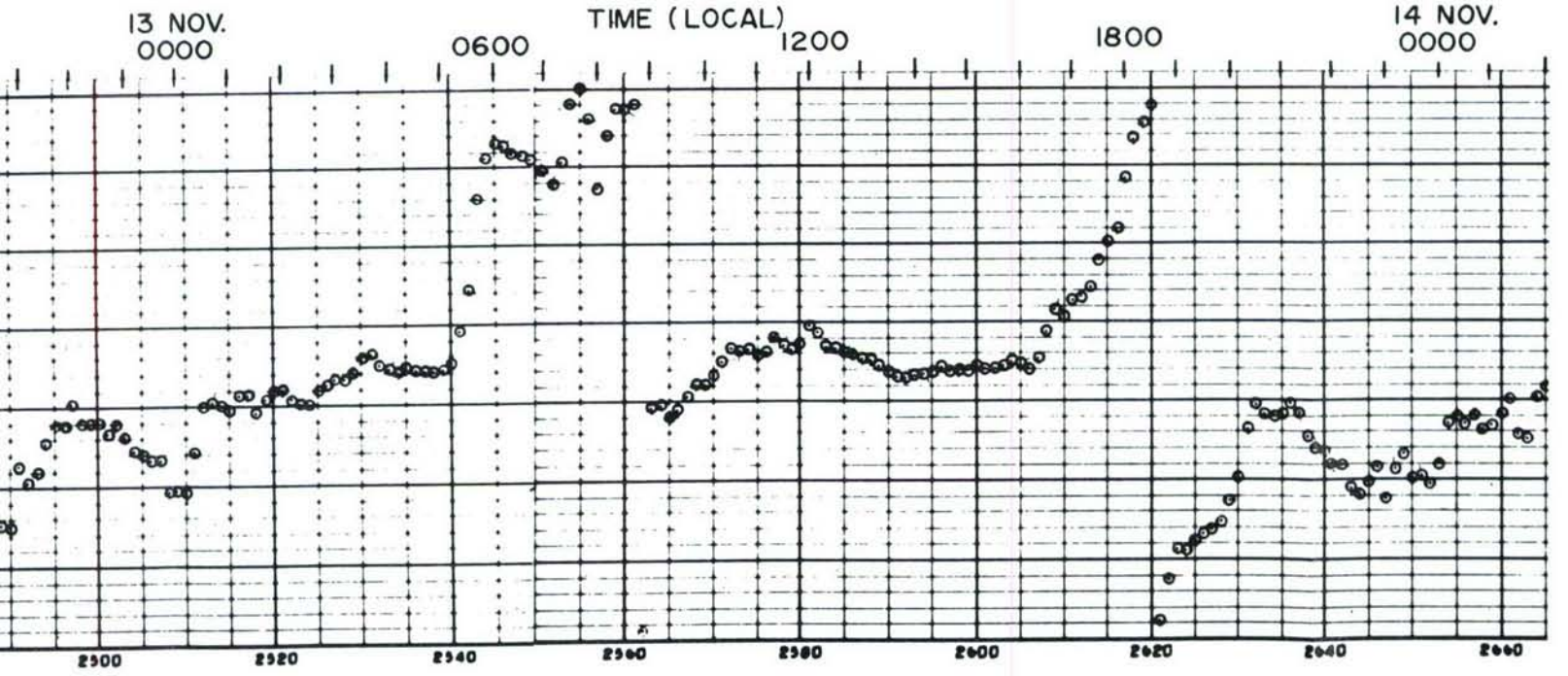
Date Completed: Film Processing _____, Reading 3-14-67

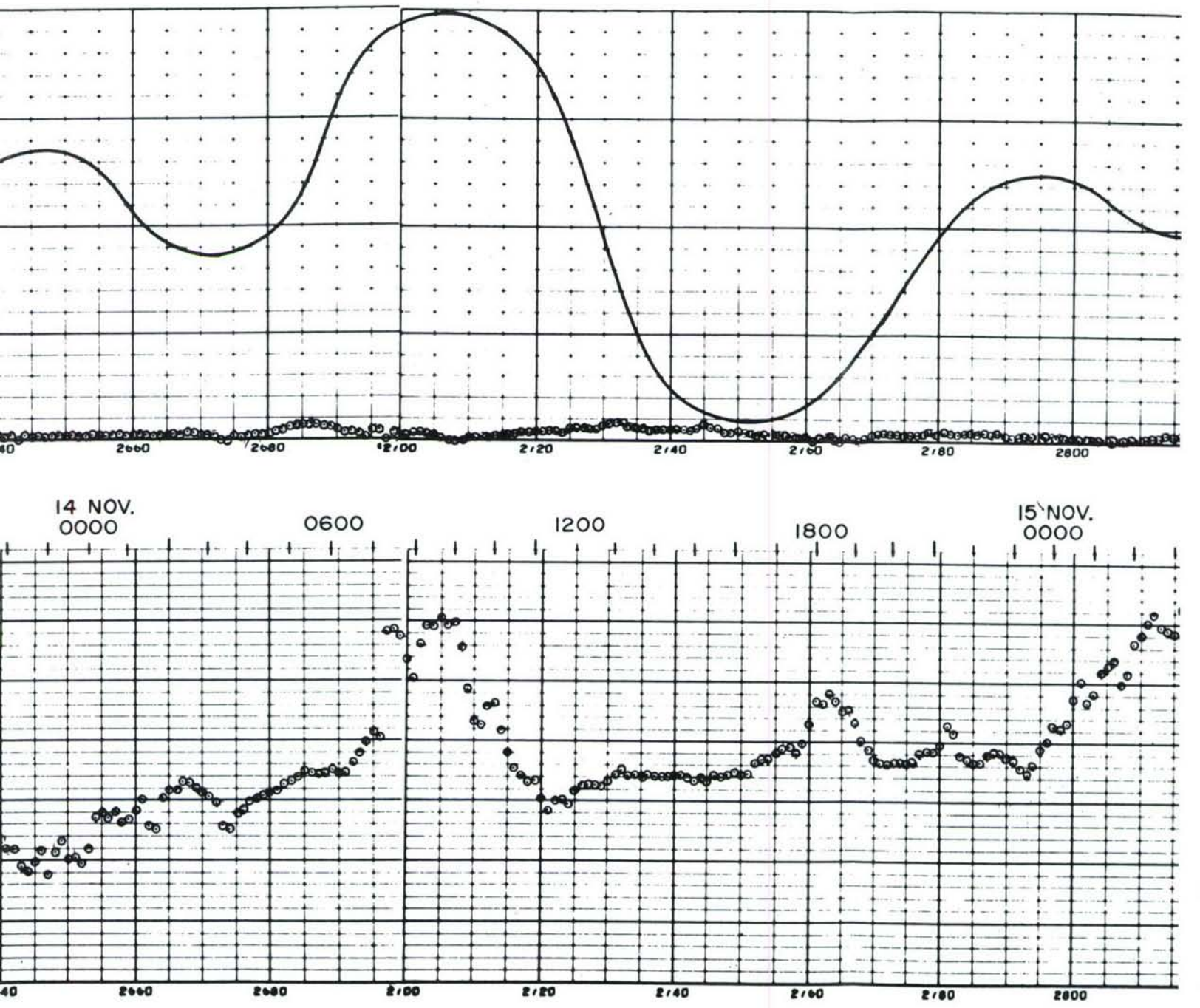
SITE 3B. DATA SHEET—2205 FOOT DEPTH (1755 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966


SPEED IN KNOTS
3.
2.
1.
0
360
2380
2400
2420
2440
2460
2480
2500


12 NOV. 1966
0000
0600
1200
1800
13 NOV.
0000
DIRECTION IN DEGREES
300
200
100
0
360
2380
2400
2420
2440
2460
2480
2500

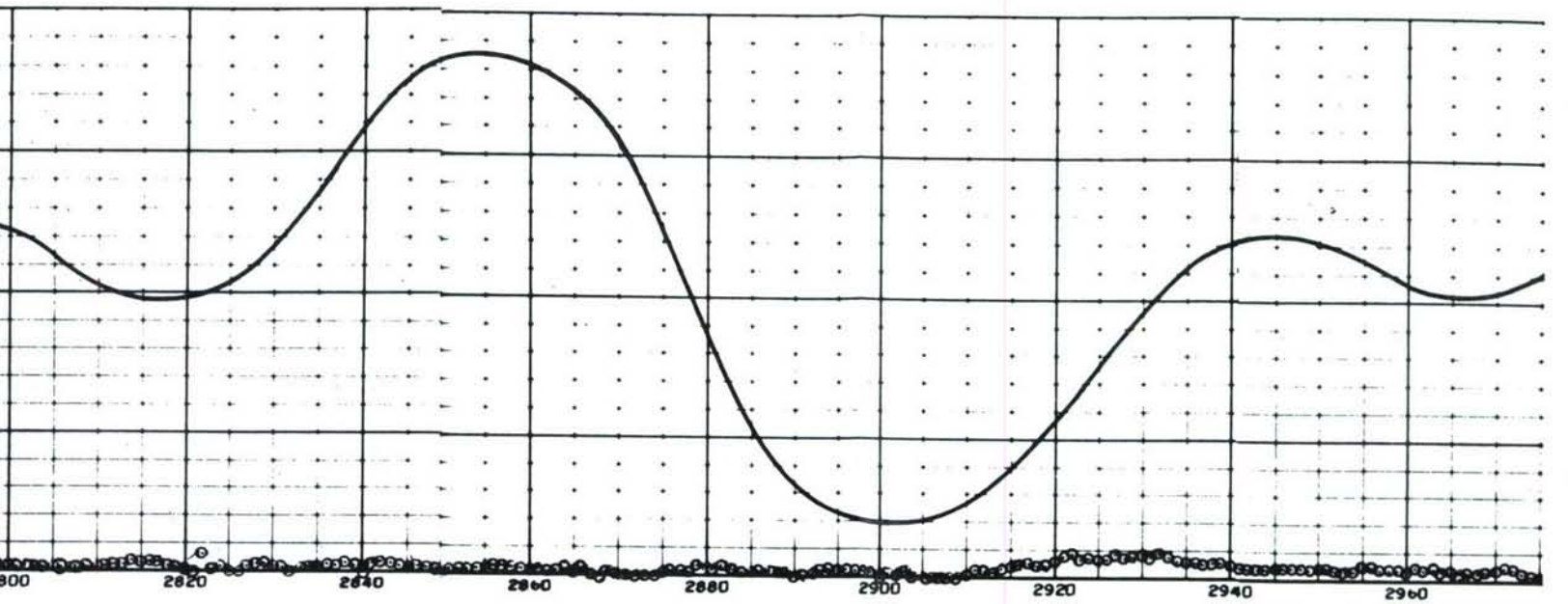

2500
2520
2540
2560
2580
2600
2620
2640
2660

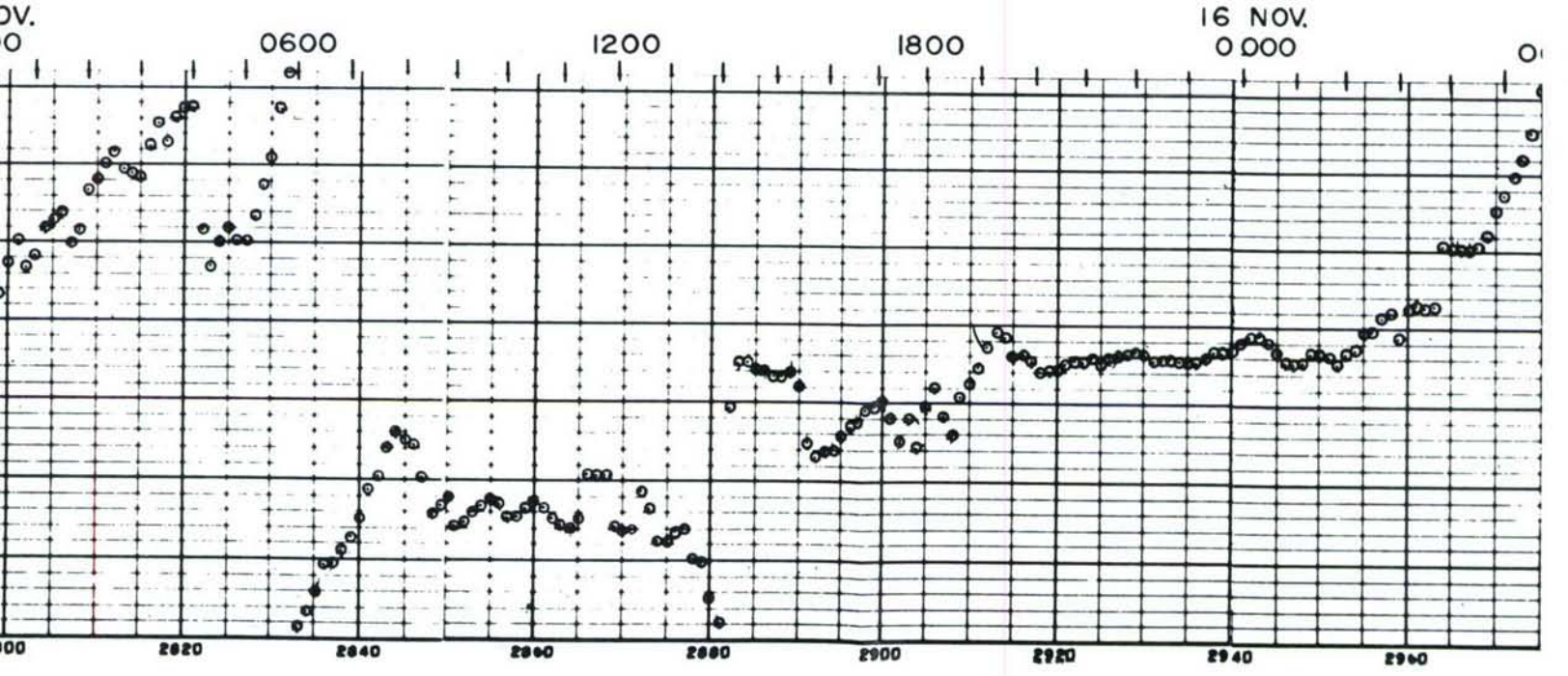

13 NOV.
0000
0600
TIME (LOCAL)
1200
1800
14 NOV.
0000
2500
2520
2540
2560
2580
2600
2620
2640
2660



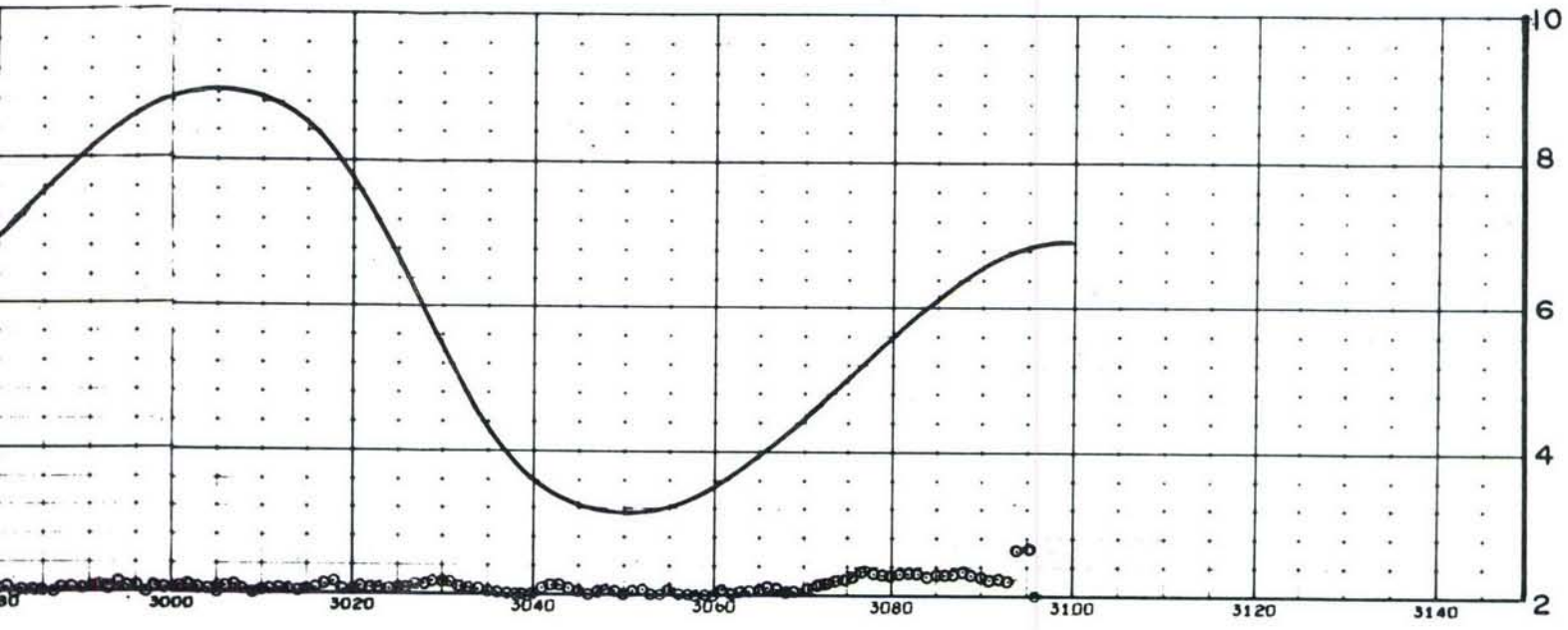
SITE 3B. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—2205 FOOT DEPTH (1755 FEET ABOVE E

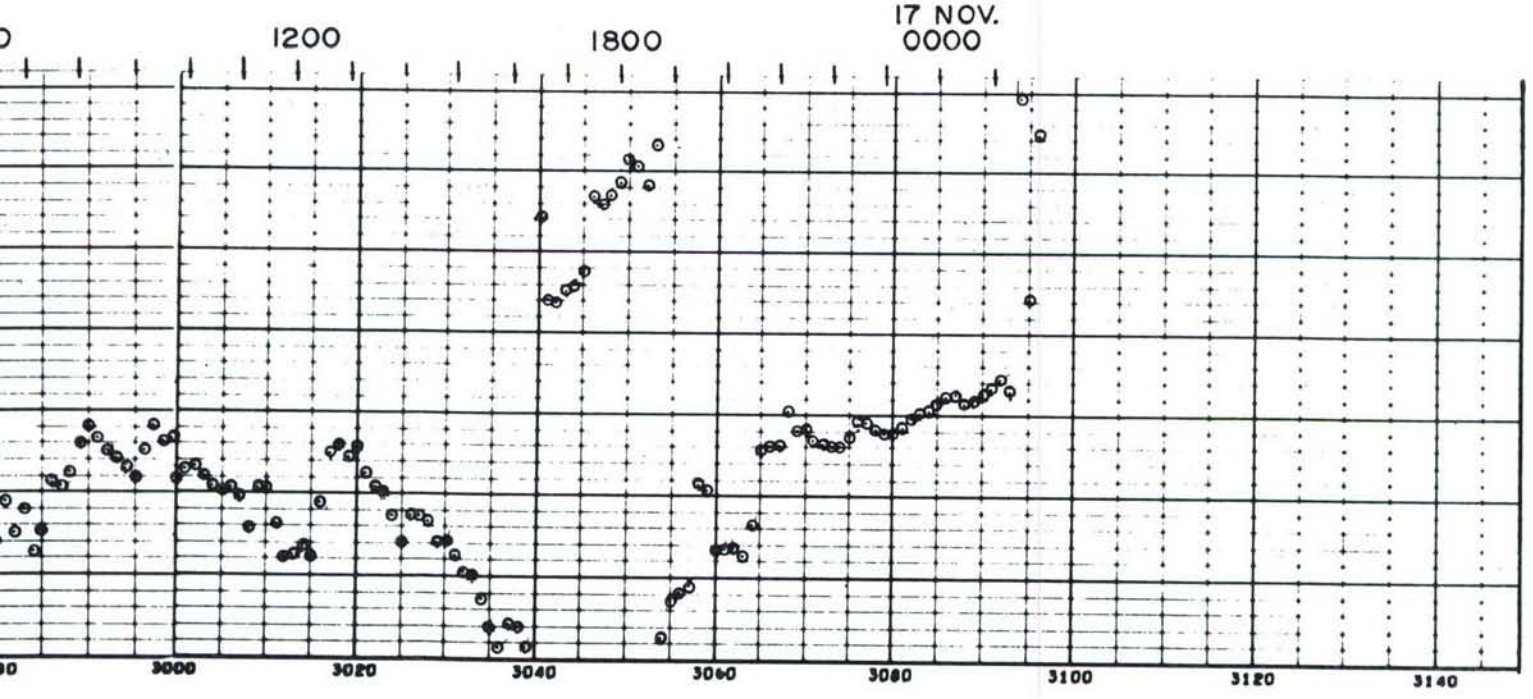
3

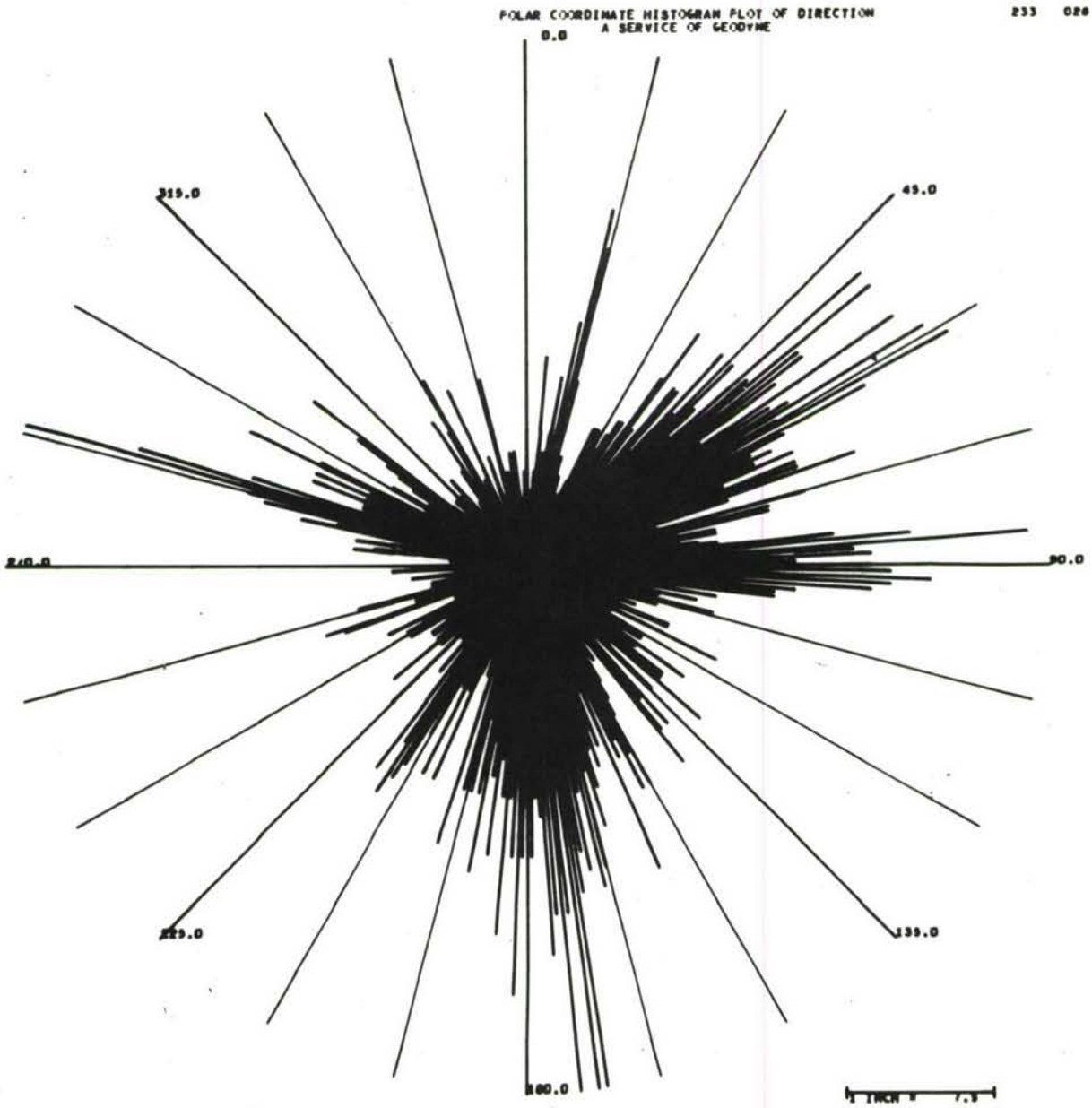




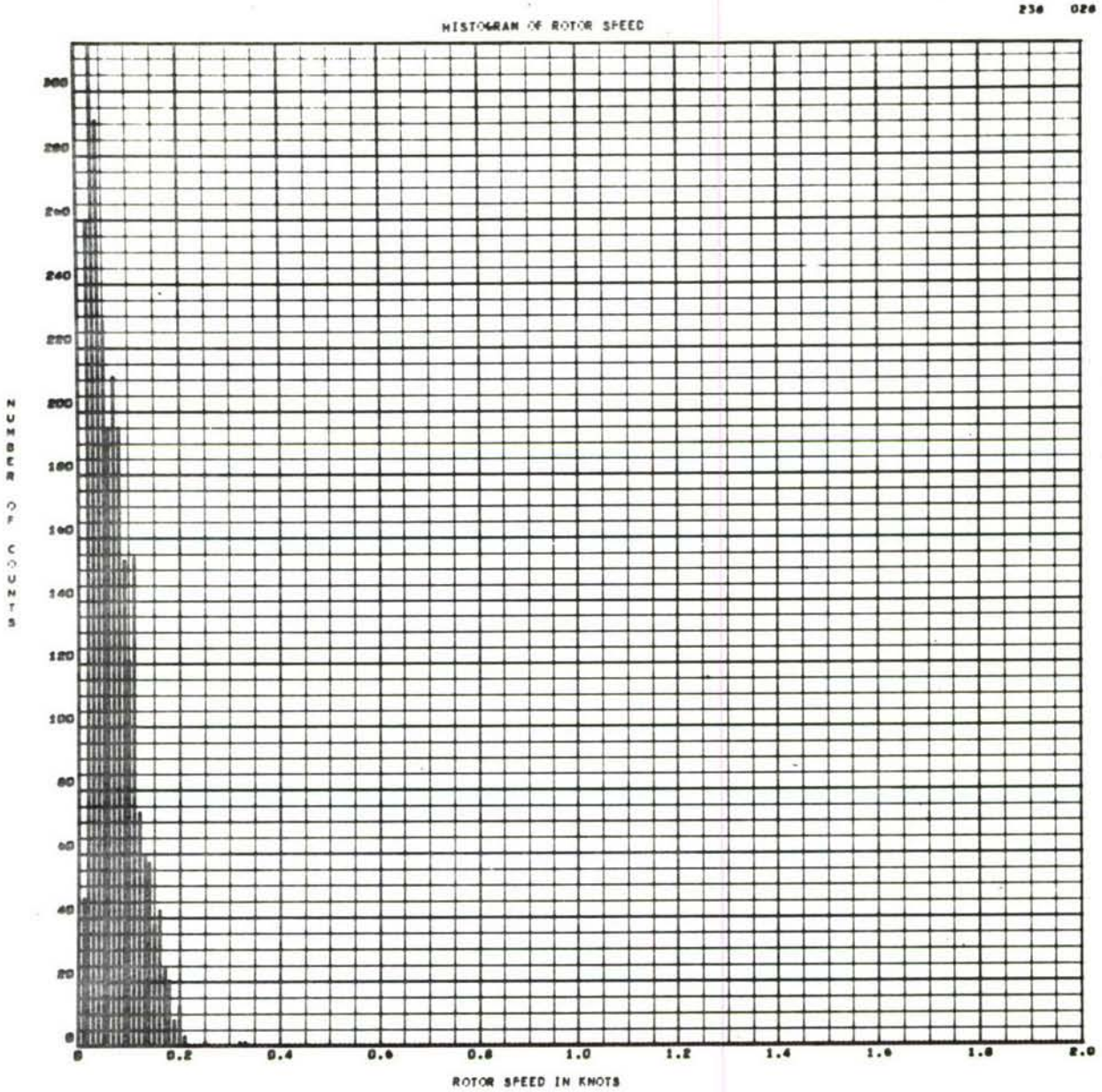
FEET ABOVE BOTTOM)


10
8
6
4
2
3000
3020
3040
3060
3080
3100
3120
3140

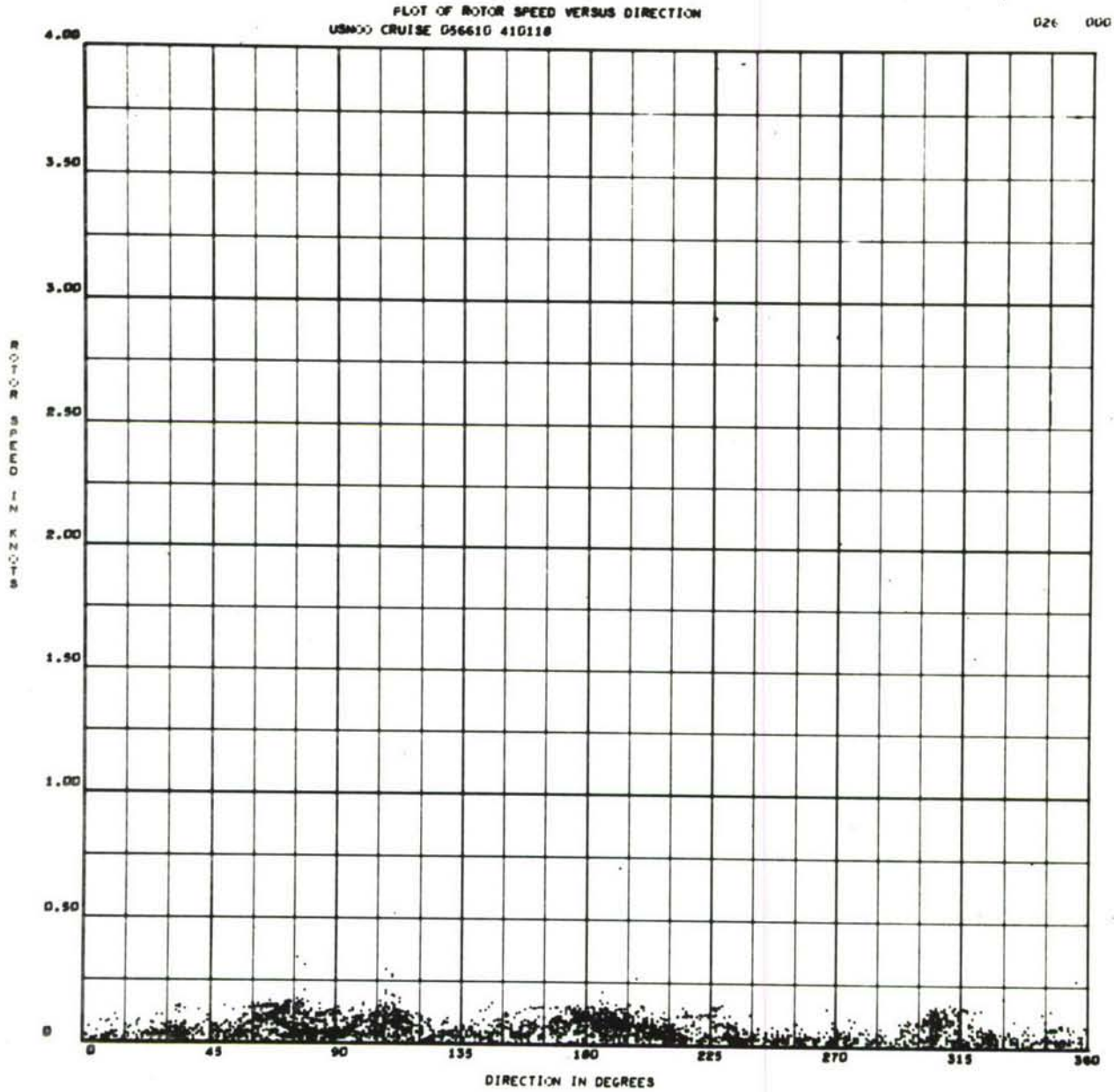

1200
1800
17 NOV.
0000
3000
3020
3040
3060
3080
3100
3120
3140



SITE 3B. POLAR COORDINATE HISTOGRAM 2205 FOOT DEPTH
(1755 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966



SITE 3B. HISTOGRAM OF ROTOR SPEED 2205 FOOT DEPTH
(1755 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966



SITE 3B. SCATTER PLOT 2205 FOOT DEPTH
(1755 FEET ABOVE BOTTOM) OCTOBER—DECEMBER 1966

TITLE: **FILM PROCESSING AND READING LOG***

410116
Geodyne Assigned Film No.

FILM IDENTIFICATION BY CUSTOMER Date 9 January 1967

Name Thomas G. Long

Address Naval Oceanographic Office
Washington D.C. 20390

451-5C
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. 451
Motor RPM ____, Film Advance Speed ____, No. Timer Cam Lobes 6
☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 Seconds

Cruise 056610, Location: Lat. 32° 58.8'N Long. 118° 28.8'W Meter Depth 13 feet above bottom
Magnetic variation (+ = East, - = West) 14° 26'East
Recording started at 0954 Hours, plus 8 Time Zone, 22 Oct.1966 Date
Recording ended at 1459 Hours, plus 8 Time Zone, 19 Nov.1966 Date
Comments:

Station 5 C, Water depth 3750 feet

INSTRUCTIONS TO GEODYNE

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
☒ Analog strip chart record
☒ Magnetic tape record
Other instructions:
1. Process only that data between the tape strips on the film.
2. Supply plots of direction versus time and speed versus time.
3. Supply scatter plots and histogram plots.

Store at Geodyne or send to:
Naval Oceanographic Office.
Washington D.C. 20390
Attn: Ronald Kopenski, Code 9100

(4)

Customer's Order No. ____

FILM AND READING EVALUATION BY GEODYNE

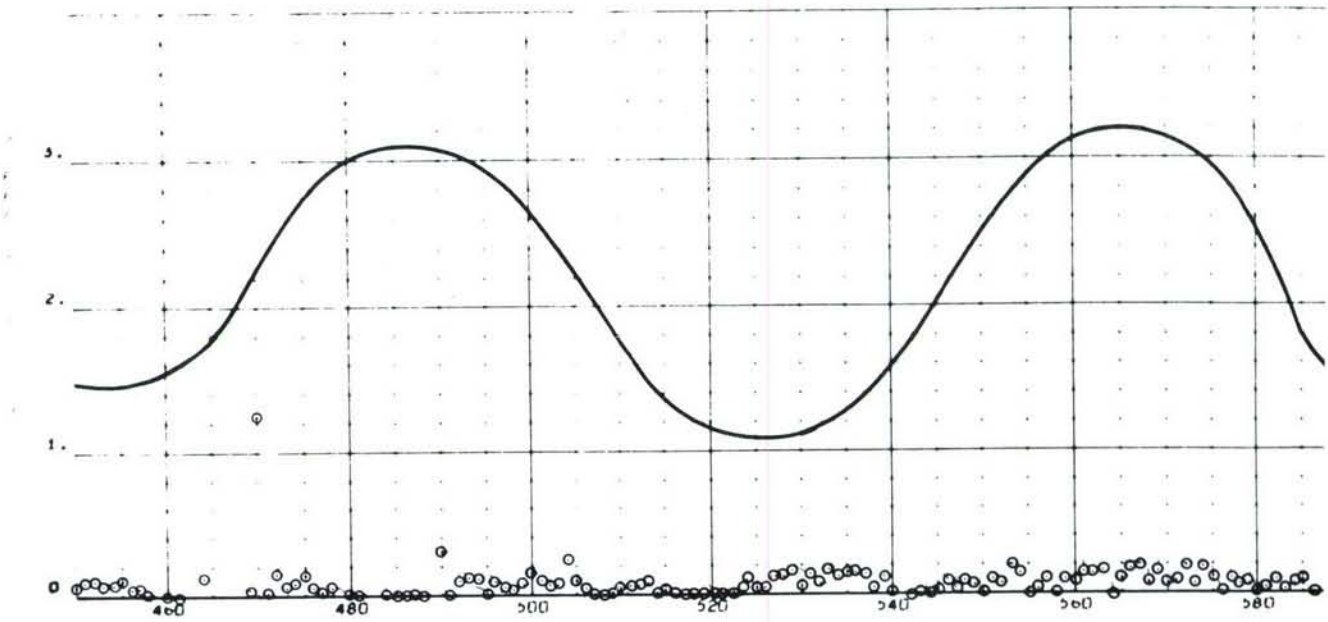
Record started: foot mark 6733+16 @ ____ hours, ____ Date
Record ended: foot mark 6765+4 @ ____ hours, ____ Date
Total footage 31' +28. Total elapsed time of record ____
FILM EVALUATION: Alignment ____, Density ____
Compass ____, Vane ____, Rotor ____, Time pulse ____
Comments: Continuous. Rota Pulses very bright. Speed recorded on magnetic tape probably not correct.

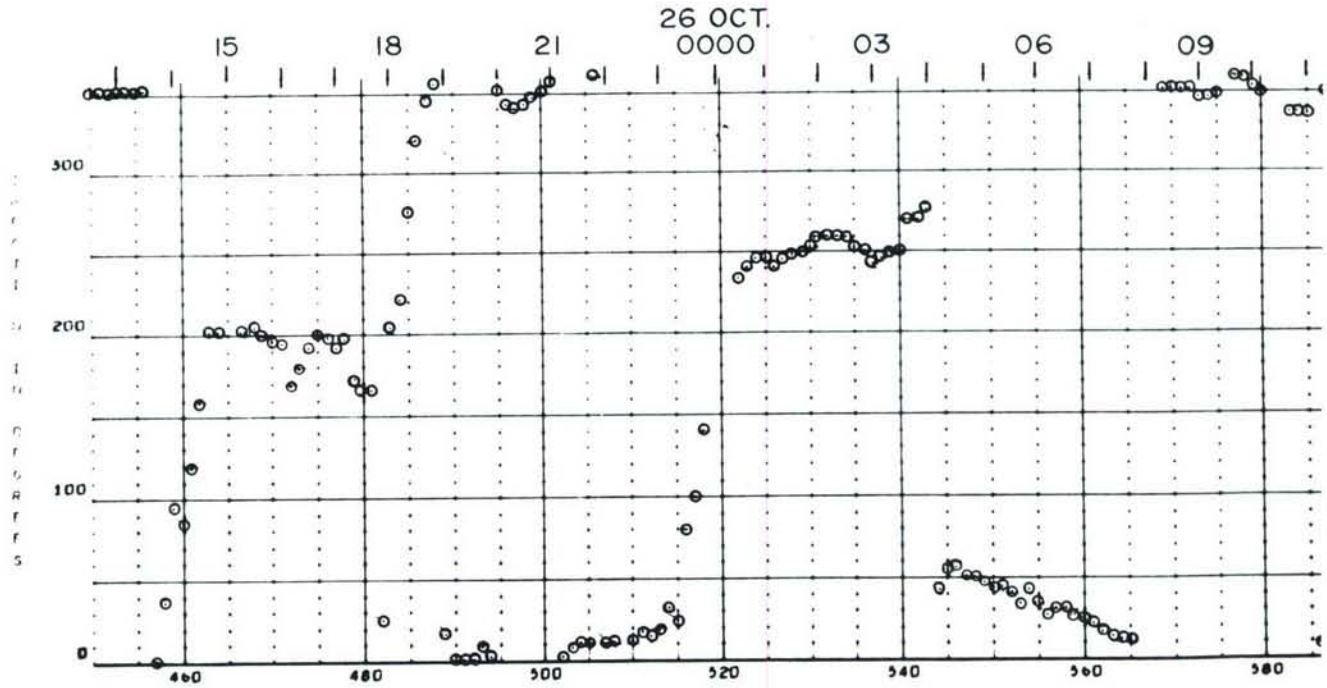
Strip Chart:

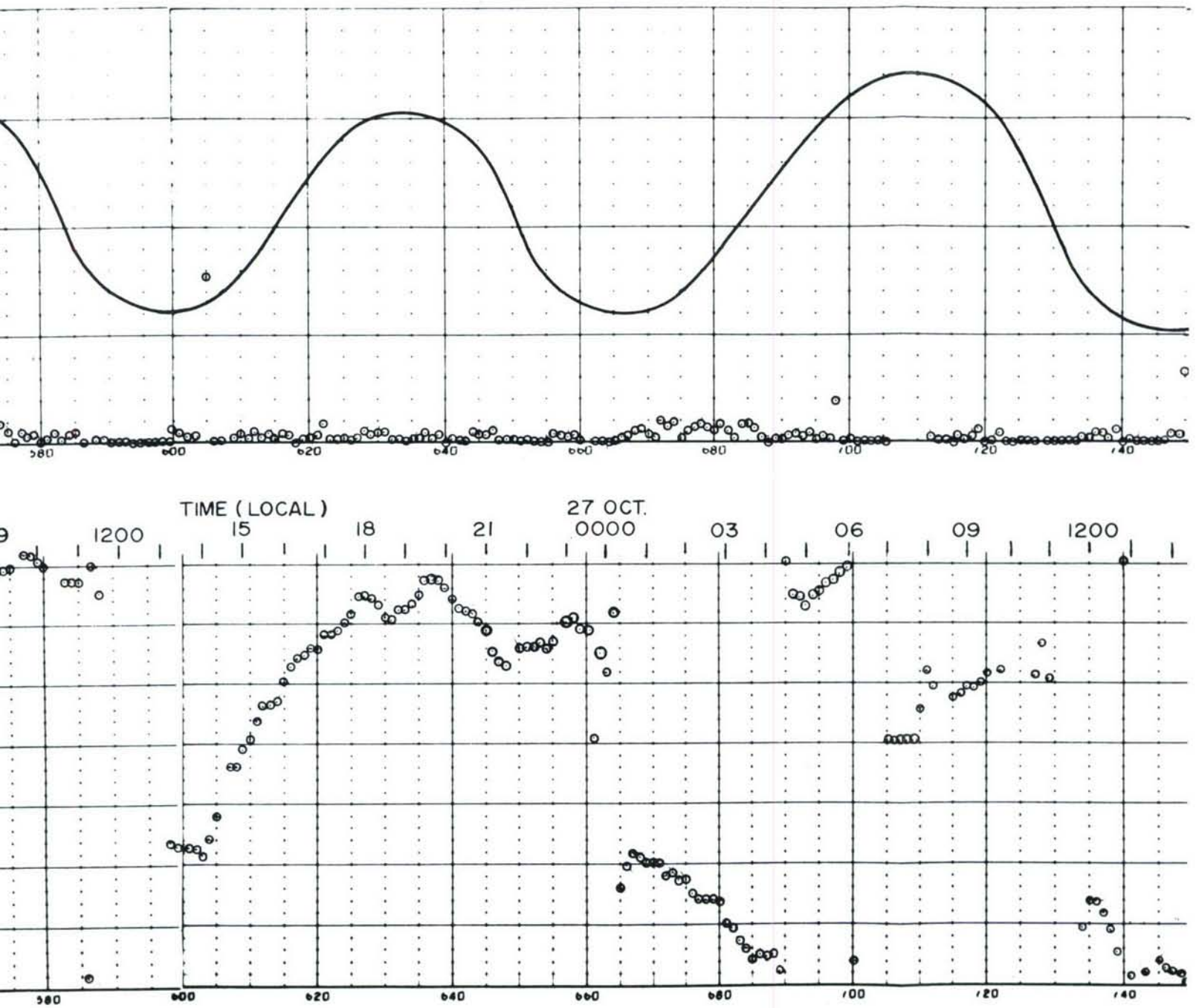
Magnetic Tape: 000519 Part 6

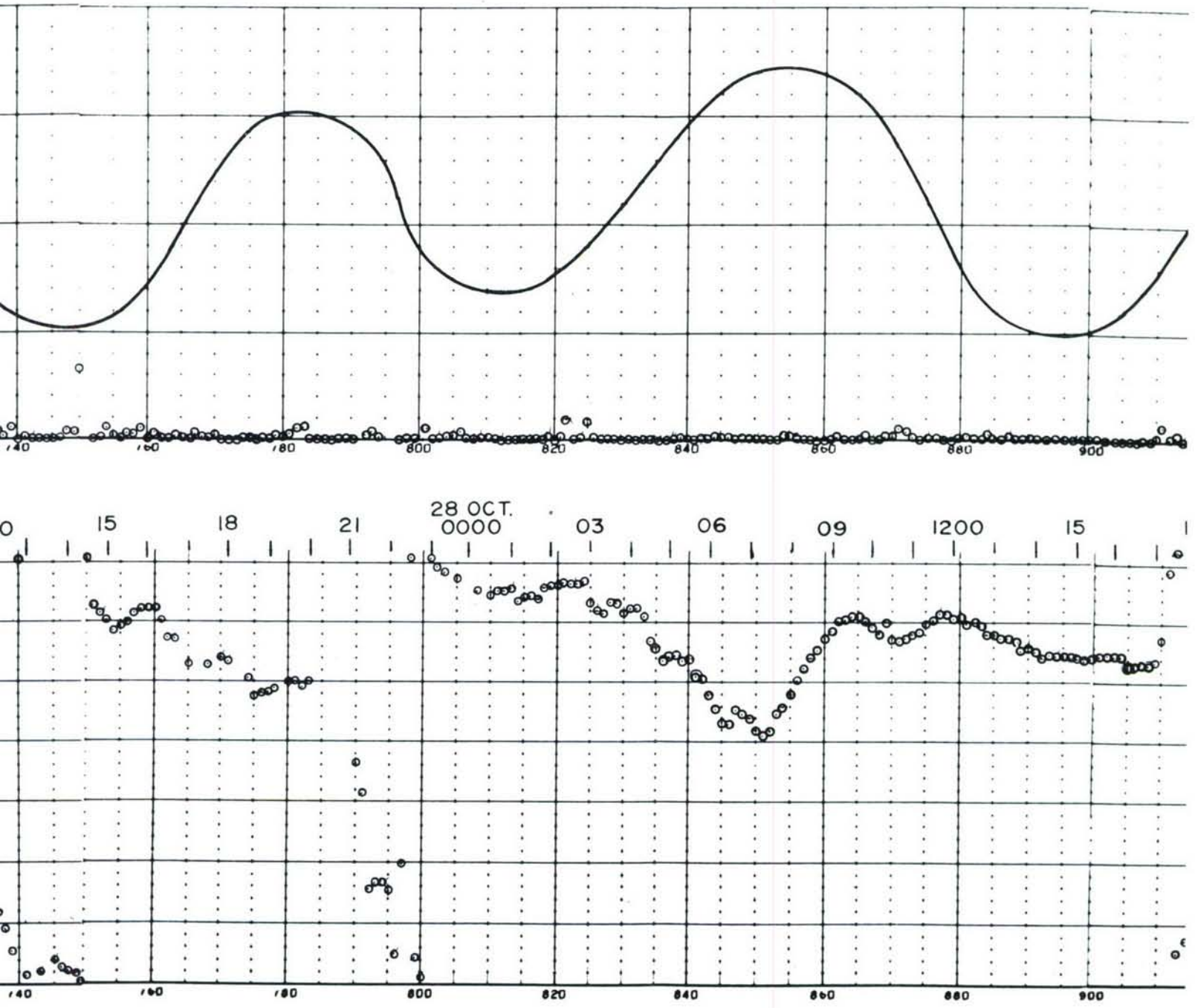
Date Completed: Film Processing ____, Reading 3-14-67

SITE 5C. DATA SHEET—3737 FOOT DEPTH (13 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966


3.
2.
1.
0
460
480
500
520
540
560
580

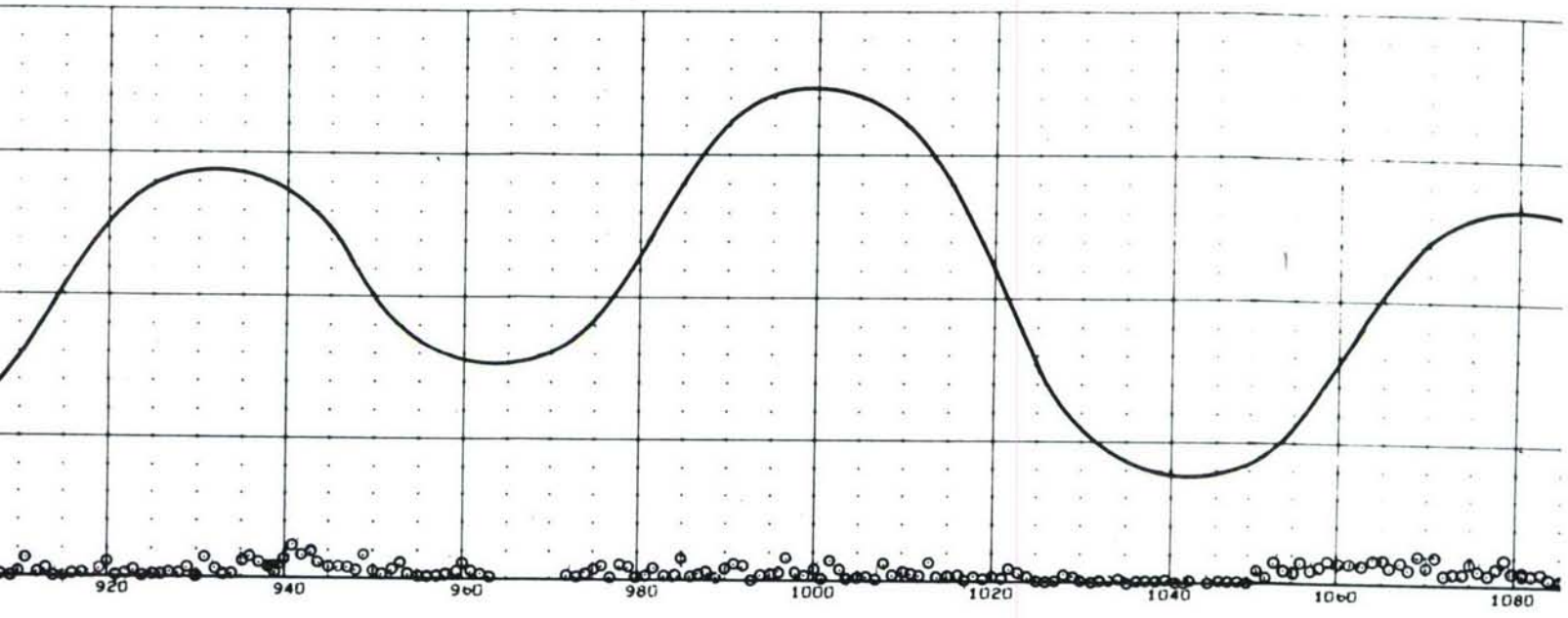

26 OCT.
15
18
21
0000
03
06
09
300
200
100
0
460
480
500
520
540
560
580

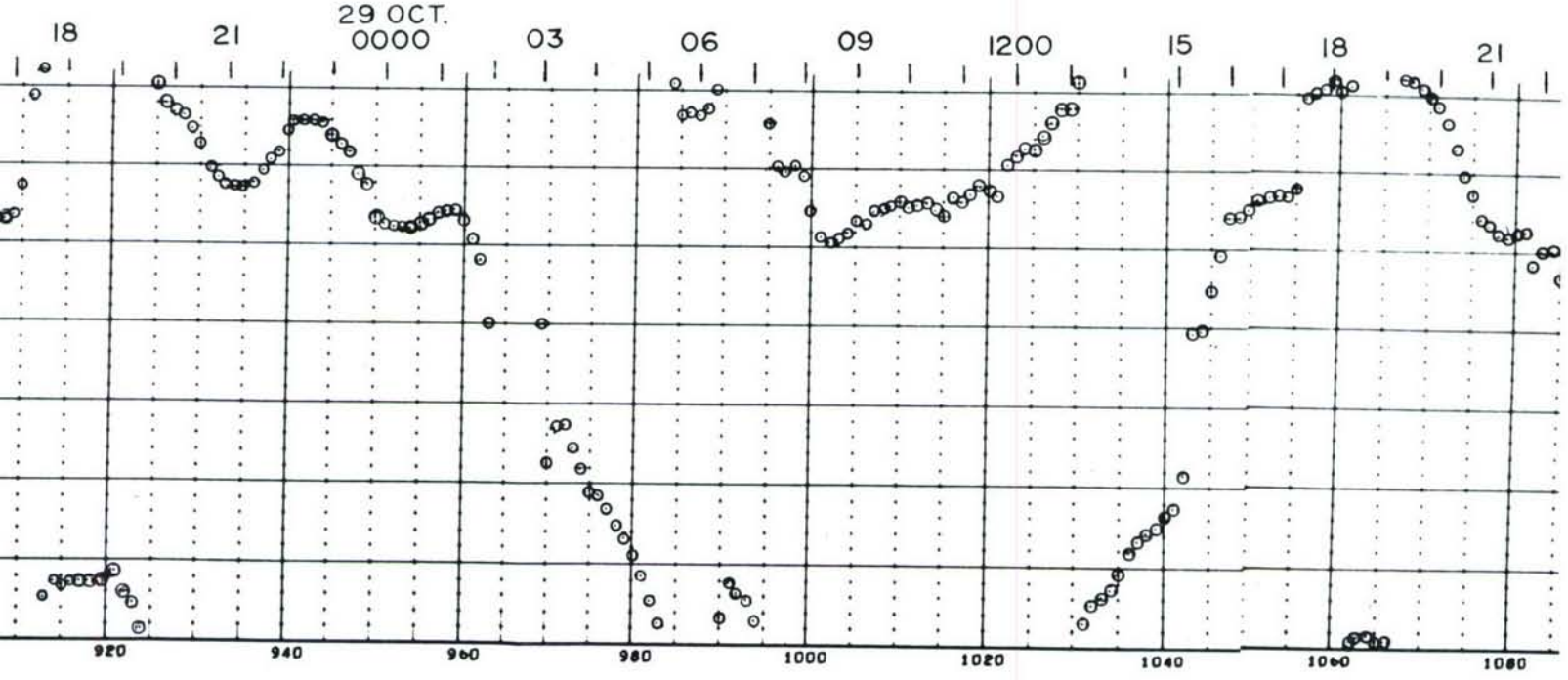

TIME (LOCAL)
27 OCT.
1200
15
18
21
0000
03
06
09
1200

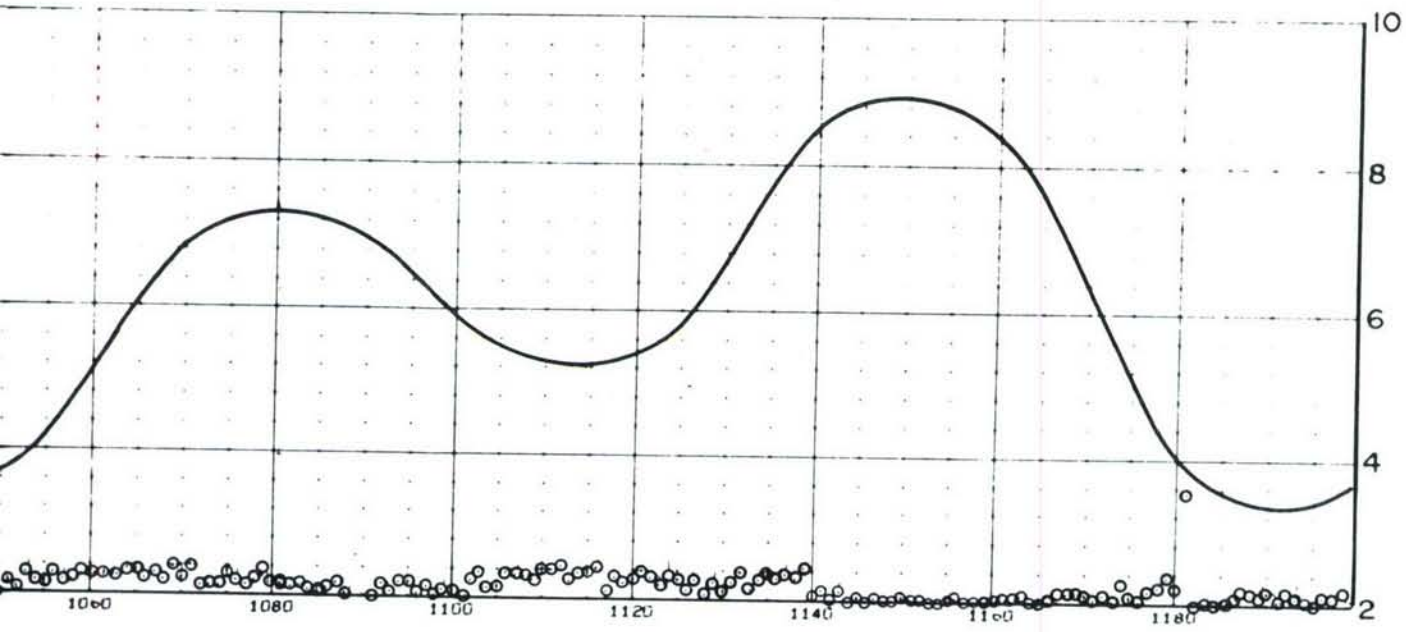


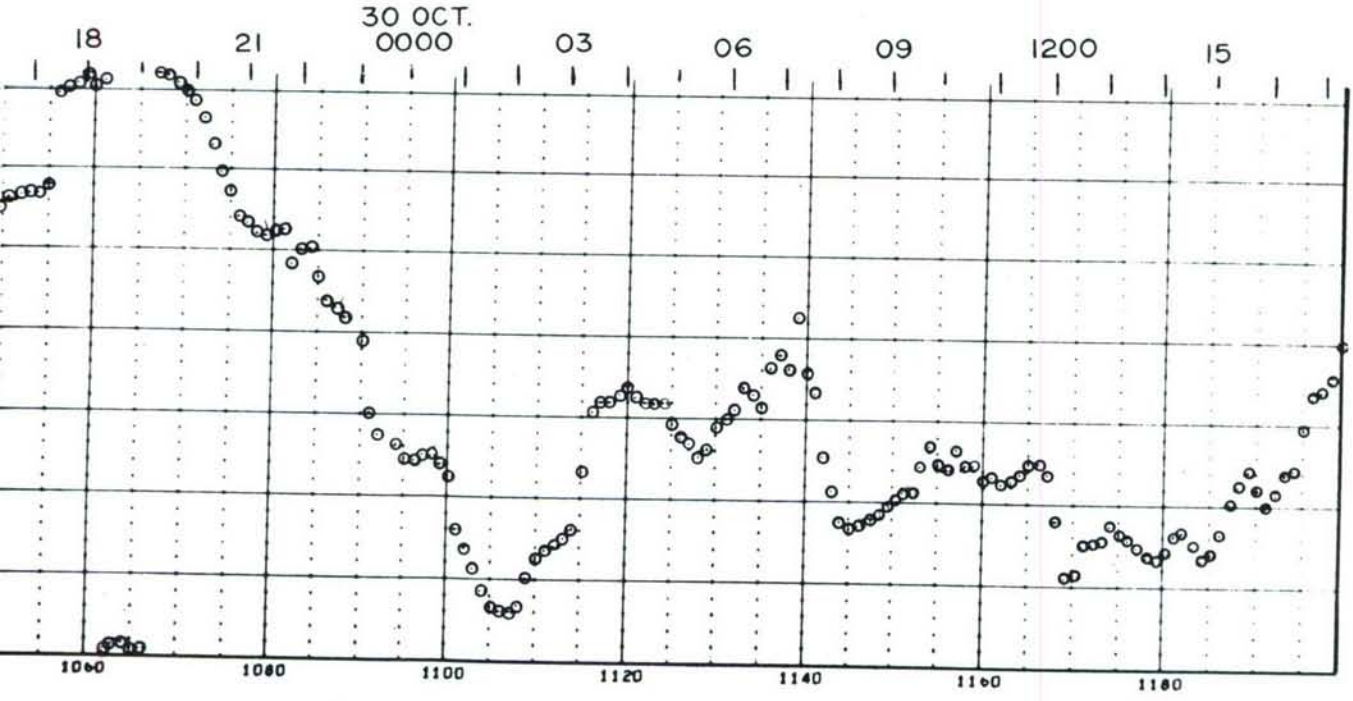
SITE 5C. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—3737 FOOT DEPTH (13 FEET ABOVE BOTTOM)

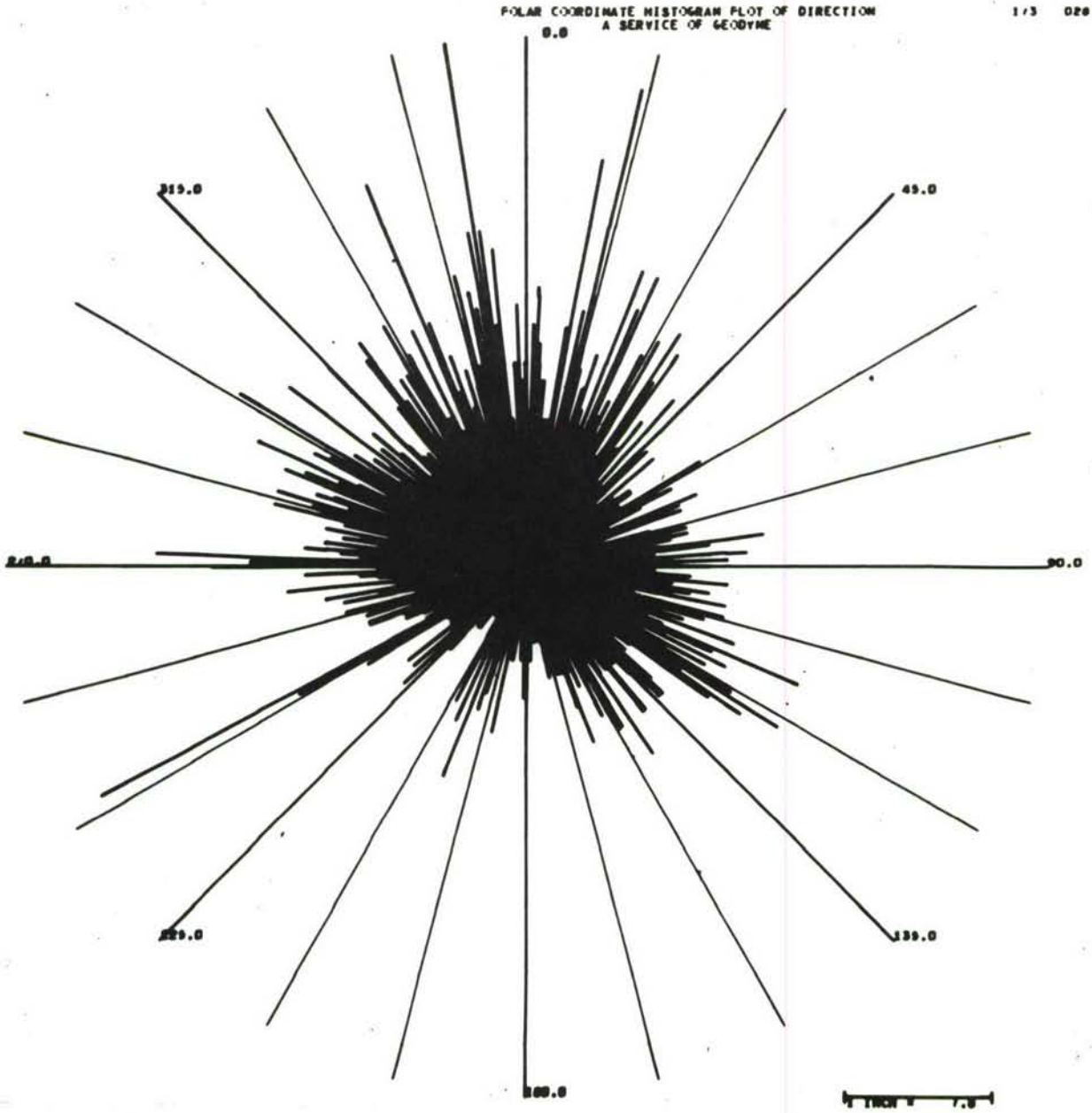
3


920
940
960
980
1000
1020
1040
1060
1080

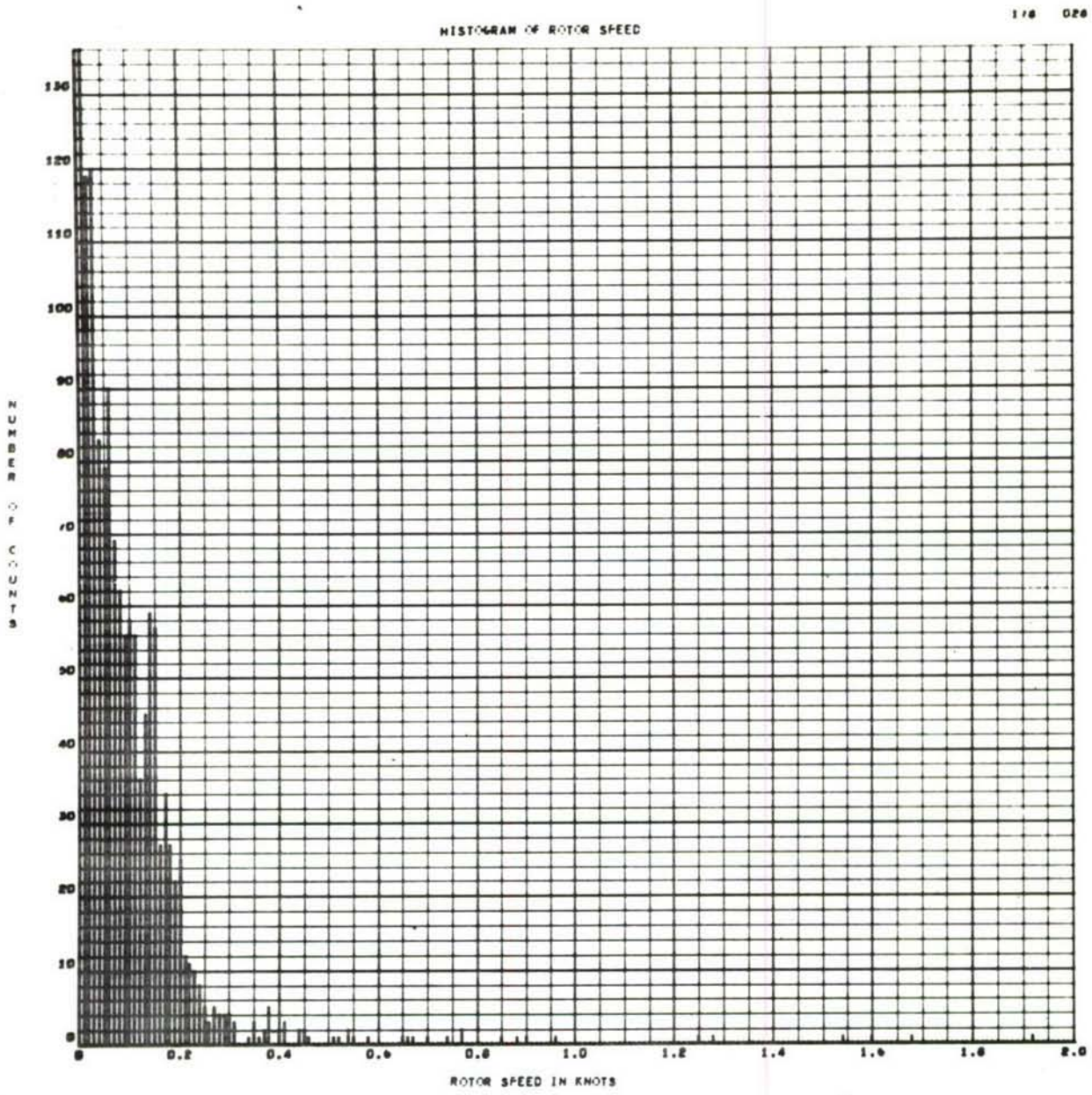

18
21
29 OCT.
0000
03
06
09
1200
15
18
21
920
940
960
980
1000
1020
1040
1060
1080


10
8
6
4
2
1060
1080
1100
1120
1140
1160
1180

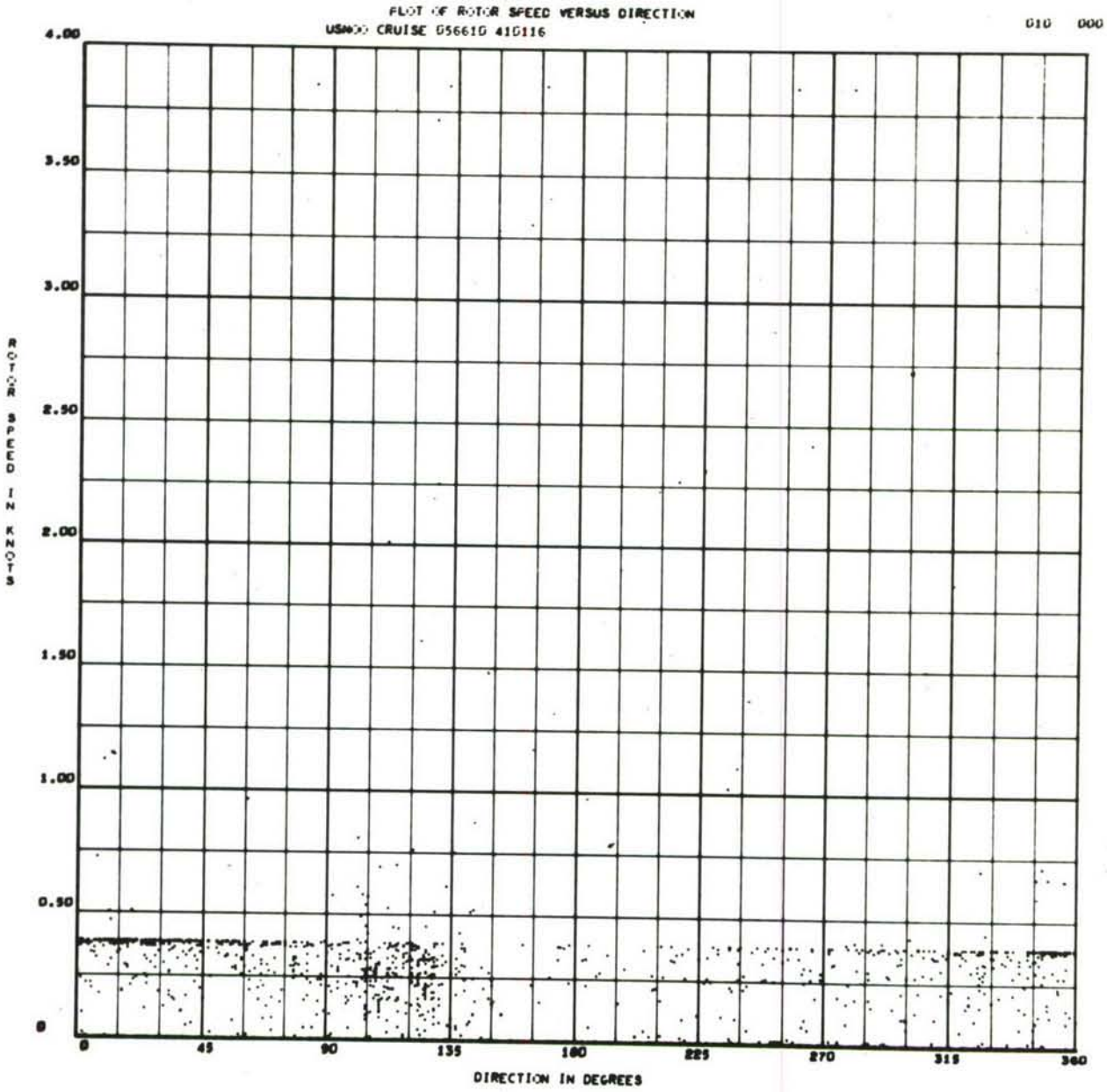

30 OCT.
18
21
0000
03
06
09
1200
15
1060
1080
1100
1120
1140
1160
1180



SITE 5C. POLAR COORDINATE HISTOGRAM 3737 FOOT DEPTH
(13 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 5C. HISTOGRAM OF ROTOR SPEED 3737 FOOT DEPTH
(13 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 5C. SCATTER PLOT 3737 FOOT DEPTH
(13 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966

TITLE: FILM PROCESSING AND READING LOG* 4/61/4

FILM IDENTIFICATION BY CUSTOMER Date 9 Jan 1967 — Geodyne Assigned Film No.

Name [redacted] Thomas G. Long

Address Naval Oceanographic Office
Washington D.C.

245-7C
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. 245

Motor RPM _____, Film Advance Speed _____, No. Timer Cam Lobes 6

☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 Seconds

Cruise 056610, Location: Lat. 32° 56.7'N Long. 118° 19.75'W Meter Depth 536 feet

Magnetic variation (+ = East, - = West) 14° 26' East

Recording started at 1035 Hours, plus 8 Time Zone, 26 Oct 1966 Date

Recording ended at 1425 Hours, plus 8 Time Zone, 23 Nov 1966 Date

Comments:
Station 7C, Water depth 4080 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:
Naval Oceanographic Office
Washington D.C. 20390
Attn: Ronald Kopenski, C ode 9100

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
☒ Analog strip chart record
☒ Magnetic tape record

Other instructions:
1. Process only that data between tape strips on film.
2. Supply scatter plots and histogram plots.
3. Supply plots of direction versus time and speed versus time.

Customer's Order No. (5)

FILM AND READING EVALUATION BY GEODYNE

Record started: foot mark 6651+26 @ _____ hours, _____ Date

Record ended: foot mark 6692+10 @ _____ hours, _____ Date

Total footage 40' +24, Total elapsed time of record _____

FILM EVALUATION: Alignment _____, Density _____

Compass _____, Vane _____, Rotor _____, Time pulse _____

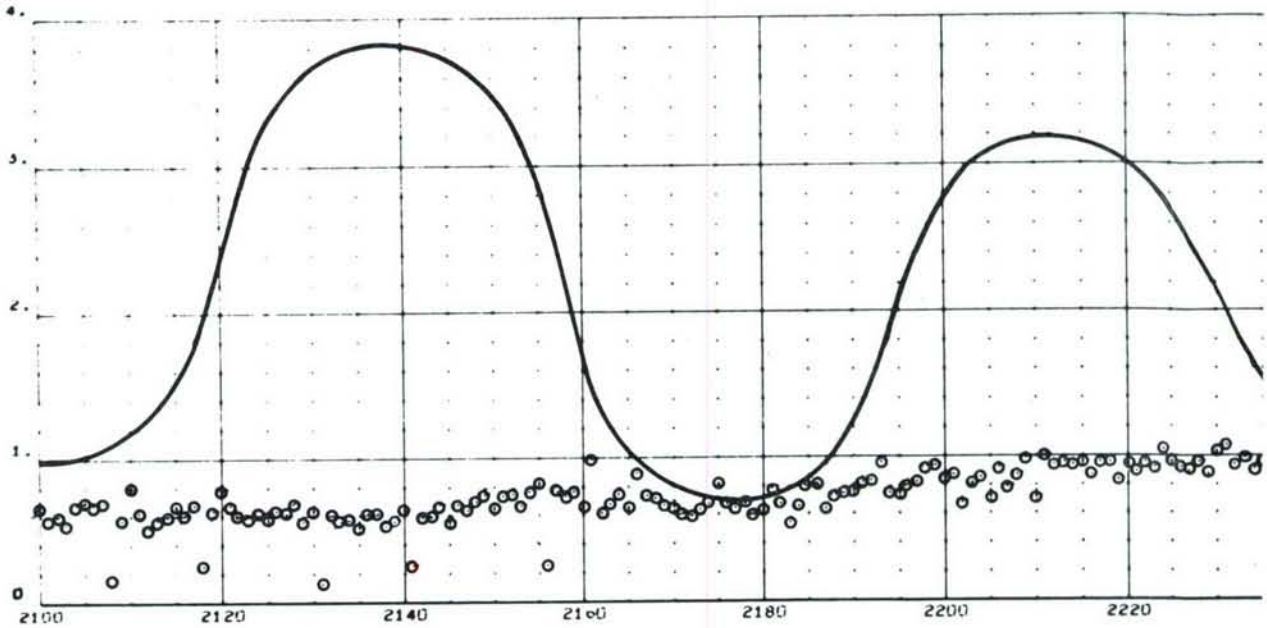
Comments:

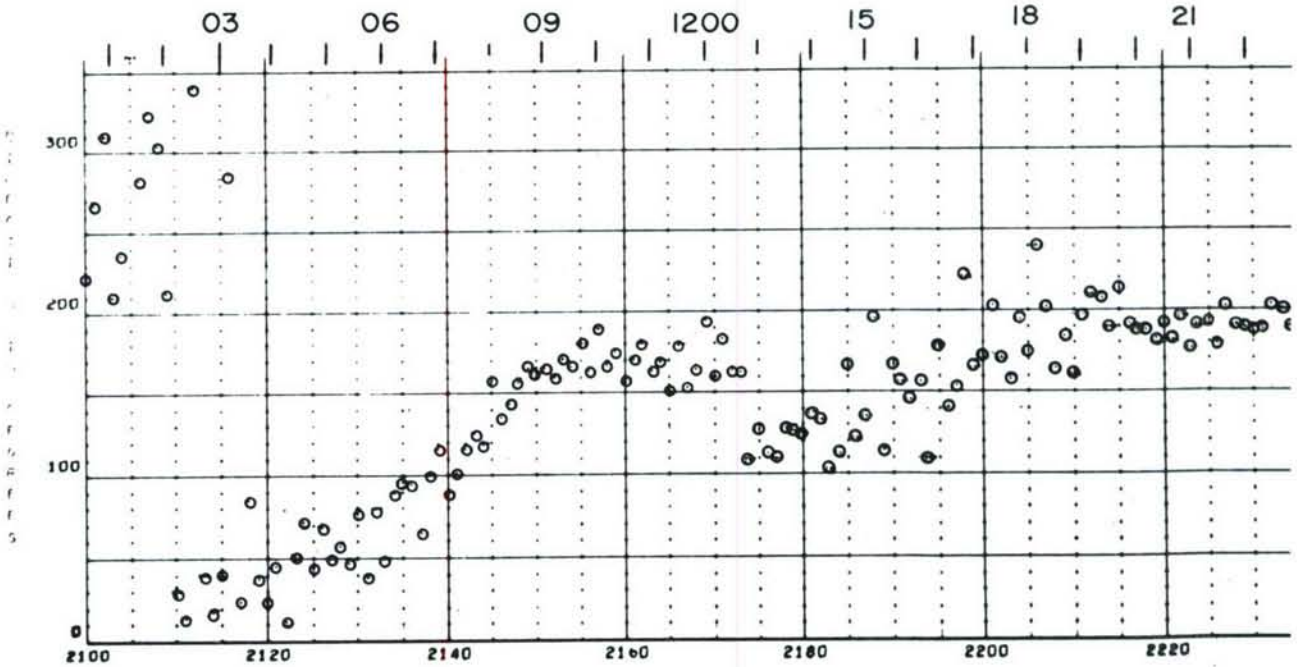
Strip Chart:

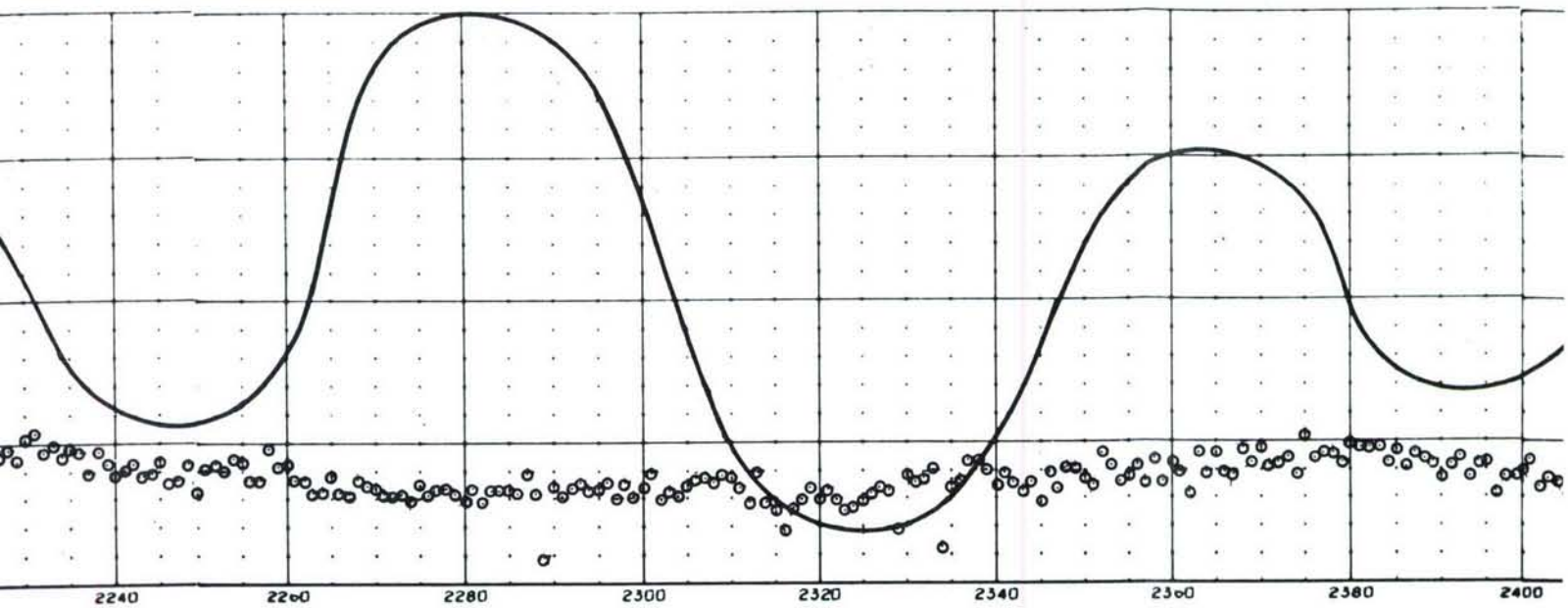
Magnetic Tape: 000519 Part 4

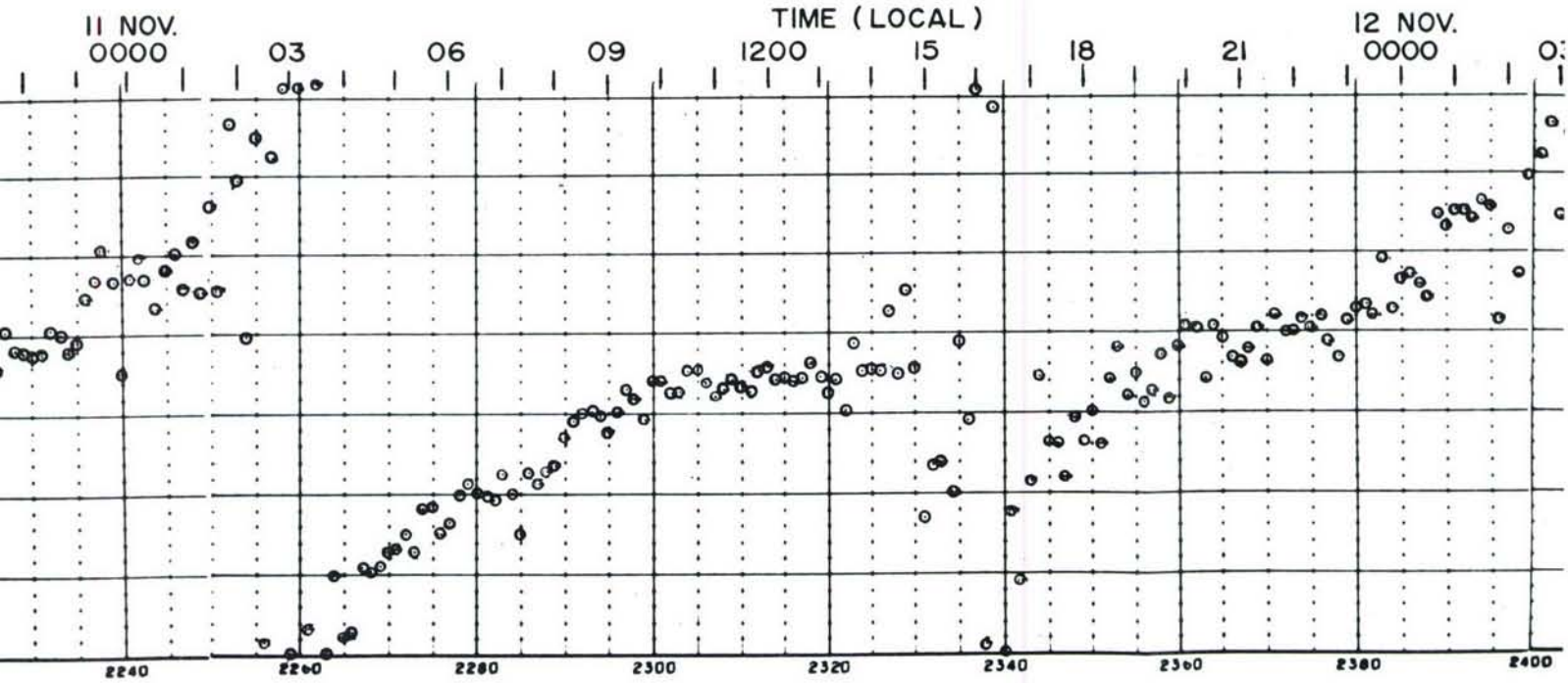
Date Completed: Film Processing _____, Reading 3-14-67

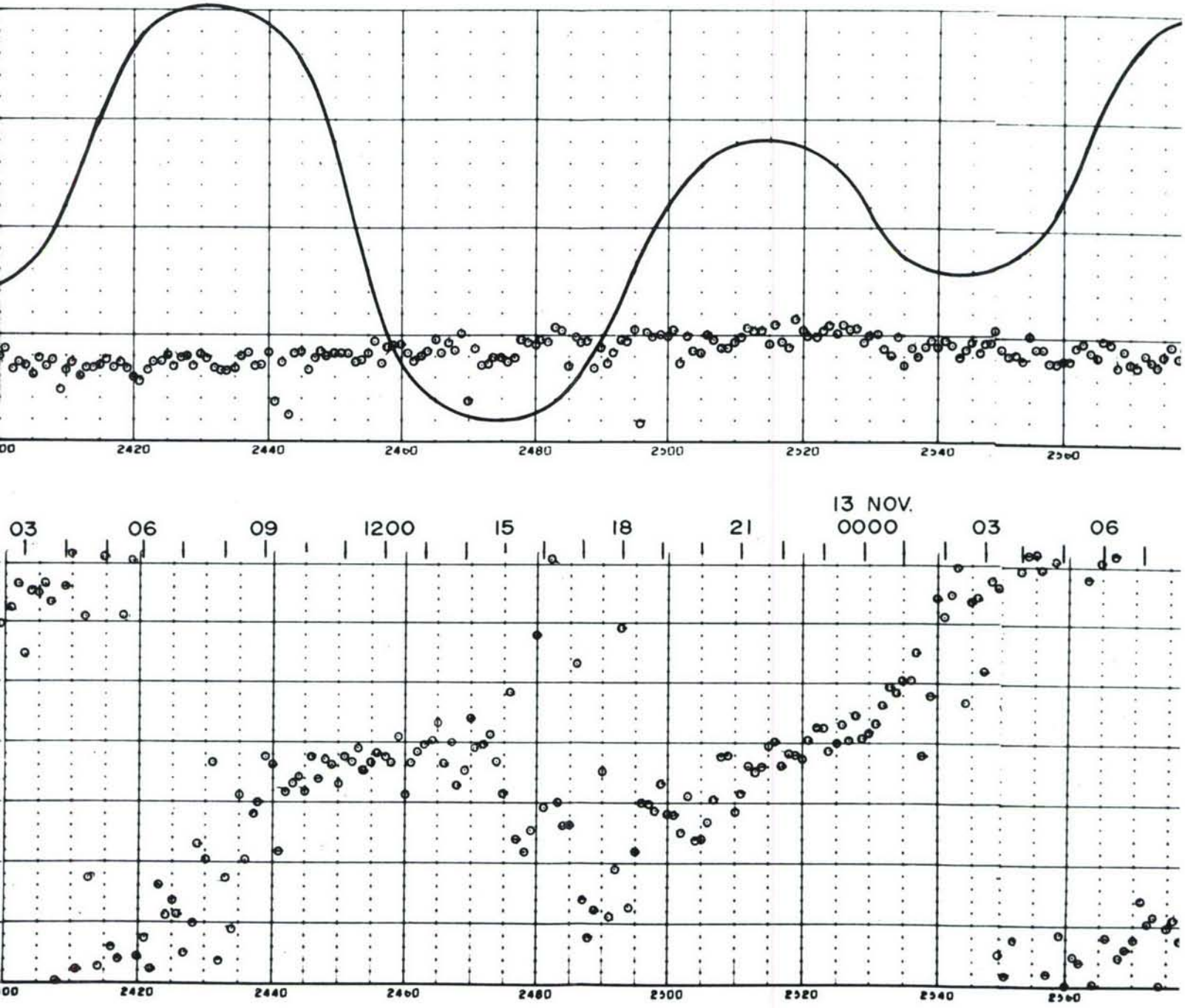
SITE 7C. DATA SHEET—536 FOOT DEPTH (3544 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966


4.
3.
2.
1.
0
2100
2120
2140
2160
2180
2200
2220


03
06
09
1200
15
18
21
300
200
100
0
2100
2120
2140
2160
2180
2200
2220

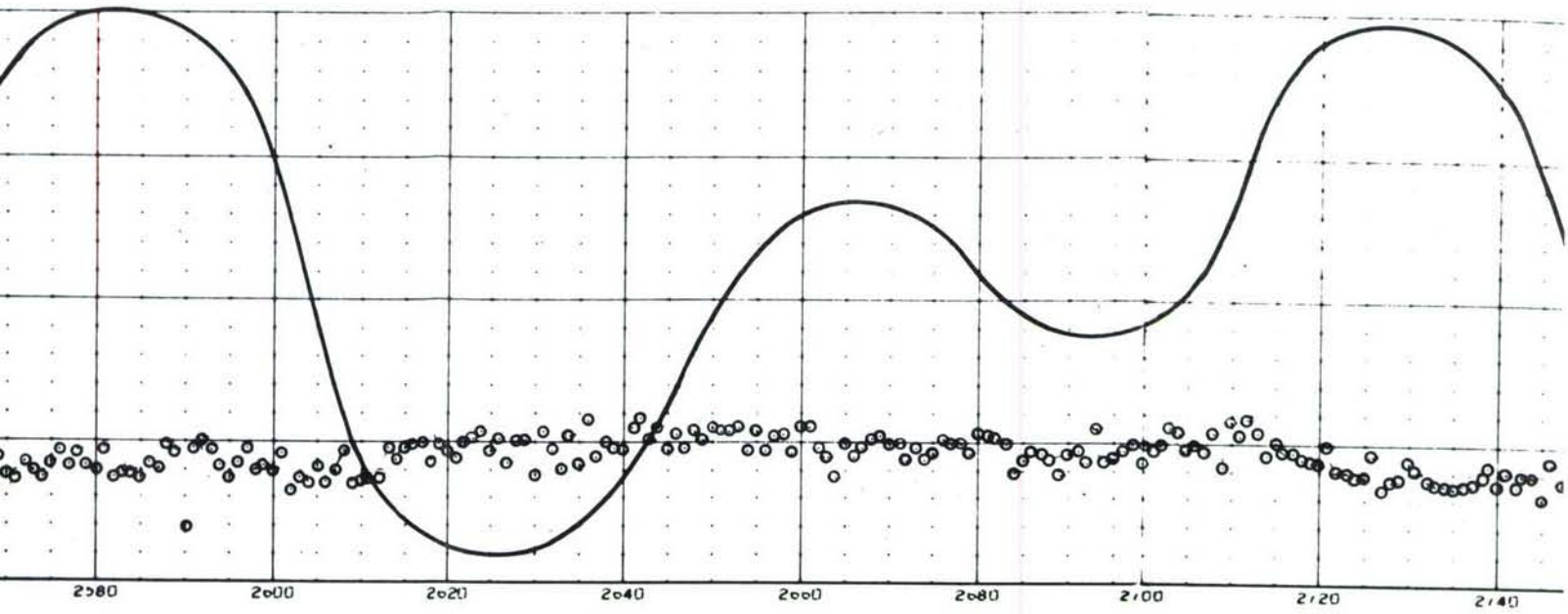

2240
2260
2280
2300
2320
2340
2360
2380
2400

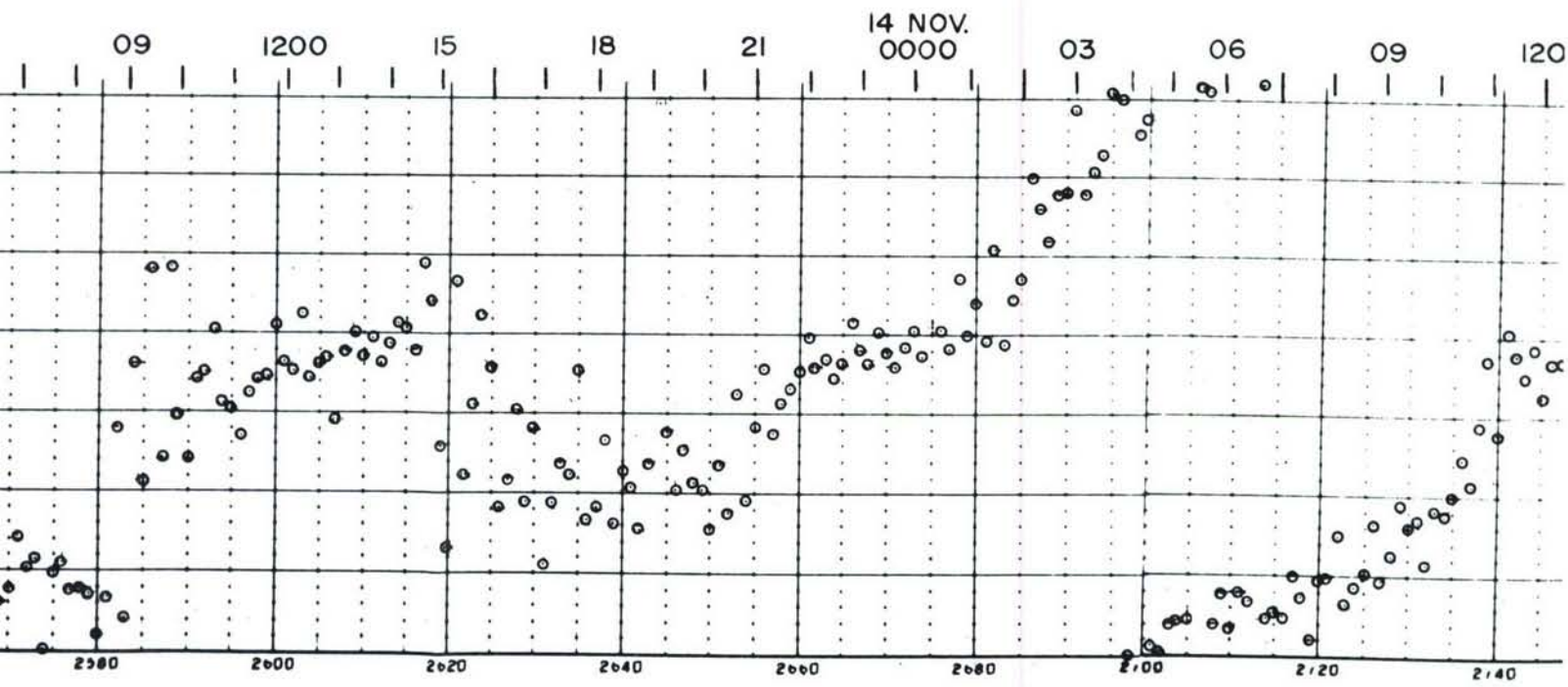

11 NOV.
0000
03
06
09
TIME (LOCAL)
1200
15
18
21
12 NOV.
0000
2240
2260
2280
2300
2320
2340
2360
2380
2400

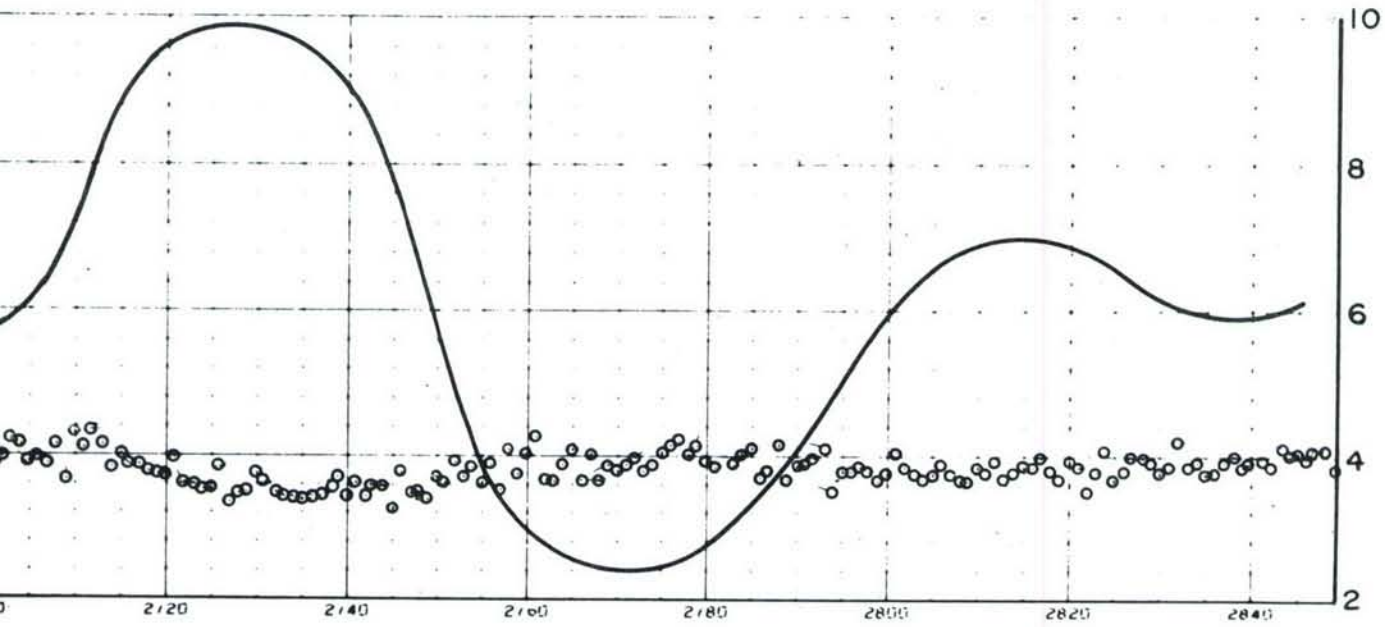


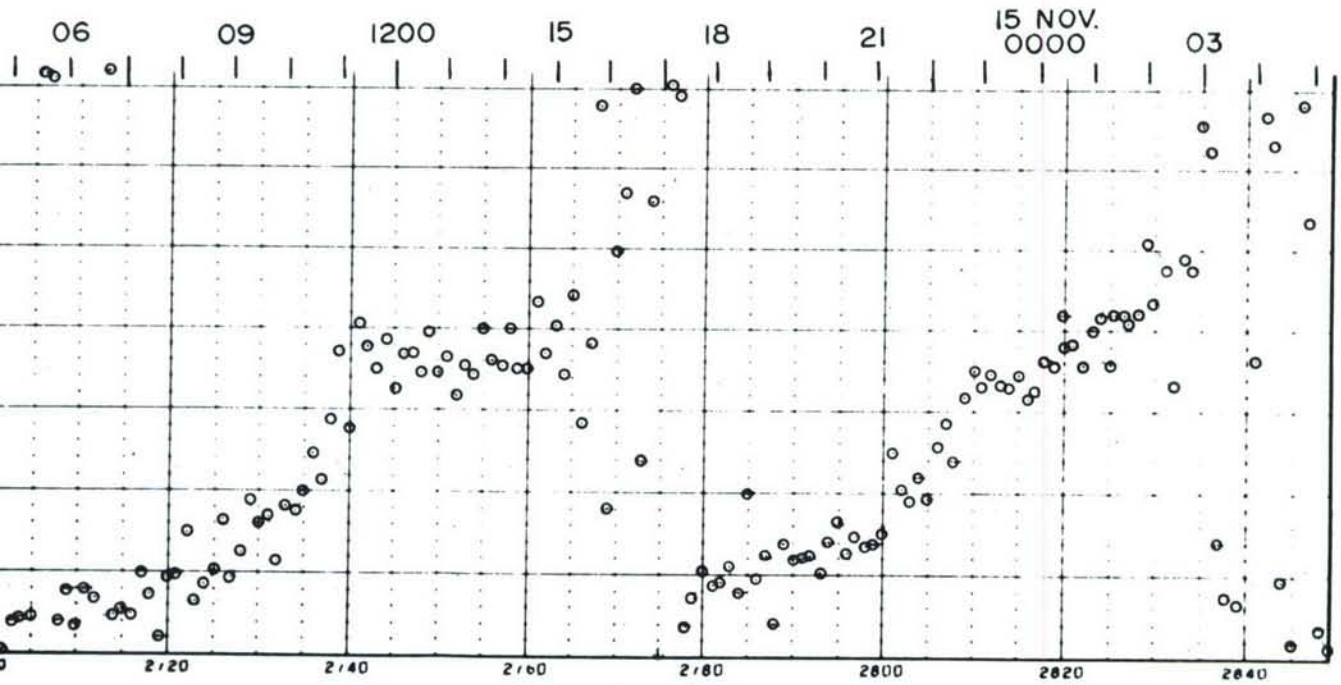
SITE 7C. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—536 FOOT DEPTH (3544 FEET ABOVE BOTTOM)

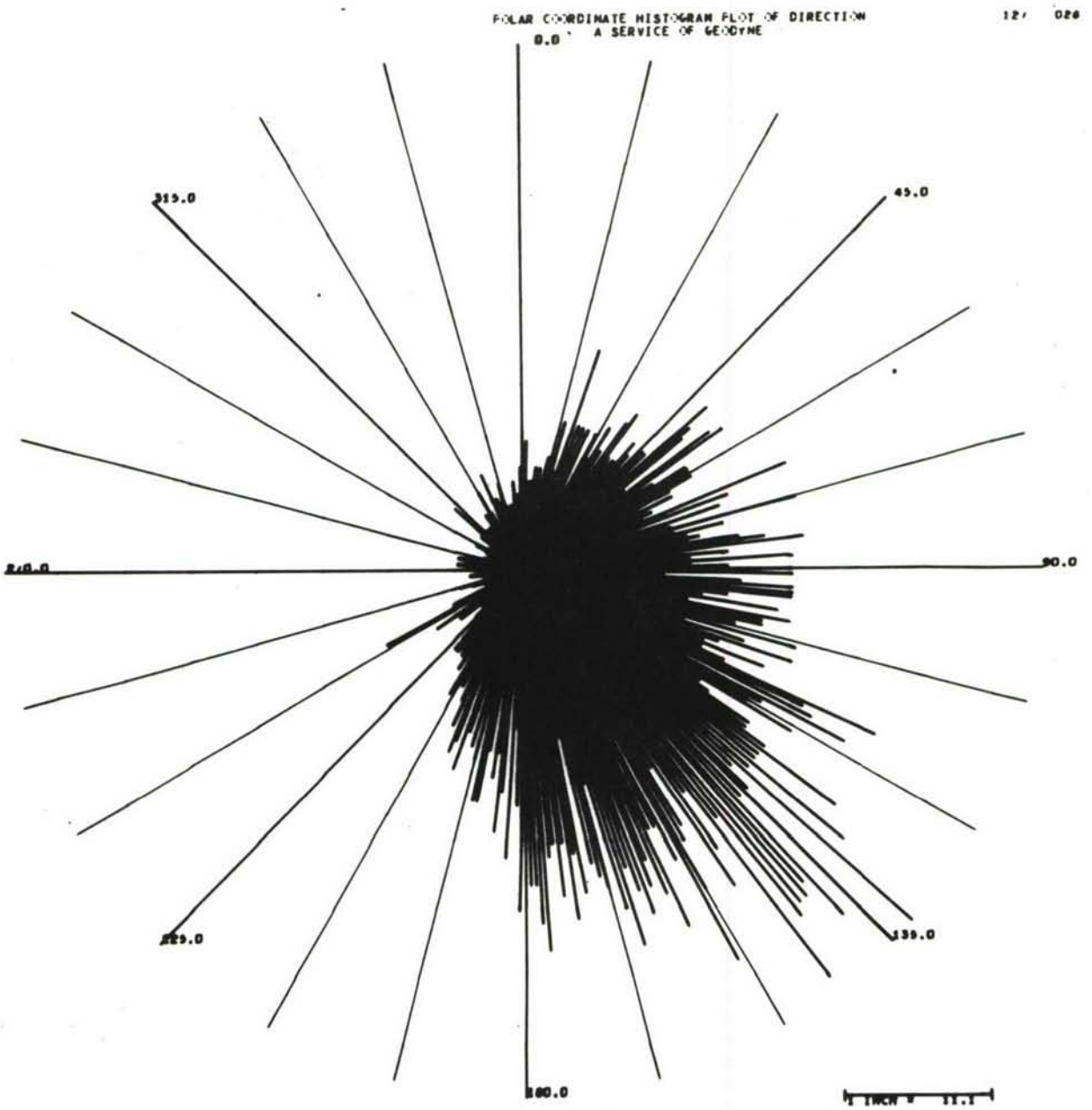
3


2580
2000
2020
2040
2000
2080
2100
2120
2140

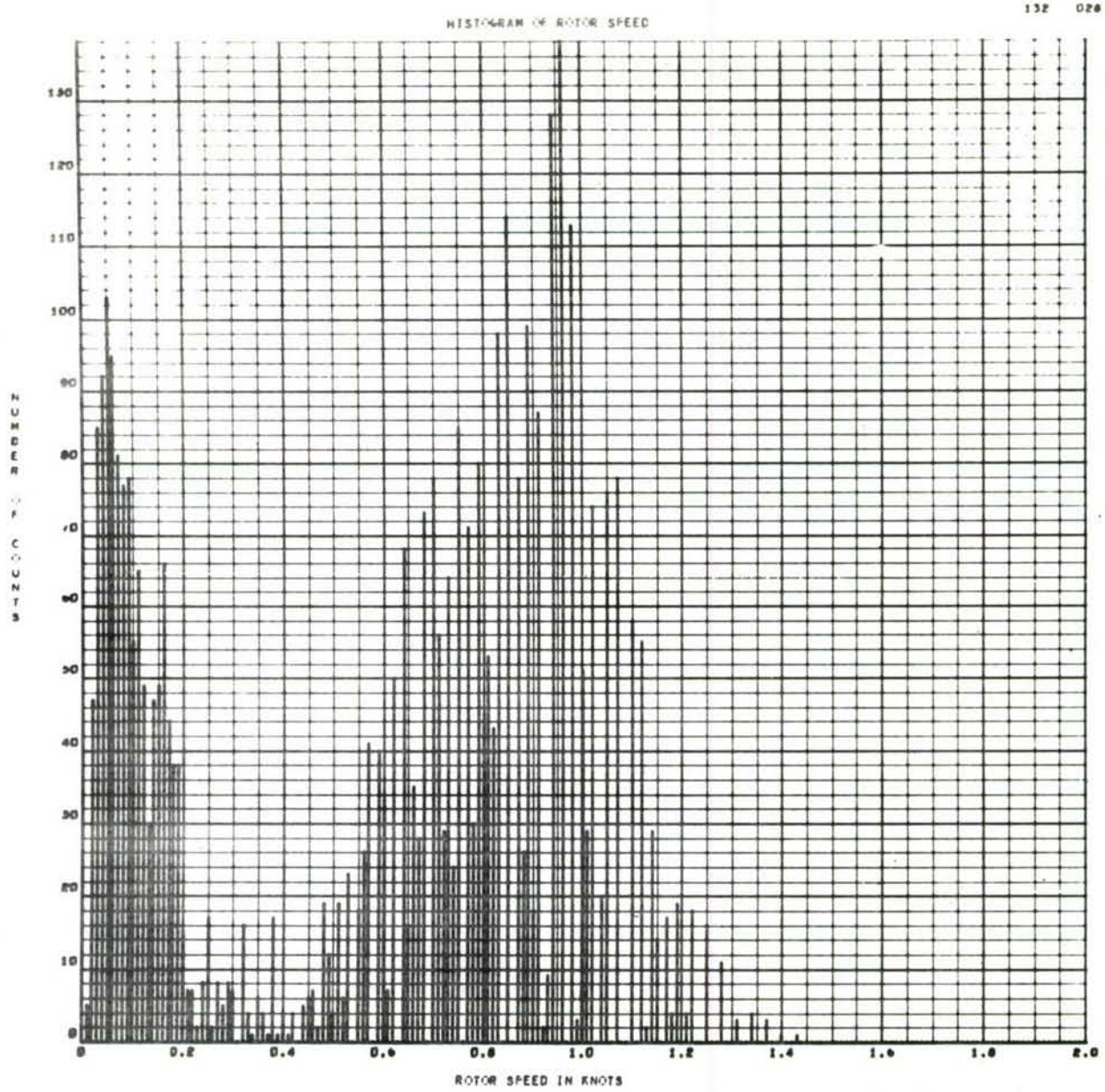

09
1200
15
18
21
14 NOV.
0000
03
06
09
120
2580
2000
2020
2040
2000
2080
2100
2120
2140


10
8
6
4
2
2120
2140
2160
2180
2800
2820
2840

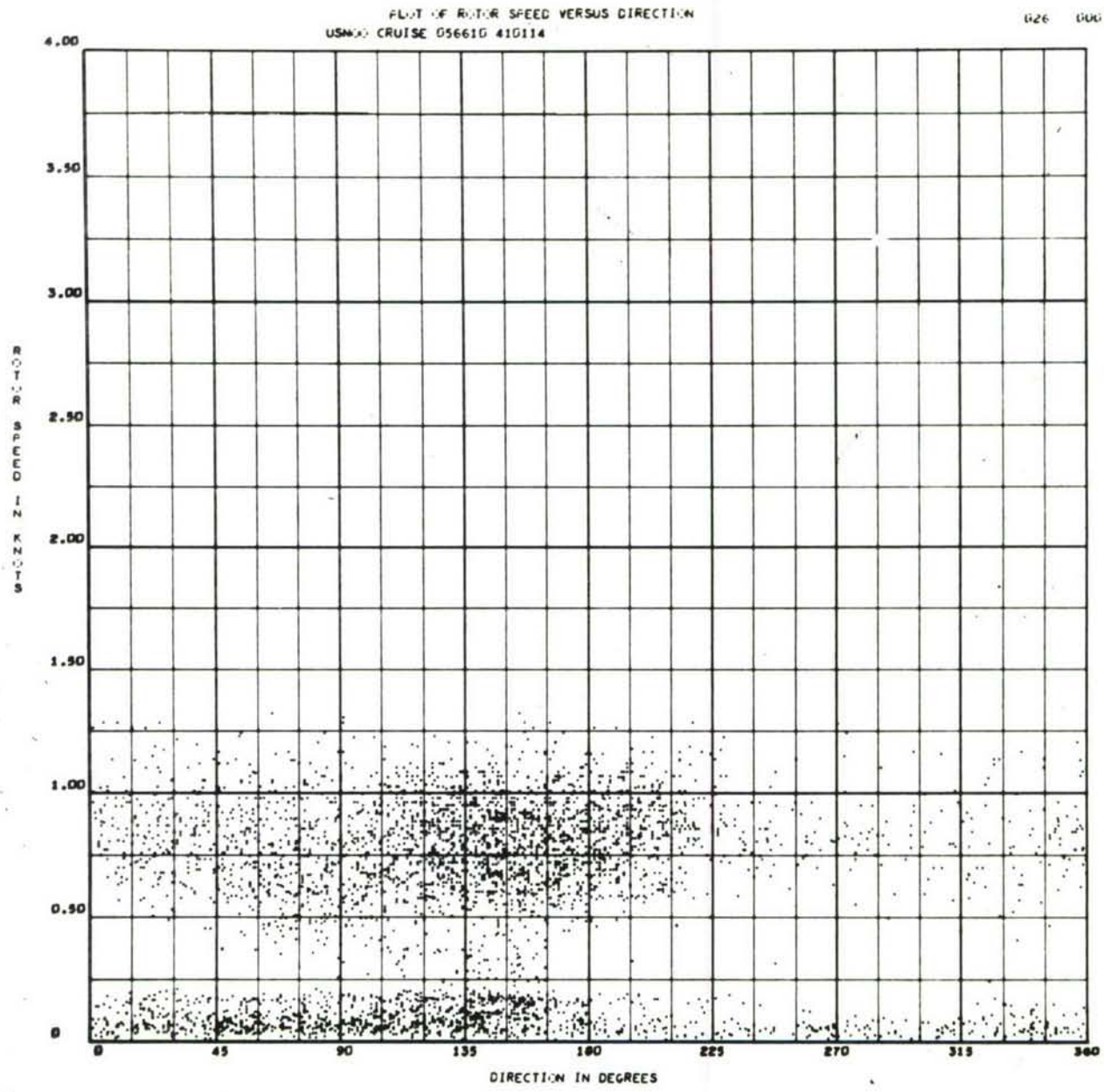

06
09
1200
15
18
21
15 NOV.
0000
03
2120
2140
2160
2180
2800
2820
2840



SITE 7C. POLAR COORDINATE HISTOGRAM 536 FOOT DEPTH
(3544 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 7C. HISTOGRAM OF ROTOR SPEED 536 FOOT DEPTH
(3544 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 7C. SCATTER PLOT 536 FOOT DEPTH
(3544 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966

TITLE: FILM PROCESSING AND READING LOG* 4/0111

FILM IDENTIFICATION BY CUSTOMER Date 9 January 1967 Geodyne Assigned Film No.

Name Thomas G. Long

Address Naval Oceanographic Office
Washington D.C.

383-7C
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. 383
Motor RPM ____, Film Advance Speed ____, No. Timer Cam Lobes 6
☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 Seconds

Cruise 056610, Location: Lat. 32° 56.7N Long. 118° 19.75'W Meter Depth 2195 feet
Magnetic variation (+ = East, - = West) 14° 26'East
Recording started at 1123 Hours, plus 8 Time Zone, 26 Oct 1966 Date
Recording ended at 1425 Hours, plus 8 Time Zone, 23 Nov.1966 Date
Comments:

Station 7C, Water depth 4080 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
☒ Analog strip chart record
☒ Magnetic tape record

Naval Oceanographic Office
Washington D.C. 20390
Attn: Ronald Kopenski, Code 9100

Other instructions:
1. Process only that data between tape strips on the film.
2. Supply plots of direction versus time and speed versus time.
3. Supply scatter plots and histogram plots.

Customer's Order No. (6)

FILM AND READING EVALUATION BY GEODYNE

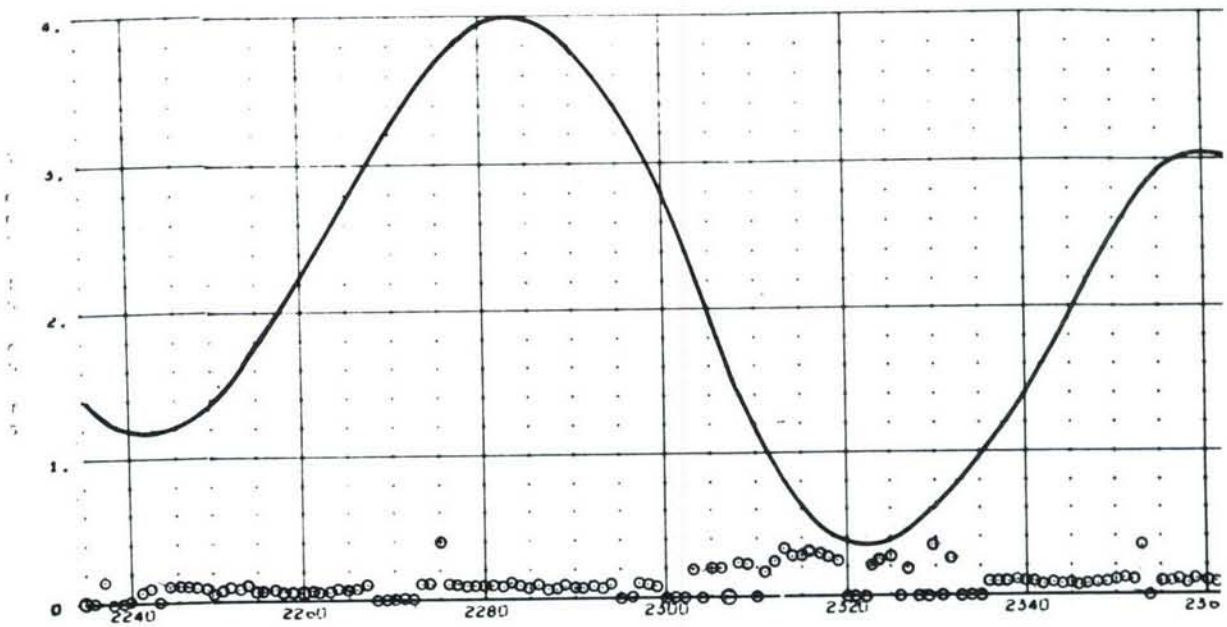
Record started: foot mark 6507 ± 2 @ ____ hours, ____ Date
Record ended: foot mark 6547 ± 30 @ ____ hours, ____ Date
Total footage 40' ± 28, Total elapsed time of record ____
FILM EVALUATION: Alignment ____, Density ____
Compass ____, Vane ____, Rotor ____, Time pulse ____
Comments:

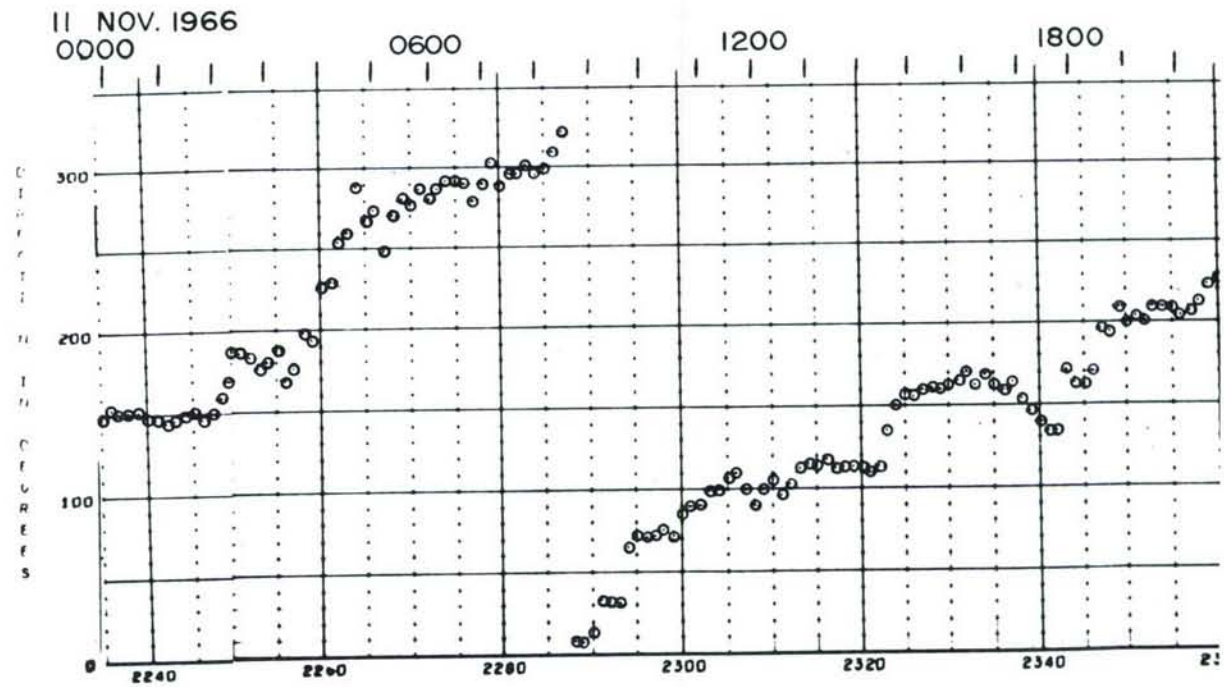
Strip Chart:

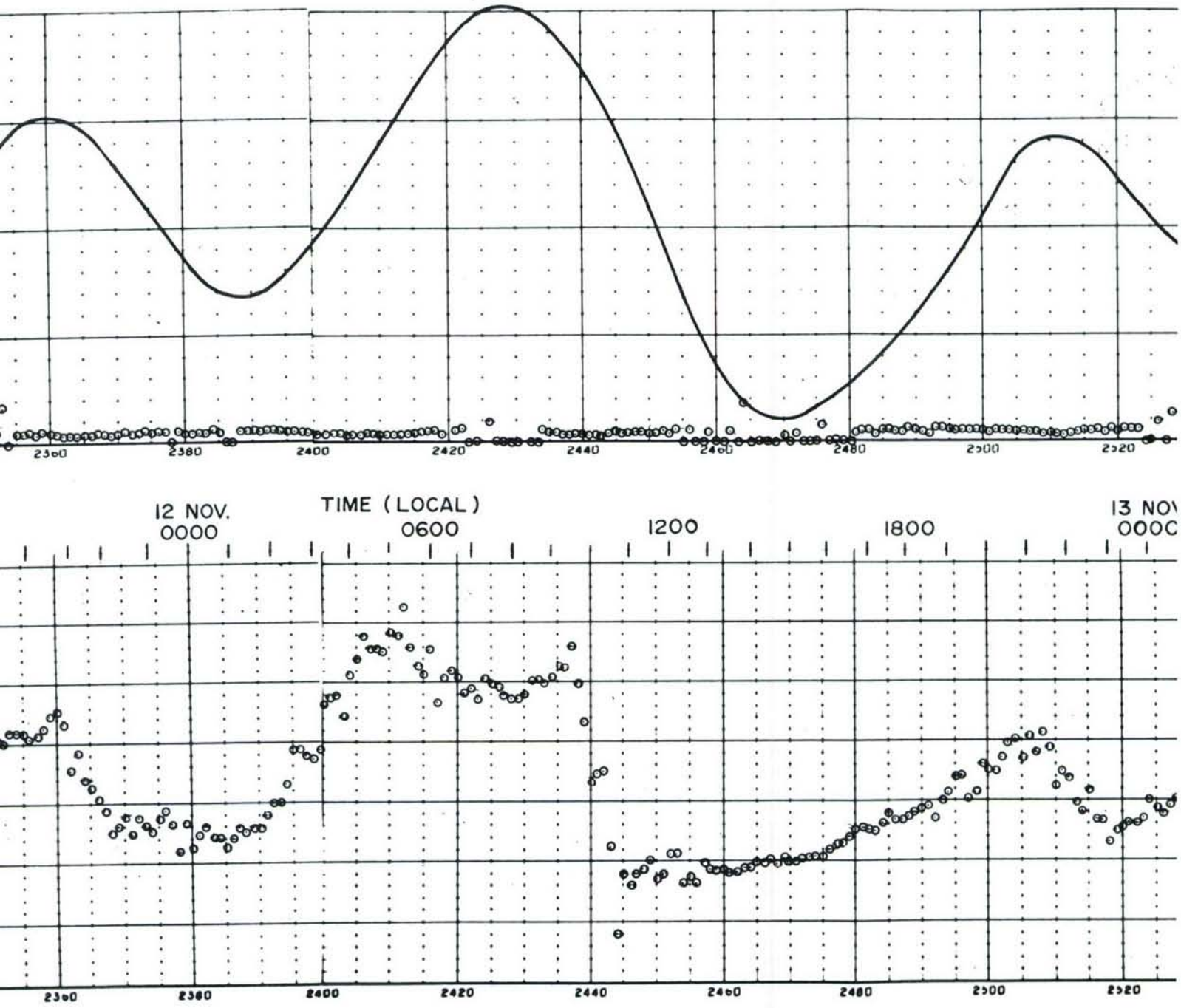
Magnetic Tape: 900 519 Part 1

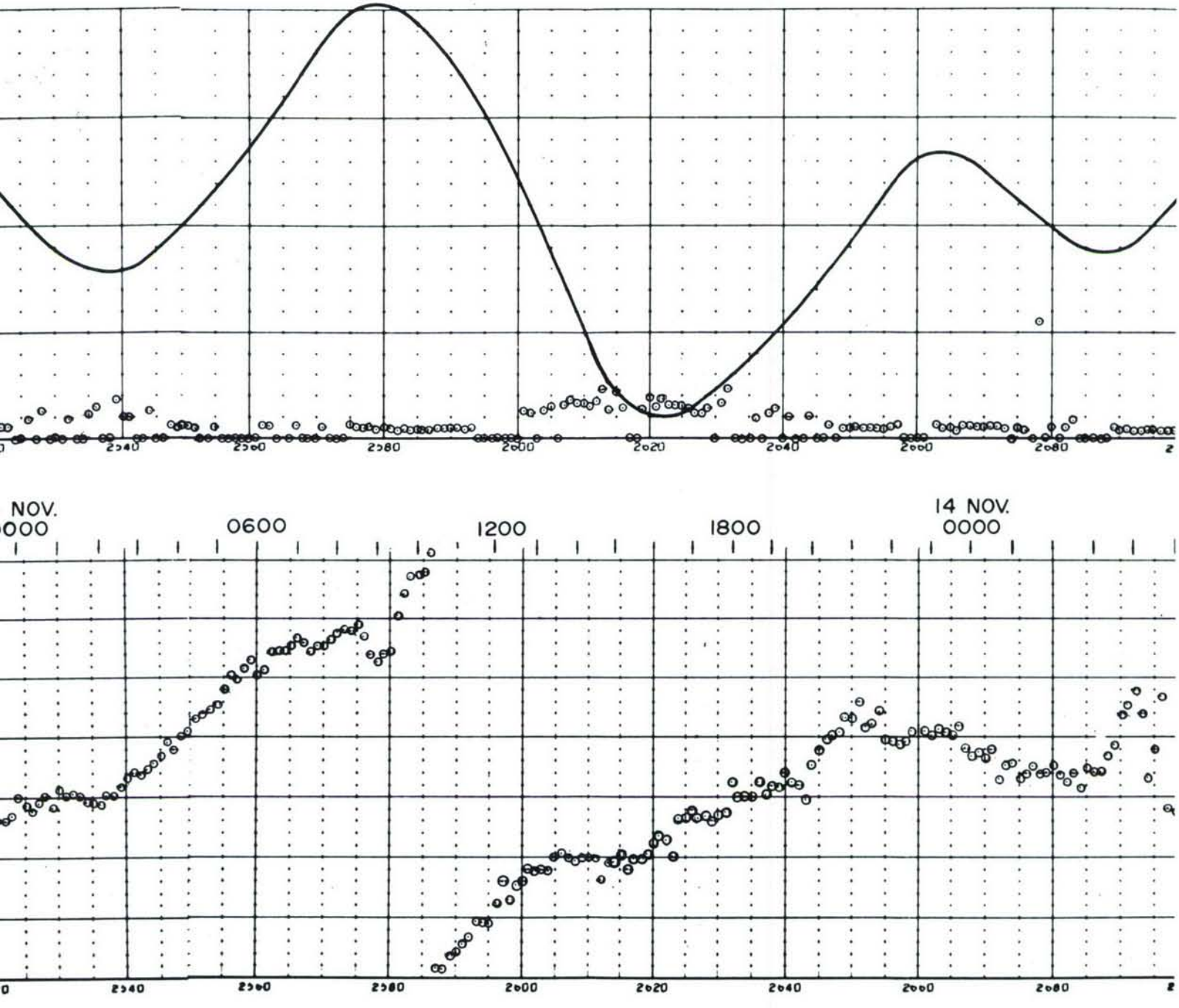
Date Completed: Film Processing ____, Reading 3-14-67

SITE 7C. DATA SHEET—2195 FOOT DEPTH (1885 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966


4.
3.
2.
1.
0
2240
2260
2280
2300
2320
2340

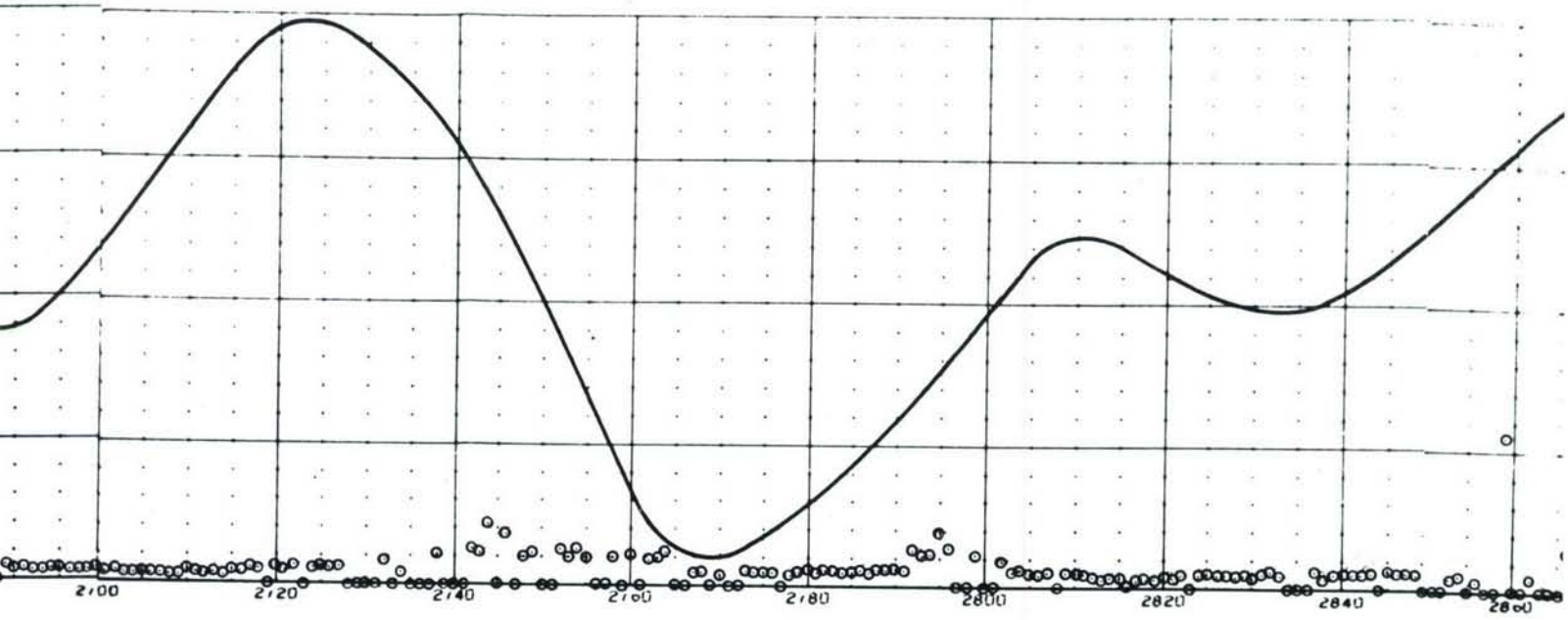

11 NOV. 1966
0000
0600
1200
1800
300
200
100
0
2240
2260
2280
2300
2320
2340

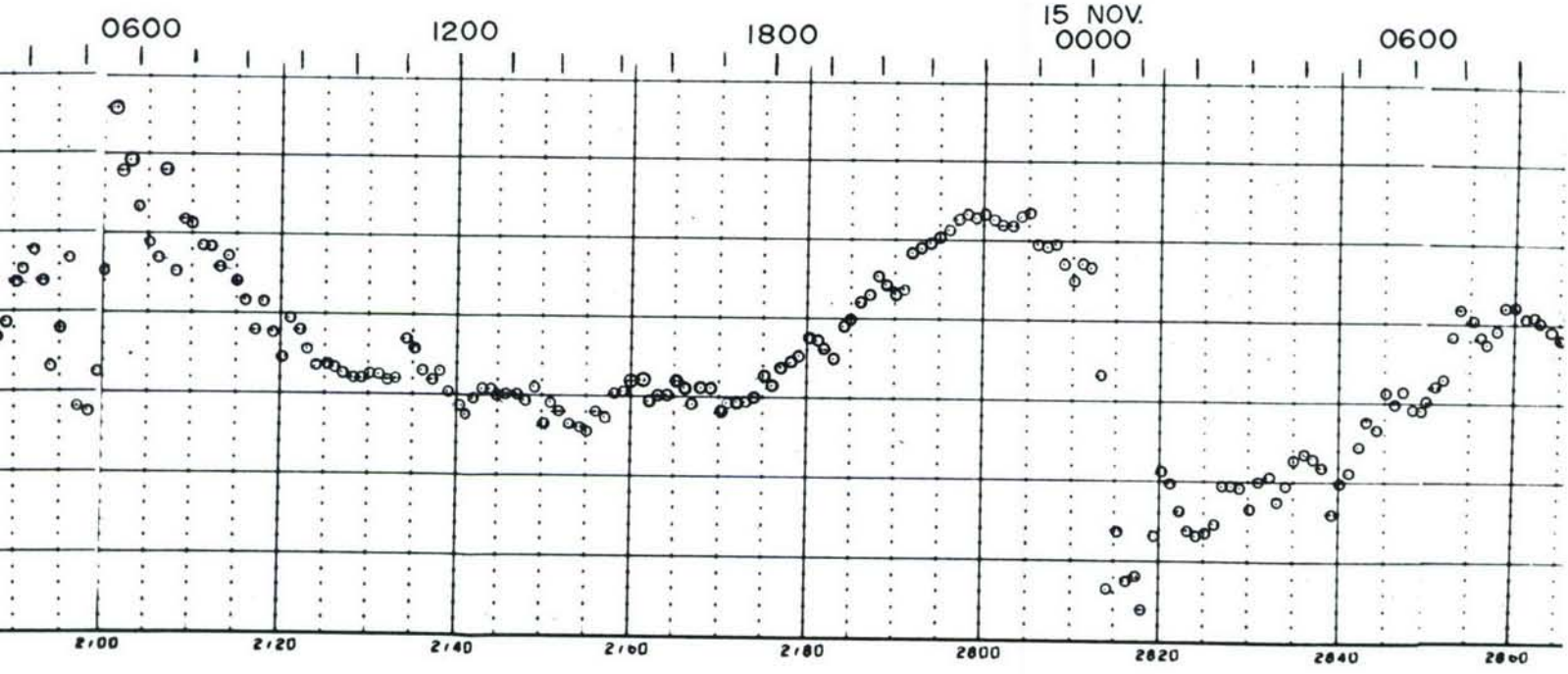

12 NOV.
0000
TIME (LOCAL)
0600
1200
1800
13 NOV
0000
2360
2380
2400
2420
2440
2460
2480
2500
2520

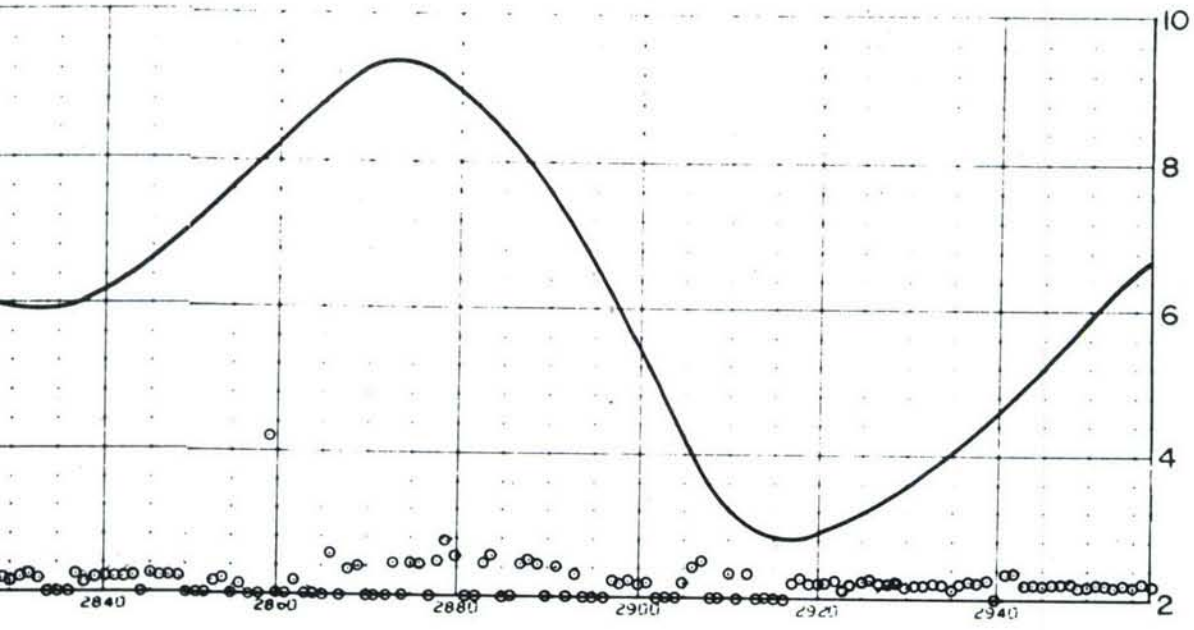


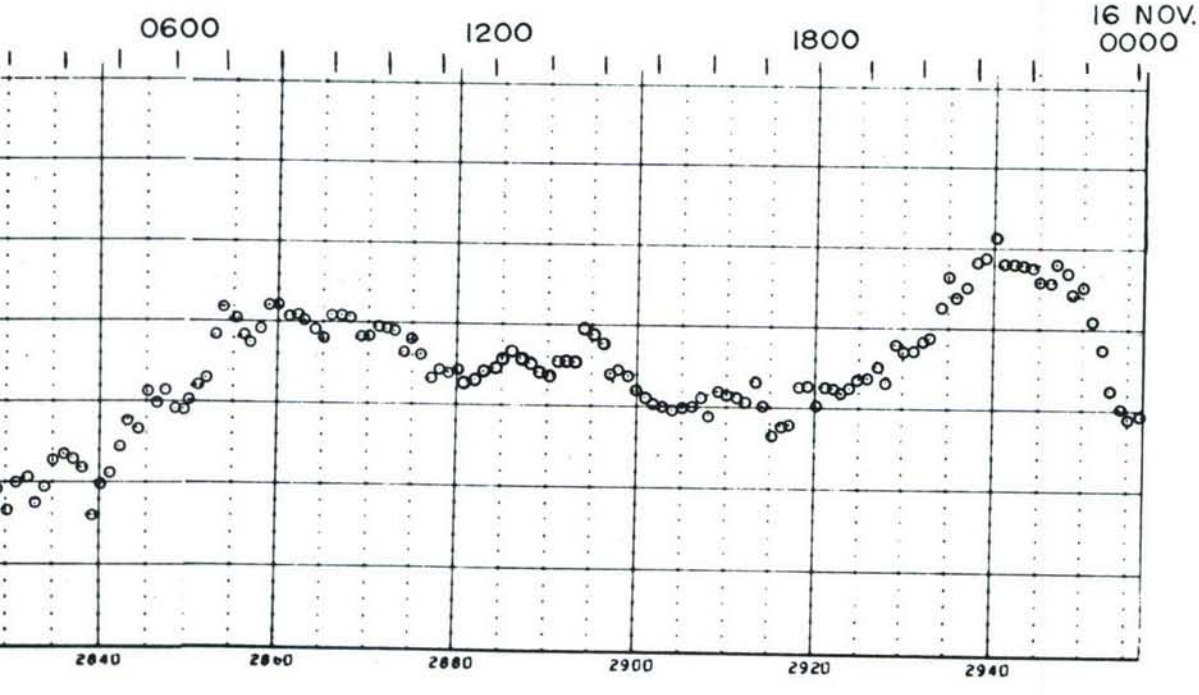
SITE 7C. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—2195 FOOT DEPTH (1885 FEET ABOVE BOTTOM)

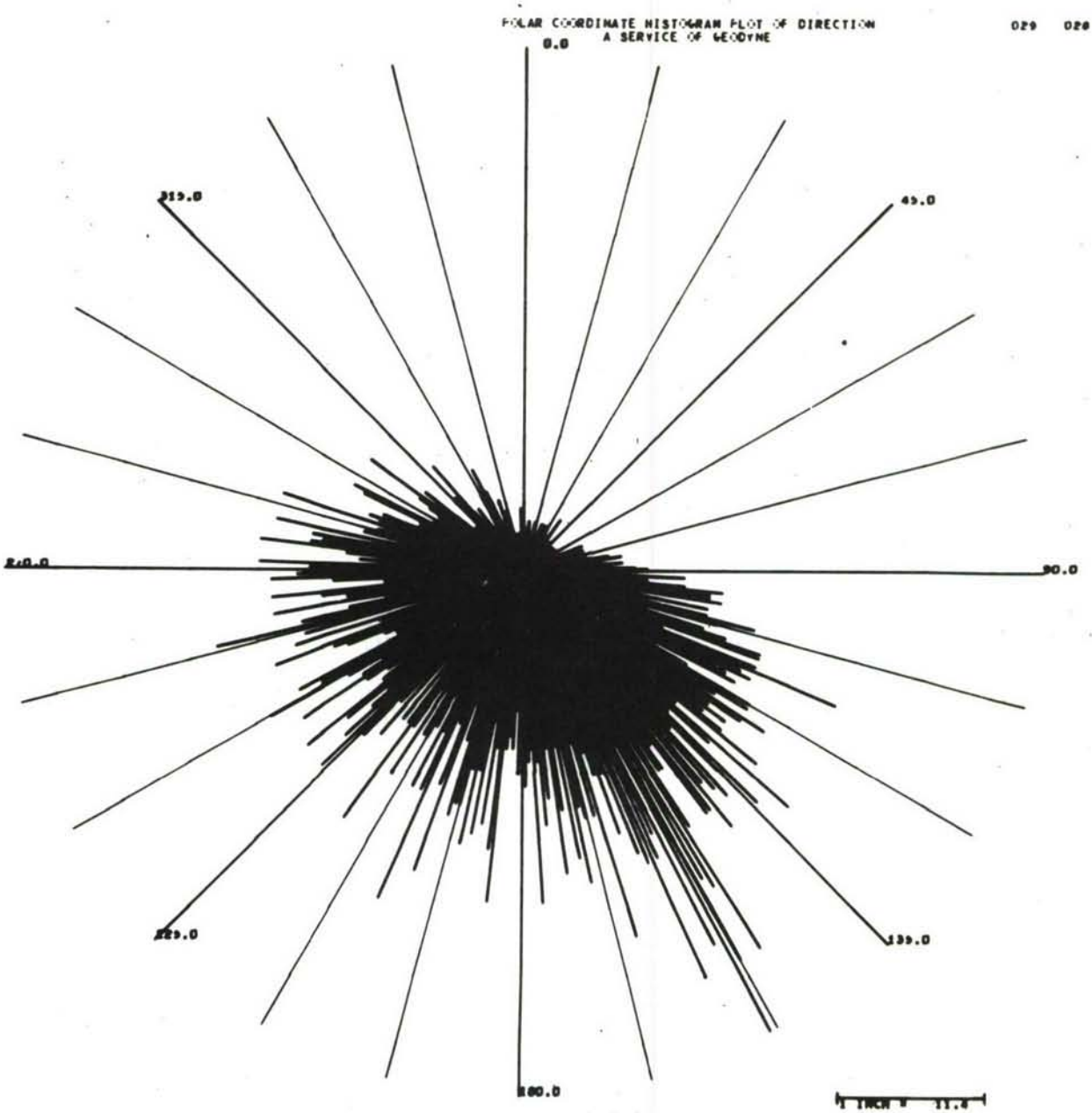
3


2100
2120
2140
2160
2180
2800
2820
2840
2860

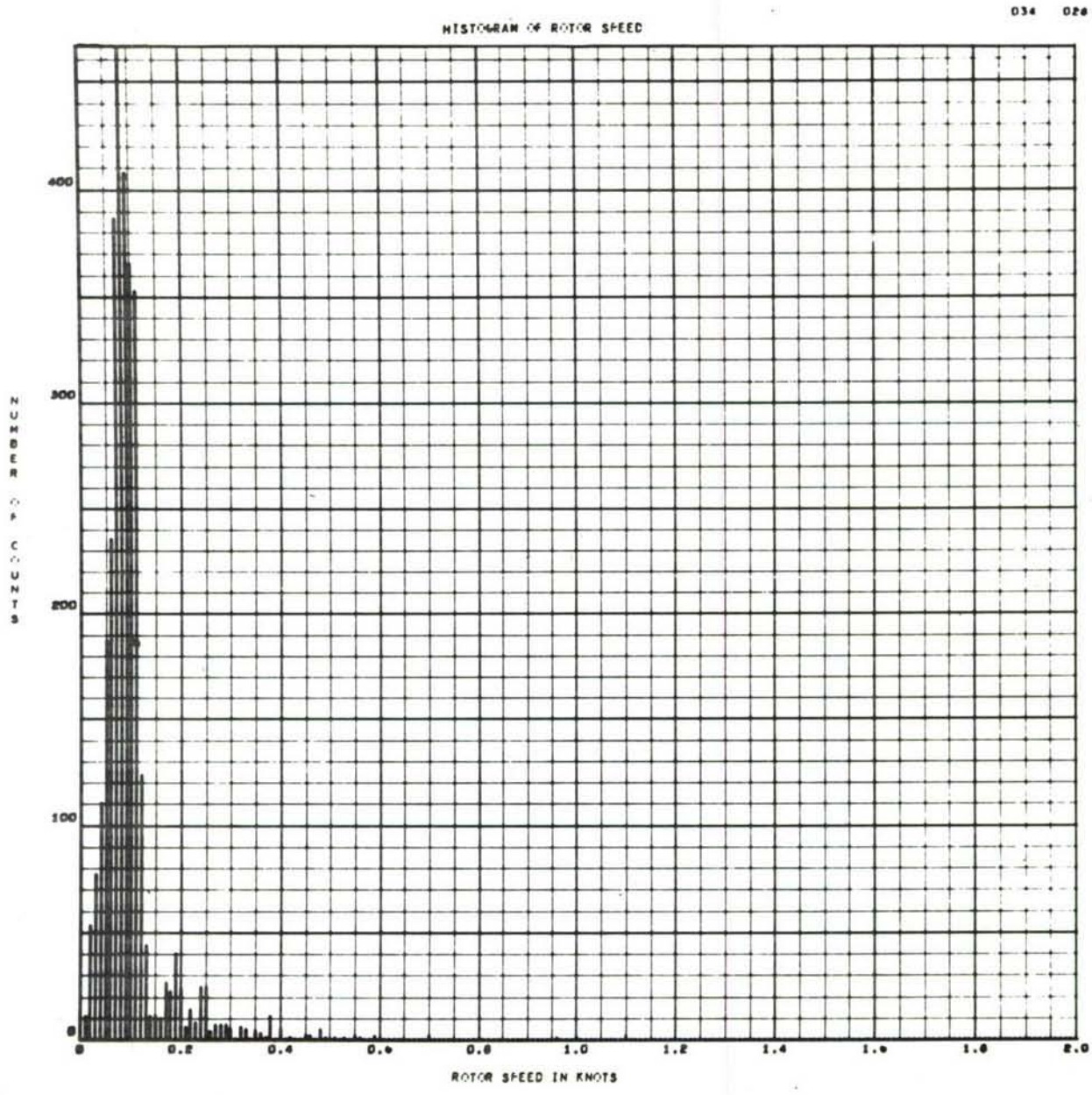

0600
1200
1800
15 NOV.
0000
0600
2100
2120
2140
2160
2180
2800
2820
2840
2860


10
8
6
4
2
2840
2860
2880
2900
2920
2940

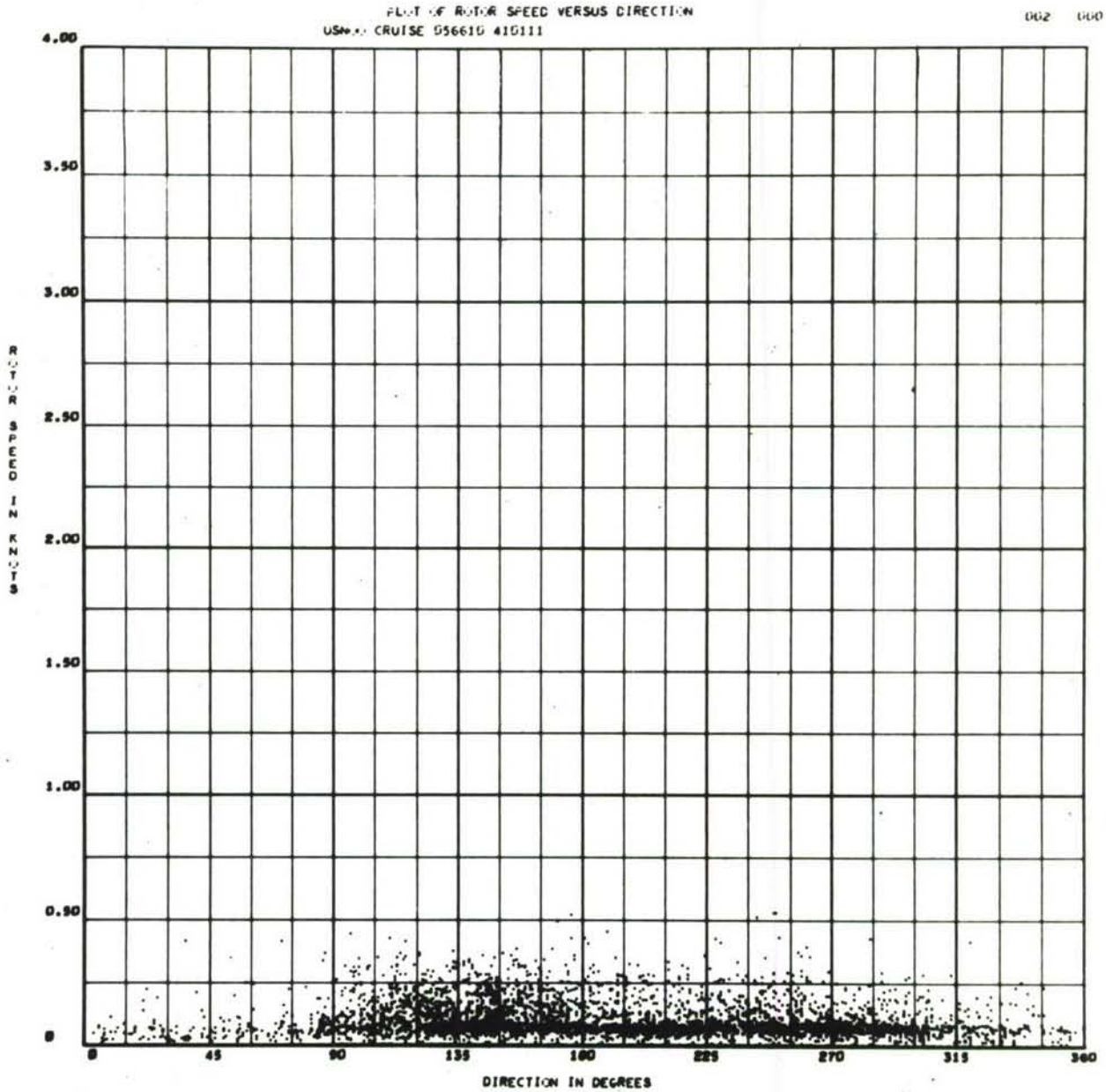

0600
1200
1800
16 NOV.
0000
2840
2860
2880
2900
2920
2940



SITE 7C. POLAR COORDINATE HISTOGRAM 2195 FOOT DEPTH
(1885 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 7C. HISTOGRAM OF ROTOR SPEED 2195 FOOT DEPTH
(1885 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 7C. SCATTER PLOT 2195 FOOT DEPTH
(1885 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966

TITLE: **FILM PROCESSING AND READING LOG***

4/0 115
Geodyne Assigned Film No.

FILM IDENTIFICATION BY CUSTOMER Date 9 January 1967

Name [redacted] Thomas G. Long
Address Naval Oceanographic Office
Washington D.C. 20390

177-7C
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. 177
Motor RPM ____, Film Advance Speed ____, No. Timer Cam Lobes 6
☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 Seconds

Cruise 056610, Location: Lat. 32° 56.7'N Long. 118° 19.75'W Meter Depth 27 feet above bottom
Magnetic variation (+ = East, - = West) 14° 26'East
Recording started at 1123 Hours, plus 8 Time Zone, 26 Oct 1966 Date
Recording ended at 1425 Hours, plus 8 Time Zone, 23 Nov 1966 Date
Comments:
Station 7C, Water depth 4080 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:
Naval Oceanographic Office
Washington D.C. 20390
Attn: Ronald Kopenski, Code 9100

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
☒ Analog strip chart record
☒ Magnetic tape record

Other instructions:
1. Process only that data between tape strips on the film.
2. Supply plots of direction versus time and speed versus time.
3. Supply scatter plots and histogram plots.

Customer's Order No. (7)

FILM AND READING EVALUATION BY GEODYNE

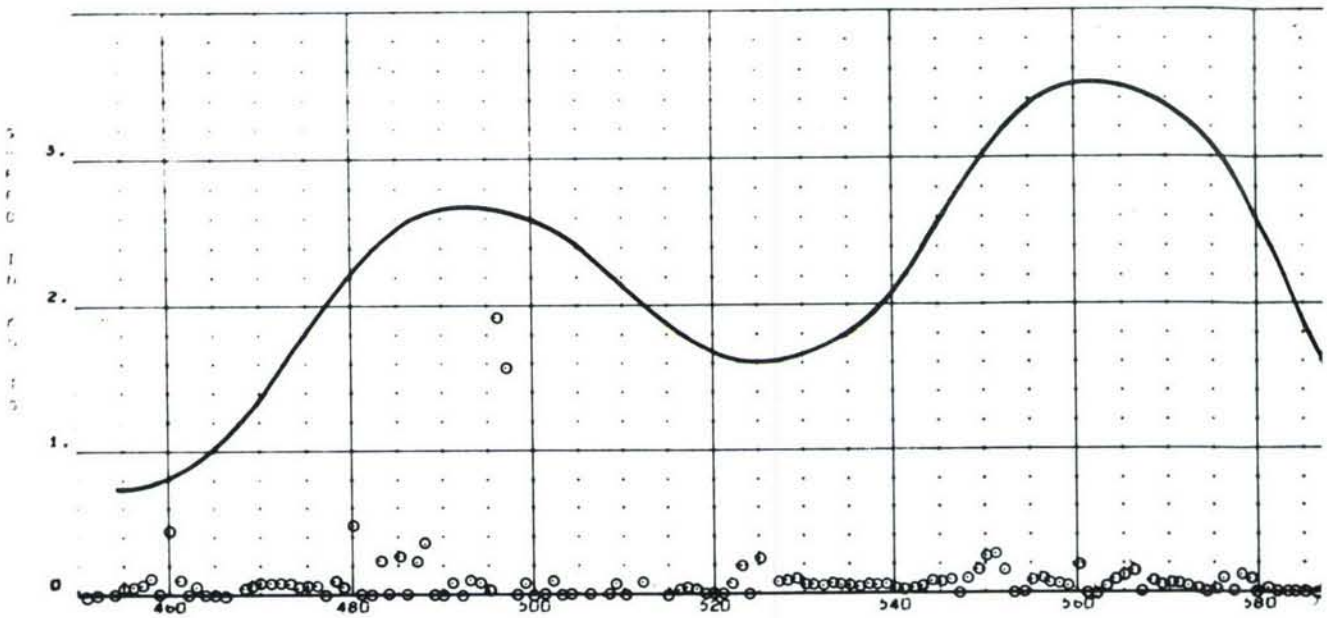
Record started: foot mark 6702 + 34 @ ____ hours, ____ Date
Record ended: foot mark 6730 + 28 @ ____ hours, ____ Date
Total footage 17 724, Total elapsed time of record ____
FILM EVALUATION: Alignment ____, Density ____
Compass ____, Vane ____, Rotor ____, Time pulse ____
Comments:

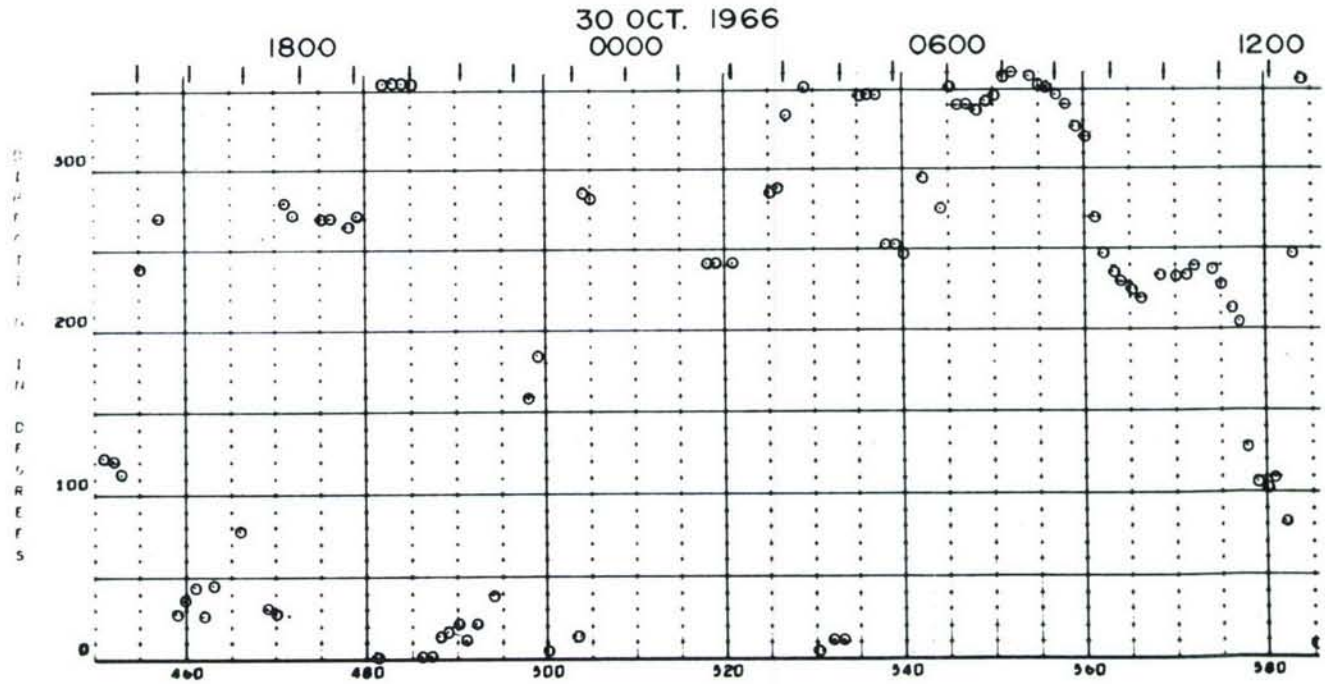
Strip Chart:

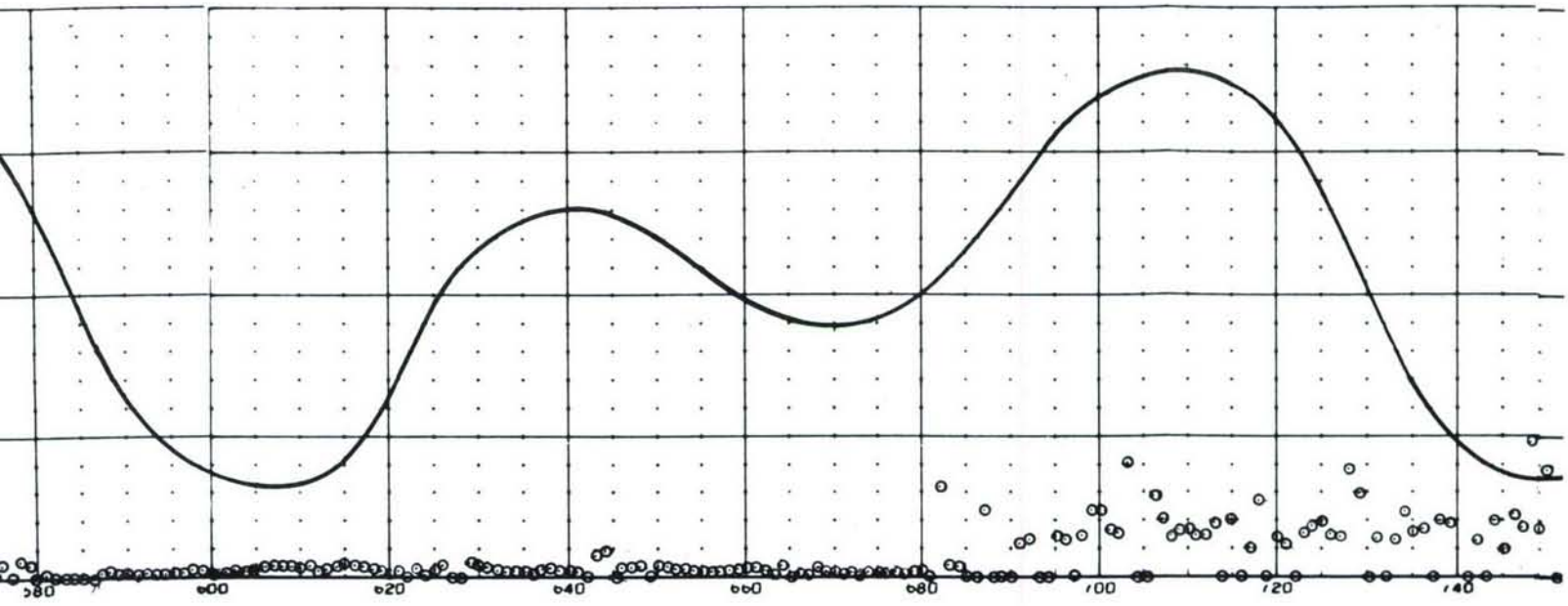
Magnetic Tape: 000 519 Part 5

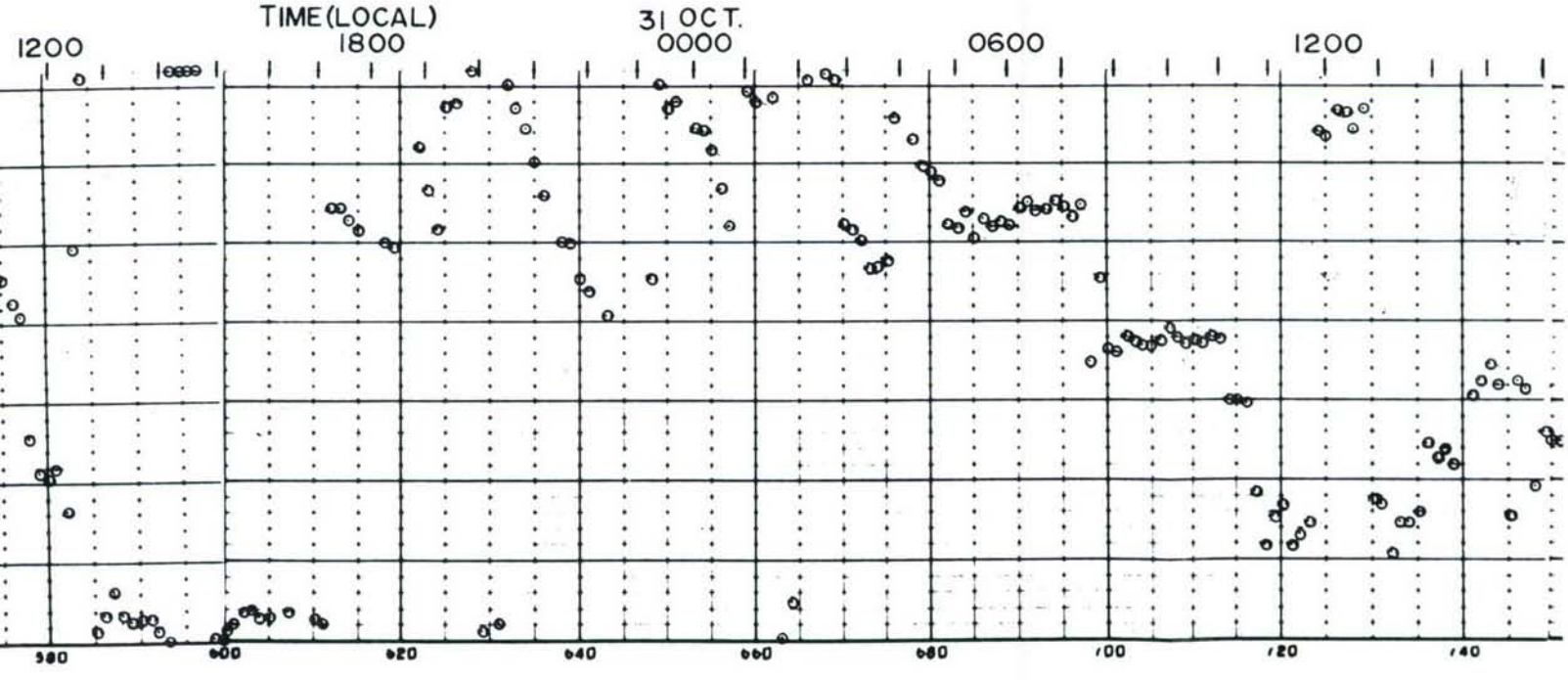
Date Completed: Film Processing ____, Reading 3-14-67

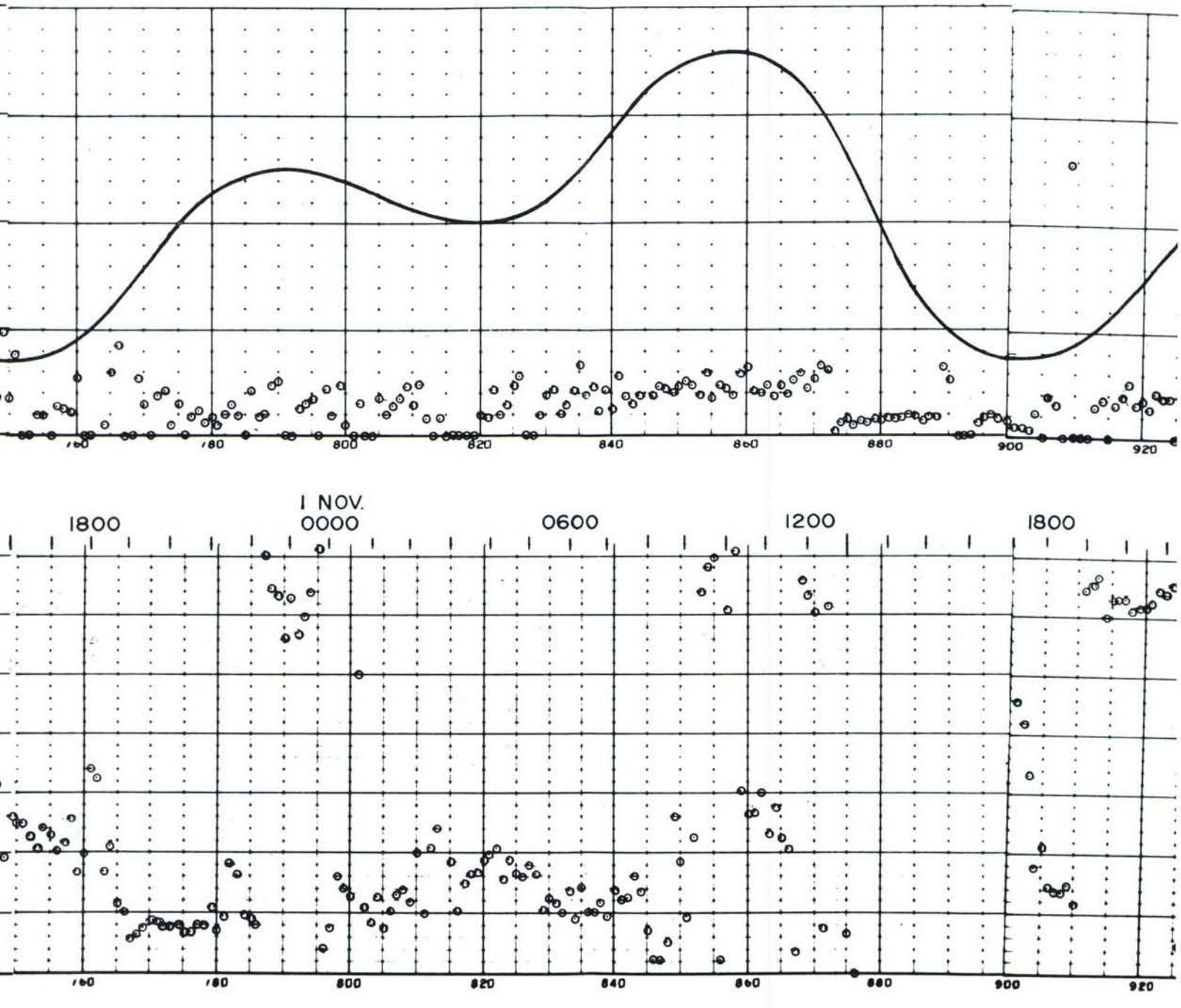
SITE 7C. DATA SHEET—4053 FOOT DEPTH (27 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966


3.
2.
1.
0
400
480
500
520
540
560
580


30 OCT. 1966
1800
0000
0600
1200
300
200
100
0
400
480
500
520
540
560
580

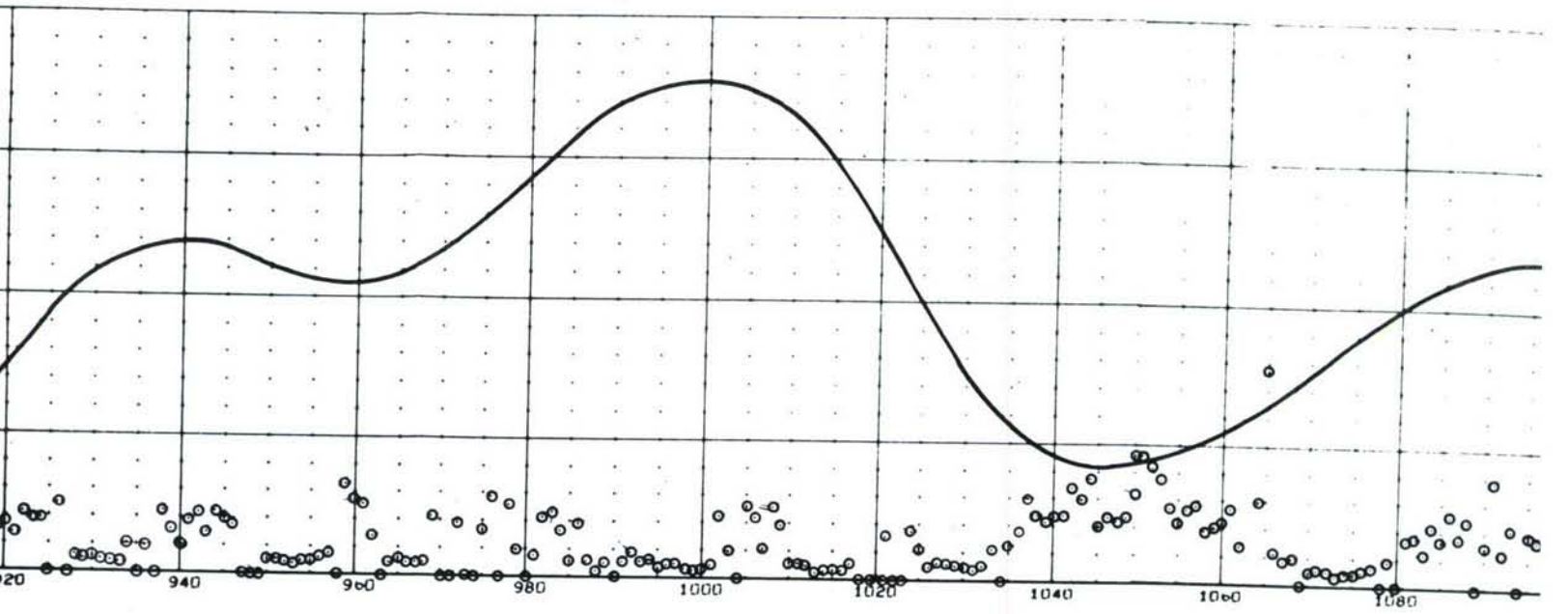


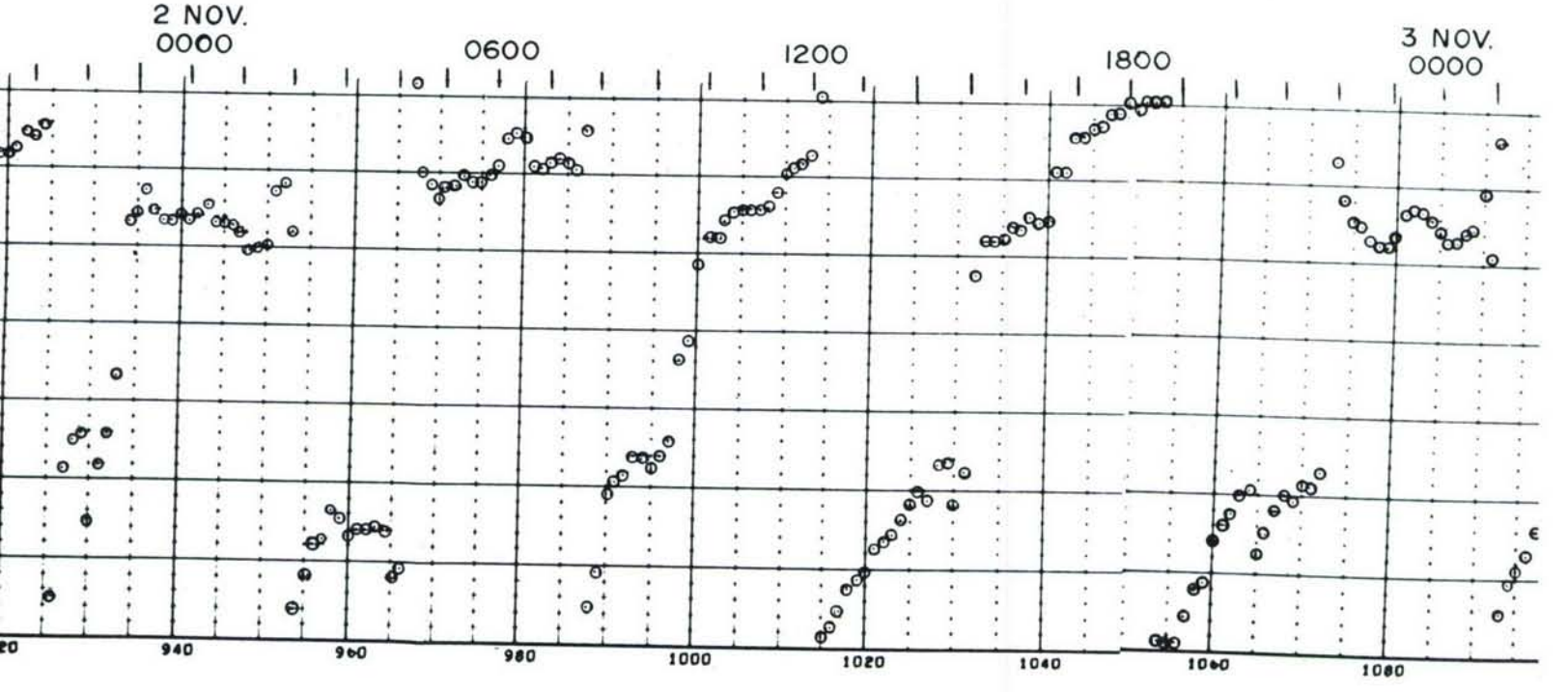

TIME (LOCAL)
1200
1800
31 OCT.
0000
0600
1200

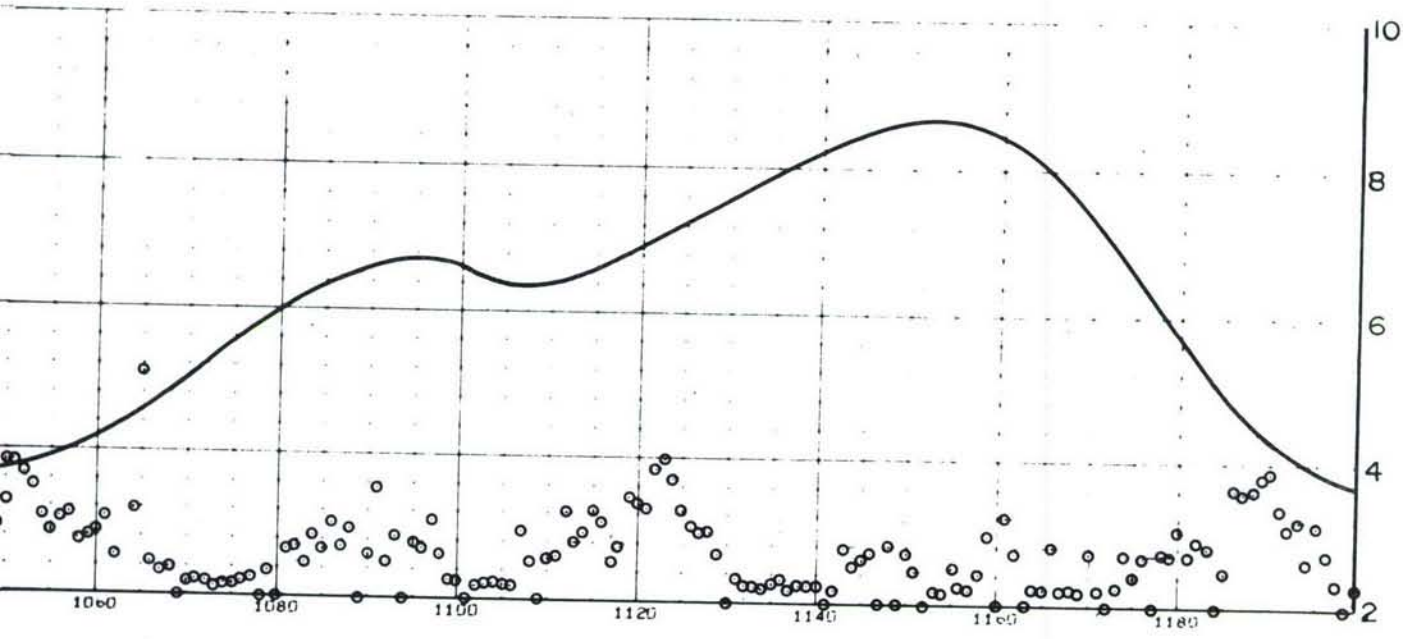


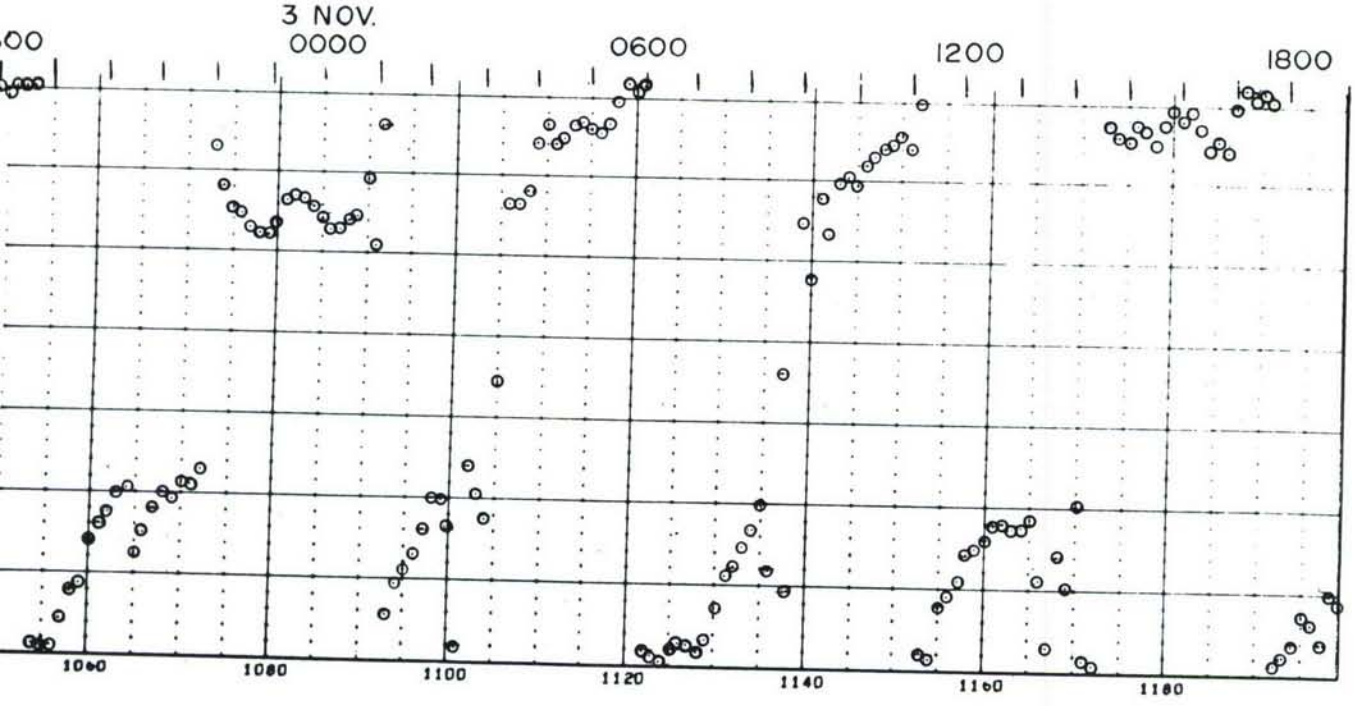
SITE 7C. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—4053 FOOT DEPTH (27 FEET ABOVE BOTTOM)

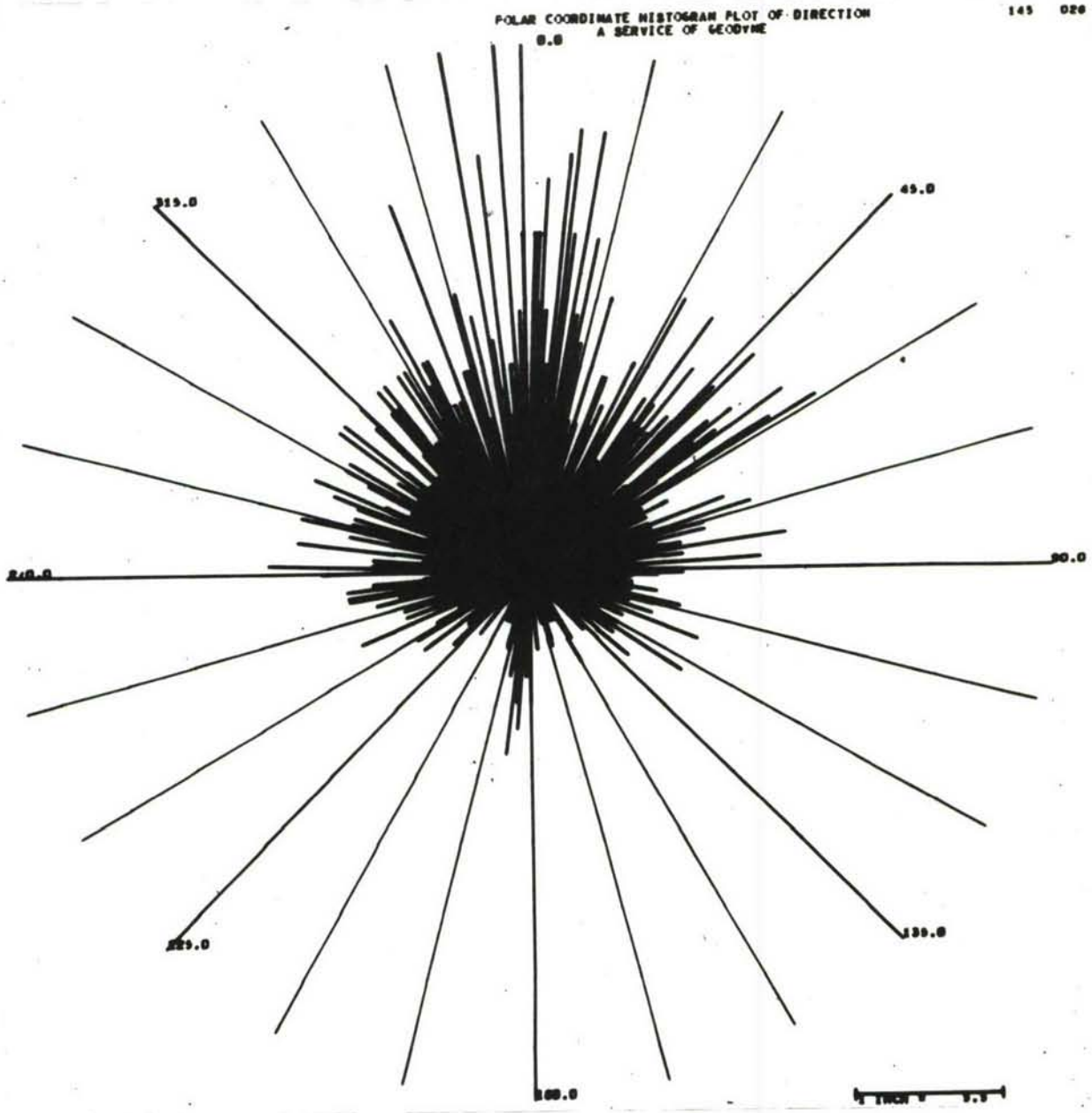
3


920
940
960
980
1000
1020
1040
1060
1080

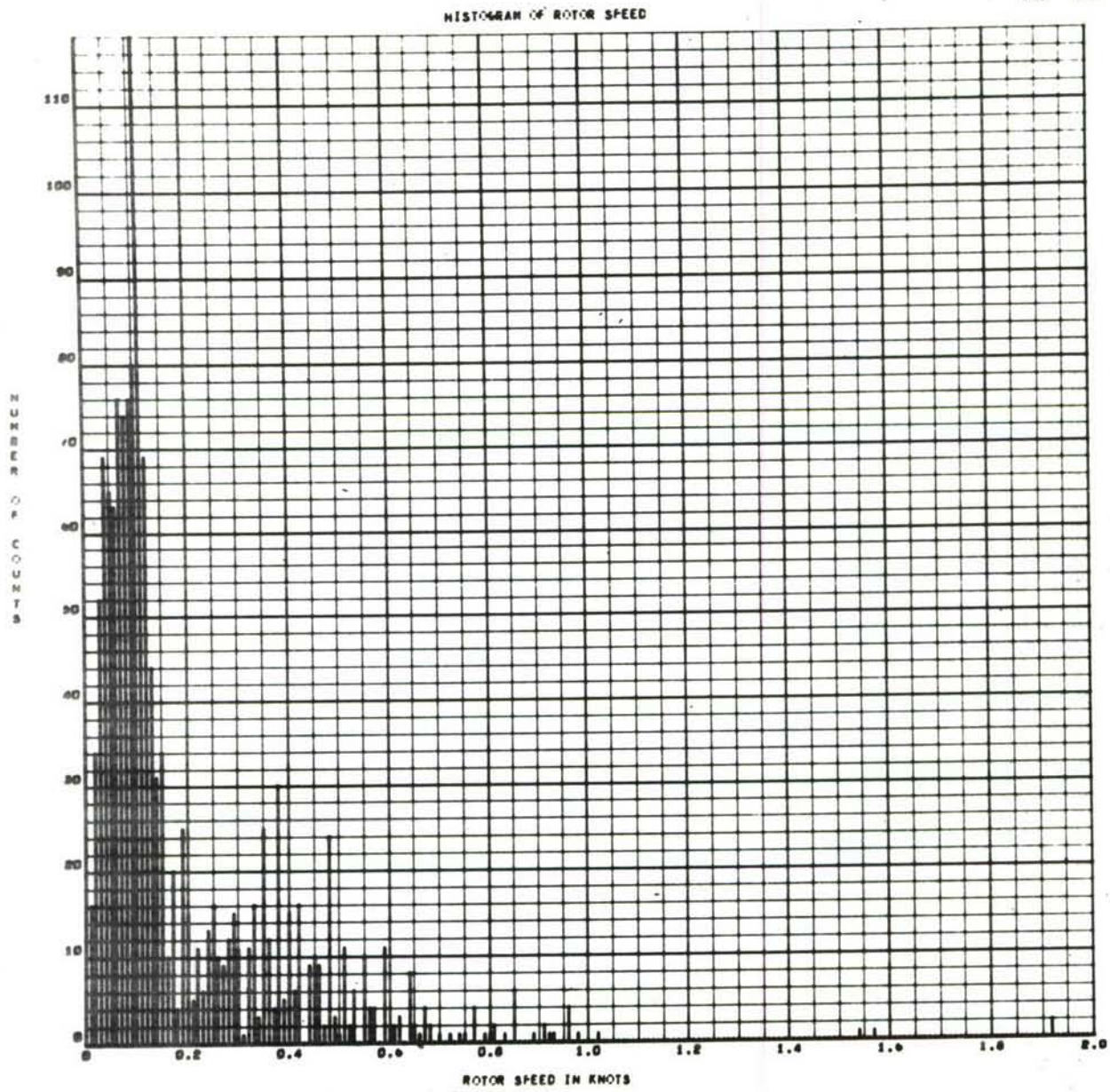

2 NOV.
0000
0600
1200
1800
3 NOV.
0000
920
940
960
980
1000
1020
1040
1060
1080


10
8
6
4
2
1060
1080
1100
1120
1140
1160
1180

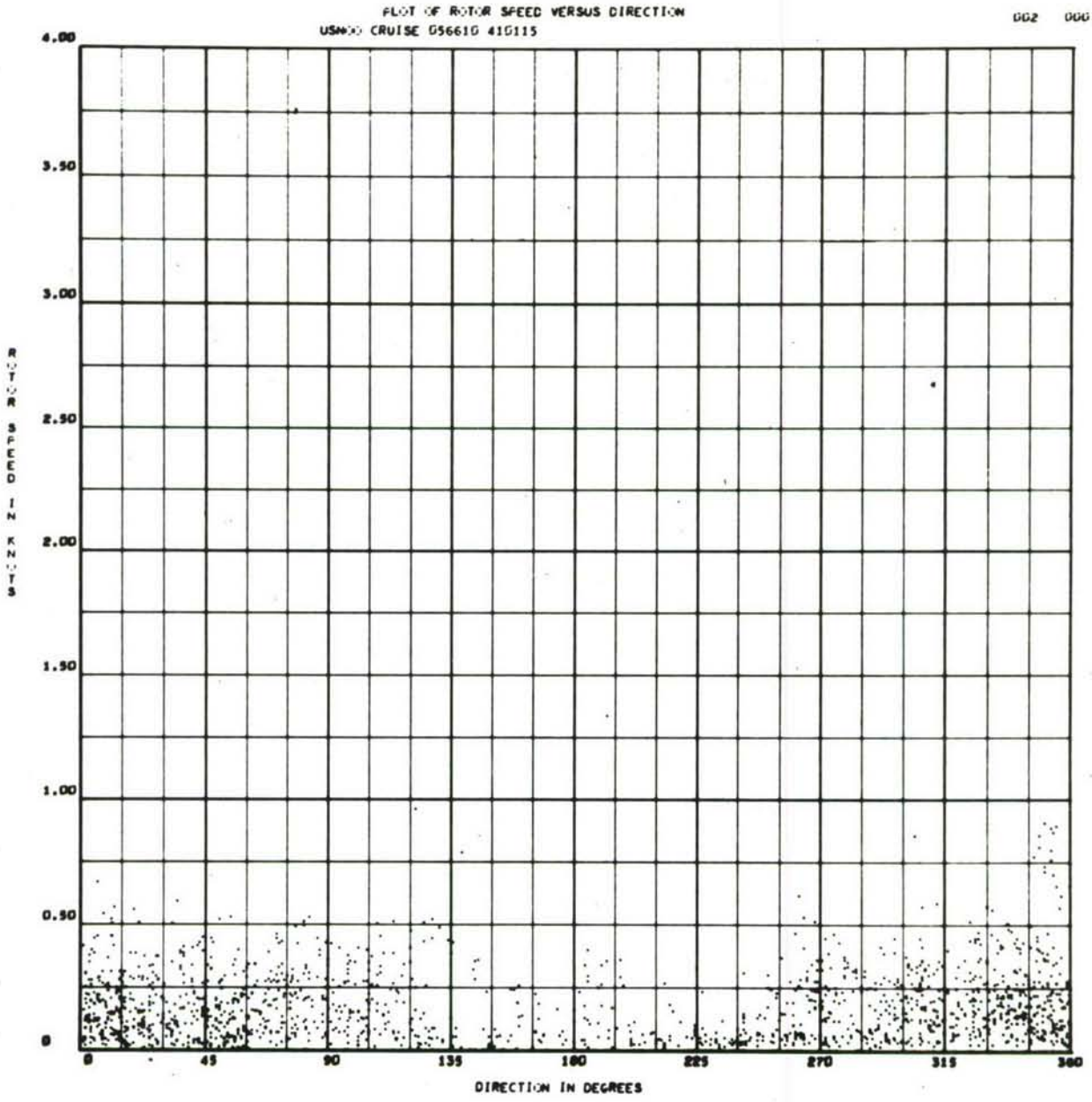

3 NOV.
0000
0600
1200
1800
1060
1080
1100
1120
1140
1160
1180



SITE 7C. POLAR COORDINATE HISTOGRAM 4053 FOOT DEPTH
(27 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 7C. HISTOGRAM OF ROTOR SPEED 4053 FOOT DEPTH
(27 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 7C. SCATTER PLOT 4053 FOOT DEPTH
(27 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966

TITLE: **FILM PROCESSING AND READING LOG***

410113
Geodyne Assigned Film No.

FILM IDENTIFICATION BY CUSTOMER Date 9 January 1967

Name Thomas G. Long

Address Naval Oceanographic Office
Washington D.C. 20390

G 463-9B
Customer's film identification

Type of Instrument A-100 Current Meter and Serial No. G 463
Motor RPM ___ ___, Film Advance Speed ___, No. Timer Cam Lobes 6
☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 Seconds

Cruise 056610, Location: Lat. 32° 48.3'N Long. 118° 20.1'W Meter Depth 12 feet above bottom
Magnetic variation (+ = East, - = West) 14° 26' East
Recording started at 0946 Hours, plus 8 Time Zone, 25 Oct 1966 Date
Recording ended at 1130 Hours, plus 8 Time Zone, 22 Nov 1966 Date
Comments:
Station 9 Bravo, Water depth 300 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:
Naval Oceanographic Office
Washington D.C. 20390
Attn: Ronald Kopenski, Code 9100

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
☒ Analog strip chart record
☒ Magnetic tape record

Other instructions:
1. Process only that data between tape strips on film.
2. Supply plots of direction versus time and speed versus time.
3. Supply scatter plots and histogram plots.

(8)
Customer's Order No. ___

FILM AND READING EVALUATION BY GEODYNE

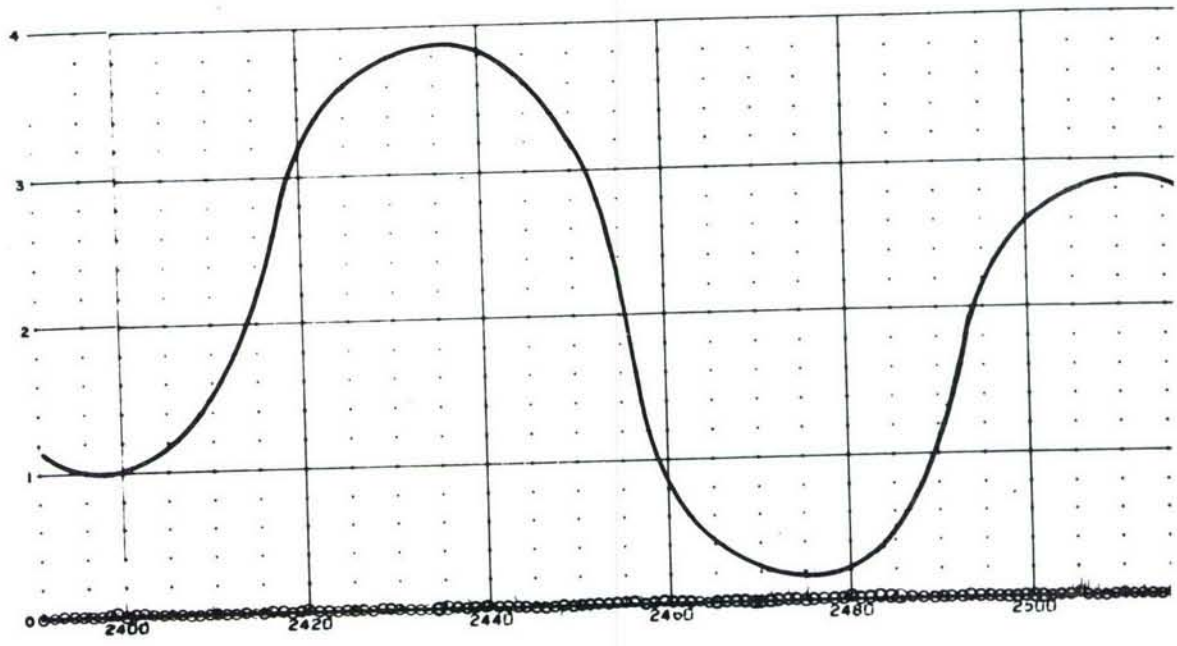
Record started: foot mark 6602+23 @ ___ hours, ___ Date
Record ended: foot mark 6644+35 @ ___ hours, ___ Date
Total footage 42' +12. Total elapsed time of record ___
FILM EVALUATION: Alignment ___, Density ___
Compass ___, Vane ___, Rotor ___, Time pulse ___
Comments:

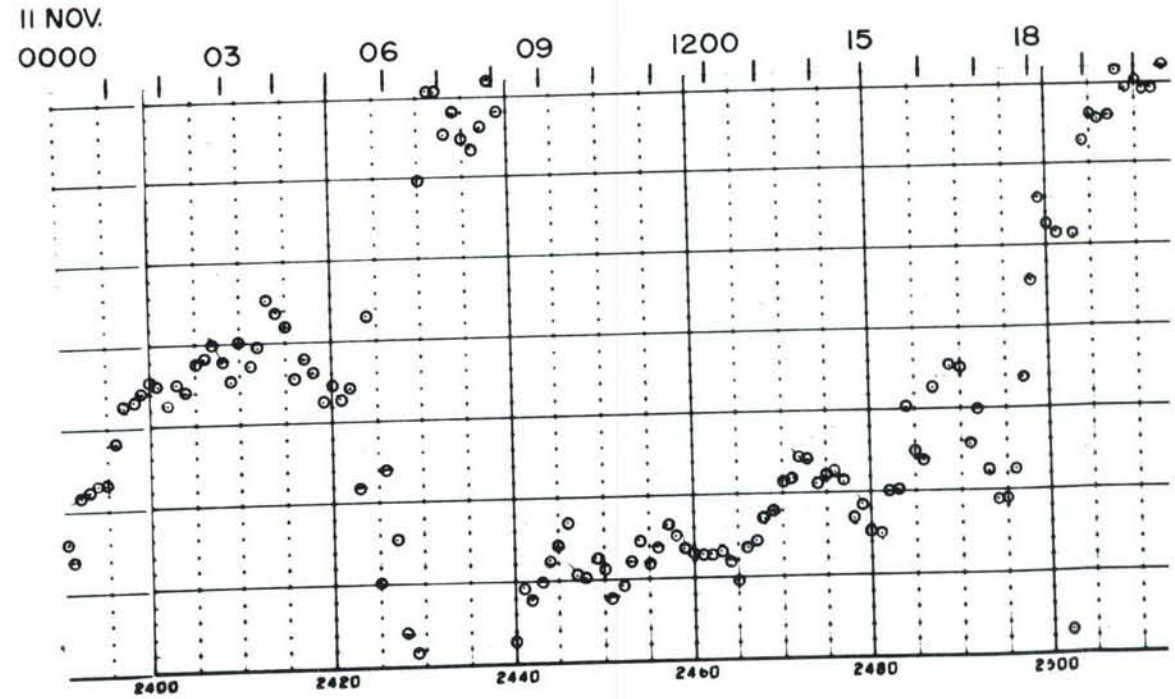
Strip Chart:

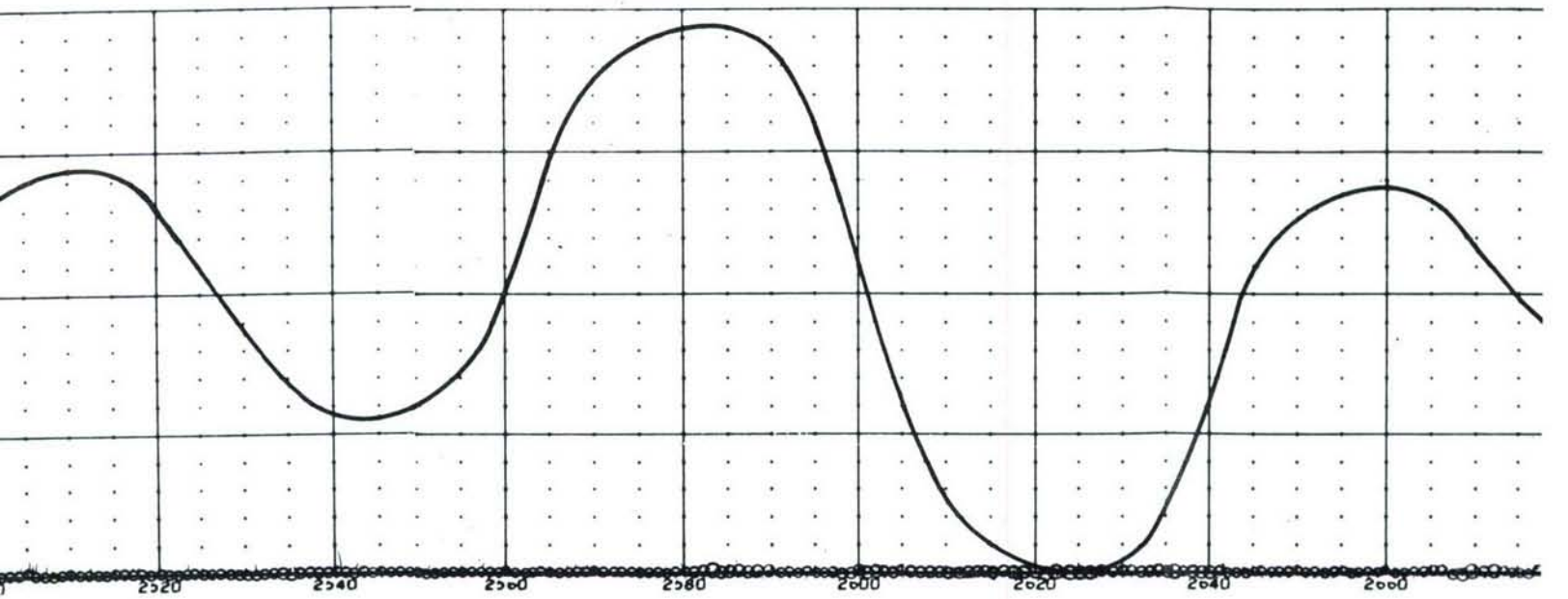
Magnetic Tape: 000519 Part 3

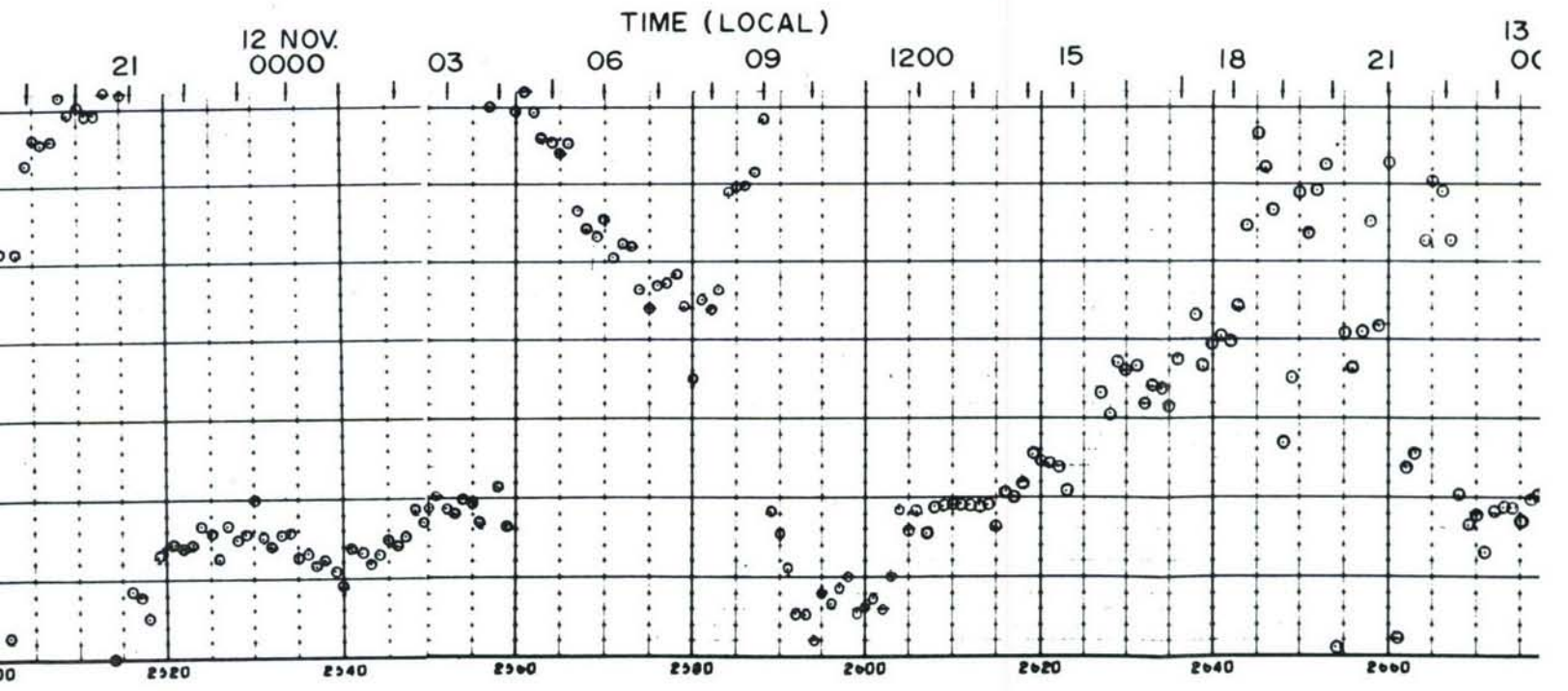
Date Completed: Film Processing ___, Reading 3-14-67

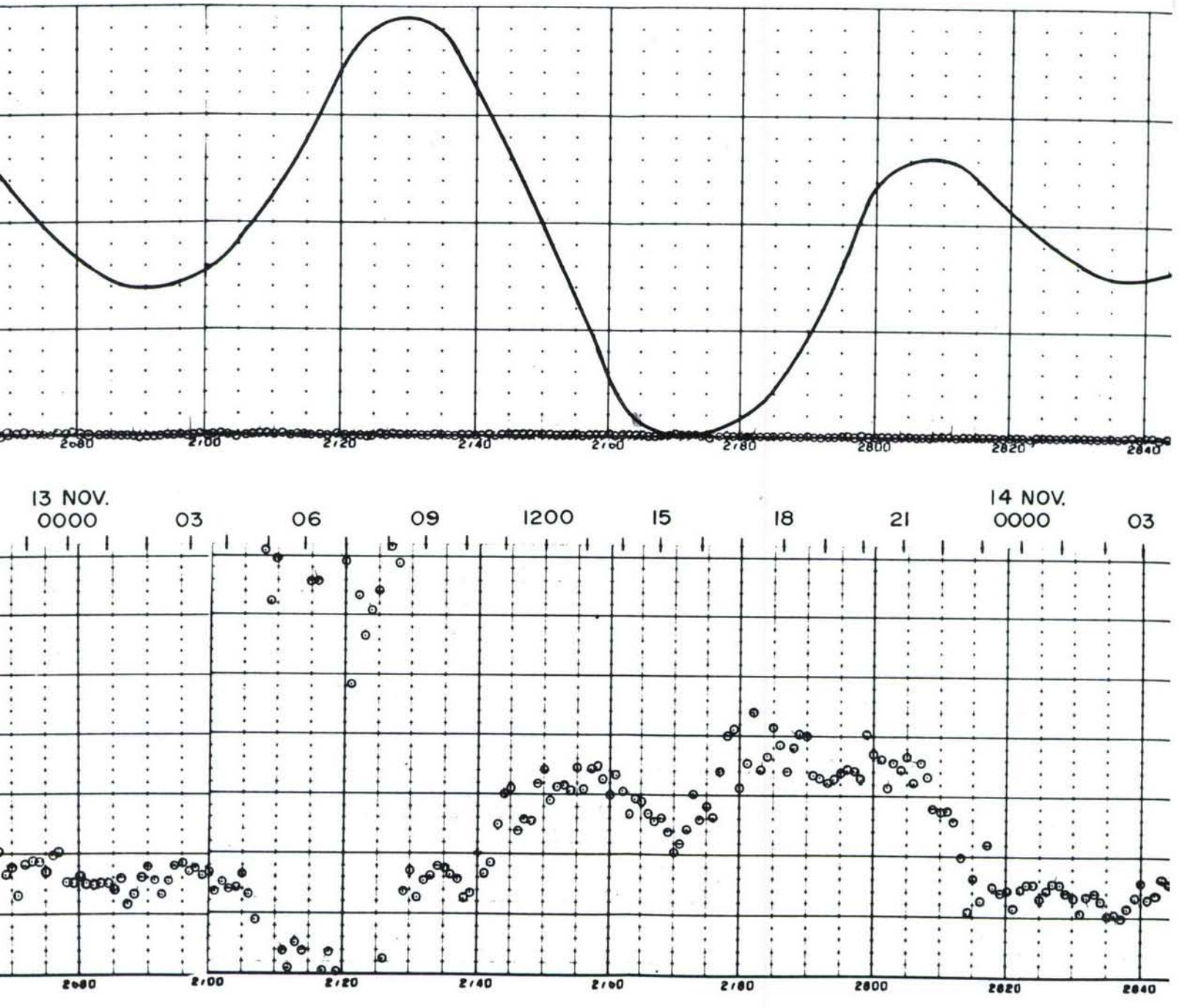
SITE 9B. DATA SHEET—288 FOOT DEPTH (12 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966


4
3
2
1
0
2400
2420
2440
2460
2480
2500


11 NOV.
0000
03
06
09
1200
15
18
2400
2420
2440
2460
2480
2500

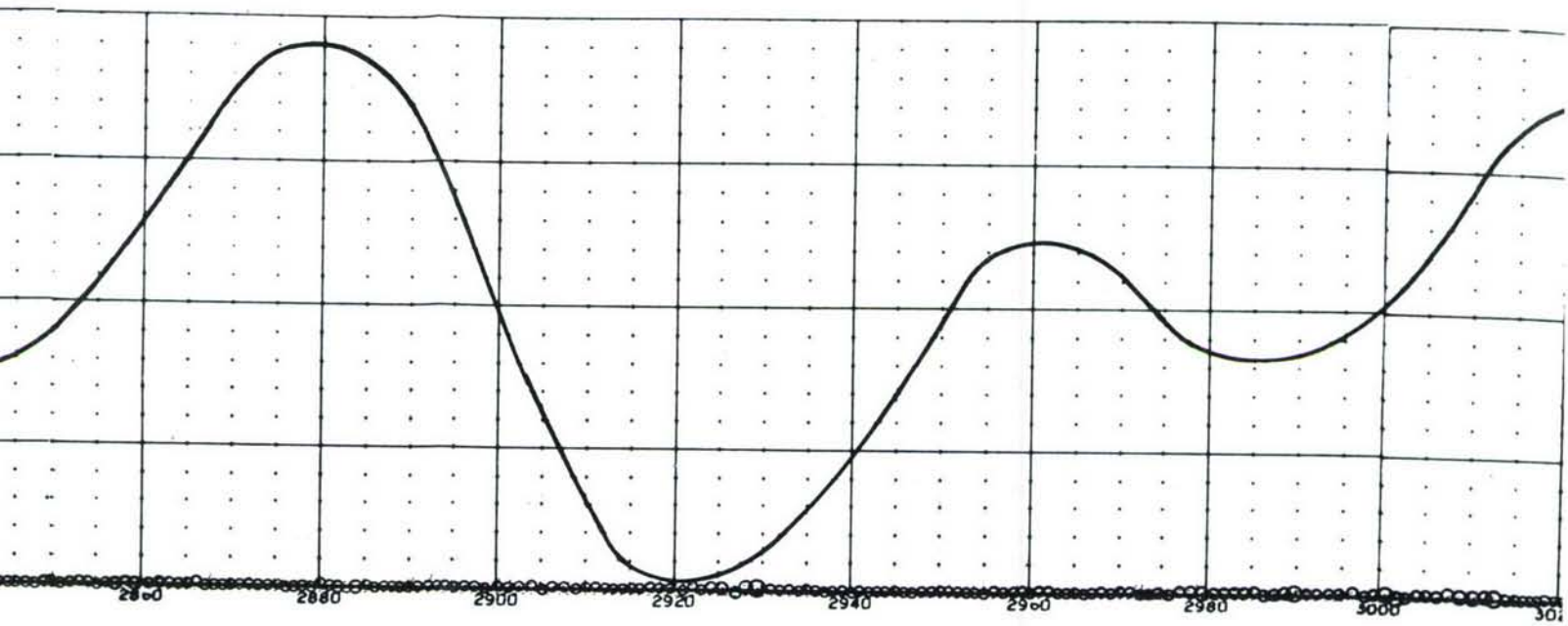

2520
2540
2560
2580
2600
2620
2640
2660

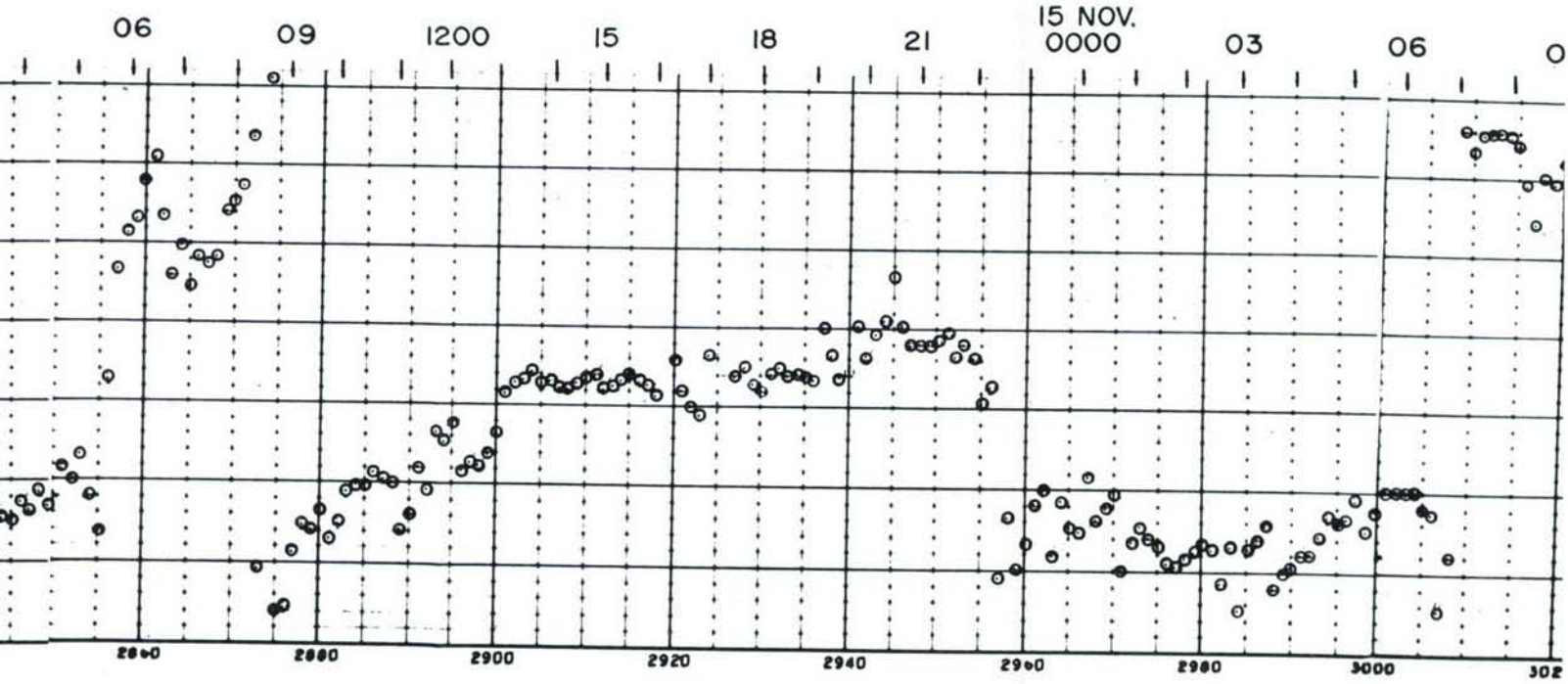

TIME (LOCAL)
12 NOV.
21
0000
03
06
09
1200
15
18
21
13
00
2520
2540
2560
2580
2600
2620
2640
2660

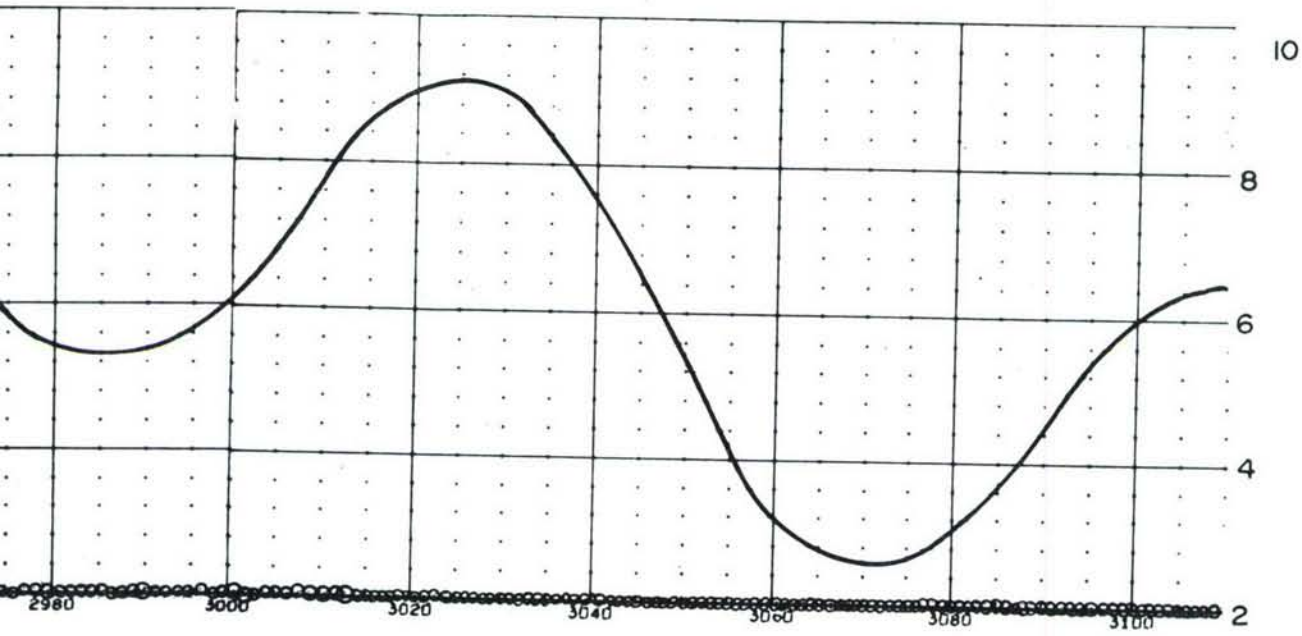


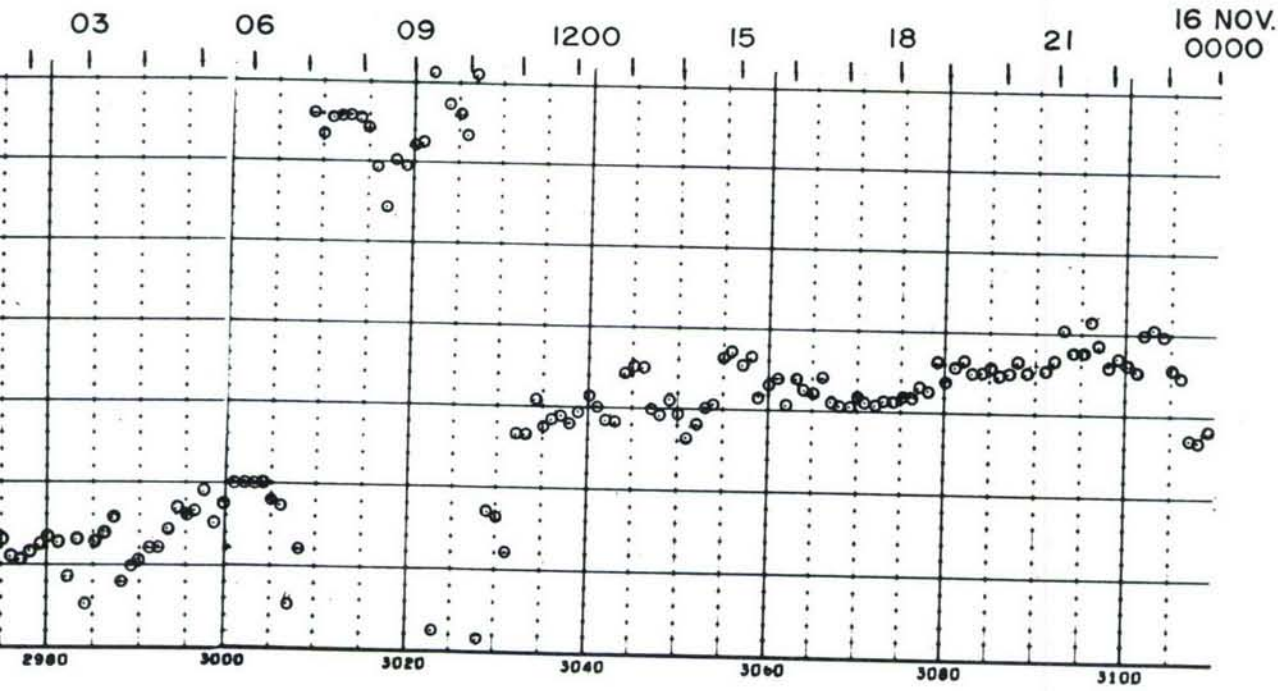
SITE 9B. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—288 FOOT DEPTH (12 FEET ABOVE BOTTOM)

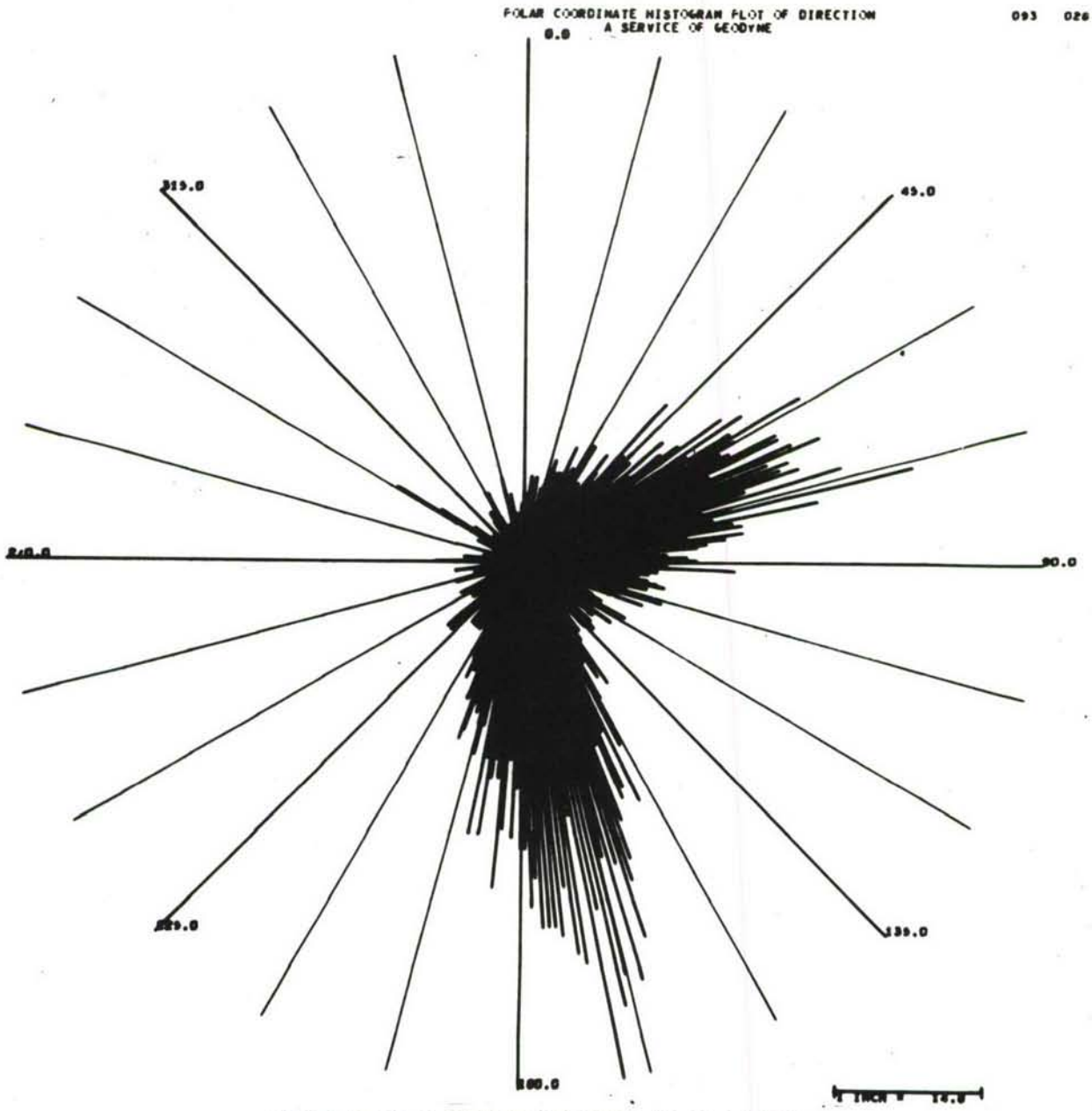
3


2860
2880
2900
2920
2940
2960
3000

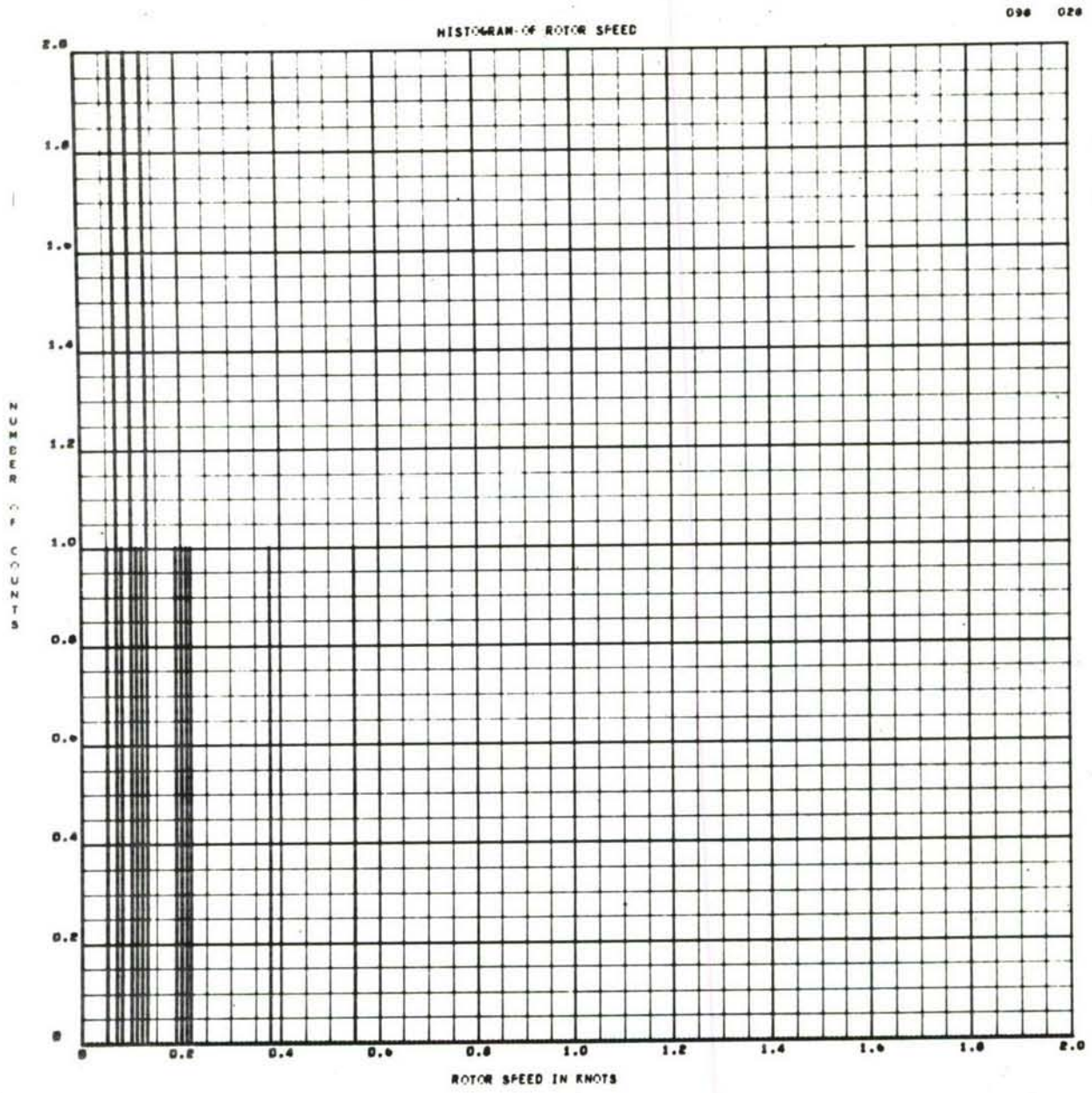

06
09
1200
15
18
21
15 NOV.
0000
03
06
2860
2880
2900
2920
2940
2960
2980
3000


10
8
6
4
2
2980
3000
3020
3040
3060
3080
3100

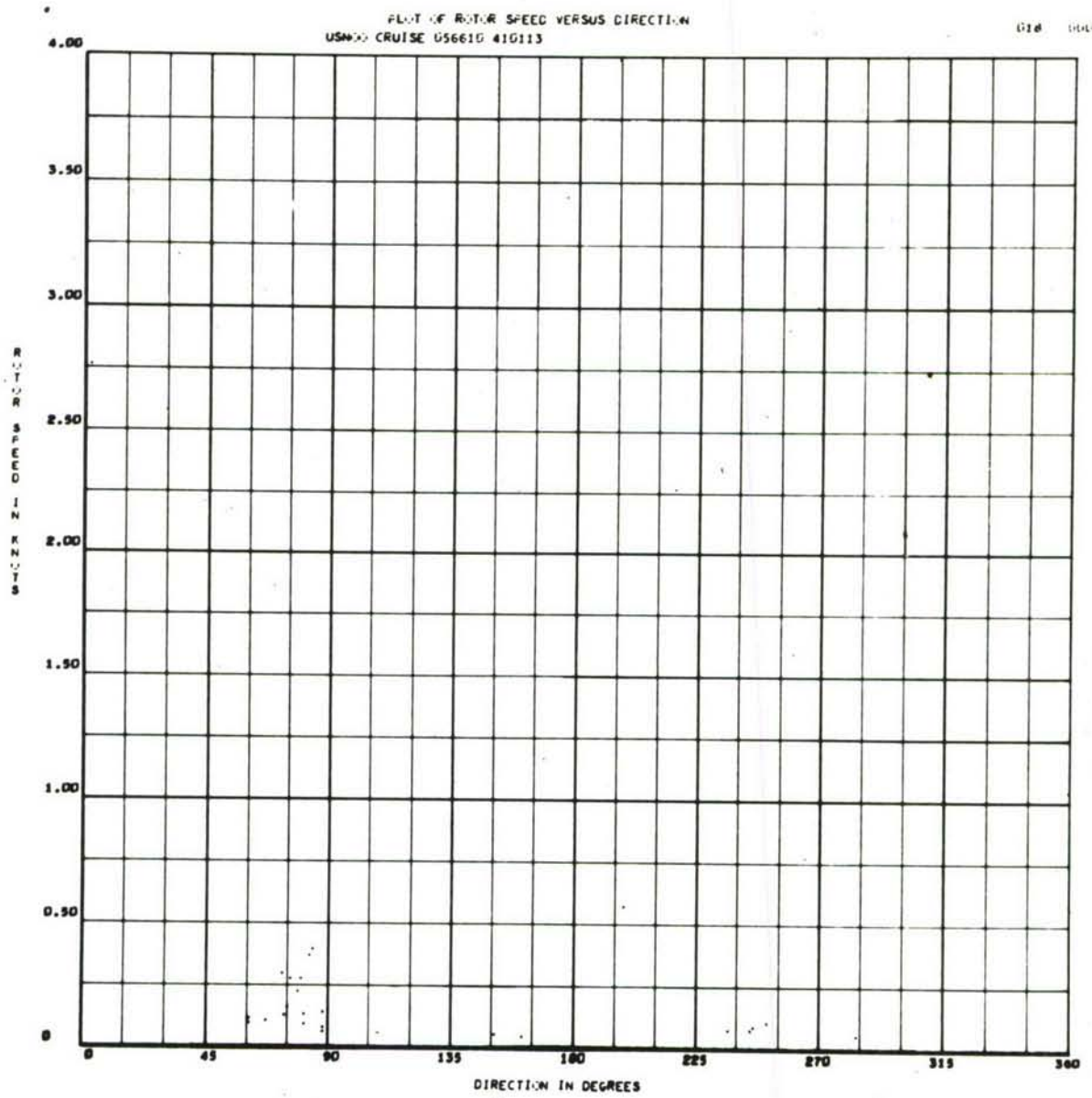

03
06
09
1200
15
18
21
16 NOV.
0000
2980
3000
3020
3040
3060
3080
3100



SITE 9B. POLAR COORDINATE HISTOGRAM 288 FOOT DEPTH
(12 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 9B. HISTOGRAM OF ROTOR SPEED 288 FOOT DEPTH
(12 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966



SITE 9B. SCATTER PLOT 288 FOOT DEPTH
(12 FEET ABOVE BOTTOM) OCTOBER—NOVEMBER 1966

TITLE: FILM PROCESSING AND READING LOG* 410112

FILM IDENTIFICATION BY CUSTOMER Date 9 January 1967 Geodyne Assigned Film No.

Name Thomas G. Long

Address Naval Oceanographic Office
Washington D.C. 20390

228-11C
Customer's film identification

Type of Instrument _____ and Serial No. 228

Motor RPM _____, Film Advance Speed _____, No. Timer Cam Lobes 6

☐ Continuous or, ☒ Interval Record, Time Interval Between Records 5 Seconds

Cruise 056610, Location: Lat. 32° 28.4'N Long. 118° 06.4'W Meter Depth 12 feet above bottom

Magnetic variation (+ = East, - = West) 14° 26' East

Recording started at 1353 Hours, plus 8 Time Zone, 16 Nov 1966 Date

Recording ended at 0830 Hours, plus 8 Time Zone, 9 Dec1966 Date

Comments:
tation 11 C, Water depth 6078 feet

INSTRUCTIONS TO GEODYNE

Store at Geodyne or send to:

☐ Process original film, ☐ 100', ☐ 150'
☐ Print for hand reading (clear edge)
☐ Print for automatic " (dark edge)
☒ Analog strip chart record
☒ Magnetic tape record

Naval Oceanographic Office
Washington D.C. 20390
Attn: Ronald Kopenski, Code 9100

Other instructions:
1. Process only that data between tape strips on the film.
2. Supply plots of direction versus time and speed versus time.
3. Supply scatter plots and histogram plots.

Customer's Order No. (9)

FILM AND READING EVALUATION BY GEODYNE

Record started: foot mark 6555 + 25 @ _____ hours, _____ Date

Record ended: foot mark 6589 + 1 @ _____ hours, _____ Date

Total footage 33' + 1/2, Total elapsed time of record _____

FILM EVALUATION: Alignment _____, Density _____

Compass _____, Vane _____, Rotor _____, Time pulse _____

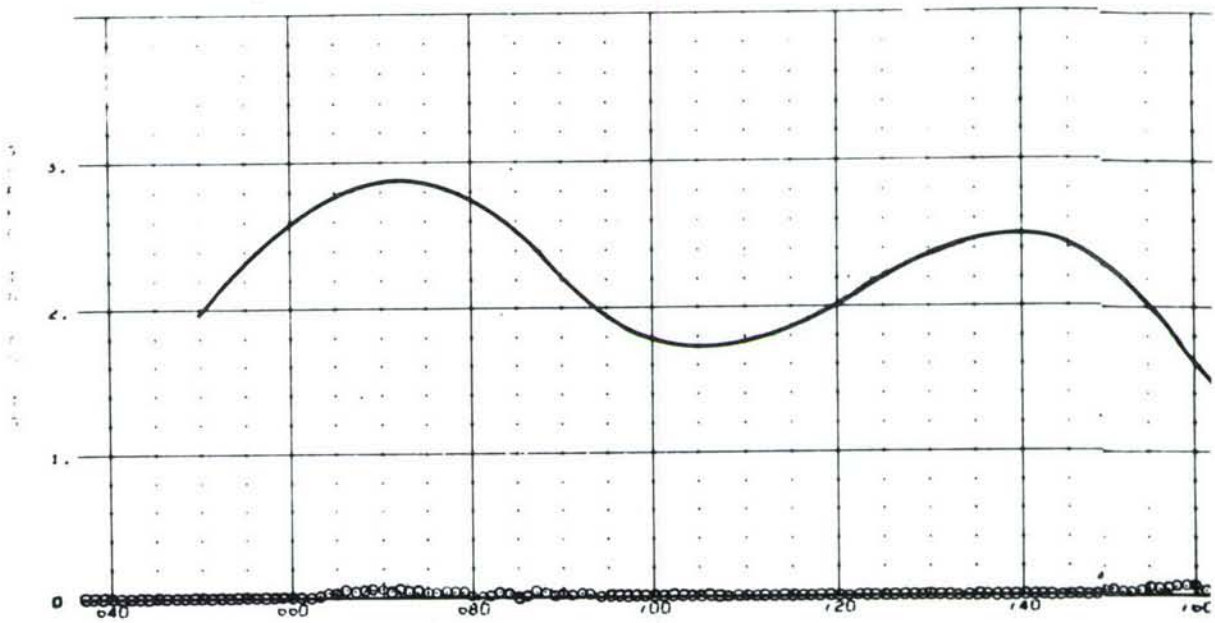
Comments:

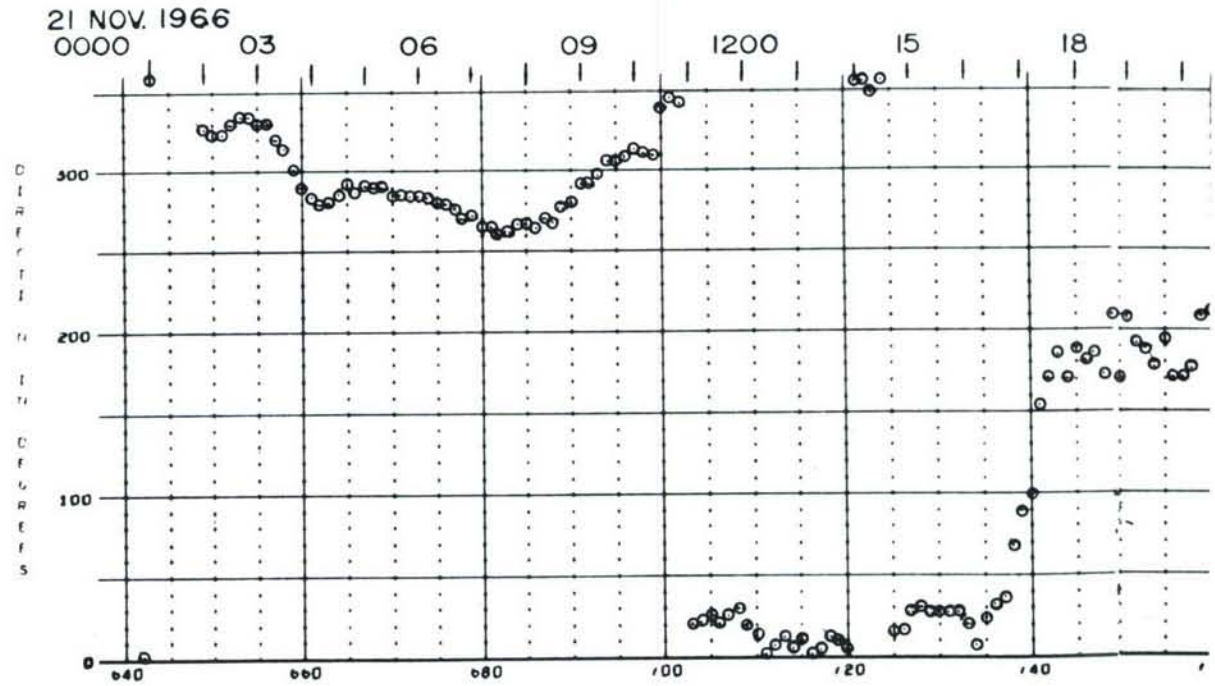
Strip Chart:

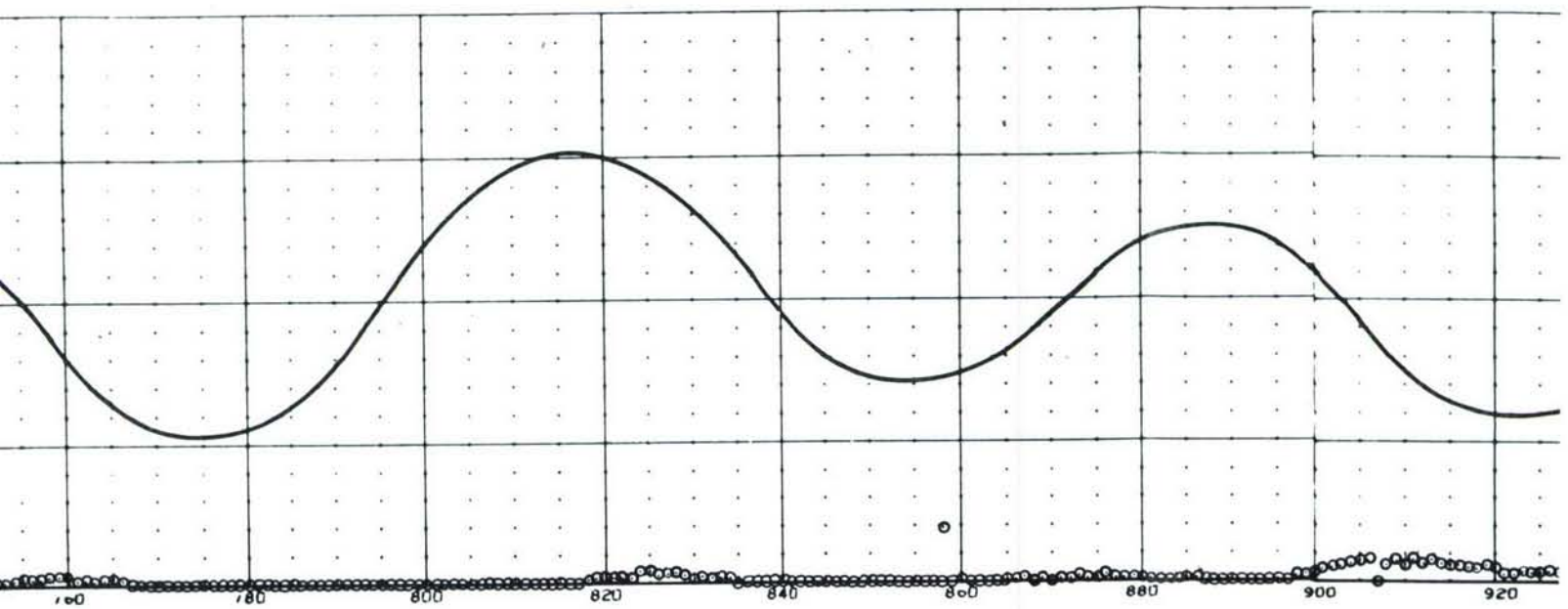
Magnetic Tape: 000519 Part 2

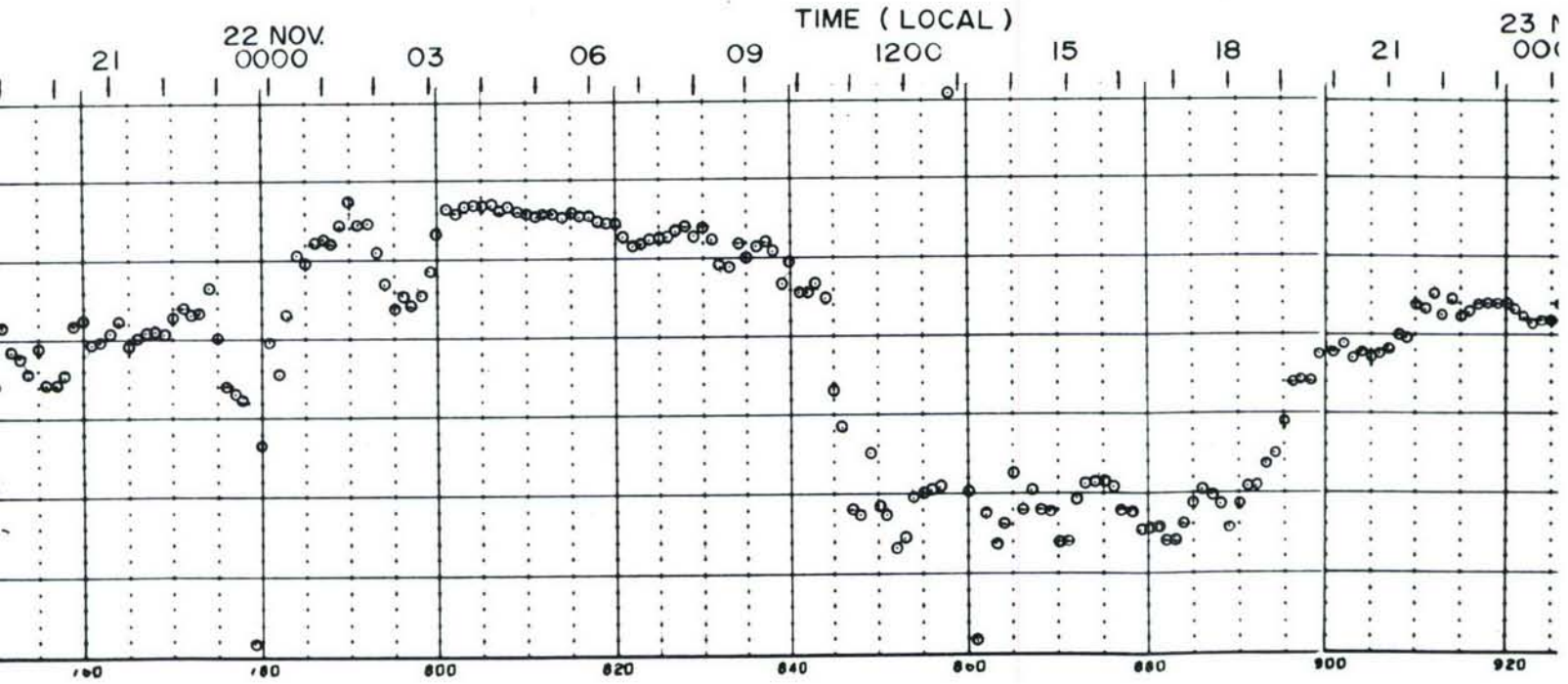
Date Completed: Film Processing _____, Reading 3-14-67

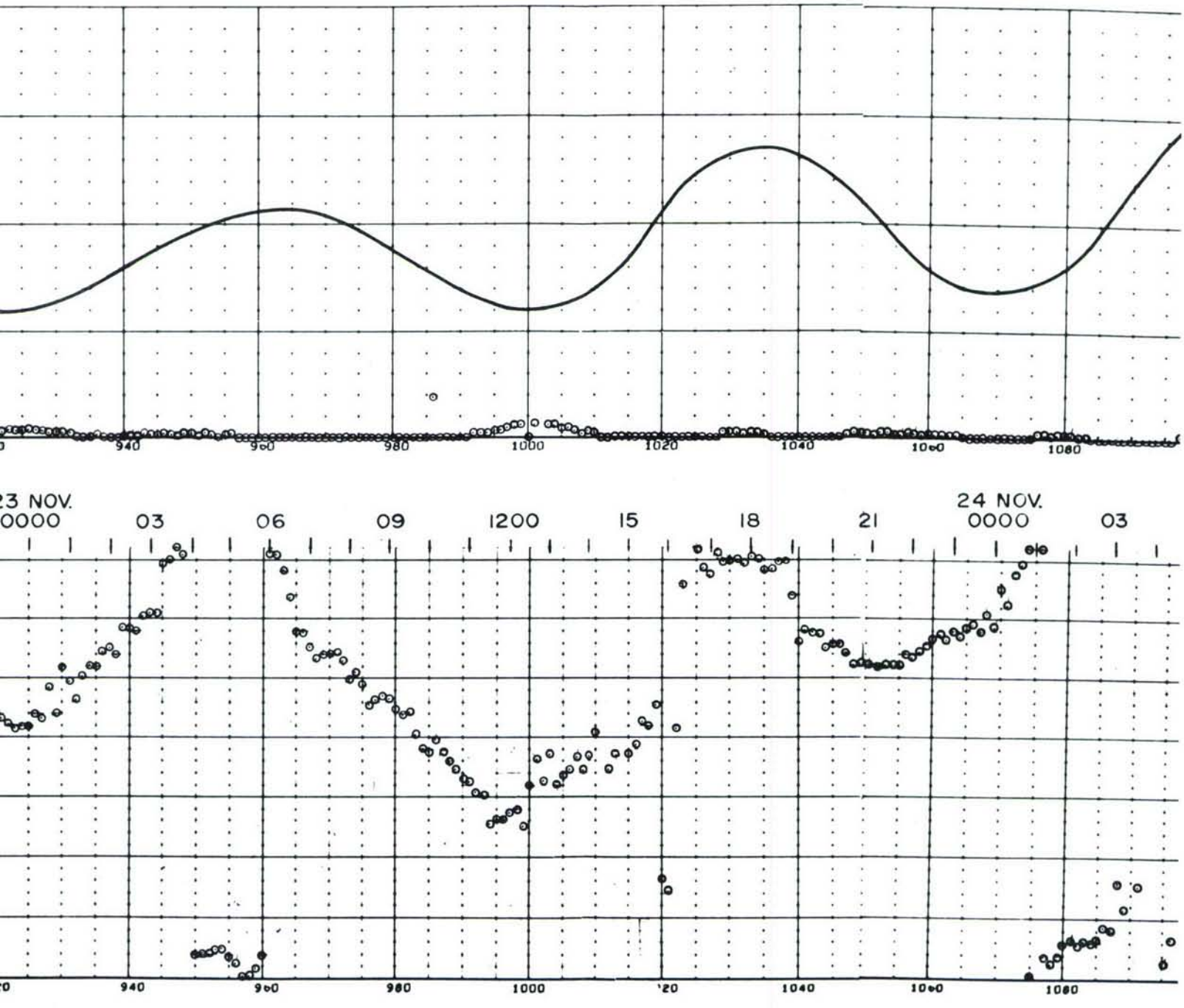
SITE 11C. DATA SHEET—6066 FOOT DEPTH (12 FEET ABOVE BOTTOM) NOVEMBER—DECEMBER 1966


3.
2.
1.
0
040
060
080
100
120
140


21 NOV. 1966
0000
03
06
09
1200
15
18
300
200
100
0
040
060
080
100
120
140

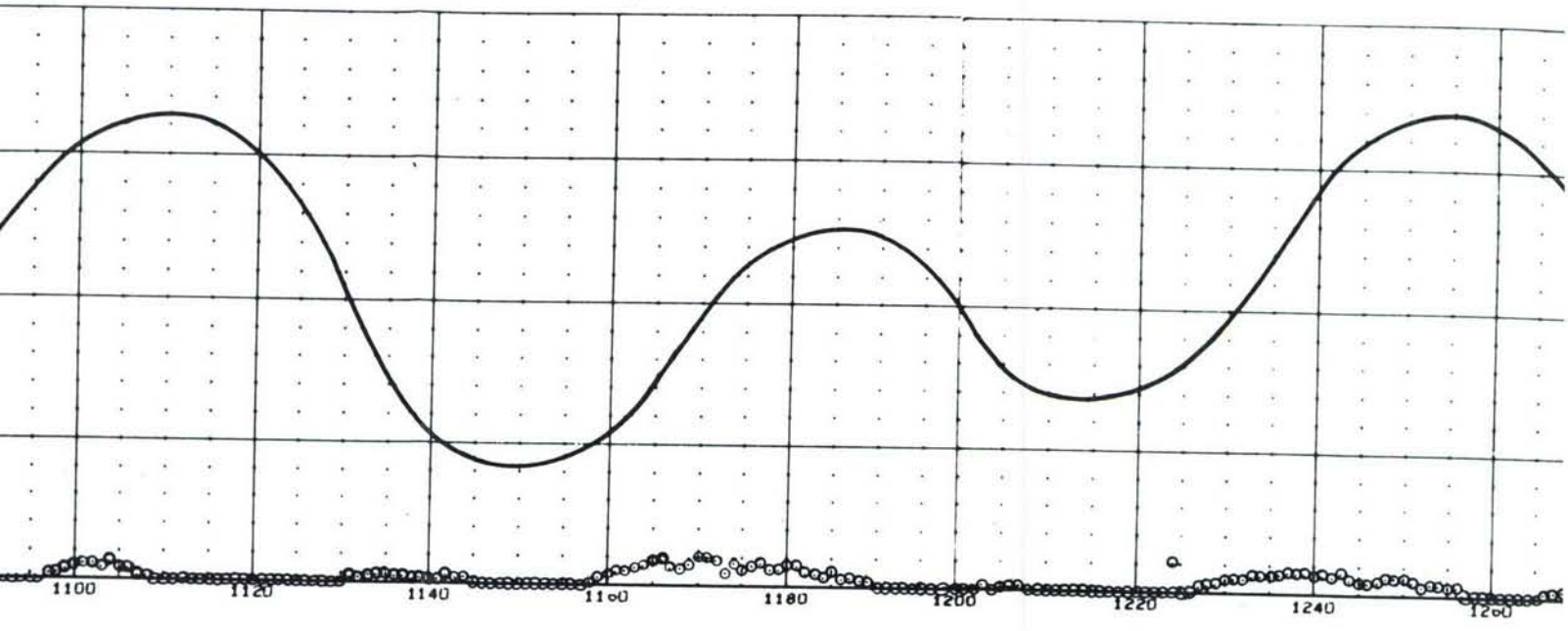

760
780
800
820
840
860
880
900
920

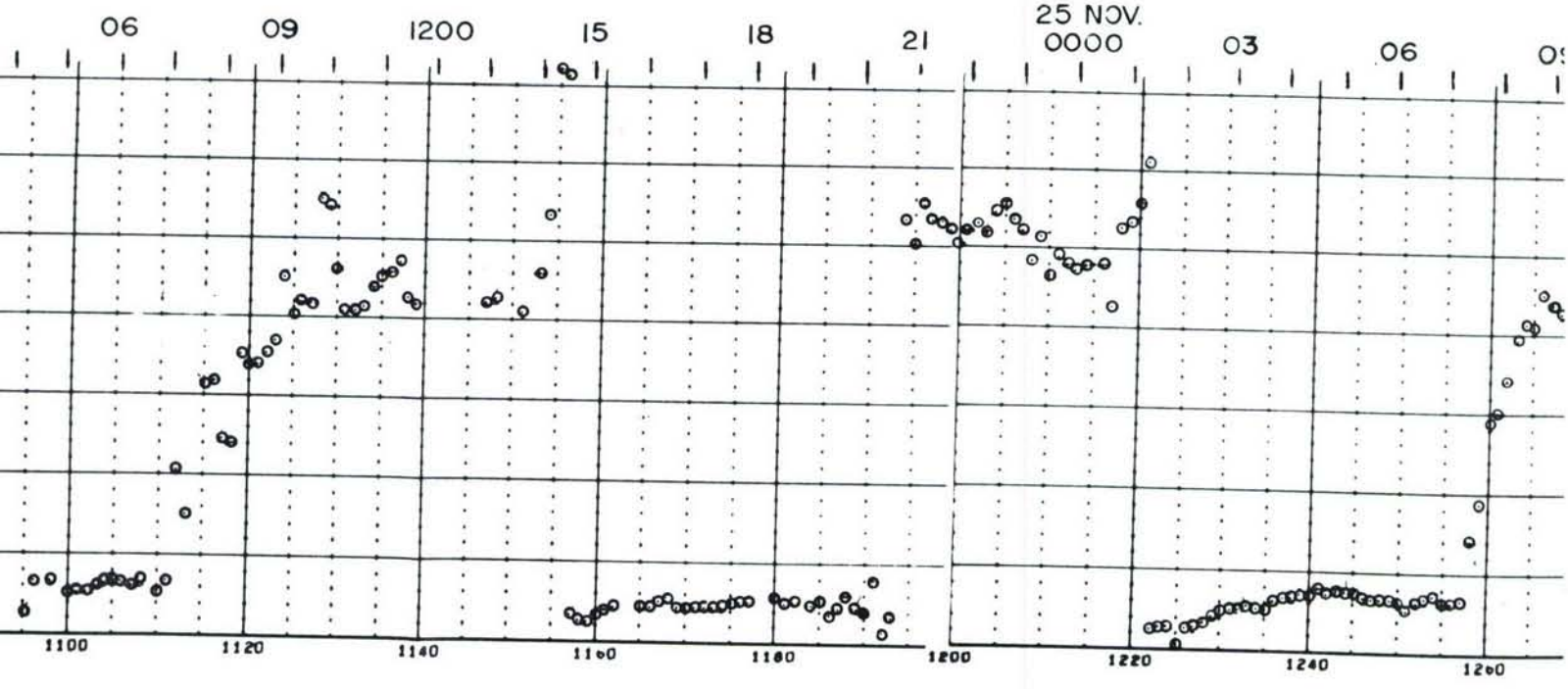

TIME (LOCAL)
21
22 NOV.
0000
03
06
09
1200
15
18
21
23 N
760
780
800
820
840
860
880
900
920

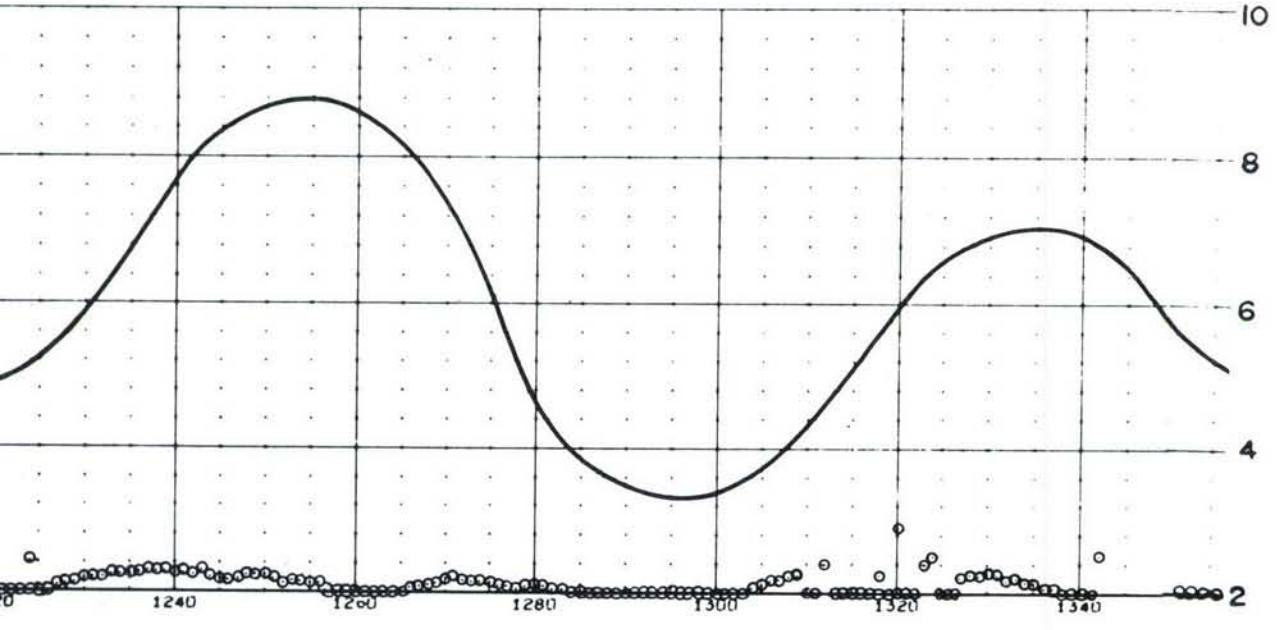


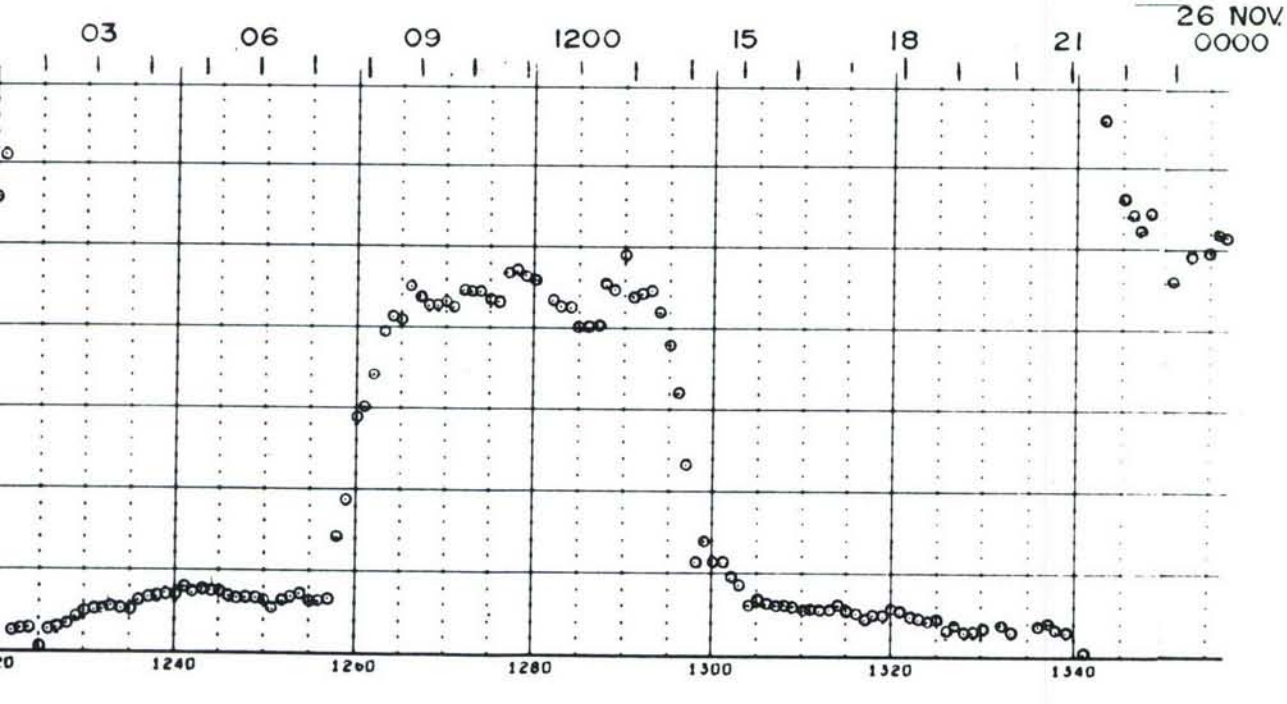
SITE 11C. CURRENT METER RECORD AND TIDE HEIGHT—5 DAY RECORD—6066 FOOT DEPTH (12 FEET ABOVE BOTTOM)

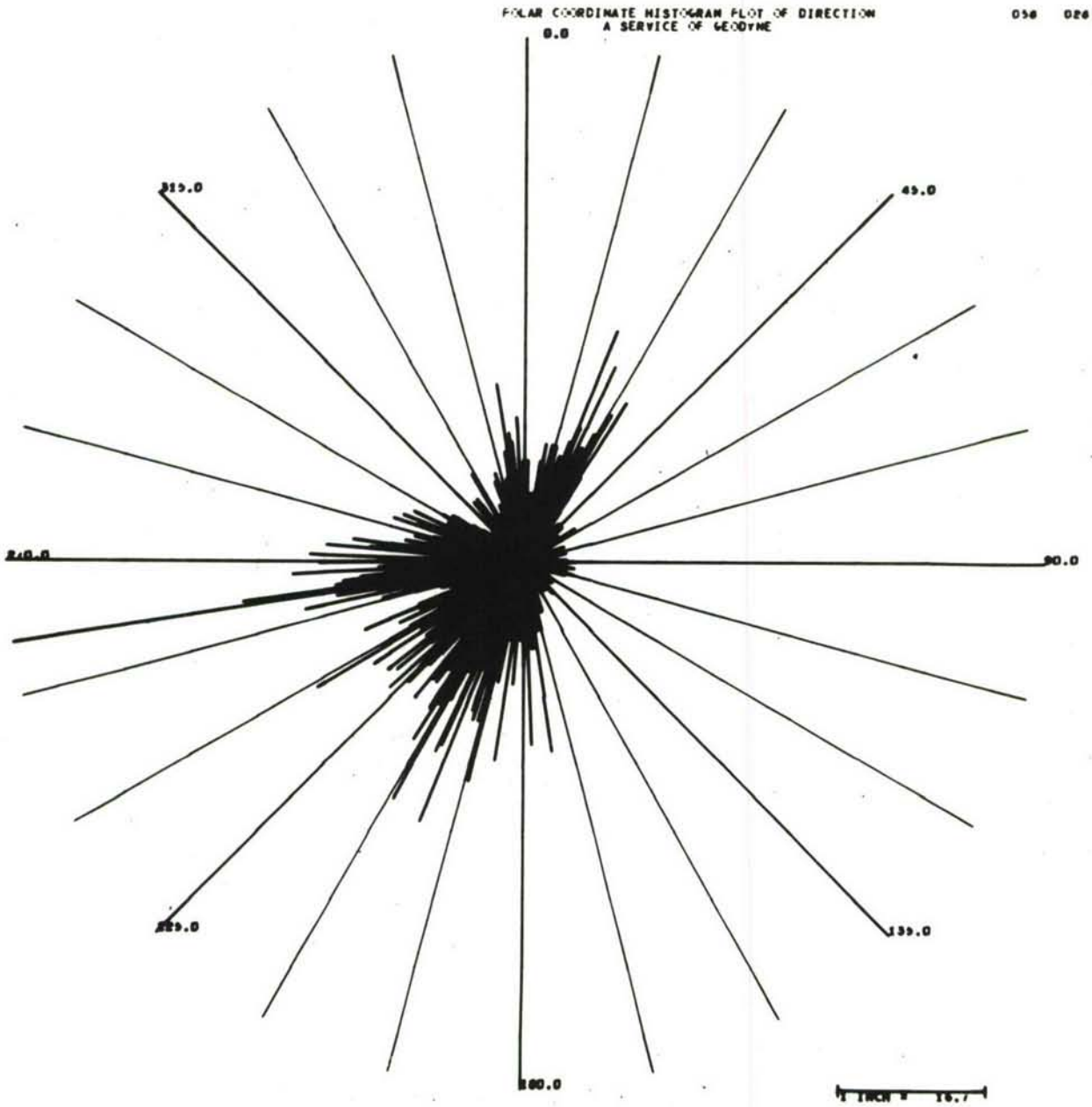
3


1100
1120
1140
1160
1180
1200
1220
1240
1260

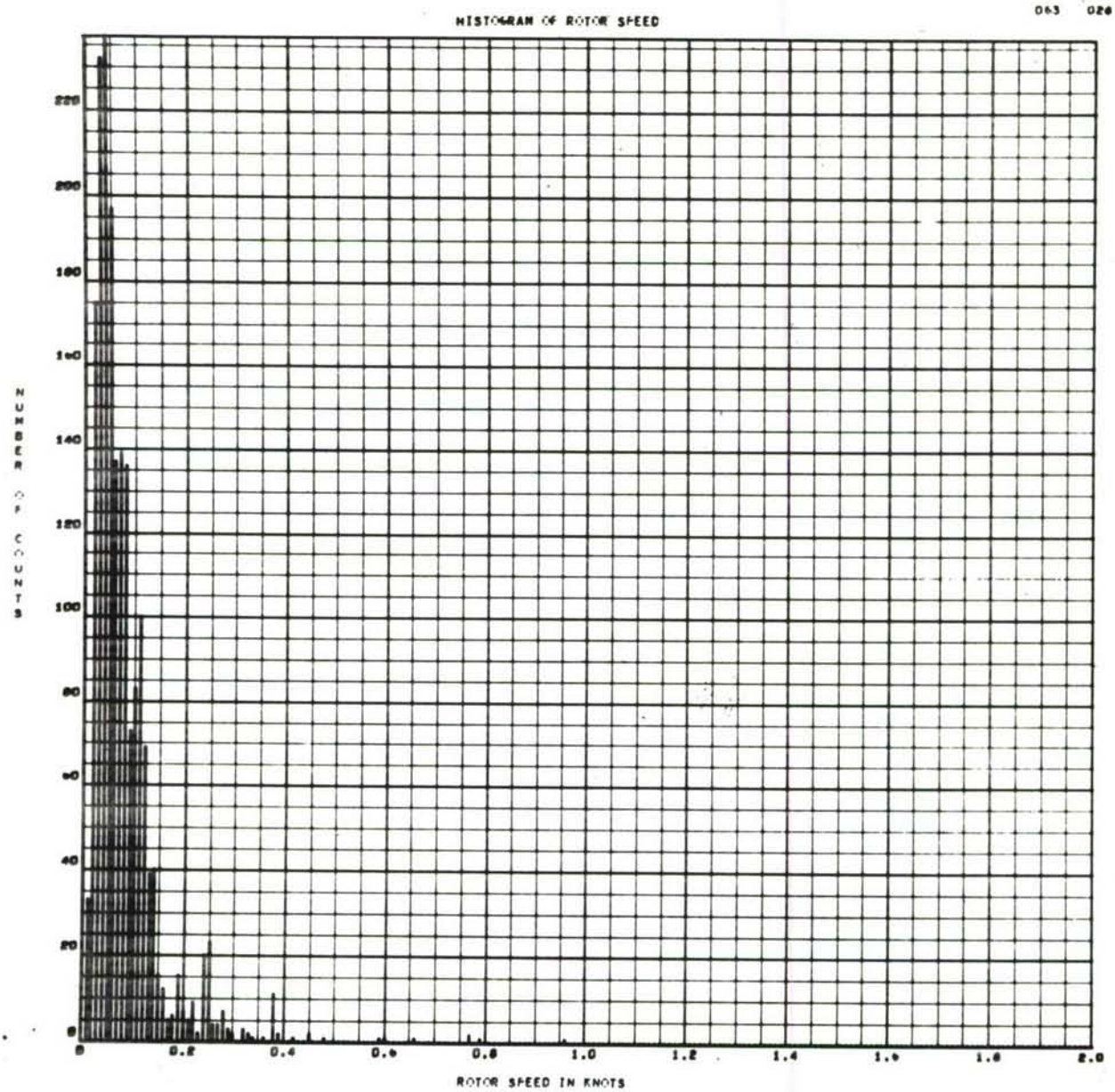

06
09
1200
15
18
21
25 NOV.
0000
03
06
1100
1120
1140
1160
1180
1200
1220
1240
1260


10
8
6
4
2
1240
1260
1280
1300
1320
1340

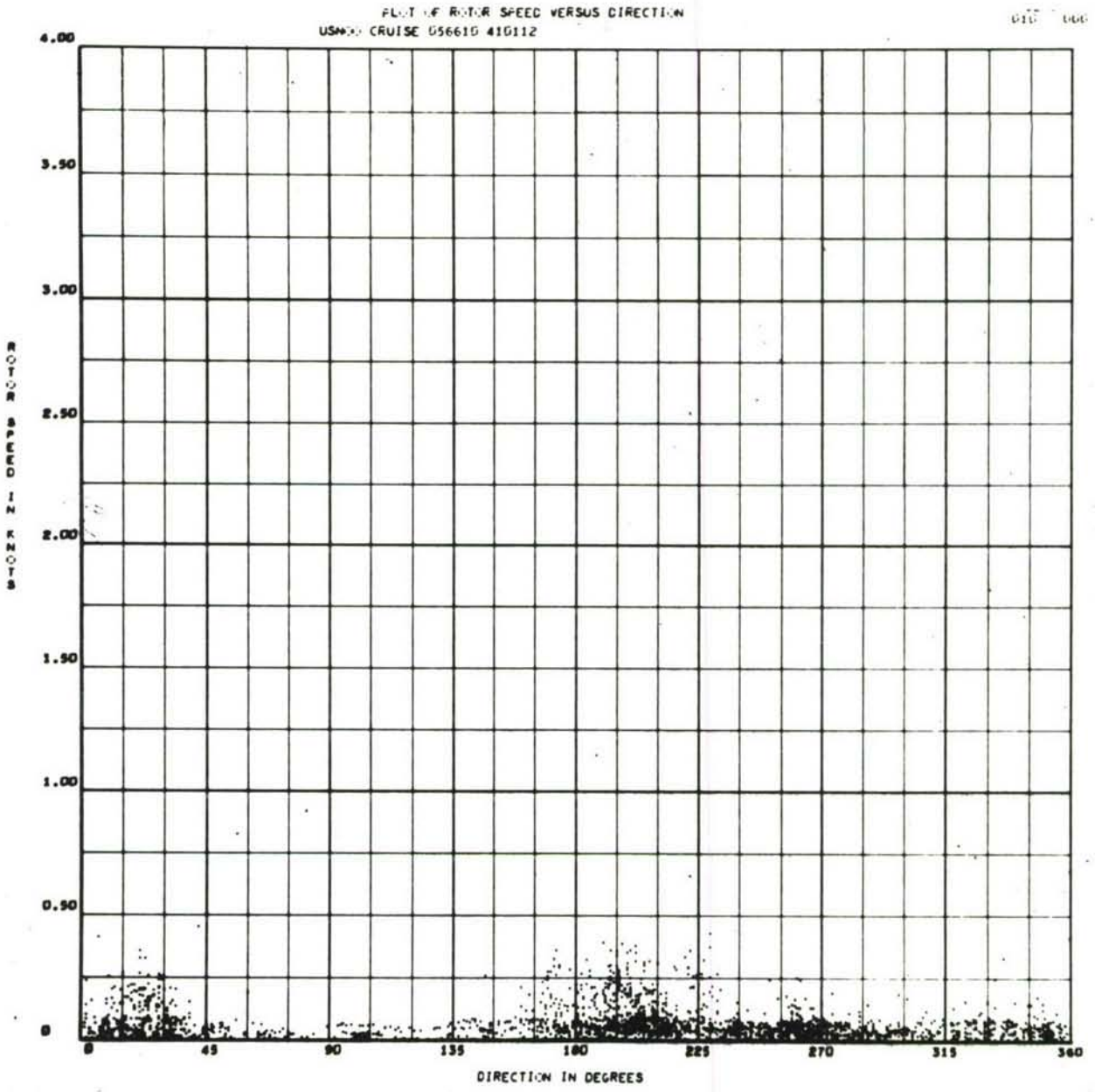

03
06
09
1200
15
18
21
26 NOV.
0000
1240
1260
1280
1300
1320
1340



SITE 11C. POLAR COORDINATE HISTOGRAM 6066 FOOT DEPTH
(12 FEET ABOVE BOTTOM) NOVEMBER—DECEMBER 1966



SITE 11C. HISTOGRAM OF ROTOR SPEED 6066 FOOT DEPTH
(12 FEET ABOVE BOTTOM) NOVEMBER—DECEMBER 1966



SITE 11C. SCATTER PLOT 6066 FOOT DEPTH
(12 FEET ABOVE BOTTOM) NOVEMBER—DECEMBER 1966

APPENDIX C

GLOSSARY OF OCEANOGRAPHIC TERMS

GLOSSARY OF TERMS

Alpha meter (Transmissometer) - An instrument which measures the optical attenuation coefficient of an in-situ water sample.

Basin - A depression of the sea floor more or less equidimensional in form and of variable extent. When the length is much greater than the width, the feature is called a trough.

Benthic - Pertaining to all submarine bottom terrain regardless of water depth.

Clastic Sediments - A rock composed of debris transported mechanically into its place of final deposition. Sandstones and shales are the most common clastics.

Continental Borderland - A region adjacent to a continent, normally occupied by the Continental Shelf, which is highly irregular with depths well in excess of those typical of Continental Shelves.

Continental Shelves - Zones adjacent to a continent or around an island, and extending from the low water line to the depth at which there is usually a marked increase of slope to greater depth.

Continental Slope - A declivity seaward from a shelf edge into greater depth.

Dome - An elevation rising less than 500 fathoms from the sea floor, and of limited extent across the summit.

Fault Escarpment - An elongated and comparatively steep slope of the sea floor, separating flat gently sloping areas.

Fines - The silt and clay fraction of a sediment.

Glauconite - A green mineral, closely related to the micas and essentially a hydrous potassium iron silicate. Occurs in sediments of marine origin.

High Water - The maximum height reached by a rising tide.

K-Meter - An instrument which measures the upwelling and downwelling light in the ocean environment.

Low Water - The minimum height reached by a falling tide.

Mixed Tide - Type of tide in which a diurnal wave produces large inequalities in heights and/or durations of successive high and/or low waters.

Organic Sediment - Biological matter which accumulates in a loose unconcolidated form.

Pelagic - A division of the ocean which includes the whole water mass.

Phosphorite - A fibrous concretionary mineral occurring in sediments of marine origin.

Reversing Current - A tidal current that flows alternately in approximately opposite directions, with a period of slack water at each reversal of direction.

Rotary Current - A tidal current that flows continually, with the direction of flow changing through all points of the compass during a tide cycle.

Sedimentation - The process of breakup and separation of particles from the parent rock, their transportation, deposition, and consolidation into another rock.

Semi-diurnal - Having a period or cycle of approximately half a lunar day (12.42 solar hours).

Tectonic - Pertains to the origin and development of the structural features of the earth's crust.

Terrigenous - Formed by the erosive action of rivers, tides, and currents.

Transducer - A device that converts electrical energy to sound energy, or the converse.

Turbidity Current - A highly turbid, relatively dense current, carrying large quantities of clay, silt, and sand in suspension which flows down a submarine slope through less dense sea water.

UNCLASSIFIED
Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)*

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

2a. REPORT SECURITY CLASSIFICATION

UNCLASSIFIED

2b. GROUP

3. REPORT TITLE

Oceanographic Data Report, San Clemente Island Area, October to December 1966

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*

Informal Report

5. AUTHOR(S) *(First name, middle initial, last name)*

Oser, Robert K.; Berger, James L.; Franc, Louis J.

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
September 1967	152	9

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO. 771	IR. No. 67-77
c.	9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)*
d.	

10. DISTRIBUTION STATEMENT

Distribution of this document is unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
	U. S. Naval Oceanographic Office

13. ABSTRACT

This report presents sediment, deep towed profiler, physical oceanography, visibility, and current data collected in the San Clemente Island Test Range from October to December 1966 aboard the USNS DAVIS (T-AGOR 5). The sediments vary in size from clays to sand and the bearing strength ranges from 0.8 g/cm^2 near the tops of several cores to 58.7 g/cm^2 for near the bottom of one of the longer cores (80-87cm interval). The deep towed profiler traces show hillocks six feet in height and subbottom reflecting layers from 3 to 50 feet below the sediment surface. Sea water temperature values range from 18.5°C at the surface to 2.85°C at 1483 meters depth in San Clemente Basin. Minimum sound velocity values for the area occur between 700 and 800 meters depth. Alpha values for the water column range from 0.03 ln/m (150-200 meters depth) to 0.28 ln/m (30-40 meters depth). This represents visibility ranges from about 130 meters to 14 meters respectively. Tidal forces appear to exert an influence on the current regime to the greatest depth measured (1829 meters). Current speeds for the water column range from zero to about 1.5 knots with rotary direction vectors. Instrumentation development pertinent to the survey is also discussed. Conclusions reached in this report are tentative based on the limited amount of survey data available. More seasonal investigations of the currents, temperature, and visibility, and more detailed measurements of sea floor topography and sediments are essential in order to clearly define the oceanographic environment.

DD FORM 1 NOV 65 1473 (PAGE 1)

S/N 0101-807-6801

UNCLASSIFIED
Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
San Clemente Island Area						
Deep Towed Profiler Data						
Current Data						
Sediment Characteristics						
Transmissometer Data						
Physical Oceanography						