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EXPERIMENTS IN SMALL CRAFT LEEWAY. (U)

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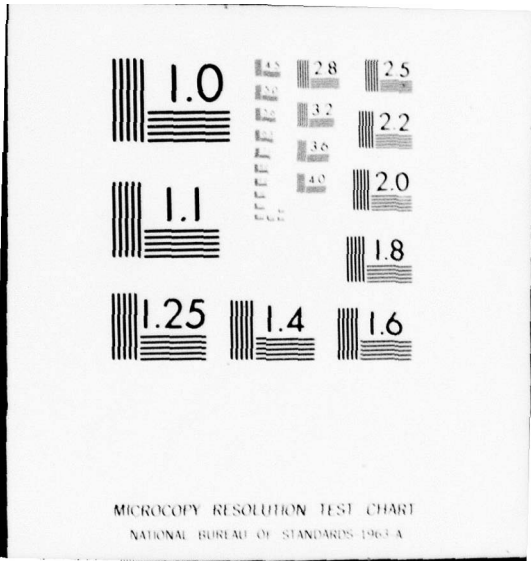
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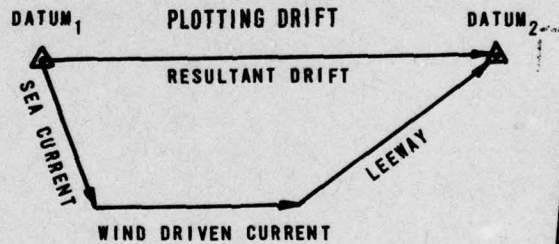
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EXPERIMENTS IN SMALL CRAFT LEEWAY

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EXPERIMENTS IN SMALL CRAFT LEEWAY

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U.S. COAST GUARD OCEANOGRAPHIC UNIT TECHNICAL REPORT

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ABSTRACT

This report describes a series of experiments by the Coast Guard Oceanographic Unit in the study of small craft leeway. The report tabulates the data collected during the experiments and reports on a preliminary analysis of the relationship between small craft leeway speed and wind speed. This preliminary analysis indicates that leeway of boats less than 30 feet in length is about 6% of the wind speed at 20 to 30 knots wind speed.

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TABLE OF CONTENTS

| | Page |
|--|------|
| Abstract----- | 3 |
| Table of Contents ----- | 5 |
| List of Illustrations ----- | 5 |
| List of Tables----- | 5 |
| Introduction----- | 7 |
| Data Collection----- | 8 |
| Data Report----- | 9 |
| Preliminary Leeway vs. Wind Speed Graph----- | 9 |
| Appendix 1 - Data Listing----- | I-1 |
| Appendix 2 - FORTRAN Leeway Program----- | II-2 |

LIST OF ILLUSTRATIONS

| | |
|---|----|
| Figure 1 - Life raft leeway (adapted from Pingree, 1944)----- | 15 |
| Figure 2 - Surface Current drogue----- | 16 |
| Figure 3 - Mark-7 inflatable life raft----- | 17 |
| Figure 4 - Sixteen foot outboard motor boat----- | 17 |
| Figure 5 - Eighteen foot motor launch----- | 18 |
| Figure 6 - Thirty foot utility boat----- | 18 |
| Figure 7 - Sample leeway graph segments----- | 19 |
| Figure 8 - Sample smoothed leeway graph----- | 19 |
| Figure 9 - Preliminary leeway vs. wind speed graph----- | 20 |

LIST OF TABLES

| | |
|--|-------|
| 1. Leeway rates (adapted from Chapline)----- | 11 |
| 2. SARR Cruises.----- | 12-13 |

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EXPERIMENTS IN SMALL CRAFT LEEWAY

INTRODUCTION

Leeway as described in the National Search and Rescue (SAR) Manual, CG-308, is the effect of wind on a drifting craft. There has long been an interest in providing better data for the computation of leeway in search planning. Early efforts in this area include the work of Woods Hole Oceanographic Institute (Pingree, 1944) on life raft leeway during World War II (fig. 1), and experiments conducted by Chapline (1959) in Hawaii (Table 1). The SAR Manual, however, only presents leeway curves for life rafts. More complete curves of leeway were recognized as a development which could improve search planning. Accordingly, in 1967 the Coast Guard Oceanographic Unit undertook to develop and conduct controlled experiments to measure small craft leeway. The persons most directly concerned with planning and carrying out these experiments include J. H. Seabrooke (1967 - 1968), R. C. Clasby (1967 - 1968), A. W. Garcia (1969 - 1970), H. B. Gehring (1970), R. Still (1970 - 1971), R. C. Murrell (1970 - 1971). These experiments began in January 1968 with the first Search and Rescue Research (SARR) cruise. A total of three cruises were made that year. The result of these cruises established guidelines to follow for future cruises. In June 1969 Barbados Oceanographic and Meteorological Experiment (BOMEX) successfully utilized the established methods to obtain many hours of drift data on the 7-man life raft. Valuable data on a variety of drift objects were collected during a series of cruises during the period January 1970 to March 1971. The primary purposes of this report are to present the data collected on these cruises and to present a preliminary analysis, based on the January 1970 to March 1971 data, of the relationship between leeway and wind speed for various small craft. In 1975 this preliminary analysis,

and similar work by the Coast Guard R&D Center, Groton, Conn. (Hufford and Broida, 1974) revealed that the tables found in CG 308 are suspect at moderate to high wind velocities, and confirmed that various types of survival craft have different leeway characteristics.

DATA COLLECTION

Since leeway is the motion of a floating object relative to the water, a particularly simple and effective way to collect leeway data is to track the trajectories of drifting craft relative to a surface current drogue. Additionally, tracking the current drogue relative to a fixed target or navigational fixes of the research vessel will yield information on the surface current. The drifting craft and surface current drogue used in these experiments are illustrated in figures 2 through 6. The drift objects were tracked by recording the ranges and bearings of the drift objects and the current drogue. Range was measured by the ship's radar; bearing was measured visually (preferably) or by radar. Wind speed and direction were measured by the vessel's anemometer or a Bendix Frieze wind speed sensor. Data was collected normally every 20 minutes, although the period sometimes varied from this. Ship's speed and course were recorded from the engineering log and the gyro compass respectively.

Model SST-119XA radar transponders manufactured by Motorola Inc. of Scottsdale, Arizona were installed on the drift objects and current drogue. The power pack consisted of two 12-volt DC lead acid batteries connected in series and attached to the transponder by Marsh and Marine connectors. To provide visual identification in the dark, each object was fitted with a distinctive xenon flashing light, model 300-100R, manufactured by Guest Corp., W. Hartford, Conn. The drifting craft were generally weighted with surplus anchor chain to simulate occupancy and missing machinery.

DATA REPORT

General information on all the cruises carried out under this project are shown in Table 2. Appendix 1 contains all the raw data collected on these cruises. These forms are basically self-explanatory, but for complete clarification, the columns are explained at the beginning of Appendix 1. The data are also on file at the Coast Guard Oceanographic Unit in the form of computer cards in a similar format as Appendix 1.

PRELIMINARY LEEWAY VS. WIND SPEED GRAPH

With the objective of preparing a preliminary leeway vs. wind speed graph for use in SAR, the data from five cruises were reduced as described below.

First, leeway speed was computed trigonometrically from the change in displacement of the small craft relative to the surface current drogue during the observation period; then the observed leeway and the observed wind were used to compute leeway speed as a percent of wind speed.

Finally, for each type of small craft, the observations were sorted into intervals centered on 2.5, 7.5, 12.5, 17.5, 22.5, and 27.5 knots, and the average leeway percent was found for each interval. The speed of leeway was then plotted against the wind speed in knots to attain the leeway of each type of small craft within the intervals, producing a series of graph segments (figure 7) which were then smoothed (figure 8) to produce the preliminary graph (figure 9). Figure 9 also shows the results of similar experiments conducted by the Coast Guard Research and Development Center (Hufford and Broida, 1974). The general agreement between the two sets of results, particularly for winds above 18 knots, is fairly good. The apparent relatively high leeway associated with low wind speeds might be an artificiality resulting from leeway speed data scatter remaining above a threshold value even when wind speed becomes quite low.

REFERENCES

- Chapline, W. E. (1959) Estimating the Drift of Distressed Small Craft.
Coast Guard Alumni Association Bulletin, USCG Academy, New London, CT.
p. 39-42.
- Hufford, G. L. and S. Broida (1974). Determination of Small Craft Leeway.
CGR&DC Technical Report 39/74. U.S. Coast Guard.
- Pingree, F. deW., (1944) Forethoughts on Rubber Rafts, Woods Hole Oceanographic
Institution. 26 pp.

TABLE 1

LEEWAY RATES (ADAPTED FROM CHAPLINE (1959))

| <u>TYPE OF BOAT</u> | <u>LEEWAY AS PERCENT OF WIND</u> |
|---|----------------------------------|
| Surfboards | 2% |
| Heavy displacement, deep draft sailing vessels | 3% |
| Moderate displacement, moderate draft sailing vessels and fishing vessels such as trawlers, trollers, sampans, draggers, seiners, tuna boats, halibut boats, etc. | 4% |
| Moderate displacement cruisers | 5% |
| Light displacement cruisers, outboards, planing hull types, skiffs, etc. | 6% |

TABLE 2 - SARR CRUISES

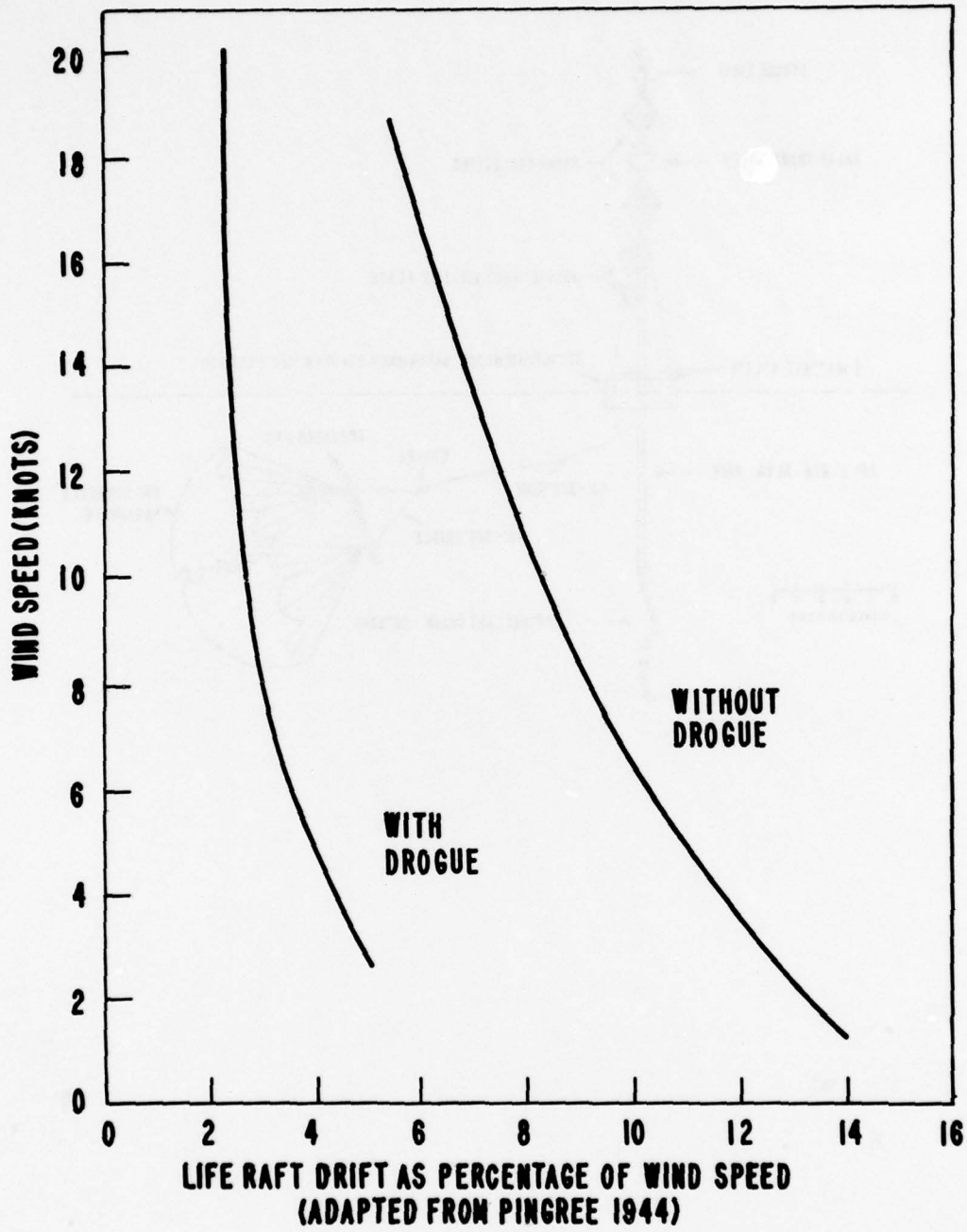
| CRUISE | VESSEL | DATES | LOCATION | DRIFT OBJECTS | RESULTS |
|--------------------------|---------------------|---------------------------|--|---|--|
| SAR Research #1 | USCGC EVERGREEN | 4-12 JAN 1968 | Vicinity Nantucket Lightship | X Liferafts intended but heavy weather prevented deployment | 38 hr of drogue observations |
| SAR 9/68 Research #2 | USCGC EVERGREEN | 19-23 SEPT 1968 | Vicinity Nantucket Lightship | X 7 20 | ~10 hr tracking drift objects |
| SAR 10/68 Research #3 | USCGC EVERGREEN | 21-25 OCT 1968 | Cape Cod Bay | X 7 20 | ~12 hr tracking drift objects |
| BOMEXC | USCGC COURAGEOUS | 22-29 JUNE 1969 | 17° 35'N 54° 35'W BOMEX STATION BRAVO | X 7 | 160 hrs (83 hrs use- able) |
| BOMEXL | USCGC LAUREL | 11-15 JULY 1969 | 15° 23'N 56° 35'W BOMEX STATION BRAVO | X 7 | 83 hrs |
| ROSARR 1-70 | USCGC ROCKAWAY | 15-18 JAN 1970 | 35N 72W 100 mi east of Cape Hatteras | X 7 16 | 169 sampling periods of 20 minutes each |
| ROSARR 5-70 | USCGC ROCKAWAY | 5-10 MAY 1970 | Argus Island Tower 22 mi SSW of Bermuda | X 7 16 | 206 sampling periods of 20 minutes each |
| EVSARR 9-70 | USCGC EVERGREEN | 11-26 SEP 1970 | 37N 71W 125 mi east of Cape Hatteras | X 7 16 18 | 1539 sampling periods of 20 minutes each |
| EVSARR 12-70 | USCGC EVERGREEN | 4-12 DEC 1970 | Argus Island Tower 22 mi SSW of Bermuda | X 7 16 18 30 | 394 sampling periods of 20 minutes each |
| EVSARR 2-71 | USCGC EVERGREEN | 25 FEB - 4 MAR 1971 | Argus Island Tower 22 mi SSW of Bermuda | X 7 16 18 30 | 939 sampling periods of 20 minutes each |

Drift Objects: X - Surface Current drogue
 1 - One man life raft
 7 - Seven man life raft
 16 - Sixteen foot plastic boat hull
 18 - Eighteen foot plastic boat hull
 20 - Twenty man life raft
 30 - Thirty foot wooden boat hull

Table 2 (continued)

The drift craft in all cases, except for the rafts, are presumed not to have been attached to a sea anchor. For the rafts, on 5 of 8 cruises there is a definite statement that the rafts were attached to sea anchors; on the other 3 cruises there is no definite statement. It is presumed that the rafts were attached to sea anchors in all cases.

Figure 1—LIFE RAFT LEEWAY (adapted from Pingree, 1944).



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Figure 2—SURFACE CURRENT DROGUE.

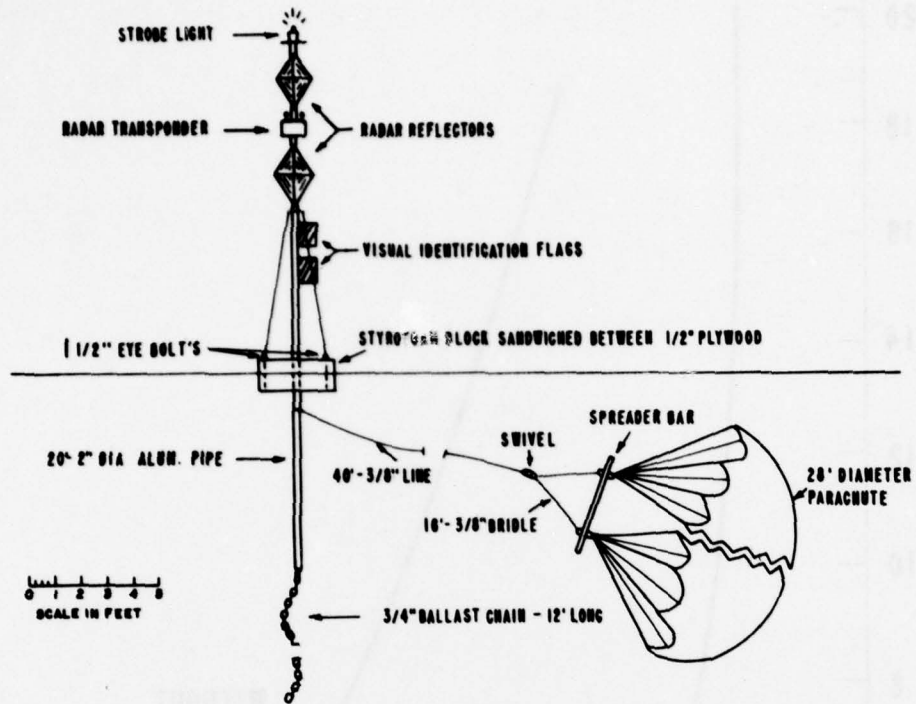
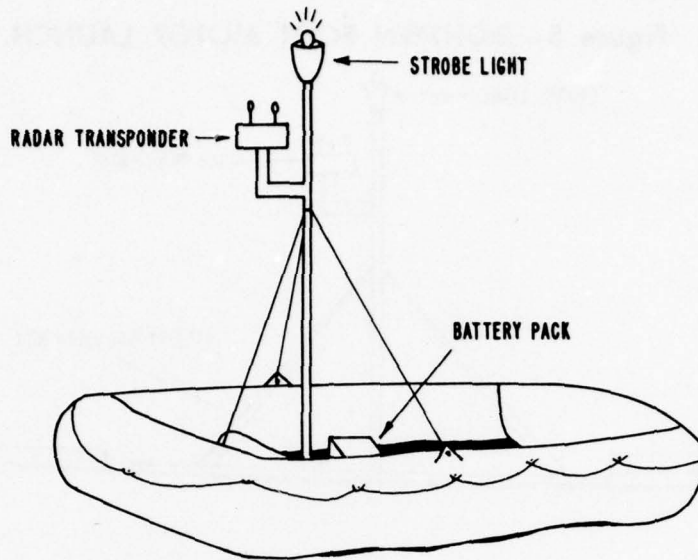
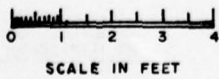
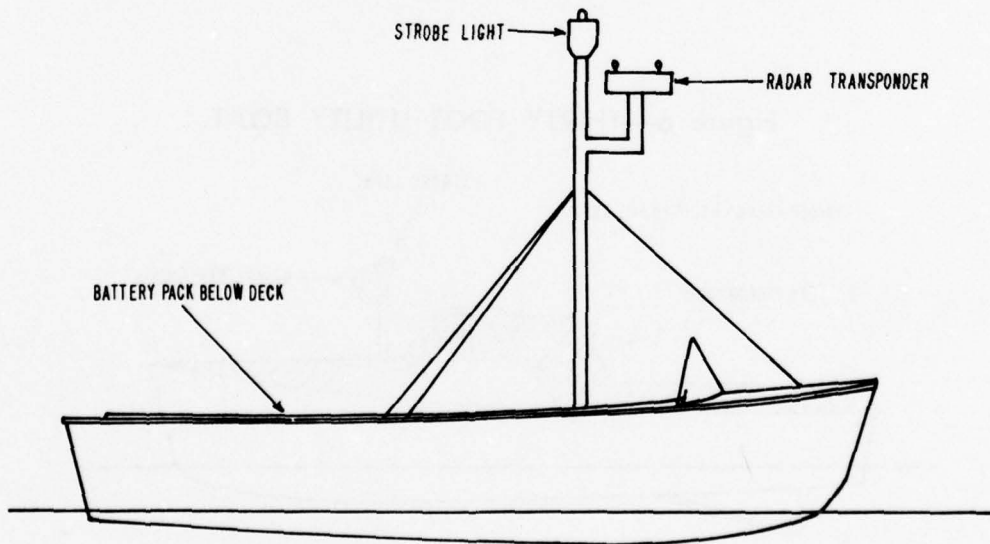


Figure 3—MARK-7 INFLATABLE LIFE RAFT.



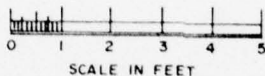
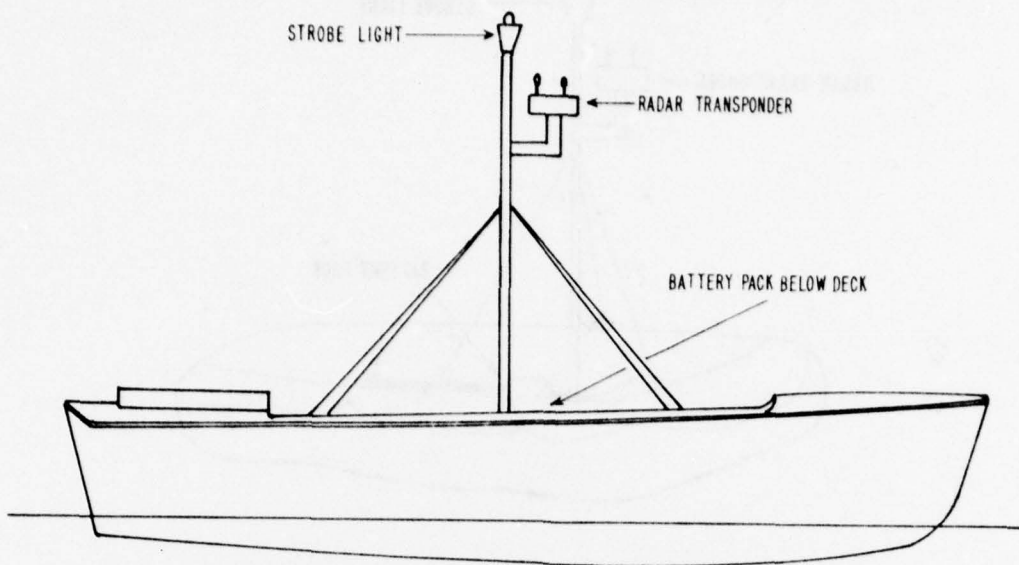
**MARK-7 (7 MAN)
INFLATABLE LIFE RAFT**

Figure 4—SIXTEEN FOOT OUTBOARD MOTOR BOAT.



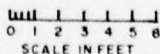
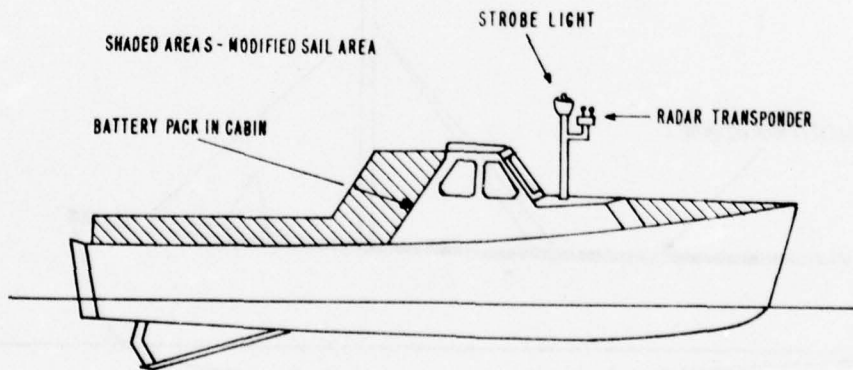
**16'-0" OUTBOARD MOTOR BOAT
PLASTIC**

Figure 5—EIGHTEEN FOOT MOTOR LAUNCH.



18' MOTOR LAUNCH
PLASTIC

Figure 6—THIRTY FOOT UTILITY BOAT.



30' UTILITY BOAT
MK. II (PLYWOOD)

Figure 7—SAMPLE LEEWAY GRAPH SEGMENTS.

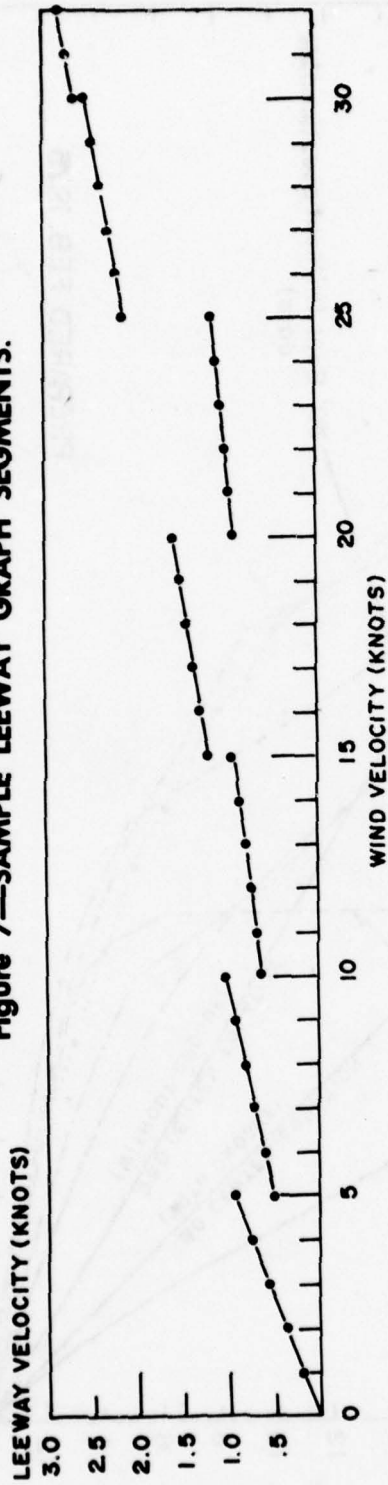
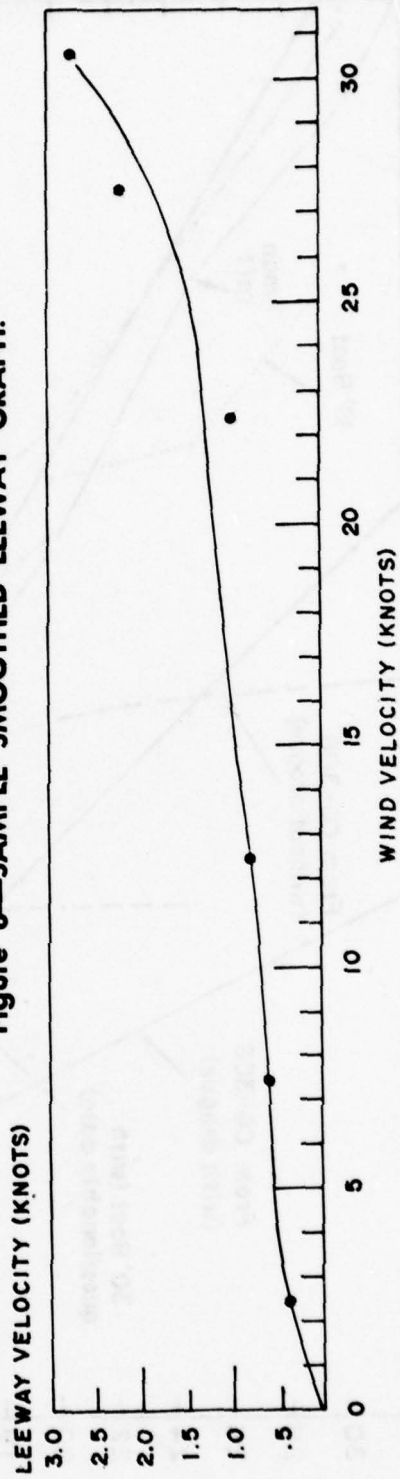


Figure 8—SAMPLE SMOOTHED LEEWAY GRAPH.



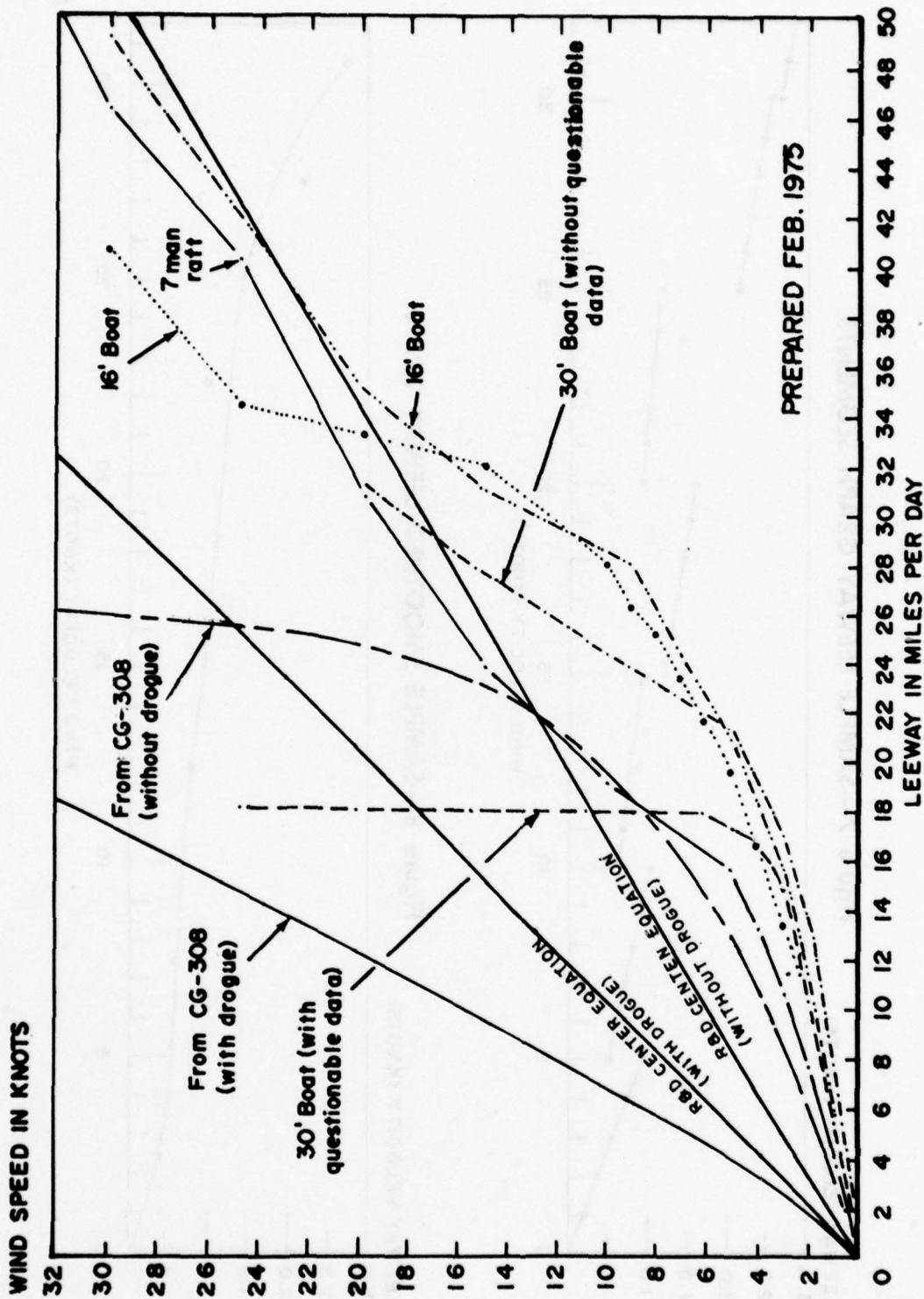


Fig. 9 Preliminary Leeway vs Wind Speed

Appendix 1

This appendix contains a listing of the observational data used in technical report.

NOTE1*** CODE USED FOR SOME IN THE BOMBING DATA INDICATES BEARING IS A SPECIAL DATA.

NOTE2*** WIND DATA CODE EXPLANATION**

- 1= RELATIVE WIND RECORDED IN DEGREES TRUE
- 2= QUESTIONABLE WIND DATA
- 3= NO WIND DATA RECORDED
- 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

- MDC= WIND DATA CODE
- CD1= CURRENT DROGUE 1
- CD2= CURRENT DROGUE 2
- HW= HOW BEARINGS WERE OBTAINED
- R= RADAR
- V= VISUAL
- A= ALONGSIDE

37 OBSERVATIONS

| DAY | TIME (Z) | REFERENCE | M | CD-1 | M | 7-MAN | M | 16FT BOAT | M | 18FT BOAT | M | 30FT BOAT | M | CB-2 | M | REL | REL | |
|-----|----------|-----------|-------|-------|-------|-------|-----|-----------|-----|-----------|-----|-----------|-----|-------|-----|------|------|---------|
| | | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | WIND | WIND | |
| | | | | | | | | | | | | | | | | DIP | SPD | |
| 6 | 900 | 21150 | 276 R | 480 | 116 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 | 19 | 0 0 0 4 |
| 6 | 903 | 21100 | 278 R | 650 | 112 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 906 | 20850 | 276 R | 800 | 132 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 909 | 20750 | 276 R | 1010 | 120 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 912 | 20600 | 275 R | 1000 | 121 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 915 | 20760 | 275 R | 970 | 124 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 918 | 20870 | 275 R | 930 | 126 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 921 | 21050 | 275 R | 850 | 128 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 924 | 21000 | 276 R | 750 | 128 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 927 | 21100 | 275 R | 630 | 126 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 930 | 21100 | 278 R | 780 | 104 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 933 | 21000 | 278 R | 900 | 102 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 936 | 20900 | 278 R | 970 | 100 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 939 | 20960 | 278 R | 900 | 101 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 942 | 21050 | 277 R | 860 | 105 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 945 | 21070 | 277 R | 805 | 108 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 948 | 21300 | 277 R | 750 | 105 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 951 | 21000 | 279 R | 1070 | 91 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 954 | 21100 | 279 R | 1230 | 89 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1003 | 21000 | 280 R | 1350 | 86 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1006 | 21750 | 278 R | 970 | 93 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1044 | 3700 | 220 R | 900 | 104 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1046 | 3775 | 220 R | 1840 | 53 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1052 | 3900 | 223 R | 1800 | 53 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1059 | 4750 | 225 R | 1490 | 53 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1102 | 4250 | 225 R | 1350 | 53 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1109 | 4350 | 227 R | 1000 | 52 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1147 | 3260 | 226 R | 2000 | 71 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1149 | 3260 | 226 R | 1950 | 73 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1151 | 3325 | 226 R | 1875 | 74 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1159 | 3575 | 228 R | 1700 | 78 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1201 | 3665 | 228 R | 1600 | 79 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1204 | 4600 | 234 R | 1050 | 82 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1205 | 4650 | 235 R | 1000 | 86 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1206 | 4650 | 235 R | 1225 | 87 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |
| 6 | 1207 | 4725 | 236 R | 1300 | 87 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 3 |

SAR RES. 11 RUN 1

(continued)

| 28 OBSERVATIONS | | SAR RES. 11 | | RUN 2 | | | | | | | | | | | | |
|-----------------|------|-------------|-------|-------|-------|---|---|---|---|---|---|-----|----|---|---|---|
| 6 | 1828 | 21900 | 279 R | 900 | 95 R | 0 | 0 | 0 | 0 | 0 | 0 | 276 | 10 | 0 | 0 | 4 |
| 6 | 1843 | 22400 | 280 R | 1065 | 76 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 1915 | 23000 | 281 R | 1300 | 55 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6 | 1930 | 23600 | 282 R | 1950 | 32 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 1945 | 24200 | 285 R | 2100 | 28 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6 | 2000 | 22250 | 284 R | 2350 | 23 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6 | 2015 | 24300 | 283 R | 900 | 43 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2030 | 24300 | 284 R | 800 | 43 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2045 | 24100 | 283 R | 750 | 21 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6 | 2100 | 24100 | 283 R | 700 | 13 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 6 | 2115 | 20750 | 282 R | 1350 | 48 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2130 | 20750 | 280 R | 2600 | 98 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2145 | 20150 | 279 R | 2800 | 102 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 6 | 2200 | 20000 | 278 R | 2750 | 99 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 6 | 2215 | 20400 | 276 R | 2250 | 100 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2230 | 20750 | 267 R | 1700 | 94 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2245 | 20800 | 275 R | 1450 | 77 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2300 | 20960 | 216 R | 1100 | 51 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2315 | 21500 | 274 R | 1100 | 32 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2330 | 21250 | 273 R | 1150 | 10 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2345 | 21400 | 272 R | 1300 | 345 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | 2400 | 21600 | 210 R | 1800 | 317 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7 | 15 | 20600 | 268 R | 2600 | 338 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7 | 30 | 20250 | 269 R | 3350 | 352 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7 | 45 | 20550 | 268 R | 3350 | 342 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7 | 100 | 20900 | 265 R | 3400 | 330 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7 | 115 | 21400 | 261 R | 3550 | 326 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7 | 130 | 21300 | 259 R | 3756 | 317 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |

| 94 OBSERVATIONS | | SAR RES. 11 | | RUN 3 | | | | | | | | | | | | |
|-----------------|------|-------------|-------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 215 | 4400 | 242 R | 1550 | 99 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 | 230 | 4500 | 243 R | 1050 | 123 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 245 | 4700 | 243 R | 900 | 150 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 300 | 4900 | 243 R | 650 | 185 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 | 400 | 3800 | 229 R | 1050 | 180 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 | 600 | 4400 | 195 R | 1870 | 181 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 615 | 5550 | 186 R | 2400 | 168 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 630 | 4800 | 191 R | 1350 | 179 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 645 | 4250 | 192 R | 650 | 175 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 730 | 4350 | 204 R | 1160 | 251 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 808 | 3670 | 196 R | 1050 | 337 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 830 | 5450 | 182 R | 1100 | 146 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 845 | 5250 | 190 R | 1050 | 157 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 900 | 5400 | 190 R | 850 | 196 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 919 | 5200 | 188 R | 1050 | 195 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 930 | 5050 | 188 R | 800 | 187 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 945 | 5450 | 180 R | 1550 | 155 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1000 | 4850 | 180 R | 1050 | 147 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1018 | 4250 | 177 R | 700 | 111 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1030 | 4500 | 164 R | 1550 | 124 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1045 | 4100 | 171 R | 1100 | 130 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1100 | 3600 | 174 R | 700 | 136 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1130 | 3750 | 155 R | 1750 | 144 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 | 1203 | 3456 | 146 R | 1400 | 125 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1215 | 3600 | 145 R | 1450 | 108 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 10 | 1230 | 3350 | 147 R | 1400 | 133 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1245 | 3000 | 142 R | 1150 | 152 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1300 | 3200 | 143 R | 700 | 164 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 10 | 1315 | 3450 | 129 R | 950 | 155 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |

(continued)

| 11 | 530 | 2300 | 8 R | 1950 | 220 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 340 | 18 | 0 | 0 | 4 | |
|----|-----|-------|-----|------|-------|---|---|---|---|---|---|---|---|---|---|---|-----|----|---|---|---|---|
| 11 | 545 | 2300 | 7 R | 1500 | 228 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 11 | 600 | 24300 | 8 R | 1200 | 241 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11 | 615 | 24600 | 6 R | 1570 | 235 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11 | 630 | 28350 | 5 R | 1950 | 234 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11 | 645 | 28100 | 5 R | 2270 | 234 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11 | 700 | 28420 | 5 R | 2500 | 232 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 11 | 730 | 28075 | 6 R | 450 | 201 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 11 | 815 | 28250 | 8 R | 1830 | 230 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |

NOTE1*** THE EIGHTH IN SOME CASES DURING DATA PROCESSING TO INDICATE A MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**

- 0* RELATIVE WIND RECORDED IN DEGREES TRUE
- 1* RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
- 2* QUESTIONABLE WIND DATA
- 3* NO WIND DATA RECORDED
- 4* WIND RECORDED IN DEGREES TRUE

***ABBREVIATIONS**

- W0C= WIND DATA CODE
- CO1= CURRENT DROGUE 1
- CO2= CURRENT DROGUE 2
- MOB= HOW BEARINGS WERE OBTAINED
- R= RADAR
- V= VISUAL
- A= ALONGSHORE

| DAY | TIME(Z) | REFERENCE | | CD-1 | | 7-MAN | | 16FT BOAT | | 18FT BOAT | | 30FT BOAT | | CD-2 | | REL. | | | | | |
|-----------------|---------|-----------|-------|-------|-------|-------|-------|-----------|-----|-----------|-----|-----------|-----|-------|-----|------|------|----|-----|---|---|
| | | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | WIND | SHIP | | | | |
| 18 OBSERVATIONS | | | | | | | | | | | | | | | | | | | | | |
| BOMEXC 8/69 | | | | | | | | | | | | | | | | | | | | | |
| 24 | 30 | 10500 | 323 R | 12600 | 143 R | 8500 | 210 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 14 | 195 | 0 | 1 |
| 24 | 50 | 10350 | 323 R | 13100 | 143 R | 8700 | 210 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 14 | 205 | 0 | 1 |
| 24 | 110 | 10200 | 321 R | 13600 | 142 R | 9000 | 212 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 | 14 | 190 | 0 | 1 |
| 24 | 130 | 10100 | 318 R | 13900 | 143 R | 9100 | 213 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 | 13 | 195 | 0 | 1 |
| 24 | 150 | 10000 | 315 R | 14300 | 142 R | 9250 | 213 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 10 | 210 | 0 | 1 |
| 24 | 210 | 9800 | 314 R | 14600 | 140 R | 9400 | 214 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 | 13 | 195 | 0 | 1 |
| 24 | 230 | 9500 | 312 R | 14600 | 139 R | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 14 | 210 | 0 | 1 |
| 24 | 250 | 12200 | 349 R | 14600 | 120 R | 5300 | 219 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 7 | 200 | 6 | 1 |
| 24 | 310 | 14200 | 356 R | 14100 | 114 R | 4700 | 236 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 | 15 | 195 | 0 | 1 |
| 24 | 330 | 14250 | 355 R | 14300 | 112 R | 5050 | 236 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 | 14 | 190 | 0 | 1 |
| 24 | 350 | 14250 | 354 R | 15000 | 111 R | 5350 | 236 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 5 | 190 | 0 | 1 |
| 24 | 410 | 14300 | 356 R | 15300 | 110 R | 5500 | 238 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 15 | 198 | 0 | 1 |
| 24 | 430 | 17100 | 356 R | 15900 | 109 R | 5500 | 238 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 16 | 195 | 0 | 1 |
| 24 | 450 | 16850 | 356 R | 16000 | 109 R | 5350 | 231 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 17 | 199 | 0 | 1 |
| 24 | 510 | 16700 | 356 R | 16400 | 108 R | 5250 | 233 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 | 18 | 200 | 0 | 1 |
| 24 | 530 | 16350 | 358 R | 17100 | 107 R | 5000 | 225 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 258 | 18 | 200 | 0 | 1 |
| 24 | 550 | 15700 | 358 R | 17350 | 106 R | 5000 | 220 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 268 | 18 | 195 | 0 | 1 |
| 24 | | | | 18000 | 106 R | 5100 | 217 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 285 | 17 | 200 | 0 | 1 |

(continued)

| ST | OBSERVATIONS | BOHEX 3/69 | PUN 2 |
|----|--------------|-------------|-------------|
| 27 | 110 | 13500 333 R | 5535 353 R |
| 27 | 130 | 13150 332 R | 5370 358 R |
| 27 | 150 | 13000 330 R | 5275 0 R |
| 27 | 210 | 12850 330 R | 5380 6 R |
| 27 | 230 | 12850 330 R | 5400 10 R |
| 27 | 250 | 12650 330 R | 5550 16 R |
| 27 | 310 | 12350 328 R | 5675 22 R |
| 27 | 330 | 12050 328 R | 5675 22 R |
| 27 | 350 | 12000 329 R | 5850 33 R |
| 27 | 410 | 11900 330 R | 6400 36 R |
| 27 | 430 | 12450 342 R | 7250 44 R |
| 27 | 456 | 13800 354 R | 7650 48 R |
| 27 | 510 | 13550 357 R | 8100 50 R |
| 27 | 530 | 13300 356 R | 8300 53 R |
| 27 | 550 | 13150 357 R | 8500 55 R |
| 27 | 610 | 13000 356 R | 8750 57 R |
| 27 | 630 | 12900 357 R | 9100 60 R |
| 27 | 650 | 12500 356 R | 9750 61 R |
| 27 | 710 | 12200 356 R | 9950 63 R |
| 27 | 730 | 11900 356 R | 10350 64 R |
| 27 | 750 | 11200 355 R | 10650 64 R |
| 27 | 810 | 10800 354 R | 11100 65 R |
| 27 | 830 | 10800 354 R | 11500 65 R |
| 27 | 850 | 10600 354 R | 11900 65 R |
| 27 | 910 | 10400 354 R | 12400 68 R |
| 27 | 930 | 10000 354 R | 13050 69 R |
| 27 | 950 | 11300 5 R | 13650 70 R |
| 27 | 1010 | 13700 16 R | 14200 71 R |
| 27 | 1030 | 13800 19 R | 14200 71 R |
| 27 | 1050 | 11700 18 R | 14200 71 R |
| 27 | 1110 | 8900 16 R | 13100 68 R |
| 27 | 1130 | 6600 2 R | 11700 95 R |
| 27 | 1150 | 5900 19 R | 13500 102 R |
| 27 | 1210 | 5800 19 R | 14000 102 R |
| 27 | 1230 | 5700 20 R | 14800 102 R |
| 27 | 1250 | 5300 20 R | 15300 103 R |
| 27 | 1310 | 4300 358 R | 14200 104 R |
| 27 | 1330 | 4600 348 R | 13800 102 R |
| 27 | 1350 | 6050 21 R | 15060 102 R |
| 27 | 1410 | 8650 31 R | 15500 103 R |
| 27 | 1430 | 10250 37 R | 15100 102 R |
| 27 | 1450 | 7000 27 R | 15450 109 R |
| 27 | 1510 | 5600 9 R | 12300 113 R |
| 27 | 1530 | 5650 7 R | 12700 112 R |
| 27 | 1550 | 5850 0 R | 13350 110 R |
| 27 | 1610 | 5850 3 R | 13700 108 R |
| 27 | 1630 | 5500 1 R | 13600 108 R |
| 27 | 1650 | 5460 0 R | 13910 105 R |
| 27 | 1710 | 5530 359 R | 14200 105 R |
| 27 | 1730 | 5655 357 R | 14700 102 R |
| 27 | 1750 | 5750 356 R | 14950 101 R |
| 27 | 1810 | 505 309 R | 16200 118 R |
| 27 | 1830 | 505 309 R | 16900 118 R |
| 27 | 1850 | 500 309 R | 17050 118 R |
| 27 | 1910 | 1000 344 R | 17450 112 R |
| 27 | 1930 | 2955 35 R | 18000 112 R |
| 27 | 1950 | 5950 52 R | 18500 110 R |
| 27 | 188 | 244 10 R | 5980 350 R |
| 27 | 189 | 244 10 R | 5850 353 R |
| 27 | 190 | 241 11 R | 5750 354 R |
| 27 | 191 | 243 12 R | 5720 356 R |
| 27 | 192 | 245 13 R | 5700 357 R |
| 27 | 193 | 245 13 R | 5675 0 R |
| 27 | 194 | 240 12 R | 5585 3 R |
| 27 | 195 | 240 12 R | 5465 5 R |
| 27 | 196 | 250 14 R | 5600 7 R |
| 27 | 197 | 250 14 R | 5500 12 R |
| 27 | 198 | 240 14 R | 5450 16 R |
| 27 | 199 | 250 11 R | 5350 19 R |
| 27 | 200 | 240 15 R | 5300 21 R |
| 27 | 201 | 250 14 R | 5150 26 R |
| 27 | 202 | 250 14 R | 5100 28 R |
| 27 | 203 | 245 10 R | 5200 33 R |
| 27 | 204 | 250 10 R | 5150 37 R |
| 27 | 205 | 250 10 R | 5300 42 R |
| 27 | 206 | 250 14 R | 5300 46 R |
| 27 | 207 | 245 15 R | 5450 48 R |
| 27 | 208 | 245 15 R | 5500 48 R |
| 27 | 209 | 245 12 R | 5600 52 R |
| 27 | 210 | 255 13 R | 5800 52 R |
| 27 | 211 | 260 13 R | 6100 54 R |
| 27 | 212 | 260 11 R | 6200 54 R |
| 27 | 213 | 270 9 R | 6350 58 R |
| 27 | 214 | 270 9 R | 6800 58 R |
| 27 | 215 | 265 3 R | 7100 59 R |
| 27 | 216 | 60 12 R | 6350 65 R |
| 27 | 217 | 15 16 R | 5050 99 R |
| 27 | 218 | 50 14 R | 0 999 |
| 27 | 219 | 240 14 R | 4375 124 R |
| 27 | 220 | 250 19 R | 4950 131 R |
| 27 | 221 | 255 6 R | 5450 133 R |
| 27 | 222 | 250 6 R | 5500 135 R |
| 27 | 223 | 30 25 R | 0 999 |
| 27 | 224 | 245 16 R | 0 999 |
| 27 | 225 | 260 14 R | 0 999 |
| 27 | 226 | 255 16 R | 0 999 |
| 27 | 227 | 110 23 R | 5600 192 R |
| 27 | 228 | 110 25 R | 6800 204 R |
| 27 | 229 | 145 15 R | 6350 209 R |
| 27 | 230 | 100 15 R | 6200 204 R |
| 27 | 231 | 100 15 R | 5900 210 R |
| 27 | 232 | 100 17 R | 5350 211 R |
| 27 | 233 | 100 17 R | 4760 209 R |
| 27 | 234 | 95 17 R | 4500 207 R |
| 27 | 235 | 70 15 R | 4375 206 R |
| 27 | 236 | 110 17 R | 4015 205 R |
| 27 | 237 | 110 17 R | 350 0 R |
| 27 | 238 | 120 16 R | 8650 191 R |
| 27 | 239 | 110 14 R | 8650 194 R |
| 27 | 240 | 110 14 R | 8450 197 R |
| 27 | 241 | 110 16 R | 7900 197 R |
| 27 | 242 | 110 15 R | 7700 200 R |
| 27 | 243 | 110 15 R | 7700 202 R |
| 27 | 244 | 105 14 R | 0 0 0 |
| 27 | 245 | 0 0 0 | 0 0 0 |
| 27 | 246 | 0 0 0 | 0 0 0 |
| 27 | 247 | 0 0 0 | 0 0 0 |
| 27 | 248 | 0 0 0 | 0 0 0 |
| 27 | 249 | 0 0 0 | 0 0 0 |
| 27 | 250 | 0 0 0 | 0 0 0 |
| 27 | 251 | 0 0 0 | 0 0 0 |
| 27 | 252 | 0 0 0 | 0 0 0 |
| 27 | 253 | 0 0 0 | 0 0 0 |
| 27 | 254 | 0 0 0 | 0 0 0 |
| 27 | 255 | 0 0 0 | 0 0 0 |
| 27 | 256 | 0 0 0 | 0 0 0 |
| 27 | 257 | 0 0 0 | 0 0 0 |
| 27 | 258 | 0 0 0 | 0 0 0 |
| 27 | 259 | 0 0 0 | 0 0 0 |
| 27 | 260 | 0 0 0 | 0 0 0 |
| 27 | 261 | 0 0 0 | 0 0 0 |
| 27 | 262 | 0 0 0 | 0 0 0 |
| 27 | 263 | 0 0 0 | 0 0 0 |
| 27 | 264 | 0 0 0 | 0 0 0 |
| 27 | 265 | 0 0 0 | 0 0 0 |
| 27 | 266 | 0 0 0 | 0 0 0 |
| 27 | 267 | 0 0 0 | 0 0 0 |
| 27 | 268 | 0 0 0 | 0 0 0 |
| 27 | 269 | 0 0 0 | 0 0 0 |
| 27 | 270 | 0 0 0 | 0 0 0 |
| 27 | 271 | 0 0 0 | 0 0 0 |
| 27 | 272 | 0 0 0 | 0 0 0 |
| 27 | 273 | 0 0 0 | 0 0 0 |
| 27 | 274 | 0 0 0 | 0 0 0 |
| 27 | 275 | 0 0 0 | 0 0 0 |
| 27 | 276 | 0 0 0 | 0 0 0 |
| 27 | 277 | 0 0 0 | 0 0 0 |
| 27 | 278 | 0 0 0 | 0 0 0 |
| 27 | 279 | 0 0 0 | 0 0 0 |
| 27 | 280 | 0 0 0 | 0 0 0 |
| 27 | 281 | 0 0 0 | 0 0 0 |
| 27 | 282 | 0 0 0 | 0 0 0 |
| 27 | 283 | 0 0 0 | 0 0 0 |
| 27 | 284 | 0 0 0 | 0 0 0 |
| 27 | 285 | 0 0 0 | 0 0 0 |
| 27 | 286 | 0 0 0 | 0 0 0 |
| 27 | 287 | 0 0 0 | 0 0 0 |
| 27 | 288 | 0 0 0 | 0 0 0 |
| 27 | 289 | 0 0 0 | 0 0 0 |
| 27 | 290 | 0 0 0 | 0 0 0 |
| 27 | 291 | 0 0 0 | 0 0 0 |
| 27 | 292 | 0 0 0 | 0 0 0 |
| 27 | 293 | 0 0 0 | 0 0 0 |
| 27 | 294 | 0 0 0 | 0 0 0 |
| 27 | 295 | 0 0 0 | 0 0 0 |
| 27 | 296 | 0 0 0 | 0 0 0 |
| 27 | 297 | 0 0 0 | 0 0 0 |
| 27 | 298 | 0 0 0 | 0 0 0 |
| 27 | 299 | 0 0 0 | 0 0 0 |
| 27 | 300 | 0 0 0 | 0 0 0 |

NOTE1*** CODE USED IN SOME CASES BEFORE DATA PROCESSING TO INDICATE A SPECIAL DATA.

NOTE2*** WIND DATA CODE EXPLANATION**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS
 WDC= WIND DATA CODE
 CD1= CURRENT DROGUE 1
 CD2= CURRENT DROGUE 2
 WOB= HOW BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

| DAY | TIME(Z) | REFERENCE O | | M | CD-1 | C | 7-MAN | | M | 18FT BOAT O | M | 18FT BOAT O | M | 30FT BOAT O | M | CD-2 | M | REL. | |
|-----------------|---------|-------------|-----|---|------|-----|-------|-------|-----|-------------|---|-------------|---|-------------|---|------|---|------|-----|
| | | RANGE | BRG | | | | W | RANGE | | | | | | | | | | | BRG |
| 10 OBSERVATIONS | | | | | | | | | | | | | | | | | | | |
| SAR RES. 3 | | | | | | | | | | | | | | | | | | | |
| 22 | 1715 | 3400 | 135 | R | 1200 | 291 | R | 950 | 288 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 335 | 7 |
| 22 | 1735 | 3550 | 126 | R | 1200 | 302 | R | 700 | 299 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 340 | 3 |
| 22 | 1800 | 3700 | 120 | R | 1400 | 310 | R | 500 | 314 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 340 | 2 |
| 22 | 1830 | 4000 | 118 | R | 1550 | 314 | R | 700 | 346 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 2 |
| 22 | 1900 | 4450 | 114 | R | 1600 | 319 | R | 950 | 5 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 3 |
| 22 | 1930 | 3150 | 125 | R | 3200 | 295 | R | 2050 | 312 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 3 |
| 22 | 2000 | 3550 | 140 | R | 3600 | 282 | R | 2450 | 300 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 2030 | 3900 | 148 | R | 4200 | 276 | R | 3150 | 299 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 2100 | 4300 | 159 | R | 4800 | 273 | R | 4000 | 291 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 2130 | 4620 | 130 | R | 3250 | 288 | R | 3750 | 321 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| DAY | TIME(Z) | REFERENCE O | | M | CD-1 | C | 7-MAN | | M | 18FT BOAT O | M | 18FT BOAT O | M | 30FT BOAT O | M | CD-2 | M | REL. | |
|-----------------|---------|-------------|-----|---|------|-----|-------|-------|-----|-------------|---|-------------|---|-------------|---|------|---|------|-----|
| | | RANGE | BRG | | | | W | RANGE | | | | | | | | | | | BRG |
| 15 OBSERVATIONS | | | | | | | | | | | | | | | | | | | |
| SAR RES. 3 | | | | | | | | | | | | | | | | | | | |
| 23 | 1230 | 3900 | 351 | R | 910 | 255 | R | 700 | 266 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 | 15 |
| 23 | 1300 | 3400 | 355 | R | 1150 | 210 | R | 300 | 292 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 16 |
| 23 | 1330 | 3350 | 355 | R | 1450 | 197 | R | 500 | 357 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 190 | 10 |
| 23 | 1400 | 3000 | 337 | R | 2350 | 206 | R | 800 | 332 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 195 | 14 |
| 23 | 1430 | 3150 | 325 | R | 3150 | 212 | R | 1250 | 325 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 190 | 10 |
| 23 | 1500 | 3550 | 310 | R | 3110 | 216 | R | 1800 | 323 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 12 |
| 23 | 1530 | 2600 | 330 | R | 3600 | 193 | R | 1100 | 19 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 1600 | 2650 | 347 | R | 3450 | 178 | R | 0 | 0 | A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 225 | 16 |
| 23 | 1815 | 4200 | 17 | R | 2800 | 128 | R | 1050 | 34 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 220 | 16 |
| 23 | 1830 | 4000 | 12 | R | 2400 | 133 | R | 1350 | 18 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 210 | 15 |
| 23 | 1900 | 3500 | 1 | R | 1850 | 152 | R | 2050 | 0 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 220 | 14 |
| 23 | 1930 | 950 | 22 | R | 4250 | 164 | R | 900 | 60 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 210 | 12 |
| 23 | 2000 | 600 | 74 | R | 4750 | 164 | R | 1400 | 67 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 215 | 8 |
| 23 | 2030 | 300 | 178 | R | 5050 | 173 | R | 1300 | 51 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 220 | 10 |
| 23 | 2100 | 1450 | 207 | R | 5300 | 183 | R | 1400 | 25 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 230 | 14 |

| DAY | TIME(Z) | REFERENCE O | | M | CD-1 | C | 7-MAN | | M | 18FT BOAT O | M | 18FT BOAT O | M | 30FT BOAT O | M | CD-2 | M | REL. | |
|-----------------|---------|-------------|-----|---|------|-----|-------|-------|-----|-------------|---|-------------|---|-------------|---|------|---|------|-----|
| | | RANGE | BRG | | | | W | RANGE | | | | | | | | | | | BRG |
| 10 OBSERVATIONS | | | | | | | | | | | | | | | | | | | |
| SAR RES. 3 | | | | | | | | | | | | | | | | | | | |
| 24 | 1202 | 2400 | 209 | R | 1200 | 231 | R | 1040 | 221 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1230 | 2150 | 200 | R | 680 | 198 | R | 1130 | 193 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 6 |
| 24 | 1300 | 1800 | 195 | R | 850 | 170 | R | 1340 | 178 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 5 |
| 24 | 1330 | 1410 | 193 | R | 900 | 155 | R | 1520 | 173 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 5 |
| 24 | 1400 | 750 | 212 | R | 610 | 130 | R | 1350 | 174 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 5 |
| 24 | 1430 | 450 | 213 | R | 910 | 125 | R | 1010 | 173 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 5 |
| 24 | 1500 | 1160 | 265 | R | 550 | 186 | R | 2210 | 201 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 5 |
| 24 | 1530 | 2150 | 322 | R | 800 | 359 | R | 1220 | 223 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 10 |
| 24 | 1600 | 2150 | 336 | R | 950 | 34 | R | 1250 | 203 | M | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55 | 4 |
| 24 | 1630 | 2000 | 347 | R | 1150 | 57 | R | 160 | 195 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 5 |

NOTE1*** CODE LISTED IN SOME CASES BEARING DATA PROCESSING BEARING TO INDICATE A SPECIAL DATA.

ABBREVIATIONS

WDC= WIND DATA CODE
 CD1= CURRENT DRUGUE 1
 CD2= CURRENT DRUGUE 2
 MOW= HOW BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

NOTE2*** WIND DATA CODE EXPLANATION***
 2= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 3= QUESTIONABLE WIND DATA
 4= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

40 OBSERVATIONS

| DAY | TIME (Z) | REFERENCE | CD-1 | CD-2 | 7-MAN | 18FT BOAT | 16FT BOAT | 14FT BOAT | 30FT BOAT | REL. | | | | |
|-----|----------|-----------|-------|------|-------|-----------|-----------|-----------|-----------|------|---|---|---|---|
| | | RANGE | BRG | BRG | RANGE | BRG | RANGE | BRG | BRG | WIND | | | | |
| | | | | | | | | | | DIR | | | | |
| | | | | | | | | | | SPD | | | | |
| | | | | | | | | | | CRS | | | | |
| | | | | | | | | | | SPD | | | | |
| | | | | | | | | | | CRS | | | | |
| | | | | | | | | | | CRS | | | | |
| | | | | | | | | | | CRS | | | | |
| | | | | | | | | | | CRS | | | | |
| 20 | 540 | 15500 | 164 V | 1200 | 73 V | 0 | 0 | 0 | 0 | 30 | 5 | 0 | 0 | 4 |
| 20 | 550 | 15200 | 162 V | 1350 | 67 V | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 |
| 20 | 580 | 14800 | 160 V | 1500 | 60 V | 0 | 0 | 0 | 0 | 350 | 4 | 0 | 0 | 4 |
| 20 | 610 | 14600 | 158 V | 1750 | 58 V | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 |
| 20 | 620 | 14400 | 155 V | 1900 | 56 V | 0 | 0 | 0 | 0 | 350 | 5 | 0 | 0 | 4 |
| 20 | 630 | 14400 | 153 V | 2100 | 54 V | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 |
| 20 | 640 | 14600 | 149 V | 2250 | 65 V | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 |
| 20 | 650 | 16450 | 151 V | 2150 | 127 V | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 |
| 20 | 700 | 15850 | 155 V | 1250 | 175 V | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 |
| 20 | 710 | 15650 | 154 V | 1200 | 192 V | 0 | 0 | 0 | 0 | 10 | 4 | 0 | 0 | 4 |
| 20 | 720 | 15650 | 153 V | 1050 | 180 V | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 0 | 4 |
| 20 | 730 | 15600 | 151 V | 950 | 176 V | 0 | 0 | 0 | 0 | 10 | 4 | 0 | 0 | 4 |
| 20 | 740 | 15600 | 150 V | 800 | 172 V | 0 | 0 | 0 | 0 | 10 | 4 | 0 | 0 | 4 |
| 20 | 750 | 15650 | 147 V | 800 | 162 V | 0 | 0 | 0 | 0 | 10 | 8 | 0 | 0 | 4 |
| 20 | 800 | 15700 | 158 V | 750 | 145 V | 0 | 0 | 0 | 0 | 10 | 6 | 0 | 0 | 4 |
| 20 | 810 | 15100 | 142 V | 700 | 147 V | 0 | 0 | 0 | 0 | 15 | 6 | 0 | 0 | 4 |
| 20 | 820 | 17150 | 142 V | 750 | 153 V | 0 | 0 | 0 | 0 | 25 | 6 | 0 | 0 | 4 |
| 20 | 830 | 17600 | 141 V | 2000 | 141 V | 0 | 0 | 0 | 0 | 25 | 6 | 0 | 0 | 4 |
| 20 | 840 | 17800 | 141 V | 2100 | 141 V | 0 | 0 | 0 | 0 | 25 | 5 | 0 | 0 | 4 |
| 20 | 850 | 18100 | 140 V | 2100 | 140 V | 0 | 0 | 0 | 0 | 25 | 6 | 0 | 0 | 4 |
| 20 | 900 | 18600 | 140 V | 2200 | 156 V | 0 | 0 | 0 | 0 | 40 | 6 | 0 | 0 | 4 |
| 20 | 910 | 18950 | 138 V | 2250 | 155 V | 0 | 0 | 0 | 0 | 50 | 6 | 0 | 0 | 4 |
| 20 | 920 | 19250 | 138 V | 2300 | 152 V | 0 | 0 | 0 | 0 | 50 | 6 | 0 | 0 | 4 |
| 20 | 930 | 19650 | 136 V | 2300 | 148 V | 0 | 0 | 0 | 0 | 50 | 6 | 0 | 0 | 4 |
| 20 | 940 | 19250 | 137 V | 1650 | 175 V | 0 | 0 | 0 | 0 | 55 | 7 | 0 | 0 | 4 |
| 20 | 950 | 17550 | 140 V | 2400 | 249 P | 0 | 0 | 0 | 0 | 50 | 4 | 0 | 0 | 4 |
| 20 | 1000 | 18100 | 138 V | 2300 | 229 P | 0 | 0 | 0 | 0 | 50 | 4 | 0 | 0 | 4 |
| 20 | 1010 | 19050 | 134 V | 1150 | 210 P | 0 | 0 | 0 | 0 | 50 | 4 | 0 | 0 | 4 |
| 20 | 1020 | 19200 | 132 V | 200 | 167 V | 0 | 0 | 0 | 0 | 50 | 4 | 0 | 0 | 4 |
| 20 | 1030 | 19900 | 132 V | 200 | 151 V | 0 | 0 | 0 | 0 | 30 | 8 | 0 | 0 | 4 |
| 20 | 1040 | 19850 | 132 P | 950 | 235 V | 0 | 0 | 0 | 0 | 15 | 8 | 0 | 0 | 4 |
| 20 | 1050 | 19800 | 132 P | 1000 | 242 V | 0 | 0 | 0 | 0 | 15 | 7 | 0 | 0 | 4 |
| 20 | 1100 | 20150 | 132 P | 900 | 245 V | 0 | 0 | 0 | 0 | 15 | 8 | 0 | 0 | 4 |
| 20 | 1110 | 20500 | 132 P | 800 | 250 V | 0 | 0 | 0 | 0 | 15 | 7 | 0 | 0 | 4 |
| 20 | 1120 | 20950 | 133 P | 650 | 256 V | 0 | 0 | 0 | 0 | 18 | 8 | 0 | 0 | 4 |
| 20 | 1130 | 21150 | 132 P | 500 | 260 V | 0 | 0 | 0 | 0 | 25 | 9 | 0 | 0 | 4 |
| 20 | 1140 | 21150 | 132 P | 450 | 272 V | 0 | 0 | 0 | 0 | 31 | 7 | 0 | 0 | 4 |
| 20 | 1150 | 21650 | 131 P | 450 | 291 V | 0 | 0 | 0 | 0 | 31 | 7 | 0 | 0 | 4 |
| 20 | 1200 | 21600 | 130 P | 400 | 316 V | 0 | 0 | 0 | 0 | 30 | 7 | 0 | 0 | 4 |
| 20 | 1210 | 21950 | 130 P | 450 | 343 V | 0 | 0 | 0 | 0 | 30 | 7 | 0 | 0 | 4 |

(continued)

| OBSERVATIONS | SAP RES. 2 | | PUN 2 | OBSERVATIONS | SAP RES. 2 | | PUN 2 |
|--------------|------------|-----|-------|--------------|------------|---|-------|
| | Y | R | | | Y | R | |
| 20 1830 | 1850 | 293 | Y | 1850 | 198 | Y | 0 |
| 20 1845 | 1650 | 311 | R | 950 | 186 | R | 0 |
| 20 1900 | 1600 | 344 | R | 850 | 165 | R | 0 |
| 20 1915 | 2000 | 357 | R | 800 | 140 | R | 0 |
| 20 1930 | 2200 | 13 | R | 1100 | 121 | R | 0 |
| 20 1945 | 2400 | 25 | R | 1550 | 119 | R | 0 |
| 20 2000 | 2700 | 34 | R | 1850 | 119 | R | 0 |
| 20 2015 | 3150 | 44 | R | 2250 | 118 | R | 0 |
| 20 2030 | 3550 | 50 | R | 2550 | 117 | R | 0 |

| OBSERVATIONS | SAP RES. 2 | | PUN 3 | OBSERVATIONS | SAP RES. 2 | | PUN 3 |
|--------------|------------|-----|-------|--------------|------------|---|-------|
| | Y | R | | | Y | R | |
| 21 1830 | 5430 | 200 | R | 3200 | 34 | Y | 0 |
| 21 1845 | 5300 | 203 | R | 3050 | 33 | R | 0 |
| 21 1860 | 5450 | 206 | R | 3500 | 34 | R | 0 |
| 21 1875 | 5350 | 208 | R | 4350 | 37 | R | 0 |
| 21 1890 | 5200 | 210 | R | 4350 | 38 | R | 0 |
| 21 1905 | 5000 | 211 | R | 4700 | 40 | R | 0 |
| 21 1920 | 4700 | 213 | R | 4950 | 42 | R | 0 |
| 21 1935 | 4250 | 216 | R | 5300 | 43 | R | 0 |
| 21 1950 | 3900 | 219 | R | 5450 | 44 | R | 0 |
| 21 1965 | 3500 | 222 | R | 5700 | 45 | R | 0 |
| 21 1980 | 3050 | 226 | R | 5450 | 46 | R | 0 |
| 21 1995 | 2550 | 233 | R | 0 | 999 | 0 | 0 |
| 21 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 2025 | 5250 | 231 | R | 2900 | 51 | R | 0 |
| 21 2040 | 4700 | 232 | R | 3150 | 51 | R | 0 |
| 21 2055 | 4050 | 232 | R | 3350 | 57 | R | 0 |
| 21 2070 | 3550 | 232 | R | 3600 | 60 | R | 0 |
| 21 2085 | 2800 | 230 | R | 3900 | 63 | R | 0 |
| 21 2100 | 2300 | 226 | R | 4100 | 67 | R | 0 |
| 21 2115 | 1850 | 220 | R | 4300 | 69 | R | 0 |
| 21 2130 | 1350 | 227 | R | 4600 | 72 | R | 0 |
| 21 2145 | 2900 | 262 | R | 2700 | 42 | R | 0 |
| 21 2160 | 2400 | 265 | R | 2900 | 44 | R | 0 |
| 21 2175 | 1950 | 268 | R | 2950 | 46 | R | 0 |
| 21 2190 | 1350 | 268 | R | 3200 | 52 | R | 0 |
| 21 2205 | 650 | 231 | R | 4350 | 46 | R | 0 |
| 21 2220 | 450 | 58 | R | 4750 | 52 | R | 0 |
| 21 2235 | 3400 | 74 | R | 850 | 63 | R | 0 |

| OBSERVATIONS | SAP RES. 2 | | PUN 4 | OBSERVATIONS | SAP RES. 2 | | PUN 4 |
|--------------|------------|-----|-------|--------------|------------|---|-------|
| | Y | R | | | Y | R | |
| 22 1200 | 3350 | 92 | R | 1000 | 128 | R | 0 |
| 22 1215 | 3500 | 95 | R | 740 | 139 | R | 0 |
| 22 1230 | 3600 | 106 | R | 910 | 151 | R | 0 |
| 22 1245 | 3860 | 120 | R | 910 | 162 | R | 0 |
| 22 1260 | 1750 | 152 | R | 2360 | 275 | R | 0 |
| 22 1275 | 1660 | 165 | R | 2420 | 282 | R | 0 |
| 22 1290 | 2480 | 174 | R | 2510 | 280 | R | 0 |
| 22 1305 | 3510 | 181 | R | 2620 | 278 | R | 0 |
| 22 1320 | 4350 | 189 | R | 2750 | 276 | R | 0 |
| 22 1335 | 5280 | 191 | R | 5960 | 674 | R | 0 |
| 22 1350 | 6150 | 194 | R | 5045 | 271 | R | 0 |
| 22 1365 | 4415 | 190 | R | 2950 | 318 | R | 0 |
| 22 1380 | 4850 | 191 | R | 2800 | 324 | R | 0 |
| 22 1395 | 5650 | 192 | R | 2515 | 324 | R | 0 |
| 22 1410 | 6450 | 194 | R | 2245 | 324 | R | 0 |

NOTE1*** CODE FLIGHTS 999 IN THE DROGUE OR OPTIC OFFICE REPORTING IS A SPECIAL DATA.

NOTE2*** WIND DATA CODE EXPLANATIONS**
 0 = RELATIVE WIND RECORDED IN DEGREES TRUE
 1 = RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2 = QUESTIONABLE WIND DATA
 3 = NO WIND DATA RECORDED
 4 = WIND RECORDED IN DEGREES TRUE

***ABBREVIATIONS**

HDC= WIND DATA CODE
 CD1= CURRENT DROGUE 1
 CD2= CURRENT DROGUE 2
 HOB= HOW BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

| DAY | TIME (Z) | REFERENCE | | CD-1 | | 7-MAN | | 16FT SOAT | | 18FT SOAT | | 30FT SOAT | | CD-2 | | REL. | | | | | | |
|-----|----------|-----------|-------|-------|-------|-------|-------|-----------|-----|-----------|-----|-----------|-----|-------|-----|-------|-----|-----|-----|------|------|---|
| | | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | DIR | SPD | WIND | SHIP | |
| 22 | 1545 | 7200 | 195 R | 2000 | 323 R | 3900 | 31 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 230 | 10 | 0 | 0 | 4 |
| 22 | 1600 | 7850 | 198 R | 1750 | 319 R | 3850 | 37 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 225 | 10 | 0 | 0 | 4 |
| 22 | 1615 | 8450 | 200 R | 1550 | 310 R | 3850 | 44 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 230 | 10 | 0 | 0 | 4 |
| 22 | 1630 | 8950 | 202 R | 1350 | 301 R | 3950 | 50 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 235 | 9 | 0 | 0 | 4 |
| 22 | 1700 | 7400 | 346 R | 0 | 0 | 1550 | 327 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 225 | 16 | 0 | 0 | 4 |
| 22 | 1715 | 7400 | 314 R | 1150 | 314 R | 1300 | 16 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 235 | 14 | 0 | 0 | 4 |
| 22 | 1730 | 7600 | 339 R | 1000 | 303 R | 1350 | 35 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 12 | 0 | 0 | 4 |

NOTE1*** THE FIGURES 999 IN THE DEGREE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS
 WOLF WIND DATA CODE
 CD1= CURRENT DROGUE 1
 CD2= CURRENT DROGUE 2
 HOW= HOW BEARINGS WERE OBTAINED
 VE= VISUAL
 A= ALONGSIDE

| DAY | TIME(Z) | REFERENCE | | H | CD-1 | O | 7-MAN | | H | 15FT BOAT | | H | 30FT BOAT | | H | REL. | | |
|------------------|---------|-----------|-----|---|------|-----|-------|------|-----|-----------|-----|---|-----------|-----|---|------|-----|-----|
| | | RANGE | SRG | | | | RANGE | SRG | | RANGE | SRG | | RANGE | SRG | | DIR | SPO | DIR |
| 147 OBSERVATIONS | | | | | | | | | | | | | | | | | | |
| BOMEKL 5AF9 | | | | | | | | | | | | | | | | | | |
| 11 | 1400 | 11750 | 260 | R | 3570 | 732 | R | 2920 | 324 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1500 | 10500 | 268 | O | 4050 | 323 | O | 4575 | 312 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1530 | 11250 | 268 | O | 3415 | 344 | O | 4000 | 320 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1540 | 12510 | 265 | O | 3210 | 240 | O | 2710 | 312 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1545 | 9510 | 240 | O | 2710 | 250 | O | 2320 | 311 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1610 | 8710 | 240 | O | 2170 | 190 | O | 2500 | 314 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1630 | 6730 | 240 | O | 2170 | 190 | O | 2500 | 314 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1650 | 6730 | 240 | O | 2280 | 140 | O | 3130 | 312 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1710 | 10500 | 230 | O | 0 | 0 | O | 3125 | 270 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1730 | 10750 | 230 | O | 0 | 0 | O | 4550 | 248 | N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1750 | 11500 | 230 | O | 0 | 0 | O | 4370 | 268 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1810 | 10820 | 230 | O | 0 | 0 | O | 3140 | 260 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1830 | 10580 | 230 | O | 0 | 0 | O | 3140 | 260 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1850 | 10210 | 242 | R | 0 | 0 | O | 3010 | 262 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1910 | 7050 | 242 | R | 0 | 0 | O | 3065 | 302 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1930 | 3925 | 228 | R | 3510 | 62 | R | 2800 | 350 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 1950 | 3710 | 210 | O | 6560 | 67 | O | 2610 | 352 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2010 | 3540 | 210 | O | 6710 | 69 | R | 2430 | 353 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2030 | 3480 | 210 | O | 6370 | 72 | R | 2660 | 262 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2050 | 3470 | 190 | O | 7240 | 74 | O | 2895 | 354 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2110 | 3600 | 180 | O | 7480 | 74 | O | 1760 | 357 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2130 | 3650 | 182 | O | 7740 | 77 | R | 1600 | 361 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2150 | 3775 | 177 | O | 8040 | 79 | R | 1425 | 364 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2210 | 4080 | 172 | O | 8335 | 80 | R | 1180 | 368 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2230 | 4180 | 165 | O | 8630 | 84 | O | 980 | 371 | O | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2250 | 4305 | 216 | O | 8760 | 94 | O | 5070 | 269 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2310 | 4620 | 202 | O | 4480 | 99 | O | 4640 | 264 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 2330 | 4650 | 196 | O | 5000 | 100 | O | 4435 | 261 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0000 | 4650 | 191 | O | 4075 | 102 | O | 4325 | 257 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0030 | 4675 | 180 | O | 5400 | 103 | O | 4300 | 251 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0050 | 4675 | 180 | O | 6840 | 104 | O | 4300 | 246 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0110 | 7050 | 180 | O | 7120 | 104 | O | 4480 | 243 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0130 | 7345 | 177 | O | 7650 | 105 | O | 6300 | 230 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0150 | 7672 | 174 | R | 7920 | 107 | R | 4020 | 236 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0210 | 7950 | 171 | R | 8400 | 108 | R | 4450 | 231 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0230 | 8250 | 169 | O | 9000 | 109 | R | 4800 | 229 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0250 | 8640 | 165 | O | 9000 | 109 | R | 4500 | 229 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0310 | 8750 | 161 | O | 9550 | 108 | R | 4480 | 226 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0330 | 8700 | 177 | O | 7200 | 103 | R | 5400 | 250 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0350 | 8600 | 192 | O | 6210 | 105 | P | 7550 | 259 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0410 | 8200 | 192 | O | 5240 | 104 | P | 7550 | 260 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0430 | 8080 | 191 | R | 5440 | 103 | P | 7470 | 259 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0450 | 8780 | 190 | P | 5400 | 101 | P | 7270 | 261 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0510 | 8550 | 188 | P | 5370 | 98 | P | 7000 | 262 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0530 | 8300 | 188 | P | 5430 | 95 | R | 6900 | 263 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(continued)

| | | | | | | | | | | | | | | | | | | | | | | | |
|----|------|-------|-------|-------|-------|------|-------|--|--|--|--|--|--|--|--|--|--|-----|-----|-----|-----|----|---|
| 12 | 558 | 4669 | 185 R | 5550 | 92 R | 6631 | 265 P | | | | | | | | | | | 250 | 10 | 140 | 0 | 1 | |
| 12 | 611 | 4315 | 183 R | 5740 | 91 P | 6480 | 268 R | | | | | | | | | | | | 270 | 8 | 146 | 0 | 1 |
| 12 | 670 | 3080 | 174 D | 5050 | 85 P | 6180 | 271 R | | | | | | | | | | | | 270 | 8 | 157 | 0 | 1 |
| 12 | 650 | 3550 | 172 D | 5320 | 86 R | 6030 | 273 R | | | | | | | | | | | | 265 | 6 | 162 | 0 | 1 |
| 12 | 710 | 3290 | 167 Q | 6520 | 84 R | 6050 | 275 D | | | | | | | | | | | | 340 | 5 | 166 | 0 | 1 |
| 12 | 730 | 3500 | 160 R | 6730 | 88 R | 5920 | 269 R | | | | | | | | | | | | 58 | 12 | 137 | 0 | 1 |
| 12 | 780 | 5847 | 177 R | 6270 | 81 R | 7458 | 269 R | | | | | | | | | | | | 282 | 10 | 158 | 0 | 1 |
| 12 | 810 | 5623 | 175 R | 6280 | 81 R | 7258 | 290 R | | | | | | | | | | | | 561 | 18 | 189 | 0 | 1 |
| 12 | 930 | 4950 | 163 R | 6390 | 85 D | 7300 | 291 R | | | | | | | | | | | | 271 | 19 | 188 | 0 | 1 |
| 12 | 950 | 4350 | 159 R | 6580 | 101 R | 6920 | 296 R | | | | | | | | | | | | 236 | 10 | 207 | 0 | 1 |
| 12 | 910 | 4330 | 156 D | 6750 | 99 R | 6718 | 299 R | | | | | | | | | | | | 238 | 10 | 217 | 0 | 1 |
| 12 | 930 | 4160 | 146 R | 7210 | 96 R | 6518 | 263 R | | | | | | | | | | | | 270 | 0 | 281 | 0 | 1 |
| 12 | 950 | 4230 | 138 R | 7500 | 94 P | 6380 | 267 R | | | | | | | | | | | | 270 | 10 | 270 | 0 | 1 |
| 12 | 1010 | 4370 | 128 D | 7820 | 92 R | 6260 | 273 R | | | | | | | | | | | | 270 | 10 | 199 | 0 | 1 |
| 12 | 1030 | 4550 | 120 D | 8080 | 91 P | 6170 | 275 P | | | | | | | | | | | | 270 | 10 | 235 | 0 | 1 |
| 12 | 1050 | 4650 | 113 R | 8430 | 89 R | 6130 | 290 R | | | | | | | | | | | | 270 | 0 | 233 | 0 | 1 |
| 12 | 1110 | 5840 | 107 P | 8926 | 89 R | 6180 | 295 R | | | | | | | | | | | | 270 | 12 | 217 | 0 | 1 |
| 12 | 1130 | 5550 | 104 R | 9230 | 89 R | 6030 | 287 R | | | | | | | | | | | | 270 | 16 | 200 | 0 | 1 |
| 12 | 1150 | 6500 | 99 D | 9675 | 89 R | 6110 | 291 R | | | | | | | | | | | | 275 | 5 | 197 | 0 | 1 |
| 12 | 1210 | 7280 | 95 P | 10210 | 88 R | 6260 | 297 R | | | | | | | | | | | | 280 | 10 | 193 | 0 | 1 |
| 12 | 1230 | 7760 | 94 R | 10540 | 88 R | 6320 | 299 R | | | | | | | | | | | | 255 | 10 | 210 | 0 | 1 |
| 12 | 1250 | 8380 | 93 R | 10990 | 89 R | 6300 | 301 R | | | | | | | | | | | | 258 | 10 | 232 | 0 | 1 |
| 12 | 1310 | 8770 | 94 R | 11290 | 91 R | 6320 | 300 R | | | | | | | | | | | | 250 | 10 | 225 | 0 | 1 |
| 12 | 1330 | 9570 | 92 R | 11700 | 96 R | 6310 | 302 R | | | | | | | | | | | | 280 | 10 | 194 | 0 | 1 |
| 12 | 1350 | 10190 | 91 D | 12090 | 90 R | 6430 | 305 R | | | | | | | | | | | | 270 | 10 | 186 | 0 | 1 |
| 12 | 1410 | 10950 | 90 D | 12470 | 90 R | 6450 | 308 R | | | | | | | | | | | | 275 | 9 | 188 | 0 | 1 |
| 12 | 1430 | 11680 | 90 R | 12860 | 91 R | 6400 | 309 R | | | | | | | | | | | | 255 | 9 | 221 | 0 | 1 |
| 12 | 1555 | 12410 | 98 R | 13258 | 92 R | 6300 | 313 R | | | | | | | | | | | | 240 | 10 | 226 | 0 | 1 |
| 12 | 1510 | 12850 | 89 P | 13490 | 92 R | 6250 | 311 P | | | | | | | | | | | | 260 | 10 | 188 | 0 | 1 |
| 12 | 1530 | 13310 | 89 P | 13900 | 93 R | 6230 | 311 R | | | | | | | | | | | | 270 | 8 | 199 | 0 | 1 |
| 12 | 1550 | 13830 | 90 P | 14180 | 93 R | 6180 | 313 R | | | | | | | | | | | | 240 | 9 | 223 | 0 | 1 |
| 12 | 1610 | 16200 | 96 R | 16200 | 99 R | 2932 | 323 R | | | | | | | | | | | | 48 | 6 | 315 | 0 | 1 |
| 12 | 1630 | 19080 | 102 D | 16200 | 99 R | 2932 | 323 R | | | | | | | | | | | | 360 | 12 | 60 | 10 | 1 |
| 12 | 1930 | 17280 | 102 D | 17850 | 107 R | 0 | 0 | | | | | | | | | | | | 358 | 10 | 185 | 10 | 1 |
| 12 | 1710 | 17580 | 101 R | 7200 | 112 R | 0 | 0 | | | | | | | | | | | | 360 | 20 | 105 | 10 | 1 |
| 12 | 1730 | 2825 | 88 R | 1080 | 113 R | 0 | 0 | | | | | | | | | | | | 360 | 21 | 115 | 10 | 1 |
| 12 | 1750 | 3598 | 297 R | 4525 | 274 R | 0 | 0 | | | | | | | | | | | | 5 | 20 | 95 | 10 | 1 |
| 12 | 1810 | 9840 | 202 P | 0 | 0 | 0 | 0 | | | | | | | | | | | | 360 | 21 | 95 | 10 | 1 |
| 12 | 1920 | 11603 | 285 R | 14056 | 261 R | 6080 | 107 R | | | | | | | | | | | | 208 | 10 | 193 | 0 | 1 |
| 12 | 1930 | 11335 | 268 R | 13968 | 261 R | 6085 | 107 R | | | | | | | | | | | | 270 | 10 | 285 | 0 | 1 |
| 12 | 1950 | 10368 | 278 R | 13280 | 260 R | 6250 | 103 R | | | | | | | | | | | | 270 | 9 | 210 | 0 | 1 |
| 12 | 2010 | 9465 | 269 P | 12760 | 260 R | 6410 | 98 R | | | | | | | | | | | | 270 | 9 | 285 | 0 | 1 |
| 12 | 2030 | 8620 | 270 R | 12248 | 260 R | 6680 | 95 R | | | | | | | | | | | | 270 | 6 | 210 | 0 | 1 |
| 12 | 2050 | 7970 | 271 R | 11740 | 259 R | 6735 | 93 R | | | | | | | | | | | | 275 | 8 | 287 | 0 | 1 |
| 12 | 2110 | 7138 | 273 R | 11275 | 260 R | 6680 | 90 R | | | | | | | | | | | | 270 | 7 | 232 | 0 | 1 |
| 12 | 2130 | 6550 | 275 P | 10950 | 258 P | 6980 | 88 R | | | | | | | | | | | | 270 | 8 | 235 | 0 | 1 |
| 12 | 2150 | 5710 | 277 R | 10580 | 258 R | 7078 | 85 R | | | | | | | | | | | | 270 | 7 | 195 | 0 | 1 |
| 12 | 2210 | 4980 | 280 P | 10070 | 258 R | 7190 | 83 R | | | | | | | | | | | | 270 | 8 | 195 | 0 | 1 |
| 12 | 2230 | 4398 | 284 R | 9790 | 259 R | 7210 | 81 R | | | | | | | | | | | | 250 | 9 | 195 | 0 | 1 |
| 12 | 2250 | 3700 | 287 D | 9310 | 258 P | 7290 | 79 R | | | | | | | | | | | | 265 | 10 | 190 | 0 | 1 |
| 12 | 2310 | 3750 | 308 R | 8960 | 266 P | 7660 | 67 R | | | | | | | | | | | | 208 | 10 | 185 | 2 | 1 |
| 12 | 2330 | 4903 | 327 R | 8720 | 278 R | 8540 | 57 R | | | | | | | | | | | | 270 | 18 | 195 | 0 | 1 |
| 12 | 2350 | 4098 | 336 R | 8440 | 279 R | 8750 | 54 R | | | | | | | | | | | | 270 | 10 | 191 | 0 | 1 |
| 13 | 10 | 4720 | 344 R | 8150 | 281 R | 8970 | 54 R | | | | | | | | | | | | 265 | 9 | 195 | 0 | 1 |
| 13 | 30 | 4698 | 351 R | 7980 | 283 R | 9220 | 53 R | | | | | | | | | | | | 270 | 9 | 191 | 0 | 1 |
| 13 | 50 | 4640 | 356 R | 7630 | 283 R | 9360 | 53 R | | | | | | | | | | | | 265 | 9 | 192 | 0 | 1 |
| 13 | 118 | 4598 | 7 R | 7265 | 284 R | 9560 | 53 R | | | | | | | | | | | | 270 | 10 | 170 | 0 | 1 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

***ABBREVIATIONS**

MOE = WIND DATA CODE
 CD1 = CURRENT DROGUE 1
 CD2 = CURRENT DROGUE 2
 MOE = MOM BEARINGS WERE OBTAINED
 R = RADAR
 V = VISUAL
 A = ALONGSIDE

NOTE2*** WIND DATA CODE EXPLANATION**

0 = RELATIVE WIND RECORDED IN DEGREES TRUE
 1 = RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2 = QUESTIONABLE WIND DATA
 3 = NO WIND DATA RECORDED
 4 = WIND RECORDED IN DEGREES TRUE

| DAY | TIME(?) | REFERENCE | CO-1 | M | 7-MAN | M | 15FT BOAT | M | 30FT BOAT | M | CO-2 | M | REL. | | | | |
|-----|---------|-----------|-------|---|-------|-------|-----------|-------|-----------|-------|-------|-------|------|----|-----|----|---|
| | | RANGE | RANGE | D | RANGE | RANGE | RANGE | RANGE | RANGE | RANGE | RANGE | RANGE | WIND | | | | |
| | | BPQ | BPQ | W | BPQ | BPQ | BPQ | BPQ | BPQ | BPQ | BPQ | BPQ | DIR | | | | |
| | | | | | | | | | | | | | SPD | | | | |
| | | | | | | | | | | | | | CRS | | | | |
| | | | | | | | | | | | | | SPD | | | | |
| | | | | | | | | | | | | | C | | | | |
| 13 | 130 | 4619 | 13 | 0 | 7880 | 285 | 2 | 9620 | 52 | 0 | 0 | 0 | 265 | 9 | 180 | 0 | 1 |
| 13 | 140 | 5409 | 14 | R | 6880 | 285 | 0 | 9740 | 50 | 0 | 0 | 0 | 260 | 9 | 172 | 0 | 1 |
| 13 | 210 | 3340 | 22 | R | 6630 | 269 | R | 10080 | 50 | 0 | 0 | 0 | 275 | 11 | 205 | 0 | 1 |
| 13 | 230 | 3340 | 326 | P | 10710 | 271 | P | 5720 | 33 | 0 | 0 | 0 | 280 | 9 | 194 | 0 | 1 |
| 13 | 280 | 3603 | 361 | 0 | 10460 | 275 | 0 | 6260 | 31 | 0 | 0 | 0 | 270 | 9 | 191 | 0 | 1 |
| 13 | 310 | 3593 | 350 | 0 | 10240 | 278 | 0 | 5560 | 30 | 0 | 0 | 0 | 265 | 8 | 195 | 0 | 1 |
| 13 | 330 | 3543 | 354 | 0 | 10270 | 279 | 0 | 5070 | 29 | 0 | 0 | 0 | 270 | 9 | 193 | 0 | 1 |
| 13 | 350 | 3715 | 4 | 0 | 9660 | 283 | 0 | 7480 | 28 | 0 | 0 | 0 | 265 | 9 | 194 | 0 | 1 |
| 13 | 410 | 3870 | 13 | 0 | 9370 | 282 | 0 | 7810 | 28 | 0 | 0 | 0 | 275 | 10 | 193 | 0 | 1 |
| 13 | 430 | 4149 | 21 | R | 9030 | 284 | 0 | 8230 | 28 | 0 | 0 | 0 | 310 | 9 | 188 | 0 | 1 |
| 13 | 450 | 4470 | 26 | R | 8740 | 287 | R | 8690 | 28 | 0 | 0 | 0 | 270 | 12 | 196 | 0 | 1 |
| 13 | 510 | 4670 | 33 | P | 6470 | 289 | 0 | 9460 | 28 | 0 | 0 | 0 | 278 | 10 | 193 | 0 | 1 |
| 13 | 570 | 5160 | 35 | P | 4310 | 292 | P | 9960 | 27 | 0 | 0 | 0 | 274 | 10 | 193 | 0 | 1 |
| 13 | 590 | 5440 | 39 | R | 9030 | 295 | R | 9960 | 27 | 0 | 0 | 0 | 274 | 10 | 193 | 0 | 1 |
| 13 | 610 | 5850 | 42 | R | 7950 | 298 | R | 10460 | 26 | 0 | 0 | 0 | 285 | 11 | 180 | 0 | 1 |
| 13 | 630 | 6190 | 43 | P | 7360 | 311 | P | 10730 | 27 | 0 | 0 | 0 | 280 | 9 | 231 | 0 | 1 |
| 13 | 710 | 4870 | 137 | 0 | 8650 | 243 | 0 | 3790 | 59 | 0 | 0 | 0 | 85 | 0 | 89 | 0 | 1 |
| 13 | 730 | 4960 | 143 | P | 9210 | 245 | P | 3520 | 57 | 0 | 0 | 0 | 350 | 10 | 154 | 0 | 1 |
| 13 | 750 | 5340 | 140 | P | 8930 | 244 | P | 3775 | 56 | 0 | 0 | 0 | 275 | 9 | 222 | 0 | 1 |
| 13 | 810 | 5650 | 137 | 0 | 8470 | 244 | 0 | 4210 | 55 | 0 | 0 | 0 | 270 | 5 | 228 | 0 | 1 |
| 13 | 830 | 5810 | 134 | 0 | 8020 | 244 | 0 | 4610 | 54 | 0 | 0 | 0 | 270 | 7 | 237 | 0 | 1 |
| 13 | 850 | 5940 | 131 | R | 7630 | 245 | R | 4910 | 52 | 0 | 0 | 0 | 270 | 0 | 239 | 0 | 1 |
| 13 | 910 | 6180 | 128 | R | 7270 | 245 | R | 5280 | 50 | 0 | 0 | 0 | 270 | 9 | 236 | 0 | 1 |
| 13 | 930 | 6370 | 126 | 0 | 6960 | 245 | 0 | 5610 | 48 | 0 | 0 | 0 | 270 | 10 | 198 | 0 | 1 |
| 13 | 950 | 6570 | 124 | 0 | 6590 | 246 | 0 | 5920 | 47 | 0 | 0 | 0 | 270 | 10 | 195 | 0 | 1 |
| 13 | 1010 | 6790 | 120 | R | 6220 | 247 | R | 6260 | 46 | 0 | 0 | 0 | 270 | 11 | 200 | 0 | 1 |
| 13 | 1030 | 7020 | 119 | R | 5810 | 248 | R | 6680 | 46 | 0 | 0 | 0 | 270 | 10 | 231 | 0 | 1 |
| 13 | 1050 | 7480 | 119 | 0 | 5490 | 246 | 0 | 6920 | 46 | 0 | 0 | 0 | 270 | 9 | 282 | 0 | 1 |
| 12 | 1110 | 7770 | 117 | 0 | 5180 | 246 | 0 | 7390 | 45 | 0 | 0 | 0 | 265 | 11 | 219 | 0 | 1 |
| 12 | 1130 | 8170 | 116 | 0 | 4760 | 244 | 0 | 7680 | 45 | 0 | 0 | 0 | 265 | 11 | 248 | 0 | 1 |
| 12 | 1150 | 8520 | 117 | R | 4480 | 241 | R | 7325 | 45 | 0 | 0 | 0 | 260 | 11 | 232 | 0 | 1 |
| 12 | 1210 | 8850 | 116 | 0 | 3920 | 239 | 0 | 7640 | 51 | 0 | 0 | 0 | 275 | 11 | 196 | 0 | 1 |
| 12 | 1230 | 9180 | 114 | 0 | 3570 | 239 | 0 | 7870 | 50 | 0 | 0 | 0 | 260 | 12 | 199 | 0 | 1 |
| 12 | 1250 | 9760 | 113 | 0 | 2910 | 236 | 0 | 8140 | 50 | 0 | 0 | 0 | 260 | 15 | 191 | 0 | 1 |
| 12 | 1310 | 7010 | 112 | R | 4470 | 258 | R | 7370 | 34 | 0 | 0 | 0 | 260 | 10 | 183 | 0 | 1 |
| 12 | 1330 | 2070 | 190 | K | 0 | 0 | 0 | 7980 | 332 | K | 0 | 0 | 260 | 30 | 180 | 12 | 1 |
| 12 | 1340 | 2230 | 192 | P | 12780 | 269 | P | 8080 | 330 | K | 0 | 0 | 260 | 28 | 185 | 12 | 1 |
| 12 | 1350 | 4800 | 235 | 0 | 0 | 0 | 0 | 9940 | 314 | R | 0 | 0 | 330 | 16 | 130 | 2 | 1 |
| 12 | 1410 | 8620 | 258 | R | 0 | 0 | 0 | 14960 | 301 | R | 0 | 0 | 270 | 10 | 195 | 0 | 1 |
| 12 | 1430 | 8230 | 258 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 10 | 195 | 0 | 1 |
| 12 | 1450 | 7670 | 256 | P | 0 | 0 | 0 | 14830 | 304 | R | 0 | 0 | 270 | 10 | 135 | 0 | 1 |
| 12 | 1510 | 8520 | 269 | 0 | 0 | 0 | 0 | 15830 | 304 | R | 0 | 0 | 90 | 4 | 304 | 12 | 1 |
| 12 | 1530 | 6180 | 192 | 0 | 13130 | 257 | 0 | 8150 | 303 | R | 0 | 0 | 30 | 4 | 304 | 12 | 1 |
| 12 | 1550 | 9870 | 158 | P | 10240 | 234 | P | 2760 | 299 | R | 0 | 0 | 150 | 9 | 335 | 5 | 1 |
| 12 | 1610 | 11340 | 153 | P | 9670 | 223 | P | 1180 | 292 | P | 0 | 0 | 130 | 9 | 332 | 5 | 1 |

(continued)

57 OBSERVATIONS

BOMEXL 5/69

RUN 2

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|------|-------|-----|---|-------|-----|---|------|-----|---|---|---|---|---|---|---|---|---|---|---|---|-----|----|-----|----|---|
| 13 | 1910 | 7050 | 294 | R | 4970 | 85 | R | 4225 | 88 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 10 | 130 | 0 | 1 |
| 13 | 1930 | 3330 | 308 | R | 5410 | 82 | R | 7310 | 83 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 9 | 130 | 0 | 1 |
| 13 | 1950 | 6480 | 382 | R | 5890 | 79 | R | 4360 | 79 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 9 | 130 | 0 | 1 |
| 13 | 2010 | 7980 | 309 | R | 5290 | 65 | R | 3510 | 59 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 7 | 130 | 0 | 1 |
| 13 | 2030 | 7025 | 304 | R | 5530 | 71 | R | 3660 | 61 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 17 | 130 | 0 | 1 |
| 13 | 2050 | 6190 | 318 | R | 6070 | 76 | R | 3430 | 68 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 17 | 932 | 0 | 1 |
| 13 | 2110 | 5190 | 310 | R | 6070 | 76 | R | 3430 | 68 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 17 | 932 | 0 | 1 |
| 13 | 2130 | 6300 | 314 | R | 5915 | 75 | R | 3200 | 68 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 135 | 0 | 1 |
| 13 | 2150 | 6610 | 317 | R | 6430 | 71 | P | 3575 | 56 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 10 | 132 | 0 | 1 |
| 13 | 2180 | 6730 | 323 | R | 5940 | 69 | P | 3950 | 52 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 130 | 0 | 1 |
| 13 | 2210 | 6765 | 326 | R | 7470 | 67 | R | 4440 | 48 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 12 | 198 | 0 | 1 |
| 13 | 2230 | 6800 | 333 | R | 7990 | 67 | R | 4750 | 48 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 198 | 0 | 1 |
| 13 | 2250 | 6960 | 337 | P | 5410 | 67 | P | 5070 | 47 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 130 | 0 | 1 |
| 13 | 2310 | 7140 | 382 | R | 8990 | 66 | R | 5150 | 41 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 135 | 0 | 1 |
| 13 | 2330 | 7300 | 387 | R | 9400 | 67 | R | 5650 | 46 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 11 | 220 | 0 | 1 |
| 13 | 2350 | 7730 | 349 | R | 9910 | 66 | R | 5980 | 43 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 10 | 191 | 0 | 1 |
| 14 | 10 | 7980 | 353 | R | 10510 | 66 | P | 6305 | 43 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 191 | 0 | 1 |
| 14 | 50 | 10230 | 315 | R | 4230 | 44 | P | 4620 | 321 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 198 | 0 | 1 |
| 14 | 110 | 10140 | 320 | R | 4800 | 46 | R | 4770 | 326 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 11 | 194 | 0 | 1 |
| 14 | 130 | 9950 | 325 | R | 5350 | 45 | R | 4880 | 330 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 10 | 199 | 0 | 1 |
| 14 | 150 | 9900 | 328 | P | 5920 | 50 | R | 5880 | 334 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 10 | 194 | 0 | 1 |
| 14 | 210 | 9910 | 333 | P | 6540 | 51 | P | 5225 | 338 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 365 | 11 | 187 | 0 | 2 |
| 14 | 230 | 10020 | 336 | R | 6940 | 51 | P | 5330 | 340 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 12 | 195 | 0 | 1 |
| 14 | 250 | 10085 | 341 | R | 7465 | 51 | P | 5500 | 343 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 11 | 197 | 0 | 1 |
| 14 | 310 | 10155 | 346 | P | 7900 | 54 | P | 5630 | 346 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 9 | 193 | 0 | 1 |
| 14 | 330 | 10370 | 348 | P | 8190 | 53 | R | 5835 | 349 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 | 9 | 198 | 0 | 1 |
| 14 | 350 | 10670 | 351 | R | 8490 | 51 | R | 5972 | 349 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 255 | 10 | 197 | 0 | 1 |
| 14 | 410 | 11210 | 355 | P | 9900 | 52 | P | 6440 | 353 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 134 | 0 | 1 |
| 14 | 430 | 11540 | 356 | R | 9390 | 52 | R | 6720 | 352 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 12 | 34 | 0 | 1 |
| 14 | 450 | 7220 | 365 | R | 9620 | 63 | R | 4710 | 325 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 16 | 35 | 0 | 1 |
| 14 | 510 | 7480 | 332 | R | 3770 | 67 | R | 4730 | 297 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 315 | 16 | 140 | 0 | 1 |
| 14 | 530 | 7410 | 334 | R | 3790 | 63 | R | 4900 | 289 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 166 | 0 | 1 |
| 14 | 560 | 7520 | 340 | R | 4130 | 64 | P | 4790 | 292 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 194 | 0 | 1 |
| 14 | 610 | 7690 | 344 | R | 4560 | 61 | R | 4780 | 295 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 275 | 10 | 179 | 0 | 1 |
| 14 | 650 | 8290 | 353 | R | 5160 | 77 | R | 4650 | 292 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 11 | 198 | 0 | 1 |
| 14 | 710 | 8670 | 357 | R | 5420 | 75 | R | 4620 | 295 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 132 | 0 | 1 |
| 14 | 730 | 9050 | 360 | P | 5730 | 73 | R | 4640 | 304 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 184 | 0 | 1 |
| 14 | 750 | 9455 | 3 | R | 5990 | 71 | R | 4560 | 311 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 275 | 10 | 161 | 0 | 1 |
| 14 | 810 | 9950 | 7 | R | 6240 | 69 | R | 4575 | 314 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 173 | 0 | 1 |
| 14 | 830 | 10410 | 18 | P | 460 | 69 | R | 4510 | 314 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 255 | 9 | 172 | 0 | 1 |
| 14 | 850 | 10950 | 12 | P | 6310 | 68 | R | 4520 | 316 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 9 | 179 | 0 | 1 |
| 14 | 910 | 11470 | 15 | R | 7180 | 67 | R | 4510 | 317 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 11 | 198 | 0 | 1 |
| 14 | 930 | 12080 | 17 | P | 7465 | 67 | P | 4520 | 319 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 173 | 0 | 1 |
| 14 | 950 | 12600 | 19 | R | 7810 | 67 | R | 4460 | 319 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 10 | 174 | 0 | 1 |
| 14 | 1010 | 10810 | 17 | R | 5890 | 76 | R | 4715 | 297 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 364 | 24 | 41 | 0 | 1 |
| 14 | 1030 | 9710 | 6 | R | 4360 | 162 | R | 8650 | 246 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 363 | 23 | 30 | 2 | 1 |
| 14 | 1050 | 5100 | 360 | P | 4560 | 159 | R | 9830 | 246 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 225 | 11 | 210 | 0 | 1 |
| 14 | 1110 | 5680 | 7 | P | 4560 | 153 | R | 9760 | 245 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 10 | 164 | 0 | 1 |
| 14 | 1130 | 6290 | 13 | R | 4460 | 149 | R | 9660 | 244 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 11 | 158 | 0 | 1 |
| 14 | 1150 | 6890 | 17 | R | 4390 | 148 | R | 9530 | 244 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 15 | 165 | 0 | 1 |
| 14 | 1210 | 7570 | 21 | R | 4370 | 139 | R | 9300 | 245 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 17 | 164 | 0 | 1 |
| 14 | 1230 | 8430 | 24 | R | 4420 | 132 | P | 9320 | 245 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 17 | 164 | 0 | 1 |
| 14 | 1250 | 9300 | 27 | R | 4480 | 134 | P | 9225 | 246 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 266 | 20 | 172 | 0 | 1 |
| 14 | 1310 | 10550 | 29 | R | 4740 | 116 | R | 9120 | 248 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 275 | 17 | 150 | 0 | 1 |
| 14 | 1330 | 11380 | 31 | R | 4640 | 112 | R | 9040 | 249 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 265 | 16 | 130 | 0 | 1 |
| 14 | 1350 | 12390 | 33 | R | 4930 | 109 | R | 8980 | 251 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 16 | 136 | 0 | 1 |
| 14 | 1410 | 10350 | 43 | R | 0 | 0 | 0 | 4920 | 257 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 195 | 13 | 260 | 10 | 1 |

NOTE1*** TIME FIGURES 999 IN THE DRUQUE OR DRIFT OBJECT BEARING IS A SPECIAL
 CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATIONS**
 1= RELATIVE WIND RECORDED IN DEGREES TRUE
 2= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 3= QUESTIONABLE WIND DATA
 4= NO WIND DATA RECORDED
 5= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS
 WDC= WIND DATA CODE
 C01= CURRENT DRUQUE 1
 C02= CURRENT DRUQUE 2
 MOE= MOM BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

| DAY | TIME(Z) | REFERENCE 0 | | M CD-1 | | M 7-MAN | | M 16FT BOAT 0 | | M 19FT BOAT 0 | | M CD-2 | | M REL. | | | |
|-----------------|---------|-------------|-------|--------|------|---------|------|---------------|-----|---------------|-----|--------|-----|--------|--------|--------|-----|
| | | RANGE | BRG | RANGE | BRG | PAGE | PAGE | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | DIR | SPD |
| 61 OBSERVATIONS | | | | | | | | | | | | | | | | | |
| BOMFEL 5/69 | | | | | | | | | | | | | | | | | |
| PUN 3 | | | | | | | | | | | | | | | | | |
| 14 | 1929 | 18790 | 278 P | 3960 | 80 R | 3765 | 62 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 290 15 | 171 60 | 1 |
| 14 | 1930 | 18800 | 278 R | 4520 | 79 R | 4120 | 62 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 16 | 319 1 | 1 |
| 14 | 1950 | 0500 | 268 R | 5690 | 81 R | 4750 | 84 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 355 21 | 32 0 | 1 |
| 14 | 2010 | 0560 | 268 R | 5700 | 81 R | 4750 | 85 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 20 | 54 1 | 1 |
| 14 | 2030 | 3100 | 268 R | 6200 | 81 R | 3970 | 86 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 366 17 | 00 2 | 1 |
| 14 | 2100 | 7470 | 283 R | 6730 | 83 R | 1700 | 98 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 24 | 00 6 | 1 |
| 14 | 2115 | 0660 | 281 R | 3040 | 81 R | 1810 | 97 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 24 | 112 7 | 1 |
| 14 | 2130 | 7400 | 283 R | 5330 | 85 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 18 | 224 7 | 2 |
| 14 | 2150 | 5250 | 303 R | 6480 | 82 R | 4580 | 35 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 24 | 181 8 | 1 |
| 14 | 2210 | 5850 | 304 R | 6250 | 84 R | 4380 | 22 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 24 | 50 0 | 1 |
| 14 | 2230 | 6930 | 304 R | 6080 | 85 R | 3920 | 14 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 345 27 | 68 4 | 1 |
| 14 | 2250 | 6780 | 303 R | 7920 | 85 R | 3580 | 6 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 27 | 78 4 | 1 |
| 14 | 2310 | 4410 | 308 R | 6050 | 84 R | 3480 | 35 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 351 27 | 78 4 | 1 |
| 14 | 2330 | 6000 | 307 R | 6080 | 81 R | 3260 | 34 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 366 30 | 75 0 | 1 |
| 14 | 2350 | 3780 | 308 R | 6250 | 81 R | 3580 | 32 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 366 28 | 75 2 | 1 |
| 15 | 10 | 3650 | 309 R | 6160 | 83 R | 3940 | 31 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 23 | 73 2 | 1 |
| 15 | 30 | 3460 | 310 R | 6170 | 83 R | 4490 | 30 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 25 | 42 2 | 1 |
| 15 | 50 | 3470 | 307 R | 7980 | 81 R | 5980 | 29 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 366 28 | 75 4 | 1 |
| 15 | 110 | 3830 | 296 P | 7150 | 85 R | 7480 | 28 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 29 | 76 4 | 1 |
| 15 | 130 | 6170 | 287 R | 6480 | 86 R | 6680 | 26 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 366 22 | 78 3 | 1 |
| 15 | 150 | 2230 | 257 R | 5930 | 82 P | 7910 | 27 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 14 | 310 7 | 2 |
| 15 | 210 | 4130 | 157 R | 7310 | 74 R | 6120 | 23 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 26 | 72 3 | 1 |
| 15 | 230 | 4550 | 162 R | 6840 | 74 R | 7480 | 23 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 25 | 87 4 | 1 |
| 15 | 250 | 6700 | 166 R | 6180 | 78 R | 6680 | 24 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 22 | 91 4 | 1 |
| 15 | 310 | 5110 | 153 R | 5160 | 79 R | 1600 | 24 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 11 | 258 6 | 1 |
| 15 | 330 | 7330 | 115 R | 13300 | 74 R | 6420 | 24 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 12 | 245 8 | 1 |
| 15 | 650 | 5920 | 146 R | 6720 | 84 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 366 32 | 83 8 | 1 |
| 15 | 810 | 5840 | 186 R | 2420 | 81 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 32 | 87 6 | 1 |
| 15 | 230 | 7600 | 224 R | 6300 | 80 R | 6700 | 21 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 32 | 90 9 | 1 |
| 15 | 630 | 6680 | 232 R | 6510 | 80 R | 6780 | 21 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 32 | 87 6 | 1 |
| 15 | 730 | 6460 | 218 R | 6720 | 82 R | 6520 | 79 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 280 17 | 229 2 | 1 |
| 15 | 710 | 5980 | 208 R | 6450 | 83 R | 6970 | 75 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 290 22 | 216 2 | 1 |
| 15 | 730 | 6950 | 228 R | 5940 | 81 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 22 | 138 4 | 1 |
| 15 | 750 | 3580 | 287 P | 4360 | 80 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 18 | 274 2 | 1 |
| 15 | 810 | 7320 | 214 R | 6390 | 81 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 26 | 296 2 | 1 |
| 15 | 830 | 9490 | 219 R | 6610 | 83 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 360 30 | 96 2 | 1 |
| 15 | 850 | 8780 | 213 R | 6880 | 80 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 174 23 | 271 6 | 1 |
| 15 | 910 | 6680 | 209 R | 5530 | 80 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 220 18 | 245 6 | 1 |
| 15 | 930 | 8950 | 285 R | 5150 | 80 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 20 | 289 6 | 1 |
| 15 | 950 | 8950 | 197 R | 4650 | 81 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 25 | 279 1 | 1 |
| 15 | 1010 | 8130 | 194 R | 4450 | 81 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 26 | 274 1 | 1 |
| 15 | 1030 | 8330 | 187 R | 3850 | 82 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 190 22 | 240 1 | 1 |
| 15 | 1050 | 8640 | 186 P | 4080 | 82 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 28 | 275 1 | 1 |

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| | | | | | | | | | | | | | | | | | | | | | | | | |
|----|------|-------|-----|---|-------|-----|---|-------|-----|---|---|---|---|---|---|---|---|-----|----|-----|----|-----|----|---|
| 15 | 1110 | 8550 | 170 | R | 3650 | 336 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 225 | 26 | 243 | 1 | 1 | | |
| 15 | 1130 | 8700 | 177 | R | 3630 | 347 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 198 | 20 | 284 | 1 | 1 | | |
| 15 | 1150 | 8333 | 179 | R | 3950 | 360 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 190 | 10 | 237 | 1 | 1 | | |
| 15 | 1210 | 8970 | 166 | R | 3960 | 34 | R | 2980 | 75 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 357 | 76 | 0 | 1 | |
| 15 | 1230 | 9080 | 165 | D | 5500 | 31 | R | 2260 | 60 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 356 | 23 | 0 | 1 | |
| 15 | 1290 | 9080 | 166 | D | 5560 | 29 | R | 1950 | 55 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 358 | 22 | 0 | 1 | |
| 15 | 1310 | 7600 | 196 | R | 6440 | 6 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 328 | 25 | 13 | 1 | |
| 15 | 1330 | 7050 | 127 | R | 9700 | 17 | R | 4900 | 2 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 361 | 27 | 0 | 1 | |
| 15 | 1350 | 6080 | 126 | R | 9700 | 13 | R | 4950 | 351 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 354 | 27 | 0 | 1 | |
| 15 | 1370 | 6830 | 126 | R | 10640 | 312 | R | 5225 | 261 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 351 | 22 | 91 | 2 | 1 |
| 15 | 1430 | 6490 | 126 | R | 10270 | 10 | R | 5710 | 335 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 356 | 28 | 0 | 1 | |
| 15 | 1450 | 6470 | 127 | R | 10460 | 6 | R | 6210 | 320 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 345 | 22 | 0 | 1 | |
| 15 | 1510 | 6190 | 129 | R | 10500 | 7 | R | 5860 | 321 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 345 | 23 | 0 | 1 | |
| 15 | 1530 | 5900 | 130 | R | 10810 | 6 | R | 7500 | 315 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 345 | 23 | 0 | 1 | |
| 15 | 1550 | 5740 | 130 | R | 11000 | 3 | R | 8200 | 311 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 23 | 0 | 1 | |
| 15 | 1570 | 5480 | 131 | R | 11210 | 2 | R | 8970 | 308 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 23 | 0 | 1 | |
| 15 | 1530 | 4420 | 155 | R | 11775 | 353 | R | 10000 | 301 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 23 | 0 | 1 | |
| 15 | 1550 | 11015 | 150 | R | 9670 | 36 | R | 4000 | 301 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 24 | 0 | 1 | |
| | | | | | | | | | | | | | | | | | | | | 93 | 0 | 302 | 12 | 1 |

NOTE1*** TIME FIGURES IN 999 IN THE DROGUE OR DRAFT OBJECT BEARING IS A SPECIAL DATA.
 CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATIONS**
 1= RELATIVE WIND RECORDED IN DEGREES TRUE
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

***ABBREVIATIONS**

WDC= WIND DATA CODE
 CD1= CURRENT DROGUE 1
 CD2= CURRENT DROGUE 2
 MOW= MOW BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

| DAY | TIME(Z) | REFERENCE | CD-1 | 7-MAN | 18FT BOAT | 18FT BOAT | 30FT BOAT | CD-2 | M | REL. |
|-----|---------|-----------|-------------|------------|------------|-----------|-----------|-------|------|-----------------|
| | | RANGE | RANGE | RANGE | RANGE | RANGE | RANGE | RANGE | BOAT | WIND |
| | | BRG W | BRG W | BRG W | BRG W | BRG W | BRG W | BRG W | SPD | DIR |
| 17 | 150 | 0 | 10R25 205 R | 0 | 7450 300 R | 0 | 0 | 0 | 0 | 240 5 55 0 1 |
| 17 | 210 | 0 | 11200 207 R | 0 | 7500 298 R | 0 | 0 | 0 | 0 | 150 5 155 A 1 |
| 17 | 230 | 0 | 11450 212 R | 0 | 7450 301 R | 0 | 0 | 0 | 0 | 275 5 17 0 1 |
| 17 | 250 | 0 | 1190 209 R | 0 | 7350 306 R | 0 | 0 | 0 | 0 | 340 18 320 A 1 |
| 17 | 310 | 0 | 14600 182 R | 0 | 750 320 R | 0 | 0 | 0 | 0 | 310 19 323 10 1 |
| 17 | 330 | 0 | 15850 183 R | 0 | 200 134 V | 0 | 0 | 0 | 0 | 310 5 330 5 1 |
| 17 | 350 | 0 | 16750 186 R | 0 | 1050 139 R | 0 | 0 | 0 | 0 | 285 2 355 0 1 |
| 17 | 410 | 0 | 17200 186 R | 0 | 1400 135 R | 0 | 0 | 0 | 0 | 270 3 322 0 1 |
| 17 | 430 | 0 | 17475 186 R | 0 | 1450 132 R | 0 | 0 | 0 | 0 | 360 6 277 0 1 |
| 17 | 450 | 0 | 17600 184 R | 0 | 1800 135 R | 0 | 0 | 0 | 0 | 310 8 304 0 1 |
| 17 | 510 | 0 | 17850 184 R | 0 | 1900 133 R | 0 | 0 | 0 | 0 | 335 10 306 0 1 |
| 17 | 530 | 0 | 18200 186 R | 0 | 2100 135 R | 0 | 0 | 0 | 0 | 320 10 301 0 1 |
| 17 | 550 | 0 | 18350 193 R | 0 | 2250 142 R | 0 | 0 | 0 | 0 | 45 5 223 0 1 |
| 17 | 610 | 0 | 18450 196 R | 0 | 2400 144 R | 0 | 0 | 0 | 0 | 75 8 195 0 1 |
| 17 | 630 | 0 | 18700 195 R | 0 | 2550 145 R | 0 | 0 | 0 | 0 | 60 8 199 0 1 |
| 17 | 650 | 0 | 18900 198 R | 0 | 2600 145 R | 0 | 0 | 0 | 0 | 55 9 193 0 1 |
| 17 | 710 | 0 | 19050 197 R | 0 | 2950 143 R | 0 | 0 | 0 | 0 | 57 11 189 0 1 |
| 17 | 750 | 0 | 19300 201 R | 0 | 3100 148 R | 0 | 0 | 0 | 0 | 70 12 177 0 1 |
| 17 | 810 | 0 | 19650 201 R | 0 | 3500 154 R | 0 | 0 | 0 | 0 | 90 6 176 0 1 |
| 17 | 830 | 0 | 19750 203 R | 0 | 3900 152 R | 0 | 0 | 0 | 0 | 75 14 189 0 1 |
| 17 | 850 | 0 | 20100 199 R | 0 | 4200 153 R | 0 | 0 | 0 | 0 | 90 13 183 0 1 |
| 17 | 910 | 0 | 20750 205 R | 0 | 4350 153 R | 0 | 0 | 0 | 0 | 80 10 182 0 1 |
| 17 | 930 | 0 | 20200 200 R | 0 | 5000 153 R | 0 | 0 | 0 | 0 | 90 10 185 0 1 |
| 17 | 950 | 0 | 21000 207 R | 0 | 5350 160 R | 0 | 0 | 0 | 0 | 40 10 185 0 1 |
| 17 | 1110 | 0 | 21250 204 R | 0 | 5750 160 R | 0 | 0 | 0 | 0 | 120 13 140 6 1 |
| 17 | 1130 | 0 | 18550 218 R | 0 | 6150 160 R | 0 | 0 | 0 | 0 | 150 15 97 0 1 |
| 17 | 1150 | 0 | 17900 232 R | 0 | 950 155 R | 0 | 0 | 0 | 0 | 360 17 225 A 1 |
| 17 | 1170 | 0 | 17550 225 R | 0 | 750 142 R | 0 | 0 | 0 | 0 | 360 25 225 A 1 |
| 17 | 1190 | 0 | 1650 230 R | 0 | 250 55 R | 0 | 0 | 0 | 0 | 335 21 260 A 1 |
| 17 | 1210 | 0 | 16000 233 R | 0 | 50 343 V | 0 | 0 | 0 | 0 | 290 11 300 0 1 |
| 17 | 1230 | 0 | 14000 241 R | 0 | 250 55 V | 0 | 0 | 0 | 0 | 270 6 340 0 1 |
| 17 | 1250 | 0 | 5600 248 R | 0 | 175 22 V | 0 | 0 | 0 | 0 | 210 8 37 0 1 |
| 17 | 1310 | 0 | 1000 267 R | 0 | 0 | 0 | 0 | 0 | 0 | 240 12 340 0 1 |
| 17 | 1330 | 0 | 2350 99 R | 0 | 0 | 0 | 0 | 0 | 0 | 235 11 345 0 1 |
| 17 | 1350 | 0 | 2600 110 R | 0 | 300 120 V | 0 | 0 | 0 | 0 | 215 17 350 0 1 |
| 17 | 1410 | 0 | 1400 255 R | 2900 284 R | 2250 271 R | 0 | 0 | 0 | 0 | 235 18 345 0 1 |
| 17 | 1430 | 0 | 200 337 V | 2000 319 R | 850 316 R | 0 | 0 | 0 | 0 | 235 20 315 0 1 |
| 17 | 1450 | 0 | 800 255 R | 2150 304 R | 825 290 R | 0 | 0 | 0 | 0 | 230 14 325 0 1 |
| 17 | 1510 | 0 | 1850 221 R | 1900 282 R | 900 229 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1530 | 0 | 2300 217 R | 1800 273 R | 1000 198 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1550 | 0 | 2700 225 R | 2000 282 R | 1050 197 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1590 | 0 | 3300 225 R | 2100 285 R | 1050 191 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1610 | 0 | 3850 230 R | 2300 285 R | 950 184 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1630 | 0 | 0 999 | 2650 280 R | 1000 183 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1650 | 0 | 0 999 | 2500 280 R | 1000 184 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1710 | 0 | 5100 226 R | 2700 274 R | 1000 177 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |
| 17 | 1730 | 0 | 3550 224 R | 2500 346 R | 2500 66 R | 0 | 0 | 0 | 0 | 225 19 321 0 1 |

NOTE 1... CODE USED IN SOME PLACES BUT NOT IN ALL. WE HAVE A SEVERAL WEATHER DATA.

NOTE 2... WIND DATA CODE EXPLANATION...

- 1# RELATIVE WIND RECORDED IN DEGREES TRUE
- 2# QUESTIONABLE WIND DATA
- 3# NO WIND DATA RECORDED
- 4# WIND RECORDED IN DEGREES TRUE

NOTE 3... ABBREVIATIONS...

WDC = WIND DATA CODE
 CD1 = CURRENT DRAGUE 1
 CD2 = CURRENT DRAGUE 2
 M = HOW BEARINGS WERE OBTAINED
 ** RADAR
 ** VISUAL

56 OBSERVATIONS

POSAR 1/70 JUN 1

| DAY | TIME (Z) | REFERENCE | CD-1 | CD-2 | 7-MAN | LEFT BOAT | RIGHT BOAT | 30FT BOAT | REL. |
|-----|----------|-----------|------|------|-------|-----------|------------|-----------|----------------|
| | | RANGE | RNG | RNG | RNG | RNG | RNG | RNG | WIND |
| 15 | 1750 | 0 | 0 | 0 | 0 | 2900 | 134 | 0 | 355 37 |
| 15 | 1810 | 0 | 0 | 0 | 0 | 8400 | 140 | 0 | 0 0 0 1 |
| 15 | 1830 | 0 | 0 | 0 | 0 | 11400 | 147 | 0 | 0 0 0 1 |
| 15 | 1850 | 0 | 0 | 0 | 0 | 10450 | 139 | 0 | 0 0 0 1 |
| 15 | 1910 | 0 | 0 | 0 | 0 | 10450 | 142 | 0 | 0 0 0 1 |
| 15 | 1930 | 0 | 0 | 0 | 0 | 10400 | 142 | 0 | 0 0 0 1 |
| 15 | 1950 | 0 | 0 | 0 | 0 | 9950 | 142 | 0 | 0 0 0 1 |
| 15 | 2010 | 0 | 0 | 0 | 0 | 9150 | 119 | 0 | 180 20 170 0 1 |
| 15 | 2030 | 0 | 0 | 0 | 0 | 8450 | 125 | 0 | 150 16 190 0 1 |
| 15 | 2050 | 0 | 0 | 0 | 0 | 8650 | 130 | 0 | 340 27 350 0 1 |
| 15 | 2110 | 0 | 0 | 0 | 0 | 8750 | 130 | 0 | 240 20 95 0 1 |
| 15 | 2130 | 0 | 0 | 0 | 0 | 8900 | 130 | 0 | 240 17 95 0 1 |
| 15 | 2150 | 0 | 0 | 0 | 0 | 8850 | 128 | 0 | 240 17 135 6 1 |
| 15 | 2210 | 0 | 0 | 0 | 0 | 8450 | 129 | 0 | 150 17 180 0 1 |
| 15 | 2230 | 0 | 0 | 0 | 0 | 8450 | 129 | 0 | 178 17 180 0 1 |
| 15 | 2250 | 0 | 0 | 0 | 0 | 8200 | 125 | 0 | 60 17 250 0 1 |
| 15 | 2310 | 0 | 0 | 0 | 0 | 8450 | 130 | 0 | 90 14 245 0 1 |
| 15 | 2330 | 0 | 0 | 0 | 0 | 8750 | 134 | 0 | 85 20 255 0 1 |
| 15 | 2350 | 0 | 0 | 0 | 0 | 8550 | 137 | 0 | 240 20 70 8 1 |
| 16 | 10 | 0 | 0 | 0 | 0 | 8000 | 134 | 0 | 240 15 100 0 1 |
| 16 | 30 | 0 | 0 | 0 | 0 | 8500 | 185 | 0 | 70 14 248 0 1 |
| 16 | 50 | 0 | 0 | 0 | 0 | 8500 | 189 | 0 | 60 15 245 0 1 |
| 16 | 110 | 0 | 0 | 0 | 0 | 5500 | 178 | 0 | 330 25 354 1 |
| 16 | 130 | 0 | 0 | 0 | 0 | 5150 | 164 | 0 | 210 17 127 0 1 |
| 16 | 150 | 0 | 0 | 0 | 0 | 5050 | 164 | 0 | 230 22 103 0 1 |
| 16 | 170 | 0 | 0 | 0 | 0 | 6550 | 163 | 0 | 249 19 98 0 1 |
| 16 | 190 | 0 | 0 | 0 | 0 | 9500 | 168 | 0 | 240 20 102 0 1 |
| 16 | 210 | 0 | 0 | 0 | 0 | 9500 | 170 | 0 | 250 10 102 0 1 |
| 16 | 230 | 0 | 0 | 0 | 0 | 9800 | 170 | 0 | 247 19 104 0 1 |
| 16 | 250 | 0 | 0 | 0 | 0 | 9800 | 170 | 0 | 240 21 101 0 1 |
| 16 | 270 | 0 | 0 | 0 | 0 | 10050 | 166 | 0 | 235 19 97 0 1 |
| 16 | 290 | 0 | 0 | 0 | 0 | 10200 | 168 | 0 | 300 25 47 8 1 |
| 16 | 310 | 0 | 0 | 0 | 0 | 12400 | 179 | 0 | 275 8 76 0 1 |
| 16 | 330 | 0 | 0 | 0 | 0 | 15500 | 192 | 0 | 250 14 109 0 1 |
| 16 | 350 | 0 | 0 | 0 | 0 | 13750 | 192 | 0 | 240 18 105 0 1 |
| 16 | 370 | 0 | 0 | 0 | 0 | 16100 | 192 | 0 | 240 15 106 0 1 |
| 16 | 390 | 0 | 0 | 0 | 0 | 16100 | 192 | 0 | 250 17 100 0 1 |
| 16 | 410 | 0 | 0 | 0 | 0 | 16100 | 193 | 0 | 305 31 41 8 1 |
| 16 | 430 | 0 | 0 | 0 | 0 | 19850 | 199 | 0 | 310 27 35 8 1 |
| 16 | 450 | 0 | 0 | 0 | 0 | 20000 | 202 | 0 | 329 29 34 8 1 |
| 16 | 470 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 327 25 33 8 1 |
| 16 | 490 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 240 16 97 0 1 |
| 16 | 510 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 240 17 95 0 1 |
| 16 | 530 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 240 15 104 0 1 |
| 16 | 550 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 250 10 100 0 1 |
| 16 | 570 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 230 17 94 0 1 |
| 16 | 590 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 5 25 310 8 1 |
| 16 | 610 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 240 18 90 0 1 |
| 16 | 630 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 250 10 95 0 1 |
| 16 | 650 | 0 | 0 | 0 | 0 | 25000 | 214 | 0 | 360 20 |

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| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|------|------|-----|-----|-------|-----|---|-------|-----|---|--|--|--|--|--|--|--|--|--|--|-----|-----|-----|-----|----|---|
| 17 | 1750 | 2500 | 224 | A | 2950 | 9 | M | 4450 | 69 | M | | | | | | | | | | | 340 | 30 | 222 | 0 | 1 | |
| | | 0 | 0 | A | 6650 | 19 | M | 8050 | 50 | M | | | | | | | | | | | | 305 | 28 | 255 | 0 | 1 |
| | 1830 | 0 | 0 | 999 | 8050 | 27 | M | 9350 | 48 | M | | | | | | | | | | | | 20 | 29 | 160 | 0 | 1 |
| | 17 | 1850 | 0 | 0 | 4650 | 341 | M | 4750 | 39 | M | | | | | | | | | | | | 210 | 4 | 30 | 12 | 1 |
| | 17 | 1910 | 0 | 0 | 5500 | 236 | M | 2750 | 179 | M | | | | | | | | | | | | 160 | 9 | 30 | 10 | 1 |
| | 17 | 1930 | 0 | 0 | 6900 | 220 | M | 4950 | 180 | M | | | | | | | | | | | | 340 | 24 | 206 | 0 | 1 |
| | 17 | 1950 | 0 | 0 | 8900 | 235 | M | 4800 | 201 | M | | | | | | | | | | | | 25 | 20 | 152 | 0 | 1 |
| | 17 | 2010 | 0 | 0 | 3150 | 245 | M | 9150 | 237 | M | | | | | | | | | | | | 45 | 20 | 114 | 0 | 1 |
| | 17 | 2030 | 0 | 0 | 4150 | 240 | M | 9800 | 235 | M | | | | | | | | | | | | 45 | 20 | 111 | 0 | 1 |
| | 17 | 2110 | 0 | 0 | 4700 | 235 | M | 9800 | 235 | M | | | | | | | | | | | | 45 | 20 | 119 | 0 | 1 |
| | 17 | 2130 | 0 | 0 | 5600 | 228 | M | 10650 | 230 | M | | | | | | | | | | | | 90 | 20 | 107 | 0 | 1 |
| | 17 | 2150 | 0 | 0 | 6050 | 223 | M | 10650 | 230 | M | | | | | | | | | | | | 45 | 20 | 112 | 0 | 1 |
| | 17 | 2210 | 0 | 0 | 6750 | 223 | M | 10950 | 230 | M | | | | | | | | | | | | 45 | 20 | 112 | 0 | 1 |
| | 17 | 2230 | 0 | 0 | 7550 | 218 | M | 11200 | 227 | M | | | | | | | | | | | | 45 | 19 | 107 | 0 | 1 |
| | 17 | 2250 | 0 | 0 | 8450 | 218 | M | 11200 | 226 | M | | | | | | | | | | | | 80 | 21 | 115 | 0 | 1 |
| | 17 | 2310 | 0 | 0 | 8950 | 215 | M | 5300 | 169 | M | | | | | | | | | | | | 80 | 18 | 112 | 0 | 1 |
| | 17 | 2330 | 0 | 0 | 10050 | 215 | M | 5300 | 169 | M | | | | | | | | | | | | 80 | 18 | 112 | 0 | 1 |
| | 17 | 2350 | 0 | 0 | 10150 | 212 | M | 0 | 969 | M | | | | | | | | | | | | 90 | 25 | 115 | 0 | 1 |
| | | 10 | 0 | 0 | 7250 | 211 | M | 7600 | 223 | M | | | | | | | | | | | | 330 | 30 | 225 | 6 | 1 |
| | | 30 | 0 | 0 | 5300 | 211 | M | 5850 | 180 | M | | | | | | | | | | | | 340 | 30 | 225 | 6 | 1 |
| | | 50 | 0 | 0 | 6000 | 202 | M | 5850 | 223 | M | | | | | | | | | | | | 250 | 20 | 295 | 0 | 1 |
| | | 80 | 0 | 0 | 6000 | 202 | M | 7300 | 85 | M | | | | | | | | | | | | 240 | 20 | 315 | 0 | 1 |
| | 18 | 110 | 0 | 0 | 7350 | 205 | M | 4700 | 232 | M | | | | | | | | | | | | 240 | 21 | 314 | 0 | 1 |
| | 18 | 130 | 0 | 0 | 8050 | 205 | M | 4450 | 237 | M | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 |
| | 18 | 150 | 0 | 0 | 8050 | 205 | M | 4400 | 244 | M | | | | | | | | | | | | 235 | 26 | 327 | 0 | 1 |
| | 18 | 210 | 0 | 0 | 9250 | 208 | M | 3900 | 284 | M | | | | | | | | | | | | 245 | 24 | 315 | 0 | 1 |
| | 18 | 230 | 0 | 0 | 9850 | 208 | M | 3850 | 281 | M | | | | | | | | | | | | 230 | 24 | 317 | 0 | 1 |
| | 18 | 250 | 0 | 0 | 10500 | 211 | M | 3950 | 284 | M | | | | | | | | | | | | 230 | 23 | 322 | 0 | 1 |
| | | | 0 | 0 | 10500 | 210 | M | 4250 | 280 | M | | | | | | | | | | | | 235 | 22 | 315 | 0 | 1 |
| | 18 | 310 | 0 | 0 | 11300 | 209 | M | 4800 | 286 | M | | | | | | | | | | | | 240 | 30 | 310 | 0 | 1 |
| | 18 | 330 | 0 | 0 | 11975 | 210 | M | 5350 | 295 | M | | | | | | | | | | | | 230 | 25 | 313 | 0 | 1 |
| | 18 | 350 | 0 | 0 | 12750 | 212 | M | 6000 | 302 | M | | | | | | | | | | | | 235 | 26 | 315 | 0 | 1 |
| | 18 | 410 | 0 | 0 | 13300 | 215 | M | 6700 | 311 | M | | | | | | | | | | | | 245 | 28 | 320 | 0 | 1 |
| | 18 | 430 | 0 | 0 | 14050 | 214 | M | 7450 | 313 | M | | | | | | | | | | | | 240 | 25 | 314 | 0 | 1 |
| | 18 | 450 | 0 | 0 | 14750 | 214 | M | 8700 | 317 | M | | | | | | | | | | | | 235 | 29 | 312 | 0 | 1 |
| | 18 | 510 | 0 | 0 | 15650 | 219 | M | 9400 | 318 | M | | | | | | | | | | | | 240 | 30 | 310 | 0 | 1 |
| | 18 | 530 | 0 | 0 | 16700 | 219 | M | 10750 | 316 | M | | | | | | | | | | | | 240 | 29 | 309 | 0 | 1 |
| | 18 | 550 | 0 | 0 | 17450 | 218 | M | 10800 | 317 | M | | | | | | | | | | | | 235 | 29 | 306 | 0 | 1 |
| | 18 | 610 | 0 | 0 | 18550 | 220 | M | 11950 | 314 | M | | | | | | | | | | | | 230 | 34 | 304 | 0 | 1 |
| | 18 | 630 | 0 | 0 | 21550 | 220 | M | 11200 | 314 | M | | | | | | | | | | | | 135 | 24 | 40 | 0 | 1 |
| | 18 | 650 | 0 | 0 | 25000 | 215 | M | 11200 | 304 | M | | | | | | | | | | | | 240 | 28 | 308 | 0 | 1 |
| | 18 | 710 | 0 | 0 | 28700 | 216 | M | 11400 | 307 | M | | | | | | | | | | | | 285 | 26 | 315 | 0 | 1 |
| | 18 | 730 | 0 | 0 | 0 | 0 | | 0 | 0 | | | | | | | | | | | | | 95 | 23 | 175 | 0 | 1 |
| | 18 | 750 | 0 | 0 | 31650 | 220 | M | 0 | 0 | | | | | | | | | | | | | 75 | 24 | 114 | 0 | 1 |
| | 18 | 810 | 0 | 0 | 32250 | 220 | M | 0 | 0 | | | | | | | | | | | | | 50 | 27 | 100 | 0 | 1 |
| | 18 | 830 | 0 | 0 | 0 | 0 | | 0 | 0 | | | | | | | | | | | | | 50 | 28 | 290 | 10 | 2 |
| | 18 | 850 | 0 | 0 | 31200 | 204 | M | 0 | 0 | | | | | | | | | | | | | 275 | 22 | 290 | 0 | 1 |
| | 18 | 910 | 0 | 0 | 30650 | 194 | M | 0 | 0 | | | | | | | | | | | | | 270 | 14 | 266 | 0 | 1 |
| | 18 | 930 | 0 | 0 | 31750 | 196 | M | 0 | 0 | | | | | | | | | | | | | 40 | 38 | 132 | 0 | 1 |
| | 18 | 950 | 0 | 0 | 36250 | 195 | M | 0 | 0 | | | | | | | | | | | | | 240 | 30 | 270 | 0 | 1 |
| | 18 | 1010 | 0 | 0 | 36250 | 196 | M | 0 | 0 | | | | | | | | | | | | | 330 | 35 | 180 | 0 | 1 |
| | 18 | 1030 | 0 | 0 | 36650 | 200 | M | 0 | 0 | | | | | | | | | | | | | 280 | 25 | 10 | 0 | 1 |
| | 18 | 1050 | 0 | 0 | 35000 | 200 | M | 0 | 0 | | | | | | | | | | | | | 285 | 25 | 30 | 0 | 1 |

NOTE*** THE FIGURES 999 IN THE DIRECTION OF DRIFT OR DRIFT BEARING IS A SPECIAL
 CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**
 0 = RELATIVE WIND RECORDED IN DEGREES TRUE
 1 = RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2 = QUESTIONABLE WIND DATA
 3 = NO WIND DATA RECORDED
 4 = WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

WDC WIND DATA CODE
 C01 CURRENT DEGREE 1
 C02 CURRENT DEGREE 2
 H04E HOW BEARINGS WERE OBTAINED
 VE RADAR
 V VISUAL
 A ALONGSIDE

| DAY | TIME (Z) | REFERENCE | M | CD-1 | W | T-MAN | H | 15FT BOAT | M | H | 30FT BOAT | M | H | CO-2 | H | REL. | EUN 1 | |
|-----|----------|-----------|------|------|---|-------|---|-----------|---|---|-----------|---|---|------|---|------|-------|-----|
| | | | | | | | | | | | | | | | | | RANGE | BPG |
| 6 | 30 | 9750 | 15 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 50 | 1000 | 14 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 110 | 9900 | 14 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 130 | 9300 | 15 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 150 | 9100 | 16 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 210 | 10600 | 14 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 230 | 10500 | 14 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 250 | 12200 | 11 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 310 | 11200 | 5 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 330 | 11300 | 5 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 350 | 12400 | 11 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 410 | 12700 | 11 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 430 | 12700 | 11 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 450 | 12600 | 11 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 510 | 13200 | 9 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 530 | 13700 | 12 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 550 | 13750 | 12 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 610 | 14500 | 12 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 630 | 14400 | 14 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 650 | 15100 | 17 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 710 | 14750 | 17 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 730 | 15200 | 16 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 750 | 15800 | 19 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 810 | 16300 | 21 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 830 | 16300 | 25 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 850 | 15700 | 22 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 910 | 16600 | 22 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 930 | 16800 | 27 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 950 | 16500 | 30 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1010 | 16800 | 31 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1030 | 16800 | 31 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1030 | 16800 | 31 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1110 | 17650 | 39 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1130 | 17650 | 39 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1150 | 17600 | 35 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1210 | 17600 | 35 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1230 | 18050 | 37 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1250 | 18250 | 41 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1310 | 17600 | 39 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1330 | 17550 | 41 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1350 | 17400 | 47 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1410 | 17600 | 47 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1430 | 16550 | 54 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1450 | 17850 | 54 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1510 | 16200 | 59 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

(continued)

| | | | | | | | | | | | | | | | | | | | | | |
|---|------|-------|----|-------|-----|---|---|---|---|------|-----|---|---|-----|----|-----|---|---|---|---|---|
| 6 | 1588 | 1698 | 65 | 4787 | 175 | 0 | 0 | 0 | 0 | 9151 | 110 | 0 | 0 | 188 | 15 | 234 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1589 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 195 | 15 | 234 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1590 | 1600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 195 | 14 | 56 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1600 | 1600 | 71 | 2755 | 184 | 0 | 0 | 0 | 0 | 2048 | 104 | 0 | 0 | 124 | 17 | 11 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1650 | 0 | 0 | 2790 | 265 | 0 | 0 | 0 | 0 | 1314 | 234 | 0 | 0 | 195 | 90 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1710 | 1528 | 75 | 3425 | 284 | 0 | 0 | 0 | 0 | 1645 | 236 | 0 | 0 | 198 | 86 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1730 | 1510 | 77 | 3790 | 284 | 0 | 0 | 0 | 0 | 173 | 236 | 0 | 0 | 197 | 90 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1750 | 1360 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 2845 | 243 | 0 | 0 | 180 | 13 | 28 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1800 | 1500 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 1825 | 236 | 0 | 0 | 110 | 13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 1930 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1825 | 194 | 0 | 0 | 150 | 17 | 77 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2010 | 1080 | 92 | 0 | 0 | 0 | 0 | 0 | 0 | 220 | 311 | 0 | 0 | 245 | 13 | 182 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2030 | 0 | 0 | 5020 | 272 | 0 | 0 | 0 | 0 | 2110 | 264 | 0 | 0 | 245 | 10 | 259 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2112 | 1640 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 12 | 114 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 195 | 9 | 208 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 195 | 9 | 208 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2270 | 1480 | 71 | 6980 | 282 | 0 | 0 | 0 | 0 | 308 | 17 | 0 | 0 | 19 | 10 | 29 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2300 | 1460 | 77 | 6010 | 274 | 0 | 0 | 0 | 0 | 104 | 16 | 0 | 0 | 23 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2310 | 1460 | 75 | 6260 | 271 | 0 | 0 | 0 | 0 | 275 | 12 | 0 | 0 | 23 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2370 | 1460 | 82 | 6575 | 281 | 0 | 0 | 0 | 0 | 335 | 79 | 0 | 0 | 235 | 6 | 74 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2380 | 1460 | 78 | 7200 | 281 | 0 | 0 | 0 | 0 | 124 | 13 | 0 | 0 | 157 | 4 | 74 | 0 | 0 | 0 | 0 | 0 |
| 6 | 2390 | 1460 | 78 | 7430 | 271 | 0 | 0 | 0 | 0 | 33 | 5 | 0 | 0 | 17 | 4 | 74 | 0 | 0 | 0 | 0 | 0 |
| 7 | 240 | 13752 | 61 | 9490 | 271 | 0 | 0 | 0 | 0 | 460 | 730 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 241 | 13752 | 61 | 9600 | 262 | 0 | 0 | 0 | 0 | 513 | 740 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 242 | 14300 | 59 | 4700 | 266 | 0 | 0 | 0 | 0 | 610 | 41 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 243 | 14900 | 61 | 4800 | 266 | 0 | 0 | 0 | 0 | 610 | 41 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 244 | 14900 | 60 | 4700 | 267 | 0 | 0 | 0 | 0 | 610 | 41 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 245 | 14700 | 61 | 4900 | 264 | 0 | 0 | 0 | 0 | 610 | 41 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 246 | 14650 | 63 | 4400 | 265 | 0 | 0 | 0 | 0 | 610 | 41 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 247 | 14650 | 63 | 4900 | 265 | 0 | 0 | 0 | 0 | 610 | 41 | 0 | 0 | 33 | 4 | 257 | 0 | 0 | 0 | 0 | 0 |
| 7 | 248 | 14700 | 66 | 10200 | 264 | 0 | 0 | 0 | 0 | 400 | 347 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 249 | 14700 | 66 | 10200 | 264 | 0 | 0 | 0 | 0 | 400 | 347 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 250 | 14650 | 68 | 10300 | 264 | 0 | 0 | 0 | 0 | 400 | 347 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 251 | 14650 | 68 | 10300 | 264 | 0 | 0 | 0 | 0 | 400 | 347 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 252 | 15000 | 59 | 10500 | 264 | 0 | 0 | 0 | 0 | 360 | 350 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 253 | 15000 | 59 | 10500 | 267 | 0 | 0 | 0 | 0 | 360 | 350 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 254 | 15000 | 58 | 10400 | 267 | 0 | 0 | 0 | 0 | 360 | 350 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 255 | 15000 | 58 | 10400 | 267 | 0 | 0 | 0 | 0 | 360 | 350 | 0 | 0 | 27 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 7 | 256 | 15350 | 61 | 11400 | 266 | 0 | 0 | 0 | 0 | 290 | 357 | 0 | 0 | 37 | 7 | 3 | 0 | 0 | 0 | 0 | 0 |
| 7 | 257 | 15350 | 61 | 11400 | 266 | 0 | 0 | 0 | 0 | 290 | 357 | 0 | 0 | 37 | 7 | 3 | 0 | 0 | 0 | 0 | 0 |
| 7 | 258 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 259 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 260 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 261 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 262 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 263 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 264 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 265 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 266 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 267 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 268 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 269 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 270 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 271 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 272 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 273 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 274 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 275 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 276 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 277 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 278 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 279 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 280 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 281 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 282 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 283 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 284 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 285 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 286 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 287 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 288 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 289 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 290 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 291 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 292 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 293 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 294 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 295 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 296 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 297 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 298 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 299 | 13600 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 344 | 0 | 0 | 27 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 7 | 300 | 13600 | 62 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | |

NOTE*** THE FIGURES 899 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL
 *0FE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE**** WIND DATA CODE EXPLANATIONS**

- 0= RELATIVE WIND RECORDED IN DEGREES TRUE
- 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
- 2= QUESTIONABLE WIND DATA
- 3= NO WIND DATA RECORDED
- A= WIND RECORDED IN DEGREE TRUE

- WOC= WIND DATA CODE
- CO1= CURRENT DROGUE 1
- CO2= CURRENT DROGUE 2
- HOM= HOB BEARINGS WERE OBTAINED
- %= PAUAR
- V= VISUAL
- A= ALONGSIDE

ABBREVIATIONS

| DAY | TIME(UT) | REFERENCE RANGE DEG M | H | CD-1 RANGE DEG M | H | T-MAN DRIFT RANGE DEG M | H | 16FT 804T RANGE DEG M | H | 19FT 304T RANGE DEG M | H | 30FT 904T RANGE DEG M | H | CD-2 RANGE DEG M | H | REL. WIND DIR SPC CRS SPD C | W | |
|-----|----------|--------------------------|---|---------------------|---|-------------------------------|---|--------------------------|---|--------------------------|---|--------------------------|---|---------------------|---|-----------------------------------|----------|---|
| 7 | 187F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 337 26 | 35 0 1 | |
| 7 | 185C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91 28 | 248 6 1 | |
| 7 | 181C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 128 26 | 242 4 1 | |
| 7 | 181C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 254 18 | 244 2 1 | |
| 7 | 171F | 0 | 0 | 0 | 0 | 120FC 330 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 288 15 | 151 0 1 | |
| 7 | 173C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 198 12 | 151 6 1 | |
| 7 | 175F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 358 25 | 151 0 1 | |
| 7 | 181C | 0 | 0 | 0 | 0 | 1550R 346 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 295 12 | 98 1 1 | |
| 7 | 187F | 0 | 0 | 0 | 0 | 160FC 329 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 128 7 | 188 1 1 | |
| 7 | 185F | 0 | 0 | 0 | 0 | 1950C 322 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 158 18 | 188 1 1 | |
| 7 | 191F | 0 | 0 | 0 | 0 | 251FC 328 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 24 | 276 18 1 | |
| 7 | 193C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 27 | 34 18 1 | |
| 7 | 195R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 388 0 | 238 0 1 | |
| 7 | 203R | 0 | 0 | 0 | 0 | 1460R 315 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 188 18 | 256 0 1 | |
| 7 | 205C | 0 | 0 | 0 | 0 | 1650R 315 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 14 | 278 0 1 | |
| 7 | 211C | 0 | 0 | 0 | 0 | 1130R 308 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 146 18 | 228 0 1 | |
| 7 | 213F | 0 | 0 | 0 | 0 | 1140C 318 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 288 16 | 172 0 1 | |
| 7 | 215F | 0 | 0 | 0 | 0 | 1086C 325 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 26 | 335 18 1 | |
| 7 | 221F | 0 | 0 | 0 | 0 | 4150 337 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 28 | 342 18 1 | |
| 7 | 223C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 164 16 | 213 6 1 | |
| 7 | 228F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

72 OBSERVATIONS

| DAY | TIME(UT) | REFERENCE RANGE DEG M | H | CD-1 RANGE DEG M | H | T-MAN DRIFT RANGE DEG M | H | 16FT 804T RANGE DEG M | H | 19FT 304T RANGE DEG M | H | 30FT 904T RANGE DEG M | H | CD-2 RANGE DEG M | H | REL. WIND DIR SPC CRS SPD C | W | |
|-----|----------|--------------------------|-------|---------------------|-------|-------------------------------|-------|--------------------------|-------|--------------------------|---|--------------------------|---|---------------------|---|-----------------------------------|---------|---|
| 8 | 187F | 200C3 | 132 R | 440C | 5 R | 767F | 10 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 150 7 | 231 0 1 | |
| 8 | 182C | 200C3 | 132 R | 440C | 5 R | 820C | 16 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 168 0 | 194 0 1 | |
| 8 | 184F | 194F8 | 134 R | 440C | 5 R | 810C | 16 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 194 18 | 157 0 1 | |
| 8 | 186C | 194F8 | 134 R | 465F | 6 R | 750C | 23 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 368 18 | 65 0 1 | |
| 8 | 182C | 194F8 | 134 R | 0 | 0 | 490R | 17R R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 334 12 | 5 0 1 | |
| 8 | 184C | 194F8 | 134 R | 0 | 0 | 530C | 31R R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 154 18 | 218 0 1 | |
| 8 | 187R | 164F8 | 144 R | 675C | 325 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 244 4 | 155 0 1 | |
| 8 | 185R | 152F8 | 145 R | 750C | 315 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 17 | 35 0 1 | |
| 8 | 171F | 172R3 | 151 R | 528R | 311 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 14 | 335 0 1 | |
| 8 | 175F | 152F8 | 147 R | 545C | 310 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 18 | 232 0 1 | |
| 8 | 180C | 159R8 | 149 R | 575C | 313 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 86 18 | 233 0 1 | |
| 8 | 181R | 159R8 | 149 R | 545C | 323 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83 18 | 273 0 1 | |
| 8 | 187C | 159R8 | 149 R | 594C | 325 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 11 | 243 0 1 | |
| 8 | 180C | 159R8 | 149 R | 0 | 0 | 415C | 99 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 16 | 324 0 1 | |
| 8 | 181F | 179R8 | 148 R | 1565C | 325 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 12 | 263 0 1 | |
| 8 | 183C | 198R8 | 149 R | 190C | 61 R | 775C | 120 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 298 4 | 32 0 1 | |
| 8 | 215R | 179R8 | 135 R | 110C | 33 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 12 | 2 0 1 | |
| 8 | 221F | 128R8 | 117 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 216R | 112R8 | 105 R | 574C | 323 R | 232C | 328 R | 1825 | 163 R | 0 | 0 | 0 | 0 | 0 | 0 | 256 7 | 132 0 1 | |
| 8 | 217C | 111R8 | 97 R | 773R | 321 R | 3425 | 322 R | 1510 | 177 R | 0 | 0 | 0 | 0 | 0 | 0 | 287 7 | 288 0 1 | |
| 8 | 215C | 112R3 | 91 R | 823F | 322 R | 365F | 331 R | 1825 | 284 R | 0 | 0 | 0 | 0 | 0 | 0 | 290 3 | 118 0 1 | |

RUN 2

RUN 2

(continued)

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------|----|---|-------|-----|---|------|-----|---|------|-----|---|---|---|---|---|---|---|---|---|-----|----|-----|----|---|
| 9 | 10810 | 87 | R | 9570 | 324 | P | 415 | 325 | F | 1315 | 229 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 185 | 4 | 111 | 3 | 3 |
| 9 | 11203 | 84 | P | 9090 | 322 | C | 442 | 325 | C | 1310 | 273 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 274 | 0 | 1 |
| 9 | 11503 | 79 | D | 9050 | 313 | C | 504 | 332 | C | 1160 | 332 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 7 | 24 | 0 | 1 |
| 0 | 12201 | 76 | R | 9700 | 313 | C | 536 | 334 | R | 1421 | 283 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 175 | 4 | 259 | 0 | 1 |
| 0 | 12551 | 76 | R | 10300 | 333 | P | 5450 | 333 | P | 1645 | 283 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145 | 7 | 259 | 0 | 1 |
| 0 | 13300 | 78 | K | 9400 | 344 | R | 4700 | 344 | R | 520 | 284 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95 | 7 | 272 | 0 | 1 |
| 0 | 16001 | 83 | C | 7351 | 17 | D | 2565 | 34 | R | 2565 | 139 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 3 | 56 | 0 | 1 |
| 0 | 17250 | 83 | R | 5475 | 34 | R | 2575 | 34 | R | 3335 | 154 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 335 | 3 | 56 | 0 | 1 |
| 0 | 17153 | 83 | D | 5475 | 19 | C | 2035 | 24 | C | 2251 | 154 | D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 274 | 2 | 132 | 0 | 1 |
| 0 | 17153 | 82 | D | 5445 | 15 | C | 2040 | 18 | P | 2054 | 154 | D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 3 | 135 | 0 | 1 |
| 0 | 17801 | 81 | E | 6530 | 12 | D | 2255 | 14 | D | 2744 | 165 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 295 | 7 | 135 | 0 | 1 |
| 0 | 17750 | 81 | E | 6530 | 12 | D | 2255 | 14 | D | 2671 | 168 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 2 | 95 | 0 | 1 |
| 0 | 17750 | 80 | K | 6530 | 3 | D | 2370 | 3 | C | 2455 | 182 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 285 | 2 | 111 | 0 | 1 |
| 0 | 18111 | 77 | E | 5670 | 14 | D | 2401 | 1 | D | 2341 | 191 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 285 | 2 | 92 | 0 | 1 |
| 0 | 18211 | 76 | R | 5670 | 356 | F | 2551 | 359 | R | 2341 | 197 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 268 | 2 | 92 | 0 | 1 |
| 0 | 18351 | 77 | R | 5741 | 356 | D | 2665 | 356 | F | 2315 | 200 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 262 | 3 | 36 | 0 | 1 |
| 0 | 18503 | 75 | R | 7150 | 353 | R | 2742 | 356 | K | 2300 | 205 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 284 | 3 | 139 | 0 | 1 |
| 0 | 18203 | 76 | K | 7340 | 352 | K | 2675 | 352 | K | 2360 | 209 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 274 | 2 | 36 | 0 | 1 |
| 0 | 19600 | 79 | C | 5455 | 22 | D | 3650 | 352 | F | 2500 | 214 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | 10 | 44 | 0 | 1 |
| 0 | 19703 | 80 | C | 5405 | 5 | D | 1775 | 19 | F | 3630 | 183 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 3 | 38 | 0 | 1 |
| 0 | 19603 | 80 | R | 5445 | 2 | R | 2025 | 12 | P | 4035 | 191 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 285 | 3 | 92 | 0 | 1 |
| 0 | 19703 | 79 | R | 5600 | 354 | R | 2110 | 2 | P | 4065 | 191 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 285 | 3 | 92 | 0 | 1 |
| 0 | 20003 | 76 | R | 5900 | 357 | D | 2370 | 1 | K | 4001 | 192 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 4 | 95 | 0 | 1 |
| 0 | 19603 | 76 | R | 5900 | 355 | D | 2535 | 359 | R | 4001 | 192 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 320 | 3 | 96 | 0 | 1 |
| 0 | 19003 | 77 | R | 7090 | 354 | R | 2421 | 357 | F | 4075 | 190 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 4 | 95 | 0 | 1 |
| 0 | 20003 | 73 | D | 7500 | 357 | D | 2900 | 359 | R | 4015 | 191 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 4 | 95 | 0 | 1 |
| 0 | 19901 | 72 | D | 7500 | 357 | D | 3350 | 350 | F | 3950 | 189 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 281 | 2 | 114 | 0 | 1 |
| 0 | 20300 | 71 | R | 8150 | 354 | R | 3450 | 354 | R | 3850 | 189 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 320 | 2 | 93 | 0 | 1 |
| 0 | 20453 | 71 | R | 8271 | 356 | R | 3450 | 354 | R | 3951 | 187 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 2 | 97 | 0 | 1 |
| 0 | 20370 | 67 | D | 8300 | 350 | D | 3460 | 360 | R | 3951 | 187 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 280 | 5 | 100 | 0 | 1 |
| 0 | 20353 | 70 | D | 8300 | 350 | D | 3740 | 359 | G | 3950 | 186 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 12 | 17 | 0 | 1 |
| 0 | 20353 | 74 | D | 6800 | 351 | D | 3740 | 359 | G | 3950 | 186 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 5 | 25 | 0 | 1 |
| 0 | 20451 | 76 | D | 6950 | 352 | R | 0 | 0 | A | 7650 | 180 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 3 | 177 | 0 | 3 |
| 0 | 20513 | 76 | C | 7140 | 341 | R | 0 | 0 | A | 7600 | 184 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 | 5 | 135 | 0 | 1 |
| 0 | 19653 | 76 | C | 7340 | 341 | R | 0 | 0 | A | 7110 | 192 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 210 | 5 | 135 | 0 | 1 |
| 0 | 19670 | 72 | D | 1500 | 290 | F | 1500 | 290 | F | 7400 | 178 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 210 | 5 | 175 | 0 | 1 |
| 0 | 19703 | 72 | D | 1675 | 268 | F | 1675 | 268 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 330 | 7 | 45 | 0 | 1 |
| 0 | 19703 | 73 | D | 1970 | 282 | D | 1970 | 282 | D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 260 | 4 | 135 | 0 | 1 |
| 0 | 20101 | 71 | D | 2390 | 299 | D | 2390 | 299 | D | 7245 | 194 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 210 | 2 | 200 | 0 | 1 |
| 0 | 14500 | 73 | D | 2750 | 304 | P | 2750 | 304 | P | 7135 | 195 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 230 | 5 | 175 | 0 | 1 |
| 0 | 15100 | 63 | E | 3385 | 309 | R | 3385 | 309 | R | 6740 | 193 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 223 | 3 | 193 | 0 | 1 |
| 0 | 18300 | 62 | D | 2673 | 300 | R | 2673 | 300 | R | 7410 | 198 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 | 0 | 184 | 0 | 1 |
| 0 | 15400 | 65 | D | 2540 | 293 | K | 2540 | 293 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 | 0 | 211 | 0 | 1 |
| 0 | 16100 | 63 | D | 2810 | 314 | F | 2810 | 314 | F | 6700 | 184 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 130 | 0 | 217 | 0 | 1 |
| 0 | 16300 | 63 | D | 5480 | 337 | D | 5480 | 337 | D | 1900 | 190 | C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 5 | 245 | 0 | 1 |
| 0 | 17100 | 51 | R | 8850 | 353 | R | 8850 | 353 | R | 540 | 256 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 1 | 117 | 0 | 1 |
| 0 | 17300 | 49 | D | 8050 | 247 | R | 8050 | 247 | R | 1450 | 283 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 0 | 175 | 0 | 1 |
| 0 | 17500 | 57 | D | 5120 | 350 | D | 5120 | 350 | D | 3935 | 179 | D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 15 | 352 | 10 | 1 |

87 OBSERVATIONS

ROSARP 5/70

RUN 3

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------|-------|-----|-------|------|----|------|-----|---|---|---|---|---|---|---|---|---|---|---|---|-----|----|-----|----|---|
| 9 | 1810 | 1 | 0 | 11000 | 21 | F | 4600 | 170 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 32 | 10 | 1 |
| 9 | 1820 | 21907 | 93 | D | 700 | 49 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 22 | 0 | 1 |
| 9 | 1910 | 22103 | 92 | D | 1320 | 36 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110 | 1 | 26 | 0 | 1 |
| 9 | 1920 | 22400 | 171 | D | 1995 | 34 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 2 | 275 | 0 | 1 |

(continued)

Table with columns for date (12-14), time (1400-2300), and various numerical data points. Includes sub-headers like 'OBSERVATIONS' and 'EMCAPR 9/77'.

Table with columns for date (13-14), time (1400-2300), and various numerical data points. Includes sub-headers like 'OBSERVATIONS' and 'EMCAPR 9/77'.

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATIONS**

- 1= RELATIVE WIND RECORDED IN DEGREES TRUE
- 2= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
- 3= OUP STATIONABLE WIND DATA
- 4= NO WIND DATA RECORDED
- 5= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

- MDC= WIND DATA CODE
- CD1= CURRENT DROGUE 1
- CD2= CURRENT DROGUE 2
- MON= MOM BEARINGS WERE OBTAINED
- C= RADAR
- V= VISUAL
- A= ALONGSIDE

| DAY | TIME(Z) | REFERENCE | M | CC-1 | M | 7-MAN | M | 16FT BOAT | M | 18FT ROAT | M | 30FT BOAT | M | CO-2 | M | REL. | | |
|-----|---------|-----------|-----|------|-------|-------|---|-----------|-----|-----------|-------|-----------|---|-------|-----|------|-----|---|
| | | RANGE | BRG | W | RANGE | BRG | W | RANGE | BRG | W | RANGE | BRG | W | RANGE | BRG | DIR | SPD | |
| 13 | 740 | 8950 | 314 | R | 1740 | 247 | R | 6300 | 232 | R | 10400 | 233 | P | 12053 | 229 | R | 0 | 0 |
| 13 | 800 | 9150 | 315 | P | 1900 | 248 | R | 6750 | 233 | R | 11350 | 233 | F | 12750 | 235 | K | 0 | 0 |
| 13 | 820 | 9300 | 317 | P | 11250 | 248 | P | 9200 | 232 | R | 12150 | 230 | F | 13350 | 232 | R | 0 | 0 |
| 13 | 840 | 9250 | 316 | P | 11500 | 248 | P | 9850 | 232 | F | 12900 | 229 | F | 13950 | 233 | R | 0 | 0 |
| 13 | 900 | 9300 | 315 | P | 11850 | 248 | R | 10450 | 230 | F | 12550 | 227 | R | 14400 | 233 | K | 0 | 0 |
| 13 | 920 | 9300 | 317 | R | 12150 | 248 | P | 11500 | 229 | R | 14200 | 225 | R | 15000 | 229 | K | 0 | 0 |
| 13 | 1800 | 9700 | 338 | R | 9700 | 234 | R | 11300 | 229 | R | 14750 | 225 | R | 15400 | 228 | K | 0 | 0 |
| 13 | 1820 | 9850 | 17 | R | 4500 | 211 | R | 7200 | 174 | R | 11750 | 174 | R | 12250 | 185 | R | 0 | 0 |
| 13 | 1840 | 9850 | 21 | R | 4200 | 211 | R | 7450 | 172 | K | 11850 | 170 | R | 11200 | 184 | R | 0 | 0 |
| 13 | 1860 | 10400 | 21 | R | 3650 | 204 | R | 7650 | 165 | R | 11950 | 165 | R | 11250 | 179 | K | 0 | 0 |
| 13 | 1120 | 11250 | 28 | P | 7150 | 200 | F | 7700 | 160 | R | 12100 | 160 | R | 11300 | 178 | R | 0 | 0 |
| 13 | 1140 | 11500 | 28 | P | 3000 | 197 | P | 8300 | 155 | P | 12250 | 156 | P | 11900 | 174 | R | 0 | 0 |
| 13 | 1200 | 12800 | 27 | P | 2500 | 191 | P | 8300 | 152 | R | 2700 | 167 | F | 10600 | 164 | R | 0 | 0 |
| 13 | 1220 | 14500 | 23 | P | 500 | 164 | P | 6900 | 137 | F | 25650 | 155 | F | 8950 | 156 | P | 0 | 0 |
| 13 | 1240 | 20350 | 14 | P | 4300 | 354 | P | 3550 | 69 | F | 2350 | 132 | R | 7300 | 137 | R | 0 | 0 |

52 OBSERVATIONS

EVSARE 9/77

FUN 4

| | | | | | | | | | | | | | | | | | | |
|----|------|-------|-----|---|-------|-----|---|-------|-----|---|---|---|---|---|---|---|---|---|
| 13 | 1030 | 5200 | 231 | P | 1780 | 194 | R | 8250 | 294 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1040 | 6050 | 234 | P | 1720 | 194 | R | 8450 | 291 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1900 | 5650 | 237 | R | 16000 | 193 | R | 8550 | 291 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1920 | 5350 | 238 | R | 15200 | 192 | R | 8650 | 291 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1940 | 5150 | 245 | R | 14400 | 191 | R | 8650 | 300 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2000 | 4650 | 247 | R | 13600 | 188 | P | 8550 | 304 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2020 | 4400 | 247 | R | 12750 | 184 | R | 8150 | 302 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2040 | 4250 | 248 | P | 11700 | 174 | F | 7600 | 291 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2100 | 4600 | 250 | F | 11200 | 172 | P | 7600 | 294 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2120 | 4170 | 252 | P | 10450 | 168 | P | 8050 | 292 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2140 | 4200 | 259 | P | 9900 | 162 | R | 8650 | 290 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2200 | 4600 | 265 | P | 9050 | 155 | R | 9500 | 290 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2220 | 4950 | 270 | R | 8300 | 147 | R | 10100 | 287 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2240 | 5600 | 272 | P | 7900 | 137 | P | 10900 | 285 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2300 | 6650 | 279 | P | 7600 | 126 | P | 11750 | 284 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2320 | 7000 | 280 | P | 7300 | 115 | P | 12750 | 287 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2340 | 11300 | 183 | R | 1900 | 95 | P | 13550 | 280 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2400 | 12300 | 273 | R | 0 | 0 | 0 | 17200 | 270 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 220 | 6570 | 280 | R | 0 | 0 | 0 | 11850 | 274 | K | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 240 | 3800 | 358 | R | 0 | 0 | 0 | 4200 | 295 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 300 | 9850 | 45 | R | 0 | 0 | 0 | 4200 | 280 | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 320 | 13900 | 63 | R | 0 | 0 | 0 | 9450 | 65 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 400 | 15100 | 61 | P | 0 | 0 | 0 | 9900 | 71 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 420 | 11050 | 44 | P | 5550 | 278 | P | 5100 | 45 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 440 | 10750 | 48 | P | 5700 | 278 | P | 4550 | 41 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 500 | 10750 | 37 | R | 5200 | 240 | R | 4410 | 41 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 520 | 13650 | 36 | P | 6150 | 281 | K | 4050 | 35 | F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

125 OBSERVATIONS FVSBAP 9770 JUN 54

| | | | | | | | | | | | | | | | | | | |
|----|-----|------|------|-----|-------|-----|-------|-----|-------|---|---|---|---|-----|----|----|---|---|
| 14 | 441 | 1425 | 03 P | 460 | 176 P | 410 | 145 P | 740 | 125 R | 0 | 0 | 0 | 0 | 315 | 10 | 94 | 0 | 1 |
| 15 | 571 | 1370 | 02 P | 445 | 164 P | 440 | 176 P | 495 | 126 R | 0 | 0 | 0 | 0 | 330 | 10 | 54 | 0 | 1 |

NOTE*** THE FIGURES 909 IN THE DEGREE OF DRIFT OR DFT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**

- 0= RELATIVE WIND SENSORED IN DEGREE TRUE
- 1= RELATIVE WIND SENSORED RELATIVE TO SHIP HEAD
- 2= QUESTIONABLE WIND DATA
- 3= NO WIND DATA RECORDED
- 4= WIND RECORDED IN DEGREE TRUE

ABBREVIATIONS

- MCE= WIND DATA CODE
- CD= CURRENT DRUGUE 1
- CD2= CURRENT DRUGUE 2
- HMC= HOW BEARINGS WERE OBTAINED
- **= RADAR
- V= VISUAL
- A= ALONGSIDE

| DAY | TIME(Z) | REFERENCE | DRG M | CD-1 | DRG M | 7-MAN | DRG M | LEFT | DRG M | RIGHT | DRG M | CD-2 | DRG M | DIR | SPD | SPD | REL. | |
|-----|---------|-----------|-------|------|-------|-------|-------|------|-------|-------|-------|------|-------|-----|-----|-----|------|---|
| 15 | 520 | 12953 | 03 P | 3950 | 165 P | 4550 | 139 F | 435F | 200 F | 6510 | 127 F | 0 | 0 | 94 | 0 | 281 | 0 | 1 |
| 15 | 540 | 13470 | 04 P | 3850 | 150 P | 4400 | 132 P | 465F | 197 F | 6410 | 124 P | 0 | 0 | 94 | 0 | 305 | 0 | 1 |
| 15 | 560 | 13270 | 01 P | 3600 | 151 P | 4450 | 122 F | 445C | 200 F | 6450 | 117 R | 0 | 0 | 295 | 0 | 111 | 0 | 1 |
| 15 | 620 | 13150 | 05 P | 3500 | 151 Q | 4250 | 120 P | 465C | 200 F | 6810 | 117 R | 0 | 0 | 265 | 0 | 117 | 0 | 1 |
| 15 | 640 | 12800 | 06 P | 3500 | 140 P | 4700 | 118 F | 5150 | 211 F | 6550 | 118 R | 0 | 0 | 15 | 14 | 292 | 0 | 1 |
| 15 | 700 | 12650 | 07 P | 3250 | 150 P | 4700 | 118 F | 5400 | 210 P | 6350 | 118 R | 0 | 0 | 15 | 14 | 292 | 0 | 1 |
| 15 | 720 | 12400 | 08 P | 3450 | 148 P | 4300 | 115 F | 6050 | 219 P | 6900 | 115 R | 0 | 0 | 15 | 14 | 292 | 0 | 1 |
| 15 | 740 | 12000 | 09 P | 3700 | 145 P | 4650 | 113 F | 6400 | 210 P | 6800 | 115 R | 0 | 0 | 120 | 0 | 371 | 0 | 1 |
| 15 | 760 | 12950 | 09 P | 3700 | 140 P | 4650 | 113 F | 6400 | 210 P | 6800 | 115 R | 0 | 0 | 120 | 0 | 371 | 0 | 1 |
| 15 | 800 | 13300 | 01 P | 3400 | 130 P | 4950 | 116 P | 6850 | 210 P | 7300 | 115 R | 0 | 0 | 95 | 0 | 270 | 0 | 1 |
| 15 | 840 | 13600 | 02 P | 4100 | 138 P | 5200 | 102 P | 6600 | 215 R | 7500 | 117 R | 0 | 0 | 130 | 0 | 275 | 0 | 1 |
| 15 | 880 | 13800 | 04 P | 4300 | 124 Q | 5600 | 102 P | 6600 | 215 R | 7500 | 117 R | 0 | 0 | 130 | 0 | 275 | 0 | 1 |
| 15 | 920 | 14200 | 05 P | 4700 | 118 Q | 6100 | 101 P | 6700 | 203 R | 8100 | 105 P | 0 | 0 | 130 | 0 | 275 | 0 | 1 |
| 15 | 1000 | 14800 | 07 P | 5150 | 112 Q | 6500 | 098 R | 6750 | 202 R | 8500 | 103 R | 0 | 0 | 165 | 0 | 252 | 0 | 1 |
| 15 | 1020 | 14850 | 08 P | 5720 | 112 Q | 6750 | 097 R | 6900 | 202 R | 8600 | 103 R | 0 | 0 | 160 | 0 | 254 | 0 | 1 |
| 15 | 1040 | 15150 | 08 P | 6000 | 108 P | 7200 | 092 F | 6900 | 202 R | 8750 | 103 R | 0 | 0 | 160 | 0 | 254 | 0 | 1 |
| 15 | 1060 | 15300 | 08 P | 6000 | 107 P | 7200 | 092 F | 7150 | 203 P | 8900 | 101 R | 0 | 0 | 100 | 0 | 319 | 0 | 1 |
| 15 | 1120 | 15400 | 14 P | 6200 | 105 R | 7500 | 091 F | 7800 | 202 P | 8950 | 100 R | 0 | 0 | 75 | 0 | 324 | 0 | 1 |
| 15 | 1140 | 15500 | 14 P | 6300 | 105 R | 7500 | 091 F | 7800 | 202 P | 8950 | 100 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1200 | 15800 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1240 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1260 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1280 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1300 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1320 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1340 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1360 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1380 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1400 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1420 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1440 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1460 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1480 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1500 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1520 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1540 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1560 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1580 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1600 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1620 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1640 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1660 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1680 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1700 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1720 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1740 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1760 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1780 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1800 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1820 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1840 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1860 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1880 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1900 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1920 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1940 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1960 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 1980 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 2000 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 2020 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 2040 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 2060 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 2080 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 2100 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |
| 15 | 2120 | 15900 | 14 P | 6450 | 104 P | 7700 | 094 F | 7850 | 203 R | 9000 | 101 R | 0 | 0 | 84 | 0 | 324 | 0 | 1 |

NOTE*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL
CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**

- 1= RELATIVE WIND RECORDED IN DEGREES TRUE
- 2= QUESTIONABLE WIND DATA
- 3= NO WIND DATA RECORDED
- 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

- MOCE WIND DATA CODE
- CO1= CURRENT DROGUE 1
- CO2= CURRENT DROGUE 2
- HCM= DOWN BEARINGS WERE OBTAINED
- R= PFCAR
- V= VISUAL
- AE= ALONGSIDE

| DAY | TIME (Z) | REFERENCE | H | CD-1 | H | 7-MAN | H | 16FT BOAT | H | 18FT BOAT | H | 30FT BOAT | H | CD-2 | H | REL. | | |
|-----|----------|-----------|-----|------|-------|-------|---|-----------|-----|-----------|-------|-----------|---|-------|-----|------|-----|---|
| | | RANGE | BRG | M | RANGE | BRG | M | RANGE | BRG | M | RANGE | BRG | M | RANGE | BRG | DIR | SPD | |
| 16 | 1700 | 7400 | 243 | R | 11400 | 289 | R | 6700 | 293 | R | 7450 | 339 | R | 5130 | 321 | R | 0 | 0 |
| 16 | 1720 | 4600 | 245 | P | 10700 | 289 | P | 6900 | 291 | R | 7600 | 336 | R | 5050 | 319 | R | 0 | 0 |
| 16 | 1740 | 9350 | 245 | R | 11100 | 289 | P | 5950 | 298 | P | 7650 | 335 | R | 5110 | 315 | P | 0 | 0 |
| 16 | 1800 | 10350 | 248 | R | 11350 | 282 | R | 7250 | 297 | P | 7700 | 334 | R | 4850 | 314 | R | 0 | 0 |
| 16 | 1820 | 11200 | 250 | R | 11900 | 285 | R | 7400 | 286 | R | 7750 | 332 | R | 4550 | 311 | R | 0 | 0 |
| 16 | 1840 | 12100 | 251 | P | 12000 | 284 | R | 7400 | 295 | R | 7750 | 331 | R | 4450 | 309 | R | 0 | 0 |
| 16 | 1900 | 12950 | 251 | P | 12400 | 283 | R | 7350 | 293 | P | 7750 | 329 | P | 4330 | 305 | R | 0 | 0 |
| 16 | 1920 | 13550 | 251 | P | 12600 | 282 | R | 7250 | 293 | P | 7700 | 328 | P | 4050 | 301 | R | 0 | 0 |
| 16 | 1940 | 14250 | 254 | R | 12700 | 281 | P | 7050 | 281 | P | 7450 | 326 | P | 3830 | 297 | P | 0 | 0 |
| 16 | 2000 | 14800 | 254 | P | 13250 | 282 | P | 6950 | 280 | R | 7600 | 326 | P | 3550 | 293 | P | 0 | 0 |
| 16 | 2020 | 15450 | 254 | R | 13900 | 279 | R | 6700 | 277 | P | 7350 | 321 | P | 3400 | 286 | R | 0 | 0 |
| 16 | 2040 | 16300 | 255 | R | 14550 | 275 | R | 6700 | 273 | R | 6650 | 318 | R | 3300 | 280 | R | 0 | 0 |
| 16 | 2100 | 16925 | 254 | P | 14950 | 275 | R | 6675 | 269 | R | 6850 | 314 | R | 3400 | 273 | P | 0 | 0 |
| 16 | 2120 | 17650 | 252 | P | 15150 | 271 | R | 6750 | 266 | R | 6700 | 307 | P | 3550 | 265 | R | 0 | 0 |
| 16 | 2140 | 18450 | 251 | P | 15150 | 269 | P | 7000 | 261 | P | 6800 | 303 | R | 3650 | 263 | R | 0 | 0 |
| 16 | 2200 | 15900 | 245 | P | 10300 | 266 | R | 3800 | 252 | R | 4800 | 320 | R | 0 | 0 | 0 | 0 | 0 |
| 16 | 2220 | 14750 | 247 | R | 8150 | 267 | R | 2000 | 251 | R | 4400 | 347 | P | 0 | 0 | 0 | 0 | 0 |
| 16 | 2240 | 14200 | 241 | P | 6525 | 259 | R | 0 | 0 | 0 | 3375 | 11 | R | 0 | 0 | 0 | 0 | 0 |

NOTE*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

ABBREVIATIONS

WDC= WIND DATA CODE
 CD1= CURRENT DROGUE 1
 CD2= CURRENT DROGUE 2
 MOM= MOM BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

NOTE*** WIND DATA CODE EXPLANATION**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

| LAY | TIME(7) | REFERENCE | H | CD-1 | U | 7-MAN | H | 16FT | H | 18FT | H | 30FT | H | CO-2 | M | REL. | | | | | | |
|-----|---------|-----------|-----|------|------|-------|-------|-------|-------|-------|-------|------|-----|-------|-----|-------|------|------|-----|---|---|---|
| | | RANGE | BRG | M | FANG | PRG | RANGE | RANGE | RANGE | RANGE | BRG | BRG | BRG | RANGE | BRG | M DIR | WIND | SHIP | | | | |
| 22 | 1624 | 1570 | 57 | 0 | 930 | 241 | R | 4650 | 218 | R | 3950 | 190 | R | 0 | 0 | 0 | 96 | 14 | 135 | W | 1 | |
| 22 | 1624 | 1570 | 55 | 0 | 950 | 241 | R | 4300 | 216 | R | 3970 | 185 | R | 0 | 0 | 0 | 95 | 10 | 137 | W | 1 | |
| 22 | 1700 | 1505 | 57 | 0 | 945 | 241 | R | 4250 | 214 | R | 3430 | 180 | R | 0 | 0 | 0 | 90 | 6 | 114 | W | 1 | |
| 22 | 1720 | 1455 | 56 | 0 | 1110 | 241 | R | 3710 | 211 | R | 3350 | 180 | R | 0 | 0 | 0 | 90 | 6 | 114 | W | 1 | |
| 22 | 1740 | 1405 | 55 | 0 | 1040 | 241 | R | 3710 | 211 | R | 3350 | 175 | R | 0 | 0 | 0 | 94 | 8 | 117 | W | 1 | |
| 22 | 1800 | 1455 | 55 | 0 | 1050 | 241 | R | 3200 | 192 | R | 2310 | 164 | R | 0 | 0 | 0 | 90 | 10 | 118 | W | 1 | |
| 22 | 1820 | 1435 | 53 | 0 | 1170 | 241 | R | 2750 | 185 | R | 2750 | 154 | R | 0 | 0 | 0 | 90 | 10 | 111 | W | 1 | |
| 22 | 1840 | 1430 | 52 | 0 | 1110 | 241 | R | 2450 | 174 | R | 2510 | 140 | R | 0 | 0 | 0 | 90 | 10 | 124 | W | 1 | |
| 22 | 1900 | 1485 | 53 | 0 | 1110 | 243 | R | 2300 | 168 | R | 2710 | 132 | R | 0 | 0 | 0 | 90 | 10 | 116 | W | 1 | |
| 22 | 1920 | 1485 | 53 | 0 | 1120 | 244 | R | 2300 | 168 | R | 2850 | 123 | R | 0 | 0 | 0 | 100 | 10 | 117 | W | 1 | |
| 22 | 1940 | 1455 | 43 | 0 | 1130 | 245 | R | 2450 | 182 | R | 3170 | 117 | R | 0 | 0 | 0 | 100 | 10 | 112 | W | 1 | |
| 22 | 2000 | 1500 | 48 | 0 | 1130 | 245 | R | 2550 | 180 | R | 3750 | 109 | R | 0 | 0 | 0 | 90 | 0 | 124 | W | 1 | |
| 22 | 2020 | 1500 | 48 | 0 | 1140 | 245 | R | 3050 | 184 | R | 4230 | 104 | R | 0 | 0 | 0 | 90 | 7 | 121 | W | 1 | |
| 22 | 2040 | 1500 | 49 | 0 | 1170 | 245 | R | 3200 | 186 | R | 4730 | 101 | R | 0 | 0 | 0 | 90 | 7 | 116 | W | 1 | |
| 22 | 2100 | 1510 | 47 | 0 | 1170 | 243 | R | 3700 | 180 | R | 5130 | 96 | R | 0 | 0 | 0 | 90 | 6 | 112 | W | 1 | |
| 22 | 2120 | 1505 | 46 | 0 | 1200 | 243 | R | 4300 | 173 | R | 5630 | 91 | R | 0 | 0 | 0 | 90 | 6 | 119 | W | 1 | |
| 22 | 2140 | 1500 | 45 | 0 | 1210 | 242 | R | 4100 | 163 | R | 5330 | 97 | R | 0 | 0 | 0 | 94 | 5 | 115 | W | 1 | |
| 22 | 2200 | 1510 | 45 | 0 | 1240 | 240 | R | 4700 | 155 | R | 6470 | 95 | R | 0 | 0 | 0 | 100 | 7 | 35 | W | 1 | |
| 22 | 2220 | 1510 | 45 | 0 | 1240 | 240 | R | 5100 | 152 | R | 5930 | 95 | R | 0 | 0 | 0 | 90 | 6 | 96 | W | 1 | |
| 22 | 2240 | 1510 | 45 | 0 | 1300 | 240 | R | 5350 | 149 | R | 7350 | 93 | R | 0 | 0 | 0 | 100 | 5 | 130 | W | 1 | |
| 22 | 2300 | 1520 | 42 | 0 | 1350 | 240 | R | 5500 | 145 | R | 7350 | 80 | R | 0 | 0 | 0 | 100 | 6 | 115 | W | 1 | |
| 22 | 2320 | 1530 | 42 | 0 | 1470 | 240 | R | 5900 | 138 | R | 7850 | 79 | R | 0 | 0 | 0 | 90 | 6 | 35 | W | 1 | |
| 22 | 2340 | 1545 | 41 | 0 | 1440 | 243 | R | 6300 | 130 | R | 7925 | 75 | R | 0 | 0 | 0 | 90 | 0 | 0 | 0 | 0 | 1 |
| 23 | 15825 | 15825 | 41 | 0 | 1450 | 243 | R | 6175 | 127 | R | 8130 | 74 | R | 0 | 0 | 0 | 90 | 6 | 82 | W | 1 | |
| 23 | 15850 | 15850 | 41 | 0 | 1470 | 246 | R | 6450 | 122 | R | 8500 | 72 | R | 0 | 0 | 0 | 90 | 6 | 89 | W | 1 | |
| 23 | 15870 | 15870 | 40 | 0 | 1510 | 243 | R | 6900 | 115 | R | 9070 | 71 | R | 0 | 0 | 0 | 40 | 6 | 135 | W | 1 | |
| 23 | 15890 | 15890 | 40 | 0 | 1510 | 243 | R | 6900 | 115 | R | 9070 | 70 | R | 0 | 0 | 0 | 315 | 15 | 250 | W | 1 | |
| 23 | 15910 | 15910 | 50 | 0 | 1510 | 241 | R | 7300 | 110 | R | 9200 | 70 | R | 0 | 0 | 0 | 385 | 10 | 264 | W | 1 | |
| 23 | 15930 | 15930 | 50 | 0 | 1510 | 224 | R | 4350 | 236 | R | 16250 | 77 | R | 0 | 0 | 0 | 306 | 10 | 264 | W | 1 | |
| 23 | 15950 | 15950 | 52 | 0 | 1510 | 222 | R | 3325 | 252 | R | 16250 | 77 | R | 0 | 0 | 0 | 306 | 10 | 264 | W | 1 | |

(continued)

| 18 OBSERVATIONS | | EVSARR 9/70 | | | | | | | | | | RUN 9 | | | | | | | | | | |
|-----------------|------|-------------|----|---|------|-----|---|------|-----|---|------|-------|---|------|-----|---|-----|---|-----|-----|---|---|
| 23 | 2245 | 9000 | 39 | D | 4200 | 206 | R | 3350 | 233 | R | 5250 | 233 | R | 5830 | 215 | R | 34 | 0 | 132 | 0 | 1 | |
| 23 | 2300 | 9000 | 33 | D | 3950 | 215 | D | 3300 | 241 | R | 5150 | 238 | D | 5550 | 220 | P | 335 | 6 | 283 | 0 | 1 | |
| 23 | 2320 | 6000 | 32 | D | 4200 | 210 | D | 3350 | 240 | R | 5170 | 238 | D | 5730 | 223 | P | 254 | 6 | 283 | 0 | 1 | |
| 23 | 2340 | 8500 | 29 | D | 4400 | 216 | R | 3550 | 236 | R | 5300 | 233 | R | 5950 | 220 | P | 285 | 6 | 257 | 0 | 1 | |
| 24 | 20 | 8350 | 27 | D | 4500 | 218 | R | 3400 | 234 | R | 4900 | 233 | R | 5950 | 220 | P | 285 | 7 | 251 | 0 | 1 | |
| 24 | 20 | 8100 | 26 | R | 4500 | 216 | D | 3100 | 231 | F | 4700 | 231 | F | 6170 | 220 | P | 285 | 6 | 257 | 0 | 1 | |
| 24 | 40 | 8000 | 24 | E | 4400 | 216 | D | 3100 | 230 | F | 4400 | 230 | F | 5550 | 220 | P | 285 | 6 | 256 | 0 | 1 | |
| 24 | 100 | 8100 | 24 | D | 4400 | 216 | D | 2850 | 226 | F | 4200 | 228 | F | 5170 | 222 | P | 294 | 7 | 249 | 0 | 1 | |
| 24 | 120 | 7850 | 21 | D | 4400 | 213 | D | 2850 | 226 | F | 4350 | 227 | R | 5170 | 222 | P | 295 | 6 | 255 | 0 | 1 | |
| 24 | 140 | 7850 | 21 | D | 4400 | 213 | D | 2850 | 227 | R | 4350 | 227 | R | 5170 | 222 | P | 275 | 7 | 257 | 0 | 1 | |
| 24 | 200 | 7650 | 18 | D | 4550 | 209 | D | 2750 | 210 | R | 4350 | 227 | R | 5170 | 222 | P | 275 | 7 | 257 | 0 | 1 | |
| 24 | 220 | 8000 | 17 | D | 4400 | 208 | D | 2750 | 210 | R | 4350 | 227 | R | 5170 | 222 | P | 275 | 7 | 257 | 0 | 1 | |
| 24 | 240 | 7800 | 15 | D | 4500 | 205 | R | 2700 | 208 | P | 4250 | 217 | R | 5200 | 220 | P | 270 | 8 | 266 | 0 | 1 | |
| 24 | 300 | 8000 | 13 | R | 4300 | 205 | P | 2250 | 211 | P | 2900 | 217 | D | 5200 | 220 | P | 285 | 6 | 279 | 0 | 1 | |
| 24 | 320 | 8100 | 13 | D | 4100 | 204 | R | 2280 | 213 | P | 2650 | 219 | D | 4900 | 208 | R | 285 | 6 | 279 | 0 | 1 | |
| 24 | 340 | 8000 | 12 | D | 3950 | 204 | R | 2050 | 212 | R | 2350 | 220 | R | 4730 | 208 | R | 295 | 6 | 279 | 0 | 1 | |
| 24 | 400 | 8000 | 10 | D | 4100 | 202 | D | 2000 | 212 | R | 2450 | 219 | R | 4750 | 221 | R | 295 | 6 | 256 | 0 | 1 | |
| 24 | 420 | 8600 | 11 | D | 3950 | 200 | P | 1950 | 214 | R | 1950 | 222 | F | 4630 | 235 | F | 34 | 0 | 1 | 235 | 0 | 1 |
| 90 OBSERVATIONS | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 1420 | 14500 | 39 | D | 5750 | 212 | R | 6350 | 238 | R | 4750 | 223 | R | 4830 | 190 | R | 310 | 6 | 157 | 0 | 1 | |
| 24 | 1440 | 14800 | 39 | D | 5650 | 212 | P | 6450 | 238 | D | 4650 | 233 | D | 3930 | 200 | P | 335 | 6 | 283 | 0 | 1 | |
| 24 | 1500 | 15300 | 39 | D | 5250 | 212 | D | 6200 | 240 | D | 4400 | 236 | D | 3400 | 201 | P | 335 | 6 | 283 | 0 | 1 | |
| 24 | 1520 | 15500 | 39 | D | 4950 | 210 | D | 6100 | 242 | R | 4100 | 239 | R | 3200 | 200 | P | 240 | 4 | 229 | 0 | 1 | |
| 24 | 1540 | 15800 | 39 | D | 4500 | 207 | D | 6100 | 244 | R | 3800 | 241 | R | 2850 | 200 | P | 250 | 4 | 232 | 0 | 1 | |
| 24 | 1600 | 15900 | 38 | F | 4050 | 205 | P | 5550 | 246 | P | 3750 | 243 | D | 2730 | 200 | P | 245 | 5 | 234 | 0 | 1 | |

NOTE*** THE FIGURES 999 IN THE DRGCODE OR DRIFT OBJECT BEARING IS A SPECIAL
CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**

- 0= RELATIVE WIND RECORDED IN DEGREES TRUE
- 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
- 2= QUESTIONABLE WIND DATA
- 3= NO WIND DATA RECORDED
- 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

- MDC= WIND DATA CODE
- CD1= CURRENT DRGCODE 1
- CD2= CURRENT DRGCODE 2
- HOW= HOW BEARINGS WERE OBTAINED
- V= VISUAL
- A= ALONGSIDE

| DAY | TIME(Z) | REFERENCE | RANGE | BRG | M | CD-1 | C | 7-MIN | H | 16FT | BOAT | H | 18FT | BOAT | H | 30FT | BOAT | H | CO-2 | RANGE | BRG | M | REL. | WIND | SHIP | |
|-----|---------|-----------|-------|-----|-------|------|---|-------|-----|------|-------|-----|------|-------|-----|------|-------|-----|------|-------|-----|---|------|------|------|-----|
| | | | | | | | | RANGE | ERG | M | RANGE | BRG | M | RANGE | BRG | M | RANGE | BRG | M | | | | DIR | SPD | DRS | SPD |
| 24 | 1620 | 16150 | 39 | P | 1907 | 197 | P | 5550 | 249 | P | 3250 | 245 | R | 2350 | 199 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1640 | 16950 | 41 | P | 1800 | 197 | P | 5550 | 252 | P | 3100 | 246 | R | 1930 | 193 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1700 | 16900 | 38 | P | 1750 | 183 | P | 5950 | 252 | P | 2900 | 252 | P | 1500 | 187 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1720 | 17150 | 38 | P | 1750 | 174 | P | 4550 | 256 | P | 2450 | 256 | P | 1500 | 181 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1740 | 16950 | 39 | P | 1750 | 180 | R | 4350 | 257 | P | 2200 | 264 | R | 1350 | 173 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1800 | 16950 | 41 | P | 1900 | 150 | R | 3500 | 261 | P | 1950 | 264 | R | 1100 | 157 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1820 | 16900 | 40 | P | 4950 | 142 | P | 3650 | 262 | P | 1900 | 267 | P | 1100 | 157 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1840 | 19250 | 41 | P | 5200 | 133 | R | 2900 | 266 | R | 1300 | 274 | P | 1000 | 125 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1900 | 19600 | 41 | P | 5400 | 133 | R | 2450 | 266 | R | 1000 | 285 | R | 750 | 121 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1920 | 19650 | 41 | P | 5100 | 125 | P | 2750 | 271 | R | 950 | 305 | R | 810 | 119 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 1940 | 19950 | 42 | P | 6900 | 124 | P | 2200 | 271 | R | 800 | 320 | P | 930 | 110 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2000 | 20050 | 43 | P | 7450 | 121 | R | 2000 | 276 | P | 850 | 340 | P | 700 | 102 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2020 | 20350 | 43 | P | 8150 | 121 | R | 1670 | 281 | P | 900 | 360 | P | 750 | 104 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2040 | 20250 | 45 | P | 9200 | 119 | R | 1350 | 278 | R | 950 | 10 | F | 730 | 103 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2100 | 20700 | 46 | P | 9600 | 119 | R | 1200 | 278 | R | 1100 | 15 | F | 650 | 101 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2120 | 20650 | 46 | P | 10100 | 117 | P | 1150 | 275 | P | 1300 | 19 | P | 700 | 106 | C | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2140 | 20700 | 46 | P | 11650 | 117 | P | 1250 | 272 | P | 1400 | 19 | P | 700 | 110 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2200 | 20700 | 48 | P | 11600 | 116 | P | 1150 | 269 | R | 1450 | 21 | R | 700 | 111 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2220 | 20800 | 49 | P | 12000 | 115 | P | 1050 | 265 | P | 1600 | 27 | R | 850 | 116 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2240 | 20700 | 47 | P | 12750 | 113 | P | 850 | 261 | P | 1850 | 30 | P | 950 | 105 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2300 | 20700 | 50 | P | 13400 | 114 | P | 650 | 261 | P | 1600 | 35 | P | 1300 | 105 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2320 | 20800 | 50 | P | 13950 | 113 | P | 500 | 249 | P | 2050 | 37 | P | 1300 | 105 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2340 | 20250 | 49 | P | 14550 | 112 | P | 650 | 234 | P | 2375 | 36 | P | 1200 | 95 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2360 | 19925 | 49 | P | 14950 | 111 | P | 620 | 196 | P | 2125 | 40 | P | 1300 | 93 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2380 | 19700 | 51 | P | 15550 | 110 | P | 620 | 149 | P | 2550 | 56 | P | 1625 | 92 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2400 | 19600 | 52 | P | 16150 | 114 | P | 740 | 138 | R | 2800 | 57 | R | 1930 | 91 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2420 | 19700 | 51 | P | 16450 | 115 | P | 900 | 134 | P | 3050 | 60 | P | 2150 | 93 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2440 | 19850 | 51 | P | 16900 | 115 | P | 1050 | 129 | P | 3475 | 61 | P | 2430 | 95 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2460 | 19700 | 53 | P | 17250 | 112 | P | 1425 | 126 | P | 3950 | 64 | P | 2730 | 99 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2480 | 18950 | 52 | P | 17650 | 114 | R | 1700 | 120 | R | 4200 | 64 | P | 3050 | 87 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2500 | 19375 | 51 | P | 18250 | 113 | P | 1900 | 116 | P | 4500 | 66 | P | 3200 | 83 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2520 | 19200 | 52 | P | 19400 | 115 | P | 2050 | 114 | P | 4950 | 68 | P | 3625 | 84 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2540 | 19400 | 52 | P | 19950 | 114 | R | 2350 | 110 | R | 5175 | 69 | P | 3950 | 85 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2560 | 19875 | 50 | P | 19200 | 113 | R | 2625 | 104 | R | 5550 | 69 | P | 4350 | 83 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2580 | 19650 | 49 | P | 19400 | 111 | R | 3150 | 114 | P | 6050 | 71 | P | 4950 | 82 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2600 | 16650 | 50 | P | 20900 | 111 | R | 3650 | 100 | P | 6500 | 71 | P | 5550 | 83 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2620 | 16550 | 49 | P | 21600 | 112 | P | 4150 | 101 | P | 7100 | 72 | P | 6300 | 84 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2640 | 16700 | 48 | P | 21150 | 109 | R | 4700 | 98 | R | 7850 | 73 | P | 6750 | 83 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2660 | 16400 | 35 | P | 18400 | 110 | P | 2700 | 76 | P | 6500 | 58 | P | 5100 | 64 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2680 | 17875 | 50 | P | 19200 | 113 | R | 3350 | 231 | P | 3950 | 59 | P | 4350 | 83 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2700 | 16950 | 49 | P | 19350 | 114 | P | 3950 | 214 | P | 3950 | 58 | P | 4150 | 83 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2720 | 12450 | 353 | P | 10300 | 134 | P | 7050 | 217 | P | 4750 | 202 | R | 5050 | 203 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2740 | 12450 | 352 | P | 11350 | 135 | P | 6650 | 263 | P | 4750 | 209 | R | 4700 | 278 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2760 | 12700 | 350 | P | 11300 | 134 | P | 6300 | 260 | R | 4250 | 276 | P | 4250 | 276 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2780 | 12800 | 350 | P | 11500 | 134 | P | 5850 | 260 | R | 3850 | 267 | P | 3850 | 277 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2800 | 13400 | 344 | P | 11500 | 132 | R | 5650 | 258 | P | 3500 | 294 | R | 3500 | 273 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2820 | 13400 | 344 | P | 11600 | 123 | R | 5050 | 234 | R | 3400 | 299 | P | 3400 | 299 | P | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2840 | 13800 | 350 | P | 11000 | 127 | R | 4550 | 235 | R | 3200 | 305 | R | 3400 | 292 | R | U | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION***

- 0 = RELATIVE WIND RECORDED IN DEGREES TRUE
- 1 = RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
- 2 = QUESTIONABLE WIND DATA
- 3 = NO WIND DATA RECORDED
- 4 = WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

- MDC = MDC DATA CODE
- CD1 = CURRENT DROGUE 1
- CD2 = CURRENT DROGUE 2
- HOME = HOME BEARINGS WERE OBTAINED
- R = RAUW
- V = VISUAL
- A = ALONGSIDE

| DAY | TIME (Z) | REFERENCE | | CD-1 | | 7-MAN | | 15FT BOAT | | 14FT BOAT | | 30FT BOAT | | CD-2 | | REL. | | |
|-----|----------|-----------|-------|-------|-------|-------|-------|-----------|-------|-----------|-------|-----------|-----|-------|-----|------|-----|-----|
| | | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | W | DIR | SPD |
| 26 | 090 | 5250 | 284 R | 3300 | 350 P | 5450 | 343 R | 15400 | 315 R | 11950 | 317 R | 0 | 0 | 0 | 0 | 335 | W | 254 |
| 26 | 090 | 5450 | 284 R | 1700 | 353 R | 5250 | 346 R | 15500 | 315 R | 12350 | 317 R | 0 | 0 | 0 | 0 | 310 | U | 272 |
| 26 | 090 | 5650 | 283 R | 1650 | 353 P | 5300 | 346 P | 15750 | 315 R | 12400 | 316 R | 0 | 0 | 0 | 0 | 315 | U | 274 |
| 26 | 1000 | 5850 | 285 P | 1450 | 357 R | 5100 | 347 P | 15772 | 315 P | 12430 | 317 R | 0 | 0 | 0 | 0 | 320 | U | 274 |
| 26 | 1020 | 6100 | 287 P | 1375 | 1 P | 4900 | 350 P | 15725 | 317 R | 12270 | 319 R | 0 | 0 | 0 | 0 | 280 | U | 287 |
| 26 | 1040 | 6450 | 285 P | 1250 | 361 P | 4700 | 350 P | 15600 | 316 R | 12450 | 317 R | 0 | 0 | 0 | 0 | 285 | U | 287 |
| 26 | 1100 | 6600 | 285 P | 1250 | 5 P | 4650 | 351 P | 15500 | 316 R | 12500 | 317 R | 0 | 0 | 0 | 0 | 290 | U | 286 |
| 26 | 1120 | 6800 | 284 R | 1260 | 1 P | 4600 | 352 R | 15525 | 316 R | 12650 | 317 R | 0 | 0 | 0 | 0 | 290 | U | 286 |
| 26 | 1140 | 7150 | 281 R | 1260 | 1 P | 4550 | 352 R | 15550 | 316 R | 12650 | 315 R | 0 | 0 | 0 | 0 | 280 | U | 291 |
| 26 | 1200 | 7500 | 281 P | 1300 | 1 P | 4550 | 354 R | 15750 | 315 R | 13050 | 315 R | 0 | 0 | 0 | 0 | 280 | U | 291 |
| 26 | 1220 | 7800 | 278 P | 1250 | 24 P | 4300 | 356 P | 15550 | 315 P | 12930 | 314 R | 0 | 0 | 0 | 0 | 220 | U | 317 |
| 26 | 1240 | 8000 | 276 P | 1400 | 31 P | 3900 | 356 P | 15550 | 314 P | 12930 | 317 R | 0 | 0 | 0 | 0 | 220 | U | 317 |
| 26 | 1300 | 8850 | 274 P | 2400 | 33 P | 3800 | 353 P | 15600 | 313 R | 13200 | 313 R | 0 | 0 | 0 | 0 | 220 | U | 317 |
| 26 | 1320 | 9650 | 273 P | 2450 | 36 P | 3650 | 352 R | 15900 | 311 R | 13400 | 312 R | 0 | 0 | 0 | 0 | 220 | U | 317 |
| 26 | 1340 | 10350 | 272 P | 2350 | 36 P | 3650 | 350 P | 15900 | 311 R | 13700 | 311 R | 0 | 0 | 0 | 0 | 150 | U | 380 |
| 26 | 1400 | 11200 | 272 P | 2150 | 35 P | 3750 | 346 R | 15900 | 311 R | 14300 | 311 P | 0 | 0 | 0 | 0 | 150 | U | 380 |
| 26 | 1420 | 11800 | 272 P | 2000 | 36 R | 3900 | 345 R | 16570 | 311 R | 14200 | 311 R | 0 | 0 | 0 | 0 | 150 | U | 380 |
| 26 | 1440 | 12650 | 272 P | 1900 | 39 R | 3900 | 343 R | 16750 | 311 R | 14500 | 311 R | 0 | 0 | 0 | 0 | 150 | U | 380 |
| 26 | 1500 | 13550 | 272 P | 1500 | 44 P | 3850 | 338 P | 16950 | 310 R | 14800 | 310 R | 0 | 0 | 0 | 0 | 120 | U | 380 |
| 26 | 1520 | 14350 | 273 P | 1300 | 50 P | 3900 | 338 P | 17100 | 311 R | 15050 | 310 R | 0 | 0 | 0 | 0 | 120 | U | 380 |
| 26 | 1540 | 14950 | 272 R | 1150 | 59 R | 3650 | 337 P | 17050 | 311 R | 14850 | 310 R | 0 | 0 | 0 | 0 | 120 | U | 380 |
| 26 | 1600 | 15850 | 272 P | 1100 | 69 R | 3350 | 332 P | 17250 | 311 R | 15200 | 310 R | 0 | 0 | 0 | 0 | 120 | U | 380 |
| 26 | 1620 | 16550 | 270 P | 900 | 86 R | 3100 | 328 P | 17300 | 311 R | 15200 | 310 R | 0 | 0 | 0 | 0 | 120 | U | 380 |
| 26 | 1640 | 14250 | 263 P | 4200 | 110 R | 1550 | 66 P | 13650 | 307 R | 15200 | 306 R | 0 | 0 | 0 | 0 | 130 | U | 290 |
| 26 | 1700 | 14100 | 264 P | 5000 | 100 P | 2600 | 72 P | 13650 | 307 R | 15200 | 307 R | 0 | 0 | 0 | 0 | 345 | U | 290 |
| 26 | 1720 | 14450 | 266 P | 5150 | 106 P | 2650 | 72 P | 13650 | 307 R | 15200 | 307 R | 0 | 0 | 0 | 0 | 345 | U | 290 |
| 26 | 1740 | 15100 | 264 P | 5200 | 105 R | 2650 | 72 P | 13650 | 307 R | 15200 | 307 R | 0 | 0 | 0 | 0 | 345 | U | 290 |
| 26 | 1800 | 15850 | 264 P | 5750 | 105 R | 2650 | 72 P | 13650 | 307 R | 15200 | 307 R | 0 | 0 | 0 | 0 | 345 | U | 290 |
| 26 | 1820 | 16300 | 263 P | 6200 | 115 R | 2650 | 72 R | 13650 | 305 P | 14950 | 306 R | 0 | 0 | 0 | 0 | 345 | U | 290 |
| 26 | 1840 | 17100 | 266 P | 6350 | 115 R | 2650 | 90 P | 13650 | 305 P | 14950 | 306 R | 0 | 0 | 0 | 0 | 345 | U | 290 |

NOTE*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL
 CASE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

ABBREVIATIONS

MOE WIND DATA CODE
 CO1E CURRENT DROGUE 1
 CO2E CURRENT DROGUE 2
 H0ME HON BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

NOTE2*** WIND DATA CODE EXPLANATION**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

| DAY | TIME(7) | REFERENCE | | CD-1 | | 7-MAN | | 16FT BOAT | | 18FT BOAT | | 33FT BOAT | | CO-2 | | REL. | | | |
|-----------------|---------|-----------|-----|-------|-----|-------|-----|-----------|-----|-----------|-----|-----------|-----|-------|-----|------|------|------|-----|
| | | RANGE | BPG | RANGE | BPG | RANGE | BPG | RANGE | BPG | RANGE | BPG | RANGE | BPG | RANGE | BPG | M | WIND | SHIP | |
| 50 OBSERVATIONS | | | | | | | | | | | | | | | | | | | |
| EVSAR 12/77 | | | | | | | | | | | | | | | | | | | |
| 4 | 1600 | 22000 | 34 | 7750 | 6 | 0 | 0 | 5350 | 21 | 4750 | 45 | 0 | 0 | 0 | 0 | 0 | 105 | 18 | 75 |
| 4 | 1620 | 21800 | 34 | 7050 | 157 | 0 | 0 | 5200 | 24 | 4500 | 49 | 0 | 0 | 0 | 0 | 0 | 104 | 12 | 118 |
| 4 | 1640 | 19700 | 44 | 5100 | 12 | 0 | 0 | 4750 | 79 | 5000 | 57 | 0 | 0 | 0 | 0 | 0 | 220 | 15 | 2 |
| 4 | 1700 | 19500 | 45 | 3250 | 33 | 0 | 0 | 5700 | 80 | 6150 | 39 | 0 | 0 | 0 | 0 | 0 | 200 | 15 | 292 |
| 4 | 1720 | 19350 | 42 | 3150 | 42 | 0 | 0 | 6480 | 86 | 6000 | 32 | 0 | 0 | 0 | 0 | 0 | 205 | 13 | 292 |
| 4 | 1740 | 19100 | 53 | 2700 | 52 | 0 | 0 | 7180 | 95 | 5700 | 18 | 0 | 0 | 0 | 0 | 0 | 300 | 12 | 332 |
| 4 | 1800 | 17750 | 54 | 2300 | 66 | 0 | 0 | 7900 | 95 | 5300 | 14 | 0 | 0 | 0 | 0 | 0 | 280 | 12 | 337 |
| 4 | 1820 | 17550 | 53 | 2000 | 85 | 0 | 0 | 8550 | 98 | 4700 | 10 | 0 | 0 | 0 | 0 | 0 | 45 | 23 | 176 |
| 4 | 1840 | 17450 | 52 | 2100 | 74 | 0 | 0 | 7700 | 85 | 3850 | 39 | 0 | 0 | 0 | 0 | 0 | 95 | 18 | 118 |
| 4 | 1900 | 19400 | 45 | 3300 | 14 | 0 | 0 | 10400 | 77 | 5800 | 61 | 0 | 0 | 0 | 0 | 0 | 90 | 13 | 133 |
| 4 | 1920 | 17950 | 43 | 3050 | 1 | 0 | 0 | 10650 | 76 | 5900 | 61 | 0 | 0 | 0 | 0 | 0 | 90 | 13 | 129 |
| 4 | 1940 | 17600 | 41 | 2950 | 335 | 0 | 0 | 10900 | 78 | 5700 | 61 | 0 | 0 | 0 | 0 | 0 | 90 | 13 | 129 |
| 4 | 2000 | 15900 | 40 | 3100 | 115 | 0 | 0 | 10890 | 78 | 5850 | 61 | 0 | 0 | 0 | 0 | 0 | 90 | 13 | 129 |
| 4 | 2020 | 15400 | 39 | 3700 | 330 | 0 | 0 | 10900 | 82 | 5500 | 64 | 0 | 0 | 0 | 0 | 0 | 90 | 13 | 133 |
| 4 | 2040 | 14950 | 34 | 4450 | 293 | 0 | 0 | 10700 | 90 | 5200 | 61 | 0 | 0 | 0 | 0 | 0 | 90 | 14 | 128 |
| 4 | 2100 | 11700 | 36 | 5450 | 259 | 0 | 0 | 10950 | 99 | 3250 | 95 | 0 | 0 | 0 | 0 | 0 | 245 | 16 | 359 |
| 4 | 2120 | 9950 | 40 | 7100 | 230 | 0 | 0 | 11750 | 141 | 9650 | 105 | 0 | 0 | 0 | 0 | 0 | 95 | 16 | 142 |
| 4 | 2140 | 8975 | 23 | 8350 | 253 | 0 | 0 | 9900 | 94 | 7750 | 95 | 0 | 0 | 0 | 0 | 0 | 62 | 26 | 145 |
| 4 | 2200 | 9000 | 15 | 9175 | 259 | 0 | 0 | 9975 | 93 | 7450 | 91 | 0 | 0 | 0 | 0 | 0 | 85 | 20 | 141 |
| 4 | 2220 | 8500 | 12 | 9940 | 258 | 0 | 0 | 13400 | 93 | 7600 | 91 | 0 | 0 | 0 | 0 | 0 | 90 | 19 | 149 |
| 4 | 2240 | 8100 | 9 | 13600 | 254 | 0 | 0 | 10950 | 94 | 7700 | 90 | 0 | 0 | 0 | 0 | 0 | 95 | 21 | 139 |
| 4 | 2300 | 7775 | 3 | 11400 | 259 | 0 | 0 | 11250 | 95 | 7850 | 89 | 0 | 0 | 0 | 0 | 0 | 90 | 19 | 137 |
| 4 | 2320 | 7500 | 35 | 12175 | 260 | 0 | 0 | 11450 | 94 | 7950 | 87 | 0 | 0 | 0 | 0 | 0 | 80 | 19 | 139 |
| 4 | 2340 | 7350 | 34 | 12900 | 260 | 0 | 0 | 11750 | 95 | 7950 | 89 | 0 | 0 | 0 | 0 | 0 | 85 | 18 | 129 |
| 4 | 2400 | 7340 | 33 | 13400 | 263 | 0 | 0 | 11800 | 96 | 8000 | 86 | 0 | 0 | 0 | 0 | 0 | 90 | 18 | 138 |
| 4 | 2420 | 7650 | 33 | 14750 | 263 | 0 | 0 | 11900 | 96 | 8100 | 84 | 0 | 0 | 0 | 0 | 0 | 90 | 18 | 138 |
| 5 | 00 | 7800 | 33 | 15700 | 261 | 0 | 0 | 12150 | 96 | 8100 | 84 | 0 | 0 | 0 | 0 | 0 | 90 | 16 | 134 |
| 5 | 02 | 8350 | 31 | 16450 | 260 | 0 | 0 | 12400 | 95 | 7900 | 82 | 0 | 0 | 0 | 0 | 0 | 90 | 18 | 137 |
| 5 | 04 | 7650 | 30 | 18400 | 265 | 0 | 0 | 12550 | 103 | 8500 | 93 | 0 | 0 | 0 | 0 | 0 | 300 | 30 | 314 |
| 5 | 06 | 4000 | 27 | 18800 | 260 | 0 | 0 | 15400 | 110 | 12000 | 106 | 0 | 0 | 0 | 0 | 0 | 270 | 26 | 328 |
| 5 | 08 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15300 | 109 | 13100 | 106 | 0 | 0 | 0 | 0 | 0 | 270 | 26 | 333 |
| 5 | 10 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 12 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 14 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 16 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 18 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 20 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 22 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 24 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 26 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 28 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 30 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 32 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 34 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 36 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 38 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 40 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 42 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 44 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 46 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 48 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 50 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 52 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 54 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 56 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 58 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 60 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 62 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |
| 5 | 64 | 4000 | 27 | 19100 | 264 | 0 | 0 | 15100 | 102 | 13850 | 109 | 0 | 0 | 0 | 0 | 0 | 270 | 28 | 317 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

ABBREVIATIONS

NOTE2*** WIND DATA CODE EXPLANATION**
 0 = RELATIVE WIND RECORDED IN DEGREES TRUE
 1 = RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2 = QUESTIONABLE WIND DATA
 3 = NO WIND DATA RECORDED
 4 = WIND RECORDED IN DEGREES TRUE

MOC = WIND DATA CODE
 CD1 = CURRENT DROGUE 1
 CD2 = CURRENT DROGUE 2
 MOM = MOM BEARINGS WERE OBTAINED
 R = RADAR
 V = VISUAL
 A = ALONGSIDE

| DAY | TIME(Z) | REFERENCE | DRG | W | CD-1 | CD-2 | 7-MAN | RAFT | 16FT | 18FT | 30FT | REL. | | | | | | | | | | |
|-----|---------|-----------|-----|---|-------|------|-------|------|------|-------|-------|------|-------|-----|-----|---|---|-----|----|-----|----|---|
| | | RANGE | BKG | M | RANGE | BRG | RANGE | FRG | BRG | BRG | RANGE | DIR | SPD | DRS | SPD | | | | | | | |
| 14 | 1646 | 17900 | 290 | R | 13450 | 182 | R | C | 0 | 13430 | 1 | R | 12500 | 357 | R | 0 | 0 | 240 | 0 | 323 | M | 1 |
| 14 | 1746 | 17950 | 279 | F | 13750 | 183 | R | C | 0 | 13550 | 8 | R | 12700 | 356 | R | 0 | 0 | 240 | 0 | 318 | 0 | 1 |
| 14 | 1746 | 18000 | 279 | R | 14150 | 183 | D | C | 0 | 13900 | 9 | R | 13050 | 355 | R | 0 | 0 | 245 | 9 | 344 | 0 | 1 |
| 14 | 1746 | 18300 | 274 | R | 14400 | 185 | X | C | 0 | 13910 | 10 | R | 13200 | 355 | R | 0 | 0 | 250 | 12 | 319 | X | 1 |
| 14 | 1846 | 18700 | 276 | R | 14650 | 187 | R | C | 0 | 14430 | 9 | R | 13375 | 355 | R | 0 | 0 | 240 | 7 | 336 | 0 | 1 |
| 14 | 1846 | 18925 | 276 | R | 15325 | 187 | R | C | 0 | 14910 | 11 | R | 13775 | 353 | R | 0 | 0 | 240 | 11 | 331 | 0 | 1 |
| 14 | 1846 | 19250 | 276 | R | 15525 | 188 | R | C | 0 | 14530 | 12 | R | 13775 | 359 | R | 0 | 0 | 240 | 13 | 321 | 0 | 1 |
| 14 | 1946 | 19600 | 273 | R | 16275 | 190 | R | C | 0 | 14375 | 12 | R | 13975 | 353 | R | 0 | 0 | 270 | 13 | 329 | 0 | 1 |
| 14 | 1946 | 19800 | 272 | R | 15650 | 190 | R | C | 0 | 14375 | 14 | R | 13975 | 353 | R | 0 | 0 | 270 | 10 | 333 | 0 | 1 |
| 14 | 1946 | 20125 | 271 | R | 16900 | 192 | R | C | 0 | 14525 | 14 | R | 14250 | 353 | R | 0 | 0 | 245 | 14 | 343 | 0 | 1 |
| 14 | 1946 | 20600 | 271 | R | 17200 | 192 | R | C | 0 | 14525 | 14 | R | 14400 | 353 | R | 0 | 0 | 245 | 13 | 336 | 0 | 1 |
| 14 | 1946 | 21350 | 269 | D | 17650 | 193 | R | C | 0 | 14520 | 14 | R | 14500 | 354 | R | 0 | 0 | 245 | 10 | 327 | 0 | 1 |
| 14 | 1946 | 21625 | 269 | D | 18250 | 195 | R | C | 0 | 14525 | 15 | R | 14500 | 352 | R | 0 | 0 | 330 | 8 | 324 | 0 | 1 |
| 14 | 1946 | 21810 | 268 | D | 18750 | 195 | R | C | 0 | 14530 | 15 | R | 14100 | 353 | R | 0 | 0 | 250 | 12 | 333 | 0 | 1 |
| 14 | 1946 | 23600 | 259 | R | 22375 | 197 | P | C | 0 | 13775 | 17 | R | 10900 | 345 | R | 0 | 0 | 240 | 6 | 16 | 10 | 1 |

55 OBSERVATIONS

FVSAF 12/70

FUN 3

| | | | | | | | | | | | | | | | | | | | | | | |
|----|------|-------|-----|---|-------|----|---|---|---|------|-----|---|-------|-----|---|---|---|-----|----|-----|----|---|
| 14 | 1646 | 18700 | 10 | D | 23150 | 82 | D | C | 0 | 4130 | 210 | R | 4250 | 261 | D | 0 | 0 | 270 | 16 | 335 | 0 | 1 |
| 14 | 1746 | 18900 | 10 | D | 22950 | 84 | D | C | 0 | 4150 | 211 | R | 4050 | 257 | R | 0 | 0 | 235 | 16 | 364 | 0 | 1 |
| 14 | 1746 | 18650 | 7 | D | 22450 | 86 | F | C | 0 | 4470 | 214 | R | 4100 | 255 | F | 0 | 0 | 235 | 16 | 359 | 0 | 1 |
| 14 | 1846 | 18250 | 6 | D | 22000 | 86 | D | C | 0 | 4230 | 213 | D | 4100 | 254 | F | 0 | 0 | 240 | 17 | 350 | 0 | 1 |
| 14 | 1846 | 17950 | 3 | D | 21450 | 86 | R | C | 0 | 4230 | 215 | D | 4150 | 254 | D | 0 | 0 | 240 | 18 | 352 | 0 | 1 |
| 14 | 1846 | 17700 | 2 | D | 20850 | 87 | R | C | 0 | 3930 | 216 | R | 4150 | 252 | D | 0 | 0 | 250 | 18 | 342 | 0 | 1 |
| 14 | 1846 | 17350 | 355 | D | 20350 | 89 | R | C | 0 | 3650 | 218 | R | 4150 | 255 | F | 0 | 0 | 250 | 16 | 340 | 0 | 1 |
| 14 | 1926 | 17150 | 356 | D | 19750 | 89 | R | C | 0 | 3650 | 218 | D | 4400 | 252 | F | 0 | 0 | 250 | 16 | 354 | 0 | 1 |
| 14 | 1926 | 16750 | 355 | D | 19025 | 90 | R | C | 0 | 3650 | 218 | D | 4350 | 251 | R | 0 | 0 | 250 | 24 | 348 | 0 | 1 |
| 14 | 1946 | 17225 | 338 | D | 17325 | 87 | R | C | 0 | 0 | 0 | 0 | 4750 | 267 | D | 0 | 0 | 85 | 14 | 235 | 12 | 2 |
| 14 | 2026 | 24200 | 338 | R | 14350 | 61 | D | C | 0 | 8475 | 298 | R | 10900 | 298 | F | 0 | 0 | 90 | 14 | 138 | 12 | 1 |
| 14 | 2026 | 23750 | 341 | D | 13950 | 62 | D | C | 0 | 9300 | 311 | D | 11375 | 307 | R | 0 | 0 | 245 | 20 | 349 | 0 | 1 |
| 14 | 2046 | 25500 | 340 | D | 13250 | 62 | D | C | 0 | 9300 | 311 | D | 11400 | 305 | D | 0 | 0 | 274 | 22 | 343 | 0 | 1 |
| 14 | 2126 | 25800 | 339 | D | 12650 | 63 | D | C | 0 | 9375 | 310 | D | 11350 | 314 | R | 0 | 0 | 271 | 23 | 347 | 0 | 1 |
| 14 | 2126 | 25650 | 337 | D | 11925 | 63 | D | C | 0 | 9375 | 310 | D | 11300 | 313 | F | 0 | 0 | 290 | 20 | 347 | 0 | 1 |
| 14 | 2126 | 25825 | 336 | D | 11825 | 62 | D | C | 0 | 9375 | 311 | D | 11250 | 312 | F | 0 | 0 | 271 | 21 | 349 | 0 | 1 |
| 14 | 2226 | 26970 | 335 | D | 11700 | 62 | D | C | 0 | 9375 | 312 | R | 11250 | 311 | R | 0 | 0 | 271 | 21 | 355 | 0 | 1 |
| 14 | 2226 | 26270 | 333 | D | 11475 | 62 | R | C | 0 | 9475 | 312 | R | 10800 | 301 | R | 0 | 0 | 271 | 20 | 354 | 0 | 1 |
| 14 | 2246 | 26450 | 333 | D | 10900 | 62 | R | C | 0 | 9450 | 316 | R | 10550 | 301 | F | 0 | 0 | 285 | 24 | 354 | 0 | 1 |
| 14 | 2300 | 26700 | 330 | F | 9575 | 59 | R | C | 0 | 9150 | 317 | R | 10475 | 300 | F | 0 | 0 | 250 | 20 | 350 | 0 | 1 |
| 14 | 2320 | 27600 | 331 | F | 9250 | 60 | R | C | 0 | 9275 | 319 | R | 10375 | 299 | K | 0 | 0 | 251 | 20 | 357 | 0 | 1 |
| 14 | 2340 | 27200 | 329 | D | 8300 | 63 | D | C | 0 | 9275 | 319 | R | 10400 | 295 | K | 0 | 0 | 240 | 17 | 359 | 0 | 1 |
| 14 | 2400 | 27300 | 326 | F | 7700 | 61 | D | C | 0 | 9150 | 317 | P | 10350 | 295 | K | 0 | 0 | 250 | 18 | 2 | 0 | 1 |
| 14 | 2400 | 27700 | 326 | F | 7150 | 63 | D | C | 0 | 9150 | 320 | R | 10450 | 295 | F | 0 | 0 | 264 | 20 | 343 | 0 | 1 |
| 14 | 40 | 28110 | 324 | D | 5350 | 62 | D | C | 0 | 8130 | 322 | R | 10200 | 294 | R | 0 | 0 | 270 | 18 | 356 | 0 | 1 |
| 14 | 100 | 28450 | 323 | P | 5650 | 58 | R | C | 0 | 7950 | 321 | R | 10250 | 291 | R | 0 | 0 | 274 | 17 | 3 | 0 | 1 |
| 14 | 120 | 28800 | 321 | F | 5300 | 58 | R | C | 0 | 8000 | 322 | F | 10000 | 294 | F | 0 | 0 | 270 | 22 | 356 | 0 | 1 |
| 14 | 140 | 29300 | 321 | D | 4400 | 56 | D | C | 0 | 8100 | 324 | R | 10200 | 293 | F | 0 | 0 | 270 | 20 | 358 | 0 | 1 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

ABBREVIATIONS

MOC= MIMO DATA CODE
 C01= CURRENT DROGUE 1
 C02= CURRENT DROGUE 2
 MONE= NON BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

NOTE2*** WIND DATA CODE EXPLANATION**
 0 = RELATIVE WIND RECORDED IN DEGREES TRUE
 1 = RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2 = QUESTIONABLE WIND DATA
 3 = NO WIND DATA RECORDED
 4 = WIND RECORDED IN DEGREES TRUE

| DAY | TIME(Z) | REFERENCE | | CD-1 | | 7-MIN | | 15FT | | 18FT | | 30FT | | CO-2 | | REL. | | | | |
|-----|---------|-----------|-------|-------|-------|-------|-----|-------|-----|-------|-------|-------|-----|-------|-------|-------|-----|------|------|---|
| | | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | MIMO | SHIP | |
| 12 | 420 | 32950 | 311 R | 13350 | 149 R | 0 | 0 | 0 | 0 | 10550 | 305 R | 0 | 0 | 7550 | 5 R | 314 | 1 | 66 | 0 | 1 |
| 12 | 440 | 32850 | 311 R | 13350 | 149 R | 0 | 0 | 0 | 0 | 10550 | 305 R | 0 | 0 | 7550 | 5 R | 314 | 1 | 66 | 0 | 1 |
| 12 | 500 | 31300 | 310 P | 9650 | 145 R | 0 | 0 | 0 | 0 | 11530 | 301 R | 0 | 0 | 7600 | 358 R | 368 | 0 | 157 | 0 | 1 |
| 12 | 520 | 31900 | 310 R | 9100 | 145 R | 0 | 0 | 0 | 0 | 11750 | 303 R | 0 | 0 | 8340 | 358 R | 368 | 0 | 157 | 0 | 1 |
| 12 | 540 | 32250 | 308 R | 9100 | 143 R | 0 | 0 | 0 | 0 | 12210 | 301 R | 0 | 0 | 8200 | 356 R | 368 | 0 | 220 | 0 | 1 |
| 12 | 600 | 32250 | 315 R | 9100 | 149 R | 0 | 0 | 0 | 0 | 12650 | 309 R | 0 | 0 | 8500 | 3 R | 364 | 0 | 241 | 0 | 1 |
| 12 | 620 | 32750 | 314 R | 9100 | 155 R | 0 | 0 | 0 | 0 | 12950 | 311 R | 0 | 0 | 8550 | 5 R | 270 | 0 | 294 | 0 | 1 |
| 12 | 640 | 33150 | 314 R | 9650 | 150 R | 0 | 0 | 0 | 0 | 13200 | 306 R | 0 | 0 | 8850 | 357 R | 364 | 0 | 313 | 0 | 1 |
| 12 | 700 | 33150 | 312 R | 9650 | 149 R | 0 | 0 | 0 | 0 | 13500 | 307 R | 0 | 0 | 8850 | 358 R | 364 | 0 | 313 | 0 | 1 |
| 12 | 720 | 33650 | 312 R | 9700 | 149 R | 0 | 0 | 0 | 0 | 13700 | 305 R | 0 | 0 | 8900 | 326 R | 368 | 0 | 312 | 0 | 1 |
| 12 | 740 | 33725 | 312 R | 9775 | 147 R | 0 | 0 | 0 | 0 | 13950 | 305 R | 0 | 0 | 8950 | 329 R | 360 | 0 | 35 | 0 | 1 |
| 12 | 800 | 34825 | 311 R | 9850 | 147 R | 0 | 0 | 0 | 0 | 14225 | 307 R | 0 | 0 | 8950 | 329 R | 270 | 0 | 44 | 0 | 1 |
| 12 | 820 | 34825 | 312 R | 9550 | 151 R | 0 | 0 | 0 | 0 | 14225 | 307 R | 0 | 0 | 9025 | 329 R | 215 | 0 | 46 | 0 | 1 |
| 12 | 840 | 34825 | 311 R | 9275 | 149 R | 0 | 0 | 0 | 0 | 14050 | 308 R | 0 | 0 | 9250 | 329 R | 235 | 0 | 30 | 0 | 1 |
| 12 | 900 | 34925 | 313 R | 9100 | 149 R | 0 | 0 | 0 | 0 | 14370 | 310 R | 0 | 0 | 9650 | 329 R | 241 | 0 | 34 | 0 | 1 |
| 12 | 920 | 34900 | 313 R | 9200 | 151 R | 0 | 0 | 0 | 0 | 14670 | 310 R | 0 | 0 | 9725 | 326 R | 240 | 0 | 23 | 0 | 1 |
| 12 | 940 | 35250 | 314 R | 7850 | 154 R | 0 | 0 | 0 | 0 | 14650 | 312 R | 0 | 0 | 9775 | 326 R | 250 | 0 | 9 | 0 | 1 |
| 12 | 1000 | 35450 | 314 R | 9100 | 154 R | 0 | 0 | 0 | 0 | 14130 | 311 R | 0 | 0 | 9750 | 327 R | 214 | 0 | 31 | 0 | 1 |
| 12 | 1020 | 35750 | 314 R | 9550 | 156 R | 0 | 0 | 0 | 0 | 14030 | 314 R | 0 | 0 | 10100 | 328 R | 235 | 0 | 14 | 0 | 1 |
| 12 | 1040 | 35725 | 314 R | 7850 | 159 R | 0 | 0 | 0 | 0 | 14150 | 314 R | 0 | 0 | 9800 | 328 R | 245 | 0 | 2 | 0 | 1 |
| 12 | 1100 | 36100 | 313 R | 9300 | 160 R | 0 | 0 | 0 | 0 | 14150 | 312 R | 0 | 0 | 10050 | 328 R | 270 | 0 | 7 | 0 | 1 |
| 12 | 1120 | 37150 | 312 R | 9225 | 159 R | 0 | 0 | 0 | 0 | 16350 | 311 R | 0 | 0 | 10950 | 346 R | 15 | 5 | 159 | 14 | 1 |
| 12 | 1340 | 27500 | 305 R | 4900 | 312 R | 0 | 0 | 0 | 0 | 5150 | 259 R | 0 | 0 | 5300 | 84 R | 354 | 2 | 186 | 0 | 1 |
| 12 | 1400 | 27850 | 310 R | 4600 | 322 R | 0 | 0 | 0 | 0 | 5430 | 268 R | 0 | 0 | 5400 | 89 R | 180 | 1 | 236 | 0 | 1 |
| 12 | 1420 | 28100 | 305 R | 4900 | 320 R | 0 | 0 | 0 | 0 | 5430 | 267 R | 0 | 0 | 5500 | 86 R | 364 | 0 | 217 | 0 | 1 |
| 12 | 1440 | 28300 | 305 R | 5200 | 320 R | 0 | 0 | 0 | 0 | 5550 | 265 R | 0 | 0 | 5600 | 83 R | 281 | 5 | 217 | 0 | 1 |
| 12 | 1500 | 28600 | 309 R | 5100 | 324 R | 0 | 0 | 0 | 0 | 5550 | 273 R | 0 | 0 | 5500 | 89 R | 281 | 4 | 132 | 0 | 1 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL
CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

ABBREVIATIONS

WDC= WIND DATA CODE
CDL= CURRENT DROGUE 1
CD2= CURRENT DROGUE 2
HOM= HOM BEARINGS WERE OBTAINED
R= RADAR
VE= VISUAL
A= ALONGSIDE

NOTE2*** WIND DATA CODE EXPLANATION**
0= RELATIVE WIND RECORDED IN DEGREES TRUE
1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
2= QUESTIONABLE WIND DATA
3= NO WIND DATA RECORDED
4= WIND RECORDED IN DEGREES TRUE

| DAY | TIME(Z) | REFERENCE | | CO-1 | | 7-MAN | | 16FT BOAT | | 16FT BOAT | | 16FT BOAT | | REL. SHIP | | | | | | |
|-----------------|---------|-----------|-------|-------|-------|-------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----|-----|-----|-----|---|
| | | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | RANGE | BRG | DIR | SPD | CRS | SPD | C |
| 66 OBSERVATIONS | | | | | | | | | | | | | | | | | | | | |
| FVSAR 2/71 | | | | | | | | | | | | | | | | | | | | |
| 25 | 1510 | 7400 | 176 R | 2700 | 181 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1550 | 3150 | 176 P | 4550 | 179 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1610 | 8100 | 191 P | 4100 | 215 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1630 | 7750 | 199 R | 4500 | 225 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1650 | 7500 | 208 R | 4950 | 242 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1710 | 7650 | 215 R | 5500 | 254 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1730 | 7450 | 211 R | 4950 | 246 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1750 | 8450 | 187 R | 4450 | 209 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1810 | 7000 | 191 R | 4900 | 233 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1830 | 5500 | 213 R | 5400 | 270 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1850 | 5400 | 244 R | 7350 | 295 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1910 | 4500 | 245 R | 6700 | 302 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1930 | 3700 | 192 R | 2500 | 307 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1950 | 5550 | 163 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2010 | 6150 | 209 P | 5100 | 276 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2030 | 5650 | 197 R | 5100 | 264 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2130 | 5250 | 209 P | 5850 | 202 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2150 | 5250 | 209 P | 5750 | 297 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2210 | 5100 | 210 P | 5950 | 371 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2230 | 4200 | 208 P | 6350 | 301 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2250 | 4650 | 209 R | 6950 | 307 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2310 | 4600 | 208 R | 6450 | 309 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2330 | 4400 | 209 R | 7150 | 312 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 2350 | 4250 | 210 R | 7500 | 315 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 10 | 4250 | 211 R | 7490 | 316 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 30 | 4180 | 215 R | 8200 | 320 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 50 | 4100 | 219 R | 8650 | 320 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 110 | 4000 | 221 P | 9200 | 320 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 130 | 3950 | 226 R | 9750 | 324 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 150 | 3800 | 235 R | 10550 | 324 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 210 | 3900 | 240 P | 11200 | 326 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 230 | 4000 | 245 P | 11950 | 325 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 250 | 4100 | 250 R | 12550 | 327 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 330 | 4650 | 259 P | 14000 | 325 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 350 | 4850 | 264 R | 14950 | 326 P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 410 | 5600 | 269 P | 16500 | 333 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 440 | 6200 | 285 P | 17650 | 334 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 510 | 6700 | 289 P | 17650 | 334 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 540 | 7250 | 292 R | 19500 | 333 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 580 | 7750 | 295 R | 19000 | 332 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 610 | 8250 | 296 R | 19300 | 332 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 650 | 8200 | 292 R | 21300 | 325 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 730 | 10350 | 290 R | 22900 | 314 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 780 | 10700 | 290 R | 23500 | 314 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 810 | 11200 | 290 R | 24250 | 316 R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

NOTE1*** THE FIGURES 999 IN THE DROGUE DRIFT OBJECT BEARING IS A SPECIAL
 CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATIONS**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

MDC= WIND DATA CODE
 CO1= CURRENT DROGUE 1
 CO2= CURRENT DROGUE 2
 HOM= HOW BEARINGS WERE OBTAINED
 F= RADAR
 V= VISUAL
 A= ALONGSIDE

| DRY TIME(7) | REFERENCE | M | CD-1 | M | 7-MIN | M | 15FT BOAT | M | 18FT BOAT | M | 30FT BOAT | M | CD-2 | M | HEL | | | | | | | |
|-------------|-----------|-----|------|-------|-------|---|-----------|-------|-----------|-------|-----------|-----|-------|-------|-------|----|-----|----|-----|-----|---|---|
| | RANGE | DRG | R | RANGE | DRG | R | RANGE | DRG | R | RANGE | DRG | R | RANGE | DRG | DIR | | | | | | | |
| 27 31P | 16451 | 153 | 6 | 9400 | 325 | 2 | 3050 | 186 | R | 3650 | 293 | R | 0 | 9250 | 88 | R | 100 | 10 | 242 | 0 | 1 | |
| 27 31P | 16803 | 152 | 0 | 10300 | 321 | 0 | 3200 | 190 | 0 | 3650 | 291 | R | 0 | 9100 | 86 | R | 100 | 12 | 245 | 0 | 1 | |
| 27 36C | 15940 | 154 | R | 10450 | 322 | R | 3250 | 177 | R | 3650 | 291 | R | 0 | 8850 | 83 | R | 120 | 10 | 223 | 0 | 1 | |
| 27 41B | 14900 | 155 | R | 11750 | 323 | R | 3300 | 176 | R | 3930 | 292 | R | 0 | 8500 | 79 | R | 90 | 10 | 232 | 0 | 1 | |
| 27 430 | 14400 | 154 | 0 | 12350 | 321 | 0 | 3300 | 172 | 0 | 3930 | 287 | R | 0 | 8150 | 74 | R | 90 | 11 | 239 | 0 | 1 | |
| 27 450 | 13700 | 154 | 0 | 12350 | 321 | 0 | 3250 | 167 | 0 | 3490 | 290 | R | 0 | 8000 | 70 | R | 90 | 10 | 247 | 0 | 1 | |
| 27 51P | 12600 | 155 | 0 | 13550 | 323 | 0 | 3250 | 164 | 0 | 3230 | 293 | R | 0 | 8000 | 65 | R | 90 | 10 | 247 | 0 | 1 | |
| 27 53P | 12050 | 154 | K | 14700 | 324 | 0 | 3300 | 165 | 0 | 3170 | 300 | R | 0 | 7900 | 62 | R | 60 | 10 | 255 | 0 | 1 | |
| 27 550 | 11550 | 157 | 0 | 14700 | 325 | 0 | 2400 | 162 | 0 | 3050 | 304 | R | 0 | 7900 | 56 | R | 120 | 10 | 238 | 0 | 1 | |
| 27 610 | 11300 | 157 | 0 | 15400 | 326 | 0 | 2400 | 162 | 0 | 2950 | 307 | R | 0 | 8050 | 51 | R | 100 | 0 | 253 | 0 | 1 | |
| 27 63P | 10650 | 156 | P | 15450 | 325 | 0 | 2550 | 157 | P | 2910 | 315 | P | 0 | 8330 | 44 | R | 90 | 10 | 254 | 0 | 1 | |
| 27 650 | 10600 | 157 | P | 16350 | 324 | 0 | 2300 | 152 | F | 2910 | 321 | R | 0 | 8660 | 39 | R | 90 | 10 | 235 | 0 | 1 | |
| 27 710 | 9200 | 156 | 0 | 17000 | 326 | 0 | 2100 | 145 | R | 2800 | 325 | R | 0 | 8950 | 40 | R | 90 | 0 | 227 | 0 | 1 | |
| 27 750 | 9500 | 157 | 0 | 17450 | 326 | 0 | 2200 | 134 | R | 2970 | 332 | R | 0 | 9550 | 36 | R | 90 | 0 | 237 | 0 | 1 | |
| 27 810 | 8600 | 155 | R | 18100 | 327 | 0 | 2350 | 124 | R | 2730 | 337 | R | 0 | 10000 | 30 | R | 110 | 10 | 239 | 0 | 1 | |
| 27 830 | 8350 | 156 | P | 18550 | 327 | 0 | 2300 | 124 | P | 2450 | 334 | R | 0 | 10850 | 30 | R | 150 | 10 | 243 | 0 | 1 | |
| 27 830 | 7975 | 156 | R | 18425 | 326 | R | 2400 | 129 | F | 2350 | 335 | R | 0 | 11650 | 25 | R | 95 | 10 | 242 | 0 | 1 | |
| 27 910 | 7650 | 156 | 0 | 19075 | 326 | R | 2100 | 131 | R | 1850 | 328 | R | 0 | 11925 | 25 | R | 100 | 12 | 246 | 0 | 1 | |
| 27 930 | 7400 | 159 | 0 | 19450 | 329 | R | 2100 | 130 | 0 | 1825 | 325 | R | 0 | 11300 | 22 | R | 95 | 10 | 246 | 0 | 1 | |
| 27 950 | 7150 | 157 | 0 | 20450 | 327 | 0 | 2100 | 130 | 0 | 1775 | 329 | R | 0 | 11725 | 23 | R | 90 | 11 | 265 | 0 | 1 | |
| 27 1010 | 6925 | 156 | 0 | 20200 | 328 | 0 | 2100 | 132 | 0 | 1725 | 320 | R | 0 | 12100 | 20 | R | 102 | 12 | 248 | 0 | 1 | |
| 27 1030 | 6750 | 155 | 0 | 21425 | 326 | 0 | 2580 | 134 | 0 | 1650 | 337 | R | 0 | 12500 | 19 | R | 115 | 10 | 255 | 0 | 1 | |
| 27 1050 | 6575 | 157 | 0 | 21425 | 326 | 0 | 2520 | 131 | F | 1775 | 339 | R | 0 | 12800 | 18 | R | 135 | 10 | 242 | 0 | 1 | |
| 27 1110 | 6175 | 151 | 0 | 21100 | 326 | 0 | 2300 | 133 | 0 | 1925 | 344 | R | 0 | 13100 | 19 | R | 110 | 6 | 254 | 0 | 1 | |
| 27 1130 | 15875 | 150 | 0 | 13750 | 326 | R | 0 | 5300 | 137 | 0 | 1800 | 120 | P | 0 | 11950 | 24 | R | 25 | 18 | 327 | 0 | 1 |
| 27 1150 | 17650 | 142 | 0 | 17325 | 322 | R | 0 | 10850 | 142 | 0 | 6900 | 137 | R | 0 | 10525 | 49 | R | 25 | 16 | 328 | 0 | 1 |
| 27 1210 | 20600 | 141 | P | 7200 | 321 | R | 0 | 13950 | 136 | R | 1375 | 135 | R | 0 | 10575 | 63 | R | 30 | 12 | 329 | 0 | 1 |
| 27 1230 | 23175 | 140 | 0 | 4250 | 324 | 0 | 0 | 0 | 0 | 13625 | 135 | P | 0 | 11600 | 77 | R | 40 | 12 | 331 | 0 | 1 | |
| 27 1250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15325 | 135 | R | 0 | 13450 | 86 | R | 45 | 14 | 336 | 0 | 1 | |
| 27 1310 | 27600 | 139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 27 1330 | 23050 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2400 | 138 | R | 0 | 14750 | 97 | R | 330 | 18 | 99 | 0 | 1 | |
| 27 1350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14700 | 169 | R | 0 | 5650 | 121 | R | 315 | 14 | 110 | 0 | 1 | |
| 27 1410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 27 1430 | 15350 | 175 | P | 0 | 0 | 0 | 12450 | 181 | R | 9400 | 195 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 27 1450 | 9100 | 195 | R | 0 | 0 | 0 | 6050 | 202 | P | 4750 | 244 | R | 0 | 0 | 0 | 0 | 310 | 6 | 150 | 0 | 1 | |
| 27 1510 | 2050 | 229 | 0 | 0 | 0 | 0 | 3700 | 295 | 0 | 6950 | 315 | R | 0 | 0 | 0 | 0 | 330 | 5 | 197 | 0 | 1 | |
| 27 1530 | 5150 | 17 | 0 | 0 | 0 | 0 | 9150 | 200 | R | 11200 | 351 | R | 0 | 0 | 0 | 0 | 30 | 8 | 222 | 0 | 1 | |
| 27 1550 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 27 1610 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |

(continued)

| 46 OBSERVATIONS | | EVSAR 2/71 | | RUN 4 | | | | | | | | | | | | |
|-----------------|------|------------|-------|-------------|-----|-------|------|-------|------|------|------------|-------|--------|--------|-------|---|
| 27 | 1630 | 7503 | 32 2 | 1650 184 R | 0 0 | 8850 | 13 K | 13650 | 6 R | 0 0 | 2300 155 R | 180 2 | 253 0 | 1 | | |
| 27 | 1650 | 7550 | 36 0 | 1900 169 0 | 0 0 | 9300 | 16 R | 7650 | 7 R | 0 0 | 2350 147 R | 45 8 | 340 0 | 1 | | |
| 27 | 1710 | 7200 | 44 2 | 3250 162 0 | 0 0 | 7950 | 19 R | 9630 | 7 R | 0 0 | 3550 140 R | 46 8 | 340 0 | 1 | | |
| 27 | 1730 | 7150 | 50 0 | 3850 163 R | 0 0 | 7700 | 29 R | 9250 | 14 R | 0 0 | 3450 153 R | 0 0 | 0 0 | 2 | | |
| 27 | 1750 | 7250 | 50 0 | 3550 177 R | 0 0 | 7450 | 20 F | 9550 | 14 R | 0 0 | 3200 157 R | 0 0 | 0 0 | 1 | | |
| 27 | 1810 | 7500 | 60 0 | 3500 159 0 | 0 0 | 8000 | 30 R | 9400 | 14 R | 0 0 | 3500 147 R | 350 1 | 251 0 | 1 | | |
| 27 | 1830 | 7600 | 50 0 | 3800 183 0 | 0 0 | 8050 | 22 R | 9580 | 11 R | 0 0 | 3000 140 R | 0 0 | 0 0 | 1 | | |
| 27 | 1950 | 10950 | 34 0 | 2900 14 R | 0 0 | 10500 | 19 R | 13200 | 14 R | 0 0 | 3750 15 R | 360 5 | 190 7 | 1 | | |
| 27 | 1910 | 16450 | 29 R | 8700 0 R | 0 0 | 10500 | 19 R | 13200 | 14 R | 0 0 | 9400 3 R | 360 5 | 180 7 | 1 | | |
| 27 | 1930 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | | |
| 27 | 1950 | 13000 | 49 0 | 3500 184 0 | 0 0 | 13700 | 24 R | 11900 | 16 R | 0 0 | 3500 92 R | 0 0 | 0 0 | 1 | | |
| 27 | 2010 | 10500 | 65 0 | 5400 110 0 | 0 0 | 9400 | 26 R | 13700 | 14 K | 5100 | 217 R | 120 2 | 47 0 | 1 | | |
| 27 | 2030 | 10350 | 63 0 | 5400 110 0 | 0 0 | 9600 | 28 R | 10700 | 16 R | 0 0 | 4650 109 R | 120 4 | 47 0 | 1 | | |
| 27 | 2050 | 9750 | 55 0 | 4950 110 0 | 0 0 | 9225 | 20 0 | 11500 | 19 R | 5450 | 180 F | 0 0 | 0 0 | 1 | | |
| 27 | 2110 | 13650 | 44 0 | 2400 16 0 | 0 0 | 13700 | 17 R | 14300 | 10 R | 8950 | 197 R | 300 8 | 170 6 | 1 | | |
| 27 | 2130 | 11650 | 36 0 | 5400 0 0 | 0 0 | 15200 | 6 R | 17300 | 1 K | 4775 | 155 R | 4400 | 11 R | 10 14 | 172 6 | 1 |
| 27 | 2150 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 27 | 2210 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 27 | 2230 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 27 | 2250 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 27 | 2310 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 27 | 2330 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 27 | 2350 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 28 | 10 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | |
| 28 | 30 | 13250 | 52 0 | 3500 14 0 | 0 0 | 18300 | 13 F | 19650 | 13 0 | 0 0 | 6900 | 3 K | 315 10 | 331 13 | 1 | |
| 28 | 50 | 11250 | 65 0 | 4450 112 0 | 0 0 | 10500 | 36 F | 16300 | 28 R | 0 0 | 3950 | 61 R | 315 10 | 331 13 | 1 | |
| 28 | 110 | 13100 | 102 0 | 3900 130 R | 0 0 | 13500 | 52 R | 13300 | 42 R | 0 0 | 5400 | 110 R | 300 10 | 20 10 | 1 | |
| 28 | 130 | 12800 | 120 0 | 11200 162 0 | 0 0 | 11500 | 66 R | 9800 | 53 R | 0 0 | 6850 | 150 F | 0 0 | 0 0 | 2 | |
| 28 | 150 | 19500 | 120 0 | 13500 146 0 | 0 0 | 14500 | 70 R | 13950 | 57 R | 2850 | 118 R | 9000 | 142 R | 0 0 | 0 0 | 2 |
| 28 | 210 | 15500 | 126 0 | 13200 157 0 | 0 0 | 14400 | 74 R | 11300 | 63 R | 2400 | 122 R | 9000 | 142 R | 0 0 | 0 0 | 2 |
| 28 | 230 | 15400 | 130 0 | 13000 158 0 | 0 0 | 14900 | 72 R | 11100 | 60 R | 2200 | 120 R | 8550 | 153 R | 75 0 | 130 0 | 1 |
| 28 | 250 | 15500 | 134 0 | 13050 162 0 | 0 0 | 14750 | 73 F | 11200 | 58 R | 2450 | 116 F | 8400 | 156 R | 95 10 | 89 0 | 1 |
| 28 | 310 | 15550 | 135 0 | 13100 165 0 | 0 0 | 14600 | 71 R | 11300 | 57 R | 1900 | 118 R | 8300 | 158 R | 90 0 | 110 0 | 1 |
| 28 | 330 | 15500 | 134 0 | 13100 165 0 | 0 0 | 15300 | 72 F | 11200 | 57 R | 1700 | 118 R | 8050 | 152 R | 85 0 | 105 0 | 1 |
| 28 | 350 | 0 | 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | 410 | 17600 | 146 0 | 15400 171 R | 0 0 | 14800 | 82 K | 10150 | 69 K | 3150 | 152 R | 10150 | 160 R | 60 10 | 130 0 | 1 |
| 28 | 430 | 17650 | 149 0 | 15250 173 R | 0 0 | 14600 | 81 R | 10300 | 64 K | 3050 | 152 R | 9950 | 172 R | 90 0 | 130 0 | 1 |
| 28 | 450 | 17600 | 145 0 | 15300 174 0 | 0 0 | 14150 | 77 R | 9900 | 62 R | 2950 | 150 K | 9700 | 172 R | 90 0 | 121 0 | 1 |
| 28 | 510 | 17700 | 151 0 | 15300 174 0 | 0 0 | 9850 | 76 R | 9500 | 58 R | 1200 | 154 R | 9750 | 176 R | 90 0 | 126 0 | 1 |
| 28 | 530 | 17800 | 154 0 | 15000 175 0 | 0 0 | 9200 | 75 R | 9600 | 54 R | 2600 | 156 R | 9400 | 178 R | 90 0 | 125 0 | 1 |
| 28 | 550 | 17800 | 156 0 | 14900 182 0 | 0 0 | 9300 | 71 R | 10300 | 53 R | 0 0 | 0 0 | 9300 | 181 R | 90 0 | 127 0 | 1 |
| 28 | 610 | 18000 | 159 0 | 14900 182 0 | 0 0 | 9500 | 69 R | 9500 | 52 F | 0 0 | 0 0 | 9300 | 186 R | 90 0 | 115 0 | 1 |
| 28 | 630 | 18000 | 161 0 | 14700 187 0 | 0 0 | 9100 | 64 R | 9600 | 48 R | 0 0 | 0 0 | 9300 | 191 R | 90 0 | 129 0 | 1 |
| 28 | 650 | 18200 | 165 0 | 14850 191 R | 0 0 | 7750 | 63 R | 9450 | 46 R | 0 0 | 0 0 | 9350 | 194 R | 90 0 | 124 0 | 1 |
| 28 | 710 | 18250 | 166 0 | 14700 164 0 | 0 0 | 7400 | 54 F | 9500 | 46 R | 0 0 | 0 0 | 9350 | 194 R | 90 0 | 120 0 | 1 |
| 28 | 730 | 18500 | 169 0 | 14500 164 0 | 0 0 | 7400 | 54 F | 9500 | 43 R | 0 0 | 0 0 | 9500 | 197 R | 90 0 | 126 0 | 1 |

| 46 OBSERVATIONS | | EVSAR 2/71 | | RUN 5 | | | | | | | | | | | | |
|-----------------|------|------------|-------|-------------|-----|------|-------|-------|-------|------|-------|--------|-------|--------|-------|---|
| 28 | 750 | 18900 | 171 0 | 13850 203 0 | 0 0 | 7350 | 51 F | 9750 | 39 K | 0 0 | 9850 | 203 R | 90 10 | 125 0 | 1 | |
| 28 | 810 | 18900 | 172 0 | 14500 201 0 | 0 0 | 7200 | 46 R | 9700 | 40 R | 0 0 | 9900 | 203 R | 90 10 | 133 0 | 1 | |
| 28 | 830 | 19150 | 176 0 | 14950 205 0 | 0 0 | 7400 | 41 R | 9800 | 34 R | 0 0 | 10250 | 207 R | 90 10 | 132 0 | 1 | |
| 28 | 850 | 19450 | 179 0 | 14750 206 0 | 0 0 | 7350 | 40 R | 9900 | 37 F | 2050 | 216 F | 10400 | 208 R | 90 12 | 135 0 | 1 |
| 28 | 910 | 19950 | 179 0 | 14950 207 0 | 0 0 | 7400 | 38 R | 9800 | 34 R | 2200 | 217 F | 10700 | 209 R | 80 12 | 135 0 | 1 |
| 28 | 930 | 20400 | 178 0 | 15150 210 0 | 0 0 | 7200 | 35 R | 9800 | 34 R | 2600 | 220 R | 11100 | 210 R | 80 12 | 135 0 | 1 |
| 28 | 950 | 21000 | 180 0 | 15350 211 0 | 0 0 | 7200 | 32 R | 9900 | 36 R | 2950 | 220 R | 11300 | 211 R | 90 0 | 128 0 | 1 |
| 28 | 1010 | 21350 | 184 0 | 15600 211 0 | 0 0 | 7300 | 30 R | 10300 | 35 R | 2700 | 230 R | 11700 | 212 R | 80 14 | 128 0 | 1 |
| 28 | 1030 | 22100 | 184 0 | 15100 211 0 | 0 0 | 7200 | 27 F | 10300 | 39 R | 0 0 | 0 0 | 12200 | 213 R | 80 12 | 111 0 | 1 |
| 28 | 1050 | 22000 | 183 0 | 15400 211 0 | 0 0 | 7200 | 24 R | 9600 | 41 R | 3100 | 236 R | 12700 | 213 R | 80 12 | 111 0 | 1 |
| 28 | 1110 | 22500 | 184 0 | 16650 213 0 | 0 0 | 7400 | 22 F | 9600 | 42 R | 0 0 | 0 0 | 13250 | 215 R | 80 12 | 127 0 | 1 |
| 28 | 1130 | 23150 | 185 0 | 16500 213 0 | 0 0 | 7400 | 22 F | 9600 | 40 R | 5200 | 217 F | 15050 | 215 R | 105 10 | 135 0 | 1 |
| 28 | 2330 | 10375 | 322 0 | 2125 316 0 | 0 0 | 9150 | 223 F | 7275 | 257 R | 0 0 | 0 0 | 250 12 | 335 0 | 0 0 | 0 0 | 1 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR ORBIT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

***ABBREVIATIONS**

WOC= WIND DATA CODE
 CO1= CURRENT DROGUE 1
 CO2= CURRENT DROGUE 2
 H0M= HOW BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

NOTE2*** WIND DATA CODE EXPLANATION**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

| DAY | TIME (Z) | REFERENCE | H | CD-1 | H | 7-MAN | H | 15FT | H | 18FT | H | 30FT | H | CD-2 | H | REL. | | | | | | |
|-----|----------|-----------|-----|------|-------|-------|---|-------|-----|------|-------|------|---|-------|-----|------|-----|-----|-----|-----|---|---|
| | | RANGE | BRG | W | RANGE | 99S | W | RANGE | BRG | W | RANGE | BRG | W | RANGE | BRG | W | DIR | SPO | CRS | SPO | D | |
| 1 | 2350 | 10550 | 319 | R | 2250 | 304 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 16 | 345 | 0 | 1 | |
| 1 | 10 | 10600 | 318 | R | 2550 | 295 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 13 | 336 | 0 | 1 | |
| 1 | 30 | 10150 | 325 | R | 1750 | 320 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 14 | 240 | 0 | 1 | |
| 1 | 50 | 10450 | 354 | R | 5700 | 51 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 24 | 254 | 7 | 1 | |
| 1 | 110 | 11600 | 5 | R | 8100 | 52 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 18 | 177 | 0 | 1 | |
| 1 | 130 | 11600 | 2 | R | 7600 | 43 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 | 12 | 15 | 0 | 1 | |
| 1 | 150 | 11800 | 0 | R | 7250 | 45 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 10 | 143 | 0 | 1 | |
| 1 | 210 | 11900 | 357 | R | 5850 | 41 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 75 | 14 | 151 | 0 | 1 | |
| 1 | 230 | 12150 | 356 | R | 6600 | 38 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 75 | 14 | 157 | 0 | 1 | |
| 1 | 250 | 9400 | 356 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 330 | 8950 | 352 | R | 4900 | 67 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 350 | 9300 | 353 | R | 4250 | 64 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 410 | 9450 | 349 | R | 3650 | 57 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 430 | 9520 | 346 | R | 3500 | 61 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 450 | 9320 | 342 | R | 3300 | 21 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 510 | 10200 | 341 | R | 2850 | 47 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 530 | 10600 | 339 | R | 3500 | 35 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 550 | 11300 | 347 | R | 3600 | 24 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 610 | 10900 | 335 | R | 2350 | 42 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 630 | 8300 | 335 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 650 | 8300 | 335 | R | 2250 | 59 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 710 | 9100 | 334 | R | 2200 | 55 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 730 | 9100 | 332 | R | 1750 | 54 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 750 | 10300 | 329 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 810 | 10200 | 338 | R | 4100 | 355 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 830 | 10450 | 335 | R | 4050 | 352 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 850 | 10200 | 345 | R | 4450 | 344 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 910 | 10675 | 334 | R | 4325 | 342 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 930 | 10100 | 332 | R | 4975 | 339 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 950 | 10650 | 333 | R | 5375 | 336 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1010 | 10900 | 333 | R | 5550 | 334 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1030 | 10275 | 334 | R | 5750 | 333 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1050 | 10500 | 333 | R | 5075 | 330 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1110 | 10725 | 334 | R | 6075 | 330 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1130 | 10950 | 333 | R | 6200 | 331 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1150 | 10250 | 332 | R | 6675 | 327 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1210 | 10525 | 332 | R | 6700 | 326 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1230 | 10025 | 325 | R | 6775 | 304 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1250 | 10550 | 310 | R | 6450 | 244 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1310 | 10150 | 299 | R | 7000 | 224 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1330 | 10450 | 300 | R | 8000 | 224 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1350 | 10200 | 298 | R | 8500 | 230 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1410 | 10600 | 298 | R | 8550 | 229 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1430 | 10850 | 294 | R | 9350 | 226 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1450 | 10300 | 293 | R | 10100 | 226 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1 | 1510 | 10400 | 292 | R | 10450 | 225 | R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

WDC= WIND DATA CODE
 CD1= CURRENT DROGUE 1
 CD2= CURRENT DROGUE 2
 H0M= HOW BEARINGS WERE OBTAINED
 R= RADAR
 V= VISUAL
 A= ALONGSIDE

| DAY | TIME (Z) | REFERENCE | H | CD-1 | H | 7-MAN | H | 16FT BOAT | H | 18FT BOAT | H | 33FT BOAT | H | CD-2 | H | REL. | | | | | | |
|-----|----------|-----------|-----|------|-------|-------|---|-----------|-----|-----------|-------|-----------|-------|-------|-----|------|-----|-----|-----|-----|-----|---|
| | | RANGE | BRG | W | RANGE | BRG | W | RANGE | BRG | W | RANGE | BRG | W | RANGE | BRG | W | DIR | SPD | SPD | DIR | SPD | |
| 2 | 1010 | 11550 | 277 | R | 14650 | 185 | R | 0 | 0 | 10050 | 141 | F | 5725 | 150 | R | 0 | 0 | 250 | 16 | 352 | 0 | 1 |
| 2 | 1030 | 11900 | 275 | P | 15250 | 191 | P | 0 | 0 | 13600 | 141 | P | 6170 | 154 | R | 0 | 0 | 245 | 14 | 347 | 0 | 1 |
| 2 | 1050 | 12250 | 277 | P | 15180 | 191 | P | 0 | 0 | 17575 | 160 | R | 5930 | 154 | R | 0 | 0 | 8 | 12 | 150 | 3 | 1 |
| 2 | 1110 | 14400 | 283 | P | 13080 | 201 | R | 0 | 0 | 7972 | 144 | R | 4625 | 90 | R | 0 | 0 | 65 | 17 | 134 | 1 | 1 |
| 2 | 1130 | 14750 | 289 | R | 13775 | 204 | R | 0 | 0 | 7875 | 134 | R | 4631 | 82 | P | 0 | 0 | 65 | 17 | 158 | 0 | 1 |
| 2 | 1150 | 15850 | 290 | P | 13150 | 207 | R | 0 | 0 | 7525 | 132 | R | 4730 | 75 | R | 0 | 0 | 85 | 12 | 154 | 0 | 1 |
| 2 | 1210 | 16050 | 291 | R | 13300 | 211 | R | 0 | 0 | 7350 | 132 | R | 4875 | 65 | R | 0 | 0 | 90 | 12 | 154 | 0 | 1 |
| 2 | 1230 | 16725 | 292 | P | 13475 | 214 | R | 0 | 0 | 7375 | 130 | P | 5350 | 60 | R | 0 | 0 | 8 | 12 | 157 | 0 | 1 |
| 2 | 1250 | 17700 | 292 | R | 14100 | 219 | R | 0 | 0 | 6900 | 135 | P | 5450 | 56 | P | 0 | 0 | 80 | 10 | 155 | 0 | 1 |
| 2 | 1310 | 18070 | 291 | P | 14350 | 219 | R | 0 | 0 | 6550 | 138 | R | 5711 | 54 | R | 0 | 0 | 80 | 14 | 155 | 0 | 1 |
| 2 | 1330 | 18750 | 294 | R | 14360 | 225 | R | 0 | 0 | 6050 | 138 | R | 5870 | 43 | R | 0 | 0 | 80 | 14 | 127 | 0 | 1 |
| 2 | 1350 | 19800 | 295 | R | 14950 | 228 | R | 0 | 0 | 5550 | 136 | P | 6210 | 39 | R | 0 | 0 | 84 | 11 | 158 | 0 | 1 |
| 2 | 1410 | 20400 | 296 | R | 15150 | 231 | R | 0 | 0 | 5370 | 136 | P | 6510 | 37 | R | 0 | 0 | 80 | 10 | 154 | 0 | 1 |
| 2 | 1430 | 21050 | 296 | P | 15350 | 232 | R | 0 | 0 | 5050 | 137 | P | 7030 | 32 | P | 0 | 0 | 8 | 10 | 151 | 0 | 1 |
| 2 | 1450 | 21750 | 295 | P | 15800 | 236 | P | 0 | 0 | 4900 | 137 | P | 7450 | 32 | R | 0 | 0 | 8 | 12 | 154 | 0 | 1 |
| 2 | 1510 | 22550 | 296 | R | 16230 | 238 | R | 0 | 0 | 4630 | 140 | R | 7900 | 31 | R | 0 | 0 | 9 | 11 | 185 | 0 | 1 |
| 2 | 1530 | 22800 | 298 | R | 15950 | 236 | R | 0 | 0 | 4700 | 139 | P | 9150 | 35 | P | 0 | 0 | 5 | 24 | 235 | 0 | 1 |
| 2 | 1550 | 21500 | 310 | P | 11400 | 240 | R | 0 | 0 | 8150 | 95 | R | 14300 | 44 | R | 0 | 0 | 325 | 15 | 279 | 0 | 1 |
| 2 | 1610 | 21700 | 309 | R | 11800 | 242 | R | 0 | 0 | 8350 | 95 | R | 14350 | 44 | R | 0 | 0 | 260 | 16 | 345 | 0 | 1 |
| 2 | 1630 | 21950 | 308 | R | 12300 | 243 | R | 0 | 0 | 8570 | 104 | R | 14570 | 43 | P | 0 | 0 | 270 | 14 | 348 | 0 | 1 |
| 2 | 1650 | 22300 | 308 | R | 12700 | 243 | R | 0 | 0 | 8800 | 104 | R | 14770 | 45 | P | 0 | 0 | 240 | 12 | 348 | 0 | 1 |
| 2 | 1710 | 22650 | 306 | P | 13150 | 243 | R | 0 | 0 | 8900 | 101 | R | 14950 | 44 | R | 0 | 0 | 245 | 12 | 346 | 0 | 1 |
| 2 | 1730 | 23050 | 306 | R | 13600 | 245 | R | 0 | 0 | 9250 | 103 | R | 15210 | 44 | R | 0 | 0 | 245 | 12 | 343 | 0 | 1 |
| 2 | 1750 | 23500 | 305 | R | 14000 | 245 | R | 0 | 0 | 8950 | 102 | R | 15430 | 44 | R | 0 | 0 | 244 | 14 | 341 | 0 | 1 |
| 2 | 1810 | 23900 | 306 | P | 14450 | 245 | R | 0 | 0 | 9000 | 104 | P | 15730 | 44 | R | 0 | 0 | 242 | 12 | 342 | 0 | 1 |
| 2 | 1830 | 24300 | 306 | P | 14900 | 246 | R | 0 | 0 | 9100 | 105 | P | 15930 | 44 | R | 0 | 0 | 242 | 14 | 341 | 0 | 1 |
| 2 | 1850 | 24850 | 305 | R | 15250 | 249 | R | 0 | 0 | 9180 | 104 | R | 16150 | 42 | R | 0 | 0 | 240 | 14 | 337 | 0 | 1 |
| 2 | 1910 | 25850 | 303 | R | 15900 | 246 | R | 0 | 0 | 9250 | 101 | R | 16250 | 40 | R | 0 | 0 | 244 | 14 | 334 | 0 | 1 |
| 2 | 1930 | 26900 | 301 | R | 16500 | 249 | R | 0 | 0 | 6500 | 117 | P | 13230 | 34 | P | 0 | 0 | 210 | 10 | 337 | 0 | 1 |
| 2 | 1950 | 28150 | 298 | R | 23550 | 249 | R | 0 | 0 | 6250 | 122 | R | 12930 | 34 | P | 0 | 0 | 210 | 8 | 340 | 0 | 1 |
| 2 | 2010 | 29150 | 290 | R | 0 | 0 | 0 | 0 | 0 | 7600 | 161 | R | 9250 | 31 | R | 0 | 0 | 210 | 10 | 340 | 0 | 1 |
| 2 | 2030 | 30650 | 291 | P | 0 | 0 | 0 | 0 | 0 | 11300 | 180 | F | 4400 | 35 | R | 0 | 0 | 175 | 18 | 181 | 0 | 1 |
| 2 | 2050 | 30000 | 291 | P | 0 | 0 | 0 | 0 | 0 | 15150 | 189 | P | 0 | 0 | 0 | 0 | 0 | 60 | 16 | 189 | 0 | 1 |
| 2 | 2110 | 33000 | 280 | R | 0 | 0 | 0 | 0 | 0 | 12270 | 190 | P | 0 | 0 | 0 | 0 | 0 | 255 | 12 | 0 | 0 | 1 |
| 2 | 2130 | 33750 | 281 | R | 0 | 0 | 0 | 0 | 0 | 7350 | 194 | R | 0 | 0 | 0 | 0 | 0 | 255 | 12 | 0 | 0 | 1 |

NOTE1*** THE FIGURES 999 IN THE DROGUE OR DRIFT OBJECT BEARING IS A SPECIAL
CODE USED IN SOME CASES DURING DATA PROCESSING TO INDICATE MISSING DATA.

NOTE2*** WIND DATA CODE EXPLANATION**
 0= RELATIVE WIND RECORDED IN DEGREES TRUE
 1= RELATIVE WIND RECORDED RELATIVE TO SHIP HEAD
 2= QUESTIONABLE WIND DATA
 3= NO WIND DATA RECORDED
 4= WIND RECORDED IN DEGREES TRUE

ABBREVIATIONS

MOC= WIND DATA CODE
 CO1= CURRENT DROGUE 1
 CO2= CURRENT DROGUE 2
 HONE= HOW BEARINGS WERE OBTAINED
 K= RADAR
 VE= VISUAL
 AE= ALONGSIDE

| DAY | TIME (7) | REFERENCE | H | CD-1 | H | 7-MAN | H | 16FT | H | 18FT | H | 35FT | H | CD-2 | H | REL. |
|-----|----------|-----------|-----|------|-------|-------|---|------|---|------|---|------|---|------|---|---------|
| | | | | | | | | | | | | | | | | |
| 3 | 2010 | 27407 | 30 | 0 | 1460 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 24 |
| 3 | 2030 | 27450 | 29 | 0 | 1820 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 26 |
| 3 | 2050 | 27453 | 21 | 0 | 1350 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 0 18 |
| 3 | 2110 | 28375 | 19 | 0 | 1380 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 253 18 |
| 3 | 2130 | 27703 | 12 | 0 | 1950 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 303 11 |
| 3 | 2150 | 28050 | 10 | 0 | 2080 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 0 16 |
| 3 | 2210 | 28650 | 14 | 0 | 1540 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113 6 1 |
| 3 | 2230 | 28950 | 21 | 0 | 1560 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 237 16 |
| 3 | 2250 | 28700 | 20 | 0 | 15700 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 335 25 |
| 3 | 2310 | 28225 | 17 | 0 | 14900 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 249 0 1 |
| 3 | 2330 | 28275 | 16 | 0 | 14600 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65 12 |
| 3 | 2350 | 28350 | 15 | 0 | 14100 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113 18 |
| 4 | 10 | 28475 | 17 | 0 | 14300 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 180 12 |
| 4 | 20 | 28575 | 22 | 0 | 14500 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 11 |
| 4 | 30 | 28800 | 22 | 0 | 13700 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 305 20 |
| 4 | 40 | 21507 | 23 | 0 | 13350 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 14 |
| 4 | 50 | 21807 | 22 | 0 | 12500 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95 14 |
| 4 | 60 | 20307 | 22 | 0 | 12050 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 15 |
| 4 | 70 | 19700 | 24 | 0 | 11450 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 183 16 |
| 4 | 80 | 19150 | 24 | 0 | 11550 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 15 |
| 4 | 90 | 18600 | 25 | 0 | 11600 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 15 |
| 4 | 100 | 18050 | 26 | 0 | 9950 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 255 15 |
| 4 | 110 | 17600 | 30 | 0 | 9500 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 17 |
| 4 | 120 | 17050 | 27 | 0 | 8900 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 16 |
| 4 | 130 | 16500 | 37 | 0 | 9550 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 17 |
| 4 | 140 | 16100 | 40 | 0 | 9100 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 15 |
| 4 | 150 | 15700 | 29 | 0 | 7800 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 15 |
| 4 | 160 | 15300 | 30 | 0 | 7350 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 16 |
| 4 | 170 | 14900 | 32 | 0 | 6800 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 16 |
| 4 | 180 | 14500 | 32 | 0 | 6350 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 16 |
| 4 | 190 | 14100 | 33 | 0 | 5900 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 16 |
| 4 | 200 | 13700 | 33 | 0 | 5450 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 16 |
| 4 | 210 | 13300 | 24 | 0 | 5000 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 18 |
| 4 | 220 | 12900 | 17 | 0 | 4550 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63 18 |
| 4 | 230 | 12500 | 22 | 0 | 4100 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 20 |
| 4 | 240 | 12100 | 24 | 0 | 3650 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 20 |
| 4 | 250 | 11700 | 24 | 0 | 3200 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 20 |
| 4 | 260 | 11300 | 25 | 0 | 2750 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 20 |
| 4 | 270 | 10900 | 25 | 0 | 2300 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 23 |
| 4 | 280 | 10500 | 24 | 0 | 1850 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 23 |
| 4 | 290 | 10100 | 24 | 0 | 1400 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 26 |
| 4 | 300 | 9700 | 24 | 0 | 9500 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 250 26 |
| 4 | 310 | 9300 | 30 | 0 | 5000 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 270 24 |
| 4 | 320 | 8900 | 30 | 0 | 5000 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 245 18 |
| 4 | 330 | 8500 | 17 | 0 | 2000 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 0 |
| 4 | 340 | 8100 | 17 | 0 | 2000 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 0 |
| 4 | 350 | 7700 | 17 | 0 | 875 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 17 |
| 4 | 360 | 7300 | 24 | 0 | 349 | 217 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110 0 |
| 4 | 370 | 6900 | 357 | 0 | 1400 | 231 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 87 28 |
| 4 | 380 | 6500 | 357 | 0 | 2100 | 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 12 |
| 4 | 390 | 6100 | 343 | 0 | 3150 | 234 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90 20 |

APPENDIX 2

A program description with abbreviated documentation and a program listing with typical outputs are found in this appendix. All computations were done using PROGRAM RAFTL.

Name: RAFTL

Programmer: CDR C. W. MORGAN

Originator: CDR C. W. MORGAN

Date: 8 June 1977

Purpose: The function of this program is to aid the oceanographer/engineer in evaluating the quality of leeway angle and leeway factor observations.

Machine: CDC 3300

Source Language: FORTRAN

Description: Leeway is the movement of a drifting object relative to the water. Leeway angle is the angle between wind direction (toward) and leeway direction. Leeway factor is the ratio of leeway speed to wind speed. Program RAFTL exists to compute true wind speed and direction, leeway angle, and leeway factor from sequential observations of time, range and true bearing a current drogue, range and true bearing of a drift object, ships course and speed, and relative wind direction and speed. The program outputs line printer graphs of geographic displacement of the drift object relative to the drogue, leeway angle vs time, leeway factor vs time, leeway angle vs wind speed, and leeway factor vs wind speed.

The program basically proceeds as follows:

1. Read in data for each observation
2. Computes the true wind from the ships course and speed and relative wind direction and speed.
3. Computes the distance between the drogue and drift object using their ranges and bearings.
4. Computes leeway direction and speed from the change in position of the raft relative to the drogue during a 6 hour interval.
5. Computes the average vector wind direction and speed during a 6 hour interval.
6. Computes leeway angle.
7. Prints out and punches cards for:
 - a. Time at the beginning of the 6 hour interval

b. Average vector wind direction (toward) and speed (knots) during the interval.

c. Leeway direction and speed (knots) during the interval.

d. Leeway angle (+ to right, - to left) and factor.

8. Prints out individual observation data

a. Observation time

b. X and Y component of true wind

c. X and Y components of distance from drogue to drift object.

d. Drogue range and bearing

e. Drift object range and bearing

f. Relative wind direction (from) and speed

g. Ship heading and speed

9. Computes the counter of the observations on which plotting symbols are to change.

10. Calls plot subroutine for line printer plots.

All calculations are based on elementary kinematics and trigonometry.

USAGE: The program deck is set up as follows:

\$JOB, 42483, RAFTL-SE, 2, 2000, 500
\$SCHED, CORE=40, TIME=1, CLASS=C
\$MAP=N
\$FTNU (X)

| | |
|------------|-------|
| Program | RAFTL |
| Subroutine | CARTM |
| Subroutine | CIRCM |
| Subroutine | PLOTA |

FINIS

\$OBJ, LGO

Observations in interval card, INTV. (This card gives the number of observational intervals in the 6 hour interval e.g. for 15 minute observations INTV=24, for 20 minute observations INTV=18.)

Data Identifier Card (40 column free (A) format.)

Input Data Cards

| Col | Data |
|-------|---|
| 3-6 | Time (hours and minutes) |
| 16-20 | Range to drogue (YARDS) |
| 21-23 | Bearing to drogue (°T) |
| 25-29 | Range to drift object (YARDS) |
| 30-32 | Bearing to drift object (°T) |
| 70-72 | Relative wind direction (°R) relative to ships head |
| 73-74 | Relative wind speed (knots) |
| 75-77 | Ship's head (°T) |
| 78-79 | Ship's speed (knots) |

9999 card in columns 3-6

Continuation card (in columns 1 and 2; use 01 if more runs follow, use 02 if last run)

Additional sets of Data Identification Cards, Input Data Cards, and 9999 card, and Continuation Card as required

gg

RESTRICTIONS:

- 1) RAFTL was designed for an analysis interval of 6 hours.
- 2) Relative wind must be in degrees relative to ships head. If the relative wind is in °T, then line 26 must be changed to AG = RWD(I).
- 3) The input format for drift object range and bearing was specifically designed for the data cards for SARR cruises to read the 7 man raft data. Since these cards also contain data on other drift objects the input format can be easily changed to accomodate them.
- 4) RAFTL was designed to handle range and bearing inputs in yards and °T.
- 5) There must be exactly INTV observations intervals per 6 hour interval. If wind data is missing it must be estimated or the program invalidly assumes calm conditions.
- 6) If drogue and/or drift object data is missing insert 999 in the input bearing field of either. This will cause outputs of 99999. in drogue to drift object X coordinate, in leeway direction, leeway speed, leeway angle, and leeway factor. Later, in PLOTA a value of 99999. in either X or Y array will cause that X, Y pair to be skipped in the plotting subroutine.
- 7) RAFTL is set up to change plotting symbol after every tenth data point.
- 8) The program is free standing.

Storage requirements: See attached MAP.

Subroutines required: PLOTA
CARTM
CIRCM

Operational Environment:

| <u>Device</u> | <u>Function</u> | <u>Special Requirements</u> |
|---------------|-----------------|-----------------------------|
| Card reader | input | none |
| Line printer | output | none |
| Card punch | output | none |

Operational characteristics: See Description.

Errors and Diagnostics: None used

References: For more on application of program see report by C. W. Morgan on "Observations of Leeway Angle and Leeway Factor for 7 Man Rafts."

Name: Subroutine CIRCM

Programmer: D. D. Frydenlund, Modified by C. W. Morgan

Originator: D. D. Frydenlund

Date: 8 June 1977

Purpose: To convert from rectangular to geographic polar coordinates

Machine: CDC 3300

Source Language: FORTRAN

Description: This subroutine simply converts from rectangular coordinates (X positive east; U positive north) to geographical polar coordinates ($0^\circ - 360^\circ$, clockwise, $0^\circ =$ north).

USAGE: CIRCM (XI, YI, BRGI, DISI)

XI Rectangular coordinate positive to east

YI Rectangular coordinate positive to north

BRGI Geographical polar coordinate for angle

DISI Geographical polar coordinate for distance

Restrictions: None

Storage Requirements: See Map attached to program RAFTL

Subroutines Required: None

Operational Environment: Not applicable

Operational Characteristics: See Description

Errors and Diagnostics: None

References: None

NAME: Subroutine CARTM

Programmer: D. D. Frydenlund, Modified by C. W. Morgan

Originator: D. D. Frydenlund

Date: 8 June 1977

Purpose: To convert from polar geographic coordinates to rectangular coordinates.

Machine: CDC 3300

Source Language: FORTRAN

Description: This subroutine simply converts from geographical polar coordinate ($0^\circ - 360^\circ$, clockwise, $0^\circ - \text{north}$) to rectangular coordinates (X positive east; Y positive north) using elementary trigonometry.

USAGE:

CARTM (ANG, DIST, X, Y)

ANG Geographical polar coordinate for angle
DIST Geographical polar coordinate for distance
X Rectangular coordinate positive to east
Y Rectangular coordinate positive to north

Restrictions: None

Storage Requirements: See Map attached to program RAFTL

Subroutines Required: None

Operational Environment: Not applicable

Operational Characteristics: See Description

Errors and Diagnostics: None

References: None

NAME: Subroutine PLOTA

Programmer: J. H. Discenza, Modified by C. W. Morgan

Originator: J. H. Discenza

Date: 8 June 1977

Purpose: The purpose of this subroutine is to plot an array of X data vs an array of Y data on the line printer.

Machine: CDC 3300

Source Language: FORTRAN

Description: Subroutine PLOTA basically functions as follows:

- 1) Finds boundary values for the X and Y arrays.
- 2) If the X and Y scales are to be unequal, they are simply scaled by the numbers of spaces in the X and U plot fields, 100 and 54 respectively
- 3) If the X and Y scales are to be equal, the appropriate scaling is carried out (lines 33 - 42).
- 4) X-Axis labeling array is generated.
- 5) Each of the 55 lines in the interior of the plot is then generated and printed. Before the first line and after the last line, labels and axes are printed. In generating each line of print, all spaces are set blank, then the data points falling within the Y interval of the line are sorted out and the appropriate plotting symbol replaces the blank at each X interval within which an X value falls. Twenty six plot symbols are available. The appropriate plot symbol is assigned during the Y-sort.

USAGE:

PLOTA (XRAY, YRAY, NOPTS, NOPER, IOP)

| | |
|-------|--|
| XRAY | The array of X values |
| YRAY | The array of Y values |
| NOPTS | Number of points in X or Y array |
| NOPER | Array of successive, cumulative, cutoff points in data array after which a character change is desired in the plot. The value of the last NOPER should equal NOPTS |
| IOP | An option for the equality of the plotting axes. IOP=1 will give a plot in which 1 unit length on the X axis equals 1 unit length on the Y axis. IOP=2 will scale the axes so that the plot fills both axes. |

Restrictions: None

Storage Requirements: See Map attached to program RAFTL

Subroutines Required: None

Operational Environment: Not applicable

Operational Characteristics: See Description

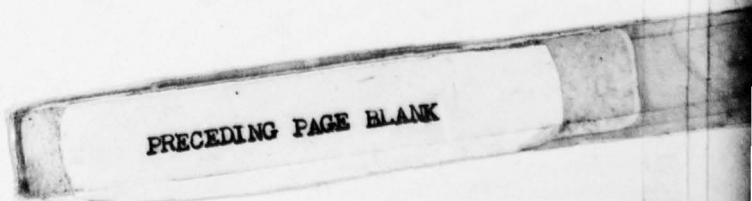
Errors and Diagnostics: None

References: None

```

ANSI FORTRAN(2.3)/MASTER      INTEGER WORD SIZE 2 , 0 OPTION IS OFF , 0 OPTION IS OFF , 0 OPTION IS OFF
LN 0001      PROGRAM RAFTL
LN 0002      COMMON OR(150),DB(150),RR(150),RB(150),RWD(150),RWS(150),SH(150),S
LN 0003      IS(150),MI(150),MZ(150),SI(150),SZ(150),TD(150),TS(150),EP(150),EA(
LN 0004      150),ANG(150),SPD(150),WD(150),WS(150),RMD(150),RMR(150),
LN 0005      INT(150),MI(150),XJT(150),JI(150)
LN 0006      DIMENSION IT(150),ITD(150),ITS(150),IEA(150),IEF(150)
LN 0007      READ (60,109) INTV
LN 0008      109 FORMAT (I2)
LN 0009      XINTV=INTV
LN 0010      8 READ(60,100) A,B,C,D,E
LN 0011      100 FORMAT (5A8)
LN 0012      M=1
LN 0013      1 READ (60,101) IT(M),OR(M),DB(M),RR(M),RB(M),RWD(M),RWS(M),SH(M),S
LN 0014      I(M)
LN 0015      101 FORMAT (2X,I4 ,9X,F5.0,F3.0,1X,F5.0,F3.0,37X,2(F3.0,F2.0))
LN 0016      101 IF (IT(M).EQ.9999) GO TO 2
LN 0017      MT(M)=M
LN 0018      M=M+1
LN 0019      GO TO 1
LN 0020      2 M=M-1
LN 0021      J=M-INTV
LN 0022      DO 3 I=1,M
LN 0023      MD=SH(I)
LN 0024      SV=SS(I)
LN 0025      RS=RWS(I)
LN 0026      AG=RWD(I),SH(I)
LN 0027      CALL CARTM (AG,RS,RV1,RV2)
LN 0028      CALL CARTM (MD,SV,B1,B2)
LN 0029      W1(I)=RV1*B1
LN 0030      W2(I)=RV2*B2
LN 0031      IF (DB(I).EQ.9999.) GO TO 4
LN 0032      IF (RB(I).EQ.9999.) GO TO 4
LN 0033      BD=DB(I)
LN 0034      RD=DR(I)
LN 0035      BR=RB(I)
LN 0036      RO=RR(I)
LN 0037      CALL CARTM (BD,RO,D1,D2)
LN 0038      CALL CARTM (BR,RO,R1,R2)
LN 0039      S1(I)=R1-D1
LN 0040      S2(I)=R2-D2
LN 0041      GO TO 3
LN 0042      4 S1(I)=99999.
LN 0043      ANG(I)=99999.
LN 0044      SPD(I)=99999.
LN 0045      EA(I)=99999.
LN 0046      EF(I)=99999.
LN 0047      GO TO 3
LN 0048      3 CONTINUE
LN 0049      DO 5 I=1,J
LN 0050      IF(S1(I).EQ.99999.) GO TO 9
LN 0051      M=INTV
LN 0052      IF(S1(K).EQ.99999.) GO TO 9

```



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```

LN 0053 DEL1=S1(K)-S1(I)
LN 0054 DEL2=S2(K)-S2(I)
LN 0055 CALL CIRCUM (DEL1,DEL2,AA,AS)
LN 0056 ANG(I)=AA
LN 0057 SPD(I)=AS/12152.4
LN 0058 SUM1=(S1(I)+S1(K))/2.
LN 0059 SUM2=(S2(I)+S2(K))/2.
LN 0060 I1=I+1
LN 0061 KK=K-1
LN 0062 DO 6 L=I,KK
LN 0063 SUM1=SUM1+S1(L)
LN 0064 SUM2=SUM2+S2(L)
LN 0065 A1=SUM1/XINTV
LN 0066 A2=SUM2/XINTV
LN 0067 CALL CIRCUM (A1,A2,DT,ST)
LN 0068 TO(I)=DT
LN 0069 TS(I)=ST
LN 0070 EF(I)=SPD(I)/TS(I)
LN 0071 EA(I)=ANG(I)-TO(I)
LN 0072 XJ(I)=I
LN 0073 GO TO 5
LN 0074 9 EF(I)=99999.
LN 0075 EA(I)=99999.
LN 0076 5 CONTINUE
LN 0077 WRITE (61,106)
LN 0078 106 FORMAT (1M1)
LN 0079 WRITE (61,100) A,B,C,D,E
LN 0080 WRITE (62,100) A,B,C,D,E
LN 0081 WRITE (61,102)
LN 0082 102 FORMAT (1M0,56H TIME WIND(TO/KTS) LEEWAY(TO/KTS) ANGLE
LN 0083 )FACTOR)
LN 0084 WRITE (61,103) (IT(I),TD(I),TS(I),ANG(I),SPD(I),EA(I),EF(I),I=1,J
LN 0085 WRITE (62,103) (IT(I),TD(I),TS(I),ANG(I),SPD(I),EA(I),EF(I),I=1,J
LN 0086 103 FORMAT (1X,1A,F10.0,F6.1,F12.0,F6.1,F9.1,F9.3)
LN 0087 DO 7 I=1,M
LN 0088 X=MI(I)
LN 0089 Y=M2(I)
LN 0090 CALL CIRCUM (X,Y,DW,SW)
LN 0091 SX=S1(I)
LN 0092 SY=S2(I)
LN 0093 7 CALL CIRCUM (SX,SY,DRM,RRM)
LN 0094 WRITE (61,105)
LN 0095 105 FORMAT (1M0)
LN 0096 WRITE (61,104) (IT(I),M1(I),M2(I),S1(I),S2(I), DR(I),DB(I),RR(I),
LN 0097 1RM(I),RMD(I),RMS(I),SM(I),SS(I),I=1,M)
LN 0098 104 FORMAT (1M,14F 6.2,F6.2,F12.0,F8.0,F9.0,F6.0,F7.0,F5.0,
LN 0099 1F7.0,F5.0)
LN 0100 JL=J/10
LN 0101 JI(I)=10
LN 0102 DO 13 I=2,JL
LN 0103 13 JI(I)=JI(I-1)+10
LN 0104 JI(JL)=J

```

```

LN 0105      ML=10
LN 0106      MI(1)=10
LN 0107      DO 12 1=0,ML
LN 0108      12 MI(1)=MI(1)-1
LN 0109      MI(ML)=1
LN 0110      MT=1
LN 0111      CALL PLOTA(S1,S2,M,MI,MT)
LN 0112      MT=2
LN 0113      CALL PLOTA(IJIT,EA,J,JI,NT)
LN 0114      CALL PLOTA(IJIT,EF,J,JI,NT)
LN 0115      CALL PLOTA(ITS,EA,J,JI,NT)
LN 0116      CALL PLOTA(ITS,EF,J,JI,NT)
LN 0117      READ (60,107) KODE
LN 0118      107 FORMAT(I2)
LN 0119      IF (KODE.EQ.1)GO TO 8
LN 0120      STOP
LN 0121      END

```

USASI FORTRAN DIAGNOSTIC RESULTS FOR RAFTL

NO ERRORS

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LN 0053 M=56-IJ
LN 0054 C NOCURV IN AN INDICATOR AS TO WHICH CHARACTER REPRESENTS ANY SET OF POINTS.
LN 0055 NOCURV=1
LN 0056 ID=14.
LN 0057 DO 301 N=1,101
LN 0058 KX(N)=IM
LN 0059 DO 2 I=1,NOPTS
LN 0060 IF(I.LE.NOPER(NOCURV))GO TO 102
LN 0061 TEN PLOT CHARACTERS ARE PROVIDED WITHIN THIS SUBROUTINE.
LN 0062 ID = ICHAR(NOCURV)
LN 0063 NOCURV=NOCURV+1
LN 0064 C STARTING WITH MAXY AND GOING DOWN , DATA POINTS ARE SORTED BY Y VALUE AND
LN 0065 C PRINTED ON THE LINE-PRINTER.
LN 0066 102 IF (XRAY(I).EQ.99999.) GO TO 2
LN 0067 K=(YRAY(I)-MINY)/YINCY*1.5
LN 0068 IF(K.NE.M) GO TO 2
LN 0069 J=(XRAY(I)-MINX)/AINCX*1.5
LN 0070 IF(J.LE.0)GO TO 2
LN 0071 KX(J)=ID
LN 0072 KX(J)=ID
LN 0073 2 CONTINUE
LN 0074 IF(IJ.GT.1)GO TO 63
LN 0075 WRITE(61,103)
LN 0076 WRITE(61,23)MINX,(XSTEP(L),L=1,5)
LN 0077 WRITE(61,22)
LN 0078 WRITE(61,17) FMAXY,(KX(L),L=1,101)
LN 0079 GO TO 12
LN 0080 63 IF (III.NE.MSIX)GO TO 16
LN 0081 IF (IOP.EQ.1) GO TO 7
LN 0082 DOG=MAXY-YINCY*(II-1)
LN 0083 GO TO 8
LN 0084 7 DOG=FMAXY- YINCY*(IJ-1)
LN 0085 8 WRITE(61,17)DOG,(KX(L), L=1,101)
LN 0086 MSIX=MSIX+6
LN 0087 GO TO 12
LN 0088 16 WRITE(61,18)(KX(L), L=1,101)
LN 0089 12 CONTINUE
LN 0090 WRITE(61,22)
LN 0091 WRITE(61,23)MINX,(XSTEP(I),I=1,5)
LN 0092 PRINT 62=MINX,MAXX,MINY,MAXY
LN 0093 RETURN
LN 0094 END

```

USASI FORTRAN DIAGNOSTIC RESULTS FOR PLOTA

NO ERRORS

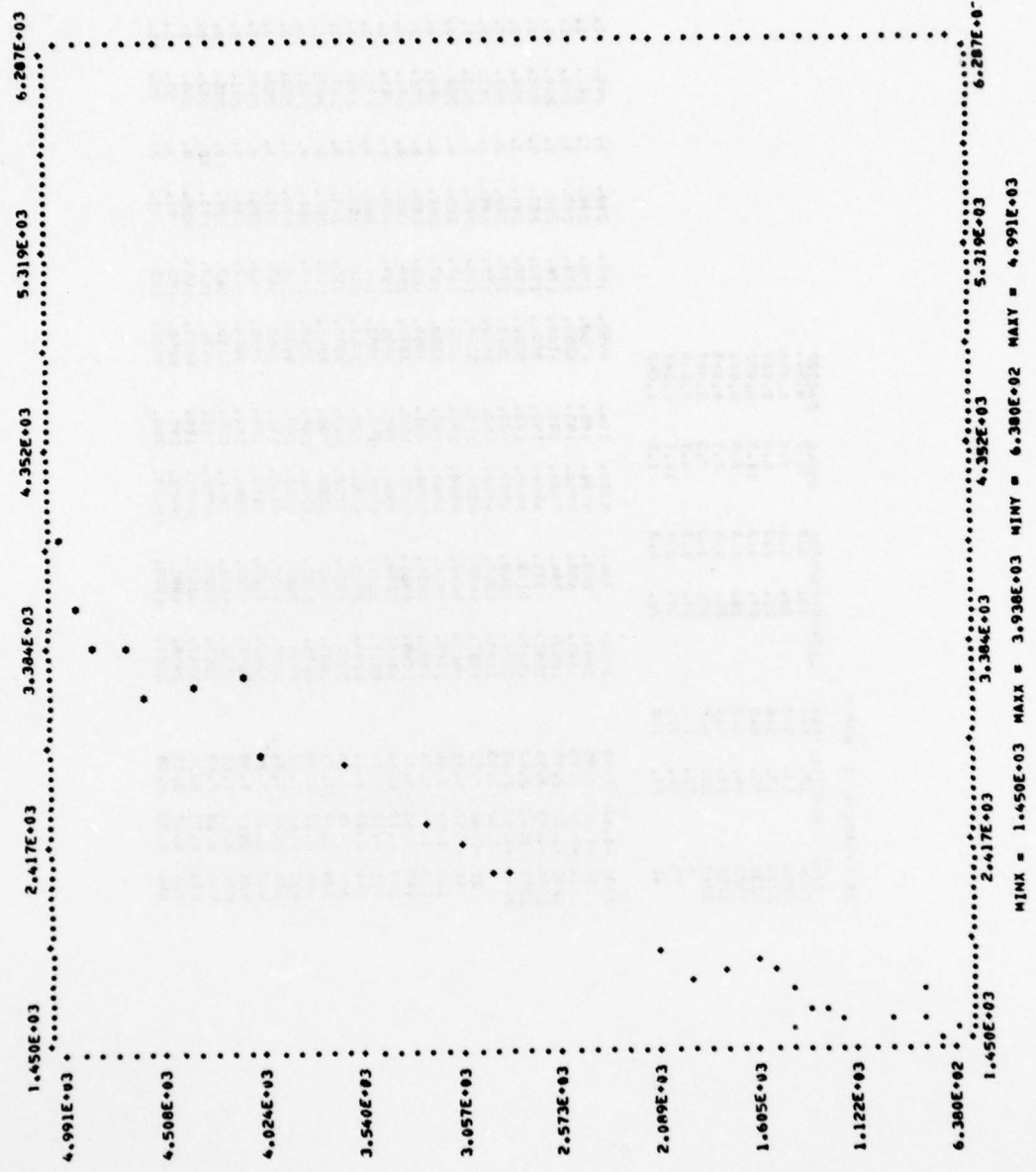

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LN 0001 SUBROUTINE CIRC (AI,YI,BRGI,DISI)
LN 0002 DISI=(AI*AI)+(YI*YI)**0.5
LN 0003 IF(YI.EQ.0.) GO TO 5
LN 0004 ANG=ATAN(ABS(AI)/ABS(YI))*57.2958
LN 0005 5 CONTINUE
LN 0006 IF(AI)10,20,30
LN 0007 10 IF(YI)12,14,16
LN 0008 12 BRGI=180.-ANG
LN 0009 GO TO 40
LN 0010 14 BRGI=270.
LN 0011 GO TO 40
LN 0012 16 BRGI=360.-ANG
LN 0013 GO TO 40
LN 0014 20 IF(YI.EQ.0.) GO TO 25
LN 0015 BRGI=180.
LN 0016 GO TO 40
LN 0017 25 BRGI=0.
LN 0018 GO TO 40
LN 0019 30 IF(YI)32,34,36
LN 0020 32 BRGI=180.-ANG
LN 0021 GO TO 40
LN 0022 34 BRGI=90.
LN 0023 GO TO 40
LN 0024 36 BRGI=ANG
LN 0025 40 CONTINUE
LN 0026 RETURN
LN 0027 END

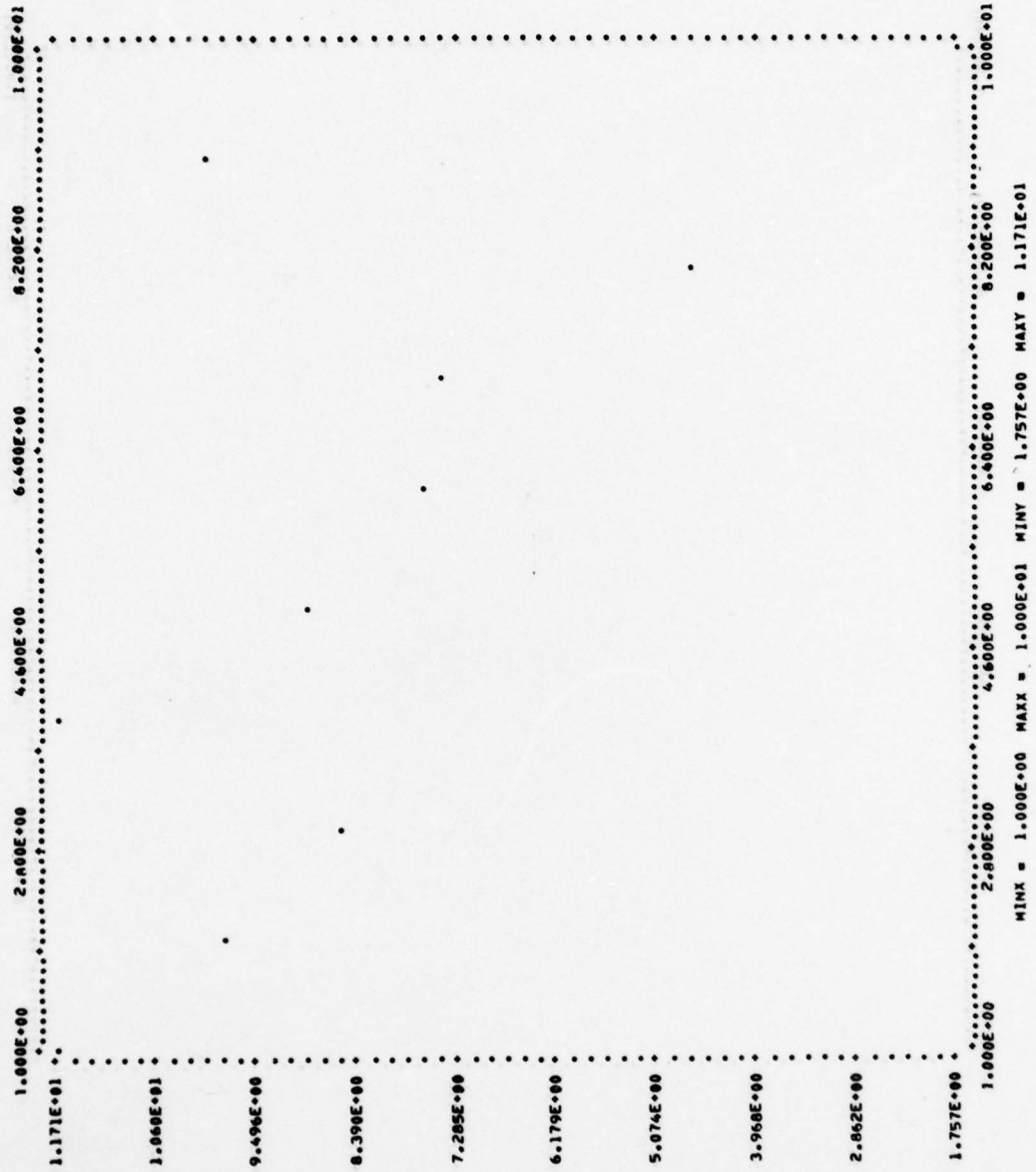
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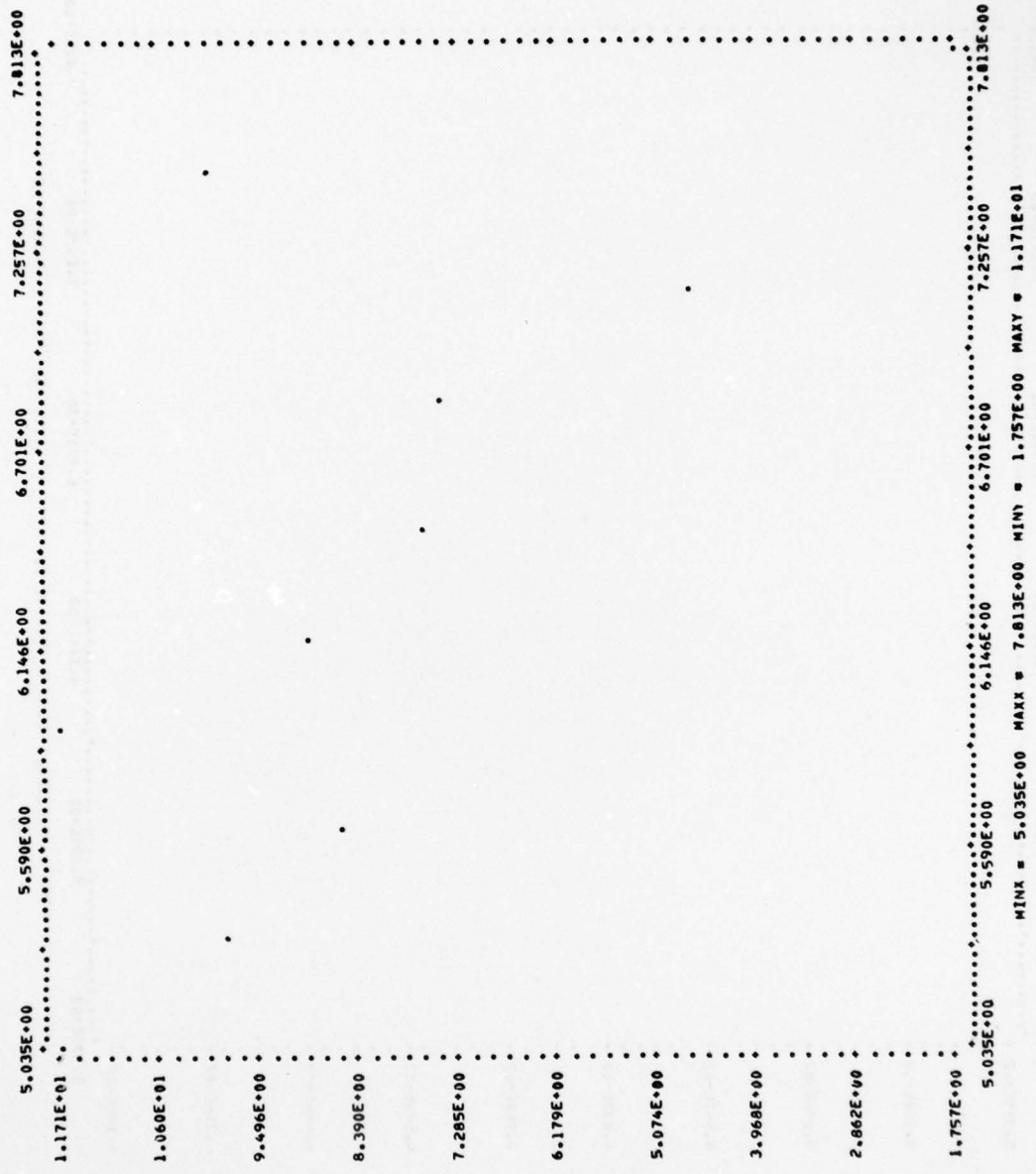
USASI FORTRAN DIAGNOSTIC RESULTS FOR CIRC

NO ERRORS



MINX = 1.000E+00 MAXX = 1.000E+01 MINY = 1.757E+00 MAXY = 1.171E+01





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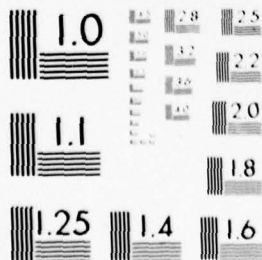
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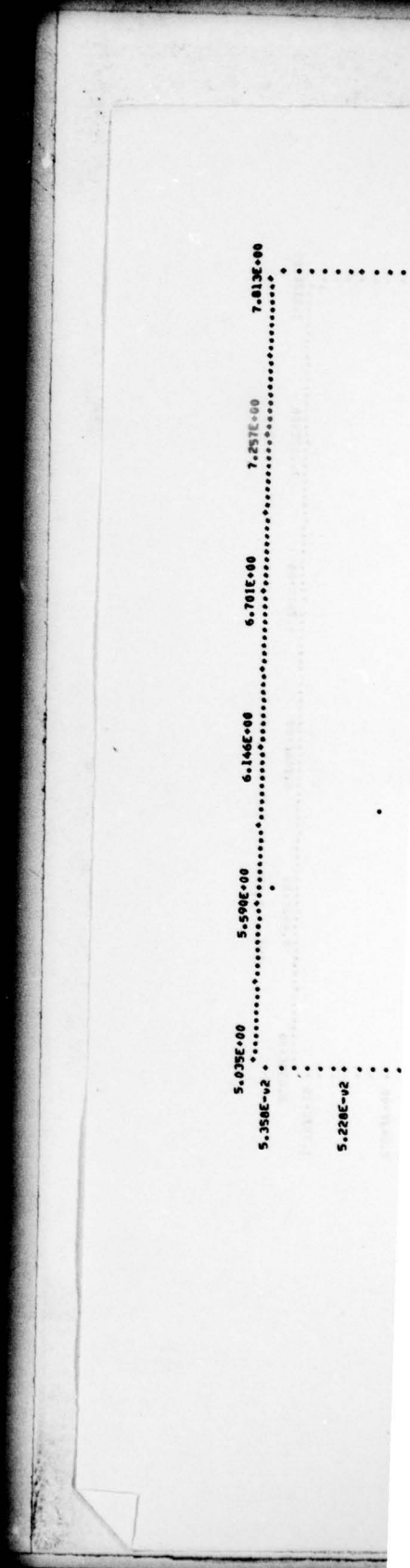
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MINX = 5.035E+00 MAXX = 7.813E+00 MINY = 4.186E-02 MAXY = 5.358E-02

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