9206

Diag. Cht. No. 8502-2.

FORM C&GS-504

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

OPR - 487

DESCRIPTIVE REPORT

NOAA Ship FAIRWEATHER (MSS-20)

Type of Survey HYDROGRAPHIC

Field No. FA-40-2-71 *Office No.* 9206

LOCALITY

State Alaska

General locality Gulf of Alaska

Locality Southwest of Cape St. Elias ~~Controller Bay~~

1971

CHIEF OF PARTY

Captain R. H. Houlder, Commanding

LIBRARY & ARCHIVES

DATE 4-15-75

Charts
8002
8500
8502
8513
9000

9206

FORM C&GS-537 (5-66)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. 9206

FIELD NO. FA-40-2-71

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State Alaska

General locality Gulf of Alaska

Locality Southwest of Cape St. Elias ~~Controller Bay~~

Scale 1:40,000 Date of survey 164 13 June to 215 3 August 1971

Instructions dated 1 March 1971 Project No. OPR-487

Vessel NOAA Ship FAIRWEATHER

Chief of party CAPT. R. H. Houlder

Surveyed by LTJG A. N. Bodnar, LTJG D. B. McLean. LCDR. R. V. O'CONNELL, LT. L. K. Nelson, LT. M. C. Grunthal.

Soundings taken by echo sounder, ~~manual, pole~~ McKiernan-Terry PDR Mark XVA, Ser. No. 324. Raytheon DE-723, Serial Nos. 529 and 558

Graphic record scaled by FAIRWEATHER personnel

Graphic record checked by FAIRWEATHER personnel

Protracted by _____ Automated plot by PMC-Gerber Digital Plotter

Soundings penciled by _____

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

REMARKS: POSITIONS AND SOUNDINGS VERIFIED BY JOHN E LOTSHAW, CARTOGRAPHIC TECHNICIAN

Applied to stds 6/9/75

Descriptive Report

to Accompany

Hydrographic Sheet H-9206 (FA-40-2-71)

Controller Bay, Alaska

Scale 1:40,000

NOAA Ship FAIRWEATHER (MSS-20)

CAPT. R. H. Houlder, Commanding

A. PROJECT

The survey was accomplished under OPR-487 project instructions dated 1 March 1971 and supplement to instructions dated 25 March 1971, amendment to instructions dated 10 May 1971 and amendment to instructions dated 24 May 1971.

B. AREA SURVEYED

The area surveyed was in the general vicinity southwest of Cape St. Elias, Kayak Island, Alaska. Limits of the survey sheet were 59°51' N., 59°27' N., 144°36' W. and 145°10' W. except in the immediate vicinity of Cape St. Elias where the eastern limit north of 59°44.2' N. is 144°39.2' W.

Control was established during April 1971 using SPIT 2, 1967 on Middleton Island and a location near the Cordova Airport for HiFix antenna locations. Control was adjusted on the Cordova Airport in August 1971. Hydrography was accomplished during June, July, and August 1971.

Overlap
~~Junction~~ was ~~made~~ with prior surveys H-2820, 1:20,000, 1906; H-3017, 1:20,000, 1909, H-3024, 1:200,000, 1909, and H-~~1~~534, 1:20,000, 1960. Junction was made with contemporary survey FA-~~40~~-1-71.

C. SOUNDING VESSEL

The FAIRWEATHER was the only sounding vessel used to accomplish the hydrography.

D. SOUNDING EQUIPMENT

Raytheon Model DE-723 fathometers were used for nearly all of the hydrography; serial No. 529 was used for the vast majority of the work and Serial No. 558 for a very few positions. McKiernan-Terry PDR Mark XVA (Serial No. 324) was used for depths in excess of those which could be sounded by the DE-723's. Depths ranged to 1034 fathoms in the area surveyed.

The echo sounder velocity corrections were determined by serial temperature and salinity observations. Corrections to be applied also include the initial corrections and the transducer corrections based on draft records. An abstract of the cumulative corrections to the soundings is included in this report.

E. SMOOTH SHEET

The position and sounding data were logged using a Hydrographic Logger Mark 3-1 and plotted on the boatsheet on a real-time basis by ship's personnel. The printouts from the real-time logging were then scanned for errors and the corrections were incorporated into a new, smooth tape. Corrector tapes were also logged using the hydrographic logger Mark 3-1. These tapes will be used as input into PMC's IBM 1620 computer which will calculate latitude and longitude and x-y co-ordinates for all positions and soundings. The 1620 will also apply necessary correctors to the soundings. PMC's Gerber Flatbed Plotter will then be used to plot the positions and the corrected soundings onto a smooth sheet using the x-y co-ordinates calculated by the 1620. This smooth sheet is verified by PMC Processing personnel.

F. CONTROL

Electronic control consisting of Decca HiFix in a Range-Range mode was used throughout the survey. Pattern 1 (the "green" station) was placed on Middleton Island. Its antenna was set over SPIT 2, 1967. Pattern 2 (the"red" station) was placed approximately 13 miles southeast of Cordova. Its antenna was set over HIFIX whose location was established by 2nd order traverse in April 1971 and adjusted in August 1971. A copy of PMC Form #3 (Complete Parameters for Electronically Controlled Surveys; Range-Range Mode) is included in this report.

G. SHORELINE

Shoreline was not considered since this is an offshore survey.

H. CROSSLINES

Crosslines consisting of about 10 percent of the total survey mileage were run. Crossings were satisfactory throughout.

I. JUNCTIONS AND COMPARISON WITH PRIOR SURVEYS

Good agreement was found with temporary survey FA-40-1-71. Comparison with prior survey H-8534 (1:20,000, 1960) showed a decrease in depth in the present survey. Of fourteen random comparisons, one

showed a decrease of three fathoms, four a decrease of two fathoms, seven a decrease of one fathom, and two no change. Comparison with the early 1900 surveys showed much more variability. Ten random comparisons with prior survey H-2820 (1:20,000, 1906) showed from no change to 29 fathoms shoaler, the present survey being shoaler. Four comparisons with prior survey H-3017 (1:20,000, 1909) showed good agreement as soundings agreed within one fathom. Five comparisons with H-3024 (1:200,000, 1909) showed more disagreement as soundings were again more shoal on the present survey, up to ten fathoms.

The zero to three fathom discrepancies found with prior survey H-8534 are probably the result of the 1964 earthquake as much of the area uplifted at that time. The earthquake also explains partially the change between the present survey and early 1900 surveys. Many of the extreme discrepancies occur too far from land for accurate visual control and therefore the position of the sounding vessel is in question in the prior surveys.

K. COMPARISON WITH THE CHART

Eleven representative soundings shown on USC&GS Chart #8513, scale 1:100,000, 9th Edition, August 9, 1969, were checked against FA-40-2-71. The depths ranged from 0 to 9 fathoms shallower on FA-40-2-71. As noted in the previous paragraph, the more distant from land, the larger the discrepancy in the depths, thus leading one to believe that the horizontal control of the prior surveys was possibly in error.

L. ACCURACY OF THE SURVEY

The survey is considered complete and adequate for charting.

M. AIDS TO NAVIGATION

None.

N. STATISTICS

Positions	2421
Sounding lines (n.m.)	1684.9
Area surveyed (sq. n.m.)	432.7
Total area surveyed	432.7 square n.m.

O. MISCELLANEOUS

None.

P. RECOMMENDATIONS

None.

Q. REFERENCES TO REPORTS

1. Season's Report, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).
2. Magnetics Report, OPR-487, NOAA Ship FAIRWEATHER, 1971 (to be forwarded).
3. Field Edit Report, OPR-487, NOAA Ship FAIRWEATHER, 1971 (to be forwarded).
4. Fathometer Report, OPR-487, NOAA Ship FAIRWEATHER, 1971 (to be forwarded).
5. Coast Pilot Report, OPR-487, NOAA Ship FAIRWEATHER, 1971 (to be forwarded).
6. Triangulation and Triangulation Report, OPR-487, NOAA Ship FAIRWEATHER, 1971 (to be forwarded).
7. Electronic Control Calibration Report, OPR-487, NOAA Ship FAIRWEATHER, 1971 (to be forwarded).
8. Oceanographic Temperature and Salinity Velocity Correction Report, NOAA Ship FAIRWEATHER, 1971. (To be forwarded).
9. Chart Investigation Report, NOAA Ship FAIRWEATHER, 1971 (to be forwarded).

Respectfully submitted,

Melvyn C Grunthal

Melvyn C. Grunthal
LT., NOAA

TRANSMITTAL SHEET

FA-40-2-71 H-9206

The field work was examined daily under the supervision of this command. The boatsheet was inspected daily for completeness and no additional work is considered necessary.

R. H. Houlder
CAPT., NOAA
Commanding Officer
NOAA Ship FAIRWEATHER

TIDE NOTE

Four portable tide gages were installed and operated in connection with ship and launch hydrography during the survey. These were at Martin Island-Katalla Bay, Lat. 60°09.9' N., Long. 144°36.1' W.; Kanak Island, Lat. 60°06.3' N., Long. 144°19.3' W.; Cape St. Elias, Latitude 59°47.8' N., Long. 144°35.8' W.; and Port Etches-Hinchinbrook Island, Lat. 60°19.6' N., Long. 146°34.3' W. The gages at Martin Island-Katalla Bay and at Cape St. Elias were Bristol bubbler gages. Hourly heights were scanned and checked by ship's personnel and the data was forwarded to Rockville, Maryland (C33). The gages at Kanak Island and Port Etches-Hinchinbrook Island were Fisher-Porter ADR gages. These marigrams were also forwarded to Rockville for analysis.

Tide reducers applied to ship and launch soundings for boat sheet purposes were obtained from the IBM 1620 at Pacific Marine Center, Seattle, Washington, using Sitka as a reference station and Wingham Island as a substation.

Initial Corrections

Controller Bay, Alaska

OPR-487 1971

NOAA Ship FAIRWEATHER (MSS-20)

Captain R.H. Houlder, Comdg.

Corrections to be applied to the following sheets:

FA-20-1-71
FA-40-1-71
FA-40-2-71

SHEET	DAY	POSITIONS	CORRECTIONS (fms)
FA-20-1-71	209	0001-0142	0.0
	217	0143-0239	0.0
	218	0240-0503	0.0
FA-40-1-71	146	0001-0015	0.0
		0016-0018	-0.1
		0019-0082	-0.2
		0083-0085	+0.3
		0086-0125	0.0
	147	0126-0156	0.0
		0157-0247	-0.2
		0248-0279	0.0
	153	0280-0343	0.0
	154	0344-0357	0.0
		0358-0360	-0.2
		0361-0620	0.0
		0621-0666	+0.2
		0667-0669	0.0
	155	0670-0846	0.0
		0847-0850	-0.1
		0851-0873	-0.2
		0874-0993	0.0
		0994-1019	-0.2
	156	1020-1093	-0.2
		1094-1241	0.0
		1242-1260	+0.2
		1261-1365	0.0
	161	1366-1463	0.0

SHEET	DAY	POSITIONS	CORRECTIONS (fms)
FA-40-1-71	162	1464-1574	0.0
		1575-1627	-0.2
		1628-1755	0.0
		1756-1811	-0.1
		1812-1825	0.0
		1826-1832	-0.3
		1833-1840	0.0
	163	1841-2113	0.0
	164	2114-2291	0.0
	166	2292-2351	0.0
	167	2352-2379	0.0
	168	2380-2530	0.0
	194	2431-2443	0.0
	195	2444-2467	0.0
	196	2468-2487	0.0
	209	2488-2642	0.0
	210	2643-2796	+0.3
	211	2797-2835	0.0
	215	2836-2878	0.0
	216	2879-2889	0.0
		2890-2891	-0.3
		2892-2924	0.0
	217	2925-2947	0.0
FA-40-2-71	164	0001-0036	0.0
		0037-0110	-0.4
		0111-0134	-0.2
	165	0135-0185	-0.2
		0186-0295	-0.5
		0296-0346	-0.2
		0347-0370	-0.3
		0371-0531	0.0
		0532-0580	-0.2
	166	0581-0617	-0.2
		0618-0856	0.0
		0857-0877	+0.2
	167	0878-0934	+0.2
		0935-1013	-0.3
		1014-1227	0.0
	168	1228-1348	0.0
		1349-1354	-0.2
		1355-1367	0.0
		1368-1409	+0.2
		1410-1543	0.0
	210	1544-1741	0.0
	211	1742-1800	0.0
		1801-1819	-0.2
		1820-1943	0.0
	215	1944-2155	0.0

SHEET	DAY	POSITIONS	CORRECTIONS (fms)
FA-40-2-71	216	2156-2342	0.0
	217	2343-2421	0.0

Velocity Corrections

Controller Bay, Alaska

OPR-487 1971

NOAA Ship FAIRWEATHER (MSS-20)

Captain R. H. Houlder, Comdg.

Corrections to be applied to the following sheets:

FA-10-1-71
FA-10-2-71
FA-10-3-71
FA-20-1-71
FA-40-1-71
FA-40-2-71

The following table will be used between the dates of May 26 (146) and June 5 (156) 1971.

(Table 01)

APPLICABLE DEPTHS (fms)	CORRECTIONS (fms)
0000-1100	0.0

The following table will be used between the dates of June 10 (161) and August 11 (223) 1971.

(Table 02)

APPLICABLE DEPTHS (fms)	CORRECTIONS (fms)
0000-0005	0.0
0005-0010	+0.1
0010-0025	+0.2
0025-0045	+0.3
0045-0085	+0.4
0085-0100	+0.6
0100-0160	+0.7
0160-0180	+0.8
0180-0200	+0.9
0200-0400	+1.7
0400-0600	+3.1

Draft Corrections

Controller Bay, Alaska

OPR-487 1971

NOAA Ship FAIRWEATHER (MSS-20)

Captain R.H. Houlder, Comdg.

Corrections to be applied to the following sheets:

FA-20-1-71
FA-40-1-71
FA-40-2-71

SHEET	DATE	POSITIONS	CORRECTIONS (fms)
FA-40-1-71	146-217	0001-2947	+0.3
FA-40-2-71	164-217	0001-2421	+0.3
FA-20-1-71	209-218	0001-0503	+0.3

APPLICABLE DEPTHS (fms)	CORRECTIONS (fms)
0600-0800	+5.2
0800-1000	+8.3
1000-1200	+12.2

ABSTRACT OF ELECTRONIC

CONTROL CORRECTIONS

FA-40-2-71
(H-9206)

HI-FIX (Range-Range)

POSITION NUMBERS from	to	DAY	PATTERN ONE green	PATTERN TWO red
0001	0560	164	-0.14	-0.28
0561	0649	165	-0.09	-0.28
0650	0891	166	-0.09	-0.21
0892	1364	167	-0.03	-0.19
1365	1543	168	-0.03	-0.24
2544	2569	196	-0.01	-0.14
2570	2600	207	+0.15	-0.31
1544	1907	210	-0.07	-0.20
1908	1943	211	-0.13	-0.29
1944	2342	215	-0.11	-0.38
2343	2421	217	-0.05	+0.13

FORM #3

COMPUTER PARAMETERS FOR ELECTRONICALLY CONTROLLED SURVEYS

FA-20-1-71
FA-40-1-71

(RANGE - RANGE) ~~9205~~

(1) Project No. OPR-487 (2) N. No. 9206 (3) Field No. FA-40-2-71

(4) Type of Control: ___ SHORAN, ___ RAYDIST, X HI-FIX, ___ RADAR
Frequency (for conversion of RAYDIST or HI-FIX lanes to meters) _____

(5) RANGE ONE (R1)
Station Name SPIT 2, 1967
Latitude 59° 27' 56.514"
Longitude 146° 18' 22.388"

(6) RANGE TWO (R2)
Station Name HI-FIX mast
Latitude 60° 28' 46.866"
Longitude 145° 24' 55.866"

(7) Azimuth from R1 to R2 203° 22' 47.849"

(8) Baseline Length in Meters 123,436.370 M.

(9) Location of survey with respect to Electronic Baseline: CHECK ONE
(To determine: imagine an observer standing at R1 and looking directly at R2 --- if the survey area is to the observer's LEFT then A is negative; if the survey area is to the observer's RIGHT then A is positive.)

_____ -A (minus) X +A (plus)

(10) if SHORAN corrections are applied by the equation, K(X) + C = D, where X is SHORAN distance and D is true distance, enter the Constant Coefficients of the equations here:

K(R1) _____, C(R1) _____, K(R2) _____, C(R2) _____.

(11) Number of Velocity Tables to be used:

___None, ___ One, ___ More than one.

(12) _____ This form is submitted only as an aid in preparing a boat sheet projection.

X This form applies to all data on this survey.

_____ This form applies to part of the data on this survey -

Time and Date limitations: From _____ To _____

Position Number Limitations: From _____ To _____

This is Form #3 Sheet # 1 of 1 Sheets for this survey.

(13) Other Remarks: This form applies to all data on surveys FA-40-1-71 (H-9205), FA-40-2-71 (H-9206) and FA-20-1-71

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9206

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
GULF OF ALASKA										1
										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
					Approved					20
					Chas. E. Harrington					21
					Staff Geographer					22
					26 June 1975					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

NOAA FORM 77-27
(9-72)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2 6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. H-9206

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	4

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES			1			
CAHIERS	1					
VOLUMES		1				
BOXES			1 & Misc.Data	1		

T-SHEET PRINTS *(List)* (none)

SPECIAL REPORTS *(List)* (none)

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				
POSITIONS CHECKED		2477		
POSITIONS REVISED		25		
DEPTH SOUNDINGS REVISED		504		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
Verification of Control		10		
Verification of Positions		34		
Verification of Soundings		76		
Smooth Sheet Compilation		89		
ALL OTHER WORK		15		
TOTALS		224		

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY		
VERIFICATION BY John Lotshaw	8-30-72	4-3-75
REVIEW BY		

* U.S. G.P.O. 1972-769-562/439 REG.#6

FORM C&GS-946A
(REV. 11-65)
(PRES. BY HYDROGRAPHIC MANUAL, 6-94)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

VERIFIER'S REPORT

HYDROGRAPHIC SURVEY, H 9206

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems.		
1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None	X	
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: --None	X	
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None	X	
Part II - SHORELINE AND SIGNALS		
4. Source of shoreline signals Remarks Required: -- List all surveys		X
a. Give earliest and latest dates of photographs		
b. Field inspection date		
c. Field Edit date		
d. Reviewed-Unreviewed		
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.	X	
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None	X	
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.	X	
Part III - JUNCTIONS		
Note: Make a cursory comparison preliminary to inking soundings in area of overlap.		
8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None		X
9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None	X	

Part III - JUNCTIONS (Continued)	CL	R
10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.	X	
Part IV - VOLUMES		
11. 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 and exceptions noted in the volumes. Remarks Required: -- None	X	
12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:	X	
(a) rocks		
(b) line turns		
(c) position values of beginning and ending of lines		
(d) bar check or velocity correctors		
(e) time recording		
(f) notes or markings on fathograms		
(g) was reduction of soundings accurately done?		
(h) was scanning accurate?		
(i) were peaks at uneven intervals missed?		
(j) were stamps completed?		
(k) references to adjacent features		
Part V - PROTRACTING		
13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None	X	
14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None	X	
15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None	X	

Part V - PROTRACTING (Continued)	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	X	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	X	
Part VI - SOUNDINGS		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	X	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	X	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	X	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	X	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	X	
Part VII - CURVES		
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.		X
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	X	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	X	

Part VIII - AIDS TO NAVIGATION	CL	R
26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	X	
27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	X	
Part IX - BOATSHEET		
28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	X	
29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	X	
Part X - GENERAL		
30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	X	
31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	X	
32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	X	
33. The bottom characteristics are adequately shown. Remarks Required: -- None	X	
Part XI - NOTES TO THE REVIEWER		
34. Unresolved discrepancies and questionable soundings.	X	
35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	X	
36. Supplemental information.	X	

Verified by John Lotshaw, Cartographic Tech.

Date 4-3-75

VERIFIER'S REPORT

H-92Ø6 FA-4Ø-2-71

This sheet was constructed and plotted at Pacific Marine Center, Seattle, Washington. Information relating to this will be noted under the heading by the number and letter as on the Verifier's Report, C&GS Form 946A.

PART II SHORELINE AND SIGNALS

4.

a) Signal Ø23 (EL1, 1969) is provided as a reference station only. It is otherwise unrelated to the hydrography on H-92Ø6.

b) No shoreline is included in the area surveyed.

PART III JUNCTIONS

8. Junction was made with contemporary survey H-92Ø5 and the junction curves have been inked.

PART VII CURVES

Depth curves were inspected by Richard Lynn, Cartographic Technician, before inking.

Respectfully submitted,

John Lotshaw
Cartographic Technician
April 3, 1975

ELECTRONIC CONTROL — PRIORITY ONE — HEAVY MYLAR

20181

(1) Project No. ____________

(4) Requested by ____________

(2) H No. 9200

(5) Ship or Office ____________

(3) Field No. FA - 40 - U - 71

(6) Date Required ____________

(7) Visual [ ] Ft.(0) or Fathoms (1) [1] (8) Electronic [✓] (fill out form #3)

(10) XKN (SP 5) Distance from CMER to East Edge (NYX = 1) or West Edge (NYX = 0). 18,616.3 ✓ Meters

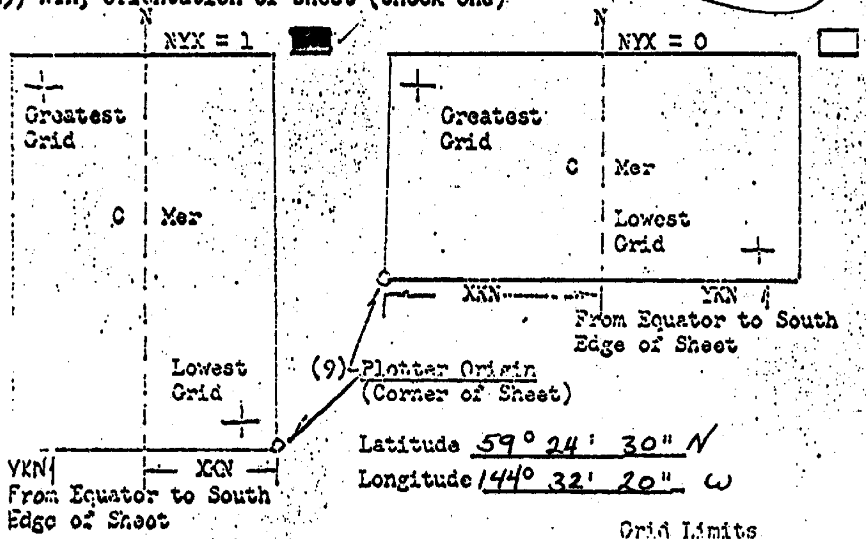
(11) YKN (SP 241) Distance from Equator to South Edge of Sheet. 6,587,948.9 Meters

(12) Central Meridian 144° 52' 00"

(13) Survey Scale 1:40,000

(14) Size of Sheet (Check one) ~~36x48~~ [ ] 42x60 [X]

(15) NYX, Orientation of sheet (Check one)



Latitude 59° 24' 30" N

Longitude 144° 32' 20" W

Grid Limits

(16) Greatest Latitude	59° 54' 00"	(Projection Line Interval Page 4 Hydro Manual)	
(17) Lowest Latitude	59° 26' 00"		
(18) Difference	0° 28' 00"	(19)	"
		(20)	14' YSN
(21) Greatest Longitude	145° 12' 00"		
(22) Lowest Longitude	144° 34' 00"	(24)	"
(23) Difference	0° 38' "	(25)	19' XSN

H # 9206
Field No.
Date

HYDRO I PARAMETER CARDS

Computes G.P.'s from Electronic Controlled Baseline

Parameter Card I		Deg. Min. Seconds	Prog. Code	1	2	3	4	5	6	7	8	9	10
Master R1 Hydro Name SPIT 2, 1967	Lat.	59 27 56514	RPD	2	1	4	0	7	6	5	1	0	6
	Long.	146 18 22388	RBD	11	12	13	14	15	16	17	18	19	20
				5	2	6	7	0	2	3	7	0	6
Slave R2 Hydro Name HI-FIX Mast	Lat.	60 28 76866		Not Used									
	Long.	145 24 55866		Not Used									
Azimuth R1 to R2		203 22 47849	RAD	21	22	23	24	25	26	27	28	29	30
				7	3	2	1	6	7	8	5	0	6
				Not Used									
Baseline Distance in Meters			SMP	31	32	33	34	35	36	37	38	39	40
				1	2	3	4	3	6	3	7	0	6
Velocity Code 0 - No Vel. 1 - 1 Vel. Table	2 - 2 Vel.-(E - W) 3 - 2 Vel.-(N - S)		IVL										41
Conversion factor for electronic distance to meters.	Stat. Mi = Lanes = 1618.65 or		CNV	42	43	44	45	46	47	48	49	50	51
				9	2	5	6	7	8	7	5	3	-
H-Identification Number			JN						52	53	54	55	56
									0	9	2	0	
Location of survey with respect to electronic baseline	- <A = 1 + <A = 0		AAA										57 0
Velocity Boundary IVL = 2 IVL = 3	Long = o " " Lat =		VLE		58	59	60	61	62	63	64	65	66
			YR								67 0	68 7	69 1
If Shoran calibration correction is applied by equation (use Shoran card) punch 1 in column 80				70	71	72	73	74	75	76	77	78	79 80

Shoran Card Format (when calibration correction is applied by a line K x + C)
(flag 5, 11, 17, or 23 if resp. constant is negative)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		R1K						R1C						R2K						R2C		

Computed _____ Punched _____ Checked _____ Date _____

~~HYDRO II AND III PARAMETER CA~~

H
Field No. OPR-487
Date 3-16-71

20181

PARAMETER CARD II

			1	2	3	4	5	6	7	8	9	10
Semi major axis of the earth	6,378,206.4	RDA	6	3	7	8	2	0	6	4	0	7
			11	12	13	14	15	16	17	18	19	20
X Constant- Distance from central meridian to origin of plotter SP 5	meters	YKN	1	8	6	1	6	3	0	0	0	5
			21	22	23	24	25	26	27	28	29	30
Y Constant - Distance from equator to origin of plotter SP 2,1	0 ' " meters	YKN	6	5	8	7	9	4	8	9	0	7
			31	32	33	34	35	36	37	38	39	40
Central Meridian of Projection	144 52 00.00	CMR	5	2	1	5	2	0	0	0	0	6
			41	42	43	44	45	46	47	48	49	50
Plotter Scale/Survey Scale	*30498.6876 1:40,000	SCA	2	6	2	4	6	7	1	9	0	0
												51
North/south axis of sheet - to correspond to (Y axis - 0) (X axis - 1) of plotter		NYX										1
												52
Feet/Fathom indicator	0 - feet 1 - fathom	FOF										1
								53	54	55	56	57
H Identification No.		JN						2	0	1	8	1
											58	59
		YR									7	1

FOF - 1

PARAMETER CARD III

			1	2	3	4	5	6	7	8	9	10
Lowest Lat. Intersection	59 26 00.00	YST	2	1	3	9	6	0	0	0	0	6
			11	12	13	14	15	16	17	18	19	20
Lowest Long. Intersection	144 34 00.00	XST	5	2	0	4	4	0	0	0	0	6
			21	22	23	24	25	26	27	28	29	30
Difference between Grid	02 00.00	DXY	1	2	0	0	0	0	0	0	0	3
											37	38
Interval (Long)		XSN									1	9
											39	40
Interval (Lat)		YSN									1	4

Computed EHT
Punched
Checked
Date

SIGNAL PLOTTER CARDS

H-NO.		LATITUDE	LONGITUDE	X	Y	X	
20181	023	71 59491045	144344297	00644	12034		023

PAK 1971

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

HORIZONTAL CONTROL DATA

by the
Coast and Geodetic Survey
NORTH AMERICAN 1927 DATUM

PAGE 4
STATION

QUAD 591444
ALASKA
LATITUDE 59 ° 30' TO 60 ° 00'
LONGITUDE 144 ° 30' TO 145 ° 00'
DIAGRAM 8513

DESCRIPTION OF TRIANGULATION STATION

NAME OF STATION: ELI STATE: Alaska COUNTY: Prince William Sound Controller Bay

CHIEF OF PARTY: J.B. Watkins, Jr. YEAR: 1969 Described by: D.C.S.

HEIGHT OF TELESCOPE ABOVE STATION MARK ___ METERS. HEIGHT OF LIGHT ABOVE STATION MARK ___ METERS.

	Object	Bearing	Distance feet	Distance meters	Direction
Desc	RM 1	ENE	14.12 (slope	4.303 dist.)	
Desc	RM 2	SE	19.40 (slope	5.912 dist.)	

The station is about 60 miles southeast of Cordova, on the southwest end of Kayak Island, about 1½ miles northeast of Cape St. Elias Light, and about 3/4 mile north of the peak of Cape St. Elias. The station is about 2.6 meters east of the highest point of a grass covered ridge running along the west coast of the island, and about 11 meters west of a lone spruce tree. The elevation of the station is about 599 feet.

To reach the station land a skiff on the west side of the island between the ridge and the peak of Cape St. Elias. Proceed up the slope to about the 500 foot elevation where the slope levels off. Then proceed northeast along the slope for about ¼ mile to the grass covered ridge and the station.

The station, a standard U.S.C.&G.S. triangulation disk stamped "ELI 1969", is brazed to a 2 inch copper pipe which is flared at the bottom and projects 3 inches above the ground.

Both reference marks are standard U.S.C.&G.S. reference marks brazed to 2 inch steel pipe which is flared at the bottom. Reference mark 1, stamped "ELI No. 1 1969", projects 9 inches. Reference mark 2, stamped "ELI No.2 1969", projects 15 inches.

RECOVERY NOTE, TRIANGULATION STATION

NAME OF STATION: ELI
ESTABLISHED BY: J. B. Watkins YEAR: 1969 STATE: Alaska BENCH MARK ALSO ☐
RECOVERED BY: R. B. Melby YEAR: 1970 COUNTY: Controller Bay, Kayak Island
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 26 miles south of Katalla
HEIGHT OF TELESCOPE ABOVE STATION MARK 5.1 FEET. HEIGHT OF LIGHT ABOVE STATION MARK 5.1 FEET.

DISTANCES AND DIRECTIONS TO AZIMUTH MARK, REFERENCE MARKS AND PROMINENT OBJECTS WHICH CAN BE SEEN FROM THE GROUND AT THE STATION

Object	Bearing	Distance feet	Distance meters	Direction
GRAVIE, 1969				0 00 00.0
R. M. 1	NE	13.42	4.091	28 04 39
R. M. 2	S	18.35	5.594	112 13 42

The station and reference marks were recovered in good condition. Located 26 miles south of Katalla, about 1½ miles north of the southern tip of Cape St. Elias, along the top of the west coastal bluff of Kayak Island, about 600 feet in elevation and on the top of a bare grassy knoll.

The station is a standard disk stamped ELI 1969 brazed to the top of a length of 1 inch copper pipe, projecting 3 inches above the surface of the ground, 8 feet east of and 2 feet lower than the highest point of the knoll.

Reference mark 1 is a standard disk stamped ELI NO 1 1969 brazed to the top of a length of 1 inch iron, projecting 9 inches above the surface of the ground and 5 feet lower than the station.

Reference mark 2 is a standard disk stamped ELI NO 2 1969 brazed to a 1 of 1 inch iron pipe projecting 15 inches above the surface of the ground at feet lower than the station.

The station was reached by helicopter, landing in the meadow east of the station,

ADJUSTED HORIZONTAL CONTROL DATA

NAME OF STATION: ELI
STATE: ALASKA YEAR: 1969 SECOND ORDER
LOCALITY: CONTROLLER BAY
SOURCE: G-14511 FIELD SKETCH: ALASKA 668

GEODETIC LATITUDE	59 49 10.44719	ELEVATION	182.9 METERS
GEODETIC LONGITUDE	144 34 42.96611		600 FEET

STATE COORDINATES (Feet)

STATE & ZONE	CODE	x	y	θ (OR Δ α) ANGLE*
ALASKA	5003	761,602.46	2,128,783.58	+ 1 13 44

*PLANE AZIMUTH HAS BEEN COMPUTED BY THE θ (OR Δ α) FORMULA NEGLECTING THE SECOND TERM.

TO STATION OR OBJECT	GEODETIC AZIMUTH (From south)	PLANE AZIMUTH* (From south)	CODE
GRAVIE	209 52 20.5	208 38 37	5003

80 023

4/16/74

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Cape St. Elias
Martin Islands

Period: April 30 - August 15, 1971

HYDROGRAPHIC SHEET: H9206

OPR: 487

Locality: Cape St. Elias, Kayak Island

Plane of reference (mean lower low water): Cape St. Elias 10.2 (May heights) 6.0 (Aug. heights)
Martin Islands 7.3

Height of Mean High Water above Plane of Reference is 8.7 ft.

Remarks: Zone Requirements:

1. Zone direct on Cape St. Elias gage.

2. During period of gage malfunction, apply range ratio of 0.97 to Martin Islands gage.

Chief, Tides Branch

TC/TI Core Printout

FA - 40-2-71

FAIRWEATHER

Days 164-217

Logged: AWB

Checked: AWB

0 Errors

VELOCITY CORRECTION TABLES
H-9205 AND H-9206 OPR-487 1971
CONTROLLER BAY, ALASKA

011000 0 0000 0001 000 000000 000000
000050 0 0000 0002 000 000000 000000
000100 0 0001
000250 0 0002
000450 0 0003
000850 0 0004
001000 0 0006
001600 0 0007
001800 0 0008
002000 0 0009
004000 0 0017
006000 0 0031
008000 0 0052
010000 0 0083
012000 0 0122

202 164 1971

170000 0 0003 0002 164 000000 000000

184800 0 1001

224700 0 0001

000000 0 0001 0002 165 000000 000000

Combined TRA + .03 DRAFT

~~242~~ deleted

024200 0 1002

082400 0 0001

110000 0 0000

122100 0 0003

210000 0 0001

000000 0 0001 0002 166 000000 000000

032200 0 0003

220700 0 0005

000000 0 0005 0002 167 000000 000000

080600 0 0000

122700 0 0003

000000 0 0003 0002 168 000000 000000

063600 0 0001

065230 0 0003

112600 0 0005

133700 0 0003

085700 0 0003 0002 210 000000 000000

000000 0 0003 0002 211 000000 000000

031200 0 0001

041230 0 0003

112200 0 0003 0002 215 000000 000000

000600 0 0003 0002 216 000000 000000

083700 0 0003 0002 217 000000 000000

FAIRWEATHER
FA-40-2-71
H-9206
TIME MERIDIAN - 135
TIDE STATION - CAPE ST. ELIAS FOR DAYS 164 - 168
TIDE STATION - MARTIN ISLANDS FOR DAYS 196 - 217
YEAR - 1971
CORRECTIONS IN FATHOMS
MLLW CORRECTION - CAPE ST. ELIAS 6.0 FGET DAYS 164 - 168
MLLW CORRECTION - MARTIN ISLANDS 7.3 FEET DAYS 196 - 217
TIME SHIFT - ZERO
RANGE RATIO - 01.00 FOR CAPE ST. ELIAS
RANGE RATIO - 0.97 FOR MARTIN ISLANDS

Review - file with printouts.

131600 00 1005 0000 164 0 130000 000000
133500 00 1006
135400 00 1007
141200 00 1008
143100 00 1009
145300 00 1010
152000 00 1011
172800 00 1012
180200 00 1011
183200 00 1010
190000 00 1009
192600 00 1008
195400 00 1007
202500 00 1006
210400 00 1005
225500 00 1004
232900 00 1005
235700 00 1006
002200 00 1007 0000 165 0 000000 000000
004700 00 1008
011300 00 1009
014100 00 1010
021200 00 1011
024600 00 1012
044500 00 1013
052000 00 1012
054800 00 1011
060900 00 1010
062700 00 1009
064400 00 1008
070100 00 1007
072100 00 1006
074100 00 1005
080100 00 1004

[redacted]

[illegible] 00 1003
083900 00 1002
090000 00 1001
093200 00 1000
102100 00 0001
112200 00 0002
120000 00 0001
122600 00 1000
124900 00 1001
131000 00 1002
133000 00 1003
135000 00 1004
140900 00 1005
142800 00 1006
144800 00 1007
150700 00 1008
152800 00 1009
155200 00 1010
162400 00 1011
182900 00 1012
190200 00 1011
192900 00 1010
195500 00 1009
202100 00 1008
204900 00 1007
211500 00 1006
214300 00 1005
222100 00 1004
001200 00 1003 0000 166 0 000000 000000
005600 00 1004
012800 00 1005
015700 00 1006
022400 00 1007
025100 00 1008
032100 00 1009
040000 00 1010
055900 00 1011
063500 00 1010
070200 00 1009
072600 00 1008
074900 00 1007
081100 00 1006
083300 00 1005
085500 00 1004
091700 00 1003
094100 00 1002
101000 00 1001
110000 00 1000
115900 00 0001
125000 00 1000
131700 00 1001

```
133800 00 1002
135800 00 1003
141600 00 1004
143500 00 1005
145400 00 1006
151400 00 1007
153500 00 1008
155700 00 1009
162100 00 1010
165000 00 1011
173100 00 1012
183700 00 1013
192700 00 1012
200200 00 1011
203000 00 1010
205500 00 1009
211700 00 1008
213800 00 1007
220000 00 1006
222100 00 1005
224500 00 1004
232100 00 1003
012500 00 1002 0000 167 0 000000 000000
020600 00 1003
023700 00 1004
030500 00 1005
033200 00 1006
040000 00 1007
042700 00 1008
050000 00 1009
072700 00 1010
080000 00 1009
082800 00 1008
085400 00 1007
092000 00 1006
094600 00 1005
101300 00 1004
104300 00 1003
111900 00 1002
133400 00 1001
141000 00 1002
143500 00 1003
145700 00 1004
152200 00 1005
154600 00 1006
160800 00 1007
162800 00 1008
164900 00 1009
171100 00 1010
173600 00 1011
180700 00 1012
```

```
202000 00 1013
205000 00 1012
211200 00 1011
213200 00 1010
215000 00 1009
220900 00 1008
222900 00 1007
224900 00 1006
231000 00 1005
233100 00 1004
235400 00 1003
002500 00 1002 0000 168 0 000000 000000
024000 00 1001
031500 00 1002
034400 00 1003
041000 00 1004
043800 00 1005
050500 00 1006
053000 00 1007
060000 00 1008
065100 00 1009
082800 00 1010
092900 00 1009
100800 00 1008
103400 00 1007
105900 00 1006
113700 00 1005
122400 00 1004
142800 00 1003
150600 00 1004
153800 00 1005
160400 00 1006
162700 00 1007
164900 00 1008
171100 00 1009
173300 00 1010
175700 00 1011
182400 00 1012
185600 00 1013
194800 00 1014
203000 00 1015
212700 00 1014
220000 00 1013
222700 00 1012
224800 00 1011
230300 00 1010
231300 00 1009
232400 00 1008
233400 00 1007
234500 00 1006
235700 00 1005
```

```
003600 00 1004 0000 169 0 000000 000000
013800 00 1003 0000 196 0 010000 000000
020900 00 1004
023800 00 1005
030500 00 1006
033100 00 1007
035900 00 1008
043000 00 1009
050900 00 1010
072300 00 1011
080000 00 1010
082900 00 1009
085600 00 1008
092500 00 1007
095700 00 1006
103300 00 1005
125200 00 1004
132700 00 1005
135300 00 1006
141600 00 1007
143800 00 1008
145900 00 1009
152100 00 1010
154400 00 1011
160500 00 1012
162700 00 1013
165100 00 1014
172400 00 1015
193600 00 1016
200900 00 1015
203200 00 1014
205200 00 1013
211100 00 1012
212900 00 1011
214700 00 1010
220600 00 1009
222500 00 1008
224500 00 1007
230600 00 1006
232700 00 1005
235100 00 1004
003300 00 1003 0000 197 0 000000 000000
022300 00 1002
030900 00 1003
033700 00 1004
040500 00 1005
043500 00 1006
050600 00 1007
053600 00 1008
061200 00 1009
073500 00 1010
```

```
074900 00 1011
090800 00 1010
094400 00 1009
102400 00 1008
111300 00 1007
120900 00 1006
133700 00 1005
142400 00 1006
145700 00 1007
152600 00 1008
155200 00 1009
161500 00 1010
163800 00 1011
170200 00 1012
173100 00 1013
180500 00 1014
185100 00 1015
200000 00 1016
204900 00 1015
211600 00 1014
213800 00 1013
215800 00 1012
220000 00 1011
170800 00 1013 0000 207 0 170000 000000
173500 00 1012
175500 00 1011
181600 00 1010
183600 00 1009
185700 00 1008
192100 00 1007
194900 00 1006
201700 00 1005
204700 00 1004
223700 00 1003
231800 00 1004
234800 00 1005
001500 00 1006 0000 208 0 000000 000000
004100 00 1007
010500 00 1008
012800 00 1009
015200 00 1010
022500 00 1011
032000 00 1012
042600 00 1013
051800 00 1012
055100 00 1011
061500 00 1010
063600 00 1009
065500 00 1008
071500 00 1007
073500 00 1006
```

```
075600 00 1005
082100 00 1004
085000 00 1003
093500 00 1002
104500 00 1001
112700 00 1002
115500 00 1003
121700 00 1004
123800 00 1005
125800 00 1006
131800 00 1007
133900 00 1008
135900 00 1009
142000 00 1010
144200 00 1011
150800 00 1012
154900 00 1013
174700 00 1014
182300 00 1013
185100 00 1012
191500 00 1011
193800 00 1010
200000 00 1009
202600 00 1008
205400 00 1007
212600 00 1006
221000 00 1005
234200 00 1004
002000 00 1003 0000 210 0 000000 000000
013100 00 1004
021200 00 1005
024200 00 1006
031300 00 1007
034700 00 1008
042600 00 1009
072300 00 1010
080100 00 1009
083500 00 1008
090900 00 1007
094500 00 1006
103400 00 1005
123300 00 1004
131200 00 1005
134300 00 1006
141100 00 1007
143800 00 1008
150500 00 1009
153200 00 1010
160100 00 1011
163400 00 1012
172900 00 1013
```

```
184900 00 1014
194600 00 1013
201700 00 1012
204300 00 1011
210700 00 1010
213100 00 1009
215600 00 1008
222400 00 1007
225400 00 1006
233000 00 1005
003400 00 1004 0000 211 0 000000 00000
014000 00 1003
024100 00 1004
032300 00 1005
040400 00 1006
044400 00 1007
053600 00 1008
082200 00 1009
092000 00 1008
101400 00 1007
110600 00 1006
130400 00 1005
135500 00 1006
143400 00 1007
150700 00 1008
153800 00 1009
161000 00 1010
164400 00 1011
171800 00 1012
175600 00 1013
192600 00 1014
203000 00 1013
210700 00 1012
213700 00 1011
220300 00 1010
222100 00 1009
224800 00 1008
230100 00 1007
231500 00 1008
232600 00 1009
233800 00 1010
235000 00 1011
002200 00 1012 0000 215 0 000000 00000
004000 00 1011
005500 00 1010
011500 00 1009
013600 00 1008
015700 00 1007
021700 00 1006
023700 00 1005
025900 00 1004
```

```
032900 00 1003
041300 00 1002
055600 00 1001
064200 00 1002
071300 00 1003
073900 00 1004
080400 00 1005
083100 00 1006
085800 00 1007
092500 00 1008
095300 00 1009
102800 00 1010
132400 00 1011
140800 00 1010
145100 00 1009
174900 00 1008
182800 00 1009
190000 00 1010
192800 00 1011
195600 00 1012
202500 00 1013
205800 00 1014
214900 00 1015
230700 00 1016
234900 00 1015
001600 00 1014 0000 216 0 000000 00000
003800 00 1013
005800 00 1012
011700 00 1011
013500 00 1010
015200 00 1009
020900 00 1008
022600 00 1007
024400 00 1006
030200 00 1005
032100 00 1004
034200 00 1003
040800 00 1002
045900 00 1001
065600 00 1000
072600 00 1001
075000 00 1002
081300 00 1003
083600 00 1004
085700 00 1005
091600 00 1006
093500 00 1007
095500 00 1008
101800 00 1009
104500 00 1010
112000 00 1011
```

```
132600 00 1012
141100 00 1011
144900 00 1010
152400 00 1009
160300 00 1008
183000 00 1007
190400 00 1008
193100 00 1009
195500 00 1010
201900 00 1011
204300 00 1012
210600 00 1013
213000 00 1014
215600 00 1015
224700 00 1016
233200 00 1017
002200 00 1016 0000 217 0 000000 000000
004900 00 1015
011100 00 1014
012900 00 1013
014600 00 1012
020200 00 1011
021800 00 1010
023400 00 1009
024900 00 1008
030400 00 1007
031800 00 1006
033200 00 1005
034700 00 1004
040300 00 1003
042200 00 1002
044400 00 1001
051100 00 1000
055500 00 0001
063000 00 0002
072300 00 0001
075200 00 1000
081600 00 1001
083700 00 1002
085600 00 1003
091300 00 1004
093000 00 1005
094700 00 1006
100300 00 1007
102100 00 1008
104000 00 1009
110000 00 1010
112600 00 1011
120300 00 1012
134800 00 1013
142300 00 1012
```

```
145100 00 1011
151700 00 1010
154200 00 1009
161000 00 1008
164300 00 1007
172900 00 1006
180600 00 1005
183700 00 1006
190700 00 1007
195800 00 1008
202100 00 1009
203900 00 1010
205700 00 1011
211500 00 1012
213300 00 1013
215200 00 1014
```

00000

APPROVAL SHEET

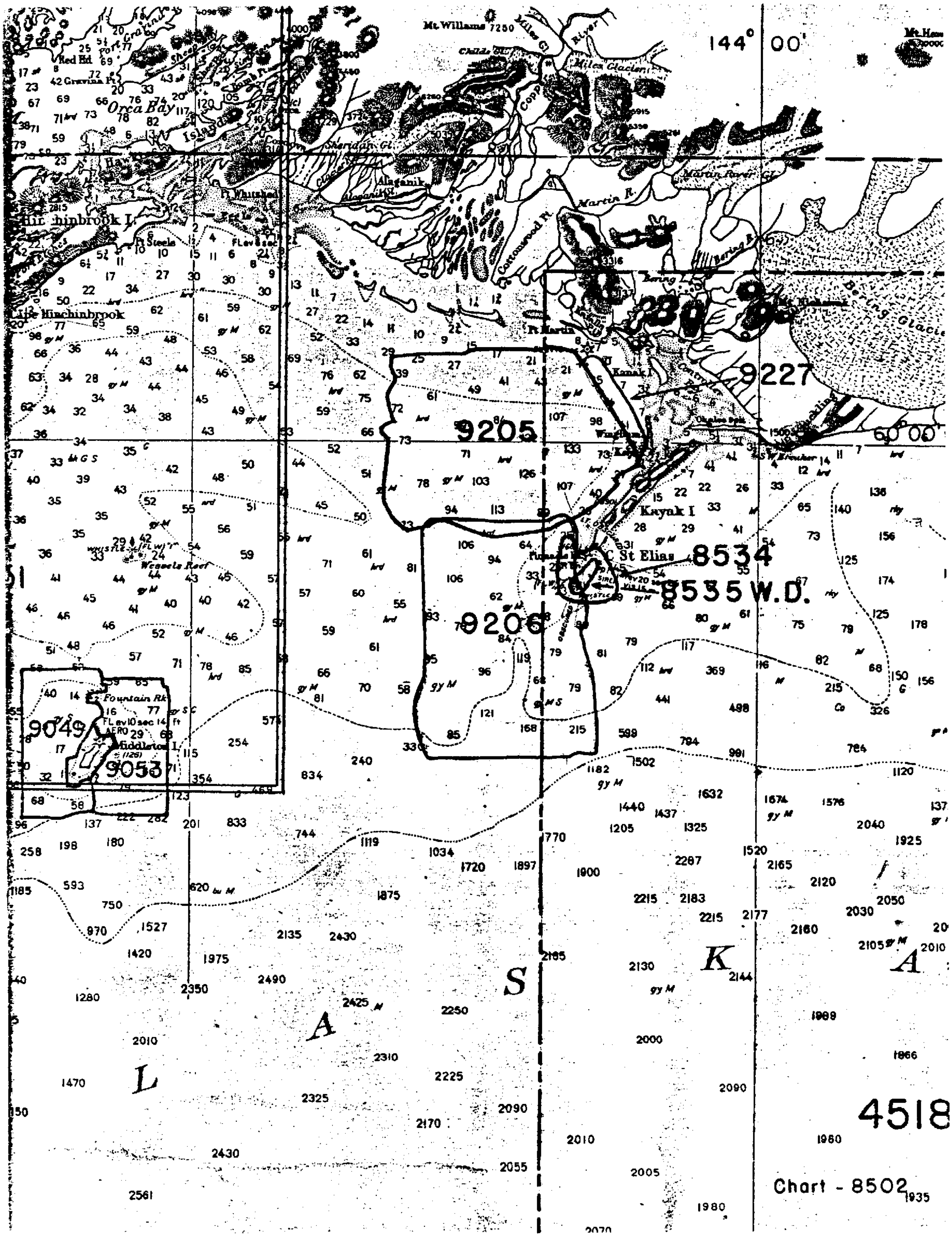
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,

James S. Green
Supervisory Cartographic Technician

Approved and forwarded,

Walter F. Forster, Cdr., NOAA
Chief, Processing Division
Pacific Marine Center



144° 00'
60 00'
Mt. Williams 7250
Miles Glacier
Orca Bay
Red Hd.
Gravina Pt.
Port Gravina
Sheridan Gl.
Alaganik
Martin R.
Martin River Gl.
Bering Glacier
Cottonwood Pt.
Hinchinbrook I.
Pt. Steele
Pt. Martin
Kanak I.
Kayak I.
C St Elias
Wessels Reef
Fountain Rk.
Middleton I.
9205
9206
9227
8534
8535 W.D.
9049
9053
A
L
A
S
K
A
4518
Chart - 8502 1935

(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9206

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
3513	6/25/75	Kennon	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. checked for NM consideration before
3502	6/25/75	Kennon	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. checked NO NM required
8513	2/11/76	Kanis	~~Full~~ Part ~~Before~~ After Verification ~~Review Inspection Signed~~ Via
			Drawing No. EXAMINED for critical corrections only - ~~no corrections~~ Revised sndgs.
8002	8/25/76	Kerry	~~Full~~ Part ~~Before~~ After Verification ~~Review Inspection Signed~~ Via
			Drawing No. Examined for CRITICAL CORRECTIONS only - No CORRECTIONS Survey Examd Directly To Chart 8002. Chs 8513 Indirectly
9000	9/14/76	KANIS	~~Full~~ Part ~~Before~~ After Verification ~~Review Inspection Signed~~ Via
			Drawing No. EXAMINED for critical Corrections (directly) only - one sounding revised
8502	6/13/77	NaitoR	Full ~~Part Before~~ After Verification ~~Review Inspection Signed~~ Via
			Drawing No. 24 Consdered fully appld as Class I survey Revised sndgs. and 100fm curve
8500	6/13/77	NaitoR	Full ~~Part Before~~ After Verification ~~Review Inspection Signed~~ Via
			Drawing No. 15 Considered fully appld as Class I survey
530	5-30-89	R. A. Lillis	Full ~~Part Before~~ After Verification ~~Review Inspection Signed Via~~
			Drawing No. 34 consider fully applied catagory I survey
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8538-P53