

8491

Dias. Cht. Nos. 8502-2 and 8551-3.

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY DESCRIPTIVE REPORT	
Type of Survey <u>HYDROGRAPHIC</u>	
Field No. <u>BO-1159</u>	Office No. <u>H-8491</u>
LOCALITY	
State <u>Alaska</u>	
General locality <u>Prince William Sound</u>	
Locality <u>Kings Bay</u>	
<u>1959</u> CHIEF OF PARTY <u>H. J. Seaborg</u>	
LIBRARY & ARCHIVES	
DATE <u>FEB 8 1960</u>	

USCOMM-DC 5087

8491

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-8491

Field No. BO-1159

State Alaska

General locality Prince William Sound

Locality Kings Bay

Scale 1:10,000 Date of survey 6 June thru 18 June 1959

Instructions dated 18 November 1958

Vessel USC&GS SHIP BOWIE

Chief of party H. J. Seaborg

Surveyed by David Cummings, Leonard S. Baker

Soundings taken by fathometer, graphic recorder, ~~hand lead~~ 208 Launch, EDO Ship

Fathograms scaled by JWB, RBL, ADV, RLB

Fathograms checked by WPJ, JWB, RBL

Protracted by D. Cummings

Soundings penciled by D. Cummings

Soundings in fathoms ~~feet~~ at ~~XXXX~~ MLLW

REMARKS:



ML

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8491
(Field No. BO-1159)

Scale 1:10,000

USC&GSS BOWIE

1959 Field Season

H. J. Seaborg

Chief of Party

A. PROJECT: This survey was performed as a portion of Project CS-277 and in accordance with instructions dated 18 November 1958 which superseded all previous instructions.

B. SURVEY LIMITS AND DATES: The limits of this survey are indicated on the index of hydrographic sheets herein. The area lies in the western part of Prince William Sound; that portion of Kings Bay west of Coxcomb Point. Junctions with prior survey H-7795⁴ scale 1:40,000 were accomplished. Hydrography commenced on 6 June and was concluded 18 June 1958.

C. VESSEL AND EQUIPMENT: Hydrography was conducted by the Ship BOWIE, and 26 foot plastic Launch No. 184, operating from the ship. All hydrography was accomplished from the launch with the exception of a small percentage of lines where depth necessitated EDO equipment of the BOWIE.

Soundings were taken with the 808 Recording Fathometer and Ship EDO Depth Recorder-Indicator operating at calibrated speeds of 800 fathoms per second. Serial numbers of recorders are as follows:

Ship's EDO	No. 185
Launch No. 184	No. 5730

Generally, depths varied from 0 to 150 fathoms, although some depths over 200 fathoms were encountered necessitating the Ship's EDO.

D. TIDE AND CURRENT STATIONS: The tide station for this survey was a portable gage located 0.5 mile west of Coxcomb Point (Latitude 60° 32.5' N Longitude 148° 27.6' W).

E. SMOOTH SHEET: Projection layout was made by hand using the Polyconic method and was constructed aboard the Ship BOWIE moored at Seattle Ship Base.

Transfer of shoreline and topographic details has been verified in accordance with paragraph 757 in the Hydrographic Manual.

F. CONTROL STATIONS: Triangulation and topographic stations which were utilized in control were as follows:

<u>NAME</u>	<u>YEAR</u>	<u>CHIEF OF PARTY</u>	<u>LOCATION METHOD</u>
REPLY	1948	H. A. Karo	3rd Order Triang.
*YORK	"	"	"
BAKER	"	"	"
ENGLE	"	"	"
CREED	"	"	"
ACORN	"	"	"
*EDNA	"	"	"
DREAM	"	"	"
*JEAN	"	"	"
WAGON	"	"	"

(Topographic Stations designated by *)

Topographic stations were located in accordance with approved photogrammetric methods for the establishment of photo-hydro signals on manuscripts T-9817 thru T-9821.

Triangulation station VITAL, 1948, was not recovered; however, target poles and a blazed witness tree with reference distance were found. Using the described distance and azimuths to triangulation stations, hydro signal "VIT" was established for hydrographic control.

Photo-hydro signal "WHO" was found to be mis-identified in the field but was not changed to the correct position on the field photo, consequently WHO is "out" on the Final Manuscript. It is shown on the smooth sheet as a hydro signal and in the correct position.

G. SHORELINE AND TOPOGRAPHY: Shoreline was obtained from blue line imprints of final manuscripts T-9817 thru T-9821.

Discrepancies in topographic information noted by the hydrographer are described as follows: A bare rock at Latitude 60° 26.2' Longitude 148° 41' is actually a rock awash 8 feet at MLLW; Rocks awash at Latitude 60° 27.2' Longitude 148° 41' were not verified.

In most cases, a steep, broken coast line made delineation of the low water line impractical.

"Notes to the Hydrographer" received from the Photogrammetry Division are hereby acknowledged.

H. SOUNDINGS: Soundings were taken with the 808 fathometer and EDO Depth Recorder.

The initial on both the Launch fathometer and Ship EDO was set at zero fathoms and appropriate corrections were applied as necessary.

Water depths necessitated frequent phase changes with the 808 fathometer; however, phase corrections were negligible and not applied.

A tabulation of phase comparisons and bar checks applicable to this survey are included in Section 2 of this report.

I. CONTROL OF HYDROGRAPHY: All hydrography was controlled by visual sextant fixes using control located photogrammetrically.

J. ADEQUACY OF SURVEY: This survey is deemed complete and adequate for charting.

The following is noted by the hydrographer and smooth plotter.

In general, lines run within 50 meters of the beach and less were plotted in most cases with estimated distances abeam of control stations and shoreline.

The steeply descending bottom necessitated frequent phase changes encountering numerous "misses" and in some instances positions with no soundings.

Exact delineation of the zero to five fathom curves was found impractical; due to the precipitous terrain the zero to five fathom curves very nearly superimpose themselves on the HWL.

Positions 13, 14, 15 and 16b (blue) were not plotted for reasons of congestion.

Positions 146 - 151c (red) and 85 - 90 (red) are beachlines sounded virtually on the shoreline and the soundings are of no value or cannot be pencilled without displacement of consequent depth misrepresentation.

Overlap soundings disclosed satisfactory agreement at junctions with prior survey H-7794.

K. CROSSLINES: Examination of crossings on the smooth sheet proved satisfactory, showing reasonable agreement for the deep and irregular region.

Nautical miles of hydrography totaled 118.4 with a crossline percentage of 6.6%.

L. COMPARISON WITH PRIOR SURVEYS: No prior surveys exist in the area of this survey.

M. COMPARISON WITH CHARTS: No soundings are charted in the area of this survey other than junction lines.

N. DANGERS AND SHOALS: Morains at the face of glaciers and shoal deposits of mud and silt extending roughly 0.3 mile from the HWL at the head of Kings Bay present the only dangers to navigation. Deep water extends virtually to the shoreline elsewhere.

O. COAST PILOT INFORMATION: No satisfactory anchorages are recommended within the limits of this survey.

Controlling depths are generally from 100 to 250 fathoms except as noted under "DANGERS AND SHOALS".

A special Coast Pilot Report for this survey will be submitted.

P. AIDS TO NAVIGATION: There are no aids to navigation within the limits of this survey.

Q. LANDMARKS FOR CHARTS: There are no suitable landmarks for charts within the limits of this survey.

R. GEOGRAPHIC NAMES: The following geographic names are charted on this survey:

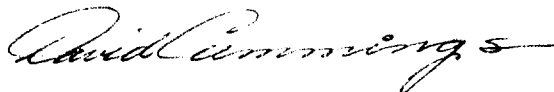
<u>NAME</u>	<u>SOURCE</u>
1. Claremont Glacier	C&GS Chart 8517
2. Falling Glacier	" " "
3. Kings Bay	" " "
4. Talor Glacier	" " "

T. BY-PRODUCT INFORMATION: A special report on oceanography in Kings Bay and Port Nellie Juan by CDR H. J. Seaborg was submitted 8 July 1959.

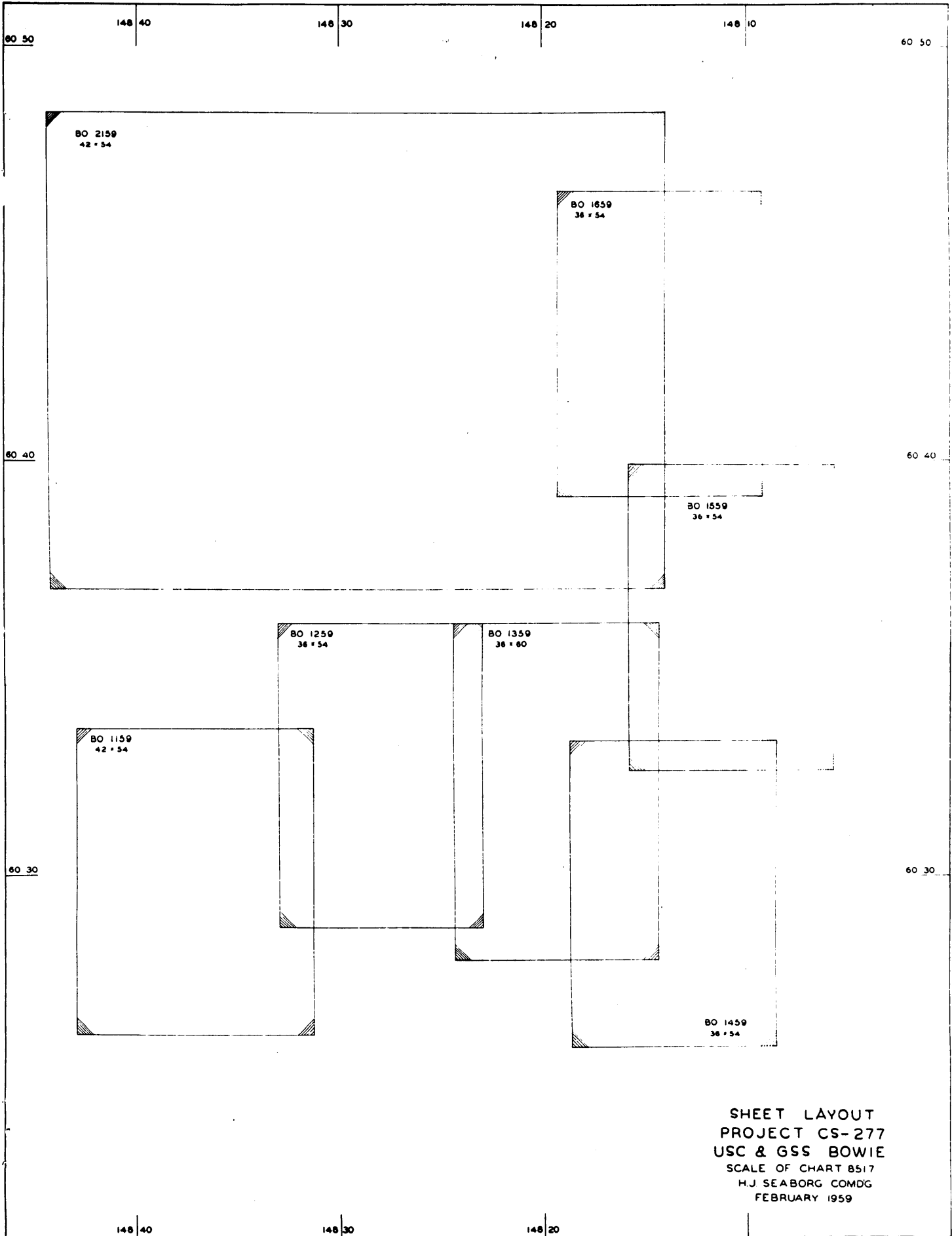
Z. TABULATION OF APPLICABLE DATA:

1. 1 Boat Sheet
2. 1 Smooth Sheet
3. 5 Sounding Volumes
4. 1 Envelope of Fathograms
5. Tide Station Records - forwarded 26 June 1959
6. Manuscripts T-9817 thru T-9821, T-9118, T-9119 and T-9122
7. Single Lens Photos - forwarded 29 June 1959
8. 9 Lens Photos - Forwarded 29 June 1959
9. Oceanographic Report - forwarded 8 July 1959

Respectfully submitted,



David Cummings
Ensign, C&GS



BO 2159
42 x 54

BO 1659
36 x 54

BO 1559
36 x 54

BO 1259
36 x 54

BO 1359
36 x 60

BO 1159
42 x 54

BO 1459
36 x 54

SHEET LAYOUT
PROJECT CS-277
USC & GSS BOWIE
SCALE OF CHART 8517
H.J SEABORG COMDG
FEBRUARY 1959

TIDAL NOTE

All tide data for this survey was recorded by a portable gage located at the mouth of Kings Bay (Lat. $60^{\circ} 32.5' N$, Long. $148^{\circ} 27.6' W$).

No corrections for difference of time were applied to observed data.

MLLW corresponds to 4.5 feet on the staff.

BAR CHECK TABULATIONS

808 FATHOMETER NO. 5730

DAY LETTER	DATE	DEPTH (fathoms)								
a	6/6/59	1.8	2.7	3.7	4.7	5.6	6.6			
		1.9	2.8	3.8	4.7	5.7	6.6			
b	6/7/59	1.9	2.8	3.8	4.8	5.7	6.7	7.8	8.7	9.7
		1.9	2.8	3.8	4.7	5.7	6.7	7.8	8.8	9.7
		1.7	2.7	3.7	4.7	5.7	6.7		8.8	9.8
		1.7	2.7	3.7	4.8	5.7	6.8	7.8	8.7	9.8
c	6/15/59	1.8	2.8	3.7	4.7	5.8	6.8	7.8	8.8	9.8
		1.7	2.7	3.7	4.7	5.7	6.8	7.7	8.8	9.8
d	6/16/59	1.8		3.8		5.7		7.8		9.9
		1.8		3.8		5.7		7.8		9.8
e	6/17/59	1.8		3.8		5.7		7.7		9.7
		1.7		3.7		5.7		7.8		9.7
f	6/18/59	1.7		3.7		5.7		7.6		9.5
		1.7		3.7		5.7		7.6		9.5
TOTALS		24.9	22.0	52.4	37.8	79.8	53.7	77.4	52.6	116.7
AVERAGE		1.77	2.75	3.74	4.72	5.70	6.71	7.74	8.77	9.72
CORRECTION		+0.22	+0.25	+0.26	+0.28	+0.3	+0.3	+0.26	+0.23	+0.28

* Bar check correction +0.3 fathoms applied to entire range.

PHASE COMPARISONS

808 FATHOMETER NUMBER 5730

<u>SCALE</u>	<u>COMPARISON (fathoms)</u>
A - B	0.0
B - C	0.0
C - D	0.5

* Phase corrections negligible and not applied.

STATISTICS FOR HYDROGRAPHIC SURVEY

H-8491 (1959)

DAY LETTER	DATE	VOLUME	POSITIONS	NAUTICAL SOUNDING MILES
a (blue)	6 June	1	140	13.5
b "	7 June	1	85	8.0
c "	15 June	1 & 2	87	10.6
d "	16 June	2	105	12.6
e "	17 June	2	131	17.6
f "	18 June	3	58	5.0
a (red)	15 June	4	106	10.3
b "	16 June	4	179	20.0
c "	17 June	4 & 5	90	10.4
A	16 June	2	29	5.5
B	17 June	4	23	3.8
C	18 June	5	15	1.1

TOTALS

Positions	1048
Statute miles	215 136
Bottom Samples	11


LIST OF HYDROGRAPHIC STATIONS

<u>NAME</u>	<u>TYPE</u>	<u>NAME</u>	<u>TYPE</u>	<u>NAME</u>	<u>TYPE</u>
All	Topo	Gab	Topo	Rat	Topo
Ann	"	Gig	"	Red	"
Art	"	Hag	"	Rim	"
Ask	"	His	"	Rot	"
Bad	"	Hug	"	Sad	"
Bob	"	Ivy	"	Sin	"
Box	"	Jap	"	Sox	"
But	Hydro	Jim	"	Sue	"
Cab	Topo	Kid	"	Sun	"
Can	"	Kit	"	Tan	"
Cat	"	Lip	"	Tom	Hydro
Cow	"	Log	Hydro	Try	Topo
Cut	"	Lux	Topo	Vat	"
Dad	"	Mar	"	Vex	"
Dog	"	Moo	"	Vit	Hydro
Dot	"	Mum	"	Was	Topo
Dud	"	Net	"	Wed	"
Ear	"	Nip	"	Who	Hydro
Egg	"	Nor	"	Yam	Topo
Ego	"	Off	"	Yes	"
Fig	"	Pat	"	Zag	"
Foe	"	Pep	"	Zoo	"
Far	"	Pin	"		
Fox	"	Pit	"		

APPROVAL SHEET

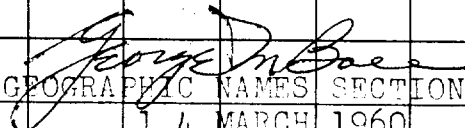
BO-1159

Field work on this hydrographic survey was inspected daily by the Chief of Party. This survey is considered complete and adequate and no additional work is necessary. All records are approved and will be forwarded.


H. J. Seaborg
CDR, C&GS
Commanding Ship BOWIE

GEOGRAPHIC NAMES
Survey No. H-8491

Name on Survey	<div style="display: flex; justify-content: space-between; font-size: small;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On Chart No. 8517</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On previous survey No.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On U. S. quadrangle Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">From local information</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On local Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">P. O. Guide or Map</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Rand McNally Atlas</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">U. S. Light List</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">B. G. N.</div> </div>										
	A	B	C	D	E	F	G	H	K		
Claremont Glacier	x								x	1	
Falling Glacier	x								x	2	
Kings Bay	x									3	
Taylor Glacier	x								x	4	
										5	
										6	
TIDE STA. Coxcomb Point	x									7	
										8	
										9	
										10	
										11	
										12	
										13	
										14	
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										26	
										27	


 GEOGRAPHIC NAMES SECTION
 14 MARCH 1960

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8491....

Records accompanying survey: Smooth sheets1;
 boat sheets ..1...; sounding vols. 5....; wire drag vols.;
 Descriptive Reports ..1...; graphic recorder envelopes 5....;
 special reports, etc.

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

Number of positions on sheet 1048.
 Number of positions checked 46.
 Number of positions revised 5.
 Number of soundings revised (refers to depth only) 5.
 Number of soundings erroneously spaced 0.
 Number of signals erroneously plotted or transferred 0.
 Topographic details Time 2 hrs.
 Junctions Time
 Verification of soundings from graphic record Time 10 hrs.
 Special adjustments Time 2 hrs.

Numerous problems were encountered during the verification process particularly the scanning of the graphic records from a day through the major part of 4 & C; however this was resolved by Mr Don Engle.

Verification by *Edmund S. Brunson* Total time 120 hrs Date 10/29/73

7 hrs. Corrections after verification check 2/25/75 Charles D. Amador

Reviewed by Time Date

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8491

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken. ✓
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude. ✓
3. All reference to survey sheets mentioned in the descriptive report include the registry number and year. ✓
4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering. ✓
5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken. ✓
6. All positions verified instrumentally were check marked in the sounding records. ✓
7. All critical soundings are clear and legible and are a little larger than the adjacent soundings. ✓
8. The metal protractor has been checked within the last three months. ✓
9. The protracting and plotting of all bad crossings were verified. ✓
10. All detached positions locating critical soundings, rocks, or buoys were verified. ✓
11. The boat sheet was compared with the smooth sheet. ✓

12. The spacing of soundings as recorded in the records was closely followed. ✓
13. The bottom characteristics were shown on outstanding shoals. ✓
14. The reduction and plotting of doubtful soundings were checked. ✓
15. The transfer of contemporary topographic information was carefully examined. ✓
16. All junctions were transferred and overlapping curves made identical.
17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
This survey junctions with H-7794 at a scale of 1:40,000 however no junctioning was made due to the fact that its not been verified as yet.
18. The depth curves have been inspected before inking.
The depth curves on the smooth sheet were improperly drawn by the smooth-platter hence the verifier had to redraw them to definitively delineate the bottom configuration, as per the instructions from the "Hydrographic Manual"
19. All triangulation stations and transfer of topographic and hydrographic signals were checked. ✓
20. Heights of rocks were checked against range of tide. ✓
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve. ✓
22. Unnecessary pencil notes have been removed. ✓
23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet. ✓
24. The low water line and delineation of shoal areas have been properly shown. ✓
25. Degree and minutes values and symbols have been checked. ✓
26. Questionable soundings have been checked on the fathograms. ✓

27. Source of shoreline and signals (when not given in report).
28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual. ✓
29. All aids located, with those on contemporary topographic sheets, have been shown on survey. ✓
30. Depth curves were satisfactory except as follows: *None*
31. Sounding line crossings were satisfactory except as follows: *None*
32. Junctions with contemporary surveys were satisfactory except as follows: *None*
33. Condition of sounding records was satisfactory except as follows: *None*
34. The protracting was satisfactory except as follows: *None*
35. The field plotting of soundings was satisfactory except as follows: *None*
36. Notes to reviewer:
Soundings were corrected by 'Bar Checks' only, irregardless of depth.

Verified by

Date

RAC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

31 March 1960

Division of Charts: R. H. Carstens

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8491

Locality Kings Bay, Prince William Sound, Alaska

Chief of Party: H. J. Seaborg in 1959
Plane of reference is mean lower low water, reading
4.5 ft. on tide staff at Kings Bay
17.4 ft. below B. M. 1 (1959)

Height of mean high water above plane of reference is 10.9 feet.

Condition of records satisfactory except as noted below:

William H. Jones
Chief, Tides Branch
~~Chief, Division of Tides and Currents.~~

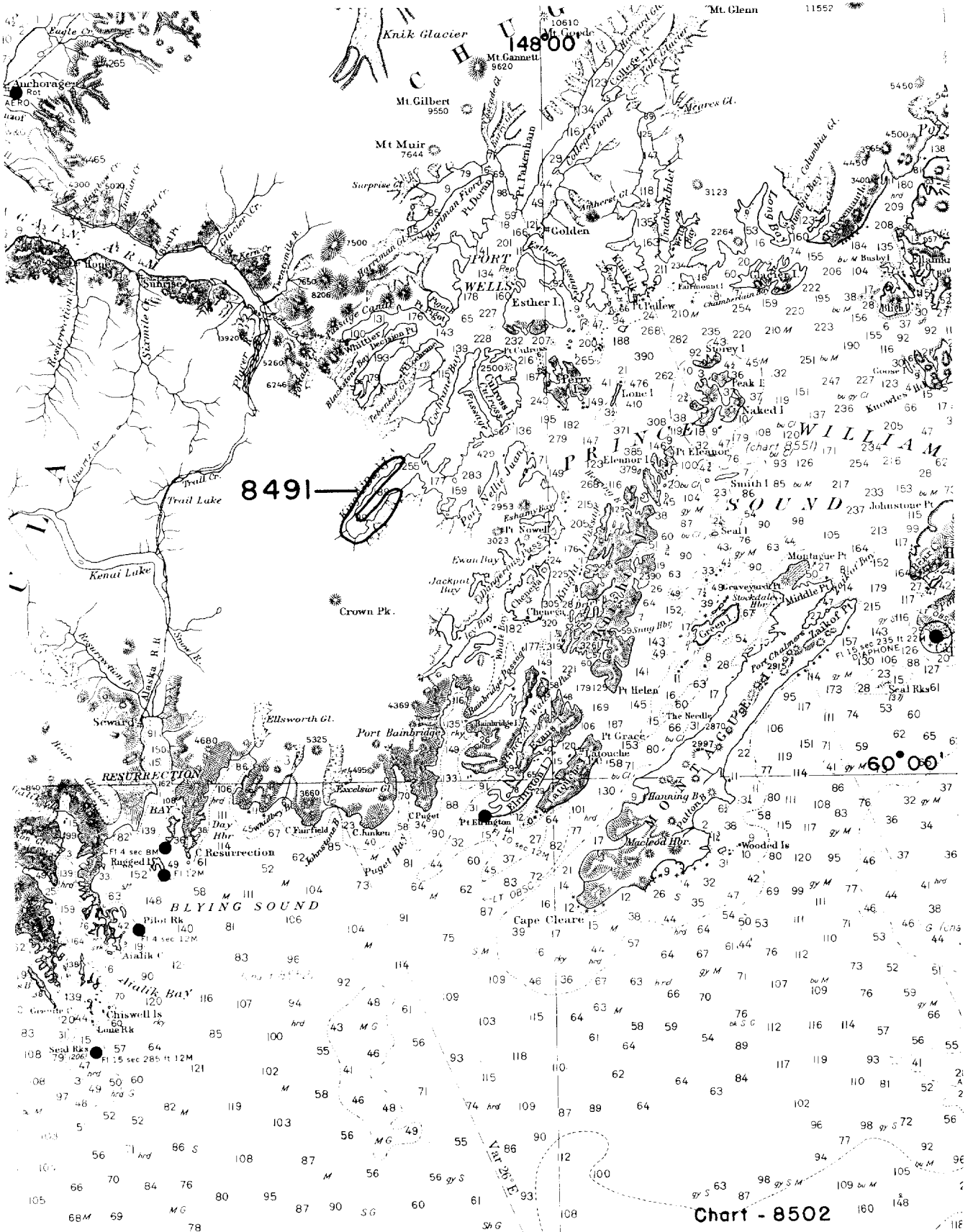


Chart - 8502

