

8593

Diag. Cht. No. 8551-3.

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC
Field No. BO-10-1-61
Office No. H-8593

LOCALITY

State ALASKA
General Locality PORT NELLIE JUAN
Locality VICINITY OF COXCOMB PT.

1961

CHIEF OF PARTY
F. X. Popper

LIBRARY & ARCHIVES

DATE 3/12/62

8593

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-8593

Field No. BO 10-1-61

State Alaska

General locality ~~Prince William Sound~~ Port Nellie Juan

Locality ~~Kings Bay~~ Vicinity of Coxcomb Point

Scale 1:10,000 Date of survey 5/11/61--7/12/61

Instructions dated 18 November 1958

Vessel USC&GSS BOWIE

Chief of party F.X. Popper

Surveyed by M.E. Natto

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

Fathograms scaled by F.X. Popper, J.M. Doherty, P.D. Montjoy, W. White, R.R. Pulling

Fathograms checked by F.X. Popper, M.E. Natto, J.M. Doherty, P.D. Montjoy, W. White

Protracted by H.A. Uzpurvis

Soundings penciled by H.A. Uzpurvis

Soundings in fathoms ~~feet~~ at ~~MLLW~~ and are true depths.

REMARKS:



Handwritten initials or mark.

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8593 Field No. BO-10-1-61

Scale: 1:10,000

Date: 1961

USC&GS SHIP BOWIE

F. X. Popper, Commanding

A. PROJECT:

This survey was accomplished in accordance with revised instructions OPR-277 dated 18 November 1958, supplemental instructions dated 14 January 1960. ✓

B. AREA SURVEYED:

This survey covers the northeast end of Kings Bay and the northwest end of Port Nellie Juan in Prince William Sound. The area is included between $60^{\circ}30'30''$ N and $60^{\circ}36'00''$ N; $148^{\circ}23'30''$ W and $148^{\circ}33'00''$ W. Hydrography commenced on 23 May and was completed 12 July. ✓

The survey junctions with prior surveys: H-7794, 1:40,000, 1948; H-8491, 1:10,000, 1959. A junction is also made with contemporary survey H-8594, 1:10,000. (1961). ✓

C. SOUNDING VESSEL:

Launch #95 was used on the entire sheet except the deep areas and bottom samples which were obtained with the Bowie. Red was used to designate launch positions and blue for ship's positions. ✓

D. SOUNDING EQUIPMENT:

All launch soundings were taken with 808 fathometers calibrated at a speed of 800 fms. per second. ✓

Serial numbers of the fathometers used are as follows: 57-25, 57-28, 57-30. ✓

The Ship Bowie used an Edo Model 185 fathometer in conjunction with the 808 fathometers for all ship hydrography. ✓

To obtain the 808 fathometer corrections, phase comparisons were made at the beginning of the season, bar checks were taken twice daily during hydrography operations, and temperature and salinity casts were taken to determine the velocity correction. ✓

The phase comparisons were obtained for each fathometer by obtaining ten (10) observations at each change of scale. The 10 observations were then scanned from the fathogram and a mean correction determined. This correction was combined with the bar check correction to give the Echo Correction which is shown on page 2.

At the time the phase comparisons were taken, a series of tests were run on each fathometer and the results are as follows:

<u>Fathometer</u>	<u>Speed</u>	<u>Paper Advance</u>	<u>Radius Stylus Arm</u>
57-25	109 RPM	7.8 inch/4 min (foot scale)	O.K.
57-28	109 RPM	"	"
57-30	109 RPM	"	"

The paper advance and speed checks were made twice daily for each day of hydrography and are recorded on the fathograms.

The bar checks were taken twice daily for all launch hydrography. These values were used to determine the draft of each launch and any mechanical error in the 808 fathometers. As previously stated the bar check and phase corrections were combined to give the Echo Correction.

Velocity corrections determined from the temperature and salinity casts are found on page 3. *See Appendix.*

The Edo Model 185 fathometer was used to determine depths beyond the range of the 808 fathometer. The corrections for the Edo Model 185 were obtained by taking a daily simultaneous comparison between the 808 and Edo fathometers. No Edo correction was obtained for C day of ship hydrography, therefore the mean of the Edo corrections computed in H-8596 was used. The correction is -1.8 fathoms.

Due to the irregular and steep bottom many side echoes and scale changes were encountered in the taking of soundings.

The side echoes caused some missed and erroneous soundings, as the fathometer operators would occasionally follow the side echo and change scales, thus not obtaining the true sounding.

An error in paper speed, not in the soundings, was caused by paper slippage. This error was due to a worn out paper take-up spring belt. The problem was solved by replacing the worn out parts.

E. SMOOTH SHEET:

The projection was made in the Washington Office with the ruling machine.

F. CONTROL:

Photographic control, triangulation and one hydro station were used on the west side of Port Nellie Juan from Coxcomb Point to the east side of Graystone Bay. Triangulation and planetable control were used on the remainder of the sheet. Topographic sheets BO-A-61 and BO-B-61 are the source of control for topographic stations used on this sheet.

Incomplete manuscript T-9122 was used for photographic compilation.

G. SHORELINE:

The source of all shoreline is the incomplete manuscript 9122 and advanced manuscripts 9818 and 9119. The transfer of shoreline and topographic details have been verified.

The shoreline of West Finger Inlet had to be shifted North to intersect the shoreline topography in accordance to BO-B-61.

~~The shoreline had to be adjusted from station PENNY 1948 (60°32'.48, 148°23'.23) to 60°33'.18, 148°24'.77.~~

All other shoreline and topographic details are accurately shown on manuscripts.

The low water line was delineated where possible. In general, the shore is very steep or sheer cliffs. This makes it impossible to run a low water line.

H. CROSSLINES:

Approximately 11% crosslines were run and, in general, agreement was good. Any disagreement encountered can be attributed to the irregular bottom.

I. JUNCTIONS:

The junctions with H-8491, H-7794, and contemporary survey H-8594 are satisfactory.

J. COMPARISON WITH PRIOR SURVEY: *Comparison necessary at time of H-7794 review.*

The comparison of Shady Cove covered in the Pre Survey Review for Project CS-277, H-7794, Shady Cove Sub-Plan is satisfactory.

The least depth of 5.8 fathoms at position 24b of the sub-plan was found to be 6.1 fathoms in the new survey.
charted depth of 6 fath. is satisfactory.

The least depth of 14 fathoms shown at positions 174-175a of the sub-plan remained the same in the new survey.

The area of over 20 fathoms at $60^{\circ}33.3N$ $148^{\circ}25'.3W$ has greatly decreased since survey H-7794.

In general Shady Cove has decreased in depth since the last survey.

K. COMPARISON WITH THE CHART:

Chart 8517 at 1:80,000 covers the area of this survey. At $60^{\circ}33.15N$, $148^{\circ}25.2W$ the charted 10 fathom curve is shown incorrectly. The survey shows that this depth curve nearly approximates the 20 fathom curve. The cove is referred as Shady Cove on prior surveys.

The shoal which comes out from the foot of Taylor Glacier is primarily glacial sand and gravel rather than mud. The low waterline has been delineated and is in close agreement with the manuscript.

The charted rock, in Greystone Bay, at $60^{\circ}31.5N$, $148^{\circ}26'W$ should be deleted. *Ledge found in this area on H-8593 nearby.*

A rock, bearing 7.6 feet at MLLW, was located at $60^{\circ}32.44N$, $148^{\circ}27.72W$. The rock is position 14j. This rock would be a danger to navigation for a boat running close inshore.

L. ADEQUACY OF SURVEY:

This survey is complete and adequate for charting.

M. AIDS TO NAVIGATION:

None.

N. STATISTICS:

	Launch 6A	Ship
Number of Positions	1297	86
Nautical Miles Soundings	147.1	10.7
Area (Sq. Naut. Miles)	4.9	0.3
Number of Bottom Samples	1	23

O. MISCELLANEOUS:

The North shore of Kings Bay showed a continuous presence of mud.

Currents accounted for some discrepancies in spacing.

P. TABULATION OF APPLICABLE DATA:

1. Signal List
2. Fathometer Corrections
3. Velocity Corrections
4. Tidal Note
5. Topographic Sheets
 - a. BO-A-61
 - b. BO-B-61

Respectfully submitted,

Horstas A. Uzpurvis

Horstas A. Uzpurvis
ENS. C&GS
USC&GSS BOWIE

Hydrographic Name	Source	Hydrographic Name	Source
Quo	BO-B-61		
Rag	BO-B-61		
Reply	Reply 1948		
Rip	BO-A-61		
Set	BO-B-61		
Sky	BO-B-61		
Sow	BO-A-61		
Tan	BO-B-61		
Token	Token 1948		
Use	BO-B-61		
Vain	Vain 1948		
Wagon	Wagon 1948		
Ward	Ward 1948		
Woo	BO-B-61		
Yam	BO-A-61		
Yield	Yield 1948		
Zag	BO-B-61		

LIST OF HYDROGRAPHIC SIGNALS H-8593 (BO-10-1-61)

USC&GSS BOWIE - PROJECT OPR-277

Hydrographic Name	Source	Hydrographic Name	Source
Abe	T-9122	Had	Shady 1948
Ace	BO-A-61	Hag	BO-B-61
	BO-B-61	Hat	T-9122
Act	BO-A-61	Her	BO-B-61
Add	BO-B-61	His	BO-B-61
Aim	BO-A-61	Hum	BO-A-61
Ann	BO-A-61	Hut	BO-A-61
Art	Quart 1948		
		Ice	BO-B-61
Bag	T-9122	Irk	BO-B-61
Bat	BO-A-61		
	BO-B-61	Jap	BO-B-61
Bob	BO-B-61	Jag	BO-B-61
Bud	BO-A-61		
Bum	BO-A-61	Ked	T-9122
		Key	BO-B-61
Cod	BO-B-61	Kid	BO-B-61
	BO-A-61		
Cow	BO-A-61	Lad	BO-B-61
Cry	BO-A-61	Lay	T-9122
Cut	BO-B-61	Lan	Xylan, 1948
		Liz	BO-A-61
Day	T-9122		
Dim	BO-A-61	Mag	T-9122 (Hydro)
	BO-B-61	Man	BO-B-61
Dog	BO-B-61	Max	BO-B-61
Dot	T-9122	Moo	BO-B-61
Eat	BO-B-61	Ned	BO-B-61
Egg	BO-B-61	Nit	Unite 1948
Ego	BO-B-61	Nod	BO-B-61
Eel	Keel 1948	Nux	BO-A-61
Far	BO-B-61	Oak	BO-B-61
Fat	BO-B-61	Off	T-9122
Fig	BO-B-61	Owl	BO-B-61
Fog	BO-A-61		
		Pad	BO-B-61
Gag	BO-B-61	Pen	Penny 1948
Gas	BO-B-61	Pie	BO-A-61
Gob	BO-B-61	Pot	BO-B-61
		Pug	BO-A-61

TOTAL FATHOMETER CORRECTIONS (ECHO) IN FATHOMS

(Bar Check Corr & Phase Corr)

Fathometer #57 - 25

A Scale - - - - - - - - -0.7
B Scale - - - - - - - - -1.3
C Scale - - - - - - - - -1.9
D Scale - - - - - - - - -2.4
E Scale - - - - - - - - -2.9

Fathometer #57 - 28

A Scale - - - - - - - - +0.3
B Scale - - - - - - - - +0.3
C Scale - - - - - - - - -0.2
D Scale - - - - - - - - +0.3
E Scale - - - - - - - - +0.9

Fathometer #57 - 30

A Scale - - - - - - - - +0.3
B Scale - - - - - - - - +0.4
C Scale - - - - - - - - +0.3
D Scale - - - - - - - - +0.5
E Scale - - - - - - - - +1.3

TOTAL EDO CORRECTION (IN FATHOMS)

<u>Date</u>	<u>Day</u>	<u>Correction</u>
7/11/61	(Ship) C	-1.8

VELOCITY CORRECTIONS

Velocity corrections for a,b,c,d,e,f,g,h,j,k,l were zero at all depths.

Date: May 23, 1961 - June 9, 1961

Velocity corrections for Ship Bowie days A,B,C,D.

<u>From</u>	<u>To</u>	<u>Corr</u>
0 fms.	5 fms.	0 fms.
5	20	+.1
20	45	+.2
45	75	+.3
75	—	0

TIDE NOTE

The Kings Bay portable tide station ($60^{\circ}32'.52N$, $148^{\circ}27'.6W$) was used for the entire survey. MLLW was 4.56 feet on the tide staff. Hourly heights were furnished by the Washington Office for tide gage misses on May 24,26,27 and June 1,5,6. The 150th time meridian was used for all observations.

APPROVAL SHEET

EO-10-1-61

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

F. X. Popper

F. X. Popper

CDR. C&GS

Commanding Ship BOWIE

RHC

✓

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

May 11, 1962

Division of Charts: R. H. Carstens

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 8593

Locality Prince Williams Sound, Alaska

Chief of Party: F. X. Popper (1961)
Plane of reference is mean lower low water reading
4.6 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: 10.4 feet.

Condition of records satisfactory except as noted below:

J. M. Symons
Chief, Tides and Currents Branch

~~Chief, Division of Tides and Currents~~

GEOGRAPHIC NAMES
Survey No. H-8593

Name on Survey	8517									
	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		
Coxcomb Point	x									1
Greystone Bay	x									2
Kings Bay	x									3
Port Nellie Juan	x									4
Shady Cove	x									5
West Finger Inlet	x									6
Taylor Glacier										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

George S. Ball
Geographic Names Section
6 April 1962

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8593....

Records accompanying survey: Smooth sheets .1...;
 boat sheets .1...; sounding vols. .7...; wire drag vols.;
 Descriptive Reports .1...; graphic recorder envelopes .3...;
 special reports, etc.

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

Number of positions on sheet	1383
Number of positions checked	990
Number of positions revised	17
Number of soundings revised (refers to depth only)	21
Number of soundings erroneously spaced	80
Number of signals erroneously plotted or transferred	—
(10) Topographic details	Time 36 hr.
Junctions	Time 1 hr.
Verification of soundings from graphic record	Time 55 hr.
Special adjustments	Time

Verification by *J. Baumgardner*..... Total time 2.14 hrs Date 5-3-72

Reviewed by *George K. Myers*..... Time 89 hrs. Date June 14, 1972

Inspected *JR Engle* 31 hrs 8-20-76

H-8593

Items for Future Presurvey Reviews

This survey covers the inshore areas at Kings Bay and Port Nellie Juan, including West Finger Inlet and Greystone Bay. No prior surveys exist within the area of the present survey.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
603	1483	3	1	50 years
603	1484	0	1	50 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE SURVEYS DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8593

FIELD NO. B0-10-1-61

Alaska, Port Nellie Juan, Vicinity of Coxcomb Point

SURVEYED: May 11 - July 12, 1961

SCALE: 1:10,000

PROJECT NO.: OPR-277

SOUNDINGS: 808 Echo Sounder
EDO 185 Depth Recorder

CONTROL: Sextant Angles
on Shore Signals

Chief of Party	F. X. Popper
Surveyed by	M. E. Natto
Protracted by	H. A. Uzpurvis
Soundings Plotted by	H. A. Uzpurvis
Verified and Inked by	S. R. Baumgardner
Reviewed by	G. K. Myers
	Date: June 9, 1972
Inspected by	D. R. Engle

1. Description of the Area

This survey covers the adjoining inshore areas of Kings Bay and Port Nellie Juan, including Greystone Bay and West Finger Inlet. The bottom in this area is generally deep close to shores which are indented with many coves and inlets. On the northwest shoal depths appear abruptly offshore near the foot of Taylor Glacier.

Predominant bottom characteristics of the area are blue mud, gray clay, and gravel.

2. Control and Shoreline

The source of control is adequately described in part F of the Descriptive Report.

The shoreline originates with shoreline manuscripts T-9118 (1957, 1958-1959), T-9119 (1955, 1958-1959), T-9122 (1954, 1955, 1957, 1958), and T-9818 (1957, 1958-1959), and graphic control sheet B0-B-61 (1961).

At the head of West Finger Inlet overhanging trees precluded accurate location of the shoreline or hydrographic signals photogrammetrically.

Therefore the signals were constructed on the high water line and cut in by plane table methods, and the shoreline was shifted to bring it into agreement with the signal positions.

3. Hydrography

A. Depths at crossings are in good agreement considering the nature of the bottom near shore.

B. Usual depth curves are adequately drawn except in areas alongshore, where the sharp drop of the bottom often precludes the delineation of the shoaler curves.

C. The development of bottom configuration and investigation of least depths are considered adequate, except in the southwestern part of Grey-stone Bay where a few additional lines would have delineated the bottom better. Also, least depths should have been determined by hand lead on the 4.6, 6.1, and 4.4 fathom features shown in latitude $60^{\circ}35.29'$, longitude $148^{\circ}24.43'$; latitude $60^{\circ}33.32'$, longitude $148^{\circ}25.08'$; and latitude $60^{\circ}33.64'$, longitude $148^{\circ}25.34'$, respectively.

4. Condition of the Survey

The plotting, sounding records, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual.

5. Junctions

An adequate junction was made with H-8594 (1961) on the east and H-8491 (1959) on the west. The junction in Port Nellie Juan with offshore survey H-7794 (1948) will be discussed in the review of that survey.

6. Comparison with Prior Surveys

There are no prior surveys in the area of the present survey.

7. Comparison with Chart 8517 (latest print date April 28, 1969)

A. Hydrography

Most of the charted hydrography originates with a partial application of the boat sheet (Bp 61312) and unverified smooth sheet of the present survey.

The present survey is adequate to supersede the charted hydrography.

B. Aids to Navigation

There are no aids to navigation located on the present survey.

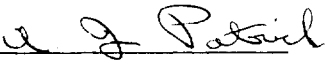
8. Compliance with Project Instructions

This survey adequately complies with the Project Instructions.

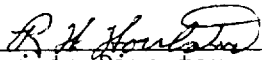
9. Additional Field Work

This survey is considered a very good basic survey and no additional field work is recommended.

Examined and Approved:



Chief
Marine Surveys Division



Associate Director
Office of Marine Surveys
and Maps

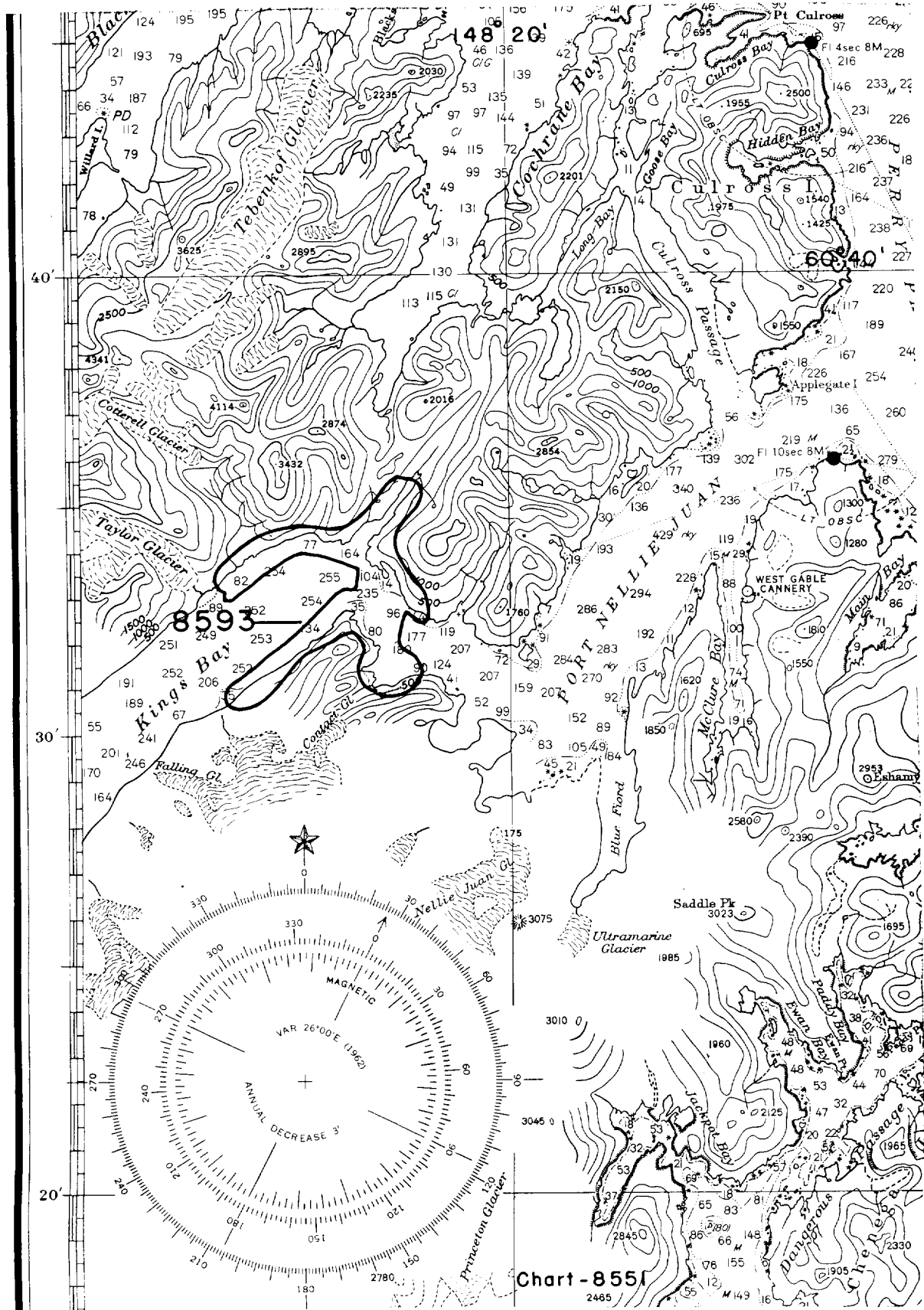


Chart - 8551
2465

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8593

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4/16/62	8517	DW Jones	Before After Verification and Review <i>Partly</i>
2-1-63	8517	<i>Geo. M. Boyington</i>	Before After Verification and Review <i>Partly OK Complete 4/2/77</i>
2-24-65	8551	J. J. Streifler	Before After Verification and Review
4-15-71	8551	C. S. Forbes	<i>Part app</i> Before After Verification and Review <i>100fm curve</i>
7/1/75	8551	T. W. Alexander	<i>part app</i> Before After Verification and Review <i>Examined thru CH 8517 (no critical corr's found)</i>
4/22/76	8517	C. S. Forbes	<i>Part app</i> Before After Verification and Review <i>before inspection Revised 100m curve and LPT; revised sdgs. no additional corrections</i>
11/10/77	8517	Mark J. Friese	-Before After Verification and Review <i>INSPECTION Fully Appd hydro throughout comm onces</i>
7-29-91	16700	W. S. O'Keefe	-Before After Verification and Review <i>Considered</i>
9-6-91		D. C. Harpine	<i>Fully Applied Dwg # 26</i> Before After Verification and Review
			Before After Verification and Review

M-2168-1

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