

9079

Diag. Cht. No. 8201-3.

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. DA-5-3-69 Office No. H-9079

LOCALITY

State Alaska

General locality Keku Strait

Locality Vicinity of Summit Island

1969

CHIEF OF PARTY

R. E. Moses

LIBRARY & ARCHIVES

DATE January 13, 1971

USCOMM-DC 37022-P66

6206

HYDROGRAPHIC TITLE SHEET

H-9079

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.

DA-5-3-69

State Alaska *Alaska*

General locality Southeast Alaska *Kekau Strait*

Locality Kekau Straits - Rocky Pass - Five Summit
Vicinity of Summit Island

Scale 1 : 5,000 Date of survey 17 June-29 July, 1969

Instructions dated 10 March 1969 Project No. OPR-448

Vessel Launch 1, 17' Whaler (WZ 3041), 12' Whaler (WZ 3042)

Chief of party CDR Ray E. Moses

Surveyed by E.M. Gelb, G.H. Endrud, B.W. Fisher, G.F. Tornberg

Soundings taken by echo sounder, ~~and lead~~ ~~XXXXXX~~ Raytheon DE-723, Nos. 919, 1276, 1284

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Officers

Protracted by G.F. Tornberg Automated plot by PMG, Seattle
VERIFIED BY NICHOLAS LESTENKOF

Soundings penciled by G.F. Tornberg

Soundings in ~~XXXXXX~~ feet at MKW MLLW

REMARKS:

*Applied to 8045
2-19-71 CCB*

DESCRIPTIVE REPORT

To Accompany

Hydrographic Survey H-9079 DA-5-3-69

OPR-448 Alaska

Scale 1:5,000

USC&GSS DAVIDSON

Ray E. Moses

CDR, USESSA

Commanding Officer

1969

DESCRIPTIVE REPORT

DA-5-3-69

A. PROJECT

This survey was accomplished according to Project Instructions: OPR-448, KEKU STRAIT, SOUTHEAST ALASKA, dated 10 March, 1969 and the following amendment:

Change No. 1: Amendment to Instructions 4 April, 1969

B. AREA SURVEYED

The survey covered the area of Keku Straits in the vicinity of The Summit between the latitudes: 56° 40.0' and 56° 42.0', and longitudes: 133° 42.8' and 133° 45.8'.

Work was accomplished between 17 June and 29 July, 1969.

The survey makes a junction with the following sheets:

| | | |
|-----------|--------|---------------------|
| DA-5-2-69 | H-9078 | Contemporary survey |
| DA-5-4-69 | H-9080 | Contemporary survey |

C. SOUNDING VESSEL

The following vessels were used to obtain soundings on this survey:

| <u>VESSEL</u> | <u>POSITION NUMBER</u> | <u>COLOR</u> |
|---------------|------------------------|--------------|
| Launch 1 | | Green |
| 17' Whaler | | Violet |

Field Edit positions are shown in brown. Bottom samples were taken by Launch 1 and are shown in blue.

A summary of each vessel's work by position number is attached.

D. SOUNDING EQUIPMENT

Raytheon DE-723 fathometers were used:

| | |
|------------|-------------------|
| Launch 1 | # 1276, 1284, 919 |
| 17' Whaler | # 1276, 1284 |

Echo sounder corrections were determined from bar checks

taken daily by the launches. Launch and whaler fathometers were initiated to the actual draft of the craft--1.3 ft for Launch 1 and 1.7 ft for the Whaler. Therefore, no draft correction is needed. Refer also to CORRECTIONS TO ECHO SOUNDINGS-OPR-448. All soundings are in feet. Time meridian 105° W was used throughout.

E. SMOOTH SHEET

The smooth sheet will be constructed and plotted by the Processing Division, Pacific Marine Center, Seattle, Washington.

F. CONTROL

Visual three-point fixes were used for control in this survey. There were three types of visual signals used: triangulation, photogrammetric, and hydrographic. The triangulation signals were machine plotted on the sheet. Photogrammetric signals were located by either direct or radial plots from the office photographs. Hydrographic signals were cut in with sextant angles and T-2 cuts. An abstract of signals and manuscripts is included in the appendix.

On Day 194, 14 July, 1969, several signals were re-located with T-2 cuts and were re-plotted onto the boat sheet. Various sounding line positions were checked and found to move only a slight amount when the new signal locations were used. Therefore to avoid confusion, none of the positions (both sounding lines and field edit) were re-plotted for the work done before Day 194. Early positions plotted using the original signals may shift slightly when smooth plotted. The new signal locations were used for Day 194 and the days thereafter.

G. SHORELINE

Shoreline and shoal area outlines were traced onto the boat sheet from the photo manuscripts (see appendix) by the ship's officers. Verification of the shoreline was carried out by LTJG Bruce W. Fisher in the manuscript field edit covered by FIELD EDIT REPORT, Keku Straits, Alaska, June-August, 1969.

The following is a summary on the agreement between the photogrammetric and hydrographic location of features on this survey:

Manuscript

Agreement

| | |
|---------|---------|
| T-12812 | Good |
| T-12813 | Fair ** |
| T-12814 | Good |
| T-12815 | Fair ** |
| T-12816 | Good |

**There was some discrepancy between photogrammetric and hydrographic locations. It is therefore recommended that these areas be recompiled using the 1969 photographs and hydrographic data. The low water line is defined by the soundings.

H. CROSSLINES

On a survey in an area such as this, most lines cross other lines, thereby relieving the need for actual crosslines. There is very good agreement at these crossings.

I. JUNCTIONS

Junction was made with the following sheets:

| | | |
|-----------|--------|---------------------|
| DA-5-2-69 | H-9078 | Contemporary survey |
| DA-5-4-69 | H-9080 | Contemporary survey |

There is good agreement at the junctions.

J. COMPARISON WITH PRIOR SURVEYS

Comparison with Survey H-4945, 1929, was good. There are four (4) areas of investigation from the Pre-survey Review:

1. Area 1 (Lat. 56° 41.12', Long. 133° 44.42')

*Discredited
pear plot on
H-4945*

The 4 ft. sounding does not exist in this area. The depth is approximately 20 feet.

2. Area 2 (Lat. 56° 41.1', Long. 133° 43.9')

This area was examined thoroughly and no rock was found. However, the area is very shallow and navigation in this area which is outside of the prescribed channel is not recommended.

3. Area 3 (Lat. 56° 40.0', Long. 133° 43.78')

*5 1/2 foot
soundings in area*

This area was developed and a least depth of 4 ft. was obtained.

4. Area 4 (Lat. 56° 41.55', Long. 133° 45.39')

A -3 ft. reduced sounding was found in this area. It is a large shoal area with many rocks. *Brought forward from H-4945 (1969)*

The following is a summary of the results of other areas of investigation.

| Lat. | <i>Approximate</i> | | Prior Survey | Present Survey | Remarks |
|-----------------------|-------------------------|-------|------------------|---------------------|----------------|
| | Lat. | Long. | | | |
| 56 41.95 | 133 44.10 ⁰⁴ | | 17 | 18 ² | Shoaler depth |
| 56 41.87 | 133 44.08 ³ | | 2 | 4 (excess) | 2 retained |
| 56 41.73 | 133 45.30 | | 3 | 5 | 3 retained |
| 56 41.65 | 133 44.90 ² | | 14 | 14 | |
| 56 41.54 | 133 44.74 | | 13 | 14 | |
| 56 41.43 | 133 44.10 | | 10 | 5 ⁹ | Shoal area |
| 56 41.37 | 133 45.30 | | 10 | 10 ¹⁶⁻²² | 7 retained |
| 56 41.32 | 133 44.14 | | 7 | 11 | |
| 56 41.75 | 133 43.70 | | 0 | -0.6 ⁻¹ | |
| 56 41.27 | 133 44.56 | | 4 | * | Rock-Pos. 5301 |
| 56 40.99 | 133 44.28 | | 6 | 5 | Shoal area |
| 56 40.75 | 133 43.84 | | 5 | 6 | |
| 56 40.43 | 133 43.98 ⁹ | | 0 | 1 | |
| 56 40.30 | 133 44.02 | | 0 | 0 ¹ | Shoal area |
| 56 40.18 ⁵ | 133 43.95 | | 0.5 | * (L) | Rock-Pos. 5441 |
| 56 40.08 | 133 43.90 | | 10 ¹⁴ | 14 | |
| 56 40.03 | 133 43.56 | | 10 | 11 | |
| 56 40.02 | 133 43.25 | | 18 | 18 | |

In all of the above cases, the areas were adequately developed with the shoalest depth being shown. The present survey depths are reduced using the actual tides for The Summit, Alaska.

K. Comparison of soundings with the chart

Comparison of soundings and depth curves with C&GS chart #8272, 3rd edition, 17 October, 1966 is generally good. *Compared with Chart Drawing 5-19-72 during review.*

L. Adequacy of Survey

This survey is considered complete and adequate to supercede prior surveys. ✓

M. Aids to Navigation

The following is a list of the navigational aids on this survey: ✓

| <u>Lat.</u> | <u>Long.</u> | <u>Description</u> | <u>Hydro Signal Number</u> |
|-------------|--------------|--------------------|------------------------------------|
| 56 41 39.8 | 133 43 53.9 | R "36" Daybeacon | 314 |
| 56 41 39.8 | 133 43 53.9 | R "34" Daybeacon | 315 |
| 56 41 17.7 | 133 43 59.7 | R "32" Daybeacon | 316 |
| 56 41 04.9 | 133 43 56.7 | R "30" Daybeacon | 317 |
| 56 40 53.2 | 133 43 54.1 | W "29" Daybeacon | 339 |
| 56 40 38.5 | 133 43 46.8 | R "28" Daybeacon | 322 |
| 56 40 17.4 | 133 44 06.5 | W "25" Daybeacon | 325 |
| 56 40 17.3 | 133 43 54.1 | R "26" Daybeacon | 324 |
| 56 40 03.5 | 133 43 46.3 | R "24" Daybeacon | 327 |

Refer also to the separate report on Landmarks for Charts & Fixed Aids to Navigation for OPR-448.

N. STATISTICS

| | <u>Number of Positions</u> | <u>Nautical Miles Sounding Lines</u> | <u>Bottom Samples</u> |
|--------------|--------------------------------|--|---------------------------|
| Launch 1 | 1209 | 60.2 | 30 |
| 17' Whaler | 1225 | 54.3 | 0 |
| Field Edit | 454 | 0 | 0 |
| <i>Total</i> | <i>2888</i> | | |

The total area surveyed is 1.6 square nautical miles. There are sixteen (16) volumes with this survey.

The tide station used for this sheet is The Summit Tide Gauge on time meridian 105° W. The soundings on the boat sheet were reduced using predicted tides for The Summit, Keku Straits, Alaska.

O. LOGGING

The HUL Logger(BCD Code)/Friden Flexowriter logging system was used with this survey. A "dual indicator" format is used which combines both the sounding tape and position tape into one "position and sounding tape". An example and explanation of this format is included in the appendix. Separate position and sounding tapes have been made for minus soundings and zero soundings.

P. RECOMMENDATIONS

It is recommended that the photogrammetric work be recompiled for this area using the new 1969 photographs.

Q. REFERENCES TO REPORTS

Corrections to Echo Soundings-OPR 448
(forwarded with this report)

Field Edit Report-OPR 448
(forwarded to C14, 3 October, 1969, Transmittal
letter No. DA-71-69)

Landmarks Report-OPR 448
(forwarded with this report)

Respectfully submitted,

Gordon F. Tornberg

Gordon F. Tornberg
LTJG, USESSA

APPENDIX

Tide Notes
Geographic Name List
Parameters for Digital Computing
Triangulation Stations
Boat Sheet Layout
Modified Velocity Corrections
Fathometer Initial Correction
List of Obstructions
List of Stations on DA-5-3-69
List of Manuscripts
Dual Indicator Position-Sounding Tape
Development No. 1
Development No. 2
Abstract of Positions

TIDE NOTES

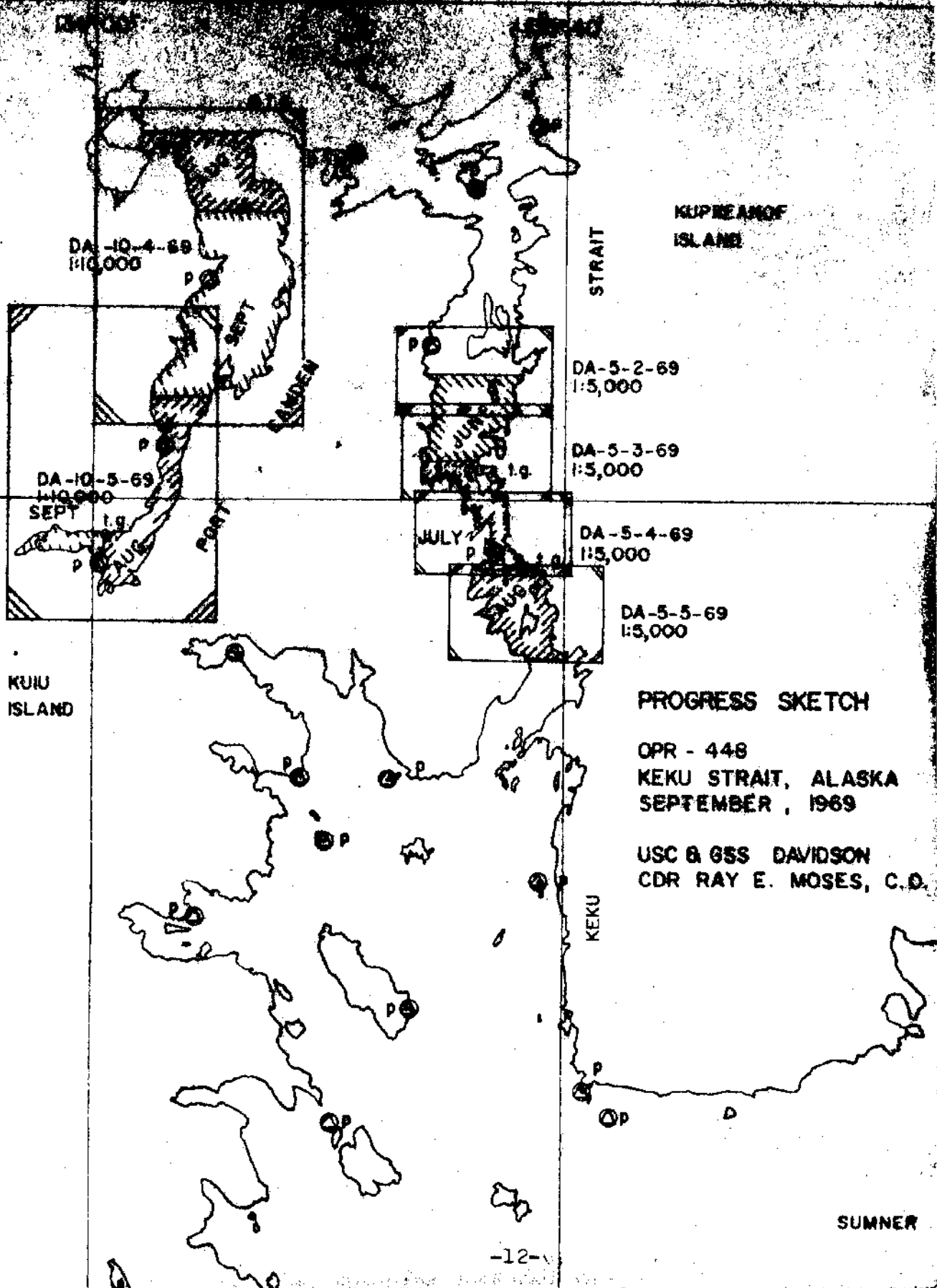
The tide station used for this survey was at The Summit.

| | |
|---------------|-------------------------------------|
| Location | Lat. 56° 40' 44" Long. 133° 43' 59" |
| Plane of Ref. | MLLW |
| Time Meridian | 105°W |
| Type of gauge | Portable Bubbler |

The tide height data were corrected for differences in time and height. MLLW was -0.4 ft. on the staff.

TRIANGULATION STATIONS

| | LAT | LONG |
|-------|----------------|----------------|
| SAND | 56° 42' 292.8 | 133° 45' 453.6 |
| NEAR | 56° 42' 497.0 | 133° 43' 861.9 |
| GRASS | 56° 41' 989.6 | 133° 44' 392.1 |
| OVER | 56° 41' 446.5 | 133° 45' 230.5 |
| FAST | 56° 40' 1516.8 | 133° 43' 787.7 |
| ALL | 56° 40' 1241.8 | 133° 44' 574.9 |
| MOST | 56° 40' 694.2 | 133° 43' 925.0 |
| ARE | 56° 40' 289.3 | 133° 43' 420.0 |
| DUN | 56° 40' 245.9 | 133° 44' 257.2 |
| YOU | 56° 39' 1678.1 | 133° 43' 769.3 |
| NEXT | 56° 40' 180.5 | 133° 43' 937.1 |



DA-10-4-69
1:10,000

DA-10-5-69
1:10,000
SEPT

STRAIT
KUPREANOF
ISLAND

DA-5-2-69
1:5,000

DA-5-3-69
1:5,000

DA-5-4-69
1:5,000

DA-5-5-69
1:5,000

KUIU
ISLAND

PROGRESS SKETCH

OPR - 448
KEKU STRAIT, ALASKA
SEPTEMBER, 1969

USC & GSS DAVIDSON
CDR RAY E. MOSES, C.D.

KEKU

SUMNER

MODIFIED VELOCITY CORRECTIONS

In all corrections, Table 1 refers to Launch 1 and Table 3 refers to the 17' Whaler. The combined position-sounding tape does not call for specific correction tables so corrections dependent upon vessel must be entered with care. All position-sounding tapes were logged separately for each vessel used. Refer also to the report on Corrections to Echo Soundings: OPR-448.

| Launch 1 | | 17' Whaler | |
|--------------|---------------|--------------|---------------|
| <u>Depth</u> | <u>Corr'n</u> | <u>Depth</u> | <u>Corr'n</u> |
| 4.5 | - 0.4 | 3.7 | - 0.2 |
| 8.5 | - 0.3 | 6.1 | - 0.1 |
| 12.1 | - 0.2 | 8.2 | 0.0 |
| 15.9 | - 0.1 | 10.9 | 0.1 |
| 19.8 | 0.0 | 13.7 | 0.2 |
| 23.6 | 0.1 | 17.0 | 0.3 |
| 27.5 | 0.2 | 20.7 | 0.4 |
| 31.5 | 0.3 | 24.5 | 0.5 |
| 35.1 | 0.4 | 28.1 | 0.6 |
| 38.8 | 0.5 | 31.1 | 0.7 |
| 42.2 | 0.6 | 34.2 | 0.8 |
| 45.1 | 0.7 | 37.0 | 0.9 |
| 47.8 | 0.8 | 39.8 | 1.0 |
| 50.1 | 0.9 | 42.1 | 1.1 |
| 52.3 | 1.0 | 44.6 | 1.2 |
| 54.3 | 1.1 | 47.1 | 1.3 |
| 57.0 | 1.2 | 49.2 | 1.4 |
| 59.4 | 1.3 | 51.6 | 1.5 |
| 62.0 | 1.4 | 54.0 | 1.6 |
| 64.3 | 1.5 | 56.2 | 1.7 |
| 67.0 | 1.6 | 58.8 | 1.8 |
| 69.3 | 1.7 | 61.0 | 1.9 |
| 71.8 | 1.8 | 63.5 | 2.0 |
| 74.3 | 1.9 | 65.9 | 2.1 |
| 76.8 | 2.0 | 68.2 | 2.2 |
| 79.2 | 2.1 | 70.5 | 2.3 |
| 99.0 | 2.2 | 72.9 | 2.4 |
| | | 75.2 | 2.5 |
| | | 77.5 | 2.6 |
| | | 80.0 | 2.7 |
| | | 99.0 | 2.8 |

Note: Depth here refers to the deepest depth to which the correction is applied.

FATHOMETER INITIAL CORRECTION

| Launch 1 | | | 17' Whaler | | |
|------------|-------------|---------------|------------|-------------|---------------|
| <u>Day</u> | <u>Time</u> | <u>Corr'n</u> | <u>Day</u> | <u>Time</u> | <u>Corr'n</u> |
| 168 | 080000 | -0.1 | 169 | 080000 | 0.4 |
| 170 | 080000 | -0.1 | 193 | 080000 | 0.0 |
| | 122800 | -0.2 | | 103000 | -0.1 |
| | 140500 | 0.0 | | 125200 | -0.2 |
| 171 | 080000 | 0.1 | | 131900 | -0.3 |
| | 131100 | 0.0 | | 134200 | -0.1 |
| 173 | 080000 | -0.2 | | 140100 | 0.1 |
| | 100200 | -0.4 | | 141300 | -0.1 |
| | 105300 | 0.1 | 194 | 080000 | 0.0 |
| | 131400 | 0.0 | | 124900 | 0.1 |
| | 142600 | 0.2 | | 130300 | 0.0 |
| 174 | 080000 | 0.0 | 195 | 080000 | 0.0 |
| | 101700 | 0.2 | 196 | 080000 | 0.0 |
| | 104800 | 0.1 | | 093800 | 0.1 |
| | 112100 | 0.2 | | 111900 | -0.1 |
| 175 | 080000 | 0.0 | | 113100 | 0.1 |
| | 112700 | 0.1 | | 130000 | -0.1 |
| 177 | 080000 | 0.0 | | 143400 | 0.0 |
| | 100600 | 0.1 | | 144700 | 0.1 |
| | 124300 | 0.0 | | 150100 | 0.0 |
| | 134200 | 0.2 | 197 | 080000 | 0.0 |
| 192 | 080000 | 0.0 | | 125100 | 0.3 |
| 198 | 080000 | 1.6 | | 130000 | 0.4 |
| 208 | 080000 | 0.0 | | 132200 | 0.5 |
| | 112900 | -0.1 | | 132900 | 0.0 |
| | 142700 | -0.2 | | 140300 | 0.4 |
| 210 | 080000 | -0.7 | | 140430 | 0.0 |
| | 122000 | -0.1 | | 140700 | 0.2 |
| | | | | 141600 | 0.0 |
| | | | | 152100 | 0.1 |
| | | | | 153500 | 0.2 |
| | | | | 160100 | 0.0 |
| | | | 198 | 080000 | 0.0 |
| | | | 205 | 080000 | 0.0 |
| | | | | 103800 | -0.1 |
| | | | | 111000 | 0.0 |
| | | | | 135100 | -0.1 |
| | | | 207 | 080000 | 0.0 |
| | | | 209 | 080000 | 0.0 |
| | | | | 105700 | -0.1 |
| | | | | 114000 | 0.0 |
| | | | | 131900 | -0.1 |
| | | | | 140300 | 0.0 |
| | | | | 144500 | -0.1 |

All times are 105°W and all corrections are in feet.

Launch #1

TC/TI CORRECTION TAPE H-9079 EDAT NO. DA-5-3-69

Relogge
Versio

080000 00 1001 0001 168 0 000000 000000
080000 00 1001 0001 170 0 000000 000000
122800 00 1002
140500 00 0000
080000 00 0001 0001 171 0 000000 000000
131100 00 0000
080000 00 1002 0001 173 0 000000 000000
100200 00 1004
105300 00 0001
131400 00 0000
142600 00 0002
080000 00 0000 0001 174 0 000000 000000
101700 00 0002
104800 00 0001
112100 00 0002
080000 00 0000 0001 175 0 000000 000000
112700 00 0001
080000 00 0000 0001 177 0 000000 000000
100600 00 0001
124300 00 0000
134200 00 0002
080000 00 0000 0001 192 0 000000 000000
080000 00 0016 0001 198 0 000000 000000
080000 00 0000 0001 208 0 000000 000000
112900 00 1001
142700 00 1002
080000 00 1007 0001 210 0 000000 000000
122000 00 1001
122000 00 1001 0001 310 0 000000 000000

12
11
10
9
8
7
6
5

Whaler

TC/TI TRPE H-9079 EDAT NO. DA-5-3-69

Relogged

080000 00 0004 0003 169 0 000000 000000
080000 00 0000 0003 193 0 000000 000000
103000 00 1001
125200 00 1002
131900 00 1003
134200 00 1001
140100 00 0001
141300 00 1001
080000 00 0000 0003 194 0 000000 000000
124900 00 0001
130300 00 0000
080000 00 0000 0003 195 0 000000 000000
080000 00 0000 0003 196 0 000000 000000
093800 00 0001
111900 00 1001
113100 00 0001
130000 00 1001
143400 00 0000
144700 00 0001
150100 00 0000
080000 00 0000 0003 197 0 000000 000000
125100 00 0003
130000 00 0004
132200 00 0005
132900 00 0000
140300 00 0004
140430 00 0000
140700 00 0002
141600 00 0000
152100 00 0001
153500 00 0002
160100 00 0000
080000 00 0000 0003 198 0 000000 000000
080000 00 0000 0003 205 0 000000 000000
103800 00 1001
111000 00 0000
135100 00 1001
080000 00 0000 0003 207 0 000000 000000
080000 00 0000 0003 209 0 000000 000000
105700 00 1001
114000 00 0000
131900 00 1001
140300 00 0000
144600 00 1001
~~144610 00 1001 0003 209~~ C.O.T.
144600 00 1001 0003 309 0 000000 000000

2
1
0
9
8
7
6
5

LIST OF OBSTRUCTIONS

| <u>Item</u> | <u>Pos.</u> | <u>Vol.</u> | <u>Page</u> | <u>Lat.</u> | <u>Long.</u> |
|-------------|-------------|-------------|-------------|-------------|--------------|
| Rock | 169 | 2 | 53 | 56 41.9 | 133 44.2 |
| Rock | 170 | 2 | 54 | 56 41.9 | 133 44.2 |
| Rock | 3134 | 3 | 49 | 56 41.8 | 133 44.4 |
| Rock | 275 | 4 | 19 | 56 41.4 | 133 44.2 |
| Rock | 474 | 5 | 7 | 56 41.2 | 133 44.6 |
| Rock | 584 | 5 | 37 | 56 41.2 | 133 43.9 |
| Rock | 616 | 5 | 46 | 56 41.4 | 133 43.9 |
| Rock | 632 | 5 | 49 | 56 41.4 | 133 44.0 |
| Rock | 710 | 6 | 20 | 56 41.5 | 133 45.3 |
| Rock | 824 | 6 | 56 | 56 41.9 | 133 44.8 |
| Rock | 3225 | 8 | 6 | 56 41.8 | 133 43.7 |
| Rock | 3251 | 8 | 13 | 56 41.3 | 133 43.3 |
| Rock | 3326 | 8 | 34 | 56 42.0 | 133 45.5 |
| Rock | 3340 | 8 | 37 | 56 41.1 | 133 45.0 |
| Rock | 3359 | 8 | 42 | 56 40.8 | 133 44.4 |
| Staff | 3843 | 11 | 59 | 56 40.6 | 133 44.0 |

Field Edit Data:

| <u>Pos.</u> | <u>Vol.</u> | |
|-------------|-------------|-----------------|
| 5000-5162 | 1 | Complete Volume |
| 5163-5369 | 9 | Complete Volume |
| 5370-5453 | 15 | Complete Volume |

LIST OF STATIONS ON DA-5-3-69

| <u>Signal No.</u> | <u>Origin of Station</u> |
|-------------------|--|
| 301 | OVER, 1927 |
| 302 | T-12812 |
| 303 | Vol. 1, pg. 40,42; Vol. 9, pg. 16,21 |
| 304 | T-12812 |
| 305 | Vol. 1, pg. 5; Vol. 9, pg. 14, 20 DA-5-2-69 |
| 306 | T-12813 |
| 307 | GRASS, 1927 |
| 308 | Vol. 1, pg. 40,42; Vol. 9, pg. 14,16 |
| 309 | T-12813 |
| 310 | T-12813 |
| 311 | Vol. 1, pg. 4,5,6; Vol. 9, pg. 14 DA-5-2-69 |
| 313 | T-12813 |
| 314 | Vol. 1, pg. 4-7; Vol. 9, pg. 16,20 |
| 315 | Vol. 1, pg. 40,42; Vol. 9, pg. 16 |
| 316 | Vol. 1, pg. 40,42; Vol. 9, pg. 17 |
| 317 | Vol. 1, pg. 41,42; Vol. 9, pg. 17-20 |
| 318 | Vol. 1, pg. 6; Vol. 9, pg. 17 |
| 319 | Vol. 1, pg. 5; Vol. 9, pg. 20 |
| 320 | T-12815 |
| 321 | Vol. 1, pg. 9,10; Vol. 9, pg.19 |
| 322 | T-12815 |
| 323 | MOST, 1927 |
| 324 | Vol. 1, pg. 11; Vol. 9, pg. 19 |
| 325 | Vol. 1, pg. 11; Vol. 9, pg. 19,20 |
| 326 | DUN, 1927 |
| 327 | Vol. 1, pg. 11 |
| 328 | YOU, 1927 |
| 329 | NEXT, 1927 |
| 330 | ALL, 1927 |
| 331 | T-12815 |
| 332 | T-12815 |
| 333 | T-12815 |
| 334 | Vol. 1, pg. 9,10; Vol. 9, pg. 17,20 |
| 335 | T-12815 |
| 336 | T-12815 |
| 337 | Vol. 1, pg. 40,42; Vol. 9, pg. 16,20 |
| 338 | T-12815 |
| 339 | T-12815 |
| 340 | T-12813 |
| 341 | ARE, 1929 |
| 342 | T-12815 |
| 343 | Vol. 9, pg. 19,20 |
| 344 | Vol. 9, pg. 19 |
| 345 | Vol. 9, pg. 19,20 |
| 346 | Vol. 9, pg. 17, 19-21 |

347
350
351
352
353
354
355
356

Vol. 9, pg. 40,43,44
T-12816
T-12816
T-12816
T-12816
T-12816
T-12816
T-12816
T-12815

SIGNAL

~~TRIANGULATION~~ PLOTTER CARDS

| H-NO. | | LATITUDE | LONGITUDE | X | Y | |
|-------|-----|-------------|-----------|-------|-------|-----|
| 09079 | 301 | 69 56411445 | 133451357 | 04238 | 05615 | 301 |
| 09079 | 302 | 69 56412396 | 133454347 | 03169 | 06232 | 302 |
| 09079 | 303 | 69 56415182 | 133452838 | 03709 | 08042 | 303 |
| 09079 | 304 | 69 56421348 | 133450876 | 04411 | 09449 | 304 |
| 09079 | 305 | 69 56420433 | 133444008 | 05436 | 08855 | 305 |
| 09079 | 306 | 69 56414872 | 133443690 | 05549 | 07840 | 306 |
| 09079 | 307 | 69 56413201 | 133442303 | 06045 | 06755 | 307 |
| 09079 | 308 | 69 56420284 | 133435442 | 07067 | 08758 | 308 |
| 09079 | 309 | 69 56420288 | 133434983 | 07231 | 08760 | 309 |
| 09079 | 310 | 69 56415493 | 133432662 | 08061 | 08244 | 310 |
| 09079 | 311 | 69 56421089 | 133430159 | 08955 | 09281 | 311 |
| 09079 | 313 | 69 56414164 | 133425829 | 09073 | 07381 | 313 |
| 09079 | 314 | 69 56413980 | 133435394 | 07085 | 07261 | 314 |
| 09079 | 315 | 69 56413049 | 133440323 | 06752 | 06656 | 315 |
| 09079 | 316 | 69 56411775 | 133435969 | 06879 | 05829 | 316 |
| 09079 | 317 | 69 56410485 | 133435674 | 06984 | 04991 | 317 |
| 09079 | 318 | 69 56410052 | 133441298 | 06403 | 04710 | 318 |
| 09079 | 319 | 69 56405457 | 133440476 | 06698 | 04324 | 319 |
| 09079 | 320 | 69 56405063 | 133440904 | 06544 | 04068 | 320 |
| 09079 | 321 | 69 56404565 | 133440159 | 06811 | 03744 | 321 |
| 09079 | 322 | 69 56403847 | 133434687 | 07337 | 03278 | 322 |
| 09079 | 323 | 69 56402244 | 133435432 | 07071 | 02237 | 323 |
| 09079 | 324 | 69 56401736 | 133435408 | 07079 | 01907 | 324 |
| 09079 | 325 | 69 56401739 | 133440646 | 06637 | 01909 | 325 |
| 09079 | 326 | 69 56400795 | 133441509 | 06328 | 01296 | 326 |
| 09079 | 327 | 69 56400356 | 133434627 | 07359 | 01010 | 327 |
| 09079 | 328 | 69 56395425 | 133434515 | 07399 | 00406 | 328 |
| 09079 | 329 | 69 56400456 | 133425501 | 09191 | 01075 | 329 |
| 09079 | 330 | 69 56404015 | 133443377 | 05660 | 03388 | 330 |
| 09079 | 331 | 69 56404481 | 133443988 | 05442 | 03689 | 331 |
| 09079 | 332 | 69 56405266 | 133445409 | 04934 | 04200 | 332 |
| 09079 | 333 | 69 56404122 | 133450881 | 04408 | 03456 | 333 |
| 09079 | 334 | 69 56410006 | 133450717 | 04467 | 04681 | 334 |
| 09079 | 335 | 69 56405722 | 133454270 | 03196 | 04496 | 335 |
| 09079 | 336 | 69 56410679 | 133454500 | 03115 | 05117 | 336 |
| 09079 | 337 | 69 56413032 | 133434694 | 07334 | 06646 | 337 |
| 09079 | 338 | 69 56404274 | 133441562 | 06309 | 03555 | 338 |
| 09079 | 339 | 69 56405321 | 133435415 | 07077 | 04236 | 339 |
| 09079 | 340 | 69 56413831 | 133432908 | 07973 | 07164 | 340 |
| 09079 | 341 | 69 56400934 | 133432466 | 08131 | 01386 | 341 |
| 09079 | 342 | 69 56403107 | 133435479 | 07054 | 02797 | 342 |
| 09079 | 343 | 69 56402955 | 133434580 | 07375 | 02698 | 343 |
| 09079 | 344 | 69 56403634 | 133435791 | 06942 | 03139 | 344 |
| 09079 | 345 | 69 56404339 | 133435902 | 06902 | 03597 | 345 |

| | | | | | | | |
|-------|-----|----|----------|-----------|-------|-------|-----|
| 09079 | 346 | 69 | 56404710 | 133434205 | 07509 | 03839 | 346 |
| 09079 | 347 | 69 | 56405690 | 133441727 | 06250 | 04475 | 347 |
| 09079 | 350 | 69 | 56404746 | 133431592 | 08444 | 03862 | 350 |
| 09079 | 351 | 69 | 56403744 | 133431456 | 08492 | 03211 | 351 |
| 09079 | 352 | 69 | 56403472 | 133425103 | 09333 | 03035 | 352 |
| 09079 | 353 | 69 | 56402399 | 133424768 | 09453 | 02337 | 353 |
| 09079 | 354 | 69 | 56402363 | 133430376 | 08879 | 02315 | 354 |
| 09079 | 355 | 69 | 56401397 | 133430206 | 08940 | 01686 | 355 |
| 09079 | 356 | 69 | 56402379 | 133434340 | 07461 | 02325 | 356 |

0000

LIST OF MANUSCRIPTS

T-12812
T-12813
T-12814
T-12815
T-12816

DUAL INDICATOR
POSITION-SOUNDING TAPE

| <u>Time</u> | <u>Ind</u> | <u>Sndg</u> | <u>Pos</u> <u>Num</u> | <u>Day</u> | <u>Ft</u> <u>Fm</u> | <u>LA</u> | <u>RA</u> | <u>LO</u> | <u>CO</u> | <u>RO</u> |
|-------------|------------|-------------|--------------------------|------------|------------------------|-----------|-----------|-----------|-----------|-----------|
| 111230 | 01 | 0015 | 1878 | 101 | 1 | 046150 | 012580 | 0201 | 204 | 206 |
| 111245 | 01 | 0020 | | | | | | | | |
| 111300 | 01 | 0016 | | | | | | | | |
| 111315 | 01 | 0011 | | | | | | | | |
| 111330 | 01 | 0010 | 1879 | 101 | 1 | 045400 | 014140 | 0201 | 204 | 206 |

| | |
|---------|--|
| Time | Hour, min., sec. |
| Ind | Indicator: 00 Soundings in whole units 01 Soundings in units and tenths |
| Sndg | Depth in feet or fathoms |
| Pos Num | Position number |
| Day | Julian day number |
| Ft/Fm | Indicator: 0 Feet 1 Fathoms |
| LA | Left Angle |
| RA | Right Angle |
| LO | Left object |
| CO | Center object |
| RO | Right Object |

2

ABSTRACT OF POSITIONS

| <u>DAY</u> | <u>LAUNCH 1</u> | <u>WHALER</u> | <u>FIELD EDIT</u> |
|------------|-----------------|---------------|-------------------|
| 168 | 0001-0105 | | 5430-5439 |
| 169 | | 3005-3128 | |
| 170 | 0106-0253 | | |
| 171 | 0254-0317 | | |
| 173 | 0318-0492 | | |
| 174 | 0493-0659 | | 5000-5112 |
| 175 | 0660-0790 | | 5113-5162 |
| 176 | | | 5163-5208 |
| 177 | 0791-0933 | | |
| 192 | 0934-1027 | | |
| 193 | | 3129-3218 | |
| 194 | | 3219-3310 | |
| 195 | | 3311-3359 | 5209-5255 |
| 196 | | 3360-3502 | |
| 197 | | 3503-3660 | 5256-5369 |
| 198 | 9001-9020 | 3673-3693 | 5370-5429 |
| 205 | | 3694-3904 | |
| 207 | | 3905-4076 | |
| 208 | 1028-1179 | | 5440-5453 |
| 209 | | 4077-4229 | |
| 210 | 9021-9030 | | |

APPROVAL SHEET

OPR-448

DA-5-3-69

H-9079

Keku Straits, S.E. Alaska

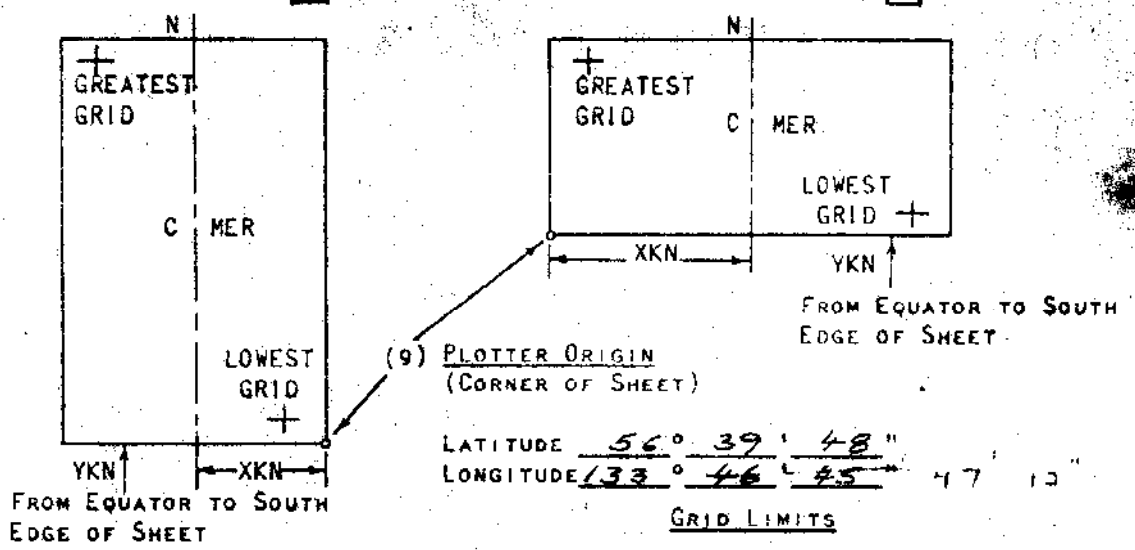
The field work on this survey was accomplished under my supervision. Frequent inspections were made of the boat sheet and other records.


Ray E. Moses
CDR, USESSA

Commanding Officer
USC&GSS DAVIDSON

FORM # 1 FIG. 15
PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

- (1) PROJECT No. OPR 118
- (2) H No. _____
- (3) FIELD No. H
- (4) REQUESTED BY CDR Ray E. Mosas
- (5) SHIP OR OFFICE DAVIDSON
- (6) DATE REQUIRED 5 May 1969
- (7) VISUAL
- (8) ELECTRONIC (FILL OUT FORM #3)
- (10) XKN (SP 5) DISTANCE FROM CMER TO EAST EDGE (NYX = 1) 3526.9
 OR WEST EDGE (NYX = 0). ~~3066.8~~ METERS
- (11) YKN (SP 241) DISTANCE FROM EQUATOR TO SOUTH EDGE OF SHEET. 6,282,210.711 METERS
- (12) CENTRAL MERIDIAN 133° 43' 45"
- (13) SURVEY SCALE 1: 5,000
- (14) SIZE OF SHEET (CHECK ONE) 30x54 42x60 OTHER
- (15) NYX, ORIENTATION OF SHEET (CHECK ONE)
 NYX = 1 NYX = 0



LIST G.P. OF ALL STATIONS TO BE PLOTTED ON THIS PROJECTION ON THE BACK OF THIS FORM. (DEG., MIN., METERS)

- (16) GREATEST LATITUDE 56° 42' 15" (PROJECTION LINE
- (17) LOWEST LATITUDE 56° 49' 00" INTERVAL, PAGE 4
- (18) DIFFERENCE 0° 02' 15" (HYDRO MANUAL)
- (19) 0' 15"
- (20) 7 YSN
- (21) GREATEST LONGITUDE 133° 46' 30"
- (22) LOWEST LONGITUDE 133° 41' 15" 40' 30"
- (23) DIFFERENCE 0° 05' 15"
- (24) 0' 15"
- (25) 21 XSN
- 26

GEOGRAPHIC NAMES
Survey No. H-9079

| Name on Survey | Source of Name | | | | | | | | | | No. |
|------------------|-------------------------|---|---|---|---|---|---|---|---|--|-----|
| | A | B | C | D | E | F | G | H | K | | |
| * Keku Strait - | | | | | | | | | | | 1 |
| Kuia Island | | | | | | | | | | | 2 |
| Kupreanof Island | | | | | | | | | | | 3 |
| Mud Bay | | | | | | | | | | | 4 |
| Rocky Pass | | | | | | | | | | | 5 |
| Summit Island | | | | | | | | | | | 6 |
| The Summit | | | | | | | | | | | 7 |
| | | | | | | | | | | | 8 |
| * Title | | | | | | | | | | | 9 |
| | PREPARED: | | | | | | | | | | 10 |
| | F. W. Pickett | | | | | | | | | | 11 |
| | Cartographic Technician | | | | | | | | | | 12 |
| | 6-28-71 | | | | | | | | | | 13 |
| | APPROVED: | | | | | | | | | | 14 |
| | A. J. Wright | | | | | | | | | | 15 |
| | Chief Geographer | | | | | | | | | | 16 |
| | 6-28-71 | | | | | | | | | | 17 |
| | | | | | | | | | | | 18 |
| | | | | | | | | | | | 19 |
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| | | | | | | | | | | | 26 |
| | | | | | | | | | | | 27 |

TIDE NOTE FOR HYDROGRAPHIC SHEET

January 27, 1970

~~Nautical Chart Edition:~~ Pacific Marine Center

Plane of reference approved ~~Volume of Soundings~~ for Tide tape printout

HYDROGRAPHIC SHEET 9079

Locality: Keku Strait, S.E. Alaska

~~Check of Date:~~ Year: 1969

Plane of reference is mean lower low water

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

The Summit, Keku Strait

Height of Mean High Water above Plane of Reference is as follows:

13.5 feet

Remarks

J. M. Symons
Chief, Tides and Currents Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9079

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

| RECORD DESCRIPTION | | AMOUNT | RECORD DESCRIPTION | | AMOUNT | |
|--------------------------------|---------------|----------------------|--------------------|------------|---------------|----------------------------|
| SMOOTH SHEET | | 1 | BOAT SHEETS | | 1 | |
| DESCRIPTIVE REPORT | | 1 | OVERLAYS | | 5 | |
| DESCRIPTION | DEPTH RECORDS | HORIZ. CONT. RECORDS | PRINTOUTS | TAPE ROLLS | PUNCHED CARDS | ABSTRACTS/SOURCE DOCUMENTS |
| ENVELOPES <i>[H-9079 from]</i> | 10 | | 3 | | | |
| CAHIERS | 1 | | | | | |
| VOLUMES | 16 | | | | | |
| BOXES | | | 1 | | | |
| T-SHEET PRINTS (List) | | | | | | |
| 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 | | 2774 | | |
| POSITIONS REVISED | | 80 | 6 | |
| DEPTH SOUNDINGS REVISED | | 695 | 39 | |
| DEPTH SOUNDINGS ERRONEOUSLY SPACED | | - | 10 | |
| SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED | | - | - | |
| | TIME (MANHOURS) | | | |
| TOPOGRAPHIC DETAILS | | 178 | 27 | 205 |
| JUNCTIONS | | 7 | 10 | 17 |
| VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS | | 236 | 62 | 298 |
| SPECIAL ADJUSTMENTS | | 10 | 40 | 50 |
| ALL OTHER WORK | | 17 | 26 | 43 |
| TOTALS | | 448 | 158 | 606 |
| PRE-VERIFICATION BY | | BEGINNING DATE | ENDING DATE | |
| VERIFICATION BY | Nicholas Lestenko | BEGINNING DATE | ENDING DATE | |
| REVIEW BY | George Meyers | BEGINNING DATE | ENDING DATE | |
| | Chapman | Jan 17, 1972 | Feb 17, 1972 | |

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9079

FIELD NO. DA-5-3-69

Alaska, Keku Straits - Vicinity of Summit Island

SURVEYED: June 17, 1969 through July 29, 1969

SCALE: 1:5,000

PROJECT NO.: OPR-448

SOUNDINGS: DE723 Raytheon Depth
Recorders, Leadline

CONTROL: Visual fixes on
shore signals

| | |
|-----------------------------|-------------------------|
| Chief of Party | Ray E. Moses |
| Surveyed by | G.F. Tornberg |
| | E.M. Galb |
| | G.H. Endrud |
| | B.W. Fisher |
| Protracted by | Gerber Digital Plotter |
| Soundings Plotted by | Gerber Digital Plotter |
| Verified and Inked by | N. Lestenkof |
| Reviewed by | G.K. Myers |
| | Date: February 17, 1972 |
| Inspected by | R.H. Carstens |

1. Description of the Area

This is a survey of a portion of Rocky Pass, Keku Straits, which extends from lat. $56^{\circ}40.0'$ to lat. $56^{\circ}42'$.

The bottom is very rugged with many reefs, islets, and rocky shoals offshore. Mud flats and numerous rocks awash border the shoreline. A Federal Channel Project exists in the vicinity of the Summit.

Predominant bottom characteristics of the area are sand, shell, mud, and gravel. Gravel strewn mud and sand flats extend from shore.

2. Control and Shoreline

The control is adequately described in Part F of the Descriptive Report.

The shoreline is from reviewed photogrammetric manuscripts T-12814 (1964-1969), T-12815 (1964-1969), T-12816 (1961, 1969), T-12812 (1964-1969), and T-12813 (1961, 1969).

The shoreline in lat. $56^{\circ}42.1'$, long. $133^{\circ}44.34'$ determined by the hydrographer on H-9078 (1969) is in red on the smooth sheet.

On T-12812 the note "Awash at MLLW" should have been "Awash at MEW" and should be disregarded for the rocks awash at the following positions:

lat. $56^{\circ}41.48'$, long. $133^{\circ}45.06'$
 lat. $56^{\circ}41.42'$, long. $133^{\circ}45.04'$
 lat. $56^{\circ}41.29'$, long. $133^{\circ}45.43'$

3. Hydrography

- A. Depths at crossings are in good agreement considering the irregularity of the bottom.
- B. The usual depth curves are adequately delineated.
- C. The development of bottom configuration and the investigation of least depths is considered adequate except that the least depth should have been determined on the 12-ft. feature shown in lat. $56^{\circ}41.94'$, long. $133^{\circ}44.04'$.

4. Condition of the Survey

The field plotting, sounding records, Descriptive Report, and various sounding printouts are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual for Automated Hydrographic Surveys.

5. Junctions

An adequate junction was made with H-9078 (1969) on the north. Junction with H-9080 (1969) on the south will be discussed in the review of that survey.

6. Comparison with Prior Surveys

H-2150 (1892) 1:40,000
 H-4764 (1927) 1:10,000
 H-4765 (1927) 1:10,000
 H-4945 (1929) 1:5,000

The single line of soundings on H-2150 crossing the present survey affords inadequate basis of comparison with present depths.

The other prior surveys taken together cover the present survey. In general, a comparison between prior and present surveys reveals

only minor differences in depths, except in the dredged area of the Federal Project Channel where rocky shoals have been removed.

The 1-to 5-ft. depths on H-4765 in the vicinity of lat. $56^{\circ}40.07'$, long. $133^{\circ}43.81'$ are disproved by the closely spaced soundings of 8 to 12 feet on both H-4945 and the present survey and should be disregarded. The soundings occur on a reconnaissance channel line and are probably out of position.

Two rocks at lat. $56^{\circ}40.01'$, long. $133^{\circ}43.8'$, and lat. $56^{\circ}40.80'$, long. $133^{\circ}43.83'$ on H-4945 (1929) were apparently removed by dredging in 1960 (Bps 59439, 54992) and should be disregarded.

The zero ft. in lat. $56^{\circ}40.58'$, long. $133^{\circ}43.83'$ on H-4945 falls in depths of 10 ft. on the present survey in the deep portion of the channel. The section of line containing the zero is in general conflict with prior and present depths and is considered to be out of position.

The rock wash charted at $56^{\circ}41.88'$, long. $133^{\circ}44.05'$ from the advance manuscript of T-12813 was not observed at mean lower low-water and is considered superseded by the 2-ft. sounding on the present survey.

The sanded spot charted in lat. $56^{\circ}41.93'$, long. $133^{\circ}44.35'$ originates with a zero sounding on H-4945 which falls on a mud shoal on the present survey in depths of 5-6 ft. The zero is considered to be 1 fm. in error and should be disregarded.

A number of low-water shoals not investigated on the present survey have been brought forward from H-4945 (1929) in areas noted as being very stable.

In addition to some rocks from T-4341 (1927), a few soundings and bottom characteristics have been brought forward from H-4765 (1927) and H-4945 (1929).

With the addition of the items noted above the present survey is adequate to supersede the prior surveys in the common area.

7. Comparison with Chart

Chart Drawing 8272 #7 (latest drawing date 5/19/72)

A. Hydrography

The charted hydrography originates with the previously discussed surveys which require no further consideration, supplemented by partial application of depths from the boat sheet (Bp-77730) and verified smooth sheet of the present survey.

The rock awash charted at lat. $56^{\circ}41.05'$, long. $133^{\circ}43.91'$ from the verified smooth sheet was revised during review and should be removed from the chart.

The 3-and 4-foot soundings charted in lat. $56^{\circ}40.2'$, long. $133^{\circ}43.95'$ and lat. $56^{\circ}41.03'$, long. $133^{\circ}43.96'$ respectively, from the boat sheet (Bp 77730) were revised during verification and should be removed from the chart.

The 4 charted in lat. $56^{\circ}40.03'$, long $133^{\circ}43.80'$ from the boat sheet of the present survey is now superseded by 5 ft. from the smooth sheet.

The rock awash at MLLW charted in lat. $56^{\circ}41.3'$, long. $133^{\circ}44.07'$ from the advance manuscript of T-12813 was deleted during the review of that survey and should be disregarded. The present hydrography and prior soundings give no indication of shoal depth in this area.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Controlling Depths

The controlling depth note - 5 FT. FOR A WIDTH OF 150 FT. NOV 1965 AND APRIL 1966 - charted in the area of The Summit from a prior Corps of Engineer condition survey of 1965 (Bp 69630-69634) are in harmony with the present survey and should be retained on the chart. The 3-and 4-foot soundings charted in the channel are from the boat sheet and should be superseded by smooth sheet depths.

C. Aids to Navigation

The fixed aids on the present survey are in substantial agreement with the chart and adequately mark the features intended.

8. Compliance with Project Instructions

The survey adequately complies with the project instructions.

9. Additional Field Work

This is a very good basic survey and no additional field work is recommended.

Examined and Approved:

John D. Boyer
Chief
Marine Chart Division

Robert C. Johnson
Associate Director
Office of Marine Surveys
and Maps

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H-9079

Items for Future Pre-Survey Review

This is a survey of Rocky Pass near The Summit in Keku Straits. No significant changes of the bottom have occurred since the prior surveys of the late 1920's. Extensive mud and gravel flats exist inshore.

Position Index - lat. 564 - long. 1335

Bottom Change Index - 2

Use Change Index - 1

Resurvey Cycle - 50 yrs.

Reg. No. H-9079

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

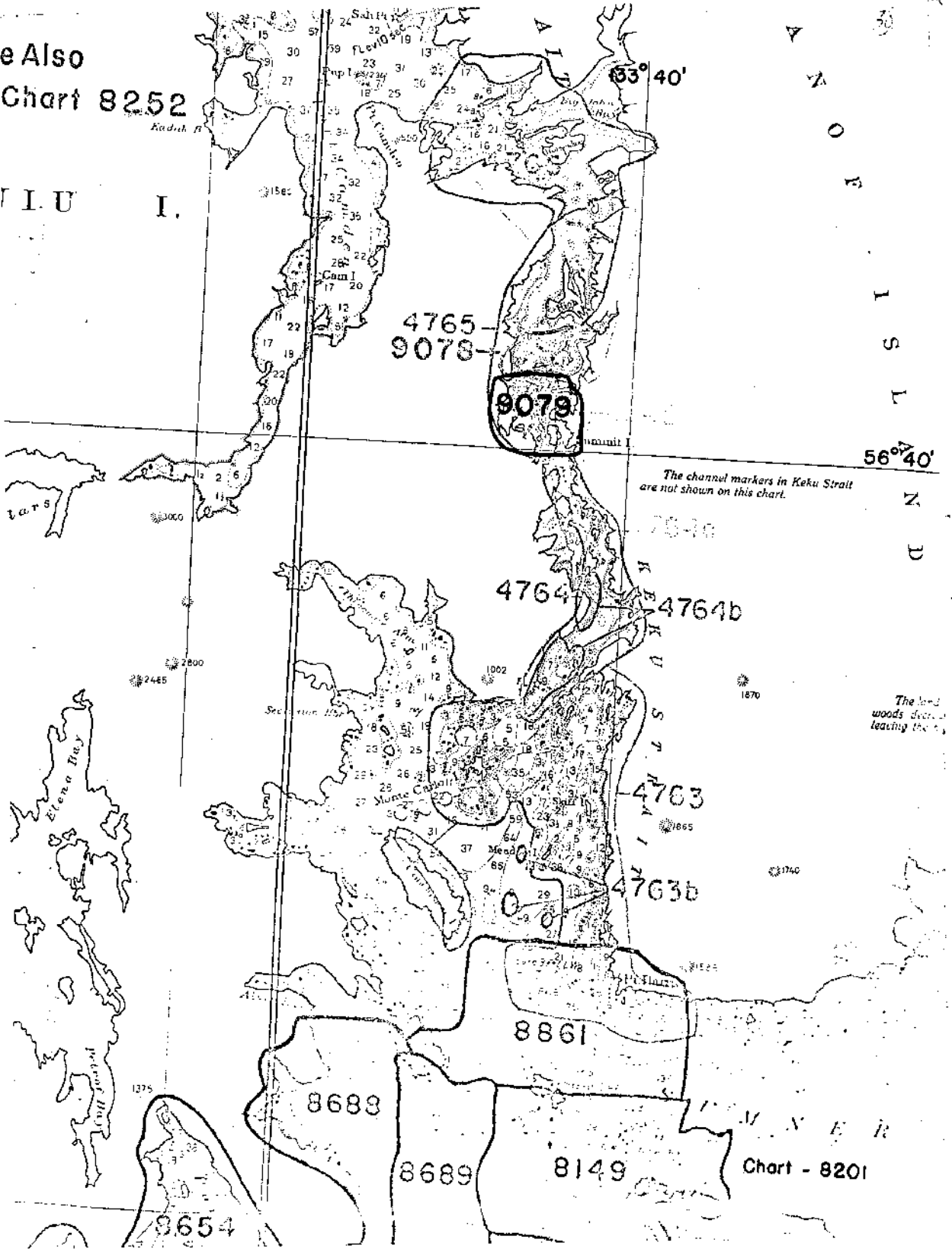
DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS:



e Also
Chart 8252

FIJI I.



M N E R
Chart - 8201

RECORD OF APPLICATION TO CHARTS

32

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9079

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

| CHART | DATE | CARTOGRAPHER | REMARKS |
|-------|----------|-------------------------|--|
| 8272 | 4-6-71 | Eric Zuy | Full Part Before After Verification ^{Before} Review Inspection Signed Via |
| " | 4-29-72 | Kennan, D.L. | Drawing No. <i>Critical corrections only. Reviewer's report inspected 4-29-72</i> |
| 8201 | 10/11/72 | James Graham | Full Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. <i>13 Consider fully app'd to chrt. 8201 as there is no hydro chrt'd. in this area</i> |
| 8272 | 6/6/74 | M. D. Kanis | Full Part Before After Verification Review Inspection Signed Via |
| | | <i>Reviewed 7/17/74</i> | Drawing No. |
| 17372 | 8/21/89 | COROTS | Full Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. <i>11, 8th Ed.</i> |
| | | | Full Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. |
| | | | Full Part Before After Verification Review Inspection Signed Via |
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