

10357

10357

Diagram No. 8202-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey . . . Hydrographic
Field No. RA-10-5-90
Registry No. H-10357

LOCALITY

State Alaska
General Locality Icy Strait
Sublocality Entrance to Idaho Inlet

19 90

CHIEF OF PARTY
CAPT J.C. Albright

LIBRARY & ARCHIVES

DATE October 5, 1992

WCL

PRODS

17302

17300

-16700-NC

CP8

16016 NC

HYDROGRAPHIC TITLE SHEET

H-10357

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 10-5-90

State Alaska

General locality Icy Strait

Locality Entrance to Idaho Inlet

Scale 1:10,000 Date of survey October 8-23, 1990

Instructions dated February 22, 1990 Project No. OPR-0186-RA

Vessel Survey Launches 2123, 2124, 2125, and 2126

Chief of party Captain John C. Albright, NOAA

Surveyed by LT Dave Cole, LT Gerd Glang, LTJG Dave Simmons, LTJG Pam Weber, ENS Heidi Muench, ENS Chris Ward

Soundings taken by echo sounder, ~~hand lead, pole~~ DSF-6000N

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification by: Elizabeth Brown Automated plot by PHS Xynetics Plotter

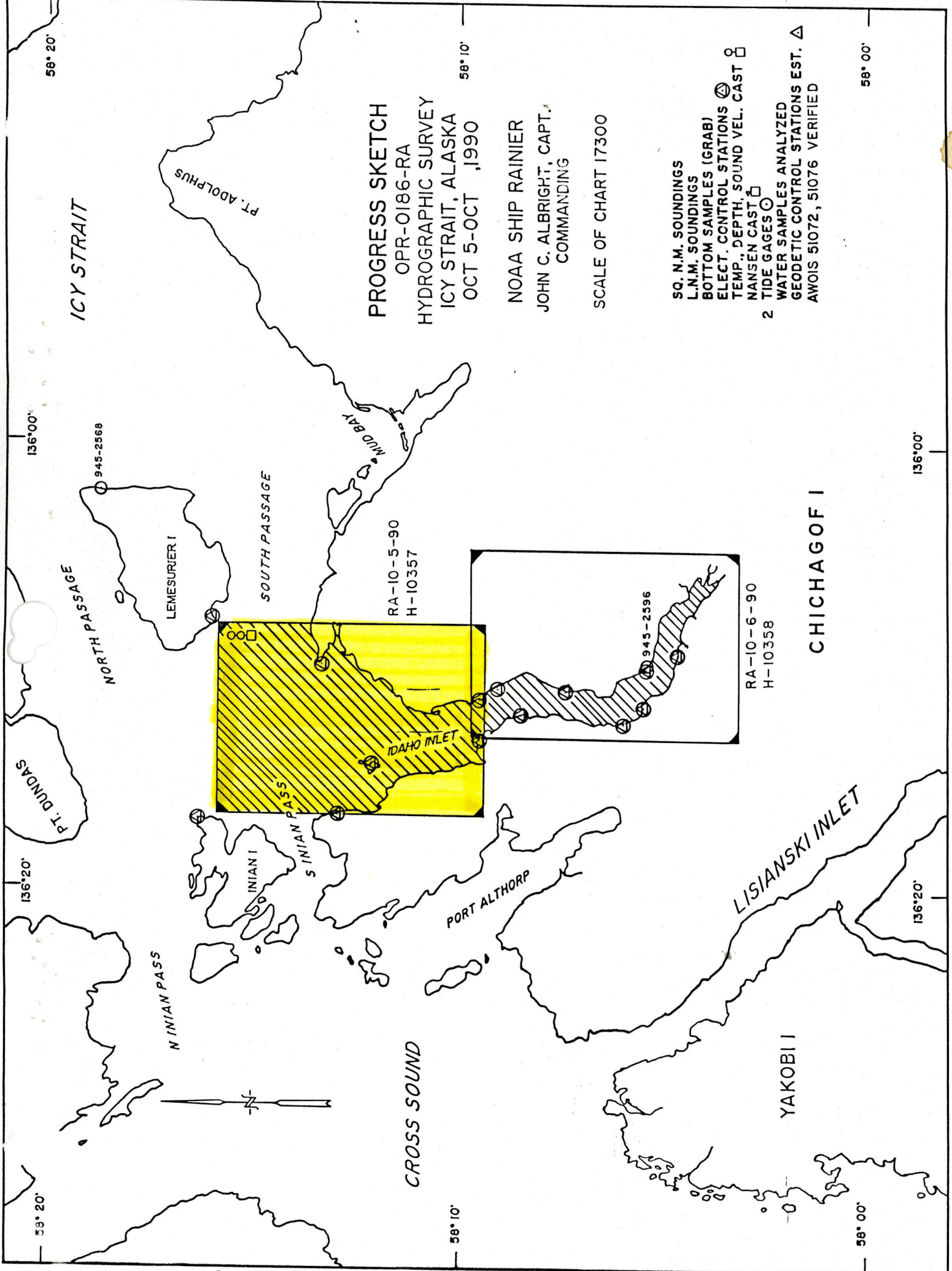
Evaluation by: Gordon E. Kay

Soundings in ~~fathoms~~ ~~feet~~ meters at ~~MLW~~ MLLW and decimeters

REMARKS: Time in UTC. Revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.

*AWOIS/SURF CHK 10/27/92
MCR*

*SC 1-28-97
XWW*



ICY STRAIT

PROGRESS SKETCH
 OPR-0186-RA
 HYDROGRAPHIC SURVEY
 ICY STRAIT, ALASKA
 OCT 5-OCT '1990

NOAA SHIP RAINIER
 JOHN C. ALBRIGHT, CAPT.
 COMMANDING

SCALE OF CHART 17300

SQ. N.M. SOUNDINGS
 L.N.M. SOUNDINGS
 BOTTOM SAMPLES (GRAB)
 ELECT. CONTROL STATIONS
 TEMP., DEPTH, SOUND VEL. CAST
 NANSEN CAST
 2 TIDE GAGES
 WATER SAMPLES ANALYZED
 GEODETIC CONTROL STATIONS EST. Δ
 AWOIS 51072, 51076 VERIFIED

CHICHAGOF I

RA-10-5-90
 H-10357

RA-10-6-90
 H-10358

CROSS SOUND

YAKOBII I

N INIAN PASS

INIAN I

S INIAN PASS

PORT ALTHORP

LISIANSKI INLET

LEMESURIER I

SOUTH PASSAGE

NORTH PASSAGE

PT. DUNDAS

PT. ADOLPHUS

MUD BAY

IDAHO INLET

58° 20'

58° 10'

58° 00'

136° 00'

136° 00'

136° 20'

136° 20'

58° 20'

58° 10'

58° 00'

Descriptive Report to Accompany Hydrographic Survey H-10357

Field Number RA-10-5-90

Scale 1:10,000

October 1990

NOAA Ship RAINIER

Chief of Party: Captain John C. Albright

A. PROJECT

This basic hydrographic survey was completed in Icy Strait, southeast Alaska, as specified by Project Instructions OPR-O186-RA dated February 22, 1990. This survey is designated Sheet B on the revised layout dated February 16, 1988. ✓

This survey is one in a series that will provide contemporary hydrographic data for updating existing nautical charts and planned larger scale chart coverage of the Icy Strait area. It responds to the concerns of federal, state, and local governments in regard to navigational safety due to an increase in fishing and tour vessels operating in the vicinity. Requests for updated surveys have also come from the Southeastern Alaska Pilots' Association and NOAA vessels, which have cited inaccurately charted data and numerous rocks and shoals. ✓

This survey was completed using procedures outlined in the April 1990 edition of the Field Procedures Manual (FPM) for Hydrographic Surveying. ✓

B. AREA SURVEYED

The survey is located in southeast Alaska, 59 NM west of Juneau, ^{includes the} north of Idaho Inlet in South Inian Pass. The north-south boundaries are ^{ERN PORT} 58°15'30"N and 58°09'00"N, respectively. The eastern limit is 136°08'30"W and the western limit is 136°16'00"W. The survey is bounded to the southwest and southeast by Chichagof Island. Data acquisition was conducted from October 8 through October 23, 1990 (DN 281 to 296). ✓

C. SURVEY VESSELS

All data were acquired by NOAA Ship RAINIER and the four automated survey launches shown below:

<u>Vessel</u>	<u>EDP No.</u>	<u>Operation</u>
RAINIER	2120	AML/Nansen Casts
RA-3	2123	Hydrography
RA-4	2124	Shoreline Verification Hydrography
RA-5	2125	Shoreline Verification Hydrography
RA-6	2126	Bottom Samples AML Casts Hydrography Shoreline Verification

 ✓

D. AUTOMATED DATA ACQUISITION AND PROCESSING

Data acquisition and processing were accomplished with Hewlett-Packard (HP) 340M workstations and the following HDAPS programs: ✓

<u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
SURVEY, w/ RAINIER mods	4.51	10-07-90
w/o RAINIER mods	4.55	10-28-90
POSTSUR, w/ RAINIER mods	4.15	8-17-90
FILESYS	1.68	8-17-90
ABST, w/ RAINIER mods	3.05	6-01-90
PLOTALL, w/ RAINIER mods	1.74	8-17-90
w/o RAINIER mods	1.77	11-15-90
POINT	1.20	8-17-90
BACKUP	1.02	3-09-90
DIAGNOSTIC	2.15	3-09-90
INVERSE	1.21	8-17-90
INSTALL	1.20	3-09-90
COMPUTE	2.02	3-09-90
CONSTAT, w/ RAINIER mods	2.05	7-03-90
CONPLOT, w/ RAINIER mods	1.02	7-03-90
CONVERT	2.36	6-01-90
PRINTOUT	2.23	6-01-90
AUTOST (BIGAUTOST)	2.00	3-09-90
BASELINE	1.02	8-17-90
LOADNEW	1.00	8-17-90
QUICK	1.04	10-07-90
CARTO	1.00	10-28-90

Velocity corrections were determined using:

<u>Program Name</u>	<u>Version</u>	<u>Version Date</u>
VELOCITY	1.11	3-09-90

The HDAPS SURVEY, POSTSUR, and PLOTALL programs are modified to allow for seven settlement and squat cases, and are corrected for a program error in the PRETIDEPRE module. ✓

The HDAPS CONSTAT and CONPLOT programs are modified to allow up to 25-character descriptions to be entered in the "Remarks" field of a Contact Table. This is necessary for plotting legible bottom sample descriptions. ✓

E. SONAR EQUIPMENT

Not applicable. ✓

F. SOUNDING EQUIPMENT

RAINIER and all survey launches were equipped with the Raytheon DSF-6000N echo sounders shown below. The echo sounders were operated in the HIGH + LOW (HIGH DIGITIZED) function, using manual gain controls on both high and low frequencies to obtain the best analog trace. Soundings were recorded in meters and tenths of meters. Six-meter bar checks were conducted and recorded daily, using both the LOW and the HIGH + LOW (HIGH DIGITIZED) functions. The echo sounders were operated in accordance with the Field Procedures Manual for Hydrographic Surveying (FPM). ✓

Raytheon DSF-6000N Echo Sounders

<u>Vessel</u>	<u>Serial No.</u>	<u>DN</u>
2123	A117N	281-288
2124	B046N	281-290
2125	B048N	281-289
2126	A114N	281-289

The echo sounders were continuously monitored during data acquisition. All sounding data were scanned at least two times, not only to ensure all significant peaks were inserted, but also to verify the digitized depths. While running over steep or irregular areas, the echo sounders sometimes failed to track properly. Running at minimum speeds usually alleviated this problem, but marginal analog traces could not always be avoided. ✓

Diver obtained depths were determined with a 3D Instruments pneumatic depth gage S/N 8504192N. ✓

G. CORRECTIONS TO ECHO SOUNDINGS

Corrections to echo soundings were determined for static draft, heave, velocity of sound through water, settlement and squat, and predicted tides. Sounding correctors apply to both narrow and wide beams of the DSF-6000N echo sounder. Supporting data and computations for all corrections to echo soundings, except heave, are included in the Fall 1990 Corrections to Echo Soundings Data Package for OPR-O186-RA, *submitted Nov. 1990.* ✓

Sound Velocity

Correctors for the velocity of sound through water were determined from the casts listed below: ✓

<u>Cast No.</u>	<u>Instrument</u>	<u>Deepest Depth (m)</u>	<u>DN</u>	<u>Geographic Position</u>
1	SEACAT	155.1	282	58°15'02"N, 136°08'25"W
2	AML	204.5	282	58°15'02"N, 136°08'26"W

Cast No. 1 (SEACAT) was performed on the same day as Cast No. 2 (AML) to ensure that the AML SVP Profiler was operating properly. The two casts showed excellent agreement; therefore, data from Cast No. 1 was not applied to echosoundings. Data acquired from Cast No. 2 was used for the duration of this survey. ✓

Sound velocity correctors were acquired with an AML SVP, S/N 3042, which was calibrated at the Northwest Regional Calibration Center (NRCC) in Bellevue, WA, on March 27, 1990. The SBE SEACAT Profiler (S/N 281) was calibrated at NRCC on August 22, 1990. ✓

Velocity correctors were computed using the PC program VELOCITY in accordance with Hydrographic Survey Guideline (HSG) #69. A printout of Velocity Table No. 1 used in the HDAPS Post Survey program is included with the separates accompanying the survey data. ✓

Static Draft

For all launches, the distance from the transducer face to the gunwhale was measured with a large metal square. Static draft measurements were then determined by dropping a leadline from the gunwhale to the water and subtracting this distance from the distance measured with the square. The measurements from the gunwhale to the waterline were conducted with the fuel tanks averaging 3/4 full and three people aboard. A transducer depth of 0.6 meter was determined for all launches on March 20, 1990. This transducer depth agrees with the launches' historical records. ✓

Settlement and Squat

Settlement and squat correctors were determined for two of the automated survey launches in Shilshole Bay, WA, on February 23, 1990 (Vesno 2124 and 2126). Vesno 2123 was tested on April 12, 1990, near Pt. Aldolphus in Icy Strait, AK. Vesno 2125 was tested on May 20, 1990, at Bartlett Cove, AK. ✓

All tests were conducted over a hard bottom in depths well exceeding seven times the vessels' drafts. Both sea and wind were calm. Observations were made through a Zeiss Ni2 leveling instrument (S/N 103453) to a rod held vertically on deck, directly over the transducer. Correctors were computed in accordance with Hydrographic Manual 4.9.4.2. ✓

The following is a summary of all Offset Tables used on this survey and their applicable period:

<u>Vessel No.</u>	<u>Offset Table No.</u>	<u>Period used online (DN)</u>
2123	3	281-288
2124	4	281-290
2125	5	281-289
2126	6	281-289

Copies of all offset tables are included with the separates supplementing this report. ✓

Heave

Corrections for heave were applied while scanning echograms. The scanning technique used in comparing the analog trace with the digital record eliminated significant fluctuations resulting from sea action. ✓

Pneumatic Depth Gage

The Pneumatic Depth gage was calibrated February 7, 1990, by the Pacific Operations Group (N/OMA1214). In addition, field systems checks were performed via comparison with diver depth gages each day the pneumatic depth gage was used. Calibration data and correctors applied to the pneumatic depth gage are included in the Fall 1990 Corrections to Echo Soundings Data Package for OPR-O186-RA, *forwarded Nov. 1990.* ✓

Bar Check Lines

Bar check lines were calibrated by RAINIER personnel during January 1990 at PMC. Calibration forms are included in the Fall 1990 Corrections to Echo Soundings Data Package for OPR-O186-RA, *forwarded Nov. 1990.* ✓

Tide Correctors

Tidal zoning and correctors applicable for Sitka, Alaska, reference station (945-1600) were provided on the Tidal Zoning Chart accompanying the project instructions and are shown below: ✓

<u>Zone</u>	<u>Time Corrections</u>	<u>Ratio</u>
Entire Survey	High Water: +10min Low Water: +10min	x1.34

Printouts of the HDAPS Predicted Tide Tables used to generate tide correctors are appended to this report. ✓

Tide gages were installed and maintained by RAINIER personnel at stations on the east side of Lemesurier Island (945-2568) and at the south end of Idaho Inlet (945-2596). The field tide records and the Field Tide Notes for these stations have been forwarded to N/OMA1212 in accordance with HSG 50 and FPM 4.3. Requests for approved tides have been forwarded to N/OMA12. Copies of the Field Tide Notes and the requests for approved tides are ~~included in Appendix V.~~ *Filed with the survey records.* ✓

H. CONTROL STATIONS

Geographic positions for all control stations are based on the North American Datum of 1983 (NAD83) and the Geodetic Reference System 1980 Ellipsoid. ✓

Horizontal control stations are ~~listed in Appendix III~~ *attached to* of this report.

Positions for all existing stations are from the NGS data base and prior surveys conducted in 1970. Several geographic positions are NAD83 adjusted, and were obtained from N/CG2333. Existing stations were recovered in accordance with FPM 5.2.4. New stations were positioned via traverse methods to meet third-order ✓

class I standards. Further information can be found in the Spring 1990 Horizontal Control Report for OPR-O186-RA, *forwarded July 1990.* ✓

I. HYDROGRAPHIC POSITION CONTROL

Soundings, bottom samples, and detached positions were located using the Motorola Mini-Ranger Falcon 484 microwave positioning system in multiple range and manual range/azimuth modes. ✓

Accuracy requirements stated in FPM 3.1.3.1 were generally met. On occasion, when no winds prevailed and sea conditions were exceptionally calm, null zones were experienced. OIC's adjusted the R/T mast height until sufficient control was available. When maximum residuals exceeded the specified limits, OIC's deselected the station(s) with the highest residual and continued hydrography. On occasion, ECR's and maximum residuals persistently exceeded the specified limits. This data was generally rejected and re-run with different control. ✓

Hydrography collected close inshore often occurred with one or more LOP's blocked, resulting in high ECR's and/or maximum residuals. In these cases, OIC's generally annotated the raw master printout (RMPO). If the data plotted on track and sounding intervals appeared correct, the data ~~was~~ ^{were} retained. Some hydrography, such as high-water lines and shoreline DP's, was acquired with only two LOP's because stations were blocked or deselected. In these cases, if the systems check at day's beginning included additional LOP's, and maximum residuals, and ECR's were acceptable throughout the data collection period, no further systems checks were performed at day's end. ✓

A Wild T-2 theodolite was used for the manual range/azimuth observations, in addition to the Motorola Mini-Ranger Falcon 484 positioning system. Serial numbers for all equipment are annotated on the RMPO for each day of hydrography. A complete list of all electronic equipment serial numbers is included in the Fall 1990 Electronic Control Data Package. ✓

All baseline calibrations were conducted in accordance with FPM 3.1.2.1 and 3.1.3.2. From September 28 to September 30 (DN 271-273), calibrations were conducted over a measured range of 970.7m and 972.7m from VESNO 2125 (in davits) at PMC, across Lake Union, to Station MR CAL 1 at the Seattle Naval Reserve Center. Calibration data and a description of the baseline ~~is~~ ^{are} included in the Fall 1990 Electronic Control Data Package. ✓

System checks for multiple LOP hydrography were conducted prior to data collection, any time control was changed, and any time ECR and maximum residual values exceeded allowable limits. System checks were conducted in accordance with FPM 3.1. Azimuth checks for range/azimuth hydrography were performed by sighting on an additional third-order control station. The check was considered satisfactory if the azimuth difference was less than 30 seconds of arc. *See Evaluation Report section 2.* ✓

Final field sheets were plotted with correctors determined from the baseline calibrations. ✓

J. SHORELINE

Two shoreline maps (T-sheets) were used to transfer shoreline detail to the final field sheets. Idaho Inlet and Shaw Island shorelines originate from a 1:10,000-scale enlargement of TP-01319 (1:20,000; NAD83), and TP-01330 (1:10,000; NAD27). ✓

Shoreline verification was conducted near lower low water in accordance with FPM 7.1. No negative tides were encountered during daylight hours, and shoreline areas were examined twice on separate days to ensure that nothing was missed. However, since negative tides were not encountered during daylight hours of this project, verification of one T-sheet rock was not accomplished. Therefore, the rock at 58°13'12"N, 136°10'12"W was not verified by hydrographic means. All unverified features are shown in blue on the final field sheets. ✓

Ⓢ This rock is shown on the smooth sheet in black ink and no elevation.

Detached positions (DPs) taken during shoreline verification indicate that the T-sheet photography was flown during a stage of tide higher than MLLW. Some T-sheet rocks were found to be isolated boulders, reefs, islets or high points within foul areas or ledges in the intertidal zone, and posed no danger to navigation. No significant or prominent alongshore rocks were found at the T-sheet rock locations. Alongshore T-sheet rocks were retained and shown on the final field sheets, to represent the nature of the area. ✓

The two 1:10,000-scale DP overlays show the limits of shoreline composition at the times the DP's were acquired. DP descriptions were pulled through onto the final field sheets and portray the appropriate shoreline configuration. The two 1:10,000-scale final field sheets show the approximate 0-meter curve as a dashed line where steep shoreline prevented a launch from running sounding lines to the 0-meter curve. ✓

Kelp symbols are shown on the FFS in areas where surface kelp was visible. ✓

DPs were recorded on the master printouts or on properly annotated sheets included with the master printouts. Detailed 1:10,000-scale paper plots showing all DPs and notes relating to each feature are included with the sheets submitted with this survey. Sequential reference numbers were used in place of DPs where shoreline features were similar to those as depicted on the T-sheets. Position numbers for all DPs are plotted on the two DP overlays. Heights are recorded in meters and are corrected to ~~predicted~~ ^{actual} MLLW. ✓

Some islets depicted along the eastern shore in Gull Cove are high points on boulder beaches and indistinguishable as individual islets. The islet and rock at ~58°12'54"N, 136°09'15"W were not distinguishable amongst the boulders on the beach. Many of the features depicted as islets on the T-sheet may actually be *considered disproved*. ✓

Recommendation: The hydrographer recommends that shoreline detail from this survey be used to supersede prior shoreline information. *CONCUR* ✓

Disprovals

The following disprovals ^{were} ~~was~~ conducted near lower low water. A visual search was conducted for each item lasting an average of fifteen minutes within a 50 meter radius of the shown position. Positioning was accomplished by using two or more ranges from Falcon Mini-Rangers with ECRs and maximum residuals within acceptable limits. ✓

The vicinity of the T-sheet rock at $58^{\circ}12'01.5''N$, $136^{\circ}14'19.5''W$ (Pos No. 2092) was inspected and the rock was not seen. *This rock is not on the smooth sheet.* ✓

The vicinity of the T-sheet rock at $58^{\circ}11'56''N$, $136^{\circ}14'13''W$ (Pos No. 2093) was inspected and the rock was not seen. *This rock is not on the smooth sheet.* ✓

K. CROSSLINES

A total of 40.1 nautical miles of crosslines were run perpendicular to mainscheme lines, representing 11.1% of the mainscheme hydrography. Crossline soundings agree to within one meter with mainscheme soundings, except in areas of steep bottom topography. The vessel acquiring crossline data did not always collect the corresponding mainscheme data. Agreement between soundings acquired by different echo sounders in a common area is as stated above. ✓

L. JUNCTIONS *See Evaluation Report section 5*

This survey junctions with H-10336 (1:10,000; 1990) to the east, H-10338 (1:10,000; 1990) to the north, and H-10358 (1:10,000; 1990) to the south. There are no contemporary surveys junctioning this survey to the west. No irregularities were found when comparing soundings and depth *CURVES*. Agreement between overlapping soundings is excellent, with all junction soundings agreeing to within two meters. ✓

M. COMPARISON WITH PRIOR SURVEYS *See Evaluation Report section 6*

This survey was compared to the following prior survey: ✓

H-2618 (1:40,000; 1902):

A 1:40,000-scale copy of H-2618 was compared to this survey. The general agreement of depths and contours is good, although some soundings were illegible, particularly at the inshore areas. Those soundings that were legible in the deeper areas showed good agreement to within four meters. ✓

The majority of soundings on chart 17302 were carried forward from this survey; therefore, a more comprehensive comparison is made in Section N. ✓

Recommendation: The hydrographer recommends the soundings and least depths acquired from this survey be used to supersede those of H-2618 within their common areas. *CONCUR*

N. COMPARISON WITH THE CHART

This survey was compared to a 1:10,000-scale enlargement of NOS chart 17302, 15th Edition, May 20/89, 1:80,000 (NAD83). ✓

Comparison of Sounding Features

Overall agreement between this survey and the chart is good, with agreement to within 4 meters. Some discrepancies were found near shoal areas, where this survey revealed some depths shoaler than charted depths. The most probable cause for the discrepancies is wide line spacing on the prior survey. Additional causes may also be the techniques used for positioning and sounding during the prior survey, isostatic rebound and the irregularity of the bottom. The discrepancies are: ✓

Chart the areas below as shown on the Smooth Sheet.

Three areas of shoaling were developed with 50m splits:

The shallowest depth on this feature is a 4RKL (Pos. #8219) at latitude 58/13/20.27N, longitude 136/15/16.34W.

6.5 5.7m at 58°13'22"N, 136°15'16"W (Pos No. 4292⁺⁴)

12.8 12.0m at 58°13'21"N, 136°15'26"W (Pos No. 4268⁺³)

12.4 11.4m at 58°12'57"N, 136°10'22"W (Pos No. 8089)

Six other shoals were developed with 10m splits:

19.0 18.5m at 58°12'26.5"N, 136°14'39"W (Pos No. 6188⁺⁴)

12.5 11.3m at ~58°12'42.5"N, ~136°14'18"W (Pos No. 4109⁺²⁺⁵)[ⓐ]

12.5 10.9m at 58°13'13"N, 136°10'32"W (Pos No. 8205⁺³)

16.7 15.6m at 58°12'36"N, 136°13'45"W (Pos No. 6216⁺¹⁰)[ⓑ]

13.9m at 58°11'20"N, 136°11'58"W (Pos No. 2412⁺²)

15.0 11.3m at 58°12'38"N, 136°10'03"W (Pos No. 4429⁺⁸)[ⓒ]

The shallowest depth in area is a 97R (Pos. #44912) at latitude 58/13/10, longitude 136/10/02W

Seven shoal areas and features were determined by divers least depth:

13.3RK 12.6m at 58°12'32"N, 136°14'47"W (Pos No. 8377)[ⓓ]

2.6RK 1.9m at 58°13'48"N, 136°15'32"W (Pos No. 8213)

0.0RK 0.7m at 58°13'46"N, 136°15'27"W (Pos No. 8212) ✓

7.1RK 6.4m at 58°13'36"N, 136°15'30"W (Pos No. 8382)

4.0RK 3.1m at 58°13'20"N, 136°15'16"W (Pos No. 8219)

9.4RK 8.6m at 58°12'37"N, 136°14'43"W (Pos No. 8381)

1.5RK 0.6m at 58°12'35"N, 136°10'00"W (Pos No. 8374)

Dive investigations resulted in least depth determinations of seven features. Each echo sounder depth considered for a dive operation was assigned a dive site number; these numbers, along with the least depths originally investigated, appear on the dive investigation forms. The forms contain detailed descriptions and sketches of each feature and are included within the accordion files submitted with this survey. In cases where the echo sounder depth was shoaler than the divers' least depth, both depths were retained and are shown on the final field sheet. ✓

Recommendation: The hydrographer recommends sounding data from this survey be used to ~~update and~~ compile the chart. *CONCUR* ✓

Comparison of Non-Sounding Features

Comparison of charted shoreline with this survey is discussed in Section J. ✓

ⓔ Excessed by 12.2M (Pos. 49361) at latitude 58/12/39 N, longitude 136/14/19 W.
 ⓑ " " 16.6M (Pos. 4970/3) " " 58/12/36 " " 136/12/44 "
 ⓒ " " 11.7M (Pos. 8385/9) " " 58/12/39 " " 136/10/02 "

AWOIS Items

The following two AWOIS items are reported as a shoal and submerged piles, respectively. The areas were thoroughly investigated with closely spaced sounding lines and/or by visual observation, with the following results:

Rock Awash at latitude 58°13'48.70"N, longitude 136°15'24.58"W

AWOIS No. 51072: Three least depths were determined by diver investigation in the vicinity of the reported position of the above AWOIS item: 1) At 058°13'20.3"N, 136°15'16.3"W a least depth of 3.1m (DN 283, Pos No. 8219); 2) at 058°13'48.7"N, 136°15'31.7"W a least depth of 1.9m (DN 283, Pos. No. 8213); 3) at 058°13'46.1"N, 136°15'26.3"W an ~~exposed shoal~~ that uncovers 0.7m at MLLW (DN283, Pos No. 8212).

See Evaluation
Report Section 7.6

Submerged piling latitude 58°12'46.71"N, longitude 136°09'12.57"W

AWOIS No. 51076: An extensive search of the Gull Cove area by divers revealed a mooring anchor located at 058°12'41.4"N, 136°09'15.9"W (DN 290, Pos No. 8376) with a least depth of 0.2m at MLLW. Further investigation revealed a pile at 058°12'40.9"N, 136°09'18.8"W (DN 290, Pos No. 8377) with a least depth of 1.7m at MLLW. A rock was found at 058°12'40.5"N, 136°09'20.3"W (DN290, Pos No. 8378) that is exposed 0.2m at MLLW, in the approximate position of what was originally described as "a concrete piling 5ft in diameter". Thorough investigation by the divers revealed no such piling, and the rock is considered to have been mistaken for it.

See Evaluation
Report Section 7.6

A complete description of the dives for AWOIS No. 51076 is appended to this report. *filed with the survey records.*

Recommendation: The hydrographer recommends that ~~AWOIS No. 51072 and AWOIS No. 51076~~ be removed from the AWOIS item listing, and data acquired from this survey used to update the chart.

Delete both Charted features.
CONLUR

See Evaluation
Report section 7.6

Dangers to Navigation

Fifteen dangers to navigation within the limits of this survey were reported by radio message and hard copy to the Seventeenth Coast Guard District and DMAHTC. Copies of the correspondence are appended to this report. Position numbers associated with each reported danger are included on the copy of the radio message.

O. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede the areas common to the prior surveys listed in Section 6.10 of the Project Instructions. CONLUR

P. AIDS TO NAVIGATION

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

One floating aid to navigation, South Inian Pass Lighted Bell Buoy 6, marks a shoal southeast of Inian Island in South Inian Pass. The buoy, a red structure buoy, was positioned by hydrographic methods by VESNO 2124 (DN281, Pos. No. 4077). The field position was checked against published and charted positions. The comparisons are shown below:

<u>Navigational Aid</u> <u>Light List No.</u>	<u>Published</u> <u>Position*</u>	<u>Charted</u> <u>Position</u>	<u>Field</u> <u>Position</u>	<i>Position Number</i>
Fl R 4s #24210	58°13.9'N 136°15.3'W	58°13.8'N 136°15.5'W	58°13'51.7"N 136°15'27.1"W	#4677

*Source: United States Coast Guard Light List (NAD83), Volume VI, 1990.

The light characteristics given above were observed in the field and agree with the charted and Light List characteristics. The bell was heard and verified in the field. The buoy adequately serves the apparent purpose for which it was established. ✓

There are no bridges, overhead cables, submerged pipelines, or ferry routes within the limits of the survey. ✓

Recommendation: The hydrographer recommends that the ~~published~~ ^{field} position of South Inian Pass Lighted Bell Buoy 6 be used to update the chart. *CONCUR*

Q. STATISTICS

<u>Vessel:</u>	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>	<u>Total</u>
# of Pos	522 455	1097 956	534 465	466 466	2619 1283
NM Hydro	82.3	163.0	45.9	69.6	360.8

NM² Hydrography 17.99 Velocity Casts 1

Detached Positions 100 Tide Stations 2 ✓

Bottom Samples 59 Current/Magnetic Stations 0

R. MISCELLANEOUS

All bottom samples were submitted to the Smithsonian Institution. ✓

No current measurements were made as no anomalous currents were observed within this survey's limits. ✓

Position no. 8377 was duplicated on this survey on DN 288 and on DN 290. ✓

The low frequency fathometer trace was used to recover two soundings: ^{45.0}49.6m at Pos No. ~~8026~~⁸⁰²⁷, and 127.0m at Pos No. 8014². At 058°14'36"N, 136°08'36"W, and 58°15'47"N, 136°14'33"W the depths were unrecoverable from both the high frequency or low frequency fathometer traces, and no interpolations made.

The soundings at 58°09'20"N-58°09'37"N, 136°14'09"W and at 58°11'31"N-58°11'39"N, 136°15'54"W are not on disk and therefore have been hand-plotted onto the final field sheets. *these soundings have been transferred to the smooth sheet.*

Following reduction using final correctors

S. RECOMMENDATIONS ✓

None.

T. REFERRAL TO REPORTS

The following supplemental reports contain additional information relevant to this survey:

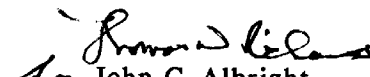
<u>Title</u>	<u>Date Sent to</u> <u>N/CG245</u>
Spring, 1990 Horizontal Control Report for OPR-O186-RA	July, 1990
Fall 1990 Electronic Control Data Package for OPR-O186-RA	November, 1990
Fall 1990 Corrections to Echo Soundings Data Package for OPR-O186-RA	November, 1990 ✓
Fall 1990 Coast Pilot Report for OPR-O186-RA	December, 1990

Respectfully Submitted,



Pamela K. Weber
Lieutenant(jg), NOAA

Approved and Forwarded,



John C. Albright
Captain, NOAA
Commanding Officer ✓

No	Type	Latitude	CONTROL STATIONS		Freq	Vel	Code	MM/DD/Y
			Longitude	H Cart				
134	F	058:20:30.117	136:07:23.370	7	250	0.0	0.0	00/00/0
0								
135	F	058:16:08.426	136:16:52.403	13	250	0.0	0.0	A 10/06/9
0								
136	F	058:19:03.960	136:15:34.960	6	250	0.0	0.0	00/00/0
0								
137	F	058:13:12.460	136:09:58.937	8	250	0.0	0.0	2 10/06/9
0								
140	F	058:15:30.126	136:07:13.227	3	250	0.0	0.0	00/00/0
0								
141	F	058:11:59.173	136:14:14.330	8	250	0.0	0.0	4 10/07/9
0								
142	F	058:09:31.117	136:11:35.135	5	250	0.0	0.0	E 10/10/9
0								
143	F	058:08:20.318	136:11:55.436	6	250	0.0	0.0	C 10/10/9
0								
144	F	058:08:55.680	136:10:50.658	3	250	0.0	0.0	E 10/11/9
0								
145	F	058:07:21.397	136:11:12.236	7	250	0.0	0.0	A 10/16/9
0								
146	F	058:09:54.452	136:12:13.799	6	250	0.0	0.0	1 10/16/9
0								
147	F	058:05:20.751	136:11:20.521	4	250	0.0	0.0	2 10/17/9
0								
148	F	058:05:23.873	136:10:02.361	4	250	0.0	0.0	3 10/17/9
0								
149	F	058:04:47.366	136:09:13.600	5	250	0.0	0.0	5 10/17/9
0								
150	F	058:09:28.836	136:13:15.301	9	250	0.0	0.0	5 10/07/9
0								
151	F	058:12:56.558	136:16:30.744	9	250	0.0	0.0	3 10/06/9
0								
152	F	058:15:48.046	136:07:57.536	8	250	0.0	0.0	1 10/06/9
0								
153	F	058:04:40.130	136:07:21.466	4	250	0.0	0.0	5 10/24/9
0								

- 135 INIAN, 1990
- 137 GULL, ~~TP~~, 1990
- 141 SHAW, 1990
- 142 IDA, 1990
- 143 HO 1990
- 150 IDAHO, 1970
- 151 ICY, 1970
- 152 YAK, 1990



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Rockville, MD 20852-3013

OFFICE OF NOAA CORPS OPERATIONS
Office of NOAA Corps Operations
NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

November 17, 1990

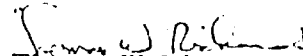
Commander
Seventeenth Coast Guard District
Post Office Box 3-5000
Juneau, Alaska 99802

**ADVANCE
INFORMATION**

Dear Sir:

Attached is a confirmation copy of the radio message sent to your office regarding the dangers to navigation which I recommend for inclusion in the Local Notice to Mariners for the Seventeenth Coast Guard District. A copy of the chart showing the areas in which the dangers exist is also attached.

Sincerely,


Thomas W. Richards
Captain, NOAA
Commanding Officer

Enclosures

cc: DMAHTC
N/CG221
PMC





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Rockville, MD 20852-3019

OFFICE OF NOAA CORPS OPERATIONS
Office of NOAA Corps Operations
NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

November 17, 1990

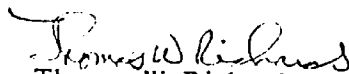
Director
DMAHTC
Attn: MCNA
6500 Brooks Lane
Washington, D.C. 20315-0030

**ADVANCE
INFORMATION**

Dear Sir:

While conducting hydrographic survey operations in Icy Strait, Alaska, NOAA Ship RAINIER discovered 20 dangers to navigation. They have been reported to DMAHTC (NAVWARN) and the Seventeenth Coast Guard District. A copy of the correspondence describing the dangers is enclosed.

Sincerely,


Thomas W. Richards
Captain, NOAA
Commanding Officer

Enclosure



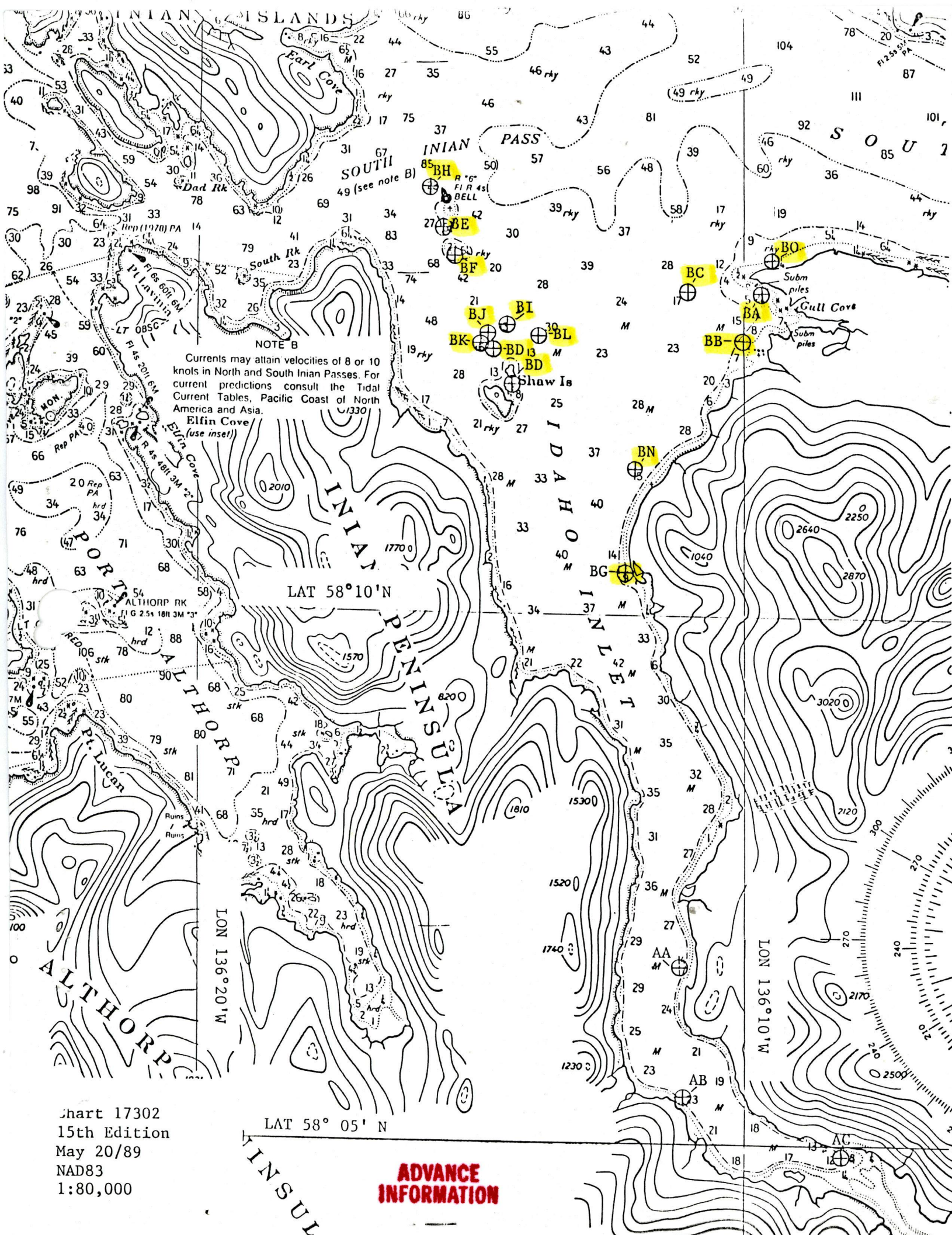


Chart 17302
 15th Edition
 May 20/89
 NAD83
 1:80,000

LAT 58° 05' N

**ADVANCE
 INFORMATION**

INSUL

APPROVAL SHEET

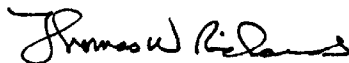
for

H-10357

(RA-10-5-90)

Standard procedures were followed in accordance with the Hydrographic Manual (Fourth Edition), the Hydrographic Survey Guidelines, and the Field Procedures Manual in producing this survey. The data were examined daily during data acquisition and processing.

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



John C. Albright
Captain, NOAA
Commanding Officer

ORIGINAL

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: April 15, 1991

MARINE CENTER: Pacific

OPR: O-186-RA

HYDROGRAPHIC SHEET: H-10357 (REVISED)

LOCALITY: North Portion of Idaho Inlet, Icy Strait, Alaska

TIME PERIOD: October 8 to October 23, 1990

TIDE STATIONS USED: 945-2569 Lemesurier Is., Icy Strait, Alaska
Lat. $58^{\circ} 18.8'N$ Lon. $136^{\circ} 2.2'W$

945-2596 Idaho Inlet (South End), Icy Strait,
Alaska
Lat. $58^{\circ} 5.4'N$ Lon. $136^{\circ} 10.0'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 945-2569 = 8.05 ft.
945-2596 = 11.58 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 945-2569 = 12.2 ft.
945-2596 = 11.5 ft.

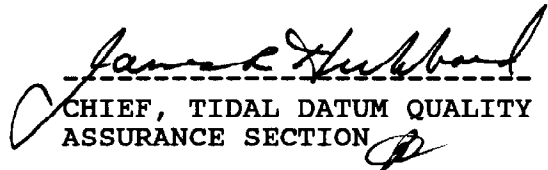
REMARKS: RECOMMENDED ZONING

1. West of $136^{\circ} 5.5'W$, east of $136^{\circ} 8.5'W$ and north of $58^{\circ} 12.2'N$, times are direct and apply a X0.95 range ratio to Lemesurier Is. (945-2569).
2. West of $136^{\circ} 8.5'W$, east of $136^{\circ} 11.5'W$ and north of $58^{\circ} 12.2'N$, times are direct and apply a X0.93 range ratio to Lemesurier Is. (945-2569).

HYDROGRAPHIC SHEET: H-10357

3. West of $136^{\circ} 11.5'W$, east of $136^{\circ} 14.5'W$ and north of $58^{\circ} 12.2'N$, times are direct and apply a X0.90 range ratio to Lemesurier Is. (945-2569).
4. West of $136^{\circ} 14.5'W$, east of $136^{\circ} 17.5'W$ and north of $58^{\circ} 12.2'N$, times are direct and apply a X0.88 range ratio to Lemesurier Is. (945-2569).
5. In Idaho Inlet, south of $58^{\circ} 12.2'N$ and north of $58^{\circ} 9.0'N$, apply a -0 hr. 6 min. time correction and a x0.98 range ratio to Idaho Inlet (945-2596).

Note: Times are tabulated in Greenwich Mean Time.



CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

GEOGRAPHIC NAMES

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">A ON CHART NO. 17302</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">B ON PREVIOUS SURVEY NO.</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">C TP-01319</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">D FROM LOCAL INFORMATION</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">E ON LOCAL MAPS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">F P.O. GUIDE OR MAP</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">G GRAND McNALLY ATLAS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">H U.S. LIGHT LIST</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">K</div> </div>											
	ALASKA (TITLE)	X										
CHICHAGOF ISLAND	X		X									2
ICY STRAIT (TITLE)	X		X									3
IDAHO INLET	X		X									4
INIAN PENINSULA	X											5
SHAW ISLANDS	X											6
SOUTH INIAN PASS	X											7
SOUTH PASSAGE	X											8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25

Approved:

Charles L. Harrington
Chief Geographer - N/CG 2/25

JUL - 9 1991

HYDROGRAPHIC SURVEY STATISTICS

H-10357

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		4
DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	2				
ENVELOPES					
VOLUMES					
CAHIERS					
BOXES					

SHORELINE DATA

SHORELINE MAPS (List): TP-01316, TP-01319, TP-01330

PHOTOBATHYMETRIC MAPS (List): None

NOTES TO THE HYDROGRAPHER (List): None

SPECIAL REPORTS (List): None

NAUTICAL CHARTS (List): Chart 17302, 15th Ed., May 20, 1989

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			2283
POSITIONS REVISED			26
SOUNDINGS REVISED			108
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	128		128
VERIFICATION OF SOUNDINGS	307		307
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	76		76
COMPARISON WITH PRIOR SURVEYS AND CHARTS		31	31
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		17	17
GEOGRAPHIC NAMES			
OTHER: Digitization			
*USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	511	48

Pre-processing Examination by M. Brown	Beginning Date 12/5/90	Ending Date 12/26/90
Verification of Field Data by E. Brown, E. Domingo, T. Jones	Time (Hours) 511	Ending Date 2/26/92
Verification Check by J. Stringham	Time (Hours) 45	Ending Date 3/3/92
Evaluation and Analysis by G. Kay	Time (Hours) 48	Ending Date 3/30/92
Inspection by Dennis Hill	Time (Hours) 4	Ending Date 9/9/92

EVALUATION REPORT H-10357

1. INTRODUCTION

Survey H-10357 is a basic hydrographic survey accomplished by the NOAA Ship *RAINIER* under Project Instructions OPR-O186-RA, dated February 22, 1990.

This survey occurred in Alaska and covers the area in Icy Strait at the entrance to Idaho Inlet. The western limit of this survey is longitude 136/16/00W and the Inian Peninsula. The eastern limit is longitude 136/08/12W and Chichagof Island. The northern limit lies between Inian Island and Lemesurier Island in South Passage at latitude 58/15/42N. The southern limit is inside Idaho Inlet at latitude 58/09/13N. The bottom consists of pebbles and sand. Depths range from 0 to 200 meters.

Predicted tides for Sitka, Alaska, station number 945-1600, were used for the reduction of soundings during field processing. Approved hourly heights zoned from both Lemesurier Island, gage number 945-2569, and Idaho Inlet (South End) gage number 945-2596, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. NAD 83 is used as the horizontal datum for plotting and position computations. The TRA, sound velocity and electronic correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey as required by the specifications contained in Hydrographic Survey Guideline Number 52, Standard Digital Data Exchange Format, April 15, 1986. Certain feature descriptive information, however, may not be in the digital record due to restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete depiction of survey data.

2. CONTROL AND SHORELINE

Sections H and I of the hydrographer's report, the Spring 1990 Horizontal Control Report and the Fall 1990 Electronic Control Data Package for OPR-O186-RA contain adequate discussions of hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1990 field and published values based on NAD 83. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values determined with the NGS program, NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude:	-1.344 seconds	(-41.588 meters)
Longitude:	6.473 seconds	(108.588 meters)

The year of establishment of control stations shown on the smooth sheet originates with the above mentioned horizontal control report and published NGS data.

The quality of 498 positions exceeds specifications in terms of error circle radius and residual. A review of the data indicates that one of these fixes was used to position a danger to navigation. Position 4525 marks a rock (uncovers 1.2 meters) at latitude 58/10/23.92N,

longitude 136/12/10.74W. This feature, and other features and soundings located by these fixes, are consistent with surrounding soundings. These fixes are considered acceptable.

Positions centered at latitude 58/09/34N, longitude 136/14/09W and latitude 58/11/35N, longitude 136/15/30W, were acquired by the hydrographer as "see field sheet" positions (SFS). Following reduction using final correctors these soundings were drafted onto the smooth sheet at the field sheet positions and were subsequently digitized into the hydrographic file.

The following shoreline maps apply to this survey.

	<u>Photo Date</u>	<u>Class</u>	<u>Datum</u>	<u>Scale</u>
TP-01316	June 1987	III	NAD 1983	1:20,000
TP-01319	June 1987	III	NAD 1983	1:20,000
TP-01330	June 1987	III	NAD 1927	1:20,000

TP-01330 has been adjusted to NAD 83 for plotting on the smooth sheet.

The following revisions to the high water line are considered approximate and are depicted on the smooth sheet in dashed red.

<u>Latitude North</u>	<u>Longitude West</u>
58/11/42	136/15/33
58/11/15	136/14/48
58/11/13	136/14/45
58/10/51	136/14/45

3. HYDROGRAPHY

Hydrography is adequate to:

- a. delineate the bottom configuration, determine least depths, and draw the standard depth curves;
- b. reveal there are no significant discrepancies or anomalies requiring further investigation; and
- c. show the survey was properly controlled and soundings are correctly plotted.

4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3; the Hydrographic Survey Guidelines; and the Field Procedures Manual, except as follows.

- a. A comparison with prior surveys H-2618a and H-4318WD was not accomplished as required by section 6.10. of the Project Instructions. See section 6, of this report for a comparison.
- b. There is a charted pier in Idaho Inlet that was neither found nor disproved by the hydrographer. See section 7a, of this report for additional information.

c. The hydrographer used information from two independent investigations to document the location and depth of an AWOIS item. To facilitate processing and reduce confusion depth and position information should be included as part of the same digital record.

5. JUNCTIONS

Survey H-10357 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10336	1990	1:10,000	East
H-10338	1990	1:10,000	North
H-10358	1990	1:10,000	South
H-10371	1991	1:10,000	West

All junctions are complete.

Some soundings have been transferred from surveys H-10336, H-10338, H-10358, and H-10371 to survey H-10357 to better portray the bottom in the common area.

6. COMPARISON WITH PRIOR SURVEYS

H-2618(1902) 1:40,000
H-2618a(1914) 1:40,000

Survey H-2618 covers the entire present survey area. Differences vary, with extremes of +15 to -30 meters, with most soundings varying +5 to -5 meters between the prior and present survey in water depths ranging from 42 to 155 meters.

Survey H-2618a covers a small portion of the present survey north of latitude 58/13/33N and west of longitude 136/15/30W. Soundings compare very favorably with one another. Soundings vary +2 to -4 meters between the prior and present survey in water depths ranging from 26.2 to 152 meters.

Survey H-10357 is adequate to supersede the prior surveys H-2618 and H-2618a within the common area.

H-4318WD(1923) 1:40,000

This wire drag survey covers the survey area from latitude 58/13/00N, north to the survey limits. Present survey soundings agree with the wire drag data. The 13-foot hang (charted as a 2-fathom sounding) at latitude 58/13/26N, longitude 136/15/26W, is confirmed by a 4-meter depth (2.2 fathoms, 13.1 feet) 237 meters away, (position 8219) at latitude 58/13/20.27N, longitude 136/15/16.34W. These differences in position and depth are attributed to the methods of surveying, positioning during the wire drag survey and the effects of various earthquakes on this area. This 4-meter depth is considered accurate and adequate to supersede the 13-foot depth from the prior survey.

There are no conflicts between the drag depths and the depths found during this survey.

In accordance with Hydrographic Survey Guideline No. 39, the effects of the 1964 Prince William Sound earthquake were considered in the comparison of these surveys. No reasonable adjustment to the prior surveys depths could be determined.

There are no AWOIS items originating from surveys H-2618, H-2618a and H-4318WD, that apply to the present survey.

7. COMPARISON WITH CHART

Chart 17302, 15th edition, dated May 20, 1989; scale 1:80,000, NAD 83

a. Hydrography

Charted hydrography originates with surveys H-2618, H-2618a, H-4318WD and miscellaneous sources.

A pier on the east side of Idaho Inlet charted at latitude 58/10/18.5N, longitude 136/12/00W, was not investigated by the hydrographer. This pier, though not visible at MLLW, may contain potential hazards below the water line. Therefore, it should be revised to submerged ruins at the presently charted position.

Except for the charted pier mentioned above, survey H-10357 is adequate to supersede charted hydrography within the common area.

b. AWOIS

The following AWOIS items originate with miscellaneous sources:

AWOIS item 51072 (CL797/1959) an exposed shoal charted at latitude 58/13/48.70N, longitude 136/15/24.58W (NAD 83) was investigated by the hydrographer using reduced line spacing of 50 meters and three dive investigations. The entire shoal has now been well defined by these investigations. The shoalest depth found, a rock awash 0.0 meters, was from a dive investigation, (position 8212) at latitude 58/13/46.09N, longitude 136/15/26.27W. This feature is situated 85.3 meters from the reported AWOIS feature. Two other dives were performed that mark and define this shoal. Delete the charted feature and chart a rock awash.

AWOIS item 51076 is a note "*Subm piles*" charted at latitude 58/12/46.71N, longitude 136/09/12.57W, and submerged piles charted at latitude 58/13/05N, longitude 136/09/55W. The investigation of the area of the charted note found a rock awash at latitude 58/12/40.51N, longitude 136/09/20.32W (position 8379), and two obstructions; a submerged pile ~~at~~ 1.6 meters ~~of water~~ at latitude 58/12/40.91N, longitude 136/09/18.81W (position 8380), and a mooring anchor ~~in~~ 2.4 meters ~~of water~~ at latitude 58/12/41/39N, longitude 136/09/15.91W (position 8376). The investigation of the area of the submerged piles resulted in the location of a mooring anchor uncovering 1.4 meters at latitude 58/13/09.36N, longitude 136/09/54.67W (position 8044). Both charted features should be deleted from the chart and the features found on this survey charted.

* with a least depth of

c. Controlling Depths

There are no charted channels with controlling depths within the area of this survey.

d. Aids to Navigation

There are no fixed aids to navigation located within the area of this survey. There is one floating aid. The floating aid, South Inian Pass Lighted Bell Buoy 6 (Light List number 24210) was located (position 4077) at latitude 58/13/51.72N, longitude 136/15/27.10W. This aid serves its intended purpose.

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

The hydrographer reported 15 dangers to navigation, shoals and along shore rocks, to the Seventeenth Coast Guard District, Juneau, Alaska, and DMAHTC (NAVWARN) Washington D.C. A copy of the message is attached.

No additional dangers were discovered during office processing

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10357 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a good hydrographic survey. Additional field work is recommended on a time available basis to verify or disprove the charted pier in Idaho Inlet at latitude 58/10/18.5N, longitude 136/12/00W.

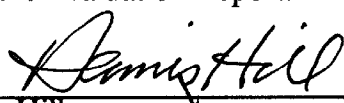


Gordon E. Kay
Cartographer

APPROVAL SHEET
H-10357

Initial Approvals:

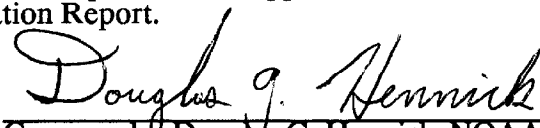
The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disapproval of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.



Dennis J. Hill
Chief, Hydrographic Processing Unit
Pacific Hydrographic Section

Date: 9-11-92

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.




Commander Douglas G. Hennick, NOAA
Chief, Pacific Hydrographic Section

Date: 9/14/92

Final Approval

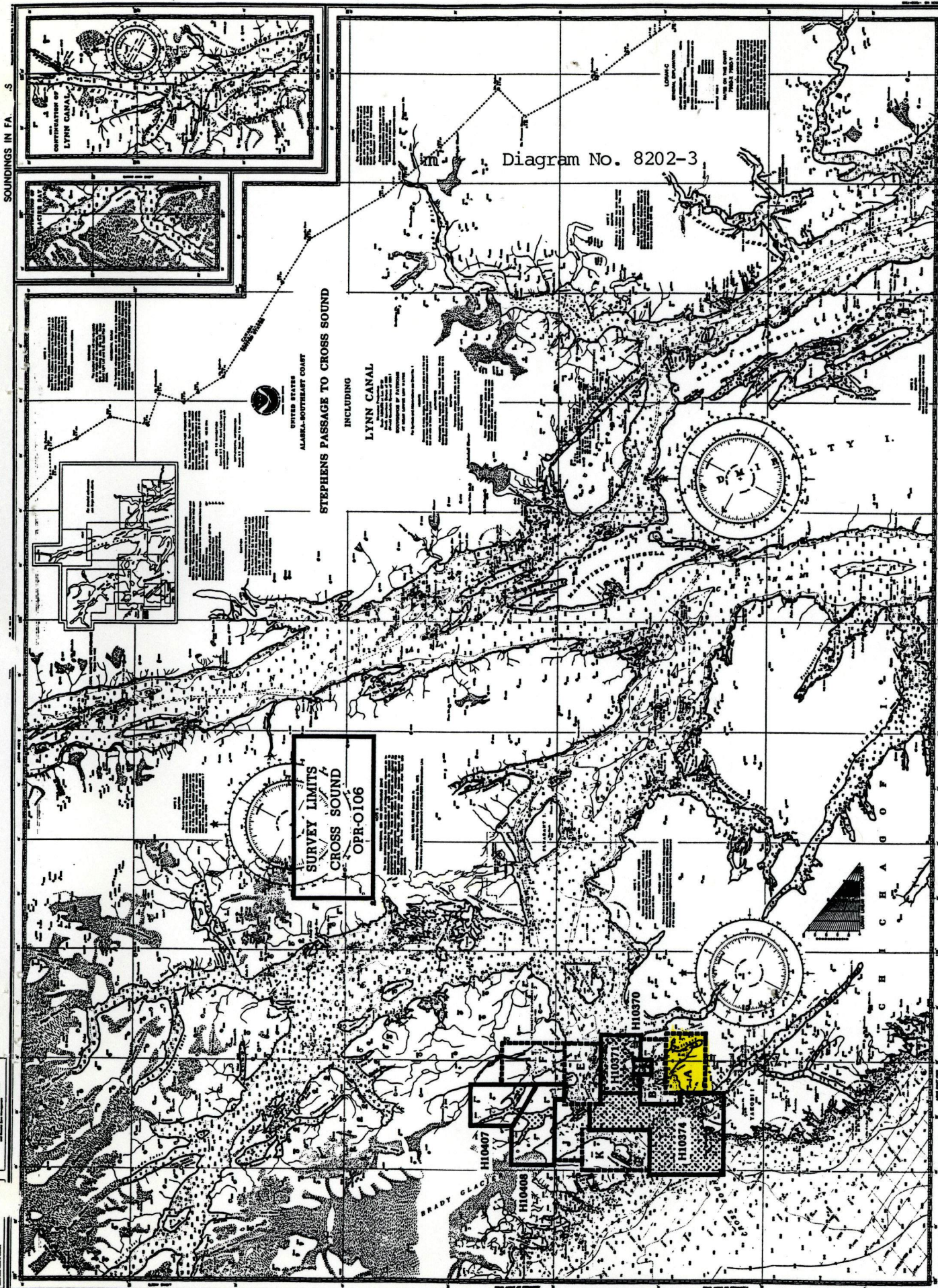
Approved:



J. Austin Yeager
Rear Admiral, NOAA
Director, Coast and Geodetic Survey

Date: 2/7/95

Received 4/6/72



MARINE CHART BRANCH
RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10357

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
17300	10-18-91	Andrew L. Kay	Full Part Before After Marine Center Approval Signed Via <i>Partial application</i> Drawing No. <i>of sndgs. from final field sheet.</i>
17302	9-18-92	R. N. Michaels	Full Part Before After Marine Center Approval Signed Via <i>Full application of</i> Drawing No. <i>sndgs. from SS.</i>
17300	3-8-93	C. J. Johnston	Full Part Before After Marine Center Approval Signed Via Drawing No. <i>29</i>
16760	3-30-93	A. M. Barrigan	Full Part Before After Marine Center Approval Signed Via Drawing No. <i>#15</i> <i>applied through Chart 17300 #29</i>
			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.
			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.