

8300

Diag. Cht. Nos. 8802-3 and 8860-3.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PF-2756 Office No. H-8300

LOCALITY

State Alaska

General locality North Side Alaska Penin-
sula

Locality Vicinity of Cape Glazenap

194/56

CHIEF OF PARTY

John Bowie

LIBRARY & ARCHIVES

DATE January 30, 1957

B-1870-1 (1)

8300

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-8300

Field No. PF-2756

State Alaska

General locality North Side Alaska Peninsula

Locality Vicinity of Cape Glazenap
~~Izembek Bay - - - - - delegate zone~~

Scale 1:20,000 Date of survey June thru August 1956

Instructions dated 20 December 1954; Supplemental dated 21 October 1955

Vessel USC&GSS PATHFINDER LAUNCHES NO. 1, 3 & 4

Chief of party John Bowie

Surveyed by G. W. Thompson

Soundings taken by fathometer, graphic recorder, ~~hand lead, etc~~

Fathograms scaled by Personnel Ship PATHFINDER

Fathograms checked by Personnel Ship PATHFINDER

Protracted by B. L. Gabrielsen

Soundings penciled by B. L. Gabrielsen

Soundings in fathoms ~~XXXX~~ at ~~XXXX~~ MLLW AND ARE TRUE DEPTHS

REMARKS: Offshore area sounded in fathoms. Area of Izembek^k Bay sounded in feet and converted to fathoms.

2876

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8300 (Field No. PF-2756)

IZEMBEK BAY

Scale 1:20,000

1956

USC&GSS PATHFINDER

John Bowie, Commanding

A. PROJECT:

No. 13750 dated 20 December 1954 and supplemented ~~supplement~~ 21 ✓
October 1955. Instructions issued by the Director.

B. SURVEY LIMITS AND DATES:

This survey covers the southwest part of Izembek Bay, ^{Lagoon} Applegate ✓
Cove, Norma Bay and the offshore area to approximately the 14 fathom
curve in the vicinity of Cape Glazenap.

The survey joins contemporary survey H-8297⁽¹⁹⁵⁶⁾ and H-8302^{2, 1956} to the north
and east and H-8299⁽¹⁹⁵⁶⁾ to the west. H-8303 (1956) on northwest

Work was begun on 7 July and ended 31 August 1956.

C. VESSELS AND EQUIPMENT:

PATHFINDER Launches Nos. 3 and 4 were used in the offshore and ✓
entrance channel to Izembek Bay and Launch No. 1 was used in the inshore
area surveyed. Turning radii of all launches is about 20 meters.

Portable 808 type graphic recorders with keel mounted acoustic
units were used. Fathometers were calibrated for 800 fms. per second.
Launch and fathometer numbers used were: Lch. #1, fathometer #74;
Lch. #3, fathometer #61; Lch. #4, fathometer #52.

Launches were operated from the Ship for the offshore area and ✓
Lch. #1 was operated from a shore camp established at Grant Point for
the inshore areas surveyed.

D. TIDES AND CURRENTS:

Tide corrections were obtained from observations made by a portable ✓
tide gage at Amak Island for the offshore area and from a portable gage
located at Grant Point, Izembek Bay, for the inshore area. (See Tide
Note attached)

No current stations were observed in the area of this survey.

E. SMOOTH SHEETS:

Projections were made by hand by personnel of the Ship PATHFINDER. Shoran arcs were constructed and shore lines were transferred from advance manuscripts Nos. T-11474, T-11477 and T-11476. (1952 to 1954) Photos

F. CONTROL STATIONS:

All Vol II
G.P. Page 294 ✓
G.P. Page 297 ✓
G.P. Page 295 ✓ G.P. Page 296 ✓
Glazenap 1952; Wrecked Sailboat Mast 1952; Grant 1952; Prone 1952; Norse 1952. Triangulation was done by N. E. Sular for the Army.
Moffet 1952 - G.P. 286. Ref. Sta. Glazenap Lat. 55° 14' 26.59" 822.5 (1033 dm) Long 162° 59' 45.60" 804.1 (2561) m

Hydrographic signal Ole was located by sextant cuts by personnel of the Ship. Page 3, Vol. I. and Vol I of H-8303.

G. SHORELINE AND TOPOGRAPHY:

Shoreline and topography applied to the smooth sheet were taken from the advance manuscripts listed above. No discrepancies were noted except as listed below;

At the southwestern entrance to Izembek ~~Bay~~ ^{Lagoon} near station Glazenap the shoreline was revised by the hydrographer by sketching on the boat sheet. The beaches in this area are composed of fine black sand and were observed to change an appreciable amount several times during the season. The outside beaches are composed of fine black sand and are subject to minor changes.

The low water line in Izembek ~~Bay~~ ^{Lagoon, Norma Bay & Applegate Cove} could not always be obtained because of the extensive mud flats and shoals.

H. SOUNDINGS:

All soundings were recorded on 808 type depth recorders. Bottom samples were obtained with a tallow "armed lead". The entire inshore area of Izembek ~~Bay~~ ^{Lagoon} is mud and fine black sand.

Fathometer corrections were determined by disconnecting the fathometer receiver unit and connecting another unit secured to the end of a graduated cable and suspended below the keel and transmitting unit. This unit was lowered to known depths and the readings recorded. Corrections were computed for the depth of the area worked for that day and the initial adjusted to give the least possible correction to be applied to the reduced soundings.

A special Fathometer Report will be submitted. ^(Special Report Fathometer Corrections No. 151)

I. CONTROL OF HYDROGRAPHY:

All hydrography was controlled by Shoran distances with the exception of positions 1f to 9f, Lch. #1, which were taken by sextant fixes

while standing at waters edge on a sand bar. The offshore area was controlled by Shoran stations NAP and MOF supplemented by a station on the PATHFINDER which was moved about to give the best coverage in that area. These stations were given the names of PAT-3, PAT-4, PAT-5 whose locations are given in the sounding volumes. The Izembek Bay area was controlled by station NAP and a shoran station established at GRANT, 1952, (ANT).

A separate report will be submitted on shoran corrections.

*Special Report
Shoran Corrections
No. 152.*

J. ADEQUACY OF SURVEY:

This survey is complete and adequate and should supersede all prior surveys.

Junctions with surveys H-8297⁽¹⁹⁵⁶⁾, H-830³⁽¹⁹⁵⁶⁾, and H-8399²⁽¹⁹⁵⁶⁾ and H-8302⁽¹⁹⁵⁶⁾ is satisfactory and depth curves can be adequately drawn.

Hydrography was conducted in all areas of Izembek Bay which were navigable by a hydrographic launch.

K. CROSSLINES:

About 8% of the sounding lines are crosslines. The crossings are satisfactory.

L. COMPARISON WITH PRIOR SURVEYS:

This survey compares favorably with H-6972^{and H-C973(100,000-1943)}, (20,000 - 1943) in the offshore area, however, changes were found in the entrance and inshore area of Izembek Bay due to the constant shifting of the shoreline and bottom.

M. COMPARISON WITH CHART:

Chart 8860 (1953 - 7/20) gives only a general picture of the area at a scale too small to show detail.

Reference - Preliminary Review dated January 1955; paragraph #1: Stranded wreck is as shown and located by Corps of Engineers, U.S.A. and should continue to be shown on charts of the area, ^{now above H.W.} as a landmark (WRECK)

N. DANGERS AND SHOALS:

All dangers and shoals are evident on the smooth sheet with the inshore area having extensive shoals and mud flats. This area is restricted to navigation in narrow channels at low water.

O. COAST PILOT INFORMATION:

Coast Pilot notes are covered in a separate report, copy attached.

P. AIDS TO NAVIGATION:

There are no official aids in this area. Oil drum buoys are maintained by local fishermen to mark the entrance channel to Izembek Bay during the fishing season. These buoys are temporary and should not be put on the chart.

Q. LANDMARKS FOR CHARTS:

Stranded wreck. *see also Coast Pilot Notes - this D.R.*

R. GEOGRAPHIC NAMES:

Subject of separate report. *to Coast Pilot Sec.*

S. SILTED AREAS:

No silted areas were observed.

T. BY-PRODUCT INFORMATION:

Izembek ^{Lagoon} ~~Bay~~ marine activity consists of only shallow draft fishing vessels.

U. - Y. MISCELLANEOUS:

Areas of Izembek ^{Lagoon, Norma Bay & Applegate Cove not} ~~Bay~~ sounded are not navigable, being mud flats and bare at MLLW.

Z. TABULATION OF APPLICABLE DATA:

1. Fathometer Corrections Report *(Special Report No. 151.)*
2. Shoran Corrections Report *(Special Report No. 152.)*
3. Coast Pilot Notes
4. Geographic Names Report
5. Field Edit Report (Photo)

Respectfully submitted,

Bernard L. Gabrielsen
Bernard L. Gabrielsen
ENSIGN, C&GS

Approved and forwarded:

John Bowie
John Bowie
CAPT, C&GS
Comdg. Ship PATHFINDER

STATISTICS

HYDROGRAPHIC SURVEY H-8300 (PF-2756)

VOLUME NUMBER	DAY LETTER	DATE 1956	NUMBER OF POSITIONS	STAT. MI. SOUNDINGS
Lch #1				
1	a(blue)	8 August	48	6.9
1	b	9 August	231	33.1
1 & 2	c	10 August	142	21.0
2	d	11 August	157	25.6
2	e	12 August	26	3.5
2	f	13 August	150	19.9
3	g	17 August	120	13.2
		Lch. No. 1 totals	874	123.2
Lch #2				
4	a(purple)	11 July	36	9.4
		Lch. No. 2 totals	36	9.4
Lch #3				
5	a(green)	22 August	44	13.0
5	b	23 August	95	33.9
5 & 6	c	31 August	114	36.3
		Lch. No. 3 totals	253	83.2
Lch #4				
7	a(brown)	7 July	61	19.6
7	b	14 July	88	24.5
7	c	23 July	14	3.4
7	d	24 July	34	10.6
8	e	22 August	54	10.3
8	f	23 August	81	19.8
8 & 9	g	31 August	192	48.4
		Total Lch No. 4	524	136.6

Total for all launches:

1687

277.4

TOTAL AREA OF SURVEY - 71.5 SQUARE STATUTE MILES.

TIDE NOTE

HYDROGRAPHIC SURVEY H-8300 (PF*2756)

Corrections for tides were determined from tides observed with portable automatic gages at Amak Island (Lat. $55^{\circ} - 24'8''$, Long. $163^{\circ} - 06'9''$) and Grant Point (Lat. $55^{\circ} - 16'3''$, Long. $162^{\circ} - 53'9''$).

Amak tides with no correction for range or time was applied to all soundings outside the entrance to Izembek Bay, this included all work done by Launches 2, 3, and 4, (Zone "A"). The mean of Amak and Grant Point tides was used at the entrance and inside the Bay to a distance of 2.0 miles from GLAZENAP (Zone "B"). Uncorrected Grant Point tides were used inside the Bay (Zone "C").

FATHOMETER CORRECTIONS

HYDROGRAPHIC SURVEY H-8300 (PF-2756)

Launch No. 1

Fathometer No. 74S Initial @ 2.0 feet

<u>Fathometer Reading</u>	<u>Correction</u>
All	+ 0.6 feet

Launch No. 2

Fathometer No. 46 Initial @ 0.3 fms.

<u>Fathometer Reading</u>	<u>Corrections</u>
0.0 - 7.5 fms.	0.0 fms.
7.6 - 12.5 fms.	+ 0.1 fm.
12.6 - 17.0 fms.	+ 0.2 fm.

Launch No. 3

Fathometer No. 61 Initial @ 0.6 fms.

<u>Fathometer Reading</u>	<u>Corrections</u>
0.0 - 11.8 fms.	- 0.2 fm.
11.9 - 14.2 fms.	- 0.1 fm.
14.3 - end	0.0 fms.

Launch No. 4

Fathometer No. 52 Initial @ 0.2 fms.

<u>Fathometer Reading</u>	<u>Corrections</u>
0.0 - 7.5 fms.	0.0 fms.
7.6 - 13.0 fms.	- 0.1 fm.
13.1 - end	- 0.2 fm.

COAST PILOT NOTES

SHIP PATHFINDER

PROJECT CS-13750, JUNE - SEPT. 1956

SHEETS 2256, 2556, 2756, 2856

The following is submitted to supersede the text in the U.S.

Coast Pilot⁹ - Alaska - ~~Part II~~ - Yakutat Bay to Arctic Ocean - Fifth
(1947) Edition from Line ²⁷~~41~~, Page ⁴⁹³~~510~~ through Line ³³~~10~~, Page ⁴⁹⁴~~512~~.

From Isanotski Strait to Cape Glazenap, about 19 miles, the coast retains the same general direction. It is low with grassy bluffs in places, 50 to 100 feet high.

Cape Glazenap (Lat. 55° 15' N., Long. 163° 01' W) is prominent in that it is higher - 175 feet - than any part of the coast in this general locality. This high land marks the southwest entrance to Izembek Lagoon.

Izembek Lagoon covers a large area bordered mostly by low marshes. It is crossed in many directions by sloughs of shallow depths. Most of the lagoon is bare or awash at low tide. The bottom is mud and sand. The channels that exist are difficult to follow except at low tide stages and is not recommended for craft drawing more than 3 or 4 feet.

The entrance channel at Cape Glazenap is narrow and shifting. Breakers make out for about 1 mile off the entrance. In 1956 the channel depth was 1 1/2 fathom. It is between breakers and lies close to Cape Glazenap. Fishermen mark the entrance to the channel by a gas drum buoy during the summer.

The wreck of an old schooner is a conspicuous landmark.

The channel from Cape Glazenap to Grant Point is narrow and crooked. Local knowledge should be obtained before entering Izembek Lagoon.

Glen and Operl Islands are low, narrow, grass covered islands extending between Cape Glazenap and Moffet Point along the northwest side of Izembek Lagoon.

Lights from the radio towers at Cold Bay are visible for about 20 miles on clear nights.

AMAK ISLAND TO PORT MOLLER

CHART 8802

Amak Island is of volcanic origin, 1791 feet in height and almost round. Its north-south width is 2.4 miles; east-west width 2.0 miles. The beaches are mostly huge boulders and bluffs except at the south, where there is a small flat. A small airstrip was built here during World War II. There is foul ground off the north side of the island; several rocks and reefs and Sealion Rock, 2-1/2 miles to the northwest. The latter is 95 feet high and its southern slope occupied by an extensive rookery of sea lions.

Amak Island is 10 miles N.N.W. of Cape Glazenap. The passage between Amak Island and the islands bordering Izembek Lagoon is clear and is the usual track for small vessels and fishing boats. Depths in the center of the passage are 10 fathoms or better. Currents are

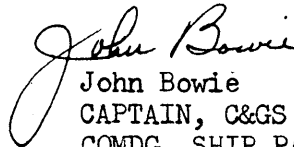
about 2 knots. A reef lies off the southeast end of Amak Island. It extends eastward 1/3 mile and bares on low tides. This reef should be given a wide berth.

No anchorages are recommended but in emergencies, small craft can obtain a little protection from westerly weather by anchoring in the lee of the east side.

SEALION ROCK LIGHT, 92 feet above the water, is located near the top of Sealion Rock. It is a weak light and not visible from the south as the top of the small white box structure is several feet lower than the high point of the rock.

MOFFET POINT is a curving sandy hook with sand dunes 40 to 60 feet in height. A channel between Operl Island and Moffet Point leads into the northeastern part of Izembek Lagoon. The channel leads through breakers and during the summer is marked by gas drum buoys by local fishermen. In 1956 the depth over the bar was 2 fathoms. Passage should not be attempted without local knowledge and only then with small boats of 3 or 4 feet draft.

MOFFET LAGOON is shallow and crossed by numerous gulleys. The bottom is sand and mud, and bares over an extensive area at low tide. Moffet Lagoon joins Izembek Lagoon via an opening between Moffet Point and Blaine Point. Joshua Green River empties into Moffet Lagoon.


John Bowie
CAPTAIN, C&GS
COMDG. SHIP PATHFINDER

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8300 (PF-2756)

This survey was done under my close supervision. I consider this survey complete and adequate for charting. No additional work is recommended within the area covered.

John Bowie

John Bowie
CAPT, C&GS
Comdg. Ship PATHFINDER

GEOGRAPHIC NAMES
 Survey No. H-8300

Name on Survey											
	A	B	C	D	E	F	G	H	K		
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List			
<u>Alaska</u>											1
<u>Alaska Peninsula</u>											2
<u>Applegate Cove</u>											3
<u>Norma Bay</u>											4
<u>Cape Flaznap</u>											5
<u>Grant Point</u>											6
<u>Izembek Bay</u>											7
<u>Operl Island</u>											8
<u>Bristol Bay</u>											9
											10
											11
											12
											13
<u>Amak Island</u>											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

} For title

BGN

(tide station)

LAGOON fields J. B. Davis Report to Authority Coast Pilot.

9/24/58 a.g.u. ←

BGN

Names approved

2-19-57

L. Heck

(tide station off sheet)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8300.

Records accompanying survey:

Boat sheets ..2..; sounding vols. ...9.; wire drag vols.; bomb vols.; graphic recorder rolls 5-Envelopes special reports, etc. 1-Descriptive report, 1-Smooth sheet, ^{No. 151 & 152} 2-Special Reports with Shore and Fathometer Corrections, A see Descriptive Report H-8297.

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

Number of positions on sheet	1687
Number of positions checked	120
Number of positions revised	8
Number of soundings revised (refers to depth only)	30
Number of soundings erroneously spaced	6
Number of signals erroneously plotted or transferred	0
Topographic details	Time 16 HRS.
Junctions	Time 8 HRS.
Verification of soundings from graphic record	Time 8 HRS.

Verification by E. F. Pace Total time 2.04 HRS. Date 9-8-58

Reviewed by [Signature] Time 50 Date 30 Sept. 1958

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8300

FIELD NO. PF-2756

Alaska - North Side Alaska Peninsula
Vicinity of Cape Glazenap

Surveyed: June-August 1956

Scale 1:20,000

Project No. 13750

Soundings:

Control:

808 Depth Recorders

Shoran
Sextant fixes on shore
signals

Chief of Party - John Bowie

Surveyed by - W. E. Randall, G. W. Thompson, and J. O. Boyer

Protracted by - B. L. Gabrielsen

Soundings plotted by - B. L. Gabrielsen

Verified and inked by - E. F. Pace

Reviewed by - L. S. Straw

Date 30 Sept. 1958

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with unreviewed air photographic surveys T-11474, T-11476, T-11477 (1952-54-56) except at the entrance to Izembek Lagoon where it was sketched by the hydrographer and shown on the smooth sheet by a broken red line. Unstable sections of the shoreline of Operl Island are indicated by a broken black line as determined by the air photographic surveys. Rocks and boulders are scattered along the beach from long. $163^{\circ} 07'$ to long. $163^{\circ} 11'$.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at sounding-line crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves, outside the southwest entrance to Izembek Lagoon, were adequately developed. The low water line, with a few exceptions, originates with the air photographic surveys. The bottom is irregular from the high water line to the 3-fathom curve and is characterized by fine black sand.

The entrance channel to Izembek Lagoon is subject to radical changes in respect to both depth and location (see paragraph 5).

Izembek Lagoon, Applegate Cove and Norma Bay include extensive areas of mud and sand flats which are awash at low tide and crossed in many directions by shallow meandering channels. Only the deepest channels could be surveyed and are depicted generally by dashed depth curves. The low water line is supplemented by the black dotted curve from the air photographic surveys where conflicts or changes in the bottom were not indicated by the soundings.

4. Junctions with Contemporary Surveys

The junction with H-8299 (1956) on the southwest, and H-8303 (1956) and H-8302 (1956) on the northwest are adequate. The junction with H-8297 (1956) on the north and northeast will be considered in the review of that survey.

5. Comparison with Prior Surveys

H-6972 (1943)
H-6973 (1943)

Little change in depth is noted in areas beyond the 5-fathom curve; however, radical changes have occurred in depths and location of the entrance channel and its approaches. For example, the remnants of the old channel have shoaled from prior $2\frac{1}{2}$ fathoms to present 1-fathom depths in lat. $55^{\circ} 15.5'$, long. $162^{\circ} 59.9'$ and a new channel has developed with a depth of about $1\frac{1}{2}$ fathoms over the bar at lat. $55^{\circ} 15.2'$, long. $163^{\circ} 00.2'$. The present survey shows several new shoals in the channel between the entrance and Grant Point. Shifting mud and sand bottom account for the differences between the old and new surveys. The small island, shown on H-6972 (1943), close to the entrance is now connected to Operl Island by a narrow neck (120 meters) and completely includes the stranded wreck also shown on the prior survey H-6972 (1943). This accretion extends the shoreline of Operl Island about two miles farther southwest. The present survey is adequate to supersede the prior surveys in the common area.

6. Comparison with Chart 8860 (latest print 3/24/58)

A. Hydrography

The charted hydrography within the area of the present survey originates with previously discussed surveys and needs no further consideration.

B. Aids to Navigation

There are no official aids to navigation within the

limits of the present survey; however, temporary oil drum buoys are installed seasonally by local fishermen.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was well done.
- c. Because of the character of the outer coast and inshore areas, the location of the low water line could not be completely determined by the hydrographer.


8. Compliance with Project Instructions

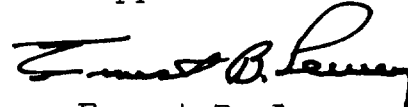
The survey adequately complies with the Project Instructions.

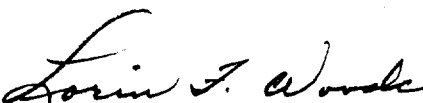
9. Additional Field Work

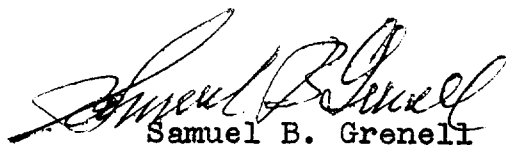
The survey is considered basic and no additional work is necessary.

Examined and approved:


Max G. Ricketts
Chief, Nautical Chart Branch


Ernest B. Lewey
Chief, Division of Charts


Lorin F. Woodcock
Chief, Hydrography Branch


Samuel B. Grenell
Chief, Division of Coastal Surveys

RAC

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

FEB 19 1957

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 8300

Locality Alaska Peninsula, North Side

Chief of Party: John Bowie in 1956

Plane of reference is mean lower low water, reading

2.5 ft. on tide staff at Amak Island

16.4 ft. below B.M. 2 (1941)

3.2 ft. on tide staff at Grant Point

11.6 ft. below B.M. 1 (1943)

Height of mean high water above plane of reference:

Amak I.	6.9 ft.
Grant Point	4.7 ft.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch

