10155

Diagram No. 8102-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. RA-10-2-84

Office No. H-10155

LOCALITY

State Alaska

General Locality Behm Canal

Locality Hassler Pass to Bailey Bay

19 84

CHIEF OF PARTY
CDR J.P.Vandermeulen

LIBRARY & ARCHIVES

DATE January 27, 1986

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

10155

ARCH 5
CH75
17422 ?
17420
16016

TO SIGN OFF SET
"RECORD OF APPLICATION TO CHARTS"

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10155

HYDROGRAPHIC TITLE SHEET

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

FIELD NO.

RA 10-2-84

State Alaska

General locality Behm Canal

Locality Hassler Pass to Bailey Bay

Scale 1:10,000 Date of survey September 12-27, 1984

Instructions dated August 9,, 1984 Project No. OPR-0168-RA-84

Vessel NOAA Ship RAINIER (S221), Launches 2123, 2124, 2125, and 2126

Chief of party CDR J. P. Vandermeulen, NOAA

Surveyed by LT T. Rulon, LTJG S. Konrad, ENS D. LaReau, ENS T. Porta, ENS C. Wilson, ENS J. Griffin, ENS M. Pickett, Lt. R. Hastings

Soundings taken by echo sounder, hand lead, ~~pole~~ XXXX

Graphic record scaled by RAINIER Survey Department

Graphic record checked by RAINIER Survey Department

Verification ~~XXXXXXX~~ed by T. O. Jones Automated plot by PMC Xynetics Plotter

Evaluation ~~XXXXXX~~on by C.R. Davies

Soundings in fathoms ~~XXXX~~ at ~~XXX~~ MLLW and tenths at MLLW

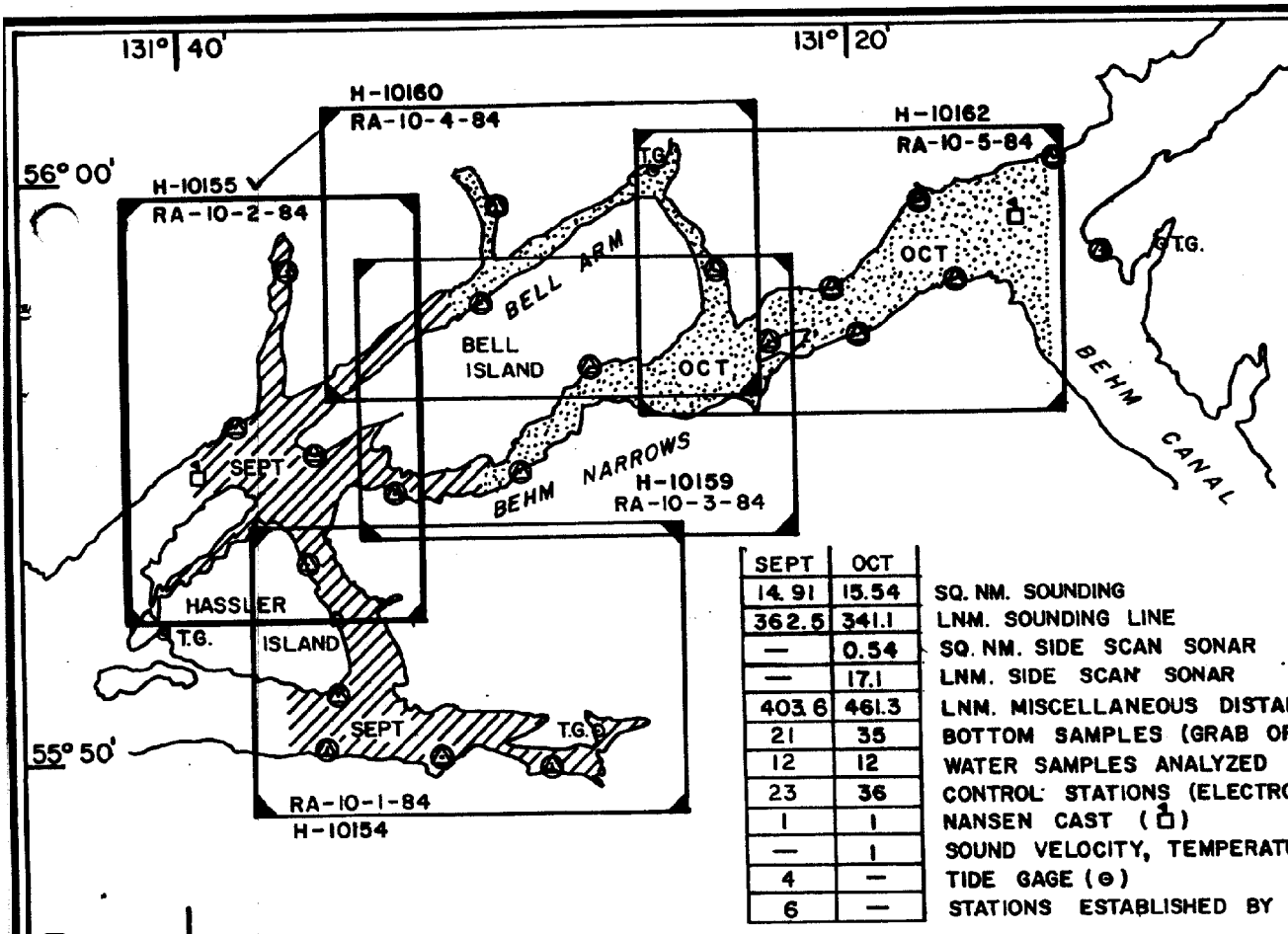
REMARKS: All times are in UTC. Separates have been filed with the survey raw data. Comments in black ink are by the evaluator.

AWOIS/SURF - AAA 1/29/86

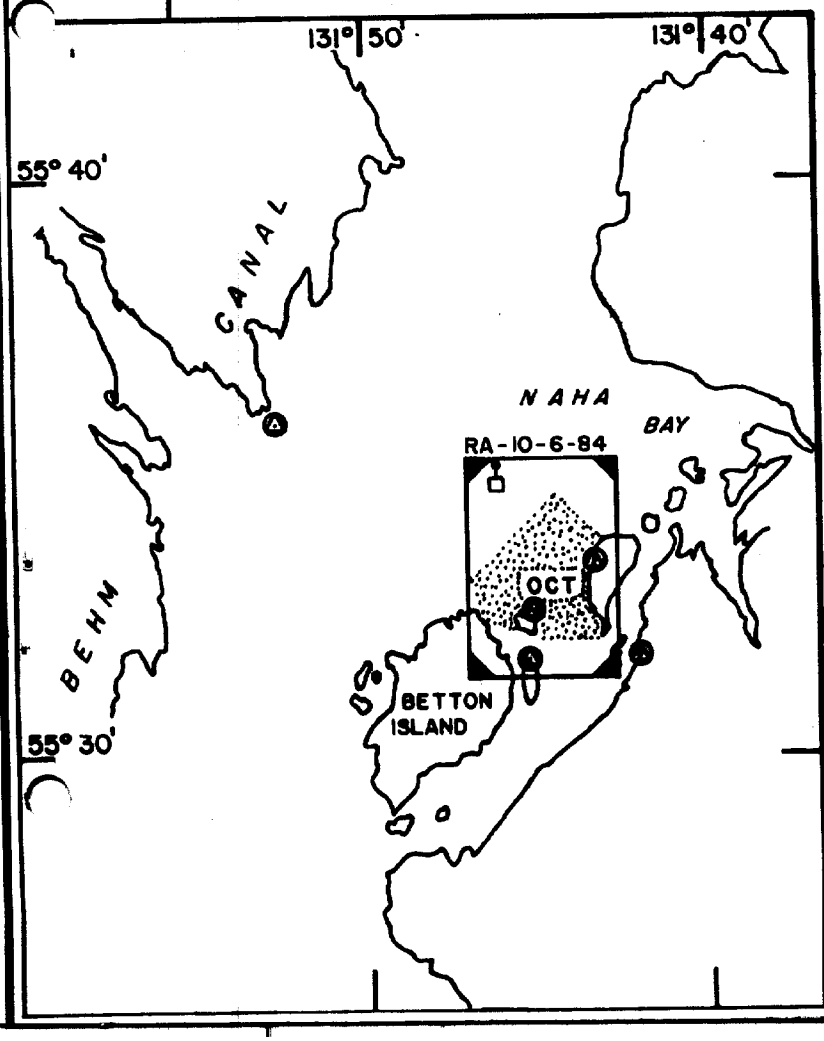
SC 4-21-97

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO. 6



SEPT	OCT	
14.91	15.54	SQ. NM. SOUNDING
362.5	341.1	LNM. SOUNDING LINE
—	0.54	SQ. NM. SIDE SCAN SONAR
—	17.1	LNM. SIDE SCAN SONAR
403.6	461.3	LNM. MISCELLANEOUS DISTANCE
21	35	BOTTOM SAMPLES (GRAB OR BOOMERANG)
12	12	WATER SAMPLES ANALYZED (SALINITY)
23	36	CONTROL STATIONS (ELECTRONIC)
1	1	NANSEN CAST (□)
—	1	SOUND VELOCITY, TEMPERATURE, DEPTH CAST
4	—	TIDE GAGE (⊖)
6	—	STATIONS ESTABLISHED BY TRAVERSE



PROGRESS SKETCH

OPR-0168-RA-84

HYDROGRAPHIC SURVEY

BEHM NARROWS, ALASKA

SEPT. 4 - OCT. 30, 1984.

NOAA SHIP RAINIER

JOHN P. VANDERMEULEN, CDR., NOAA
COMD'G

FROM CHART 17420

A. PROJECT

Survey H-10155 was conducted in accordance with Project Instructions OPR-0168-RA-84, Behm Canal, Alaska, dated August 9, 1984, Change No. 1 dated August 17, 1984.

B. AREA SURVEYED

Survey H-10155 was performed in the area of Hassler Pass and Bailey Bay, Alaska between September 12 and 27, 1984 (Julian Dates 256 thru 271). The area was bounded by longitudes 131/33/50W and 131/39/45W and latitudes 55/59/10N and 55/53/10N.

C. SOUNDING VESSELS

Hydrographic data for this survey were collected from Jensen survey launches RA-3, RA-4, RA-5 and RA-6 designated vessel numbers 2123, 2124, 2125 and 2126 respectively. Vessel 2125 and the RAINIER 2120 were used for bottom samples. The RAINIER was used for all sound velocity casts for this survey.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Survey launches were equipped with Raytheon DSF-6000 dual beam echo sounders and depths on this survey ranged from 0 fathoms to 221 fathoms.

VESSEL		SOUNDING EQUIPMENT	SERIAL NO.
RA-3	(2123)	Raytheon DSF-6000N	A119N
RA-4	(2124)	Raytheon DSF-6000N	A117N
RA-5	(2125)	Raytheon DSF-6000N	A123N
RA-6	(2126)	Raytheon DSF-6000N	A103N

The DSF-6000N echo sounders were operated primarily in the dual beam high frequency digitized mode. In order to ensure that high and low frequency beams were tracking the steep contours of the bottom close to shore, the launches were operated at low speeds (700-1500 rpm). The high and low frequency gain controls and the phase controls were operated manually because the high frequency beam could not track the bottom when these controls were in the automatic mode. Nevertheless, approximately five percent of the time the high frequency trace could not track the bottom. When this occurred the depth values were scanned from the low frequency beam trace. There were no discrepancies at the junctions of the high and low frequency beams data as the two traces were in close agreement at the points of change-

over. In depths of over 100 fathoms the 6DB+ boost was used when needed.

All soundings were taken from the launches under Mini-Ranger Range-Range or Range-Azimuth control. Since the echo sounding transducers on launches are directly below the Mini-Ranger units the ANDIST associated with these survey data is 0.0 meters. The final field sheets were plotted with this ANDIST value.

Bar checks were conducted at least once daily for both beams of the DSF-6000N echo sounder as per the Provisional Operating and Processing Instructions for the DSF-6000N Echo Sounder. All bar checks were performed within the survey area. The bar checks were used to confirm proper system function, and bar check data were combined with velocity data to determine launch TRA correctors. The TRA for the wide and narrow beams were within 0.1 fathom of each other.

These TRA calculations resulted in a 0.3 fathom TRA for launches 2123, 2125 and 2126 and a 0.2 fathom for launch 2124.

Velocity corrections were derived from two Nansen casts taken during the survey as listed below. A final table of velocity corrections was created averaging both Nansen casts. However, the smooth field sheet was plotted with a preliminary velocity correction table based only on the first Nansen cast. Printouts of velocity tables are included in the separates following the text. See processed digital data for final values.

VELOCITY CASTS

CAST NUMBER	DATE	LATITUDE	LONGITUDE
1 (Nansen)	9/18/84 (262)	55-55-00N	131-39-36W
2 (Nansen)	10/10/84 (284)	55-59-12N	131-15-42W

TC/TI tapes were made in accordance with PMC OPORDER, Appendix Q. Printouts of the TC/TI tapes are included in the separates following the text. For further information and details relating to correction to echo soundings see Corrections to Echo Soundings Report OPR-0168-RA-84.

E. HYDROGRAPHIC SHEETS

Field Sheets RA-10-2N-84 and RA-10-2S-84 were prepared on RAINIER by AST Bookheim using the PDP-8/e Hydroplot System and Complot Plotter which produce a modified transverse Mercator projection. Four expansion sheets were prepared at a scale of 1:2,500 for areas of dense line spacing. A list of parameters used to define the field sheets amd expansion sheets is provided in the separates following the text. The

smooth field sheets are at a scale of 1:10,000. All data and accompanying field records will be sent to Pacific Marine Center for verification.

F. CONTROL STATIONS

Geodetic control for survey H-10155 consisted of establishing triangulation marks and recovering existing Third Order stations. JAN 1984, JULIE 1984, and SNIPE POINT LIGHT were positioned by Third Order traverse methods. See the Horizontal Control Report, OPR-168-RA-84 for details.

STATIONS RECOVERED	NEW STATIONS
JOHN 1929	JAN ~~1984~~
MY 1891	JULIE ~~1984~~
PASS 1930	SNIPE PT LIGHT ~~1984~~
FOR 2 1929	
SUE 1891	
SIR 1891	
~~YE 2 1929~~	
SNIP 1930	
~~WAS 1891~~	
HASSLER 1930	

G. HYDROGRAPHIC POSITION CONTROL

Range/Range and Range/Azimuth were the methods used for hydrographic positioning. Motorola Mini-Ranger III and Wild Theodolites were the instruments used. The following tables summarize the serial numbers and locations of all mobile and shore positioning equipment.

WILD THEODOLITE S/N

T-1: 14055, 65516
T-2: 57259, 73226, 68648, 75599

MINI-RANGER MOBILE EQUIPMENT

VESSEL	CONSOLE	R/T S/N	DATES
2123	720	713370	258-263
2124	B0269	B1388	256-271
2125	715	911615	263-270
2126	711	B1405	262

MINI-RANGER SHORE EQUIPMENT

CODE	TRANSPONDER S/N	CODE	TRANSPONDER S/N
A	1645	F	911711
D	1569	1	C1883
E	911721		

The following table summarizes the locations and dates for all Mini-Ranger mobile equipment.

STATION NUMBERS

J		104	105	106	107	109	110	111	112	114	120	124	126	129
U	256					F		D						
L	257					F	E	D						
I	258					F	E	D	E					
A	259					F	E	D	E					
N	260										E			
	261								E			E		
D	262	D					F		D		E			
A	263		1				F	E	E				E	
T	264	A	A	A	A					E				E
E	270						E		1				E	
S	271						1							

CALIBRATIONS AND PERFORMANCE

Mini-Ranger calibrations and systems checks were performed in accordance with PMC OPORDER, Appendices M and S. Initial baseline calibrations for this project were conducted on the Homer Spit, Homer, Alaska on 25 August 1984. Ending baseline calibrations are planned at Lake Union, Seattle, Washington on 5 and 6 November 1984.

Only initial correctors were used to plot the smooth field sheet. The initial calibrations also determined the minimum signal strength cut off values for each system. For more information regarding systems checks and calibrations, refer to the Electronic Control Report, OPR-0168-RA-84. The electronic correctors were revised to incorporate the average of the initial and final baseline correctors.

Daily static calibrations for each code used were performed at Third-order Class I stations along the water's edge in the project area. This satisfied the requirement for weekly critical and daily non-critical systems checks.

Bottom samples obtained by the RAINIER on JD 252 were positioned via radar fixes converted to GP's.

Mini-Ranger performance was generally very good. All transponders were set up on Third-order, Class I (or better) geodetic stations.

H. SHORELINE ✓

Shoreline was applied to the field sheets from enlargements of 1:20,000 scale registered shoreline map TP-01159. Field edit was not conducted. Rocks located by the hydrographer are shown in red on the ~~smooth~~ field sheet. Reference numbers for shoreline verification were used by the hydrographer.
All rocks are in black on the smooth sheet.

I. CROSSLINES ✓

A total of 18.6 nautical miles of crosslines were run during the survey, representing 8.3% of the mainscheme mileage. Agreement of soundings at crossings was good, generally within 2 fathoms.

J. JUNCTIONS ✓

This survey junctions to the south with RA-10-1-84, (H-10154), to the east with RA-10-4-84, (10160), and RA-10-3-84, (H-10156), and to the west with contemporary survey H-10121 (1983), a 1:10,000 scale survey. All sounding comparisons were within two fathoms and contour lines continued in a smooth line with no abrupt changes.

See section 5 of EVAL Report

K. COMPARISONS WITH PRIOR SURVEYS ✓

The survey was compared to the following prior surveys:

SURVEY	SCALE	YEAR
H-5103	1:20,000	1930
H-5144	1:20,000	1931

All soundings compared well, within two fathoms, except for the following soundings that were not in agreement and should be superseded by the present survey.

PRIOR DEPTH (FM)	PRESENT DEPTH	Prior LOCATION	CHARTED	
33	18'	55/55/20N 131/34/20W	No	
18	#36	55/54/10N 131/38/10W	Yes	Submitted as a Danger to Navigation during office processing.
40	31	55/54/05N 131/36/25W	No	

14	K-3	55/53/35N 131/39/20W	No

There were no AWOIS items on this survey.

L. COMPARISON WITH THE CHART ✓

This survey was compared to an enlargement of the following chart:

CHART NUMBER	SCALE	EDITION	DATE
17422	1:79,000	6	August 15, 1981

Present charted soundings originate with the prior surveys discussed in Section K.

There were no dangers to navigation identified or reports submitted by the ship for this survey. *See Section 7 of Final Report*

M. ADEQUACY OF THE SURVEY ✓

This survey is complete and adequate to supersede all prior surveys for charting purposes. *concur*

N. AIDS TO NAVIGATION ✓

There is one aid to navigation within the limits of this survey. SNIPE POINT LIGHT was located to Third-Order accuracy methods on September 13, 1984. NOAA Form 76-40 is attached as a separate to this report.

O. STATISTICS

SOUNDING VESSEL	LINEAR NAUTICAL MILES OF HYDRO	SQUARE MILES OF HYDRO	NUMBER OF POS.
2120			4
2123	27.7		318 11
2124	115.0		~~133~~ 121 7
2125	9.8		248 251
2126	5.5		94 89
Total	158.0	6.2	1991 1871

Bottom Samples: ~~12~~ 13
Velocity Casts: 2
Tide Stations: 2

P. MISCELLANEOUS ✓

No anomalous currents were observed or reported during this survey. *concur*

Bottom samples were forwarded to the Smithsonian Institute.

Q. RECOMMENDATIONS ✓

This survey is complete and no additional field work is recommended at this time.

R. AUTOMATED DATA PROCESSING ✓

Data acquisition and processing were accomplished in accordance with the Hydrographic Manual (Fourth Edition), Manual of Automated Hydrographic surveys, the PMC OPORDER, Hydrographic Survey guidelines and the Hydrographic Data requirements for 1984.

Soundings and positions were taken by an ASI Logger and a Hydroplot system. Hyperbolic Range/Range Hydroplot program RK 112 was used in conjunction with the Hydroplot system. There are daily master tapes and corresponding corrector tapes which include the TRA for the sounding vessels, electronic control baseline correctors for Mini-Ranger consoles and R/T units and all depth corrections. Velocity tapes were generated from SV/D cast data. The following is a list of all computer programs and version dates used for data acquisition or processing:

Number	Description	Version
RK 112	Hyperbolic, R/R Hydroplot	10/12/83
RK 201	Grid, Signal, and Lattice Plot	4/18/75
RK 211	Range/Range Non-Real Time Plot	2/13/84
RK 212	Visual Station Table Load	4/01/74
RK 215	Visual Position and Sounding Plot	2/11/81
RK 216	Range/Azimuth Non-Real Time Plot	2/24/84
RK 300	Utility Computations	10/21/80
RK 330	Reformat and Data Check	5/04/76
PM 360	Electronic Corrector Abstract	2/02/76
RK 407	Geodetic Inverse/Direct Computation	9/25/78
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Correction for Velocity	5/10/76
RK 561	H/R Geodetic Calibration	12/01/82
AM 602	Elinore-Line Oriented Editor	12/08/82
AM 603	Tape Consolidator	10/10/72
AM 606	Tape Duplicator	8/22/74
AM 607	Self-Starting Binary Loader	8/10/80
RK 610	Binary Tape Duplicator	12/01/82
RK 612	Line Printer List	3/22/78
RK 900	Plot Test Tape Generator for AM 902	5/07/76
RK 901	Core Check	3/01/72
AM 902	Real Time Checkout	11/10/72
DA 903	Diagnostic-Instruction Timer	2/27/76
RK 905	Hydroplot Controller Checkout	3/18/81
RK 935	Hydroplot Hardware Tests	3/15/82
RK 950	Hardware Tests (Documentation Only)	6/02/75

S. REFERENCE TO OTHER REPORTS ✓

The following reports contain information related to this survey:

Echo Sounding Report	OPR-P168-RA-84
Electronic Control Report	OPR-P168-RA-84
Horizontal Control Report	OPR-P168-RA-84
Coast Pilot Report	OPR-P168-RA-84

Respectfully submitted,

BRLD for

John S. Griffin
ENS, NOAA

Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

October 23, 1985 N/MOP211C/CRD

Commander (OAN)
Seventeenth Coast Guard District
P. O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

During office processing of hydrographic survey H-10155, Alaska, Behm Canal, Hassler Pass to Bailey Bay, the following danger to navigation was noted. Questions concerning the survey may be directed to Lt. Cdr. David W. Yeager, Chief, Nautical Chart Branch, telephone (206) 526-6835.

A 3.6-fathom sounding at MLLW exists at latitude 55°54'08.50"N, longitude 131°38'09.09"W; 1.6 nautical miles, 180 degrees magnetic from the charted position of Snipe Point Light. The 3.6-fathom sounding plots on an 18-fathom sounding on Chart 17422.

Sincerely,

ORIGINAL SIGNED BY

Robert L. Sandquist
Rear Admiral, NOAA
Director, Pacific Marine Center

Enclosure

bc: N/CG222

Retyped:MOP2/kt: 10-23-85

FILE COPY

CODE	SURNAME	DATE	CODE	SURNAME	DATE
MOP2	Mordock	10/23			
MOP	Sandquist	10/25			

NOAA FORM 61-2

1604-06-1

* U.S. GPO: 1983-667-002

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRARAPHIC SURVEY

RA-10-2-84

H-10155

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, and the Instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

The boatsheet and the accompanying records have been examined by me, are considered complete and adequate for charting purposes, and are approved.

John P. Vandermeulen
Commander, NOAA
Commanding Officer

MASTER STATION LIST
OPR-0168-RA-84
BEHM NARROWS. ALASKA

RA-10-2-84(H-10155)

FINAL VERSION

~~100 1 55 50 12216 131 35 51175 250 0002 000000~~
/CON 1930 NGS LISTING

~~101 1 55 51 09986 131 33 38395 139 0001 000000~~ 250
/DRESS 1930 NGS LISTING

~~102 1 55 51 10860 131 36 32329~~ 250
/FIN 1930
103 3 55 53 28240 131 36 24290 250 0001 000000
/HASSLER 1930 NGS LISTING

104 6 55 53 46488 131 38 50029 250 0001 000000
/TREP 1983 RAINIER

105 0 55 53 32800 131 39 45895 250 0001 000000
/IDA 1983 RAINIER

106 0 55 53 06575 131 40 53759 250 0002 000000
/ADELE 1983 RAINIER

107 6 55 52 57215 131 40 46229 250 0002 000000
/MELISSA RAINIER

108 6 55 52 55972 131 40 55744 139 0001 000000
/SEA 1983 RAINIER

109 1 55 55 20167 131 36 30035 250 0001 000000
/FOR 2 1929 NGS LISTING

110 1 55 55 48252 131 38 31675 250 0002 000000
/JOHN 1929 NGS LISTING

111 5 55 54 45440 131 38 12198 250 0002 000000
/MY 1891 NGS LISTING

112 3 55 54 25691 131 37 56338 250 0001 000000
/PASS 1930 NGS LISTING

114 4 55 55 42944 131 36 43589 250 0001 000000
/SNIP 1930 NGS LISTING

~~115 4 55 54 35317 131 35 29050 139 0001 000000~~
/YE 2 1929 NGS LISTING

---

120 6 55 54 14987 131 37 18651 250 0000 000000
/JULIE 1984 RAINIER

121 1 55 54 53635 131 34 52021 ~~139~~ 250 0001 000000
/SIR 1891 NGS LISTING

122 4 55 55 33576 131 36 47508 139 0009 000000
/SNIPE POINT LIGHT RAINIER

124 1 55 55 26071 131 35 31640 250 0003 000000
/SUE 1891 NGS LISTING

~~125 4 55 55 08141 131 33 58369 139 0002 000000~~
/WAS 1891 NGS LISTING

126 2 55 58 28437 131 36 50111 250 0001 000000
/JAN 1984 RAINIER

129 7 55 55 47783 131 36 23392 250 0003 000000
/COW 1930 NGS LISTING

~~130 0 55 56 53318 131 35 03491 139 0001 000000~~
/GRIN 1930 NGS LISTING

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS [redacted] FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [X] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship RAINIER	Alaska	Behm Canal	10/14/84

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-0168-RA-84		H-10155	N.A. 1927

1984 L.L. CHARTING XXXXXX NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
3018	(SNIPE POINT LIGHT) Fl.W., 2.5s	55 55	33.576 1038.4	131 36	47.508 825.2		F-3-6-L Sept 1984	17360 17385 17420
	NC-L-1510(84)							17422

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	Steve Konrad LT(jg), NOAA	☐ PHOTO FIELD PARTY XXX HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	Steve Konrad LT(jg), NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

FIELD TIDE NOTE
RA-10-2-84
H-10155

Field tide reduction of soundings was based on predicted tides from Ketchikan, Alaska (945-0460). Corrections were obtained from Preliminary Tidal Zoning OPR-0168-RA-84. The predicted tides were derived using program AM500.

Two Bristol Bubbler tide gages were installed at two locations in the project area. Location and period of operation are as follows:

SITE	LOCATION	PERIOD
Convenient Cove	55/52.1 N 131/41.3 W	Sept.4 - Oct.17, 1984
Fitzgibbon Cove	55/59.0 N 131/10.5 W	Sept.5 - Oct.17, 1984

CONVENIENT COVE

Gage (S/N 63A2921) was installed and began operation September 4, 1984. The staff was also installed and leveled September 4. Excellent records were obtained with no interuptions. The marigram reads 6.0 ft greater than the staff.

FITZGIBBON COVE

Gage (S/N 736620) was installed and began operation Sept. 5, 1984. The staff was also installed and leveled Sept. 5. Good records were obtained with the exception of a loss of 5 days from 1330 October 6 to 1800 October 11 when the marigram paper jammed. The ship was unable to check the gage during this period because of an extended in-port due to weather. No hydro was run during this period. The marigram reads 6.9 ft less than the staff.

LEVELS

The reference station at Ketchikan was leveled September 10, 1984. Final levels were run October 19, 1984. Initial and final levels compared very well.

Final levels on the subordinate stations showed no signifigant movement of the tidal staffs.

DATE: 1/4/85

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Pacific

OPR: 0168

Hydrographic Sheet: H-10155

Locality: Hassler Pass to Bailey Bay, Alaska

Time Period: September 12-27, 1984

Tide Station Used: 945 0807 Convenient Cove, Alaska

Plane of Reference (Mean Lower Low Water): 14.58 ft.

Height of Mean High Water Above Plane of Reference: 14.8 ft.

Remarks: Recommended Zoning:

Zone Direct

James R. Hubbard
Chief, Tidal Datums Section

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10155

Name on Survey	A ON CHART NO. 17422	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	
ALASKA (title)										1
BAILEY BAY										2
BEHM CANAL										3
BEHM NARROWS										4
BELL ARM										5
BELL ISLAND										6
BELL ISLAND HOT SPRINGS										7
BLACK ISLAND										8
BLIND PASS										9
CLEVELAND PENINSULA										10
CURLEW POINT										11
HASSLER ISLAND										12
HASSLER PASS										13
SNIPE POINT										14
REVILLAGIGEDO ISLAND										15
										16
										17
										18
					Approved:					19
										20
					Charles E. Harrington					21
					Chief Geographer - N/CG2x5					22
					OCT 29 1984					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27(H) (9-83)

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: H-10155

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	6
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	3

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	2					
ENVELOPES						
VOLUMES	1					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): TP-00159

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): chart 17422

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS VERIFICATION	AMOUNTS EVALUATION	AMOUNTS TOTALS
POSITIONS ON SHEET			1871
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS VERIFICATION	TIME-HOURS EVALUATION	TIME-HOURS TOTALS
PRE-PROCESSING EXAMINATION			
~~VERIFICATION OF CONTROL~~			
VERIFICATION OF POSITIONS	75.0		75.0
VERIFICATION OF SOUNDINGS	120.5		120.5
~~VERIFICATION OF JUNCTIONS~~			
~~APPLICATION OF PHOTOBATHYMETRY~~			
~~SHORELINE APPLICATION/VERIFICATION~~			
COMPILATION OF SMOOTH SHEET	100.5		100.5
COMPARISON WITH PRIOR SURVEYS AND CHARTS		12.0	12.0
~~EVALUATION OF SIDE SCAN SONAR RECORDS~~			
~~EVALUATION OF WIRE DRAGS AND SWEEPS~~			
EVALUATION REPORT	3.0	12.0	15.0
~~GEOGRAPHIC NAMES~~			
OTHER* Digitizing			14.0
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	299.0	24.0	337.0

Pre-processing Examination by M. Kenny	*Beginning Date* 1/15/85	*Ending Date* 3/12/85
Verification of Field Data by Thelma O. Jones	*Time (Hours)* 283	*Ending Date* 6/19/85
Verification Check by Bruce A. Olmstead and James Green	*Time (Hours)* 50.5	*Ending Date* 11/8/85
Evaluation and Analysis by C. R. Davies	*Time (Hours)* 24.0	*Ending Date* 11/8/85
Inspection by D. Hill	*Time (Hours)* 2.0	*Ending Date* 11/8/85

☆ U.S. GOVT. PRINTING OFFICE 1983: 784-008/6061

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10155

1. INTRODUCTION

H-10155 was accomplished by the NOAA Ship RAINIER in accordance with the following project instructions:

OPR-0168-RA-84, dated August 9, 1984
Change No. 1, dated August 17, 1984

This is a basic hydrographic survey of northwestern Behm Canal, Alaska. The survey is centered at the confluence of Bailey Bay, Bell Arm, Behm Narrows, Hassler Pass, Blind Pass and Behm Canal. The survey encompasses all of Bailey Bay in the north, Bell Arm and Behm Narrows in the east to longitude 131°33'45"W, Hassler Pass in the south to latitude 55°53'10"N, and all of Blind Pass and Behm Canal to the west to longitude 131°40'00"W. The shoreline is typically rocky with some fringing ledges. Numerous beaches within the survey area are very rough, being gravel or boulder strewn. The mean low waterline has not been developed in most areas due to the steep sloping bottom topography. Offshore the bottom deepens rapidly to depths in excess of 200 fathoms. Bottom characteristics are generally mud.

Predicted tides based on the Ketchikan, Alaska gage were used during field processing. Tide correctors used for the reduction of final soundings reflect approved hourly heights and are zoned direct from one temporary tide gage, Convenient Cove, Alaska.

The electronic correctors have been revised during office processing to incorporate the results of the initial and final baseline calibrations. The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The revised data is listed in the smooth position/sounding printout.

The digital file for this survey has been generated and includes categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be included in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

All horizontal control stations used for controlling hydrography were established in accordance with Third Order Class I or better geodetic standards. The smooth sheet was plotted using published NGS coordinates for existing stations and field positions for newly established stations based on the North American Datum of 1927.

Hydrographic positioning was conducted using Motorola Mini-Ranger III, configured in both range-range and range-azimuth modes. Visual hydrography was also conducted on this survey. Baseline calibrations were performed before and after completing the survey. Daily system checks to confirm the baseline values were conducted using the static calibration method.

All remaining information affecting the positioning and station control of this survey is contained in paragraph F and G of the Descriptive Report, the Horizontal Control and Electronic Control Report for OPR-0168-RA-84.

The applicable shoreline manuscript is TP-01159. This map is registered Class III and originates from photography dated June, 1982.

3. HYDROGRAPHY

Crossline soundings are in good agreement. Generally, all standard depth curves are complete and satisfactory, except in areas that are foul and those on steep slopes near the shoreline. The bottom configuration and least depths were adequately determined.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual except as noted in the Preprocessing Examination Report, dated January 8, 1985, and the following:

a. One danger to navigation was found during office processing. The hydrographer should review the final field sheet for possible dangers to navigation and should initiate the reporting of these dangers (Hydrographic Manual 1.6.4, 5.9, and PMC OPORDER appendix X).

b. A sufficient number of bottom samples were not taken on H-10155. Frequencies of bottom samples in various depths of water are specified in section 1.6.5 of the Hydrographic Manual.

c. A significant discontinuity in soundings and depth curves, latitude 55°54'45"N, longitude 139°39'30"W at the south side of the junction with H-10121 (1983), revealed a 100 meter offset of H-10121 soundings relative to H-10155 soundings. Resolution of junction discrepancies is required by section 4.3.2 of the Hydrographic Manual.

5. JUNCTIONS

H-10155 joins H-10160 to the northeast, H-10159 to the east, H-10154 to the south. Soundings and depth curves are inked in agreement. H-10155 adjoins H-10121 to the west. This survey was processed earlier and is not at the Pacific Marine Center. A copy of the survey indicates that the soundings and depth curves are in agreement except the 30-, 40-, 50-, 100-, and 200-fathom depths curves between latitude 55°54'39"N and 55°54'51"N. These curves should be adjusted on H-10121 to coincide with H-10155.

6. COMPARISON WITH PRIOR SURVEYS

H-5103 (1930) 1:20,000
H-5144 (1931) 1:20,000

The present survey soundings compare within ±1 to 3 fathoms inshore of the 50-fathom curve and offshore between ±5 to 10 fathoms. These differences are attributed to the relative accuracy of the data acquisition techniques and datum adjustments.

This survey is adequate to supersede the prior information within the limit of hydrography.

7. COMPARISON WITH CHART

Chart 17422, 6th Edition, dated August 15, 1981; scale 1:79,000.

a. Hydrography - Charted information originates with the prior surveys discussed in section 6 of this report and from other miscellaneous sources.

H-10155 is adequate to supersede charted hydrography within the common area.

The area covered by H-10155 was examined for dangers to navigation. One was found during office processing and reported to the Seventeenth Coast Guard District and to DMAHTC via Automated Notice to Mariners system (see letter attached).

b. Controlling Depths - There are no controlling depths within the limits of H-10155.

c. Aids to Navigation - There are no floating aids to navigation and one fixed aid within the limits of H-10155.

Light List Name	Light List Number	Latitude (N)	Longitude (W)
Snipe Point Light	3018	55°55'33.576"	131°36'47.508"

The charted aid has been located and adequately serves its intended purpose.

The geographic names shown on the smooth sheet originated from this chart.

8. COMPLIANCE WITH INSTRUCTIONS

H-10155 adequately complies with the project instructions except where noted in section 4, Condition of Survey.

9. ADDITIONAL FIELD WORK

H-10155 is an adequate basic hydrographic survey and no additional field work is required at this time.

Respectfully submitted,

Charles R. Davies

C.R. Davies
Cartographer

This survey has been examined and it meets Charting and Geodetic Services standards and requirements for use in nautical charting. The survey is recommended for approval.

Dennis Hill

Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10155

I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

Daniel W. Yeager 12-6-85
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock Larry W. Mordock 12-6-85

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

Robert L. Sandlin 12-6-85
Director, Pacific Marine Center (Date)

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Washington, D.C.

Hydrographic Index No. 110K

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10155

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
17422	3/27/89	ALMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. soundings from SS.
17420	4/5/89	ALMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. soundings thru SS & 17422.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.

appd to Stds 1-28-86 per