10297

Diagram No. 8201-4

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

10297

Type of Survey Navigable Area Hydrographic

Field No. RA-20-2-89

Registery No. H-10297

LOCALITY

State Alaska

General Locality Frederick Sound

Sublocality Point Macartney to Deepwater Point

19 89

CHIEF OF PARTY
CAPT J.C. Albright

LIBRARY & ARCHIVES

DATE March 13, 1990

☆U.S. GOV. PRINTING OFFICE: 1985—566-054

"G.P."
CHT
17368
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NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10297

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 20-2-89

State Alaska

General locality Frederick Sound

Locality Point Macartney to Deepwater Point

Scale 1:20,000 Date of survey March 31 to April 16, 1989

Instructions dated September 13, 1988* Project No. OPR-0358-RA

Vessel NOAA Ship RAINIER (2120) and Launch (2123)

Chief of party CAPT J.C. Albright

Surveyed by ENS Noll, ENS Duffy, ENS Haines

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

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification by: ~~Protracted by~~ L. Deodato Automated plot by PMC Xynetics Plotter

Evaluation by: ~~Verification by~~ C.R. Davies

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

REMARKS: (all times UTC)

* Change No. 1 dated January 17, 1989

Change No. 2 dated February 13, 1989

Change No. 3 dated March 27, 1989

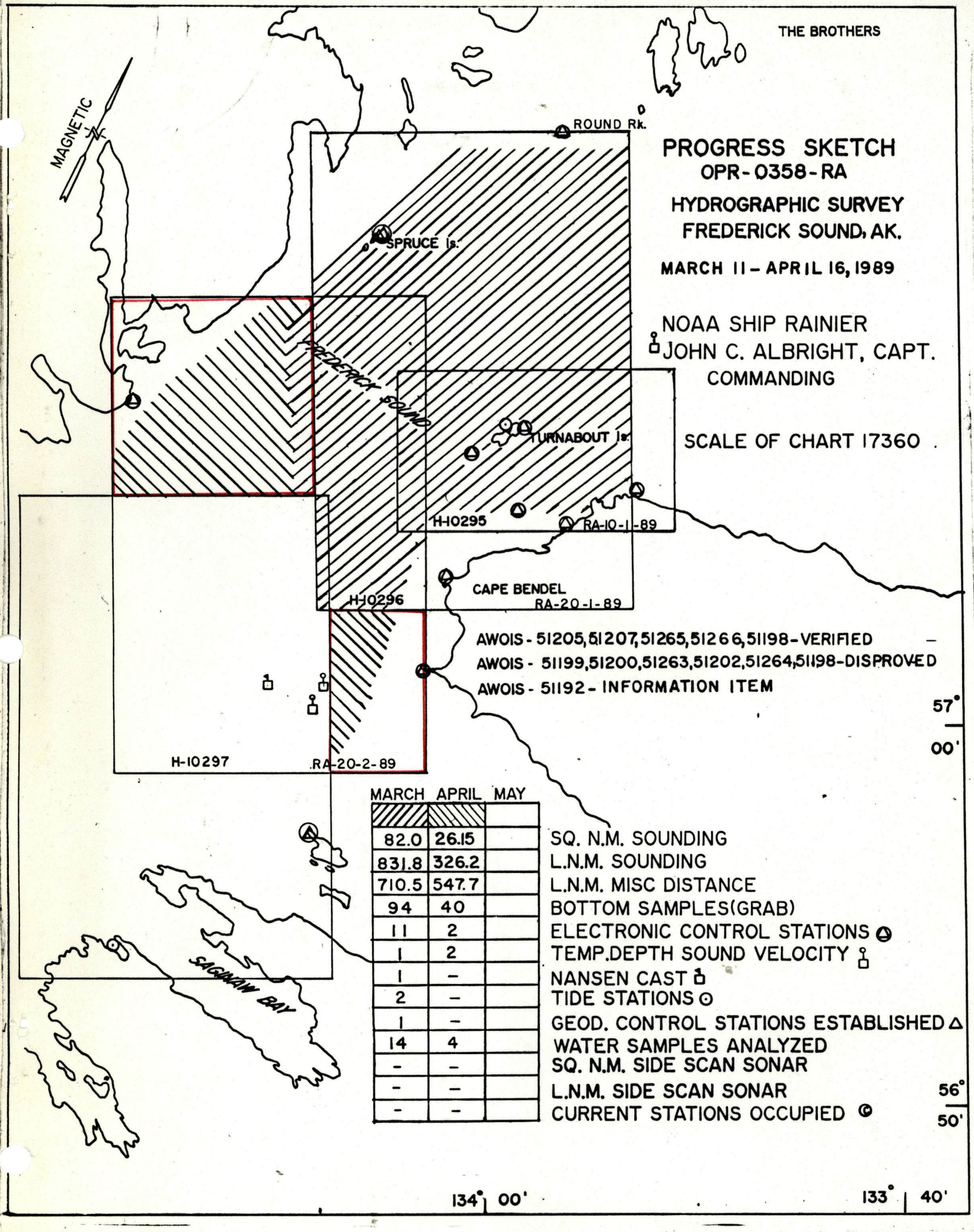
Change No. 4 dated April 17, 1989

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.

SEP 16 91 ✓ AWOIS AND SURF RUD 3/90

U.S. GOVERNMENT PRINTING OFFICE: 1986 - 652-007/41215



	MARCH	APRIL	MAY
SQ. N.M. SOUNDING	82.0	26.15	
L.N.M. SOUNDING	831.8	326.2	
L.N.M. MISC DISTANCE	710.5	547.7	
BOTTOM SAMPLES(GRAB)	94	40	
ELECTRONIC CONTROL STATIONS	11	2	
TEMP.DEPTH SOUND VELOCITY	1	2	
NANSEN CAST	1	–	
TIDE STATIONS	2	–	
GEOD. CONTROL STATIONS ESTABLISHED	1	–	
WATER SAMPLES ANALYZED	14	4	
SQ. N.M. SIDE SCAN SONAR	–	–	
L.N.M. SIDE SCAN SONAR	–	–	
CURRENT STATIONS OCCUPIED	–	–	

Descriptive Report to Accompany Hydrographic Survey H-10297

Field Number RA-20-2-89
Scale 1:20,000
1989

NOAA Ship RAINIER
Chief of Party: Captain John C. Albright

A. PROJECT ✓

A basic hydrographic survey using the navigable area concept was completed in Frederick Sound, Alaska as specified in Project Instructions OPR-O358-RA, dated September 13, 1988 and Change Nos. 1 (January 17, 1989), 2 (February 13, 1989), 3 (March 27, 1989), and 4 (April 17, 1989). The survey is designated Sheet J on the revised sheet layout dated April 10, 1989.

This survey was one of a series which will provide contemporary hydrographic data for existing nautical charts and for a new series of 1:80,000-scale charts. It is part of a continuing program to improve chart coverage of the Inside Passage of southeast Alaska in response to requests from the Southeastern Alaska Pilots' Association, the Department of Transportation of Alaska, and other private interests such as the cruise liner and fishing industries.

B. AREA SURVEYED ✓

The survey is located in southeast Alaska, in western Frederick Sound, and includes the waters surrounding Deepwater Point and Point Macartney. The north section of the survey lies 1.0 NM south of Admiralty Island and extends 4.5 NM offshore from Point Napean and Deepwater Point. The south section of the survey lies 1.5 NM west of Cape Bendel and extends offshore approximately 2.5 NM from Point Macartney on Kupreanof Island. Actual survey limits were determined from junctional requirements.

Data acquisition was conducted from March 31 through April 16, 1989 (DN 90 - DN 106).

C. SOUNDING VESSELS ✓

All sounding data were acquired from survey launch RA-3 (VESNO 2123). VESNO 2123 was equipped with the new Hydrographic Data Acquisition and Processing System (HDA/PS) in February 1989. Nansen/Plessey casts and bottom samples were collected by RAINIER (VESNO 2120).

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS ✓

RAINIER and VESNO 2123 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 fathoms

and tenths of fathoms. Two-fathom bar checks were conducted and recorded daily, using both the LOW and the HIGH + LOW (HIGH DIGITIZED) functions, to verify the gain adjustments necessary for digitizing in either frequency. Variations in the instrument initial, stylus arm length, and belt tension are not present with the DSF-6000N echo sounder. The echo sounders were operated in accordance with the Provisional Instructions "Raytheon DSF-6000N Echo-sounder Operating and Processing Instructions", dated July 5, 1983, and the N/CG2 memorandum "DSF-6000N Depth Errors as a Function of Receiver Gain", dated May 23, 1986.

Raytheon DSF-6000N Echo Sounders

Vessel	Serial Number	DN
2120	B046N	097
2123	A119N	090-094,096-103,105-106
	A103N	095, 104

The echo sounders functioned properly, with only occasional minor problems. 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 and deeps were inserted, but also to verify the digitized depths while running over extremely steep, irregular bottoms when 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. For further information on echo sounder performance, see the 1989 Corrections to Echo Soundings Data Package for OPR-O358-RA.

Corrections to Echo Soundings ✓

Corrections to echo soundings were determined for heave, static draft, velocity of sound through water, settlement and squat, and predicted tides. All corrections, except heave, were applied to soundings during data acquisition. Sounding corrections 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 Spring 1989 Corrections to Echo Soundings Data Package for OPR-O358-RA.

Heave ✓

Corrections for heave were applied off-line while scanning the echograms, eliminating fluctuations greater than 0.2 fathom resulting from sea action.

Draft ✓

The distance from the transducer face to the gunwhale of VESNO 2123 was measured with a large metal carpenter-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 carpenter-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 0.3

fathom was determined for VESNO 2123 on February 10, 1989. This transducer depth agrees with the launch's historical records. The transducer is located starboard midships, so that all corrections apply to both high- and low-frequency soundings.

Velocity Correctors

Corrections for the velocity of sound through water were determined from the three Plessey SVD casts listed below:

Cast No.	Deepest Depth (m)	DN	Geographic Position
1	350	072	57°01.3'N, 134°08.2'W
N	300	072	57°01.3'N, 134°09.9'W
2	400	091	57°10.0'N, 133°51.4'W
3	350	106	57°00.9'N, 134°08.8'W

N = Nansen cast

The Plessey Sound Velocity Sensor, S/N 5653, was connected to a Hewlett/Packard 5326B Universal Frequency Counter, S/N 1312A02159. The sound velocity sensor was calibrated at the Northwest Regional Calibration Center (NRCC) in Bellevue, Washington on January 26, 1989.

The thermometers used in the Nansen cast were calibrated between January 6, 1988 and January 19, 1989. The Beckman Salinometer, S/N 24663, was calibrated on March 1, 1989. The thermometers and the salinometer were calibrated at the Northwest Regional Calibration Center in Bellevue, Washington.

The Nansen cast was taken on the same day as Plessey Cast #1 to ensure the Plessey sensors were operating properly. The sound velocities determined from the two methods showed good agreement. Surface water temperatures and samples were obtained during each Plessey cast as additional checks on the Plessey system.

The surface water temperature, and the corresponding sound velocity, increased over time. The casts used for each velocity table, and the days to which each velocity table is applied, are shown below:

Velocity Table No.	Cast No.	Applicable DN	Applicable Area
1	1	090-106	Used on-line
2	2	090-096	RA-20-2N-89
3	3	102-106	RA-20-2S-89

The velocity correctors used during this survey were computed using program VELOCITY, ver. 1.0, and are listed by HDA/PS table number and included in this report.

Settlement and Squat

The settlement and squat correctors were determined for VESNO 2123 in Shilshole Bay, Washington on February 23, 1989. The test was conducted over a hard bottom in depths exceeding seven times the vessel's draft. Both sea and wind were calm.

Observations were made using a Zeiss Ni2 leveling instrument (S/N 103453) to a rod held vertically on the deck of the launch, directly over the transducer.

Ten level readings were observed at each speed tested, and the average taken, to compute the correctors. Tide staff readings were recorded concurrently with each set of level readings, and all tidal height differences were normalized to the tidal height of the dead-in-the-water level readings.

The settlement and squat correctors used on-line are listed in Offset Table 1, which is included in this report.*

Tide Correctors

Tidal zoning and correctors for this project were provided on the chartlet accompanying the Project Instructions, and are based on the predicted tides at the Juneau, Alaska tide station (945-2210). The tidal correctors applied to the survey data were a height ratio corrector of X0.84 and time correctors of -22 minutes for high water and -19 minutes for low water. The HDA/PS listings of the data used for computing predicted incremental values from the 1989 NOS Tide Tables are included in this report*

Tide stations at Turnabout Island (945-1655) and Saginaw Bay (945-1497) were established and maintained by RAINIER personnel. The field tide records and the Field Tide Note for both stations have been forwarded to N/OMA121 in accordance with Hydrographic Survey Guideline #50 and the Field Procedures Manual. A request for approved tides has been forwarded to N/OMA121. Copies of the Field Tide Note and the request for approved tides are included with this report.*

E. HYDROGRAPHIC SHEETS ✓

The two 1:20,000-scale final field sheets (Modified Universal Transverse Mercator projections) are designated RA-20-2N-89 and RA-20-2S-89. One AWOIS item investigation and one shoal development are plotted on two 1:10,000-scale development sheets.

All field sheets, accompanying field records, and this Descriptive Report are being forwarded to the Pacific ~~Marine Center~~ (N/~~MOP-21~~) for ~~verification~~. Hydrographic Section C6245 office processing

F. CONTROL STATIONS ✓

All stations were recovered in accordance with the methods stated in the Field Procedures Manual, and meet or exceed Third-order, Class I standards for positioning. A list of horizontal control stations used for this survey is included with this report. Control stations located on offshore features are also noted on the referenced listing.

POINT MACARTNEY LIGHT and KEKU were positioned by closed traverse. Station BENDEL was re-set by measuring the distances from the two undisturbed reference marks. The static calibration site near LION was established using an angle and distance from LION.

* Filed with the hydrographic data

All field positions are unadjusted. Geographic positions were based on the North American Datum of 1927 and the Clark Ellipsoid of 1866. Further information can be found in the Spring 1989 Horizontal Control Report for OPR-O358-RA.

G. HYDROGRAPHIC POSITION CONTROL

All soundings were positioned using Motorola Falcon 484 equipment in the multi-range mode. The bottom samples were positioned using Motorola Mini-Ranger MR III in the range-range mode.

Positioning Equipment

One Motorola Falcon 484 console-R/T pair, one Mini-Ranger MR III Console-R/T pair, and five shore transponders were used during the survey. The following table summarizes the vessel and console-R/T pair configurations:

DN	Vessel No.	Vessel Name	Console-R/T Serial No.
097	2120	RAINIER	720-B1405
090-106	2123	RA-3	F0247-D2395

The table below lists the shore equipment used during this survey:

Transponder Serial Number	Code
911697	A
G3501	F
B1106	2
911635	3
F3248	4

Baseline Calibrations

Opening and closing baseline calibrations were conducted over water in accordance with Section 3.1.2.1 of the Field Procedures Manual (see table below). Calibration data and descriptions of the baselines can be found in the Spring 1989 Electronic Control Data Package for OPR-O358-RA.

Location	Distance	DN	Description
Seattle, WA	1312 m	044	Sandpoint pier to Matthews Beach
Kodiak, AK	1626 m	131	Bell Flats to Nyman Peninsula

The final field sheets were plotted with the opening baseline correctors; the hydrographer recommends the same correctors be applied during final processing because the difference between opening and closing baseline correctors is less than seven meters.

System Check Procedures ✓

In accordance with Section 3.1.3.2 of the Field Procedures Manual, critical system checks for the Falcon system were performed at least once per month; noncritical checks were performed daily when critical checks were not acquired.

Fixed-point critical system checks were performed at the following stations: LION CAL POINT (210), POINT MACARTNEY LIGHT (206), and WEST (175).

Three-point sextant fixes with check angles were occasionally used for critical systems checks. The following Tamaya sextants were used: T2985, T3200, and T3862.

Non-critical systems checks consisted of the "Dump Graphics" option, as outlined in Section 3.1.3.2. of the Field Procedures Manual. All system checks fell within the allowable rejection limits; no systematic discrepancies with opening baseline correctors were observed. Code 3 at station KEKU (167) often had high residual values on-line, and consequently was seldom used in the positioning computation.

Problems and Unusual Position Configurations ✓

Null zones and erratic ranges were occasionally experienced due to the destructive interference of direct and reflected rf waves (multi-pathing). This problem was significantly reduced by placing several of the shore transponders atop twenty- to thirty-foot Raydist towers. HDA/PS also uses a multi-range least-squares positioning adjustment which allows the system to dead-reckon a vessel through small areas of poor positioning control. The parameters used in the computation of vessel position and speed were determined in tests completed in Shilshole Bay, Washington in mid-February of 1989, and are included in this report (Offset Table 1). Filed with the hydrographic data.

Antenna Offset Distances (ANDIST) ✓

VESNO 2123 had its antenna located over its depth transducer, making the ANDIST corrector 0.0 meters. Offsets for the calibration points on the bow and stern of the launch are listed in Offset Table 1.

H. SHORELINE

No shoreline lies within the survey limits. However, shoreline within the sheet limit originates from NOS Chart 17360 (26th Ed.; Aug 18/84; 1:217,828) and 1:20,000-scale enlargements of Charts 17363 (10th Ed.; Sept 3/83; 1:40,000) and 17368 (3rd Ed.; Jan 8/83; 1:40,000).* Shoreline is shown in brown on the final field sheets for orientation purposes only. * BP 131991 (Chart 17368) was used for the smooth sheet also.

I. CROSSLINES ✓

Crosslines were oriented perpendicular to the mainscheme sounding lines, and comprised 9% of the total mileage. Overall agreement of mainscheme and crosslines is excellent, with all soundings agreeing to within two fathoms except in areas of steep bathymetry.

J. JUNCTIONS See Final Report section 5

This survey junctions with H-10296 (1:20,000; 1989) along its northeastern boundary. Along the southeastern boundary, this survey junctions with surveys H-8907 (1:10,000; 1966) and H-9000 (1:10,000; 1966-70). There are no junction surveys to the southwest of this survey. No irregularities were found when comparing soundings and depth contours along junctions. Overall agreement of overlapping soundings between surveys is excellent, with all soundings agreeing to within two fathoms except in areas of steep bathymetry.

K. COMPARISON WITH PRIOR SURVEYS See Final Report section 6

This survey was compared to prior surveys H-1996 (1:80,000; 1889-92) and H-2333 (1:80,000; 1897). Overall agreement of soundings between surveys is excellent, with most soundings agreeing to within five fathoms.

The following shoals were found while acquiring sounding data:

a) 50-fathom least depth at 57°07'42.2" N, 134°16'10.0" W. Charted depths originating from H-2333 range from 87 fathoms to 111 fathoms in this area.

b) 67-fathom least depth at 57°01'35.8"N, 134°05'23.4"W. Charted depths originating from H-2333 range from 143 fathoms to 206 fathoms in this area.

c) 56-fathom least depth at 57°03'35.22"N, 134°04'48.50"W. Charted depths originating from H-2333 range from 100 fathoms to 180 fathoms in the area.

The two shoals were reported as information items in the danger to navigation correspondence forwarded to the Seventeenth Coast Guard District and the Defense Mapping Agency Hydrographic/Topographic Center (DMAHTC). A copy of the correspondence, which includes position numbers for the least depths, is included in this report.

The following survey depths originating from H-2333 have been disproved:

a) 163-fathom shoal charted at 57°01'40"N, 134°07'15"W. Depths from H-10297 range from 173 to 205 fathoms in this area with 100-meter line spacing.

b) 288-fathom deep charted at 57°02'40"N, 134°08'00"W. Depths from H-10297 range from 200 to 203 fathoms in this area with 400-meter line spacing.

The hydrographer recommends deleting the two disproved soundings, and updating the chart in these four areas with soundings from H-10297. concur

L. COMPARISON WITH THE CHART See Final Report section 7

This survey was compared to 1:20,000-scale enlargements of NOS Charts 17360 (26th Ed.; Aug 18/84; 1:217,828), 17363 (10th Ed.; Sept 3/83; 1:40,000) and 17368 (3rd Ed.; Jan 8/83; 1:40,000). All charted depths within the limits of this survey originate from prior surveys H-1996 and H-2333 and are discussed in Section K above.

One item from the AWOIS listing dated January 11, 1989, lies within the survey limits, and is discussed below.

AWOIS Item 51193: Charted 74-fathom depth at 57°06'12.00"N, 134°08'42.00"W reported in 1967 by NOAA Ship MURRE II.

Investigation: The feature was developed with 100-meter east-west and 200-meter north-south line spacing within a 0.6 NM radius around the reported position (DN 092-093, Pos. Nos. 3257-3390). No indication of a shoal exists in this vicinity; depths range from 187 to 195 fathoms.

Recommendation: Delete 74-fathom depth charted at 57°06'~~12.0~~09.02"N, 134°08'~~42.0~~40.55"W and update chart with soundings from this survey. Concur

Dangers to Navigation

Refer to Section K for the two items reported to the Seventeenth Coast Guard District and DMAHTC. Also the Danger to Navigation message is attached.

M. ADEQUACY OF SURVEY

This survey is complete and adequate to be used for charting purposes, and to supersede prior surveys within their common areas. concur

N. AIDS TO NAVIGATION

Two fixed aids to navigation, Point Macartney Light and Deepwater Point Light, are within the sheet limits. These aids were positioned to Third Order, Class I accuracy per Section 4.2.1.1. of the Project Instructions. The comparison of the unadjusted field positions with the published and charted positions is shown below:

Navigational Aid Light List No.	Light List Position *	Charted Position	Field Position
Point Macartney Lt. 23550 (Fl 6s)	57°01.5'N 134°03.4'W	57°01'31~~.0~~0.8"N 134°03'24.5"W	57°01'30.8~~72~~64"N 134°03'24.8~~66~~28"W
Deepwater Point Lt. 23565 (Fl 4s)	57°10.3'N 134°14.1'W	57°10'19~~.6~~7"N 134°14'05.9"W	57°10'20.3~~73~~28"N 134°14'03.2~~36~~29"W

*Source: United States Coast Guard Light List, Vol. VI, 1989.

The light characteristics given above were observed in the field and agree with the charted and Light List characteristics, except for Chart 17360 which shows Deepwater Point Light as "Fl 5M" without specifying the flashing frequency. All fixed aids adequately serve the apparent purposes for which they were established. concur

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

O. STATISTICS

EDP No.	Number of Positions	Nautical Miles of Sounding Lines
2120	14	0
2123	876	253.8
TOTAL	890	253.8

Square miles of hydrography	27.0
Bottom samples	14
Tide stations	2
Velocity casts	3
Current/Magnetic stations	0
Detached Positions	0

P. MISCELLANEOUS

All bottom samples have been submitted to the Smithsonian Institution. The samples confirm the charted bottom characteristics. No bottom sample was taken on the 67-fathom shoal at 57°01'35.8"N, 134°05'23.4"W because this shoal was discovered on the last day of hydrography (DN 106, April 16, 1989), one day before RAINIER departed Frederick Sound in response to the T/V EXXON VALDEZ oil spill.

No anomalous currents were observed within the limits of this survey.

Submission of this survey was delayed by additional testing of the predicted tide generator used in HDAP/S. Comparisons made between HDAP/S, HYDROPLOT, and hand-computed predictions of tide correctors indicate possible discrepancies on the order of 0.5 fathom or less, thus making the potential error less than 1% throughout the area of the survey. Copies of the test data are included in the Supplemental Appendix. Filed with the hydrographic data. Approved tides were applied to this survey and no problems were found.

Q. RECOMMENDATIONS

The hydrographer recommends that the area encompassing Woewodski Harbor and Point Napean be surveyed when shoreline maps become available as this area could provide protected anchorages for fishing, recreational, and commercial vessels in poor weather.

R. AUTOMATED DATA PROCESSING

HDA/PS programs "SURVEY", Version 3.0, "FILESYS", Version 1.0, and "POSTSUR", Version 3.0, were used in the creation of all field sheets and the acquisition and processing of data; Version 3.01 of "POSTSUR", field-modified to plot without position numbers, was used in plotting the final field sheets. The

survey data were forwarded to ~~N/MOP21~~ N/CG245 on 32-track tape cartridges, which store the data by field sheet; therefore, all data are stored on cartridges labelled Sheet 21 (RA-20-2N-89) and Sheet 22 (RA-20-2S-89). A listing of the acquisition and processing hardware components is included in this report.

The HYDROPLOT PDP 8/e computer system and the following programs were used to acquire and process bottom sample data obtained by RAINIER:

Number	Description	Version
RK 112	HYPERBOLIC RANGE/RANGE HYDROPLOT	4/23/84
RK 201	GRID, SIGNAL, AND LATTICE PLOT	4/18/75
RK 221	COMBINED R/R & HYPERPLOT	5/30/88
RK 300	UTILITY COMPUTATIONS	10/21/80
RK 362	DATA FORMAT AND LINE EDITOR (330 & 602)	8/20/84
Version 1.0	Velocity	1988

S. REFERRAL TO REPORTS ✓

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

Report	Date Sent to PMC
Spring 1989 Horizontal Control Report for OPR-O358-RA	May, 1989
Spring 1989 Electronic Control Data Package for OPR-O358-RA	June, 1989
Spring 1989 Corrections to Echo Soundings Data Package for OPR-O358-RA	May, 1989
Spring 1989 Coast Pilot Report for OPR-O358-RA	June, 1989

Respectfully submitted,

Guy T. Noll
Ensign, NOAA

Approved and forwarded,

John C. Albright
Captain, NOAA
Commanding Officer

CONTROL STATIONS

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY	
204	F	057:15:36.414	133:56:06.997	17	250	0.0	0.0	1	03/15/89	ROUND ROCK LIGHT ●
173	F	057:12:42.993	134:05:11.538	7	250	0.0	0.0	7	03/15/89	SPRUCE ● 1917
169	F	057:07:12.297	134:00:37.354	6	250	0.0	0.0	F	03/15/89	LION ● 1962
172	F	057:05:11.646	134:00:36.893	11	250	0.0	0.0	0	03/15/89	PINTA ROCK LIGHT ●
171	F	057:08:33.433	134:16:39.575	12	250	0.0	0.0	A	00/00/00	PEAN, 1917
162	F	057:03:38.154	134:01:51.809	5	250	0.0	0.0	4	03/28/89	BENDEL, 1917-89
167	F	056:57:26.843	134:08:43.711	19	250	0.0	0.0	3	04/04/89	KEKU ●, 1927
206	F	057:01:30.864	134:03:24.828	15	250	0.0	0.0	F	04/11/89	POINT MACARTNEY LIGHT ●, 1989
175	V	057:05:11.796	134:00:36.546	4	250	0.0	0.0		00/00/00	WEST ●
210	V	057:07:11.544	134:00:39.124	0	250	0.0	0.0		00/00/00	STATIC CAL POINT(LION) ●

● STATIONS LOCATED ON OFFSHORE FEATURES (islands or islets)

1989 FIELD TIDE NOTE

OPR-O358-RA, Frederick Sound, Alaska

OPR-O358-RA, Frederick Sound, Alaska, includes three hydrographic surveys which were completed from March through May, 1989. The surveys are H-10295 (Sheet G), H-10296 (Sheet H) and H-10297 (Sheet J). Field-tide reduction of soundings was based on using the predicted tides for the Juneau, Alaska reference station (945-2210) and was computed with HYDROPLOT program AM 500 (Predicted Tide Generator) and HDA/PS program Survey (Version 3.0). A chartlet provided with the Project Instructions showed the tidal zones and the correctors which cover the project area. The corrector sets used are shown below:

	Time Correction		Height	Registry
Applicable Area	High Water	Low Water	Ratio	Number
East of line between Cape Bendel and 57°12.5'N, 134°09.5'W	- 17 min	-14 min	x0.87	H-10295 H-10296
West of line noted above	- 22 min	- 19 min	x0.84	H-10297

Near the beginning of the project, leveling was conducted at the Juneau reference station (945-2210) to connect three bench marks with the staff. Opening levels were conducted by RAINIER personnel on March 24, 1989. Closing levels will be completed by the Pacific Operations Group in July during their annual inspection. The Juneau tide station serves as the control station for datum determination for all subordinate stations.

Tide gages were installed at the following stations:

TURNABOUT ISLAND, FREDERICK SOUND, ALASKA (945-1655)

Geographic Locale - 57°07'42"N, 133°58'40"W

Installation Date - March 12, 1989

Removal Date - April 16, 1989

Gage Type - Bristol bubbler (S/N 73A-229) with a backup Bristol bubbler (S/N 73A-233). The gages were placed on rocks and 2x4s ten feet inside the treeline approximately 20 feet above the high water mark. The gages were secured with parachute cord to nearby trees and sheltered with an umbrella. The orifice tubing was secured with rocks and eye bolts. The orifices were secured to a steel plate which was subsequently anchored to the bottom with rocks.

Staff - The staff (angled aluminum, 12-ft long with a vitrified scale) was secured to a rock outcrop at the 0.5-ft and 3.0-ft mark by means of lag bolts and anchor sleeves. The staff was also secured at the 7.0-ft mark to the outcrop by means of 2x4s, steel plates, and lag bolts. One small piece of 2x4 shimmed the bottom of the staff and was anchored with lag bolts. The staff stop was a stainless steel hex-head bolt secured to the side of the staff at the 16.020-ft mark.

Staff Zero/Gage Zero

Gage # 73A-229 : 0.79 ft

Gage # 73A-233 : 0.71 ft

Gage Time - Universal Coordinated Time

Bench Marks - Five bench marks were recovered at this station and found to be in good condition: 1655 A 1988, 1655 B 1988, 1655 C 1988, 1655 D 1988, and 1655 E 1988. The five bench marks were connected in the initial and final levels.

Levels - Installation levels were completed on March 12, 1989, connecting the five bench marks mentioned above. Final leveling was completed on April 16, 1989. The final levels agreed with the installation levels to within 0.003 meters.

Marigram Records -

GAGE # 73A-229: Marigram records are continuous:

FROM	TO
03/12/89 @ 2250	03/31/89 @ 1718*
03/31/89 @ 1800	04/16/89 @ 2324**

* Marigram record removed
** Gage removed

GAGE # 73A-233: Marigram records are continuous:

FROM	TO
03/12/89 @ 2250	03/29/89 @ 2340
03/29/89 @ 2348	03/31/89 @ 1718*
03/31/89 @ 1800	04/16/89 @ 2324**

* Marigram record removed
** Gage removed

Station Problems

No station problems were encountered during data acquisition.

SAGINAW BAY, KUIU ISLAND, ALASKA (945-1497)

Geographic Locale - 56°54'12"N, 134°18'12"W

Installation Date - March 13, 1989

Removal Date - April 17, 1989

Gage Type - Bristol bubbler (S/N 67A-16208) with a backup Bristol bubbler (S/N 68A-9333). The gages were placed just inside the treeline approximately 25 feet above the high water mark. The gages were secured with parachute cord to nearby trees and sheltered with an umbrella. The orifice tubing was secured with rocks. The orifices were secured to a steel plate which was subsequently anchored to the bottom with rocks.

Staff - The staff (angled aluminum, 12-ft long with a vitrified scale) was secured to a rock outcrop at the 1.0-ft, 2.0-ft, 7.0-ft, and 7.5-ft mark by means of lag bolts, anchor sleeves and 2x4s. The staff stop was a stainless steel hex-head bolt secured to the side of the staff at the 16.633-ft mark.

Staff Zero/Gage Zero

Gage # 67A-16208: 1.00 ft

Gage # 68A-9333: 1.28 ft

Gage Time - Universal Coordinated Time

Bench Marks - Three bench marks were recovered and found to be in good condition: NO 1 1967, NO 2 1967, and NO 3 1967. Two bench marks were established at this station: 1497 D 1989 and 1497 E 1989. The five bench marks were connected in the initial and final levels.

Levels - Installation levels were completed on March 13, 1989, connecting the five bench marks mentioned above. Final leveling was completed on April 17, 1989. The final levels agreed with the installation levels to within 0.002 meters.

Marigram Records -

GAGE # 67A-16208: Marigram records are continuous:

FROM	TO
03/13/89 @ 2236	03/20/89 @ 1815
03/20/89 @ 1830	03/29/89 @ 0048
03/29/89 @ 0106	03/31/89 @ 2356*
04/01/89 @ 0018	04/03/89 @ 1900
04/03/89 @ 1910	04/16/89 @ 1830
04/16/89 @ 1842	04/17/89 @ 1648**

* Marigram record removed
** Gage removed

GAGE # 68A-9333: Marigram records are continuous:

FROM	TO
03/13/89 @ 2236	03/16/89 @ 0042
03/16/89 @ 0048	03/20/89 @ 1815
03/20/89 @ 1832	03/23/89 @ 2306
03/23/89 @ 2318	03/29/89 @ 0048
03/29/89 @ 0106	03/31/89 @ 2356*
04/01/89 @ 0018	04/03/89 @ 1830
04/03/89 @ 1850	04/06/89 @ 2300
04/06/89 @ 2318	04/11/89 @ 2230
04/11/89 @ 2240	04/16/89 @ 0550
04/16/89 @ 1830	04/17/89 @ 1648**

* Marigram record removed
** Gage removed

Station Problems

On March 16, the paper take-up spool from the secondary gage, 68A-9333, was replaced after having problems with keeping time and paper aligned. Because the problems continued, chart speed and paper alignment were adjusted as needed.

On April 3, the pen and ink were changed in gage 68A-9333 due to the ink bleeding onto the marigram. The ink trace was blotchy and difficult to read during the following time intervals:

FROM	TO
03/26/89 @ 1845	03/29/89 @ 0048
03/30/89 @ 1255	03/31/89 @ 2356

The primary gage, 67A-16208, functioned properly throughout the entire project. However, as a precaution, the ink was changed in this gage on April 3 because both gages were originally supplied with the same ink.

NOAA FORM 76-40
(5-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS

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): NOAA Ship RAINIER

STATE: Alaska

LOCALITY: Frederick Sound
Keku Strait

DATE: 6/02/89

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

OPR PROJECT NO.: 0358-RA

JOB NUMBER:

SURVEY NUMBER: H-10296
H-10297

DATUM: NAD 27

CHARTING 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	METHOD AND DATE OF LOCATION FIELD	CHARTS AFFECTED
LL 23315	Kake Entrance Light 2	56 59	06.539 202.28	134 01	11.623 196.29		F-2-6-L 4/5/89	17360 17368
LL 23325	Kake Harbor Light 5	56 58	16.459 509.31	133 56	50.722 856.95		F-2-6-L 4/4/89	17360 17368
LL 23350	Portage Pass Light 2	56 57	25.922 802.13	133 55	19.959 337.33		F-2-6-L 4/5/89	17360 17368
LL 23565	Deepwater Point Light (H-10297)	57 10	20.~~367~~ 28 630.05	134 14	03.~~226~~ 9 54.21		F-2-6-L 3/22/89	17360 17363 ~~17365~~ 17368
LL 23575	Grave Island Light	57 16	00.654 20.23	134 04	53.845 902.50		F-2-6-L 3/17/89	17360 17363

L-659(CS)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	CAPT. John C. Albright, NOAA Commanding Officer	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	CAPT. John C. Albright, NOAA Commanding Officer	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. GPO:1975-0-665-080/1155

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

LANDMARKS 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)

[X] TO BE CHARTED / [ ] TO BE REVISED / [ ] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA Ship RAINIER	Alaska	Frederick Sound Keku Strait	6/02/89

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
0358-RA		H-10297	NAD 27

CHARTING 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
MICRO TOWER (North of 2)	Red light on top of tower (KAKE MICROWAVE TOWER)	56 58	35.627 1102.09	133 56	33.832 571.49		F-3-6-L 4/4/89	17360 17368

L-5559(89)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	CAPT. John C. Albright Commanding Officer	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	CAPT. John C. Albright Commanding Officer	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. GPO:1975-0-665-080/1155

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

NOAA Ship RAINIER
1801 Fairview Avenue East
Seattle, Washington 98102-3767

May 11, 1989

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

Dear Sir:

Personnel from NOAA Ship RAINIER have determined the positions of fifteen aids to navigation and survey monuments at the request of the U.S. Coast Guard. All geographic positions meet Third-order, Class I specifications and are based on the North American Datum of 1927 and the Clark Ellipsoid of 1866. The positions listed below, except for stations CARROLL and YASHA, are field positions and are not adjusted. Stations CARROLL and YASHA are adjusted positions from the National Geodetic Survey data base. Station ROSE is a newly established station SSE of Turnabout Island which may be helpful locating aids to navigation in the area.

Navigation Aid or Survey Monument	Latitude(N)	Longitude(W)	1989 Light List Number	
CARROLL Carroll Island	57°01'37.477"	134°28'23.802"	N/A	
ROSE Kupreanof Island	57°04'59.934"	133°56'46.972"	N/A	
YASHA Yasha Island	56°57'52.570"	134°33'35.526"	N/A	
DUCK POINT LIGHT Stephens Passage	57°12'42.892"	133°30'52.968"	23270	
GRAVE ISLAND LIGHT Pybus Bay	57°16'00.654"	134°04'53.845"	23575	
DEEPWATER POINT LIGHT Frederick Sound	57°10'20.~~367~~28"	134°14'03.~~226~~9"	23565	H-10297
POINT MACARTNEY LIGHT Frederick Sound	57°01'30.~~872~~64"	134°03'24.~~866~~28"	23550	H-10297
TURNABOUT ISLAND LIGHT Frederick Sound	57°07'56.503"	133°59'09.533"	23570	
WEST PINTA ROCKS LIGHT Frederick Sound	57°05'11.646"	134°00'36.892"	23555	

KAKE ENTRANCE LIGHT 2 Keku Strait	56°59'06.539"	134°01'11.623"	23315
KAKE HARBOR LIGHT Keku Strait	56°57'39.846"	133°57'03.882"	23340
KAKE HARBOR LIGHT 5 Keku Strait	56°58'16.459"	133°56'50.722"	23325
KAKE MICROWAVE TOWER Keku Strait	56°58'35.630"	133°56'33.824"	N/A
PORTAGE PASS LIGHT Keku Strait	56°56'47.864"	133°53'51.998"	23360
PORTAGE PASS LIGHT 2 Keku Strait	56°57'25.922"	133°55'19.959"	23350

Questions concerning these data may be directed to: Commanding Officer, NOAA Ship RAINIER, 1801 Fairview Avenue East, Seattle, Washington 98102-3767, telephone (206) 442-4794.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosures

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

June 2, 1989

Director
DMAHTC
6500 Brooks Lane
Washington, D.C. 20315

Dear Sir:

While conducting hydrographic survey operations in Frederick Sound, southeast Alaska, NOAA Ship RAINIER discovered ten dangers to navigation and six information items. They have been reported to DMAHTC (NAVWARN) and the Seventeenth Coast Guard District. A copy of the correspondence describing them is enclosed.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosure

FVD

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

June 2, 1989

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

Dear Sir:

Attached is a confirmation copy of the radio message sent to your office regarding ten dangers to navigation and six information items which I recommend for inclusion in the Local Notice to Mariners for the Seventeenth Coast Guard District. Copies of chartlets showing the area in which the dangers exist are also attached.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosure

cc: DMAHTC
N/CG221
N/MOP

JCA

PTTUZYUW RUHPTEF0294 3210015-UUUU--RUHPSUU.
ZNR UUUUU
P 290500Z MAY 89
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
INFO NOAAMOP SEATTLE WA
ACCT CM-VCAA
BT
UNCLAS

MVH | NOJ
4302K | 29-MAY-89
0619Z

NOAA SHIP RAINIER HAS FOUND TEN DANGERS TO NAVIGATION AND SIX INFORMATION ITEMS IN FREDERICK SOUND, ALASKA (PROJECT OPR-0358-RA) WITHIN THE LIMITS OF HYDROGRAPHIC SURVEYS H-10295 (TURNABOUT ISLAND AND VICINITY; ITEMS A-H), H-10296 (CAPE BENDEL TO PYBUS BAY; ITEMS I-N) AND H-10297 (POINT MACARTNEY TO DEEPWATER POINT LIGHT, ITEMS O-P). REQUEST THE FOLLOWING BE PUBLISHED IN LOCAL NOTICE TO MARINERS FOR THE SEVENTEENTH COAST GUARD DISTRICT:

DN/Pos. No.

A. "ROCK SUBMERGED 5-3/4 FATHOMS IS AT LATITUDE 57/07/22.7N, LONGITUDE 133/59/56.9W." 093/7002

B. "ROCK SUBMERGED 4-1/2 FATHOMS IS AT LATITUDE 57/07/20.9N, LONGITUDE 133/59/27.6W." 094/7143

C. "ROCK SUBMERGED 1/2 FATHOM IS AT LATITUDE 57/07/24.2N, 134/00/08.0W." 094/7144

D. "ROCK SUBMERGED 7-1/4 FATHOMS IS AT LATITUDE 57/05/33.9N, LONGITUDE 133/55/54.2W." 095/7248

E. "ROCK SUBMERGED 3-1/2 FATHOMS IS AT LATITUDE 57/05/57.4N, LONGITUDE 133/54/18.8W." 081/4872

F. "ROCK SUBMERGED 1 FATHOM IS AT LATITUDE 57/05/53.5N, 133/54/00.4W." 081/4873

G. "SHOAL SUBMERGED 10 FATHOMS IS AT LATITUDE 57/05/44.5N, LONGITUDE 133/55/18.0W." 079/2069 +6-+7

H. "ROCK SUBMERGED 2-1/2 FATHOMS IS AT LATITUDE 57/04/55.8N, LONGITUDE 133/57/02.8W." 104/7385

I. "ROCK SUBMERGED 13 FATHOMS IS AT LATITUDE 57/14/39N, LONGITUDE 133/57/26W." 088/5182 +5

J. "ROCK SUBMERGED 2-1/4 FATHOMS IS AT LATITUDE 57/04/50.3N, LONGITUDE 133/58/48.4W." 077/4516

K. "SHOAL SUBMERGED 38 FATHOMS IS AT LATITUDE 57/10/58N, LONGITUDE 134/06/38W." 089/6917 0-+1

L. "SHOAL SUBMERGED 46 FATHOMS IS AT LATITUDE 57/11/34N, LONGITUDE 134/04/10W." 088/6798 +5

M. "SHOAL SUBMERGED 23 FATHOMS IS AT LATITUDE 57/14/36N, LONGITUDE 133/58/20W."

088/5189 +3-+4

N. "ROCK RIDGE SUBMERGED 8-3/4 FATHOMS IS AT LATITUDE 57/15/59.6N, LONGITUDE 133/56/41.2W."

105/4177

H-10297

O. "SHOAL SUBMERGED 50 FATHOMS IS AT LATITUDE 57/07/42.~~2~~19N, LONGITUDE 134/16/10.0W. SHOAL IS 2.9 NM BEARING 204 DEGREES TRUE FROM DEEPWATER POINT LIGHT."

091/3186 +4-+5

H-10297

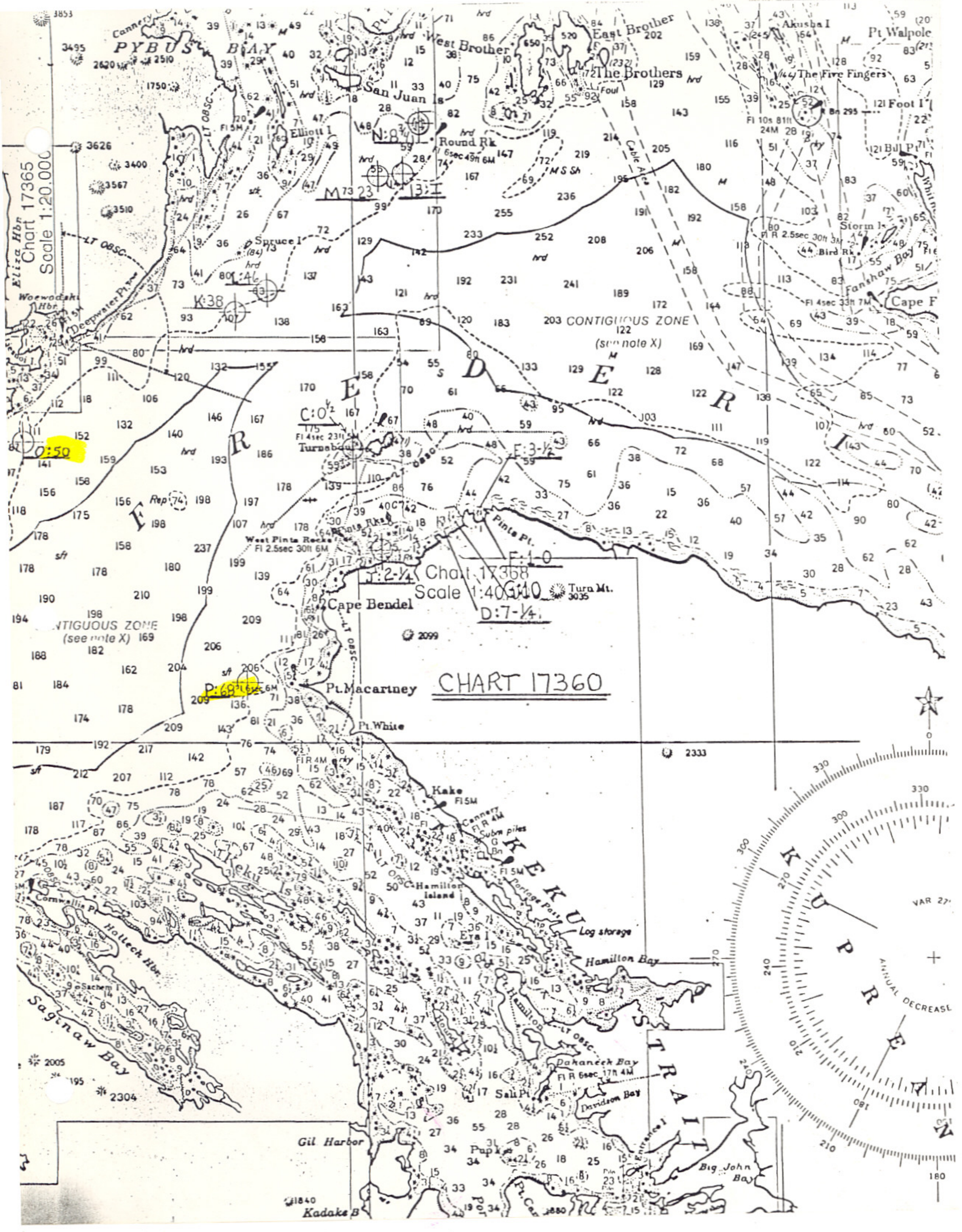
P. "SHOAL SUBMERGED 6~~8~~7 FATHOMS IS AT LATITUDE 57/01/35.~~8~~02N, LONGITUDE 134/05/23.~~4~~1W. SHOAL IS 1.1 NM BEARING 275 DEGREES TRUE FROM POINT MACARTNEY LIGHT."

106/3858 +9

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.
POSITIONS ARE BASED ON NAD 27 DATUM.
THE FOLLOWING CHARTS ARE AFFECTED:

17360	26TH ED	AUG 18/84	1:217,828	NAD 27 DATUM
17368	3RD ED	JAN 08/83	1:40,000	NAD 27 DATUM
17320	13TH ED	FEB 25/89	1:217,828	NAD 27 DATUM
17363	10TH ED	SEP 03/83	1:40,000	NAD 27 DATUM

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW.
QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO THE PACIFIC ~~MARINE CENTER~~ Hydrographic Section AT (206) 526-6835. A LETTER WITH ATTACHED CHARTLETS IS BEING MAILED TO YOU TO CONFIRM THIS MESSAGE.
BT
#____



PYBUS BAY
Cannery
West Brother
East Brother
The Brothers
Foul
San Juan Is
Akusha I
Pt Walpole
The Five Fingers
Foot I
Bull Pt
Round Rk
Elliott I
Spruce I
Deepwater Pt
Woewodski Hbr
Eliza Hbr
Chart 17365
Scale 1:20,000
LT OBSC
N:84
M:73
L:46
K:38
O:50
CONTIGUOUS ZONE
(see note X)
Cable Area
Storm Is
Bird Rk
Fanshaw Bay
Cape F
FREDERICK
C:0½
Turnabout
E:3-½
West Pinta Rocks
Fl 2.5sec 30ft 6M
Pinta Rks
Pinta Pt
F:1-0
J:2-¼
Chart 17368
Scale 1:40,000
G:10
Turn Mt.
3035
D:7-¼
Cape Bendel
Pt.Macartney
CHART 17360
Pt.White
Kake
Cannery
Subm piles
Hamilton Island
Keku Is
Portage Pass
Log storage
Era I
Hamilton Bay
Pt Hamilton
Dakaneek Bay
Davidson Bay
Salt Pt
Cornwallis Pt
Halleck Hbr
Sachem I
Saginaw Bay
Gil Harbor
Kadake B
Pup I
Entrance I
Big John Bay
KEKU STRAIT
KUPREAN
VAR
ANNUAL DECREASE

APPROVAL SHEET

Descriptive Report to Accompany

Hydrographic Survey

RA-20-2-89

H-10297

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 sheet 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

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: June 14, 1989

MARINE CENTER: Pacific

OPR: 0358

HYDROGRAPHIC SHEET: H-10297

LOCALITY: Pt. Macartney to Deepwater Pt., Frederick Sound, Alaska

TIME PERIOD: March 30 - April 16, 1989

TIDE STATION(S) USED: 945-1497 Saginaw Bay, Kuiu Island,
945-1655 Turnabout Island, Alaska

PLANE OF REFERENCE (MEAN LOWER LOW WATER):
945-1497 7.47 feet
945-1655 7.55 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE:
945-1497 12.8 feet
945-1655 13.3 feet

REMARKS: RECOMMENDED ZONING
South of latitude 57° 3', apply a X1.03 range ratio to all heights on 945-1497. North of 57° 3', zone direct on 945-1655.

James R. Hubbard
CHIEF, TIDAL DATUM QUALITY ASSURANCE SECTION

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-10297

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO. 17360	B On Chart No. 17363	C On Chart No. 17365	D On Chart No. 17368	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K Manuscript	
ALASKA, FREDERICK SOUND POINT MACARTNEY TO DEEPWATER POINT										
ALASKA (TITLE)										1
ADMIRALTY ISLAND	X	X	X	X						2
DEEPWATER POINT	X	X	X	X						3
FREDERICK SOUND	X	X		X					T-12178	4
KEKU STRAIT	X			X						5
LIESNOI ISLAND	X		X	X						6
POINT MACARTNEY	X		X	X						7
										8
										9
										10
										11
										12
										13
										14
										15
				Approved:						16
				Charles E. Harrington						17
				Chief Geographer - NOS/CG2x5						18
										19
				OCT 25 1989						20
										21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27(H) (9-83) | U.S. DEPARTMENT OF COMMERCE | REGISTRY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-10297

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	5
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	2

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

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List):

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
Soundings ~~POSITIONS~~ ON SHEET			5496
POSITIONS REVISED			
SOUNDINGS REVISED	22		22
CONTROL STATIONS REVISED			
	TIME-HOURS VERIFICATION	TIME-HOURS EVALUATION	TIME-HOURS TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	29		29
VERIFICATION OF SOUNDINGS	66		66
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	24		24
COMPARISON WITH PRIOR SURVEYS AND CHARTS		6	6
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		18	18
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	119	24	143

Pre-processing Examination by M. Bradley	*Beginning Date* 06/15/89	*Ending Date* 08/14/89
Verification of Field Data by L. Deodato	*Time (Hours)* 119	*Ending Date* 12/20/89
Verification Check by J. Stringham	*Time (Hours)* 11	*Ending Date* 12/12/89
Evaluation and Analysis by C.R. Davies	*Time (Hours)* 24	*Ending Date* 01/19/90
Inspection by B.A. Olmstead	*Time (Hours)* 8	*Ending Date* 01/31/90

EVALUATION REPORT
H-10297

1. INTRODUCTION

Survey H-10297 is a navigable area survey accomplished by the NOAA Ship RAINIER under the following Project Instructions.

OPR-0358-RA, dated September 13, 1988
CHANGE NO. 1, dated January 17, 1989
CHANGE NO. 2, dated February 13, 1989
CHANGE NO. 3, dated March 27, 1989
CHANGE NO. 4, dated April 17, 1989

This survey occurred in Alaska and covers an area in Frederick Sound offshore of Point Macartney and Deepwater Point. The surveyed area extends from latitude 56°59'00"N to latitude 57°11'18"N and from longitude 134°03'12"W to longitude 134°18'08"W. This area is a steep sloping natural channel between Kupreanof and Admiralty Islands. The bottom consists of pebbles, sand and gravel. Depths range from 46 to 208 fathoms.

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Saginaw Bay and Turnabout Island, Alaska, gages 945-1497 and 945-1655, 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. The TRA and sound velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors. The electronic control correctors have been determined according to the established procedures using the Hydrographic Data Acquisition Processing System (HDAPS). Since this is a HDAPS survey, soundings and electronic correctors have been applied on line during data acquisition. Refer to the survey records for a review of the electronic control correctors used for the plotting of this survey.

A digital file has been generated for this survey as required by N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. The file, however, is incomplete. Certain feature descriptive information, all line type data and miscellaneous isolated features are not in the digital record due to the present lack of digitizing resources. The user should refer to the smooth sheet for complete depiction of survey data.

2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-0358-RA, 1989, contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1989 field and published values based on NAD 27. These values were used during office processing. The smooth sheet and accompanying overlays are annotated with NAD 83 adjustment ticks based on values determined by N/CG121. Geographic positions based on NAD 83 may be plotted on the smooth sheet utilizing the NAD 27 projection by applying the following corrections.

Latitude: 1.218 seconds (37.7 meters)
Longitude: -6.227 seconds (-105.0 meters)

The year of establishment of control stations shown on the smooth sheet originates with the hydrographer's signal list.

Positions with weak geometry, high residuals or less than two electronic ranges are flagged in the accompanying computer printout. These positions were investigated for consistency with adjacent data and accepted for office processing. There were no significant problems with the positioning system within the survey area.

There are no shoreline maps applicable to this survey. Shoreline depicted on the smooth sheet originates with chart 17363, 10th edition and BP 131991 (a photo revision of chart 17368) and is to be used for orientation only.

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.

5. JUNCTIONS

Survey H-10297 junctions with the following surveys.

Survey	Year	Scale	Area
H-8907	1966	10,000	southeast
H-9000	1966-70	10,000	southeast
H-10296	1989	20,000	northeast

The junction with survey H-10296 is complete. The junctions with surveys H-8907 and H-9000 have not been formally completed since those surveys were previously processed and forwarded for charting. The junction comparisons were made using a copy. Soundings are in good agreement. Some soundings have been transferred to survey H-10297 to better portray the bottom in the common areas. Portions of the depth curves on surveys H-8907 and H-9000 should be adjusted to conform with those on survey H-10297.

6. COMPARISON WITH PRIOR SURVEYS

H-1996(1889-92) 1:80,000
H-2333(1897) 1:80,000

Surveys H-1996 and H-2333 cover the entire area of the present survey. Taking into consideration the differences in the scales of the surveys and the methods of surveying, comparison with these prior surveys are satisfactory. Some discrepancies between the two surveys were noted, however, and are discussed in section K of the hydrographer's report.

There are no AWOIS Items originating from prior surveys H-1996 and H-2333 applicable to the present survey.

Survey H-10297 is adequate to supersede the prior surveys within the common area.

7. COMPARISON WITH CHART

Chart 17363, 10th edition, dated September 3, 1983;
scale 1:40,000
Chart 17368, 3rd edition, dated January 8, 1983;
scale 1:40,000

a. Hydrography

Charted hydrography originates with surveys H-1996, H-2333 and miscellaneous sources and requires no further discussion.

Survey H-10297 is adequate to supersede charted hydrography within the common area.

b. AWOIS

There is one AWOIS Item which originates with a miscellaneous source. AWOIS Item 51193 is adequately discussed by the hydrographer in section L.

c. Controlling Depths

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

d. Aids to Navigation

All fixed aids were located and serve their intended purpose. There are no floating aids located within the area of this survey.

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 two shoals as information items to the USCG and N/CG222. Copies of the reports are attached. No additional dangers were discovered during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10297 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a good hydrographic survey. No additional field work is recommended.

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. Approval is recommended.

Bruce Alan Olmstead
for Dennis Hill
Chief, Hydrographic Unit

APPROVALS

I have reviewed the smooth sheet, accompanying data, and reports associated with hydrographic survey H-10297. This survey meets or exceeds Charting and Geodetic Services' standards for products in support of nautical charting.

2/2/90

Commander Pamela Chelgren-Koterba, NOAA (Date)
Chief, Pacific Hydrographic Section

Approved: Sigmund R. Petersen 2/9/90

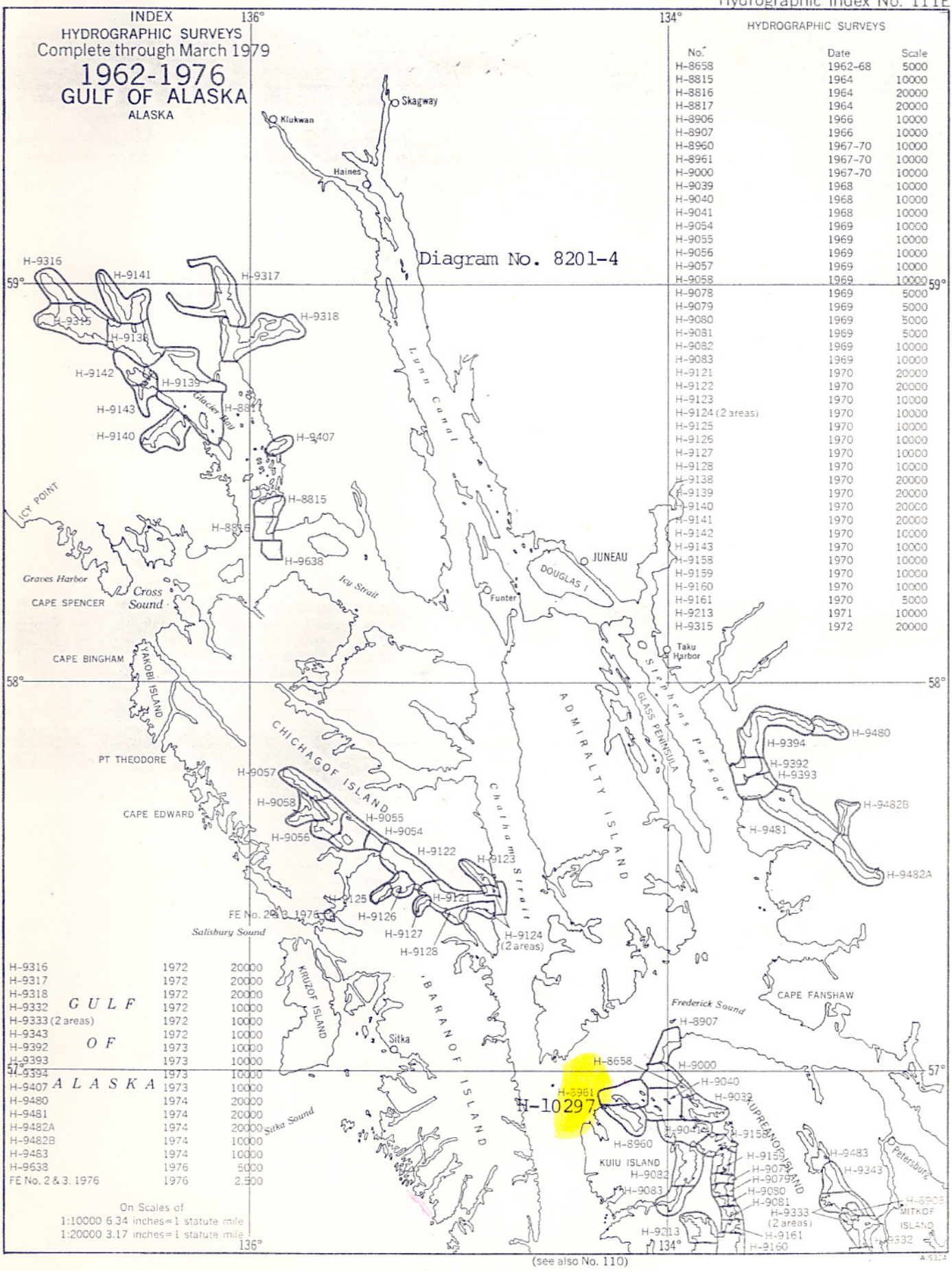
RADM Sigmund R. Petersen, NOAA (Date)
Director, Pacific Marine Center

Approved: 4/13/90

RADM Wesley V. Hull, NOAA (Date)
Director, Charting and Geodetic Services

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

Hydrographic Index No. 111E



HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-8658	1962-68	5000
H-8815	1964	10000
H-8816	1964	20000
H-8817	1964	20000
H-8906	1966	10000
H-8907	1966	10000
H-8960	1967-70	10000
H-8961	1967-70	10000
H-9000	1967-70	10000
H-9039	1968	10000
H-9040	1968	10000
H-9041	1968	10000
H-9054	1969	10000
H-9055	1969	10000
H-9056	1969	10000
H-9057	1969	10000
H-9058	1969	10000
H-9078	1969	5000
H-9079	1969	5000
H-9080	1969	5000
H-9081	1969	5000
H-9082	1969	10000
H-9083	1969	10000
H-9121	1970	20000
H-9122	1970	20000
H-9123	1970	10000
H-9124 (2 areas)	1970	10000
H-9125	1970	10000
H-9126	1970	10000
H-9127	1970	10000
H-9128	1970	10000
H-9138	1970	20000
H-9139	1970	20000
H-9140	1970	20000
H-9141	1970	20000
H-9142	1970	10000
H-9143	1970	10000
H-9158	1970	10000
H-9159	1970	10000
H-9160	1970	10000
H-9161	1970	5000
H-9213	1971	10000
H-9315	1972	20000

H-9316	1972	20000
H-9317	1972	20000
H-9318	1972	20000
H-9332	1972	10000
H-9333 (2 areas)	1972	10000
H-9343	1972	10000
H-9392	1973	10000
H-9393	1973	10000
H-9394	1973	10000
H-9407	1973	10000
H-9480	1974	20000
H-9481	1974	20000
H-9482A	1974	20000
H-9482B	1974	10000
H-9483	1974	10000
H-9638	1976	5000
FE No. 2 & 3, 1976	1976	2,500

GULF OF ALASKA

On Scales of
1:10000 6.34 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile

(see also No. 110)

A-5324

NOAA FORM 75-96
(10-83)

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

EXAMINED FOR NM
GDBU
H.D.L. 4-24-90

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10297

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
17336	4/26/90	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 10 in Full
17365	4/26/90	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 8 in full
17368	5/3/90	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 4 in full
17360	5/3/90	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 32 in full
17320	5/3/90	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 24 in full
17363	5-3-90	[signature]	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 12 in full
			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.