

8817

Diag. Cht. No. 8202-20

FORM C&GS-504

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. LJ-20-2-64 Office No. H-8817

LOCALITY

State Alaska

General locality Glacier Bay

Locality Vicinity of Drake Island

1964

CHIEF OF PARTY

R. H. Houlder

LIBRARY & ARCHIVES

DATE 11/25/69

USCOMM-DC 37022-P66

8817
2188

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. 8817

Field No. LJ-20-2-64

State Alaska

General locality Glacier Bay

Locality Vicinity Drake Island

Scale 1:20,000 Date of survey 22 June - ^{27 Aug.} ~~20 July~~ 1964

Instructions dated 28 April 1964, 15 June 1964

Vessel Ship Lester Jones and Motor Launch No. 1192

Chief of party LCDR Richard H. Houlder

Surveyed by LCDR R.H. Houlder and LTJG N.C. Austin

Soundings taken by fathometer, graphic recorder, hand lead, wire Raytheon (DE 723) #530,548

Fathograms scaled by Launch Personnel

Fathograms checked by Launch Personnel

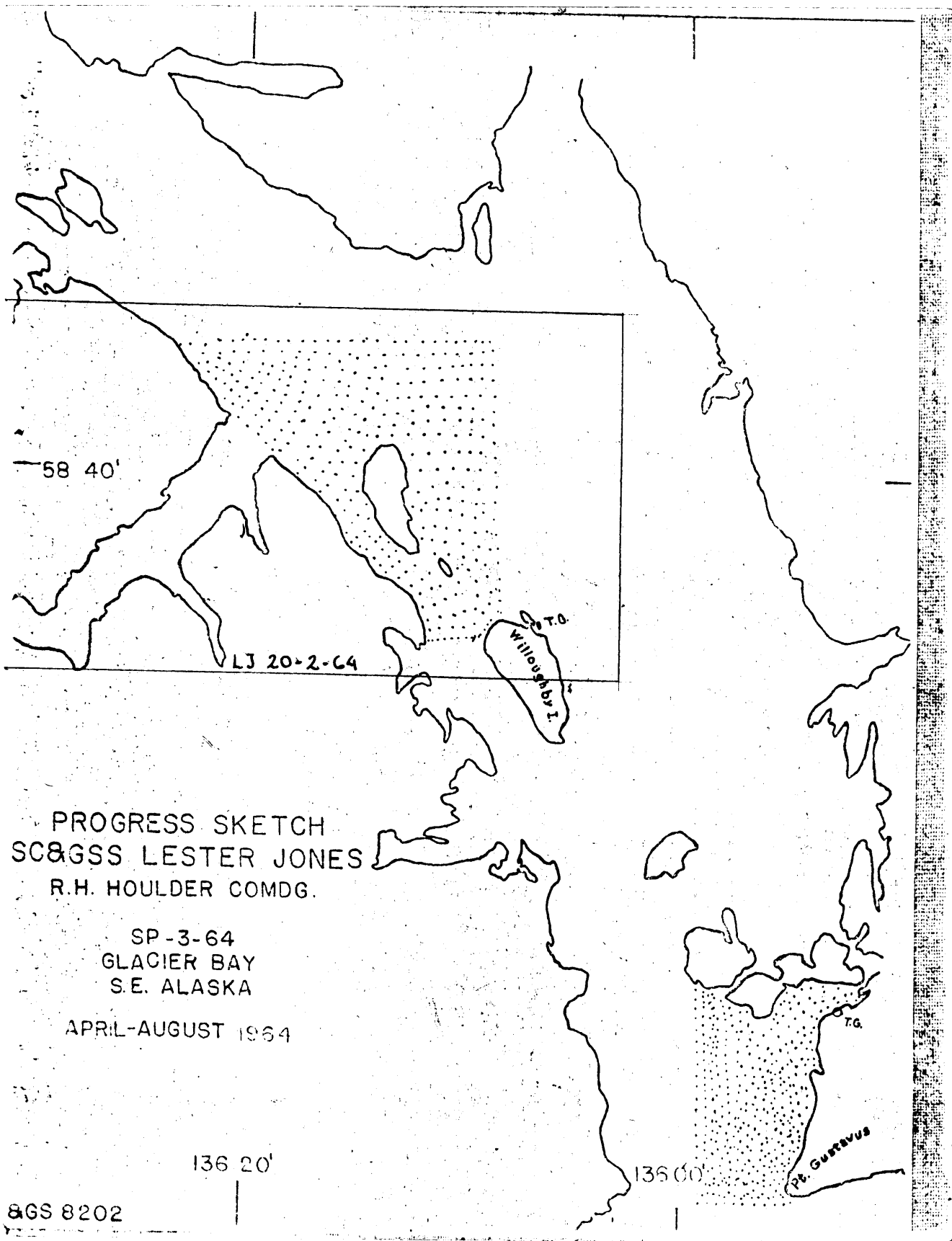
Protracted by R. R. Jones

Soundings penciled by R. R. Jones

Soundings in fathoms feet at MLW MLLW

REMARKS:

GNS
JMO



58 40'

LJ 20-2-64

Willoughby T. R. G.

PROGRESS SKETCH
SC&GSS LESTER JONES
R.H. HOULDER COMDG.

SP-3-64
GLACIER BAY
S.E. ALASKA

APRIL-AUGUST 1964

136 20'

136 00'

Pt. Gustavus T.G.

AGS 8202

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8817 (LJ-20-2-64) 1964

GLACIER BAY, ALASKA

Scale: 1:20,000

Date: ~~22~~ June thru ~~20~~ July 1964
28 AUG 26 AUG

A. PROJECT

Project instructions for SP-3-64 included original instructions dated 28 April 1964 and supplemental instructions dated 15 June 1964 and 21 July 1964. ✓

B. AREA SURVEYED

The area surveyed was in the vicinity of Drake Island, central Glacier Bay, Southeast Alaska. Sheet limits for LJ-20-2-64 are: Lat 58 44' on the North, Lat 58 35' on the South, Long 136 34.08' on the East, and Long 136 03' on the West. ✓
(H 8817)

The survey was conducted during the period 22 June thru 28 July 1964. Prior survey H-6458 at 1:20,000 (1939) covers the Southeastern portion of the area surveyed. No other prior surveys abut the area. No contemporary surveys abut the area surveyed.

C. SOUNDING VESSEL

Soundings and bottom samples were taken by both launch 1192, and the Ship Lester Jones. The day letter for both is ~~purple~~ ^{blue}. Ship work is designated by upper case letters; while launch, lower case. ✓

D. SOUNDING EQUIPMENT

Raytheon Fathometer (DE-723) serial number 530, was used on Launch 1192, and number 548 was used during Ship work. ✓

Two corrections were applied to the echo sounder; an index correction and an echo correction. The index was set at zero and deviations from this setting accounted for. The echo correction was determined by bar checks taken twice daily to depths of 20 fathoms from the launch, 1192. When weather conditions permitted, a bar check to 30 fathoms was observed. A more detailed explanation may be found in the Fathometer Report, 1965.

Phase corr. applied by Hydrographer and revised by Verifier.

E. SMOOTH SHEET

The smooth sheet projection has not yet, been ruled. ✓

F. CONTROL

Hydrography was visually controlled by sextant fixes. All signals with the exception of Triangulation and one hydro signal, located by sextant cuts, were located by planetable surveys. Graphic control appears on sheets LJ-C-64 and LJ-D-64. *(Destroyed after hydro. review)* ✓

G. SHORELINE

The shoreline for LJ 20-2-64 has been transferred from 1939 planetable survey topo sheets T-6754 (1:20,000), T-6679 (1:20,000), T-6680 (1:10,000). ✓

H. CROSSLINES

Crosslines on LJ 20-2-64 amounted to 6 % of the total soundings. Crosslines compare only roughly, as the smooth plot has yet to be done. ✓

I. JUNCTIONS

Junctions should be compared by smooth plotter. ✓

J. COMPARISON WITH PRIOR SURVEYS

Comparisons should be made by the smooth plotter. ✓

K. COMPARISON WITH THE CHART

The largest scale chart of the area is C&GS No. 8202 at a scale of 1:209,978. The sizable difference between this and the sheet scale makes comparison difficult. All charted features should be compared by the smooth plotter. ✓

L. ADEQUACY OF SURVEY

Field work is approximately 60% complete. Geikie Inlet has yet to be surveyed. The area outside Geikie Inlet is complete and adequate to supercede prior surveys. ✓

M. AIDS TO NAVIGATION

No aids to navigation are located in the area covered by 1964 field work on LJ 20-2-64. ✓

N. STATISTICS

LJ 20-2-64

Hydrography: Ship	1025 positions
launch	1386 positions
Ship	242.6 N. M. soundings
launch	225.2 N. M. soundings
Area	25.0 sq. N. M.
Bottom Samples	31

 ✓

O. MISCELLANEOUS

none

P. RECOMMENDATIONS

none

Q. REFERENCES

1964 Season's Report	(forwarded) and copy enclosed	
1964 Fathometer Report	(forwarded) and copy enclosed	✓
28 sections of fathograms	(forwarded) to S.R.O.	
12 record books	(forwarded) to S.R.O.	

Respectfully Submitted,

Terry L. Kennedy

Terry L. Kennedy
Quartermaster Surveyor

Approved and forwarded

Harold E. McCall

Harold E. McCall
LT, C&GS
Comdg., Ship LESTER JONES

TIDE NOTE

Project SP-3-64
LJ 20-2-64
Glacier Bay
Southeast Alaska

Station: Willoughby Island
Latitude: $058^{\circ}36.4'W$
Longitude: $136^{\circ}07.2'W$ 06.95
Time Meridian: 120 West
Height MLLW on Staff: 5.1 feet

The portable automatic tide gage at Willoughby Island was used throughout this survey.

VELOCITY CORRECTIONS

LJ 20-2-64
June 28 - August 27

<u>Corrections:</u> (fms)	<u>To Depths:</u> (fms)
+0.1	2.8
+0.2	7.9
+0.3	18.0
+0.4	38.0
+0.5	92.0
+0.6	152.0
+0.7	over 153

For LESTER JONES

+0.2	10.7
+0.3	31.0
+0.4	76.0
+0.5	136.0
+0.6	203.0
+0.7	over 204

LIST OF SIGNALS

LJ 20-2-64

<u>NAME</u>	<u>SOURCE OF ORIGIN</u>
ABE	LJ-D-64
ACE	LJ-C-64
BID	LJ-C-64
BOB	LJ-D-64
CAT	LJ-D-64
CON	LJ-C-64
CUT	LJ-C-64
DAN	LJ-D-64
DED	LJ-C-64
DES	DESERT 1944
DRAKE	DRAKE 1939
DUCE	DUCE 1939
EAT	LJ-C-64
ELSE	ELSE 1939
END	LJ-C-64
ENTER	ENTER 1939
ERN	LJ-C-64
FLAG	FLAG 1944
FLAT	FLAT 1939
FOX	LJ-C-64
FRANK	FRANK 1939
GEIKIE	GEIKIE 1939
GIN	LJ-C-64
GOLD	GOLD 1939
HAT	LJ-C-64
IRA	HYDRO SIGNAL; pg. 51, vol. 2 LJ 20-2-64
JUST	JUST 1939
KILL	KILL 1939
LONE	LONE 1939
NEW	LJ-C-64
NOR	NORTE 1939
OPEN	OPEN 1939
OUT	LJ-C-64
PAN	LJ-C-64
QUICK	QUICK 1939
RAM	RAMPART 1944
RED	LJ-C-64
RIDGE	RIDGE 1939
SAM	LJ-C-64
SIL	LJ-C-64
SINK	SINK 1939
SIR	LJ-C-64
SKY	LJ-C-64
TOP	LJ-C-64
TUB	LJ-C-64
VENT	VENT 1939

SEASON'S REPORT

1964

SHIP LESTER JONES

LCDR R. H. Houlder
Commanding Officer

PROJECTS: SP-3-64, SP-2-64,
418, 448, 451, 43804,
21423.

Glacier Bay, Alaska
Keku Strait, Alaska

INSTRUCTIONS

SP-3-64 (Glacier Bay, S. E. Alaska) (21423)	Instructions dated 3 April 1964 Supp. Inst. dated 23 April 1964 Supp. Inst. dated 15 June 1964 Supp. Inst. dated 21 July 1964
SP-2-64 (Tea Harbor, Alaska)	Instructions dated 13 July 1964
OPR 418 (Inspection of Tide Stations)	Instructions dated 12 Feb. 1964 Amend. Inst. dated 10 April 1964
OPR 451 (Inspection of Sales Agencies)	Instructions dated 26 Feb. 1964
OPR 448 (Keku Strait, Alaska)	Instructions dated 29 Jan. 1964 Supp. Inst. dated 26 Aug. 1964
43804 (Gravity Survey, S. E. Alaska)	Instructions dated 10 July 1964

Richard H. Houlder
LCDR., USCGS
Commanding Officer

GENERAL

The 1964 operations of the LESTER JONES provided the Ship with one of the more diversified and interesting seasons in recent years. Preliminary work during the winter of 1963-1964 had been programmed on the expectation that the Ship would be working on combined operations in Keku Strait thus all boat sheets, manuscripts and photographs of this area were ready by the middle of March. The 'Good Friday' earthquake in Anchorage, however, indirectly caused a complete alteration in the operational schedule.

The LESTER JONES departed Seattle on March 31, a day ahead of schedule, prepared for assignment anywhere in Southeast or South Central Alaska. New instructions were then received in Ketchikan directing the Ship to Glacier Bay for hydrographic operations and a tidal study.

The local base of operations in Glacier Bay was the National Park Service pier in Bartlett Cove. Mail and water were obtained here and airline service was available. Due to the cooperation of the Park Ranger, transportation was available to Gustavus where telephone service was available. At the present time, a small lodge in Gustavus provides the only shore facilities available in this area; however the National Park Service is now constructing a lodge in Bartlett Cove which should be completed in the spring of 1966. All supplies and fuel were obtained in Juneau.

The purpose of the initial project in Glacier Bay was to acquire new data for the Coast Survey's continuing study of the isostatic emergence in this area. It was also hoped that this new information would indicate the changes which were due to the 1958 and 1964 earthquakes. Previous studies had shown a rate of emergence of the land areas of approximately 1" per year. This initial project was expanded in June to include new basic hydrographic surveys in central Glacier Bay in unsurveyed areas, due to the interest expressed by several government agencies in Juneau.

In addition to the basic hydrographic project, the LESTER JONES was also involved in the following projects accomplished during June, July and August. A Gravity Survey was completed in Stephen's Passage, Icy Strait and Glacier Bay; A small hydrographic investigation of a shoal area was completed near Tee Harbor and a photogrammetric control recovery and identification project accomplished in central Glacier Bay. Several Chart Agencies were inspected and three standard tide stations were serviced.

The last month of the season was spent in Keku Strait recovering and identifying triangulation, inspecting shoreline, identifying fixed aids to navigation and establishing supplemental control for photogrammetric compilation. The Ship based out of Fort Protection and Kake during this period. Water, mail and limited quantities of supplies were available at both locations.

PARTY ORGANIZATION

LCMR Richard B. Houlder (Reported 7 January 1964)
Commanding Officer - Authorized Certifying Officer. Planned and directed all Ship and Field Operations.

LTJG Ned C. Austin (Reported 7 January 1964)
Executive Officer - Alternate Disbursing Officer; CinC of hydrographic launch, graphic control surveys, tide gage installation, Hansen bottle casts, photogrammetric surveys, Tellurometer surveys and triangulation, ship handling and gravity surveys; standard tide gage servicing and Chart Agency inspection. Progress sketch and statistical report.

LTJG Henry L. Pittock III (Reported 3 February 1964)
Alternate Certifying Officer - CinC of launch hydrography, triangulation, Tellurometer traverse, tide gage installations, record processing, signal building, ship handling, photo-control identification, shoreline inspection, standard tide gage servicing, gravity survey. Mess Treasurer and Ship's Service Officer.

CHRONOLOGY OF ACTIVITIES

- 1 March - 5 April
Voyage from Seattle to Ketchikan
- 6 - 7 April
Received new orders diverting Ship from Keku Strait project to Glacier Bay.
Received launch 1192 from Coast Guard.
- 8 - 11 April
Enroute from Ketchikan to Glacier Bay via Juneau with launch in tow.
- 12 - 22 April
Five portable tide gages installed.
Signal location and building underway in Glacier Bay near Bartlett Cove.
- 23 April - 21 June
Combined operations in vicinity of Bartlett Cove. Five portable tide gages maintained.
Two standard gages serviced at Juneau and Skagway.
- 22 June - 20 July
Combined operations in central Glacier Bay.
Completed small hydrographic investigation near Tee Harbor. Continued servicing tide gages.
- 21 July - 30 July
Gravity Survey in Stephens Passage, Icy Strait and Glacier Bay.
- 1 Aug - 27 Aug
Photogrammetric, hydrographic and tidal surveys in Glacier Bay.
- 28 Aug - 3 Sept.
Enroute from Glacier Bay to Keku Straits via Tenakee Springs and Sitka. Inspected three chart agencies and serviced standard tide gage.
- 4 Sept - 27 Sept
Photogrammetric Survey in Keku Strait.
- 28 Sept - 2 Oct
Voyage from Keku Strait to Seattle.

METHODS

SP-3-64, Glacier Bay

1. Tide data was provided by portable tide gages installed in Bartlett Cove and on Willoughby Island. The Bartlett Cove gage was left in place at the end of the season and is now being serviced by the Glacier National Park Ranger.
2. Planctable surveys furnished most of the control for hydrography. Three preliminary manuscripts were used near Bartlett Cove.
3. Copies of the 1938 surveys in the vicinity of Bartlett Cove printed on cloth backed paper were furnished by the Washington Office. Although some distortion was evident, these made excellent boat sheets and they enabled the hydrographer to continuously compare his results with the prior survey.
4. Shoreline in the vicinity of Bartlett Cove will be obtained from new manuscripts to be compiled this winter from photographs taken last June.

SP-8-64, Tee Harbor

1. This was a hydrographic investigation to verify a shoal reported in 1961 by the BOWIE.
2. Control was provided by triangulation stations and by graphically locating additional stations on the boat sheet.
3. The boat sheet is considered adequate for the purposes of this project and a smooth plot is not believed necessary.

INVENTORY OF RECORDS

I. TIDE RECORDS

A. SP-3-64, Glacier Bay (All records sent to W.O.)

STATION	RECORDS AND REPORTS	MARIGRANS
Bartlett Cove	5/18; 9/12	5/18; 6/23; 8/8; 9/12
Inian Cove	5/18; 6/23; 7/30	5/18; 6/23; 7/30
Willoughby Id.	5/18; 9/12	5/18; 6/23; 8/8; 9/12
Mud Bay	5/25; 6/23; 7/30	5/25; 6/23; 7/30
Excursion Inlet	5/25; 6/23	5/25; 6/23
Composite Island	9/12	9/12

B. OPR-418 Inspection of Standard Tide Stations

Junesu	5/9	To Washington Office
Skagway	5/9	"
Sitka	9/12	"

II. PHOTOGRAMMETRY RECORDS

A. Glacier Bay (Ph-21423)

10/9	To W.O.	Photographs, Preliminary Manuscripts, Photogrammetric Descriptive Report, Recovery and Identification Notes
10/22	To W.O.	Triangulation Data Triangulation Data

B. Keku Strait (Ph-21048)

10/15	To W.O.	Photographs, Triangulation data, Recovery and Identification notes
10/19	To W.O.	Photographs
10/21	To W.O.	Photographs & Photogrammetric Des- criptive Report
10/22	To W.O.	Triangulation data
11/4	To W.O.	Photographs
11/25	Portland	Shoreline Inspection Notes

III. HYDROGRAPHIC DATA

SP-8-64, Tee Harbor

11/18	WO	Boat Sheet, Report and All records
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INVENTORY OF RECORDS (CONTINUED)

IV. Miscellaneous

Inspection of Chart Agencies -- Reports -- To W.O.
Sitka
Juncos
Tanakoo Springs
Port Protection

Chart Correction Report -- Sitka -- 10/22

V. Records remaining aboard

Best Sheets

10-1-64	Being smooth plotted
20-1-64	"
10-2-64	"
20-2-64	In W.O. for copying

Topographic Sheets

LJ-A-64
LJ-B-64
LJ-C-64
LJ-D-64
LJ-E-64

All hydrographic records for Sp-3-64

FATHOMETER REPORT

USCGCROSS LESTER JONES
Glacier Bay, S.E. Alaska

Projects SF 3-64, SF 8-64
April- October 1964

HYDROGRAPHIC SURVEYS

Project SF 3-64

LW 10-1-64
LW 10-2-64
LW 20-1-64
LW 20-2-64.

Project SF 8-64

1; 10,000 Shoal Investigation

EQUIPMENT:

The following fathometers were used during 1964:
Two Model DE-725 Raytheon fathometers, Numbers 530 and 548; used on both the LESTER JONES and on Launch #1192.

One Model EDC-155 echo sounder, Number 57-209, used on the Ship LESTER JONES.

Instruments were calibrated for a velocity of sound of 800 fms/sec.

FATHOMETER CORRECTIONS:

The following types of fathometer corrections were applied to soundings: INDEX, BAR CHECK, PHASE AND VELOCITY. Index and phase corrections were combined in the index column of the sounding volumes, while the bar check and velocity corrections were entered in the echo column.

Index Corrections: In all launch hydrography the initial on the fathometer was set at zero. For ship hydrography and bottom sampling the initial was set at 1.0 fm, a depth approximating the draft of the ship. Index errors thus were caused by the initial drifting from zero, or 1.0 fm in the case of the ship. Bathograms were scanned to determine variations of the initial settings; these values were applied as index corrections.

Bar Check Corrections: One bar check near the beginning of the season was taken with the ship. The bar check yielded a correction of 0.23fms. This figure, together with the 1.0fm initial setting, gives a value equalling the draft of the ship. This 0.23 fm correction was applied to ship hydrography for the entire season.

Except when impossible because of sea conditions, three bar checks were taken daily with the launch. Bar checks were attempted at 2,4,6,8,10, 20 and 30 fms.

Bar checks at 10 fms or less gave good results, while at 20 and 30 fms were sometimes unreliable because of wind, sea or current conditions. Bar checks compared favorably with values obtained through temperature and salinity observations.

Bar check corrections were tabulated for entire boat sheets. The means of these corrections, with exceptions made for unreliable data, were used for reducing the soundings. The bar check comparison showed the draft of the launch to be 0.1 fms.

Phase corrections: There was no phase correction for the EDO-185 echo sounder.

Phase corrections were obtained by scanning fathograms to determine if there was a change in depth when scales were changed in areas of gently sloping bottom. The phase corrections for each scale change were measured, the mean value being used as the phase correction.

Velocity Corrections: These corrections were computed from temperature and salinity observations by the graphic method outlined in Sec. 5-118 of the Hydrographic Manual. Two Nansen bottle casts were taken during the field season to collect data for velocity corrections. One additional cast was made using an RS 5-650 Salinometer concurrently with Nansen bottles to determine a calibration between the two methods. Results from the two methods compared favorably.

The observed temperatures and salinities, computations, mean regional temperature and salinity curves are included with this report.

Respectfully submitted,

Henry L. Pittock
LT(jg), USCGS

Approved and forwarded,

Richard M. Houlder, LCDR, USCGS
Cmdg., Ship LESTER JONES

APPENDIX A

Fathometers in use

<u>Survey</u>	<u>Vessel</u>	<u>Day</u>	<u>Fathometer</u>
LJ 10-1-64	Launch 1192 LESTER JONES	a-j A	530 548
LJ 10-2-64	Launch 1192	a-f	530
LJ 20-1-64	Launch 1192 LESTER JONES	a-g A	530 548
LJ 20-2-64	Launch 1192 LESTER JONES	a-s A-H	530 548 & EDO
SP 8-64 1:10000 shoal investigation	Launch 1192	a	530

APPENDIX B

Phase Corrections
Model DE-723, No. 530

<u>Scale:</u>	<u>Corrections:</u>
A	0.0
B	+0.4
C	+0.8
D	+1.0
E	+1.4

Model DE-723, No. 548

<u>Scale:</u>	<u>Corrections:</u>
A	0.0
B	+0.8
C	+1.6
D	+2.5
E	+3.2
F	+3.7

*these all erroneous.
See review.
RHC*

*+ Signs changed to negative
see fathograms
CRV*

Cruise: LESTER JONES 1

APPENDIX D

Date: June 13, 1964

Personnel: A. C. Burkhalter, L. I. Knowles, several of the LESTER JONES' Crew.

Comments: Data taken with RS5-650 salinometer. Depths are by meter wheel and wire angle.

Station #1

Location: Lat. 58°53.1 N
Long. 136°42.8 W.

Time: 1400-1430

Depth	Conductivity	Salinity	Temperature
Surface	19.76	19.95	4.20
1.82 m	27.11	27.97	4.43
3.64 m	30.29	31.27	4.69
5.45 m	30.07	31.61	4.30
7.23 m	30.65	31.91	4.78
10.8 m	31.08	32.57	4.66
14.4 m	31.19	32.70	4.56
17.9 m	31.34	32.81	4.65
35.3 m	31.19	33.15	4.17
49.7 m	31.21	33.37	3.97
82.0 m	31.31	33.55	4.0
121 m	31.41	33.51	4.16
156 m	31.53	33.53	4.25

Station #2

Location: Lat. 58°45.8 N
Long. 136°20.4 W.

Time: 1600-1650

Depth	Conductivity	Salinity	Temperature
Surface	30.53	29.86	6.86
9.14 m	31.45	32.68	4.92
18.2 m	31.45	33.15	4.47
36.1 m	32.16	33.61	4.79
54.2 m	32.04	33.80	4.57
87.5 m	31.84	33.75	4.25
132 m	32.21	34.31	4.45
189 m	32.25	34.16	4.50

Station #3 By Nansen Bottle

Location: Lat. 58°45.7 N
Long. 136°20.1 W

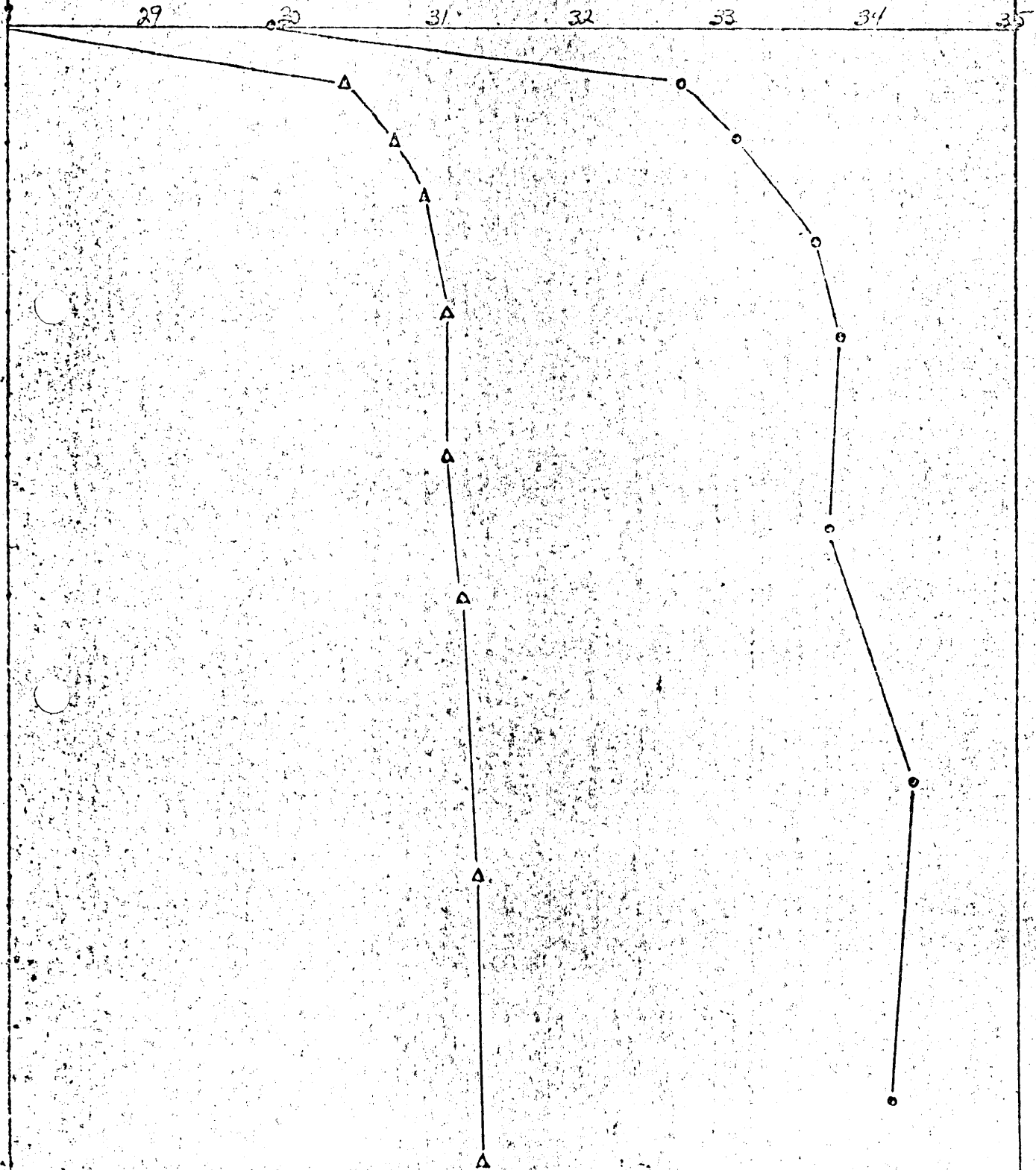
<u>Depth</u>	<u>Temperature</u>	<u>Salinity by Hydrometer</u>	<u>Salinity by Titration</u>
Surface	7.5	27.4	27.48
10	5.26	30.3	30.28
20	5.10	31.0	30.72
30	5.05	31.2	30.86
50	5.13	31.2	31.08
75	4.81	31.2	31.03
100	4.81	31.1	31.18
150	4.74	31.4	31.22
200	5.03	31.5	31.24

Cruise: LESTER JONES 1

Date: June 18, 1964

Calibration by RS5-650 Salinometer

Salinity in ‰ (by titration = A
by RS5-650 Salinometer = O)

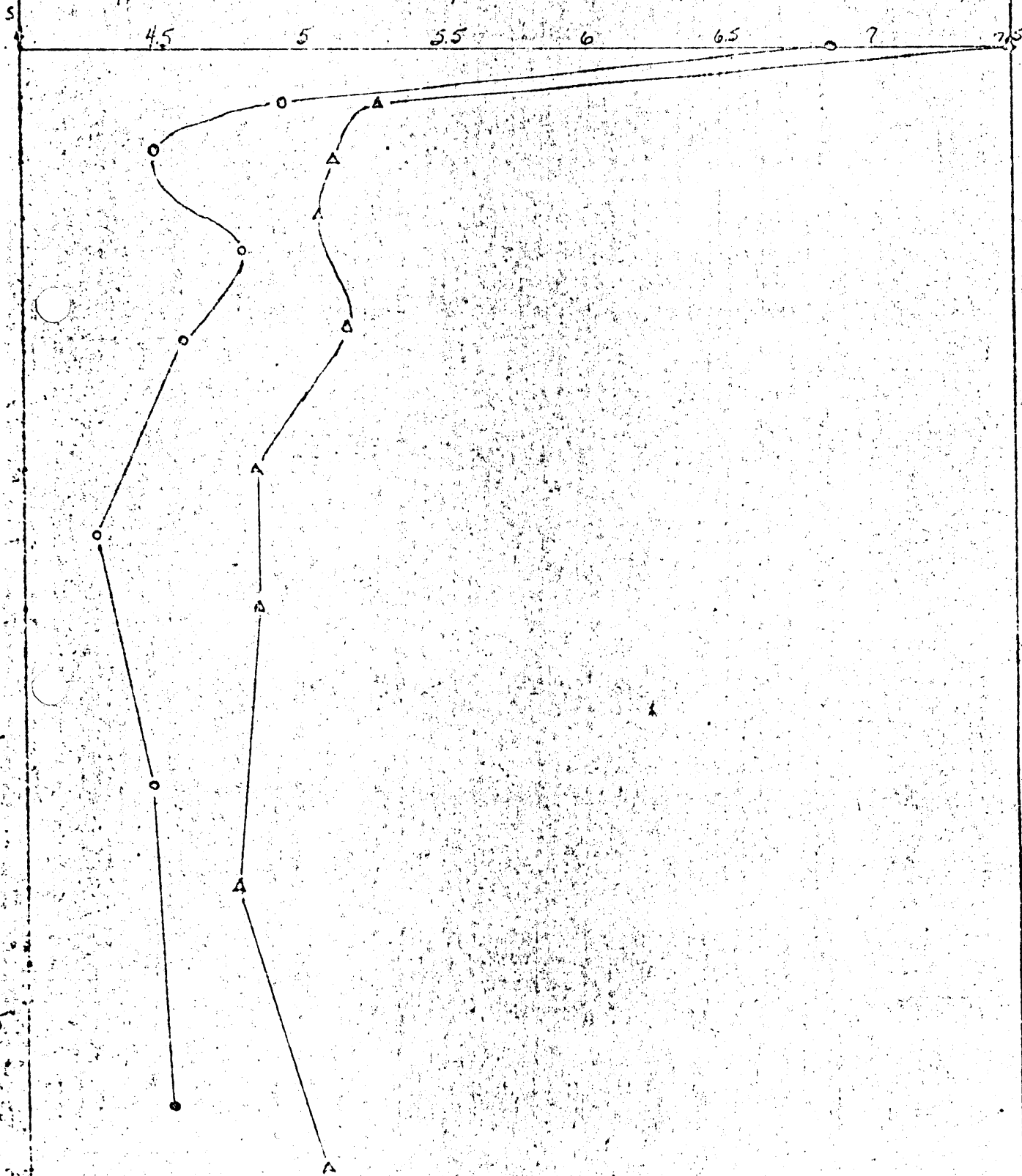


Cruise: LESTER JONES I

Date: June 18, 1969

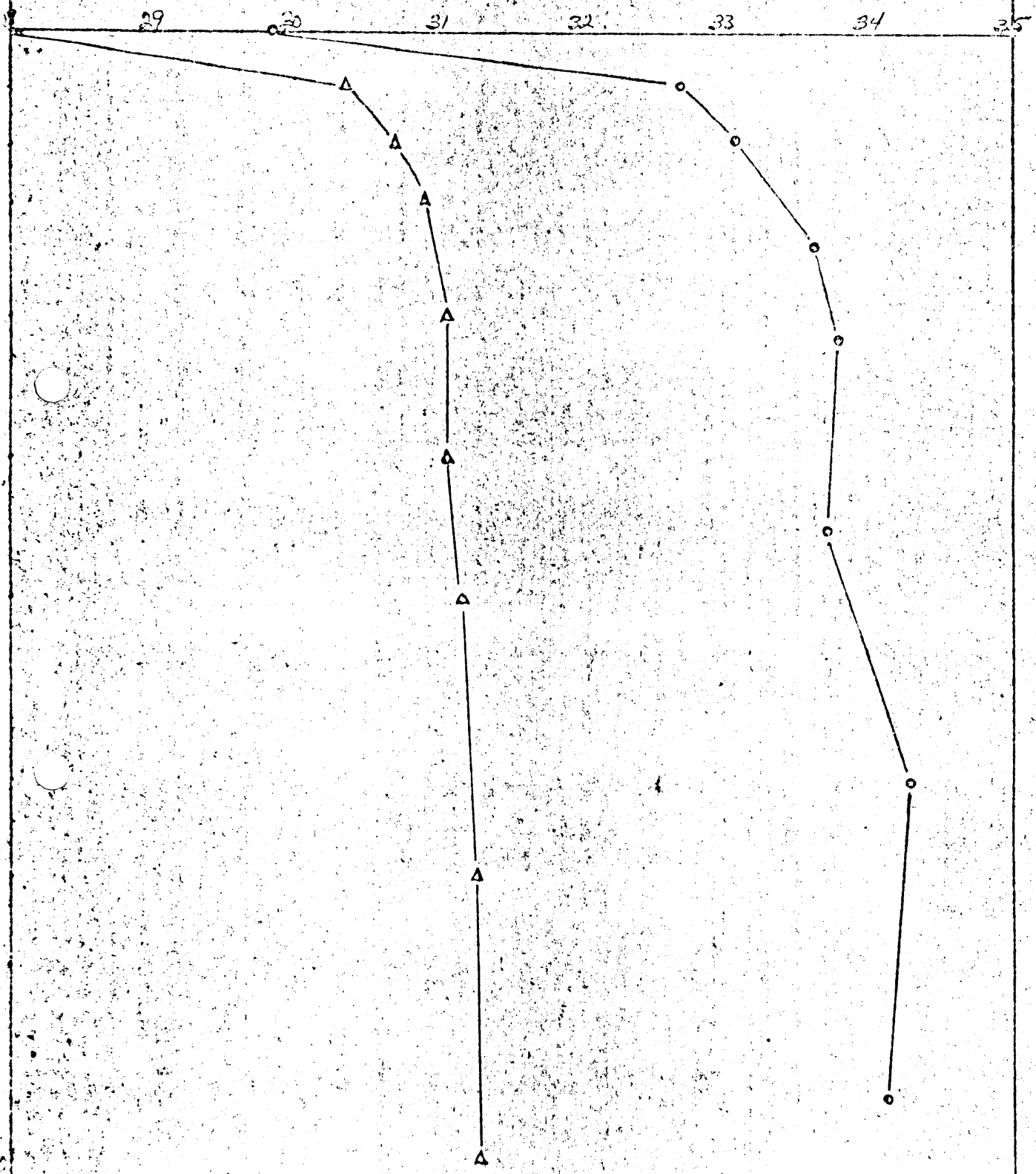
CALIBRATION of RS5-650 SALINOMETER

Temperature in °C (by reversing thermometer = Δ
by RS5-650 salinity = \circ)



Calibration by RSS-650 Salinometer

Salinity in ‰ (by titration = 4
by RSS-650 salinometer = 0)



GEOGRAPHIC NAMES PENCILED ON H-8817

DRAKE ISLAND

FRANCIS ISLAND

GEIKIE INLET

GIEKIE ROCK

GLACIER BAY

LONE ISLAND

WILLOUGHBY ISLAND

GEOGRAPHIC NAMES

Survey No. H-8817

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
Drake Island												1
Francis Island												2
Geikie Inlet												3
Geikie Rock												4
Glacier Bay												5
Lone Island												6
Willoughby Island												7
Whidbey Passage												8
Mariposa Sound												9
												10
												11
												12
												13
												14
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												16
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												23
												24
												25
												26
												27

PREPARED BY

Frank W. Fiddett
CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. J. Wright
CHIEF GEOGRAPHER

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-8817

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		/	BOAT SHEETS		/	
DESCRIPTIVE REPORT		/	OVERLAYS			
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1					
VOLUMES	12					
BOXES						

T-SHEET PRINTS (List)

1 Graphic Control Sheet, LJ-C&D-64

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				2442
POSITIONS CHECKED		255	38	
POSITIONS REVISED		51	3	
DEPTH SOUNDINGS REVISED <i>or added</i>		5664	18	5664
DEPTH SOUNDINGS ERRONEOUSLY SPACED <i>or Corr.</i>		1110	0	1110
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		0	40	
JUNCTIONS		0	8	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		320	16	
SPECIAL ADJUSTMENTS <i>phase-records</i>		76	0	
ALL OTHER WORK		40	108	
TOTALS		436	172	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Clarence R. Lehman</i>	BEGINNING DATE <i>Oct 18th 1966</i>		ENDING DATE <i>Dec 27th 1966</i>	
REVIEW BY <i>Robert W. Derkazerian</i>	BEGINNING DATE <i>Aug 16, 1973</i>		ENDING DATE <i>Sept 27th 1973</i>	

JAN 26 1966

Memorandum

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

TO : Director, Pacific Marine Center

DATE: January 25, 1966

In reply refer to: C3.2

FROM : Acting Associate Director
Hydrography and Oceanography

SUBJECT: Shoreline, Glacier Bay, Alaska, SP-3-64

Shoreline for H-8817 (LJ-20-2-64), Glacier Bay requested in your memo dated January 13, 1966 is not available at this time. The area has been flown but compilation has not been scheduled.

Shoreline from the old topo sheets may be shown on the smooth sheet in light pencil. New air photo shoreline will be applied at Bureau Headquarters.

for *Don Jones*
Horace G. Conerly

cc:
C324

ROUTING

JAC 112-6

.....OPMC.....

.....OPRN.....

.....2-Proj.....

.....TAsst.....

.....EDat.....

.....3-HDA.....

.....ADM.....

.....Pers.....

.....Supp.....

.....Whse.....

.....OCEO.....

.....Phys.....

.....Geo.....

.....Lab.....

.....FAC.....

.....Inst.....

.....Base.....


Return to *H-data*



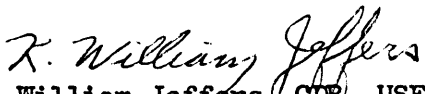
Approval Sheet

The smooth sheet has been inspected and meets the requirements of the Hydrographic Manual. (Note: Exceptions are noted in the verifier's report.)

Examined and Approved


William M. Martin
Supervisory Carto. Tech.

Approved and Forwarded


K. William Jeffers, CDR, USESSA
~~Acting~~ Chief, Processing Division, PMC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~NAVAL OBSERVATION~~ Seattle Regional Officer

Plane of reference approved in
12 volumes of sounding records for

HYDROGRAPHIC SHEET 8817

Locality: Glacier Bay, S. E. Alaska

Chief of Party: R. H. Houlder, 1964

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681): Willoughby Island, Glacier Bay

Height of Mean High Water above Plane of Reference is as follows: 15.1 feet

Remarks

J. M. Symon

Chief, Tides and Currents Branch

H-8817

Items For Future Presurvey Reviews

The bottom is considered adequately developed on the present survey, although future surveys should include determination of least depths on the following features:

Sounding	Lat.	Long.
8 fms.	58°41.9'	136°09.2'
11 fms.	58°41.57'	136°17.2'
6 3/10 fms.	58°37.58'	136°10.15'

Position Index		Bottom Change	Use Index	Resurvey
Lat.	Long.	Index		Cycle
583	1361	1	0	50 years
583	1362	1	0	50 years
584	1361	0	0	50 years
584	1362	0	0	50 years
584	1363	0	0	50 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY NO. H-8817

PROJECT NO. SP-3-64

FIELD NO. LJ-20-2-64

AREA: Alaska, Glacier Bay, Vicinity of Drake Island

SURVEYED: June 28 - Aug. 27, 1964

SCALE: 1:20,000

SOUNDINGS: DE-723 Depth Recorder

CONTROL: Visual fixes on
Shore Signals

Chief of Party.....	R. H. Houlder
Surveyed by.....	R. H. Houlder
.....	N. C. Austin
.....	H. L. Pittock III
Protracted by.....	R. R. Jones
Soundings Plotted by.....	R. R. Jones
Verified and Inked by.....	C. R. Lehman
Reviewed by.....	R. W. Derkazarian
.....	Date: Sept. 27, 1973
Inspected by.....	R. H. Carstens

1. Description of the Area

This is an inshore survey in the vicinity of Drake Island in Glacier Bay, Alaska. The survey extends from Willoughby Island in the south to Lone Island in the north and extends to long. 136°09'W. to the east.

The bottom is characterized by a rather sharp slope near the shoreline in 1-50 fathoms, dropping to maximum depths over 200 fms. The offshore bottom is quite irregular with islets, random shoals, and uncovering reefs contributing to the irregularities.

The predominant characteristics of the bottom are gray clay and pebbles.

2. Shoreline and Control

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

2.

The shoreline originates with advanced photogrammetric manuscripts T-12776, T-12777, T-12781, and T-12782 of 1964-70. The remaining shoreline not covered by contemporary topographic surveys originates with planetable surveys T-6679 and T-6680 of 1939, and T-6754 of 1940. Contemporary photogrammetric surveys were not available during time of this review to complete the coverage of the area. Contemporary graphic control sheets indicated no additions or revisions to the shoreline from the earlier planetable surveys.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves are adequately delineated. Dashed curves and brown curves have been added to emphasize certain important bottom features.

C. The development of the bottom configuration and the investigation of least depths are considered adequate except additional development would have been desirable on the following features:

8 fms.	lat. 58°41.9'	long. 136°09.25'
11 fms.	lat. 58°41.57'	long. 136°17.2'
6 3/10 fms.	lat. 55°37.58'	long. 136°10.15'

4. Condition of the Survey

The field work, sounding records, smooth plotting and Descriptive Report are adequate and conform to the Hydrographic Manual except for the following:

A. The standard 1, 2, and 3 fathom depth curves were not drawn on the verified smooth sheet where indications of the curves would have been useful.

B. Errors exist in ship soundings because of improper phase corrections.

Depth recorder phase corrections had been determined by the field party and applied to the soundings. The verifier determined these correctors to be in error and the sign of the corrections to have been applied incorrectly. However, the ship DE-723 fathometer had a stylus arm error which had been disregarded by the verifier in determining the correctors. The A-F scale

3.

initial check also conflicted with the phase correctors. Although the phase changes on the various scales were seldom suitable for conclusive comparisons, enough have been examined to indicate that after properly accounting for the stylus arm error the ship fathometer had no significant phasing errors. Correctors ranging from -0.7 fms on the B-scale to -3.7 fms. on the F scale had been applied. As soundings affected by these errors range from about 50 to 200 fathoms and do not involve dangers to navigation the soundings have not been revised.

C. Stamp 42 did not have the proper reference station value inked on the survey.

5. Junctions

An adequate junction was effected with H-9139 (1970), to the north. A junction with H-9140 (1970) to the west at Geikie Inlet will be discussed in the review of that survey.

No other registered contemporary surveys junction with the present survey.* However, present depths are in general harmony with charted depths at the remaining limits.

* Inadequate junctions were effected with H-9847 (1979-80) to the south and H-9405 (1973) to the east.

6. Comparison with Prior Surveys

A. H-6458 (1939-40) 1:20,000

This survey provides only a few widely spaced lines in the area of the present survey. There are only minor differences with present depths except in areas of 100 to 200 fathoms where differences are as great as 6 fathoms. The differences are caused by limitations in reading the Dorsey 3 fathometer on H-6458 and the errors in the correctors applied to the present survey. The present survey adequately delineates the bottom configuration and supersedes the prior survey in the common area.

B. H-6575 (1940) 1:20,000

This survey covers a very small portion of the present survey. No significant differences in depths were revealed.

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

4.

7. Comparison with Chart 8202 (latest print date Sept. 11, 1971, 17th Edition)

A. Hydrography

The charted hydrography originates largely with the boat sheet (Bp 67037) of the present survey, with the boat sheet of adjacent surveys H-9139 (Bp 79117) and H-9140 (Bp 79116), and with the previously discussed surveys which require no further consideration. Charted hydrography also originates with the partial application of the verified smooth sheet of the present survey.

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

B. Aids to Navigation

There are no aids to navigation within the limits of this survey.

8. Compliance with Project Instructions


This survey adequately complies with the project instructions, except as noted in Paragraph 4 of this review.

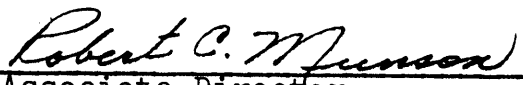
9. Additional Field Work

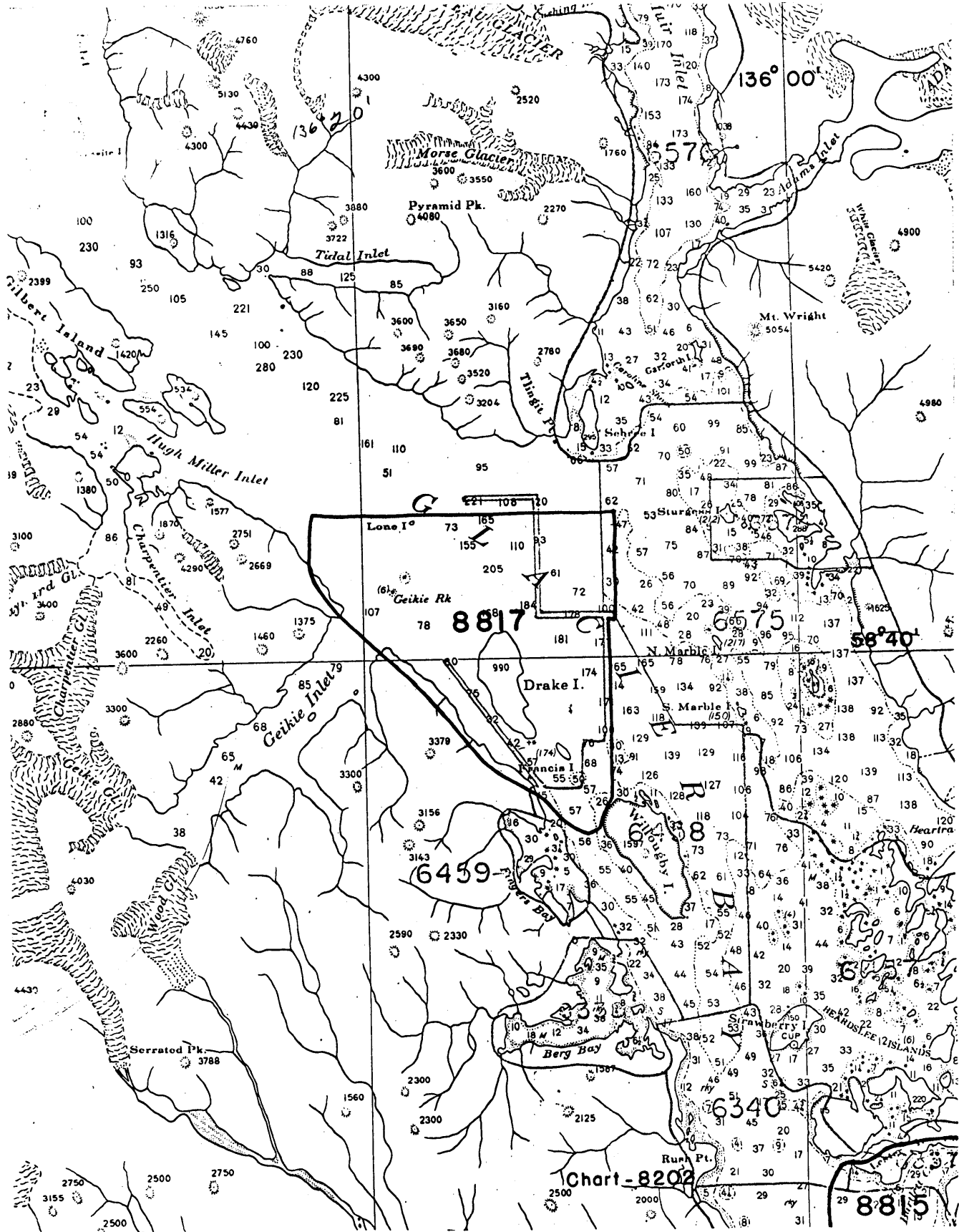
This survey is considered to be a good basic survey and no additional hydrography is recommended. However, determination of least depths on the following features would be desirable at an opportune time:

Feature	Lat.	Long.
8 fms.	58°41.9'	136°9.25'
11 fms.	58°41.57'	136°17.2'
6 3/10	58°37.58'	136°10.15'

Examined and Approved


Chief,
Marine Chart Division


Associate Director
Office of Marine Surveys and Maps



136° 00'

58° 40'

8817

6575

6459

6340

8815

Chart - 8202

Pyramid Pk. 4080

Mt. Wright 5054

Drake I.

S. Marble I. (150)

Franca I. 55

Berg Bay

Siraberry I. Cup

Rush Pt.

Tidal Inlet

Hugh Miller Inlet

Geikie Inlet

Gilbert Island

Serrated Pk. 3788

Morse Glacier

Pyramid Pk. 4080

Pyramid Pk. 4080

Pyramid Pk. 4080

Pyramid Pk. 4080

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