

9053

Diag. Cht. Nos. 8502-2 & 8551-3.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. FA-20-2-69 Office No. H-9053

LOCALITY

State Alaska

General locality Southeast Alaska

Locality Middleton Island

1969

CHIEF OF PARTY

Captain John B. Watkins, Jr.

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DATE NOV 2 1973

USCOMM-DC 37022-P66

*Charts 8502
8551
8500
9000*

9053

HYDROGRAPHIC TITLE SHEET

H-9053

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

FA-20-2-69

State Alaska

General locality Gulf of Alaska

Locality Middleton Island

Scale 1:20,000 Date of survey July - August 1969

Instructions dated 20 March 1969 Project No. OPR 487

Vessel USC&GSS FAIRWEATHER, FA-4, FA-5

Chief of party John B. Watkins, Jr., Captain, USESSA

Surveyed by FAIRWEATHER Officers

Soundings taken by echo sounder, ~~XXXXXX~~ DE723 #558 & 561, ROSS 400, UQN 128M & 130M

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Protracted by _____ Automated plot by _____

Soundings penciled by _____

Soundings in fathoms ~~XXX~~ at ~~MLLW~~ MLLW _____

REMARKS: _____

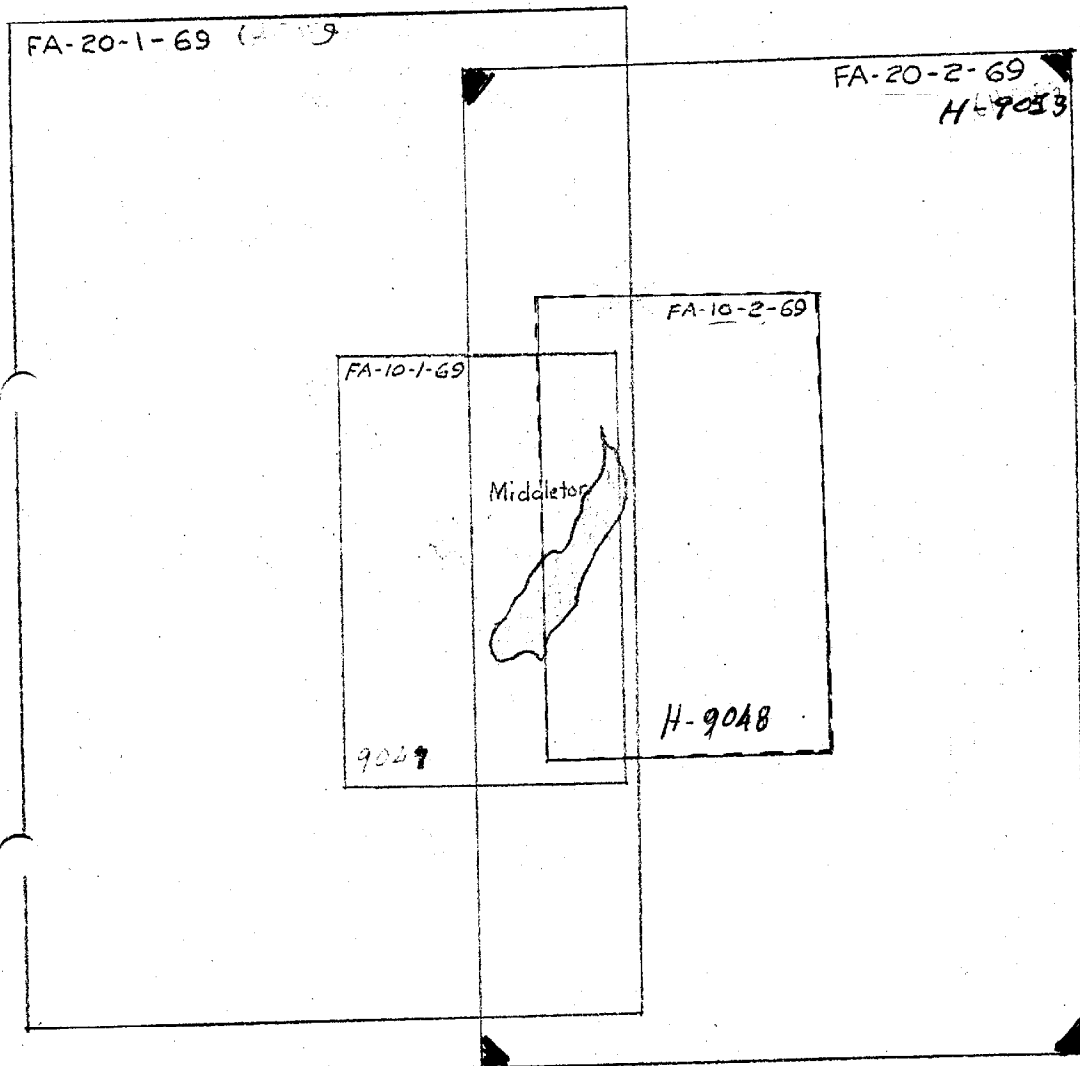
cht
8500
8502
8551
9000

Applied to sheets 11-16-73
CAF

*Exam'd for N to M
to N to M required 12/6/73 EF*

HK

OPR 487



Redraw - showing H-9048 in
Dashed lines

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-9053
(Field No. FA-20-2-69)

USC&GS Ship FAIRWEATHER 1969, Scale 1:20,000

John B. Watkins, Jr., CAPT., USESSA
Chief of Party

A. PROJECT

Hydrographic Survey H-9053 is part of OPR-487, MIDDLETON ISLAND, ALASKA. The work was accomplished under Project Instructions dated 20 March 1969, Change, No. 1, Supplement to Instructions, dated 8 May 1969, Change No. 2, Supplement to Instructions, dated 30 June 1969, and in accord with the General Project Instructions dated 4 February 1969.

B. AREA SURVEYED

This boat sheet encompasses the area in the Gulf of Alaska adjacent to Middleton Island, from 59° 19' N, to 59° 34' N, and 146° 05' W, to 146° 22' W. The area is on the east side of Middleton Island and extends north and south of the Island approximately five nautical miles.

The survey was accomplished during 25 July through 10 August 1969.

This survey junctions with contemporary surveys H-9049 (FA-20-1-69), H-9047 (~~FA-10-1-69~~), and H-9048 (~~FA-10-2-69~~). Junction with prior surveys was not required by the project instructions.

C. SOUNDING VESSELS

The Ship FAIRWEATHER and two launches were used to accomplish the hydrography. The position numbers and color code applicable to each vessel are as follows:

FAIRWEATHER	violet	0001-2757
FA-4	blue	4000-4201
FA-5	red	5001-5672

D. SOUNDING EQUIPMENT

The vessels, fathometers, and depth range in which each was used are as follows.

<u>Vessel</u>	<u>Type</u>	<u>Model</u>	<u>Serial No.</u>	<u>Depth (fms)</u>
FAIRWEATHER	Echo	Raytheon DE-723	558	0-250
FAIRWEATHER	Echo	EDO UQN	128M, 130M	175-400
FA-4	Echo	Ross Model 400	Prototype	0-35
FA-5	Echo	Raytheon DE-723	561	0-35

The EDO UQN fathometers were used on the ship in combination with a Mc Kiernen-Terry PDR (serial no. 324) in depths exceeding the range of the Raytheon DE-723.

A special report on the operation of the Ross 400 fathometer during this season has been submitted previously.

The echo sounder corrections include the results of bar checks, initial corrections, and velocity corrections determined by Nansen casts. An abstract of the cumulative corrections to the soundings is included with this report.

Sounding corrections are treated more fully in the Fathometer Report, 1969 Field Season.

E. SMOOTH SHEET

The position and sounding data were recorded, logged for automated processing, and plotted on boat sheets by ship's personnel. The final smooth sheet is to be plotted and verified by personnel at Pacific Marine Center.

F. CONTROL

All of the hydrography on FA-20-2-69 was accomplished using HI-FIX electronic control. Throughout the project it was operated in the hyperbolic mode on a frequency of 1788.00 KHz.

The master station, HI-FIX MAST (Cordova) was located by traverse from RATION 1969 and HIFI 1969. One slave station, HI-FIX MAST (Box Point), was located by traverse from BOX 1933, and the other HI-FIX MAST (Katalla), by intersection from FOX 1903, FOXY (USGS) 1959, and TUCK 1969.

Calibration of the ship was done visually with three point sextant fixes and check angles to triangulation stations. The whole lane count for the launches was determined by comparison with the ship's HI-FIX, calibration at buoys, and visual fixes. Calibration corrections are treated more fully in HI-FIX Calibration Report, 1969. A copy of the abstract of calibration corrections is included with this report.

Signals were of three types; triangulation, hydrographic, and photo-hydro. The photo identified signals were located using photographs of PH-6715 and plotted on incomplete map manuscripts T-13191, T-13192, T-13193, and T-13194.

G. SHORELINE

Shoreline was transferred to the boat sheet from the cronaflex positives of the map manuscripts listed in section F. Verification of the shoreline was completed during the project.

The low water line was not defined by soundings. Part of the inshore work was done on H-9048 (FA-10-2-69). Other inshore areas were foul with rocks and considered unsafe for launch operations.

H. CROSSLINES

Crosslines consisting of about 8% of the total survey mileage were run. Crossings were satisfactory throughout.

I. JUNCTIONS

Good agreement was found between this sheet and the adjoining sheets of this same project, H-9047 (FA-10-1-69), H-9048 (FA-10-2-69), and H-9049 (FA-20-2-69)

There are several isolated soundings which do not agree with survey H-9049 at the south end of the island. The bottom relief of this area is very irregular, with numerous sharp rock pinnacles greater than five fathoms high. The disagreements are probably the result of very slight horizontal displacement of positions over these pinnacle rocks.

North of the island between 59° 32' N and 59° 33' N and centered about 146° 18' W a disagreement exists between this survey and survey H-9049. Positions 5141 through 5173 of this survey (H-9053) were plotted with a +1.10 lane correction to HI-FIX pattern 2 rather than the correct +.10 value. With the proper correction the junction would be in good agreement. The proper correction has been listed in both the HI-FIX calibration correction abstract and the automated corrector tape and will be applied directly to the smooth sheet. The positions have not been replotted on the boat sheet.

J. COMPARISON WITH PRIOR SURVEYS

The results of the survey were compared with four prior surveys, SP-5-67-A, 1967, SP-5-67-B, 1967, H-5422, 1933, and H-5423, 1933. All were scale 1:20,000. Comparison with SP-5-67-A and SP-5-67-B showed excellent agreement.

Extensive differences were noted in comparison with the 1933 surveys. Most soundings indicated an uplift of 2 - 5 fathoms, but in some locations there appears to have been little or no uplift, and in other cases greater than 5 fathoms uplift has occurred. The widespread change was probably the result of the 1964 earthquake.

Presurvey Review:

Item	Latitude Longitude	Verified	Recommendations
18 ⁹ -fms	59° 29.25' N 146° 13.9' W	yes	chart
17-fms	59° 29.08' N 146° 14.25' W	yes	chart
11 ¹⁰ ⁷ -fms	59° 28.55' N 146° 15.5' W	yes	chart
11 ¹⁰ ³ -fms	59° 28.45' N 146° 15.45' W	no ^{yes}	delete chart
12 ¹ -fms	59° 28.20' N 146° 15.30' W	yes	chart
12 ¹ -fms	59° 27.0' N 146° 13.25' W	yes	chart

Item	Latitude Longitude	Verified	Recommendations
² 1 $\frac{1}{2}$ -fms	59° 26.85' N 146° 12.80' W	yes	chart
³ 9 8.6-fms	59° 26.15' N 146° 13.0' W	yes	chart
10.9-fms	59° 26.05' N 146° 12.55' W	yes	chart ✓
³ 1 $\frac{1}{2}$ -fms	59° 25.80' N 146° 12.00' W	yes	chart
⁵ 1 $\frac{1}{2}$ -fms	59° 25.25' N 146° 13.2' W	yes	chart
12-fms	59° 25.20' N 146° 13.15' W	yes	chart ✓
10 $\frac{1}{4}$ -fms	59° 24.45' N 146° 15.60' W	yes no	chart delete
⁹ 9.1-fms	59° 24.30' N 146° 15.50' W	yes	chart
12-fms	59° 24.25' N 146° 15.35' W	no	delete ✓
³ 10 $\frac{1}{4}$ -fms	59° 24.35' N 146° 15.75' W	yes	chart
⁹ 11-fms	59° 24.00' N 146° 16.10' W	yes	chart
18-fms	59° 23.15' N 146° 17.30' W	no	delete ✓
⁶ 1 $\frac{1}{2}$ -fms	59° 23.35' N 146° 18.00' W	yes	chart
⁴ 9.6-fms	59° 23.70' N 146° 17.95' W	yes	chart
9 $\frac{1}{4}$ -fms	59° 24.50' N 146° 17.45' W	yes	chart
9 $\frac{1}{2}$ -fms	59° 23.20' N 146° 19.60' W	yes	chart ?

Item	Latitude Longitude	Verified	Recommendations
rocks & shoal	59° 28.3 ' N 146° 16.2 ' W	yes	"foul with rocks" ✓
9.4-fms 9	59° 32.35' N 146° 21.05' W	yes	chart ✓
12 -fms 9 8	59° 32.10' N 146° 21.10' W	yes	chart
10.2 -fms	59° 32.25' N 146° 18.10' W	yes	chart
13-fms 9	59° 31.95' N 146° 17.95' W	yes	chart ✓
8.5 -fms 2	59° 32.10' N 146° 18.40' W	yes	chart
11 -fms 7	59° 31.85' N 146° 18.10' W	yes	chart
18 -fms 0	59° 31.10' N 146° 16.85' W	yes	chart
21 -fms	59° 30.65' N 146° 15.10' W	yes	chart
14-fms 5	59° 30.00' N 146° 16.55' W	yes	chart ✓
16 -fms 3	59° 29.75' N 146° 16.05' W	yes	chart
11 -fms 2	59° 29.45' N 146° 15.60' W	yes	chart
11 -fms	59° 30.25' N 146° 19.05' W	yes	chart
12-fms 11	59° 30.00' N 146° 18.10' W	yes	chart ✓
10.7 -fms	59° 29.65' N 146° 17.40' W	yes	chart
13-fms	59° 29.55' N 146° 16.60' W	yes	chart ✓

<u>Item</u>	<u>Latitude</u> <u>Longitude</u>	<u>Verified Recommendations</u>	
11-fms	59° 22.95' N 146° 19.60' W	no	delete ✓
26-fms	59° 22.30' N 146° 19.45' W	no	delete ✓
20-fms	59° 22.80' N 146° 18.65' W	no <i>SOUNDING</i>	<i>ON 20 fms CURVE</i> delete ✓
25-fms	59° 22.85' N 146° 18.50' W	no	delete ✓
18 20 -fms	59° 22.80' N 146° 18.35' W	YES no	CHART delete
4 ³ 9 3/4 -fms	59° 25.35' N 146° 16.50' W	YES no	CHART delete
10 3/4-fms	59° 25.30' N 146° 15.40' W	yes	chart ✓
rock	59° 25.90' N 146° 16.0' W	YES no	CHART delete
rock	59° 25.90' N 146° 16.15' W	YES no	CHART delete
4 ⁵ rock	59° 25.90' N 146° 15.80' W	YES no	CHART delete
rock	59° 26.45' N 146° 15.85' W	yes ✓	chart ✓
shoal area	59° 26.8' N 146° 16.1' W	yes	"foul with rocks" ✓
rock	59° 26.90' N 146° 15.85' W	YES no	CHART delete
rock	59° 26.95' N 146° 15.80' W	YES no	CHART delete
rock	59° 27.10' N 146° 15.80' W	YES no	CHART delete
4 ⁶ 10-15 -fms	59° 27.10' N 146° 15.40' W	yes	correct depths and chart
rocks & shoal	59° 27.55' N 146° 16.0' W	yes	correct depths and chart, edge of foul area ✓

Item	Latitude Longitude	Verified	Recommendations
15-fms	59° 29.25' N 146° 16.15' W	yes	chart ✓
9.2-fms	59° 29.40' N 146° 17.05' W	no	delete ✓
8 10.2-fms	59° 29.35' N 146° 16.80' W	yes	chart
64 11.2-fms	59° 29.05' N 146° 16.70' W	yes	chart
74 9.2-fms	59° 28.90' N 146° 16.40' W	yes	chart
rock	59° 28.70' N 146° 16.30' W	no YES	delete CHART

NOTE: In all cases where it is recommended that the verified items be charted it is suggested that consideration be given to the fact that soundings more representative of the bottom topography are often located nearby. All data should be considered. ✓

As required in the Hydrographic Manual each item of the Presurvey Review was investigated and has been listed and discussed. Specific recommendations as to whether the items should be charted, deleted, etc., have been made. Each item has been listed by approximate latitude and longitude since they were not identified and numbered individually as required by the Hydrographic Manual when the Presurvey Review was compiled. ✓

For four different reasons it is recommended that the specific items of the Presurvey Review be given only very minor consideration, and that the new chart be prepared based on the complete information developed in this new survey. More detail by far is contained in this survey than in any previous investigation. To list only the Presurvey soundings or give them too much emphasis would in many cases give a false representation of the bottom. ✓

The scale of the Presurvey Review and the fact that it was prepared only on a chart based on the Valdez Datum make a precise comparison of the Review with the field sheet practically impossible. ✓

The Hydrographic Manual (Publication 20-2) also recommends that, "Charted data which obviously must be transferred to the boat sheet and verified in a revision survey shall not be considered!"

The items considered in the Presurvey Review are numerous and almost all of them are features which were developed in the course of the normal hydrographic survey. Finally, there have been major changes in bottom topography resulting from the 1964 earthquake, and it should not be surprising that when compared with the 1933 survey the soundings of this survey and of the special surveys SP-5-67-A and B completed in 1967 reflect those changes.

K. COMPARISON WITH THE CHART

The results of this survey were compared with C&GS Chart 8551, 1:200,000, December 30, 1968. Because of the small scale of the chart a precise comparison of it with this survey is practically impossible. Generally the soundings indicate a two to five fathom uplift, although in some locations greater or less change has occurred. Geographic locations of rocks and shoals were found to compare adequately between the chart and this survey.

Three shoals indicated on the chart are now much more serious hazards to navigation than indicated. The shoal depth at Fountain Rock (59° 32.25' N, 146° 19.9' W) north of the island is indicated on the chart as 4½ fathoms, with the notation "breaks in heavy weather". On 4 August 1969 (position number 5058) a hand lead of 0.8 fathoms was recorded at 1358 on 135 W time meridian. Its existence was reported to the 17th District U.S. Coast Guard on 1 August 1969 following a preliminary investigation by the ship. (Covered 1st 2nd ALLN)

On the east side of the island, approximately one mile offshore, are two shoals identified as 1 3/4 fathoms, (59° 25.95' N, 146° 14.4' W) and 3 3/4 fathoms, (59° 25.2' N, 146° 14.9' W) with the notation "breaks". The first one (on the boundry of this survey, but investigated as part of H-9048, FA-10-2-69) was awash (7) one foot at 1600 (135° W) on 9 August 1969. The second was recorded at 140530 on 9 August 1969 between positions 4077 and 4078 and was found at that time to have a shoal depth of 3.4 fathoms. (28) fms.

All of the above are the least depths in the shoal areas.

L. ADEQUACY OF THE SURVEY

The survey is considered complete and adequate to supersede the prior survey for charting. ✓

M. AIDS TO NAVIGATION

The following Aids to Navigation are presently charted:

<u>Description & Date</u>	<u>Chart Position</u>	<u>Light List Position</u>
MIDDLETON ISLAND, AIRPORT BEACON, 1965	59° 27.30' N 146° 18.11' W	59° 27.4' N 146° 18.3' W
MIDDLETON ISLAND H-MARKER MAST, 1965	59° 27.68' N 146° 18.13' W	not listed

The following Aids to Navigation are recommended to be charted. ✓

<u>Description & Date</u>	<u>Position</u>	<u>Maintained</u>
VOR, MIDDLETON ISLAND, RADIO, MDO, 1965	59° 25.34' N 146° 20.89' W	FAA
TALL SUPPORT FOUNDATION OF OLD RADAR SITE, 1967	59° 26.29' N 146° 19.55' W	no

*See enclosed form 567 in Appendix

N. STATISTICS

	<u>FAIRWEATHER</u>	<u>FA-4</u>	<u>FA-5</u>
Positions	2752	202	672
Sounding lines (n.m.)	1142.9	61.3	191.8
Oceanographic stations	1	0	0
Bottom samples	18	0	0

Area surveyed = 110 Sq. N. M.

O. MISCELLANEOUS

It has been recommended to the smooth plotter that all of the hydrography from H-9048 (FA-10-2-69) be smooth plotted directly on this survey. Some of the hydrography in the inshore area which was accomplished by launch FA-3 on H-9048 using electronic control has already been plotted on boat sheet FA-20-2-69.

There were no sounding lines run in areas delineated "FOUL WITH ROCKS" where these areas were considered unsafe for launch operations.

P. REFERENCE TO REPORTS

1. SEASON'S REPORT, Ship FAIRWEATHER, 1969
2. FATHOMETER REPORT, Ship FAIRWEATHER, 1969 Field Season
3. FIELD EDIT REPORT, MIDDLETON ISLAND, OPR-487, 1969,
Ship FAIRWEATHER (forwarded 1 December 1969)
4. EVALUATION OF ROSS FATHOMETER, Ship FAIRWEATHER, 1969
5. COAST PILOT REPORT, MIDDLETON ISLAND 1969, Ship
FAIRWEATHER
6. HI-FIX CALIBRATION REPORT, Ship FAIRWEATHER, 1969

Respectfully submitted

Martin R. Mulhern

Martin R. Mulhern
ENS., USESSA

TIDE NOTE

Tide correctors for 25 July through 4 August 1969 were determined from the standard tide gage at Cordova in accordance with the memorandum on the following page. Correctors for 5 August through 10 August 1969 were determined from data obtained with a bubbler gage at Middleton Island (59° 27.75'N, 146° 18.67'W).

The Rockville Office computed MLLW to be 9.0 feet on the Cordeva staff, and 4.3 feet during August on the Middleton Island staff. Time was referenced to the 135W Meridian. Hourly heights were scaled by the Rockville Office and tide reducers prepared by FAIRWEATHER personnel.

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 16, 1970

~~XXXXXXXXXXXX~~ Pacific Marine Center

Plane of reference approved ~~M~~
~~XXXXXXXXXXXX~~ for Tide tape printout

HYDROGRAPHIC SHEETS 9047, 9049 & 9053

Locality: Middleton Island, Alaska

Year
~~XXXXXXXXXX~~ 1969

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

Middleton Island

Cordova

at the working grounds
Height of Mean High Water above Plane of Reference is as follows:

9.4 feet

Remarks

J. M. Symons
Chief, Tides and Currents Branch

5010-107
511-75
(Pres. by
A.S. 202-2)

UNITED STATES GOVERNMENT

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

Memorandum

Coast and Geodetic Survey

TO : Commanding Officer
USC&GSS FAIRWEATHER

FROM : Chief, Tides Section
Oceanography Division

DATE: December 1, 1969

In reply refer to:
C3312-228-CSS

SUBJECT: Middleton Island Tidal Data

Enclosed are copies of tabulations of the Cordova tide record covering the dates requested in your recent memo. Also enclosed is a copy of the hourly heights recorded by the Middleton Island gage.

Note the different MLLW elevation for each section of the Middleton Island record. These values were computed by comparison with Cordova observations but, as you know, could not be verified through level records.

The Katalla Bay record is not considered reliable. For days when the Middleton Island gage was inoperative, use the Cordova record with the tide table differences as to time of tides and a range ratio of 0.8.

Martha A. Winn
Martha A. Winn

Enclosures



NAME OF AGENCY	PRECEDENCE		SECURITY CLASSIFICATION
	ACTION:		
ACCOUNTING CLASSIFICATION	INFO:		
	TYPE OF MESSAGE		
THIS BLOCK FOR USE OF COMMUNICATIONS UNIT		<input type="checkbox"/> SINGLE <input type="checkbox"/> BOOK <input type="checkbox"/> MULTI-ADDRESS	STANDARD FORM 14 MARCH 1957 GENERAL SERVICES ADMINISTRATION FPMR (41CFR) 101-35.306 TELEGRAPHIC MESSAGE OFFICIAL BUSINESS U. S. GOVERNMENT

MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)	THIS COL. FOR AGENCY USE
<p>R 012020Z AUG 69</p> <p>FM USC&GSS FAIRWEATHER</p> <p>TO CCGD 17</p> <p>INFO COAST & GEODETIC SURVEY SEATTLE</p> <p style="padding-left: 40px;">COAST & GEODETIC SURVEY ROCKVILLE MD.</p> <p>UNCLAS. SURVEYS THIS DATE REVEALS FOUNTAIN ROCK, CHART</p> <p>8551 LAT 59 32.25 N LONG 146 20.07 W BARES TWO (2)</p> <p>FEET AT MLLW</p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> 012110 / HQJ 2670 / JE </div>	
START MESSAGE ADDRESS HERE	DO NOT TYPE MESSAGE BEYOND THIS LINE
PAGE NO.	NO. OF PAGES

NAME AND TITLE OF ORIGINATOR (Type)	ORIGINATOR'S TEL. NO.	DATE AND TIME PREPARED
I certify that this message is official business, is not personal, and is in the interest of the Government.		SECURITY CLASSIFICATION

SIGNAL LIST

HYDROGRAPHIC SURVEY H-9053

FA-10-2-69

Signal No. used in Survey	Type	Origin of Signal
001	Triangulation	MIDDLETON ISLAND H- MARKER MAST, 1965
002	Triangulation	VOR, MIDDLETON ISLAND RADIO MDO, 1965
003	Triangulation	MIDDLETON ISLAND RCAG SITE #1, 1965
004	Triangulation	AIRPORT BEACON, MIDDLETON ISLAND AIRPORT, 1965
005	Triangulation	ETON, 1967
006	Triangulation	IDLE, 1967
007	Triangulation	SPIT 2, 1967
008	Triangulation	MIDDLETON ISLAND, 1933
009	Triangulation	ARAB, 1967
010	Photo-hydro	T-13192
011	Photo-hydro	T-13192
012	Photo-hydro	T-13192
013	Photo-hydro	T-13192
014	Photo-hydro	T-13192
015	Photo-hydro	T-13193
016	Photo-hydro	T-13193
017	Photo-hydro	T-13193
018	Photo-hydro	T-13193
019	Photo-hydro	T-13193
020	Photo-hydro	T-13193
021	Photo-hydro	T-13193
022	Photo-hydro	T-13193
023	Photo-hydro	T-13193
024	Photo-hydro	T-13192
025	Photo-hydro	T-13192
026	Photo-hydro	T-13192
027	Photo-hydro	T-13192
028	Hydrographic	Volume 8 and 9, Sheet FA-10-1-69
029	Hydrographic	FAIRWEATHER Calibration Volume

GEOGRAPHIC POSITIONS

SIGNAL LIST

<u>SIG.#</u>	<u>LAT.</u>	<u>m.</u>	<u>LONG.</u>	<u>m.</u>	<u>SIG.#</u>
001	59-27-1262	146-18-0122	001		001
002	59 25 0636	146 20 0844	002		002
003	59-27-1100	146-18-0239	003		003
004	59 27 0555	146 18 0104	004		004
005	59-24-1424	146-21-0746	005		005
006	59 25 0826	146 21 0123	006		006
007	59-27-1746	146-18-0367	007		007
008	59 26 0204	146 19 0915	008		008
009	59-26-0546	146-19-0515	009		009
010	59 27 1237	146 18 0495	010		010
011	59-27-0764	146-18-0646	011		011
012	59 27 0253	146 19 0070	012		012
013	59-26-1275	146-19-0354	013		013
014	59 26 0632	146 19 0646	014		014
015	59-26-0013	146-20-0445	015		015
016	59 25 1222	146 21 0331	016		016
017	59-25-0471	146-21-0846	017		017
018	59 24 0968	146 22 0136	018		018
019	59-24-0718	146-21-0654	019		019
020	59 24 0972	146 20 0890	020		020
021	59-24-0569	146-20-0383	021		021
022	59 24 1724	146 20 0131	022		022
023	59-25-0534	146-19-0542	023		023
024	59 25 1808	146 19 0012	024		024
025	59-26-1054	146-17-0928	025		025
026	59 26 1602	146 17 0628	026		026
027	59-27-1414	146-18-0018	027		027
028	59 28 0546	146 18 0347	028		028
029	59-24-1010	146-15-0618	029		029

USC&GSS FAIRWEATHER

MSS - 20

John B. Watkins, Jr., Comdg.

VELOCITY CORRECTIONS
Middleton Island - 1969

Corrections to be applied to sheet numbers FA-10-1-69, FA-10-2-69,
FA-20-1-69, and FA-20-2-69.

Applicable Depths (fms)	Corrections (fms)
0 - 5	+0.1
5 - 15	+0.2
15 - 30	+0.3
30 - 60	+0.4
60 - 80	+0.5
80 - 100	+0.6
100 - 120	+0.7
120 - 140	+0.8
140 - 160	+0.9
160 - 180	+1.0
180 - 200	+1.1
200 - 300	+1.7

USC&GSS FAIRWEATHER

MSS - 20

John B. Watkins, Jr., Comdg.

DRAFT CORRECTIONS
Middleton Island - 1969

Ship FAIRWEATHER Sheet Number	Date	Corrections (fms)
FA-20-1-69	6-25	(+0.3)
	6-26	(+0.3)
	7-10	+0.3
	7-13	+0.3
	7-14	+0.4
	7-15	+0.4
	7-16	+0.4
	7-17	(+0.4)
	7-18	(+0.4)
	7-19	+0.4
	7-25	+0.3
	7-27	+0.2
	7-29	+0.2
	7-30	+0.2
	8-04	+0.2
	8-06	(+0.2)
	8-07	+0.2
	FA-20-2-69	7-25
7-26		+0.3
7-27		+0.2
7-28		+0.2
7-29		+0.2
7-30		+0.2
7-31		+0.2
8-01		+0.2
8-05		+0.3
8-07		+0.2

Corrections in parenthesis () are estimated for days when Draft Readings were not taken.

INITIAL CHECK CORRECTIONS
Middleton Island - 1969

Sheet Number	Position Number	Corrections (fms)
FA-20-1-69	1926-2020	-0.1
	2021-2027	+1.0
	2100-2186	+0.6
	2573-2611	-0.1
	2935-2986	-0.1
	3190-3193	+0.2
	3288-3320	-0.1
	3356-3389	-0.1
	7664-7667	-0.1
	FA-20-2-69	0080-0107
0123-0132		-0.1
0392-0403		+0.4
0486-0505		-0.1
0636-0652		-0.1
0742-0834		-0.2
0865-0934		-0.2
0935-0959		-0.1
1001-1021		-0.2
1141-1235		-0.1
1416-1468		-0.1
1469-1487		-0.2
1584-1601		-0.1
1618-1619		-0.1
1696-1720		-0.1
1733-1737		-0.1
1797-1887		-0.1
2350-2375		-0.1
2430-2489		-0.1
2624-2633		-0.2
2684-2689		-0.1
2701-2702		-0.1
2736-2752		-0.1
2757		-0.2
5053		-0.1
5141-5144		-0.1
5432-5444		-0.1

USC&GSS FAIRWEATHER

MSS - 20

John B. Watkins, Jr., Comdg.

ECHO CORRECTIONS
Middleton Island - 1969

Launch FA-4 Sheet Number	Date	Corrections (fms)
FA-10-1-69	7-11	+0.3
	7-12	+0.3
	7-13	+0.3
	7-14	+0.3
	7-15	+0.3
	7-16	+0.3
	7-18	+0.4
	7-22	+0.4
	7-23	+0.4
	7-24	+0.4
	8-09	+0.3
FA-10-2-69	8-06	+0.5
FA-20-1-69 } FA-20-2-69 }	8-08	+0.4
	8-09	+0.4
	8-10	+0.4

USE
+0.3

USE
+0.4

USC&GSS FAIRWEATHER

MSS - 20

John B. Watkins, Jr., Comdg.

ECHO CORRECTIONS
Middleton Island - 1969

Launch FA-5 Sheet Number	Date	Corrections (fms)
FA-10-1-69	7-10	+0.3
	7-11	+0.3
	7-12	+0.2
	7-13	+0.3
	7-14	+0.3
	7-15	+0.2
	7-16	+0.3
	7-18	+0.3
	7-22	+0.2
7-24	+0.2	
FA-10-2-69	7-23	+0.3
	7-24	+0.2
FA-20-2-69	8-04	+0.2
	8-05	+0.4
	8-06	+0.3
	8-07	+0.3
	8-09	+0.3
	8-10	+0.3

USE
+0.3

Approval Sheet
TRANSMITTAL SHEET

H-9053

FA-20-2-69

The field work and examination of records were accomplished under the supervision of this command. The boat sheet was inspected daily for completeness and accuracy. The survey is considered complete and adequate, and no additional field work is considered necessary.

John B. Watkins, Jr.
John B. Watkins, Jr.
CAPTAIN, USESSA
Commanding Officer
USC&GSS FAIRWEATHER

53

5-8-72

S I G N A L P L O T T E R C A R D S

H-NO.		LATITUDE	LONGITUDE	X	Y	X
20079	001	69 59274078	146180775	07264	09761	001
20079	002	69 59252055	146205352	09739	07486	002
20079	003	69 59273555	146181517	07426	09676	003
20079	004	69 59271793	146180660	07355	09390	004
20079	005	69 59244602	146214729	09136	06925	005
20079	006	69 59252669	146210780	08858	07585	006
20079	007	69 59275642	146182330	07493	10015	007
20079	008	69 59260659	146195804	08279	08232	008
20079	009	69 59261764	146193267	08069	08412	009
20079	010	69 59273997	146183142	07560	09748	010
20079	011	69 59272469	146184101	07640	09500	011
20079	012	69 59270818	146190444	07834	09232	012
20079	013	69 59264120	146192246	07984	08794	013
20079	014	69 59262042	146194098	08137	08457	014
20079	015	69 59260042	146202823	08529	08133	015
20079	016	69 59253949	146212099	08966	07793	016
20079	017	69 59251522	146215364	09237	07400	017
20079	018	69 59243128	146220862	09363	06686	018
20079	019	69 59242320	146214145	09138	06554	019
20079	020	69 59243141	146205641	08765	06687	020
20079	021	69 59241839	146202427	08499	06475	021
20079	022	69 59245571	146200831	08366	07081	022
20079	023	69 59251726	146193437	08084	07450	023
09053	024	69 59255842	146190076	07805	08099	024
09053	025	69 59263406	146175688	07292	08677	025
20079	026	69 59265177	146173985	07135	08965	026
20079	027	69 59274569	146180114	07310	09841	027
20079	028	69 59281764	146182204	07482	10360	028
09053	029	69 59243264	146153917	06138	06704	029

10000

GEOGRAPHIC NAMES

Survey No. H-9053

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
FOUNTAIN ROCK												1
GULF OF ALASKA												2
MIDDLETON ISLAND												3
												4
												5
												6
												7
												8
												9
												10
												11
												12
												13
												14
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												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

Approved by:

Chas. E. Harrington

Staff Geographer

Dec. 11, 1973

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. 9053

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		2	
DESCRIPTIVE REPORT		2	OVERLAYS		3	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1					
VOLUMES	10					
BUNDLE BOXES RAW/modified			1			
T-SHEET PRINTS (List) T-13191, T-13192, T-13193, T-13194						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED		4051		
POSITIONS REVISED		105		
DEPTH SOUNDINGS REVISED		426		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		190		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		72		
JUNCTIONS		15		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		480		
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		272		
TOTALS		839		
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Robert M. Tompkins</i>	August 30, 1972		October 16, 1973	
REVIEW BY <i>Markus J. Sanders</i>	BEGINNING DATE		ENDING DATE	

VERIFIER'S REPORT

H-9053

Middleton Island, S.E. Alaska

This sheet was constructed and plotted at Pacific Marine Center, Seattle, Washington. Information relating to this will be noted under the heading by the number and letter as on the Verifier's Report, C&GS Form 946A.

PART I DESCRIPTIVE REPORT

Combine reports for H-9048 (FA-10-2-69) and H-9053 (FA-20-2-69) by appending all of the ship's report for H-9048 to ship's report for H-9053. The H-9048 report shall be attached immediately following H-9053. Original arcs which were plotted on boatsheet and PNO dated 8-28-72 are incorrect, based on wrong frequency. The positions and soundings plotted on PNO 8-28-72 and PSO 11-2-72 are correctly computed, based on proper frequency (1788.0 KHz). The arcs plotted on PSO 11-2-72 are the correct arcs for this survey, and are consistent with all positions and soundings.

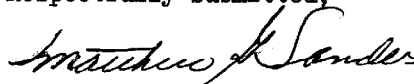
PART III JUNCTIONS

The junction was made and appears to be in very good agreement. The depth curves were left in pencil, because of the distortion that exists in the copy of H-9049. The junction with H-9047 is incomplete and in pencil.

PART VII CURVES

Depth curves were checked by Stanley Otsubo, Cartographic Technician.

Respectfully submitted,



Matthew G. Sanders
Cartographic Technician

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED
TO BE REVISED
TO BE DELETED

STRIKE OUT TWO

MIDDLETON ISLAND, ALASKA

SEPT. 1967

I recommend that the following objects which have ~~these~~ been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by Edgell S. H.

John B. Watt
Chief of Party

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	NEARBY CHART	OFFSHORE CHART	CHARTS AFFECTED
			LATITUDE		LONGITUDE							
			D. M. S.	° ' "	D. M. S.	° ' "						
RED & WHITE TOWER	MIDDLETON IS. H-MARKER		59 27	126. 98	146 18	07. 75	N.A. 1927				8500 8502 8551	
WHITE TOWER	VOR, MIDDLETON IS. RADIO MDO		59 25	20. 56	146 20	53. 50	"				8551	
AIRPORT BEACON	AIRPORT BEACON, MIDDLETON ISLAND		59 27	17. 95	146 18	06. 62	"				8551	
REAR OF BLDG.	TALL SUPPORT FOUNDATION OF OLD RADAR SITE.		59 26	555. 48	146 19	104. 30	"				8551	

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-55, 2-39, 6-36, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

ABSTR. OF ELECTRONIC CONTROL
CORRECTIONS

BOAT SHEET NUMBER: FA-20-2-69 (H-9053)

CONTROL: HI-FIX

POSITION NUMBERS		DAY	CORRECTIONS	
FROM	TO		PATTERN ONE DESIGNATION: <u>RED</u>	PATTERN TWO DESIGNATION: <u>GREEN</u>
0001	0054	206	-0.06	+0.11
0055	0165	207	+1.99	+0.09
0166	1404	207-09	-0.01	+0.09
1405	1619	210	-0.01	-0.91
1620	1780	211	-0.01	+0.09
1781	1875	211	-0.05	+0.07
1876	1887	211-12	-1.05	+0.07
1888	2681	212-13	-0.02	+0.09
2682	2750	217-18	+0.04	+0.10
2751	2752	218-20	+0.04	+1.10
4000	4031	220	+0.04	+0.10
4032	4137	221	+0.04	+0.10
4138	4201	222	+0.05	+0.25
5001		216	+0.04	+3.10
5002	5004	216	+1.04	+3.10
5005		216	+0.04	+0.10
5006	5008	216	+0.04	-0.90
5009	5018	216	+0.04	-1.90
5019	5039	216	+0.04	-0.90
5040	5052	216	+0.04	+0.10
5053	5074	216	+0.04	-0.90
5075	5088	216	+0.04	+0.10
5089	5138	217	+0.04	+0.10
5140	5174	217	+0.04	+0.10
5175		218	-0.96	-4.90
5176		218	-0.96	-3.90
5177		218	-0.96	-4.90
5178		218	-0.96	-5.90
5179	5181	218	-0.96	-7.90
5182		218	-0.96	-10.90 ✓

FAIRWEATHER

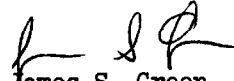
FA-49

FA-5

APPROVAL SHEET

The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,



James S. Green
Supervisory Cartographic Technician

Approved and forwarded,



Walter F. Forster, LCDR, NOAA
Chief, Processing Division
Pacific Marine Center

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. FA-10-2-69 Office No. H-9048 ⁵³ *CR Reg. no. 9053?*

*Note H-9048 combined with
LOCALITY H-9053 scale 29000*

State Alaska

General locality Gulf of Alaska

Locality Middleton Island

19 69

CHIEF OF PARTY

CAPTAIN John B. Watkins, Jr.

LIBRARY & ARCHIVES

DATE _____

HYDROGRAPHIC TITLE SHEET

H-9048

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

State Alaska

General locality Gulf of Alaska

Locality Middleton Island

Scale 1:10,000 Date of survey June thru August 1969

Instructions dated 20 March 1969 Project No. OPR-487

Vessel USC&GSS FAIRWEATHER Launches 3, 4 and 5

Chief of party John B. Watkins, Jr., CAPTAIN, USESSA

Surveyed by A. F. Divis, W. D. Neff, E. R. Krick

Soundings taken by echo sounder, hand lead, pole DE-723, Ross 400

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Protracted by _____ Automated plot by _____

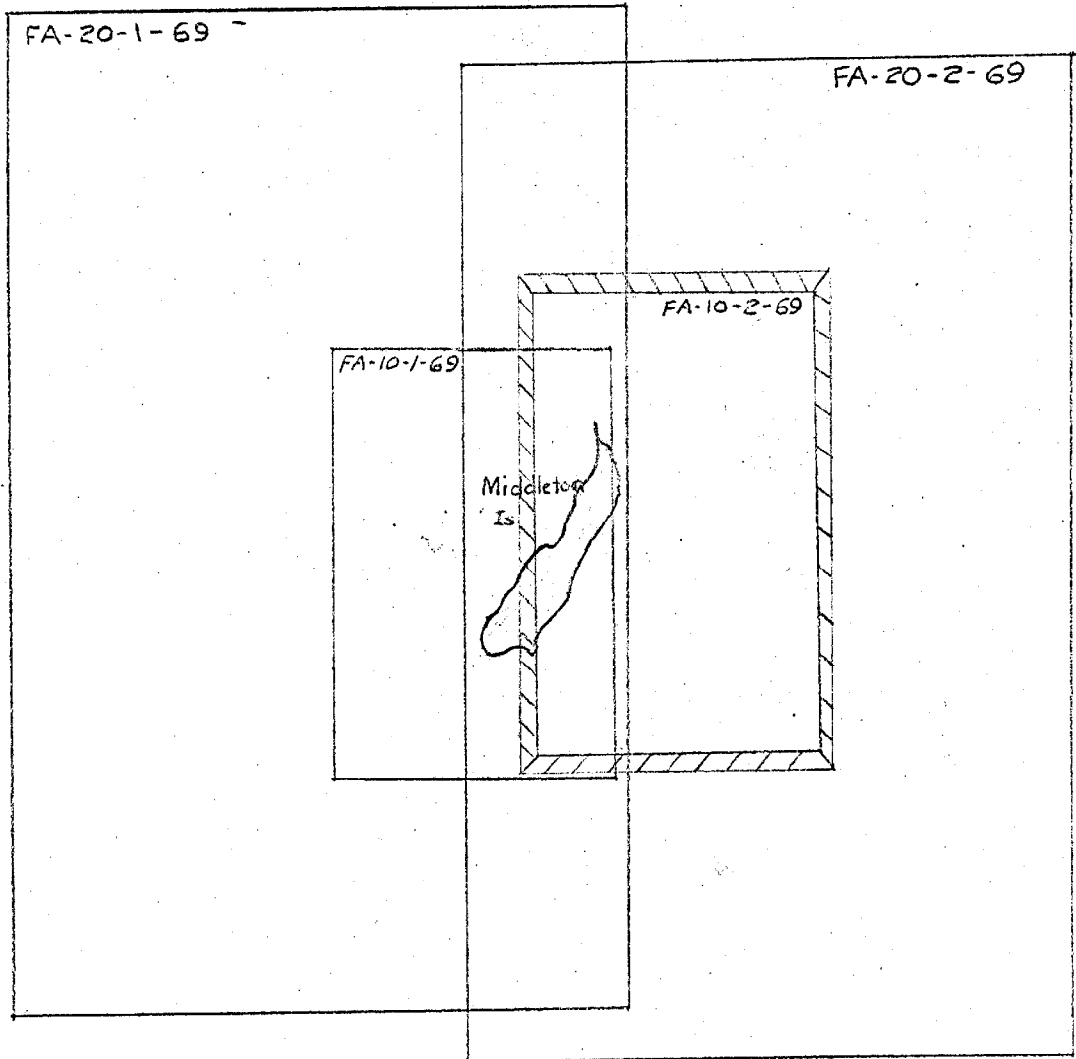
Soundings penciled by _____

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW _____

REMARKS: _____

SHEET LAYOUT

OPR 487



DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H - 9048 (FIELD NO. FA-10-2-69)

1:10,000 1969

USC&GS SHIP FAIRWEATHER

CAPT. JOHN B. WATKINS, JR., COMDG.

A. PROJECT

Hydrographic Survey H-9048 was accomplished under OPR-487 according to project instructions dated 20 March 1969 and supplements to instructions dated 8 May 1969 and 30 June 1969. ✓

B. AREA SURVEYED

This survey was conducted off the east coast of Middleton Island, Alaska during the period July 23 thru August 9. The limits are as follows: north - 59°-29.0'N; south - 59°-22.5'N; east - 146°-13.0'W; west - 146°- 19.6'W. This survey junctions with the following surveys: ✓

<u>Reg. No.</u>	<u>Field No.</u>	<u>Scale</u>	<u>Date</u>
H-9047	FA-10-1-69	1:10,000	1969
H-9053	FA-20-2-69	1:20,000	1969

C. SOUNDING VESSELS

<u>Vessel</u>	<u>Color Code</u>
FA-3	green
FA-4	blue
FA-5	red

 ✓

D. SOUNDING EQUIPMENT

<u>Vessel</u>	<u>Type</u>	<u>Model</u>	<u>Recorder No.</u>	<u>Depth (fms)</u>
FA-3	echo	Raytheon DE-723	559	1 - 35
FA-4	echo	Ross 400	prototype	1 - 13
FA-5	echo	Raytheon DE-723	561	1 - 22

 ✓

The velocity and instrument corrections determined from Nansen casts and bar checks, and are listed in the appendix. There were no apparent faults in the equipment which affected the accuracy of the soundings. The profile was somewhat jagged due to heavy swells and the bottom relief of the area. ✓

E. SMOOTH SHEET

To be completed by the smooth plotter. ✓

F. CONTROL

The control for this survey was mainly visual with some HI-FIX control on the southern portion of the sheet.

Visual control signals (listed in the appendix) were of three types; photo-hydro, triangulation, and hydrographic.

The photo-hydro signals were photo-identified on the aerial photographs and transferred to Advance Manuscripts T-13192 and T-13193 using the radial and direct plotting methods. The signals were then transferred directly from the manuscripts to the boatsheet.

The triangulation stations were plotted on the boatsheet by PMC, EDAT.

The hydrographic signals were located by taking sextant fixes on triangulation and photo-hydro signals and plotting them directly on the boatsheet.

Due to the elongated shape of the island it was sometimes necessary to use small angles (less than 30°) in visual fixes. Viewing the island along the narrow ends, the location of signals was such that wider angles were usually impossible.

Three temporary HI-FIX shore stations were located by traverses from the following stations:

1. HIFI, 1969; located about 15 miles east-southeast of Cordova, Alaska. ✓
2. BOX, 1933; located on Box Island, a small islet off Montague Island, Alaska. ✓
3. TUCK, 1969; located near Katalla, Controller Bay, Alaska.

G. SHORELINE

The source of shoreline detail was Advance Manuscripts T-13191, T-13192, T-13193 and T13194. Any changes have been indicated on the boatsheet.

The low water line was not defined by soundings. This area was foul with rocks and unsafe to enter. ✓

H. CROSSLINES

The crosslines amounted to about 13% of the sounding lines. The following discrepancies were noted:

<u>Latitude</u>	<u>Longitude</u>	<u>Difference (fms)</u>
59°-26.25' N	146°-15.5' W	3 fms
59°-25.7' N	146°-15.75' W	2 fms
59°-25.8' N	146°-16.4' W	2 fms
59°-25.5' N	146°-16.7' W	3 fms

These discrepancies are due to the extremely irregular relief of the area, kelp, or side echoes which were virtually impossible to distinguish from the bottom trace. ✓

I. JUNCTIONS

The junctions made with contemporary surveys FA-10-1-69 and FA-20-2-69 were found to be in satisfactory agreement.

J. COMPARISON WITH PRIOR SURVEYS

Presurvey Review H-5422 (1933) 1:20,000

<u>Item</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Verified</u>	<u>Recommendations</u>
group of rocks	59°-28.3' N	146°-16.0' W	yes	Chart as foul area ✓
group of rocks	59°-27.5' N	146°-16.0' W	yes	Chart as foul area ✓
group of rocks	59°-27.2' N	146°-16.2' W	yes	Chart as foul area ✓
group of rocks	59°-25.7' N	146°-17.0' W	yes	Chart as foul area ✓
rock	59°-26.4' N	146°-15.8' W	yes	Chart as rock ✓
group of rocks	59°-26.9' N	146°-15.8' W	no YES	Delete foul
rock	59°-23.7' N	146°-19.2' W	yes	Chart as rock ✓
rock	59°-28.5' N	146°-16.2' W	no YES	Delete rock

<u>Item</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Verified</u>	<u>Recommendations</u>
3 rocks	59°-28.7' N	146°-16.3' W	no YES	Chart delete
rock	59°-28.6' N	146°-16.2' W	no YES	delete Chart

The soundings from the presurvey review were generally 2 to 5 fathoms deeper than the soundings from this survey, but there were places where no differences occurred. This wide spread change was probably the result of the 1964 earthquake. A comparison of soundings with SP-5-67-B done by the PATHFINDER showed generally good agreement.

K. COMPARISON WITH THE CHARTS

Very few soundings could be compared with C&GS Chart 8551, December 30, 1968, 1:200,000, because of the limited hydrography done on this survey, but those that could be compared were in disagreement. The disagreement was probably the result of the 1964 earthquake, but could also be explained by the very irregular bottom relief.

L. ADEQUACY OF THE SURVEY

This survey is complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

<u>Description & Date</u>	<u>Light List Position</u>	<u>Chart Position</u>
MIDDLETON ISLAND H-MARKER MAST, 1965	not listed	59°-27.68' N 146°-18.13' W
AIRPORT BEACON MIDDLETON ISLAND, 1965	59°-27.4' N 146°-18.3' W	59°-27.30' N 146°-18.11' W

The following aids have been recommended to be charted.

<u>Discription & Date</u>	<u>Position</u>	<u>Maintained</u>
VOR, MIDDLETON ISLAND RADIO MDO, 1965	59°-25.34' N 146°-20.89' W	FAA
TALL SUPPORT FOUNDATION OF OLD RADAR SITE, 1967	59°-26.29' N 146°-19.55' W	no

N. STATISTICS

<u>Vessel</u>	<u>No. Position</u>	<u>Miles of Sounding Lines</u>
FA-3	356	54.3
FA-4	29	2.0
FA-5	88	9.7

472

The total area surveyed was 2.8 square nautical miles.

O. MISCELLANEOUS

The presence of kelp and side echoes at times made it difficult to read the fathogram. The correct sounding was usually assumed to be the least depth.

There are no soundings in the areas marked "foul with rocks" since these areas were considered unsafe to enter.

The relief of the area was such that there were numerous submarine mounds.

P. RECOMMENDATIONS

Any area in which there are no soundings should be considered foul or unsafe for navigation.

Q. REFERENCES TO REPORTS

The following reports may be referred to for additional information:

1. Season's Report, Ship FAIRWEATHER 1969 (to be forwarded)
2. Fathometer Report, Ship FAIRWEATHER, 1969 Field Season (to be forwarded)
3. Electronic System Calibration Report, Middleton Island (OPR-487), 1969, Ship FAIRWEATHER (to be forwarded)
4. Field Edit Report, Middleton Island (OPR-487), 1969, Ship FAIRWEATHER (forwarded 1 December 1969)
5. Report on Landmarks for Charts and Fixed Aids to Navigation, 1969, Ship FAIRWEATHER (included in appendix)
6. Ross Fathometer Evaluation, 1969 (forwarded Dec. 1969)

Respectfully Submitted,

Donald C. Suva

Donald C. Suva, ENS., USESSA

TIDE NOTE

Tide corrections were determined from data obtained with a bubbler gauge at Middleton Island (latitude $59^{\circ}-27.75'$ N, longitude $146^{\circ}18.67'$ W). The Washington Office computed MLLW to be 6.2 feet on the tide staff for July and 4.3 feet for August. Time was referenced to the 135th Meridian West. Hourly heights were scaled by the Washington Office.

Memorandum

Coast and Geodetic Survey

TO : Commanding Officer
USC&GSS FAIRWEATHER

FROM : Chief, Tides Section
Oceanography Division

SUBJECT: Middleton Island Tidal Data

DATE: December 1, 1969

In reply refer to:
03312-228-CSS

Enclosed are copies of tabulations of the Cordova tide record covering the dates requested in your recent memo. Also enclosed is a copy of the hourly heights recorded by the Middleton Island gage.

Note the different MLLW elevation for each section of the Middleton Island record. These values were computed by comparison with Cordova observations but, as you know, could not be verified through level records.

The Katalla Bay record is not considered reliable. For days when the Middleton Island gage was inoperative, use the Cordova record with the tide table differences as to time of tides and a range ratio of 0.8.

Martha A. Winn
Martha A. Winn

Enclosures



ECHO CORRECTIONS

Middleton Island - 1969

<u>Launch</u>	<u>Date</u>	<u>Correction (fathoms)</u>
3	July 23	+0.3 fms
3	July 24	+0.3 fms
3	August 8	+0.3 fms
4	August 6	+0.5 fms
5	July 23	+0.3 fms
5	July 24	+0.3 fms

VELOCITY CORRECTIONS - 1969

Middleton Island

<u>Depths (fathoms)</u>	<u>Corrections (fathoms)</u>
0 - 15	+0.1 fms
5 - 15	+0.2 fms
15 - 30	+0.3 fms
30 - 60	+0.4 fms
60 - 80	+0.5 fms
80 - 100	+0.6 fms
100 - 120	+0.7 fms
120 - 140	+0.8 fms
140 - 160	+0.9 fms
160 - 180	+1.0 fms
180 - 200	+1.1 fms
200 - 300	+1.7 fms

SIGNAL LIST

HYDROGRAPHIC SURVEY H-9048

FA-10-2-69

Signal No. used in Survey	Type	Origin of Signal
001	Triangulation	MIDDLETON ISLAND H- MARKER MAST, 1965
002	Triangulation	VOR, MIDDLETON ISLAND RADIO MDO, 1965
003	Triangulation	MIDDLETON ISLAND RCAG SITE #1, 1965
004	Triangulation	AIRPORT BEACON, MIDDLETON ISLAND AIRPORT, 1965
005	Triangulation	ETON, 1967
006	Triangulation	IDLE, 1967
007	Triangulation	SPIT 2, 1967
008	Triangulation	MIDDLETON ISLAND, 1933
009	Triangulation	ARAB, 1967
010	Photo-hydro	T-13192
011	Photo-hydro	T-13192
012	Photo-hydro	T-13192
013	Photo-hydro	T-13192
014	Photo-hydro	T-13192
015	Photo-hydro	T-13193
016	Photo-hydro	T-13193
017	Photo-hydro	T-13193
018	Photo-hydro	T-13193
019	Photo-hydro	T-13193
020	Photo-hydro	T-13193
021	Photo-hydro	T-13193
022	Photo-hydro	T-13193
023	Photo-hydro	T-13193
024	Photo-hydro	T-13192
025	Photo-hydro	T-13192
026	Photo-hydro	T-13192
027	Photo-hydro	T-13192
028	Hydrographic	Volume 8 and 9, Sheet FA-10-1-69
029	Hydrographic	FAIRWEATHER Calibration Volume

HYDROGRAPHIC SURVEY H-9048 (FA-10-2-69)

GEOGRAPHIC POSITIONS

SIGNAL LIST

<u>SIG.#</u>	<u>LAT.</u>	<u>m.</u>	<u>LONG.</u>	<u>m.</u>	<u>SIG.#</u>
001	59 27	1262	146 18	0122	001
002	59 25	0636	146 20	0844	002
003	59 27	1100	146 18	0239	003
004	59 27	0555	146 18	0104	004
005	59 24	1424	146 21	0746	005
006	59 25	0826	146 21	0123	006
007	59 27	1746	146 18	0367	007
008	59 26	0204	146 19	0915	008
009	59 26	0546	146 19	0515	009
010	59 27	1237	146 18	0495	010
011	59 27	0764	146 18	0646	011
012	59 27	0253	146 19	0070	012
013	59 26	1275	146 19	0354	013
014	59 26	0632	146 19	0646	014
015	59 26	0013	146 20	0445	015
016	59 25	1222	146 21	0331	016
017	59 25	0471	146 21	0846	017
018	59 24	0968	146 22	0136	018
019	59 24	0718	146 21	0654	019
020	59 24	0972	146 20	0890	020
021	59 24	0569	146 20	0383	021
022	59 24	1724	146 20	0131	022
023	59 25	0534	146 19	0542	023
024	59 25	1808	146 19	0012	024
025	59 26	1054	146 17	0928	025
026	59 26	1602	146 17	0628	026
027	59 27	1414	146 18	0018	027
028	59 28	0546	146 18	0347	028
029	59 24	1010	146 15	0618	029

TRANSMITTAL SHEET

H-9048

FA-10-2-69

The field work and examination of records was accomplished under the supervision of this Command. The boatsheet was inspected daily for completeness and accuracy.

Because of the small amount of work accomplished on this sheet, it is recommended that all hydrography be smooth plotted on sheet FA-20-2-69, H-9053. This will provide a better overall picture of the area and of the junctions with contemporary sheets.

John B. Watkins, Jr.
John B. Watkins, Jr.
CAPTAIN, USESSA, Comdg.

VERIFIER'S REPORT
HYDROGRAPHIC SURVEY, H 9053

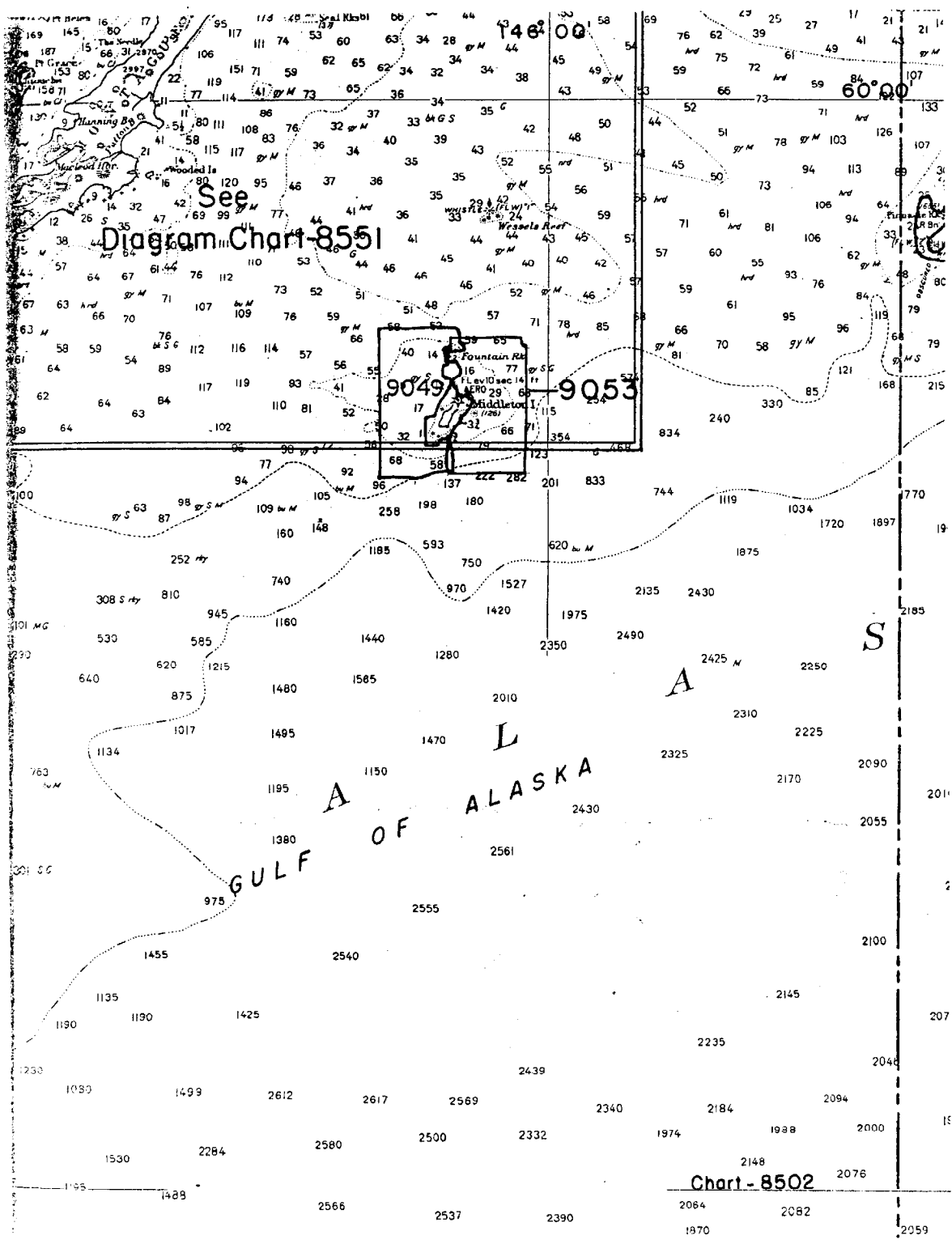
INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p>Note: The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	✓		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.</p>	✓	
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>	✓		<p>Part IV - VOLUMES</p> <p>11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None</p>	✓	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	✓				
<p>Part II - SHORELINE AND SIGNALS</p> <p>4. Source of shoreline signals Remarks Required: -- List all surveys</p> <p>a. Give earliest and latest dates of photographs</p> <p>b. Field inspection date</p> <p>c. Field Edit date</p> <p>d. Reviewed-Unreviewed</p>	✓		<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:</p> <p>(a) rocks</p> <p>(b) line turns</p> <p>(c) position values of beginning and ending of lines</p> <p>(d) bar check or velocity correctors</p> <p>(e) time recording</p> <p>(f) notes or markings on fathograms</p> <p>(g) was reduction of soundings accurately done?</p> <p>(h) was scanning accurate?</p> <p>(i) were peaks at uneven intervals missed?</p> <p>(j) were stamps completed?</p> <p>(k) references to adjacent features</p>	✓	
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>	✓				
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>	✓				
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.</p>	✓		<p>Part V - PROTRACTING</p> <p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>	✓	
<p>Part III - JUNCTIONS</p> <p>Note: Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>	✓		<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	✓	
<p>9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	✓		<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	✓	

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	✓		26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓		27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	✓	
Part VI - SOUNDINGS			Part IX - BOATSHEET		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓		28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓		29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	✓	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓		Part X - GENERAL		
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓		30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
Part VII - CURVES			32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected. <i>Stanley Otsubo</i>			33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓		Part XI - NOTES TO THE REVIEWER		
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓		34. Unresolved discrepancies and questionable soundings.	✓	
			35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	✓	
			36. Supplemental information.	✓	
Verified by <i>Robert Montemayor</i> <i>Madden Gardner</i>				Date <i>October 16, 1973</i>	



See
Diagram Chart 8551

Chart - 8502

