

# 7052

# 7052

Diag'd. on Diag. Ch. No. 8868-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. SU-2245 Office No. H-7052

### LOCALITY

State Alaska

General locality Aleutian Islands

Locality Delarof Islands

1945

CHIEF OF PARTY

C.D. Meaney, Ship Surveyor

LIBRARY & ARCHIVES

DATE Oct. 3, 1946

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H-7052

Field No. SU 2245

State ALASKA - ALEUTIAN ISLANDS

General locality ALEUTIAN ISLANDS

Locality DELAROF ISLANDS  
*Unalga and Kavalga Islands*

Scale 1:20,000 Date of survey July - Sept. 1945

Instructions dated 3 February 1946

Vessel SURVEYOR

Chief of party C. D. Meaney

Surveyed by R.C. Rowse; H.J. Healy; W.R. Porter; K.B. Jeffers

Soundings taken by fathometer, graphic recorder, ~~hand level~~

Protracted by Marion T. Gwinn

Soundings penciled by Marion T. Gwinn

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

REMARKS: Processed in the Seattle Processing Office

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7052 (SU-2245)

KAVALGA AND UNALGA OF THE DELAROF ISLANDS

ALEUTIAN ISLANDS

1945 C.S. 218

Scale: 1/20000

Chief of Party: C.D. Meaney, Commanding Ship SURVEYOR, 1945

Field Work by: R.C. Rowse, H.J. Healy, W.R. Porter and  
K.B. Jeffers.

A. PROJECT:

This hydrographic survey was executed under instructions for project C.S. 218 dated 3 February 1938; Supplemental Instructions dated 16 April 1943 and 1 February 1944; Instructions issued by Capt. F.B.T. Siems dated 5 May and 28 May 1945.

B. SURVEY LIMITS AND DATES:

This survey covers the waters adjacent to the Island of Kavalga west of longitude  $178^{\circ} 48' W$ , and the Island of Unalga. Junctions were made with the following surveys accomplished during 1945; H-7039, H-7038, H-7050, and the hydrography by the ship PATTON. The work was accomplished between July 10 and September 11, 1945.

C. VESSELS AND EQUIPMENT:

The SURVEYOR's launches Nos. 2 and 4 operating from the ship executed the hydrography covered by this survey. The Ship SURVEYOR was used for one days work. The launches used type 808 recorders. The ship operated the Dorsey III fathometer with recorder verification by the RCA Type NMC fathometer for all depths of 100 fathoms or less. The RCA Type NMC was used for depths over 100 fathoms.

D. TIDE AND CURRENT STATIONS:

All tidal data was obtained from the portable automatic tide gage maintained in Skagul Pass near Ogliuga Island. No current stations were occupied.

E. SMOOTH SHEET:

The smooth sheet will be constructed and plotted by the Seattle Processing Office.

F. CONTROL STATIONS:

Triangulation established by L.C. Wilder during 1944 and the Ship PATTON's Kavalga and Unalga topographic sheets of 1945 furnish the control for this survey except for a few additional signals ~~were~~ located by sextant cuts.   
\* ~~Triangulation~~ graphic control destroyed 2/1/51 - G.D.

G. SHORELINE AND TOPOGRAPHY:

To be taken from air photography. Heavy kelp in the shoaler waters close to the islands and constant swell breaking on the offlying rocks and reefs and on the rocky shores endangered launches and personnel and prevented the delineating of the low water line. Kelp was so dense this season that it was impossible to go through it with launches.

H. SOUNDINGS:

Standard methods were used to obtain all depths. Hand lead soundings were obtained for verification of the fathogram in kelp areas and on shoals. Not so.

I. CONTROL OF HYDROGRAPHY:

All sounding lines were controlled by sextant fixes at proper intervals. ✓

J. ADEQUACY OF SURVEY:

Adverse weather conditions during the later part of the season prevented the completion of this survey. Additional development inside the 20 fathom curve is needed to the westward of Kavalga. Due to tide rips and the difficulty of obtaining a strong fix in this area, a day with small tidal range and good visibility is required to complete this development. There are several shoals within the 20 fathom curve in the vicinity of Unalga that require development. The shoal extending westward from Unalga has not been developed nor its limit <sup>has</sup> <sub>been</sub> ascertained.

K. CROSSLINES:

Crossings are satisfactory. ✓

L & M. COMPARISON WITH PRIOR SURVEYS AND CHART:

There are no prior surveys of this area. ✓

N. DANGERS AND SHOALS:

Vessels are advised to stay outside the twenty fathom curve in the vicinity of these islands. Attention is called to the numerous rocks, reefs, and kelp lying off these islands within the ten fathom curve. The waters close to the islands are foul. The shoal indications immediately to the westward of Kavalga have not been completely developed due to adverse weather conditions, tide rips and current. ✓

O. COAST PILOT INFORMATION:

Reference: Coast Pilot Report for 1945 by Lieut. Comdr. C.D. Meaney.

P. AIDS TO NAVIGATION:

There are no aids to navigation within this area. ✓

Q. LANDMARKS FOR CHARTS:

None

S. SILTED AREAS:

None.

T. BY PRODUCT INFORMATION:

None.

Z. TABULATION OF APPLICABLE DATA:

Velocity Corrections forwarded to Seattle Processing Office.

Coast Pilot Report forwarded to Washington Office.

Respectfully submitted,



WILBUR R. PORTER

Lieut. Comdr., C. & G. Survey

Approved:



C.D. MEANEY

Lieut. Comdr., C. & G. Survey

Comdg. Ship SURVEYOR

STATISTICS FOR H-7052

| Date         | Vol. | Day | No. Pos. | Stat. Miles |
|--------------|------|-----|----------|-------------|
| LAUNCH No. 2 |      |     |          |             |
| 7-10-45      | 1    | a   | 101      | 18.2        |
| 7-12-45      | 1    | b   | 133      | 32.9        |
| 7-13-45      | 2    | c   | 145      | 31.0        |
| 7-19-45      | 2    | d   | 189      | 40.5        |
| 7-20-45      | 3    | d   | 188      | 41.2        |
| 7-21-45      | 3    | f   | 51       | 11.0        |
| 8-29-45      | 3    | g   | 24       | 5.5         |
| 9-10-45      | 3    | h   | 69       | 17.0        |
| 9-11-45      | 5    | i j | 163      | 42.7        |
| LAUNCH No. 4 |      |     |          |             |
| 8-29-45      | 4    | a   | 8        | 2.0         |
| 9-10-45      | 4    | b   | 131      | 28.7        |
| 9-11-45      | 4    | c   | 187      | 43.7        |
| 9-11-45      | 6    | c   | 20       | 4.1         |
| 10-4-45      | 6    | d   | 78       | 13.7        |
| SURVEYOR     |      |     |          |             |
| 8-29-45      | 7    | A   | 226      | 69.6        |
| TOTAL.....   |      |     | 1713     | 398.2       |

Area 36 sq. miles.

VELOCITY CORRECTIONS

Corrections to and including 20 fathoms for all launch work were compiled from bar checks. For greater depths and all ship soundings temperature, salinity, and pressure curves were used to determine corrections.

A frequency meter is attached to the RCA Model NMC fathometer. A reading of 60.0 indicates that the speed of the driving arm is correct. A higher reading indicates that the speed is too great and a negative correction should be applied to each sounding. Frequency meter readings between 59.7 and 60.3 indicate an error of no more than 1/2 of 1% and no corrections have been made when the frequency meter read within that range.

All velocity corrections have been entered and checked.

# 7052

## TIDE NOTE

The Ogliuga gage was used for all reducers.

Latitude  $51^{\circ} 36.2'N$   
Longitude  $178^{\circ} 37.0'W$

The zero of the tide staff is 3.8 feet below M.L.L.W. All tide reducers have been entered and checked.

The Ulak gage was used when the Ogliuga gage was not in operation by applying a time correction of plus forty minutes. (Reference the Director's letter of October 15, 1945)

Latitude  $51^{\circ} 21.8'N$   
Longitude  $178^{\circ} 58.5'W$

The zero of the tide staff of Aug. 4 was 3.7 feet below M.L.L.W. and of August 18, 2.6 feet below ML.L.W.



LIST SIGNALS H-7052

| Name          | * Origin             | Name           | Origin                           |
|---------------|----------------------|----------------|----------------------------------|
| Ace           | T-PATTON - Kavalga   | Nix            | T-PATTON - Unalga                |
| Andy          | T- " "               | Nob            |                                  |
| Bah           | T- " "               | Nod            | T-PATTON - Unalga                |
| Bed           | T- " Unalga          | OFF            | Triangulation, 1944              |
| Bee (Beehive) | T- " Kavalga         | Oil            | T-PATTON - Unalga                |
| Bum           | Sextant cuts-Unalga  | Out            | T- " Kavalga                     |
| Bump          | T-PATTON - Kavalga   | Pat            | Sextant cuts - Unalga            |
| Cab           | T- " "               | Pete           | T-PATTON - Unalga                |
| Cook          | T- " "               | Pie            | T- " "                           |
| Cap           | T- " Unalga          | Pin (Pinnacle) | (T- " Kavalga)<br>(T- " Unalga ) |
| Dash          | T- " "               | Punt           | T- " Kavalga                     |
| Day           | T- " Kavalga         | Rim            | T- " Unalga                      |
| Dip           | T- " "               | Rock           | T- " Kavalga                     |
| Dog           | T- " "               | Sam            | T- " Unalga                      |
| Dud           | T- " Unalga          | Shag           | T- " Kavalga                     |
| Eat           | T- " Kavalga         | Sky            | T- " "                           |
| Era           | T- " Unalga          | Sop            | T- " Unalga                      |
| Fad           | T- " Kavalga         | Tit            | T- " "                           |
| Fog           | T- " Unalga          | Tom            | T- " Kavalga                     |
| Gab           | T- " "               | Toy            | T- " Unalga                      |
| Gal           | T- " Kavalga         | Tub            | T- " Kavalga                     |
| Gull          | T- " "               | Trot           | T- " "                           |
| Gum           | T- " Unalga          | Una            | T- " Unalga                      |
| Hem           | T- " Kavalga         | UNALGA         | Triangulation, 1944              |
| Hop           |                      | Use            | T-Patton - Kavalga               |
| How           | T-PATTON - Unalga    | Van            | Sextant cuts - Kavalga           |
| Jib           | Sextant cuts-Kavalga | Vex            | T-PATTON - Kavalga               |
| Jump          | T-PATTON - Unalga    | Wad            | T- " "                           |
| KAVALGA (Val) | Triangulation, 1944  | Wax            | T- " Unalga                      |
| Ken           | T-PATTON - Kavalga   | Wee            | T- " Kavalga                     |
| LAG           | Triangulation, 1944  | Win            | T- " "                           |
| Lak           | Sextant Cuts         | Yam            | T- " "                           |
| Lax           | T-PATTON - Kavalga   | Yet            | T- " Unalga                      |
| Leo           | T- " Unalga          | Zip            | T- " Kavalga                     |
| Nip           | Sextant cuts-Unalga  | Zim            | Sextant cuts - Kavalga           |

\*-graphic control sheets were not registered.  
 Destroyed- All information on hydros or  
 air photo. surveys. Report attached.  
 6/21/51

H-7052

SU 2245

Unalga and Kavalga Is., Delarof Is.

Seattle Processing Office Notes

Smooth Sheet-

Projection is hand made on K & E Paragon paper (not embossed or watermarked).

Shoreline is chiefly from photo topo T-8005 and CS 360 covering Kavalga and Unalga respectively. Small bits of topography on Unalga are from graphic control sheet ~~T-6999B~~ and similar information on Kavalga was taken from ~~T-6999A~~. The topography from the plane table plates and HWM from T-8005 and CS 360 were inked. Rocks and reefs, etc., from T-8005, CS 360 and from <sup>sounding work</sup> hydrographic sources are <sup>inked</sup> in pencil. That derived from the hydrographic survey can be distinguished by the fact that these features are pointed out with leaders and notes upon the smooth sheet. *(Boat sheet is in the field.)*

It is evident that many ledges and reefs and rocks awash appear as bare rocks in the photographs. Where there is an apparent conflict, the field representation has been preferred, but there are many rocks from the photographic compilation which were not noted by the hydrographic party. *Rock detail is from sounding volumes and air photographic surveys.*

Hydrographic Control-

For Cuts, see Vol. 2 & 4. ✓

Boat Sheets-

The boat sheets were returned to the field party for additional work. However, it now seems that nothing will be done in the Delarofs area during the 1946 season.

Kelp on Fathograms-

Attention is called to the fathogram for Launch 4, "c" day, positions 124 to 148 on account of kelp growing in depths of 16 fms. Since the introduction of the recording fathogram to inshore surveys in Alaska, this office has been on the alert for the maximum depth at which kelp grows. This example is the deepest clear record of kelp growth which has come to our attention, in Alaska. It shows kelp growing in depths of 16 fathoms, but it is about 5 fms. long and does not reach to the surface. The deepest kelp reaching to the surface *at this place* seems to be about 11 or 12 fathoms. The kelp can be followed from the summits of the rocks where it does show on the surface down the slopes

to where the growth stops - possibly a little deeper than 16 fathoms. This is in the vicinity of Lat.  $51^{\circ} 33.5$  Long.  $179^{\circ} 02'$ , just south of Unalga I. in the Delarofs.

Dangers-

1. The shoal area extending 0.9 mile WNW from the NW point of Kavalga to the  $6.8$  fm. sdg. at Lat.  $51 34.9$  Long.  $178 53.9$ , particularly the  $2.8$  fm. sdg. at Lat.  $51 34.8$  Long.  $178 52.3$ .

2. Rock awash at Lat.  $51 35.1$  Long.  $178 50.9$ . This is usually marked by breakers.

3.  $2.8$   
 $1.8$  fms. at Lat.  $51 32.4$  Long.  $178 49.4$ .

4. The foul area extending 0.9 mile SW from Unalga I.

5. The shoal area extending 0.6 mile NW from Unalga I.

6. The rock awash, 0.6 mile NE from Unalga I.

7.  $3.9$  fms. at Lat.  $51 34.8$  Long.  $179 01.3$ .

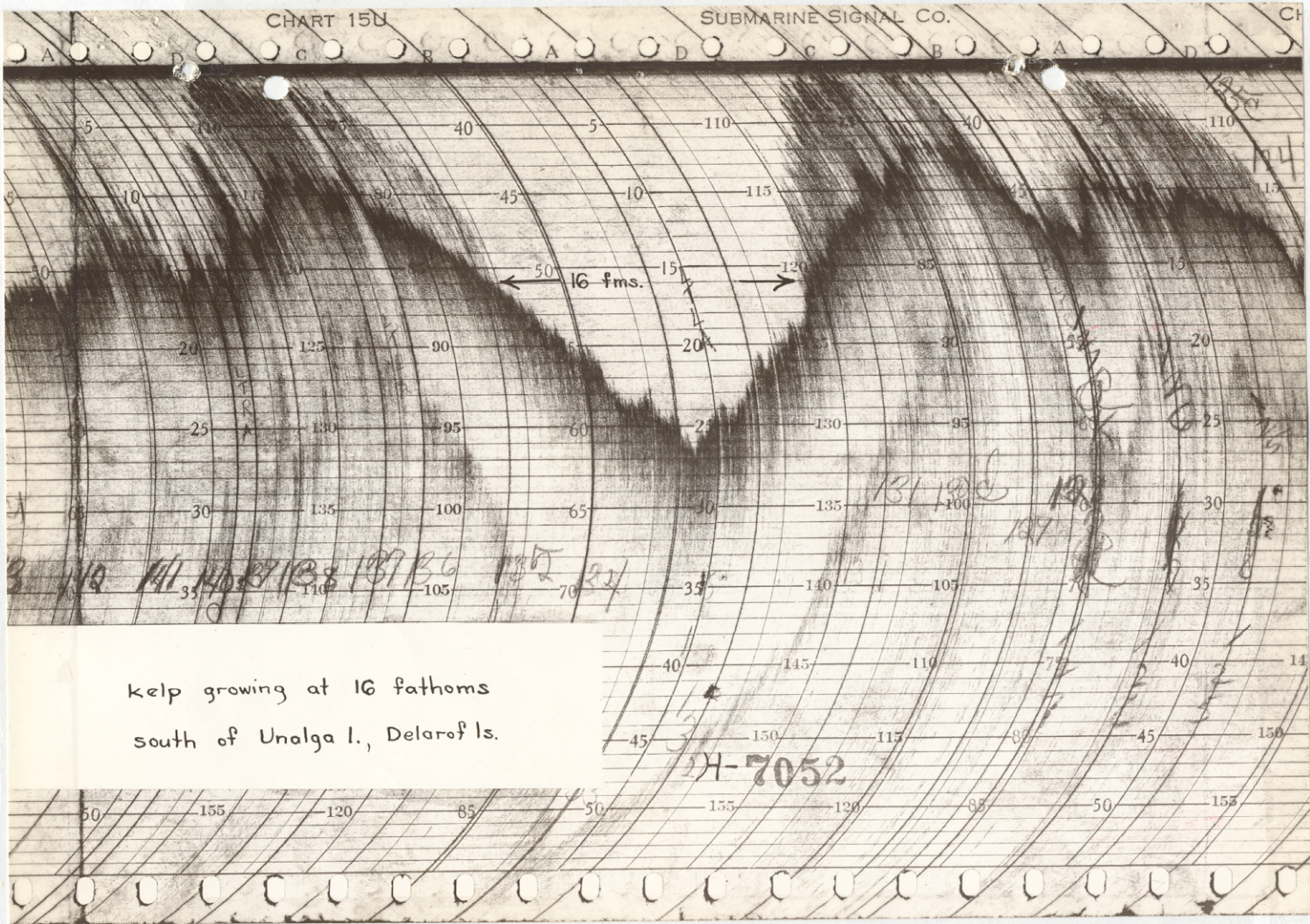
8. The shoal area extending  $0.5$  mile SE from Unalga.

9. Note the  $6.6$  fms. at Lat.  $51 33.4$  Long.  $179 02.1$ .

10. Note the  $5.8$  fms. at Lat.  $51 35.4$  Long.  $178 51.1$ .

11. The tide rips in the shoal area between Kavalga and Unalga are regarded as dangerous by the hydrographic parties. See notes on sheet. Similar notes occur on H-7038 and H-7050 in this vicinity.

Well defined pinnacles occur on the fathograms developed around the western shores of Kavalga. See paragraphs J & N on Page 2 of this report.



kelp growing at 16 fathoms  
south of Unalga I., Delarof Is.

21-7052

H-7052

Delarof Islands

List of Geographic Names Pencilled on Smooth Sheet

Kavalga Island

Unalga Island

Pacific Ocean

Respectfully submitted,

*Edgar E. Smith*

Edgar E. Smith  
Cartographic Engineer  
Seattle Processing Office

GEOGRAPHIC NAMES

Survey No. 7052

| Name on Survey          |   |                         |   |   |   |   |   |   |   |  |       |    |    |
|-------------------------|---|-------------------------|---|---|---|---|---|---|---|--|-------|----|----|
|                         | A | B                       | C | D | E | F | G | H | K |  |       |    |    |
| <u>Pacific ocean</u>    |   |                         |   |   |   |   |   |   |   |  |       | 1  |    |
| <u>Alaska</u>           | } | for title               |   |   |   |   |   |   |   |  |       | 2  |    |
| <u>Alentian Islands</u> |   |                         |   |   |   |   |   |   |   |  |       |    | 3  |
| <u>Delarof Islands</u>  |   |                         |   |   |   |   |   |   |   |  |       |    | 4  |
| <u>Kavalga Island</u>   |   |                         |   |   |   |   |   |   |   |  |       |    | 5  |
| <u>Unalga Island</u>    |   |                         |   |   |   |   |   |   |   |  |       |    | 6  |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 7  |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 8  |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 9  |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 10 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 11 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 12 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 13 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 14 |    |
| <u>Oaliuga Island</u>   | } | location of tide staffs |   |   |   |   |   |   |   |  | ust B | 15 |    |
| <u>Ulak Island</u>      |   |                         |   |   |   |   |   |   |   |  |       |    | 16 |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 17 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 18 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 19 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 20 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 21 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 22 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 23 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 24 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 25 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 26 |    |
|                         |   |                         |   |   |   |   |   |   |   |  |       | 27 |    |

Methods described in the survey  
by L. Heck on 3/5/47

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

~~6999~~

TOPOGRAPHIC TITLE SHEET

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

Field No. ~~PA B 45~~ *Not registered*

REGISTER NO. ~~T-4999~~ *ET 5*

*12 Recoverable  
Station Cards  
submitted  
& filed*

State ALASKA

General locality Delarof Group, Aleutian Islands

Locality Kavalga and Unalga Islands

Scale 1:20,000 Date of survey July, 1945

Vessel PATTON

Chief of party R. F. A. Studds

Surveyed by A. Gordon Anderson

Inked by A. Gordon Anderson

Heights in feet above \_\_\_\_\_ to ground to tops of trees

Contour, Approximate contour, Form line interval \_\_\_\_\_ feet

Instructions dated 19 June, 1945

Remarks: \_\_\_\_\_



DESCRIPTIVE REPORT TO ACCOMPANY

TOPOGRAPHIC SHEET PA - B - 45

*Not registered - Destroyed  
All detail on T-5982, 5983, 8088  
or H-7039, H-7052*

KAVALGA AND UNALGA ISLANDS, AAA

R. F. A. Studds, Chief of Party

July 1945

INSTRUCTIONS: The survey was made in accordance with the Liaison Officer's Instructions - Project 25, dated 19 June 1945, purpose location of hydrographic signals, scale 1:20,000. Another survey vessel was assigned the hydrography, and the signals were located for use by that vessel.

LIMITS: The survey covers Kavalga and Unalga Islands, Delarof Group, Aleutian Islands.

GENERAL DESCRIPTION: Kavalga Island: ~~Sheet PA - B - 45(1)~~  
*Comparison with contemporary hydro. sheets  
has been made. RNC 4/9/48*

METHOD: The 1944 triangulation stations KAVALGA, LAG and OFF were used as the basis for a system of graphic triangulation on the edges of the bluffs, from which points all the hydrographic signals on the beach were located by cuts and/or stadia distance. All stations except a scattered few were located with at least three cuts or a stadia distance and one or more cuts. No traverses were run as the points on the bluff furnished sufficient control to locate all the necessary signals. Navy photographs, 5 lens, scale 1:20,000, were available for the latter part of the survey after contact had been made with the SURVEYOR, which vessel had them aboard. A sufficient number of points for control of the photographs were located by topographic methods described above, and pricked on the photographs. A

list of the names and geographic positions of these points, including descriptions of marked stations and general descriptions of the others, is included in this report. The Liaison Officer reports that the Navy will attempt to re-photograph this island in 1945 at a scale of 1:10,000. The points identified on the present photographs are of such a character (high points of pinnacles, etc.) as to be readily identifiable on other photographs. Also, the whitewashes were placed so that they would photograph from the air and additional signals could be identified on new photographs.

SHORELINE AND TERRAIN: No shoreline was located in conjunction with this survey except for a few prominent offshore rocks and to clarify the northwestern end of the island as described later.

The shoreline of Kavalga Island is characterized by pronounced reefs and lava formations. Close inshore the waters are very foul, with large boulders, lava reefs and offlying reefs. Thick kelp runs offshore around the entire island, most places to a distance of at least 300 yards.

The shore of Kavalga Island rises abruptly from the beach to form a plateau on top, which is very flat except for a few scattered hummocks. The bluffs are steepest at the south and west ends, about 200 feet, gradually sloping to a height of 25 to 50 feet at the east end. The island could be used as an emergency landing field by planes in distress. The island and bluffs are grass covered. Between the bluff line and the beach are numerous pinnacles, especially on the western half of the island, but none of these pinnacles makes <sup>a</sup> prominent landmarks as they blend in with the bluffs at a distance.

The headland at the northwest tip of the island, which appears detached and has been charted as such, is actually only semi-detached. A few rod readings to clarify the mean high water line on the low connecting reef were taken and the shoreline for this small area is shown on the sheet.

DECLINATOIRE: A magnetic observation was made at triangulation station OFF with the following results:

Date: July 13, 1945  
Time: 1130 150th Meridian Time  
Declination: 8 Degrees 14 Minutes E.

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Unalga Island: Sheet PA - B - 45(2)

METHOD: The 1944 triangulation stations UNALGA, UNA, and OFF were used as the basis for the survey. From a setup at UNA, cuts were taken to all visible signals on the south and west sides of the island. By orientation on UNA and re-section on UNALGA, signals were located to the northwest end of the island, and from there a traverse was run, orienting on OFF, to topographic signal DASH, where the traverse was closed on the cut to DASH from UNA. The traverse checked on the cut, with a double check on the cut from UNA to LEO. Adverse weather conditions prevented the location of a few whitewashes on the south side of the island, which, if needed, can be located by the hydrographic party. This is the area between signals HOW and DASH.

PHOTOGRAPHS: A single photograph only, Navy 1934 - scale 1:20,000, was available for use in the field, making it difficult to prick points for control, because of no stereoscopic effect. A number of points have been indicated on this photograph and it should be possible to

prick these points accurately if a stereoscopic pair is available. This island may also be re-photographed in 1945, and undoubtedly certain of the whitewash signals will be discernible in the photographs. A few, but not all, offlying reefs were located in conjunction with this control survey. A list of names, geographic positions and descriptions of stations shown on the photograph is submitted with this report.

SHORELINE AND TERRAIN: Unalga Island is similar to Kavalga Island when viewed from offshore, having steep bluffs, about 200 feet high, around the island, all grass covered, but the shoreline is more bold and rugged. The main difference from Kavalga, however, is that, except for the south end, which is kelp-choked, the water is deeper and more kelp-free close inshore.

The offlying rocks southwest of the island are very steep and bare of vegetation. Only a portion of these rocks appear on the photographs and from some directions, they have the appearance of a single islet. Due to the height of the largest, on which triangulation station UNA is located, this feature is quite prominent. It is suggested that these rocks be named DINKUM ROCKS, since they are a feature prominent to be named, and no name has been previously used. DINKUM was the code word for Coast Survey ships in the Aleutian area in 1945, numbers following, as DINKUM 4 for PATTON, denoting unit. The EXPLORER was DINKUM 1, the SURVEYOR, DINKUM 2 and the DERICKSON, DINKUM 3.

DECLINATOIRE: A magnetic observation was made at triangulation station UNA with the following results:

Date: July 14, 1945  
Time: 1505 150th Meridian Time  
Declination: 12 Degrees 04 Minutes E.

Local attraction is very possible at this station.

GENERAL INTEREST: Both Kavalga and Unalga Islands have a cabin on them which have been approximately located on the photographs, and it is recommended that these cabins be charted for the possible use of some one in distress. The cabin on Unalga was not visited, but the one on Kavalga is in good repair, though not stocked with provisions.


On Kavalga Island there are hundreds, probably thousands, of ground squirrels which overrun the island. These animals reportedly were planted on the island some years ago and in 1945, at least, were thriving.


Sealion rookeries are numerous on Unalga Island. Also, a number of sea otters were seen while surveying the islands.

Photographs of Unalga Island's shoreline, taken with the ship's camera, are included in this report for general interest.

Respectfully submitted,

Approved and forwarded:

  
R. F. A. Studds  
Lt. Comdr., C&GS  
Cmdg., PATTON

  
A. Gordon Anderson  
Topographer

CONTROL POINTS ON PHOTOGRAPHS

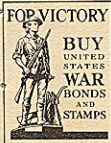
| <u>CONTROL POINT</u>   | <u>LOCATED BY</u> | <u>PRICKED PHOTO NO.</u> | <u>SPOTTED BY</u> | <u>PRICKED BY</u> | <u>GEO. POSITION</u>        | <u>NOTES</u>                          |
|--|-------------------|--------------------------|-------------------|-------------------|-----------------------------|---------------------------------------|
| <u>KAVALGA</u>   |                   |                          |                   |                   |                             |                                       |
| COOK, 1945   | Topo              | 463                      | Stereo            | SBG               |                             | d.m.                                  |
| RUSH, 1945   | "                 | 464                      | "                 | "                 |                             | d.m.                                  |
| SHAG, 1945   | "                 | "                        | "                 | "                 |                             | d.m.                                  |
| GULL, 1945   | "                 | 469                      | "                 | "                 |                             | d.m.                                  |
| JAR, 1945  | "                 | 464, 465                 | "                 | "                 | 51-33-122m<br>178-46-1070m  | top of cone shaped mound              |
| GAB, 1945  | "                 | 469                      | "                 | "                 | 51-33-1068m                 | highest pt. small offshore rk. (5')   |
| BAH, 1945  | "                 | 469                      | "                 | "                 | 178-50-852m<br>51-33-1444m  | knob on face of high knife ridge      |
| LAK, 1945  | "                 | 469                      | "                 | AGA               | 178-50-66m<br>51-34-904m    | highpt. pinnacle (15')                |
| WEE, 1945  | "                 | 469                      | "                 | "                 | 178-50-688m<br>51-34-138m   | high pt. pinnacle(25')                |
| Beehive Pin., 1945   | "                 | 467                      | "                 | "                 | 178-48-820m<br>51-33-1558m  | high pt. Pinnacle(60')                |
| SAL, 1945  | "                 | 467                      | "                 | "                 | 178-47-418m<br>51-32-1572m  | top of cone shaped mound              |
| Pinnacle, 1945   | "                 | 467                      | "                 | "                 | 178-49-38m<br>51-32-1018m   | high pt. pinnacle(60')                |
| Cabin  |                   | 469                      |                   | "                 | 178-48-1086m                | approx. location, mentioned in report |
| <u>UNALGA</u> & All listed points are approximately shown on photo, single photo available, no stereo effect |                   |                          |                   |                   |                             |                                       |
| TIT, 1945  | Topo              | 471                      |                   |                   | 51-35-1120m                 | high pt. of tallest pinnacle          |
| ERA, 1945  | "                 | 4"                       |                   |                   | 179-03-1074m<br>51-34-1446m | High pt. of reef                      |
| BIN, 1945  | "                 | "                        |                   |                   | 179-04-34m<br>51-34-702m    | cabin mentioned in report             |
| JUMP, 1945   | "                 | "                        |                   |                   | 179-02-410m                 | d.m.                                  |
| PETE, 1945   | "                 | "                        |                   |                   |                             | d.m.                                  |
| UNA, 1945  | triang.           | "                        |                   |                   |                             | d.m.                                  |
| UNALGA, 1945   | "                 | "                        |                   |                   |                             | d.m.                                  |



UNALGA ISLAND: Topographic signal (w.w.)  
NOD on large pinnacle. View looking  
westward. Flat top of Unalga I. shows  
in background.



UNALGA ISLAND: Topographic signal (cross  
banner) DASH on offlying reef on the  
southeast point of the island. View  
looking southwest.



IN REPI  
U. S. COA  
AND NO  
AND R



UNALGA ISLAND: Topographic signal  
(tripod) JUMP on a 12 foot lava  
islet about 1/4 mile east of the  
main island. View looking to the  
south.



8A 83 Rec

POST-OFFICE ADDRESS: Seattle Processing Office, 1500 Westlake Ave. N., Seattle 9, Wn.

TELEGRAPH ADDRESS:

12 Recoverable Sta. Cards rec'd.

EXPRESS ADDRESS:

FEB 13 1946

839

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

8 February 1946

To: The Director  
U. S. Coast and Geodetic Survey

Subject: T-6999a, Control sheet Kavalga Island.

1. Triangulation station LAG is shown incorrectly as to position on sheet T-6999a, recently forwarded to the Washington Office. The photostat of this sheet shows two dots close together surrounded by a rough triangle (in pencil?) at the correct position of LAG. One of the two dots is probably a planetable position, the other the position of LAG.

△ LAG replotted to correct position on T-6999a  
RNC 11/9/48

2. It is believed that the correct position of LAG was used in the graphic control.

*F.B.T. Siems*

F.B.T. Siems  
Officer in Charge,  
Seattle Processing Office.



*Kum*

## TIDE NOTE FOR HYDROGRAPHIC SHEET

20 November 1946.

~~Division of Hydrography and Topography:~~

Division of Charts: H. W. MURRAY

Plane of reference approved in  
7 volumes of sounding records for

HYDROGRAPHIC SHEET 7052

Locality Delarof Islands, Aleutian Islands, Alaska.

Chief of Party: C. D. Meaney in 1945.

Plane of reference is mean lower low water, reading  
3.8 ft. on tide staff at Ogliuga Island.  
4.7 ft. below B. M. 1

3.7 ft. on tide staff at Ulak Island.  
7.4 ft. below B. M. 1

Height of mean high water above plane of reference is 3.6 feet.

Condition of records satisfactory except as noted below:

*E. C. McKay*  
*Section*  
Chief, ~~Division~~ of Tides and Currents.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .7052.....

Records accompanying survey:

Boat sheets .....; sounding vols. .7....; wire drag vols. ....;  
bomb vols. ....; graphic recorder rolls .3...;  
special reports, etc. ....  
.....

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

|   |       |      |
|---|-------|------|
| Number of positions on sheet                            | ..... | 1713 |
| Number of positions checked                             | ..... | 97   |
| Number of positions revised                             | ..... | 3    |
| Number of soundings revised<br>(refers to depth only)   | ..... | 17   |
| Number of soundings erroneously spaced                  | ..... | 9    |
| Number of signals erroneously plotted<br>or transferred | ..... |      |
| Topographic details                                     | Time  | 24   |
| Junctions   | Time  | 32   |
| Verification of soundings from<br>graphic record        | Time  | 50   |

Verification by... *Henry J. Bozzo* ..... Total time .280... Date *Feb. 7, 1947*

Reviewed by... *J. F. Jordan* ..... Time ..17... Date *Feb. 13, 1947*

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 7052

FIELD NO. SU-2245

Alaska-Aleutian Islands, Delarof Islands, Unalga and Kavalga Islands  
Surveyed in July - September 1945 Scale 1:20,000  
Project No. CS-218

Soundings:

Control:

Fathometer:  
Dorsey III  
808 Recorder  
NMC Recorder

Sextant angles on shore signals

Chief of Party - C. D. Meaney  
Surveyed by R. C. Rowse, H. J. Healy, W. R. Porter and  
K. B. Jeffers  
Protracted by - M. T. Gwinn  
Soundings plotted by - M. T. Gwinn  
Verified and inked by - H. J. Bozzo  
Reviewed by - G. F. Jordan, February 12, 1947  
Inspected by - H. W. Murray

1. Control and Topographic Detail

Control for the survey originates with graphic control surveys ~~T-6999a and b~~ (1945). *Sheets destroyed 2/1/51 - not registered*

Shoreline and adjacent rock detail are from air photographic surveys T-8005 and CS 360. Additional rocks are from fixes and cuts recorded in the sounding volumes.

2. Bottom Configuration and Depth Curves

Most of the survey covers inshore areas where the bottom is very irregular. In areas outside the 20-fm. curve the bottom is generally smooth.

The depth curves are satisfactorily delineated except inshore where dense kelp and rocky areas prevented development.

3. Sounding Line Crossings

The agreement of soundings at crosslines is very good.

4. Junctions with Adjoining Surveys

Satisfactory junctions are effected in the area between Unalga Island and Kavalga Island, and on the south with H-7050 (1945). The junction on the north with H-7038 (1945) is satisfactory except that the wide spacing of lines on that survey leaves a 0.9 mile gap in 100-to 140-fm. depths in the vicinity of lat.  $51^{\circ} 37.5'$ , long.  $179^{\circ} 00.5'$ . This area may be covered by subsequent adjoining surveys.

The junction on the east will be considered when H-7039 (1945) is verified.

5. Comparison with Prior Surveys

There are no prior surveys in this area by this Bureau.

6. Comparison with Chart 8863 (Print date of Oct. 5, 1946)

a. Hydrography

Charted hydrography originates with advance information of the present survey, Bp. 40308. Subsequent interpretations of the fathogram recordings resulted in corrections to recorded soundings. Charted hydrography is superseded by the present survey.

b. Aids to Navigation

No aids to navigation are charted in this area.

7. Condition of the Survey

a. The Descriptive Report and sounding records are complete and comprehensive.

b. The smooth-plotting was very good, particularly in regard to kelp interpretations.

c. The inadequacy of the survey inside the 20-fm. curves is discussed in the Descriptive Report, paragraphs J and N, wherein it is noted that several shoals require development. Particular attention is directed to the following undeveloped shoals, and shoals where no detached investigations in kelp areas were made:

- (1) 5.6 fm. at lat.  $51^{\circ} 35.42'$ , long.  $178^{\circ} 51.10'$ .
  - (2) 3.9 fm. at lat.  $51^{\circ} 34.77'$ , long.  $179^{\circ} 01.35'$ . Done 1952 Ad WK
  - (3) 6.6 fm. at lat.  $51^{\circ} 33.37'$ , long.  $179^{\circ} 02.10'$  " " "
- and area westward.

- (4) 16 fm. at lat.  $51^{\circ} 35.58'$ , long.  $179^{\circ} 01.30'$ , where considerably shoaler depths could exist in this 200-meter space between sounding lines. *done 1952 ADWK*
- (5) The area inside the 20-fm. curve in the vicinity of lat.  $51^{\circ} 34.5'$ , long.  $178^{\circ} 52.5'$ , is specifically mentioned in par. N of the Descriptive Report as being very irregular and incompletely developed.
- (6) 11 fm. at.  $51^{\circ} 35.77'$ , long.  $179^{\circ} 04.08'$ . *done 1952 ADWK*


8. Compliance with Project Instructions

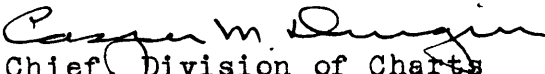
The survey complies with the project instructions except for incomplete development previously mentioned and for an inadequate number of bottom characteristics in the waters adjacent to Kavalga Island.

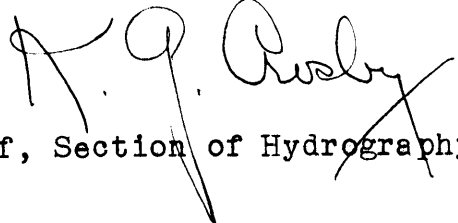
9. Additional Field Work


Developing the shoals noted in par. 7c above and securing bottom characteristics adjacent to Kavalga Island are desirable.

Examined and approved:

  
Chief, Nautical Chart Branch

  
Chief, Division of Charts

  
Chief, Section of Hydrography

  
Chief, Division of Coastal Surveys

# NAUTICAL CHARTS BRANCH

SURVEY NO. H- 7052

## Record of Application to Charts

| DATE    | CHART | CARTOGRAPHER       | REMARKS  |
|---------|-------|--------------------|--|
| 4/16/48 | 8863  | E. G. McGinnis     | <del>Before</del> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">After</span> Verification and Review ( <i>not applied</i> ) |
| 5/31/56 | 8863  | <i>[Signature]</i> | <i>Examined for critical soundings only.</i><br><del>Before</del> After Verification and Review <i>Reconstruction.</i>                                 |
|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |
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|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |
|         |       |                    | Before After Verification and Review   |

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

7052 Ad. Wk.

Diag. Cht. No. 8863-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey ..... HYDROGRAPHIC .....  
Field No. Project CS-218 Office No. H-7052 Ad. Wk. v

LOCALITY

State ..... ALASKA-ALEUTIAN ISLANDS .....  
General locality DELAROF ISLANDS .....  
Locality ..... UNALGA ISLAND .....

19 52

CHIEF OF PARTY

G. L. Anderson

LIBRARY & ARCHIVES

DATE .....

7052 Ad. Wk.



REPORT ON

HYDROGRAPHIC INVESTIGATIONS OFF UNALGA ISLAND

Items 12b, 12c, 12d, & 12f, CS-218, <sup>Prel. Rev.</sup> Chart 8863.

Instructions CS-218 dated 19 March 1952 issued to the Ship EXPLORER called for additional investigation on several shoals around Unalga Island.

A system of lines on arcs from Unalga Shoran was run covering each shoal with 0.05 statute mile spacing using Launch No. 1.

Triangulation stations UNA, 1944 and UNALGA 1944 were recovered and used for control. UNALGA Shoran, 1952, located this year was also used. Old topographic stations DASH, ERA, TIT and JUMP were recovered and used without marking. Hydrographic Station OUT was recovered and used. Station TOM is a new station which was spotted on the boat sheet. It is the northerly of two small reefs about 560 meters  $145^{\circ}$  true from station JUMP.

A distance from (UNALGA<sup>NAL</sup> Shoran) and a sextant angle was used for all control.

Tide corrections were applied using Ogliuga gage without corrections.

Fathometer corrections were applied which are discussed in the fathometer report for this season.

Shoran corrections were applied which are discussed in the Shoran Report for this season.

Standard methods were used throughout.

No smooth sheet was made. A tracing was made from the original boat sheet SU-2245 and positions were plotted and reduced soundings inked on this tracing.

Item 12b called for investigation of 3.9 fm. Lat.  $51^{\circ} - 34'.77$  Long.  $179^{\circ} - 01'.35$ . A ~~3.6~~<sup>3.7</sup> fm. sounding was found in this area. In general the soundings agreed with the previous survey. When the work was done in this area there was a very strong current setting southward and there were numerous swirls, boils and tide rips which prevented feeling over the shoal with a lead line.

Item 12c called for investigation of 6.6 fm. sounding Lat.  $51^{\circ} - 33'.37$  Long.  $179^{\circ} - 02'.10$ . A ~~4.9~~<sup>5.8</sup> fm. sounding was found in

this area. It is recommended this sounding be charted. In general the other soundings agreed with the previous survey. There are a few differences of two fathoms in twelve to fourteen fathoms which is probably due to horizontal displacement over an irregular bottom. Swirls and boils were also noted in this area. ✓

Item 12d called for the investigation of a 16 fm. sounding in Lat.  $51^{\circ} - 35' .58$  Long.  $179^{\circ} - 01' .30$ . Two soundings of 16 and 17 fathoms are shown in this area. However no indication was found during this investigation. If the original fathogram shows these soundings to be questionable it is recommended that they be deleted. See Review

Item 12f called for investigation of 11 fm. sounding Lat.  $51^{\circ} - 35' .77$  Long.  $179^{\circ} - 04' .08$ . One 11 fm. sounding was shown in this area, two lines were run over the position and lines run either side of those lines, and additional 40 minutes was spent running \*various arcs in the area and no trace of this shoal was found. Unless the old fathogram shows a positive sounding it is recommended the 11 fathom sounding be deleted. See Review

It is recommended that all this work be either smooth plotted on or transferred from the tracing to the smooth sheet. (Done)

This survey is plotted on the Unalaska Datum. ✓

Respectfully submitted

*Edgar F. Hicks, Jr.*  
Edgar F. Hicks, Jr.  
Comdr., C&GS

Approved and forwarded

*George L. Anderson*  
George L. Anderson  
Capt., C&GS  
Commanding Ship EXPLORER

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

25 November 1952

Division of Charts: R. H. Carstens

Plane of reference approved in 1  
volumes of sounding records for

HYDROGRAPHIC SHEET 7052 Ad. Wk.

Locality Unalga Island, Aleutian Islands, Alaska

Chief of Party: G. L. Anderson in 1952  
Plane of reference is mean lower low water, reading  
2.0 ft. on tide staff at Ogliuga Island  
4.7 ft. below B. M. 1 (1944)

Height of mean high water above plane of reference is 3.5 feet.

Condition of records satisfactory except as noted below:

*E. C. McKay*  
Section of Tides

Chief, Division of Tides and Currents.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7052 Ad. Wk. 1952

Records accompanying survey:

Boat sheets .....; sounding vols. <sup>1</sup>.....; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls <sup>1</sup>Env. ....;  
 special reports, etc. <sup>1</sup> Tracing (the B.S.) .....  
 .....

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

|   |       |  |
|---|-------|--|
| Number of positions on sheet                            | ..... | 83                                       |
| Number of positions checked                             | ..... | <i>All positions plotted by Verifier</i> |
| Number of positions revised                             | ..... | -  |
| Number of soundings revised<br>(refers to depth only)   | ..... | 35                                       |
| Number of soundings erroneously spaced                  | ..... | -  |
| Number of signals erroneously plotted<br>or transferred | ..... | -  |
| Topographic details                                     | Time  | .....                                    |
| Junctions   | Time  | 0  |
| Verification of soundings from<br>graphic record        | Time  | 1  |

Verification by *D. R. Engle* ..... Total time .79... Date 5-14-53

Reviewed by *J. F. Jordan* ..... Time 3 Date 5-22-53

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7052 Ad. Wk.

FIELD NO. -----

Alaska-Aleutian Islands, Delarof Islands, Unalga Island

Project No. CS-218

Surveyed - August 1952

Scale 1:20,000

Soundings:

808 Fathometer

Control:

Visual angle on shore signals  
with one Shoran station distance

Chief of Party - G. L. Anderson  
Surveyed by - E. F. Hicks, Jr.  
Protracted by - D. E. Engle  
Soundings plotted by - D. E. Engle  
Verified by - G. F. Jordan  
Reviewed by - G. F. Jordan, 21 May 1952  
Inspected by - R. H. Carstens

Four shoals lying offshore from Unalga Island were developed in accordance with recommendations in the Review of the original work and with instructions dated 19 March 1952. The hydrographic work and control are discussed fully in the Descriptive Report.

The additional work on the two shoals east and south of the islands, items 12b and 12c in the report, is complete.

The area in the vicinity of the prior 16-fm. sounding in lat.  $51^{\circ} 35.55'$ , long.  $179^{\circ} 01.30'$ , item 12d, was developed with sounding lines spaced at 80-meter intervals. The 16-fm. shoal was not revealed on these lines. No detached investigation was made. The 16-fm. sounding on the original survey was substantiated by comparable depths on a crossline and has been retained. Another shoal lying 200 meters southeast of the above position, where the original work shows 17 fms., was covered by this work. A 16-fm. sounding here has been scanned from the fathogram and plotted at the turn of a line where the boat sheet shows 20 to 23 fms.

The area in the vicinity of the prior 11-fm. sounding in lat.  $51^{\circ} 35.77'$ , long.  $179^{\circ} 04.08'$ , item 12f, was developed with 5 sounding lines and with unrecorded split lines run at 80-meter intervals. Two lines adjacent to the prior 11-fm. sounding show shoaling to 21 and 22 fms., respectively, in

*16 Plots close to rock awash on the scale of chart 8863.*

*L.S.S.*

*11 fine plots close to shore rocks on scale of chart 8863*

25-fm. depths. There is no record of a detached investigation at the position of the 11-fm. sounding where the original survey shows a definite undeveloped pinnacle. ✓

The compiler's attention is called to the 5.8-fm. sounding obtained on the additional work in lat.  $51^{\circ} 33.35'$ , long.  $179^{\circ} 02.08'$ , where Chart 8863 shows 7 fm. ✓  
dk  
7 revised  
8863 \* 5

21 May 1953

G. F. Jordan

Inspected by: R. H. Carstens

