6772

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

6772

Type of Survey Hydrographic

Field No. 2642 *Office No.* H-6772

LOCALITY

State Alaska

General locality Alaska Peninsula

Locality Deer Id. to Iliasik Is.

1942

CHIEF OF PARTY

G. C. Mattison R. D. Horne E. B. Roberts
EXPLORER SURVEYOR E. L. JONES

LIBRARY & ARCHIVES

DATE JUL 3 1943

8-1870 : [1]

Form 537
Ed. Dec. 1930

6772

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. H6772

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.

Field No. 2642

REGISTER NO. H-6772

State Alaska

General locality Alaska Peninsula

Locality Deer Island to Iliasik Is.

Scale 1:20,000 Date of survey Aug. 20 to Oct. 21 19 42

Vessel EXPLORER SURVEYOR E. LESTER JONES

Chief of Party G.C. Mattison R. D. Horne E. B. Roberts

Surveyed by C.J.W., L.S.H., S.B.G., E.B.R., R.D. H., E. A. D.

Protracted by H. C. Parsons and E. E. Smith

Soundings penciled by H. C. Parsons and E. E. Smith

Soundings in fathoms ~~feet~~ Fathoms

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by Harold W. Murray

Verified by "

Instructions dated 3/8/38, 4/6/39, 2/6/40, 6/29/42, 19

Remarks: Smooth Sheet and Plotting by the Seattle Processing Office.

U. S. GOVERNMENT PRINTING OFFICE

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DESCRIPTIVE REPORT

to accompany
Hydrographic Sheet No. 2642.

Ship SURVEYOR Roland D. Horne, Chief of Party.

DATE OF INSTRUCTIONS:

3-18-38, 4-6-39, 2-6-40, 6-29-42.

SURVEY METHODS:

Standard visual fix hydrography entirely.
Soundings were taken with portable depth recorders Type 808. ✓

DISCREPANCIES:

DANGERS:

CHANNELS:

ANCHORAGES:

COMPARISON WITH PREVIOUS SURVEYS:

WIRE DRAG GROUNDINGS:

No wire dragging was done by the SURVEYOR. ✓

GEOGRAPHIC NAMES:

There are no names appearing upon the sheet ✓
that are not upon the large scale charts of the vicinity.

STATISTICS:

Statistics for sheet, field No. 2642.

Number of positions	144
Number of soundings	1300
Statute miles of sounding lines	78.2

Respectfully submitted:

Glenn W. Moore
Jr. H. & G. Engr.

Approved and forwarded:

Casper M. Lungren
Commanding Officer
U.S.C. & G.S.S. SURVEYOR
Chief of Party.

Proj. 219

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SEATTLE PROCESSING OFFICE NOTES

This is an unfinished sheet. It was intended to complete the survey in 1943, and the boat sheet was returned to the EXPLORER in March, 1943. The ships' working grounds were changed by orders received shortly before sailing and it is doubted if the work will be touched during the present season. The sheet is being forwarded to Washington as instructed by the Director in his letter 22/MEK - 1993 SE 4 of May 4, 1954 to the Officer in Charge, Seattle Processing Office.

SURVEYING METHODS:

Standard fixes are visual. The EXPLORER recorded soundings from the Dorsey III Fathometer and operated the Hughes recording fathometer at the same time. The Hughes fathogram was scanned and compared with the Dorsey III soundings. The SURVEYOR and the E. LESTER JONES used the 808 Fathometer.

DATUM OF CONTROL:

Unalaska Datum, through French 1896, Gilbert 1901, Westdahl 1901, Senior 1936, Graham 1940 and 1941. All triangulation stations are from the field computation of the recent second order survey. The datum difference between the old third order survey and the new triangulation was applied to topographic signals scaled from old topo sheets. Topo Sheet T-6895 provided signals about the Iliasik Islands.

The angles for location of hydro signal FLAT are in Volume 5. Rejected. See Rev. par. 1b. Hydro signal ODE is taken from the location on H-6767. This slightly alters the topo position of a rock awash on T-6895. Rk expunged on Topo.

In its present state the sheet is simple and uncomplicated and needs very little comment. In general, the eastern half of the sheet shows much smoother bottom than prevails in this vicinity.

There is a sounding of 17 fathoms at Lat. 54° 59.5 Long. 162° ~~11.8~~ 12.1.

Positions 11C to 25C (blue) were rejected by the Chief of Party on account of uncertainty of the initial point. The line is not necessary to the sheet, nevertheless it does have some corroborative value. See

H6772

discrepancy following. It is evident that the SURVEYOR was at this time recording soundings directly from the 808 fathometer.

DISCREPANCY:

55° 00!3 162 15.5	19-20 A (blue) 1-2 B (green)	45 fms. 60 fms. (omitted)	By comparing the rejected soundings of positions 12C to 21C (blue) with cross lines and with adjacent lines in the flat area between meridians 162-06 and 162-11 it will be seen that there is an index correction of approximately seven fathoms to be deducted from C day soundings after position 11C.
			(Not clear. Disregarded) By applying this correction between positions 23C and 24C a depth of 57 fms will be obtained at the crossing between 19A and 20A (blue). This more nearly supports the deeper soundings between 1B and 2B (green).

COMPARISON WITH OTHER SHEETS:

The junction with H-6767 (1942) to eastward is satisfactory.

There are differences from H-4493 at the western end of the sheet. Neither sheet is sufficiently developed to determine satisfactorily the course of the 50 fathom curve near Lat. 55°-00' Long. 162°-15'. The older sheet implies deeper water at Lat. 55°-00' Long 162°-16'. (Sdg's are old tube sdg's)

The charted 21 fms. at Lat. 55°-01 Long 162°-03' is 5 fathoms shoaler than is shown on this unfinished sheet. There are frequent differences of three or four fathoms from chart soundings. The most important difference is the 17 fm. sounding at Lat. 54°-59.5 Long. 162°-11.9, which is missing from the chart. (H-3579 (1913-14) Tube sdg, apparently belongs outside of present survey limits and on 20 fm. shoaler H-4491 (1925) on later chart (from present survey)

H-6588 (1940) is not available for comparison. shown as junction on SE.

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General Notes for Descriptive Reports

for Sheets 2142, 2242, 2342, 2542, 2642, 2742, 4142.

These notes were prepared by the EXPLORER's party and transcribed in the Seattle Processing Office. A copy is attached to the descriptive report for each sheet.

.....

The parties of the EXPLORER, the SURVEYOR, and the [illegible] JONES worked on the hydrographic sheets. Some of the sheets are surveys by one party, others by two parties, and the rest by all the parties.

The temperature and salinity data were meaned so as to get one curve of each, and this was used to compute the corrections to the fathometer soundings. The same table was used by all parties on the various sheets. At the beginning of the season, one serial was taken and the corrections computed so as to enable some of the records to be mailed to the Processing Office as soon as possible. As this serial was in the area of 2142, this correction table was used by all parties for 2142 and 2542. Later, other deeper serials were taken and used in conjunction with the data from the other parties to give a table of corrections for 2242, 2342, 2642, 2742, and 4142. The two tables were very close. The change points in reducers to 1/2 foot were only a few feet apart.

Draft corrections for the EXPLORER were entered from tables prepared from measurements of depth of Dorsey Oscillators as recorded in the log book of the ship, and occasionally in the record. These correction tables were checked and are correct. The corrections are taken to the 1/2 foot. Early in the season, the 20 fathom dial was set to approximate the draft, but as this necessitated recording which dial was used, the initial was set back to the same as 100 fm. dial. Notes in the records show the time that this was done.

There are many soundings entered in the volume in red pencil, which were scaled from the record of the Hughes Depth Recorders. At the beginning, the soundings were scaled from the record by the dry scale and were measured from the fixed index line. Comparison with Dorsey soundings on fixes near this spot gave an additional correction which is shown in the record in red. Later, and noted in the record, a celluloid template was prepared to the same scale as the dry scale of the Hughes, and was used to read the soundings from the record. This template was adjusted by depths from the Dorsey III on the fixes, so as to enable the soundings from the record of the Hughes to be read equivalent to the unreduced Dorsey soundings. In this manner only the regular temperature and salinity corrections of the Dorsey III are to be applied to the soundings from the Hughes record.

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Notes on the use of the Recording Fathometers by ships, in addition to the Dorsey III Fathometer.

Prepared by the EXPLORER's party, and transcribed in the Seattle Processing Office.

****

During the past season, this party has been working in an area of extremely rough bottom. Changes in depth of over 20 fathoms in a few seconds' travel time have been common. It is fortunate that the Hughes Depth Recorder was repaired last spring and placed in operating condition. The Dorsey III fathometer, using the visual method of obtaining soundings, was used in the hydrographic survey by the ship, but the Hughes Recorder was operated all the time hydrography was in progress, and fixes were marked on the graph. In this way a comparison could be made between the recorded soundings and the actual graph of the bottom from the Hughes Recorder. As some of the depth changes were so sudden and of over 20 fms., returning immediately to the former depth, the sounding as recorded would naturally have been questionable, and appear as a 20 fm. error in reading the dial. With the graph to examine, all these points could be verified. Without the Hughes graph much development would have been necessary to prove or disprove the formerly questionable soundings.

Further, examination of the graphs and scanning same against the recorded soundings, showed that even with experienced observers on half-hourly watches at the Dorsey III, there were many shoal soundings missed. With the graph there was no doubt as to the depth at any time, and these missed shoals were scanned and entered in the record in red pencil.

From the study of the graph against the visual method of the Dorsey III, it is strongly recommended that recorder type fathometers be installed for hydrography on each ship, especially those ships engaged in survey work in Alaska, or on the west coast of the United States. The Dorsey III could be used to record soundings, but a good recorder should be run at the same time to pick up the shoal soundings not clearly indicated on the Dorsey III.

C J Wagner

H6772

As will be noted, the temperature and salinity corrections have been entered to the nearest half-foot below 40 fms., and to the foot over 40 fms. For convenience, the tide and draft corrections were entered to the nearest half-foot.

The launch recorder records are to be reduced by the same temperature and salinity corrections, and the draft corrections (sometimes called Initial Corrections) as entered in the record. These latter corrections were obtained by study of the line made at the beginning of the signal, comparing it with the line made at the bar-checks. Generally, there was no correction indicated, and some records may not state that fact. If there was no initial or draft correction entered in the launch record on any day, the correction was zero, even if there was no note to that fact.

written by

C.J. Wagner

H6772

STATISTICS:

	Statute Mi. Line	Soundings	Positions
EXPLORER	172.5	3120	287
E.L. JONES	124.4	1701	308
SURVEYOR	78.2	1300	144
Total:	375.1	6121	739

Area - Square Statute Miles ----------32

Edgar E. Smith
Assoc. Cartographic Engineer
Seattle Processing Office.

Approved and Forwarded:

F. H. Hardy
Officer in Charge,
Seattle Processing Office.

H-6772

LIST OF SIGNALS

Field No. 2642

Triangulation Signals

LIT - Morgan Point Light 1940
MUD - 1925
HUF - 1925-40
SKI - Belkofski Light 1940
KOF - Belkofski Church, 1911-40
LITE- Iliasik Islands Light 1940
PAT - Patton 1911-36
ROCK- 1911-36-40
ILIA- 1940
SAR - Sarana, 1940

Topographic Signals

Sheet T-6895:
OFF
MAT
NOT (HAND)
LEG (ARM)
NUT

Sheet T-4144:
WASH
HAD
IO

Sheet T-4143:
MAT

Sheet T-6764:
WASH

Hydrographic Signals

FLAT - Vol. 5, H-6772 Rejected, see Rev., Par. 1a
ODE -(Rock awash 3' MLLW) Sheet H-6767

Index of Fathogram Rolls

showing soundings on

H-6772

	Roll No.	Positions	
SURVEYOR	3.	1A - 22A	1C - 25C
		1B - 15B	1D - 14D
	4.	1E - 24E	
		1F - 21F	
	8.	1G - 23G	

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. H6772

Records accompanying survey:

Boat sheets # 2 of two 9/13/43 ~~Not In~~; sounding vols. 5 & 5; wire drag vols. 0; bomb vols. 0; graphic recorder rolls 1 (7 add, filed with 6768

1 Cahier Hughes Fath. Soundings

special reports, etc. ~~None~~

Fathometer Report added 8/3/43 with H6768

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

Number of positions on sheet		739
Number of positions checked		230
Number of positions revised		170 (2 signals out)
Number of soundings recorded		6121 (All sdgs plotted)
Number of soundings revised (refers to depth only)		15 } Does not include replotting because of signals
Number of soundings erroneously spaced		30 }
Number of signals erroneously plotted or transferred		2
Topographic details + signals	Time	5 days
Depth Curves Junctions	Time	2 7
Verification of soundings from graphic record	Time	1

Verification by Harold W. Murray ....Total time 21 Date 12/17/43

Review by ..... Time 2½ Date 12/22/43

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FATHOGRAM ROLLS

During the Season, the SURVEYOR used 16 fathogram rolls. The SURVEYOR's party passed frequently from one sheet to another without changing rolls. An index of all the rolls will be forwarded with them to the office. An index sheet attached to this report shows those rolls pertinent to the sheet.

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H-6772

Field Sheet No. 2642

TIDAL NOTE

Type of Tide Gage:	Standard No. T-259
Location:	King Cove, Alaska
Observer:	Robert R. Gould
Address:	King Cove, Alaska

Latitude ---------- 55° 03!7

Longitude ---------- 162 19.1

Staff reading of MLLW ----- 6.32 feet.

RAE
OHE

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

July 9, 1943

~~Division of Hydrography and Topography~~

✓ Division of Charts: **Attention:** H. R. EDMONSTON

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 6772

Locality **Deer Island to Iliasik Islands, South Side of Alaska Peninsula**

Chief of Party: G. C. Mattison, R.D. Horne, & E. B. Roberts in 1942
Plane of reference is **mean lower low water reading**
6.3 ft. on tide staff at **King Cove**
23.0 ft. below B. M. 2

Height of **mean high water above** plane of reference is 6.1 feet

Condition of records satisfactory except as noted below:

C. K. Green
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154327

H6772

	Remarks	Decisions
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M 234

GEOGRAPHIC NAMES
Survey No. H6772

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Alaska										1
Alaska Peninsula										2
Deer Island										3
Iliasik Islands										4
										5
										6
										7
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M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H H6772
No. T

received July 3, 1943
registered July 3, 1943
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
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RETURN TO

82	R.W.Knox

VRWK

DIVISION OF CHARTS

REVIEW SECTION - SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. 6772

Field No. 2642

Alaska; Alaska Peninsula; Deer Island to Iliasik Island
Surveyed August - October 1942; Scale 1:20,000
Instructions dated June 29, 1942, Project 219

Soundings: Control:

808, Hughes and Dorsey Fathometers Three-point fix on shore signals

Chief of Party - G. C. Mattison, R. D. Horne and E. B. Roberts
Surveyed by - Ship's Officers
Protracted by - H. C. Parsons and E. E. Smith
Soundings plotted by - H. C. Parsons and E. E. Smith
Verified and inked by - Harold W. Murray
Reviewed by - Harold W. Murray
Inspected by - H. R. Edmonston, December 22, 1942

1. Shoreline and Signals

a. The shoreline and signals originate with T-3228 (1911), T-4143 (1925), T-4144 (1925), T-4157 (1925), T-6764 (1940), T-6766 (1940), and T-6895 (1942). Sextant cuts for signal FLAT are recorded in Vol. No. 5.

b. Discrepancies in Signals FLAT and SLOPE: It was noted in the verification that a change of signals frequently caused jumps in course and time and that cross lines did not agree favorably in the western half of the sheet. A recheck of all signals (principally triangulation stations) tentatively indicated that everything was in order. It was also noted that a satisfactory junction with H-6590 (1940) could be made only if soundings were shifted eastward on one sheet or westward on the other. The only difference in signals noted was that the present survey used a sextant relocation (10 cuts) of signal FLAT originally established on T-4144 (1925). This signal, on the southeast side of Bold Cape, was shifted 50 meters northeastward. This signal is described as a flat prominent detached rock

locally known as "Table Rock." The fact that this location could not be confused and that several parties had used the signal before signified that if the present survey relocation were correct, all older work was incorrect, or vice versa.

A radial plot of aerial photographs of Bold Cape confirmed the 1925 location of FLAT. A replotting of the cuts, using the topographic position of FLAT, gave a new position for SLOPE about 70 meters northwest of the old position. A replotting of the positions on the sounding lines, using the new position of SLOPE and the old topographic position of FLAT, materially improved agreement according to time and improved the junction with H-6590.

2. Depth Curves

The usual depth curves may be satisfactorily drawn. The western half of the survey is very irregular while the middle portion is remarkably smooth, yet in this middle area shoals may exist as illustrated by the three 36-fm. soundings in Lat. 54°58.2', Long. 162°07.2' and a 33-fm. sounding in ~~in~~ Lat. 54°58.6', Long. 162°09.5'. The former mentioned 36's are of particular interest because if it were not for the fact that the Hughes profile shows them very clearly, one would suspect that they had been read consistently 10 fathoms too shoal.

3. Sounding Line Crossings

General agreement of sounding line crossings is very good.

4. Junctions with Adjacent Surveys

a. The junctions on the northwest with H-6590 (1940) and on the southeast with H-6588 (1940) are satisfactory. Three lines of the present survey on the southeast overlap H-6588 for a distance of about 2-1/2 miles. A careful comparison with the latter sheet reveals that the development is very intensive and adequate and that these soundings are not actually needed; moreover, only a few soundings could be shown if an attempt were made to transfer them. For this reason, they have been omitted on the overlapping area.

b. The junction on the east with H-6767 (1942) will be considered when that sheet is verified.

5. Comparison with Prior Surveys

a. H-3306 (1911) and H-3579 (1913-14), scales 1:40,000 and 1:180,000

These are reconnaissance surveys containing 1 or 2 pressure-tube sounding lines crossing the present survey. Inspection reveals that they contain no information that needs consideration in this review and they are therefore superseded.

b. H-3305 (1911), H-4491 (1925) and H-4493 (1925), scales 1:40,000, 1:40,000 and 1:20,000

The above surveys taken together completely cover the present survey. Soundings on H-3305 are hand-lead and are not reduced for tide in depths over 8 fathoms. Soundings on the 1925 surveys are principally tube soundings, usually taken in pairs. Because of the irregularity in bottom, comparison was made by enlarging the old surveys when necessary and transferring all soundings to a tracing paper overlay. The comparison included every sounding. General agreement of depths is within 2 fathoms. Specific mention is made of the following:

(1) In Lat. 55°00.0', Long. 161°57.75' five soundings on H-3305 having depths of 10 or 15 fathoms (charted) consistently vary 3 to 5 fathoms shoaler than the present survey. These soundings were obtained on the same line, Pos. 30-32H, and should be disregarded.

(2) A 29-fm. sounding on H-4491 in Lat. 54°57.8', Long. 162°04.45' falls in depths of 38 fm. on the present survey. This is a single-tube sounding and appears to be 10 fm. in error or had failed to reach bottom by this amount. The 29 is considered erroneous and should be omitted in charting.

Except as noted above, the present survey is adequate to supersede the above surveys.

6. Comparison with Wire Drag Surveys

H-6737 (1941) W.D. and H-6770 (1942), scales 1:20,000

These wire drag surveys overlap small portions of the present survey on the extreme northeast and southeast, respectively. The present survey depths do not conflict with the respective effective drag strips.

7. Comparison with Chart 8703 (New Print date July 31, 1943)

Charted hydrography originates with surveys discussed in the preceding paragraphs and Bp. 36700 (1942). This confidential blueprint is an advance compilation on the scale of the above chart compiled by the field party from current boat sheets and labeled "Subject to correction when reviewed in Washington Office." Within the area covered this blueprint is superseded by the present survey. Important discrepancies noted are as follows:

a. Twenty fathoms charted in Lat. 54°59.9', Long. 161°58.7'. This sounding falls in depths of 23 on the blueprint and on the present survey and is erroneous. The correct depth is 23 fathoms.

b. Twenty-seven fathoms charted in Lat. 55°00.5', Long. 162°11.5'. This sounding falls in depths of 36 to 41 fathoms on the present survey and is actually non-existent in the position shown. It should, therefore, be expunged from the chart. Several similar soundings are shown on both the present survey and H-6590 (1940) in positions varying 1/4 to 1/2 mile distant.

8. Compliance with Project Instructions

Satisfactory.

9. Condition of Survey

Satisfactory.

10. Additional Field Work Recommended

This is a very satisfactory survey as regards work accomplished although the field party did not have sufficient time to complete the development. The depth curves amply indicate that portions of the bottom are quite irregular. Shoaler depths can

exist in a number of areas though it is not anticipated that they will be a menace to surface navigation. When convenient, additional development consisting of split lines and wire dragging should be accomplished.

11. Superseded Surveys

H-3005 (1911)	in part
H-3006 (1911)	" "
H-3579 (1913-14)	" "
H-4491 (1925)	" "
H-4493 (1925)	" "

Examined and approved:

Robert W. Knox
Chief, Surveys Branch

J. S. Borden
Chief, Division of Charts

Earl O. Heston
Chief, Section of Hydrography

G. Rude
Chief, Division of Coastal Surveys

applied To chart	8703.	g. H. S.	Feb. 25, 1944
" " "	8802	g. H. S.	apr. 5, 1944
" " "	9302	g. H. S.	" " "