

10468

10468

NOAA FORM 78-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic
Field No. RA-10-7-93
Registry No. H-10468

LOCALITY

State Alaska
General Locality Stephens Passage
Sublocality Approach to Hobart Bay

19 93

CHIEF OF PARTY
CAPT. R. C. Arnold

LIBRARY & ARCHIVES

DATE September 16, 1994

HYDROGRAPHIC TITLE SHEET

H-10468

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-10-7-93

State Alaska

General locality Approach to Hobart Bay

Locality Stephens Passage

Scale 1:10,000 Date of survey April 13 - April 25, 1993

Instructions dated February 5, 1993 Project No. OPR-0136-RA

Vessel NOAA Ship RAINIER (2120), (2123), (2125), (2126)

Chief of party CAPT Russell C. Arnold, NOAA

Surveyed by LCDR B. Hillard, LT M. Brown, LT M. Foran, LTJG R. Ramos, ENS N. Weston, ENS J. Klay, ENS D. Pitts, ENS G. Glover, ENS J. Graham

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

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification by: E. Domingo Automated plot by PHS Kynetics Plotter

~~Processed by~~ Evaluation by: R. Davies

~~Verified by~~ Soundings in meters and decimeters at ~~MLLW~~ MLLW

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.

All depths listed in this report are referenced to mean lower low water unless otherwise noted.

AWOIS+SURF ✓ 9/94 RWD

Descriptive Report to Accompany Hydrographic Survey H-10468

Field Number RA-10-7-93

Scale 1:10,000

April 1993

NOAA Ship RAINIER

Chief of Party: Captain Russell C. Arnold

A. PROJECT ✓

This basic hydrographic survey was completed in Southern Stephens Passage, Alaska, as specified by Project Instructions OPR-O136-RA dated February 5, 1993.

Survey H-10468 corresponds to "Sheet Q" as defined in the Project Instructions.

This survey will provide contemporary hydrographic survey data for updating existing nautical charts, and for a new series of metric charts as part of a continuing program to improve chart coverage of the Inside Passage in Southeast Alaska. Requests for hydrographic surveys and updated charts have been received from the Southeastern Alaska Pilot's Association, the Alaska Department of Transportation, and other private interests such as the cruise line and fishing industries.

B. AREA SURVEYED ✓

This survey area is located in the southern end of Stephens Passage and covers the northern approaches to Hobart Bay. The northern limit of the survey area is $057^{\circ}29'38''N$, the southern limit is $057^{\circ}23'36''N$, the western limit is $133^{\circ}37'00''W$, and the eastern limit is $133^{\circ}30'45''W$. The area includes the Twins, two heavily wooded, low lying islands with gradually sloping shoreline. The mainland shoreline is rocky in the tide zone and trees grow down to the waterline. Logging operations are in progress in Hobart Bay and the surrounding area.

Data acquisition was conducted from April 14, Day Number (DN) 104, through April 25, DN 115.

C. SURVEY VESSELS ✓

Data were acquired by the NOAA SHIP RAINIER and four survey launches as noted below:

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

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

Data acquisition and processing were accomplished with the following HDAPS programs:

<u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
AUTOST	3.00	9/24/92
BACKUP	2.00	9/24/92
BASELINE	1.13	9/24/92
BIGABST	2.03	9/24/92
BLKEDIT	2.00	9/24/92
CARTO	2.04	3/1/93
CONTACT	2.01	9/24/92
CONVERT	3.51	9/24/92
DAS_SURV	6.31	2/26/93
DIAGNOSE	3.01	9/24/92
DISC_UTIL	1.00	9/24/92
DP	2.13	3/1/93
EXCESS	4.10	9/24/92
FILESYS	3.01	4/14/92
GRAFEDIT	1.01	2/26/93
HIPSTICK	1.01	9/24/92
HPRAZ	1.26	9/24/92
INVERSE	2.00	9/24/92
INSTALL	4.00	9/24/92
LSTAWOIS	3.01	9/24/92
LISTDATA	1.00	9/24/92
LOADNEW	2.01	9/24/92
MAINMENU	1.00	9/24/92
MAN_DATA	2.00	9/24/92
NEWPOST	6.00	9/24/92
PLOTALL	2.08	2/26/93
POINT	2.10	9/24/92
PREDICT	2.00	9/24/92
PRESURV	7.01	2/26/93
PRINTOUT	4.01	9/24/92
QUICK	2.03	2/26/93
RAMSAVER	1.01	9/24/92
RECOMP	2.02	9/24/92
REAPPLY	2.01	9/24/92
SCANNER	1.00	9/24/92
SELPRINT	2.02	9/24/92
SYMBOLS	2.00	9/24/92
ZOOMEDIT	2.10	9/24/92

Velocity corrections were determined using:

<u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
VELOCITY	2.0	24 Mar 1993

E. CORRECTIONS TO ECHO SOUNDINGS ✓

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

<u>Velocity Table No.</u>	<u>Cast No.</u>	<u>Deepest Depth (m)</u>	<u>Applicable DN</u>	<u>Cast Position</u>	<u>Day</u>
3	5	381.0	104-115	57°27'02"N 133°34'52"W	104

The sound velocity cast was acquired with a SBE SEACAT Profiler, S/N 220.

Velocity correctors were computed using the PC program VELOCITY in accordance with Hydrographic Survey Guideline (HSG) #69. A printout of the Sound Velocity Corrector Tables used in the HDAPS Post Survey program is included in the "Spring 1993 Corrections to Echo Sounding Data Package for OPR-O136-RA."

Static Draft ✓

A transducer depth was determined for launches 2123, 2124, 2125 and 2126 on March 19, 1993 and is in the offset tables for each launch.

Settlement and Squat ✓

Correctors were computed in accordance with Hydrographic Manual Section 4.9.4.2., using FPM Fig. 2.2 and 2.3, and are included in the "Spring 1993 Corrections to Echo Sounding Data Package for OPR-O136-RA." The data used was collected in Shilshole Bay, Washington on March 11, 16, and 18 of 1992. Revised settlement and squat correctors were received from Pacific Marine Center on October 21, 1992. Authorization was obtained from N/CG241 to use the 1992 data. These revised correctors were applied to the data on sheet Q.

Offset Tables

<u>Vessel</u>	<u>Offset Table No.</u>
2123	3
2124	4
2125	5
2126	6

Heave ✓

Data were not acquired during periods of significant sea action so heave was not a factor.

Bar Check and Lead Lines ✓

Bar check and lead lines were calibrated by RAINIER personnel on February 19, 1993 at PMC. Calibration forms are included in the "Spring 1993 Corrections to Echo Sounding Package for OPR-O136-RA."

Tide Correctors ✓

Tide correctors for the project were found in the Tide Table 2 of the published predicted tides for the Juneau, Alaska, reference station (945-2210). Correctors for Hobart Bay, substation no. 1675, were used for sheet Q. Tidal correctors are:

	<u>TIME</u> (min)	<u>HEIGHT</u> (ft)
Low Water	+3	-0.1
High Water	-6	-1.1

HDAPS listings of the data used in generating tide corrector tables are included in Appendix Y^{*} of this report. *Approved tides were used to reduce soundings on the smooth sheet, see attached tide note.*

Tide gages were installed and maintained by RAINIER personnel at The Brothers, Frederick Sound (945-1785), Windham Bay (945-1962), Hobart Bay (945-1872), and Port Houghton, Stephens Passage (945-1771). The control station was Juneau, Alaska (945-2210). RAINIER personnel completed opening levels for the control station on April 2, 1993 and completed closing levels on April 16, 1993.

The station descriptions, field tide records, and Field Tide Notes will be forwarded to N/OES212, in accordance with HSG 50 and FPM 4.3, at the end of the project. Requests for approved tides will be forwarded to N/OES2.

F. CONTROL STATIONS ✓

A listing of the geodetic stations used to control this survey is included in ~~Appendix III~~ of this report.

Positions for all existing stations are from the National Geodetic Survey (NGS) data base. All existing stations were recovered in accordance with methods stated in Section 5.2.4 of the Field Procedures Manual. New stations were positioned via GPS methods to meet third-order class I standards. Further information can be found in the "Spring 1993 Horizontal Control Report for OPR-O136-RA."

G. HYDROGRAPHIC POSITION CONTROL ✓**Method of Position Control** ✓

All soundings and features were positioned using differential GPS. Serial numbers for Ashtech GPS equipment are annotated on the data printouts. Lists of all positioning equipment serial numbers are included in the "Spring 1993 Electronic Control Data Package for OPR-O136-RA."

Calibrations & Systems Check Methods ✓**Ashtech GPS** ✓

A VHF Differential shore station was established at station INDX. After the station was established, a remote sensor was directly connected to the MXII shore station and its antenna was collocated with the shore station. The computed position was transmitted back to the ship via VHF radio modem link. The difference between the computed location and the station's published position was recorded by the MONITOR program on a PC. Data from a 24-hour period were recorded and examined for signs of multi-path signal reflection, which was not evident at the station.

** Filed with the hydrographic data*

Launch system checks were made by comparing the GPS position with a known, fixed point. A taped distance was measured between the antenna and a known position. Eastings and Northings, HDOP, and number of satellites received were manually recorded three times from Screen One. The absolute value of the inverse distance was then compared to the taped distance to determine if position error criteria were met. System checks were normally made each day, and days with no system checks were always bracketed by days with good checks. Formal system checks are recorded on a form included with data for the beginning and ending of each leg.

Problems ✓

The differential GPS station on INDX ran without problem for sheet Q.

Offset

The launch GPS antenna is mounted on the mast of the Falcon R/T unit. Antenna offsets are stored in the HDAPS Offset Tables as listed in Section E. Copies of the Offset Tables are included in the "Separates to be Included with Survey Data, III. Horizontal Position Control and Corrections to Position Data."

H. SHORELINE *See EVMC Report, section 2*

The shoreline map (T-sheet) used to transfer shoreline detail to the final sheets was TP-01387 (1:10,000, NAD83).

Shoreline verification was conducted near predicted lower low water in accordance with FPM 7.1. Shoreline verification was accomplished by assigning sequential reference numbers and taking detached positions (DPs) as explained later in this section.

Inshore hydrography shows that photogrammetric and hydrographic positioning are in excellent agreement. *Concur*

Shoreline and T-sheet features verified via visual inspection were assigned sequential reference numbers, described, and recorded in the field using sounding volumes and corresponding 1:10,000 photocopies of the T-sheet. Heights were corrected to MLLW using predicted tides. Corresponding notes were annotated on the photocopies of the T-sheet when deemed necessary. The annotated photocopies of the T-sheet are attached to the sounding volumes which are included with the survey data.

DPs taken during shoreline verification were recorded on the master printouts and indicate significant T-sheet features, features not found on the T-sheet, and locations of disprovals. Where possible, positions

of some T-sheet features were verified during inshore mainscheme hydrography and annotated on the master printouts.

Detailed 1:10,000 "Rough Bottom Sample and Detached Position Plots" are provided showing all DPs and reference numbers and notes relating to each feature. The information from these plots was transferred to a field shoreline plot. Verified T-sheet features were retained and shown in black. Disproved features were removed from the shoreline plot and changes to the shoreline were shown in red. Field cartographic codes were assigned using the HDAPS DP editor. Heights are recorded in meters and are corrected to predicted MLLW. *No changes to the shoreline are found on this survey.*

Disprovals ✓

None.

Changes

One change to the T-Sheet shoreline was found and depicted on the field shoreline plot.

The T-Sheet islet in the vicinity $057^{\circ}25'36''^{\text{N}}$, $133^{\circ}32'59''^{\text{W}}$, Position No. 5438 is a group of low lying rocks. Heights range from 1.3 meters to 4.2 meters at MLLW.

Recommendations: The hydrographer recommends that the shoreline changes from this survey be used to supersede prior shoreline information compiled on T-sheet (TP-01387).

*Concur***New Features** ✓

Ten new features were found and depicted on the field sheet.

Item	Approximate Position	Position Number	Height (m)	Remarks
Rock	$57^{\circ}29'11''^{\text{N}}$ $133^{\circ}31'23''^{\text{W}}$	7858	-0.8 -0.6	Uncovers Exposed-
Rock	$57^{\circ}28'41''^{\text{N}}$ $133^{\circ}31'25''^{\text{W}}$	5441	-4.0 -3.6	Uncovers Exposed
Ledge	$57^{\circ}28'32''^{\text{N}}$ $133^{\circ}31'25''^{\text{W}}$	5440	-1.2 0.9	Uncovers Exposed
Rock	$57^{\circ}28'42''^{\text{N}}$ $133^{\circ}31'25''^{\text{W}}$	5442	-2.1 -1.7	Uncovers Exposed
Rock	$57^{\circ}29'08''^{\text{N}}$ $133^{\circ}31'24''^{\text{W}}$	5444	-1.0 0.5	Uncovers Exposed
Rock	$57^{\circ}27'12''^{\text{N}}$ $133^{\circ}30'22''^{\text{W}}$	8003	-1.0 -0.7	Uncovers Exposed-
Rock	$57^{\circ}27'14''^{\text{N}}$ $133^{\circ}30'18''^{\text{W}}$	8004	-1.4 1.0	Uncovers Exposed-
Ledge	$57^{\circ}27'17''^{\text{N}}$ $133^{\circ}30'20''^{\text{W}}$	8005	-1.0 -0.7	Uncovers Exposed-
Rock	$57^{\circ}27'45''^{\text{N}}$ $133^{\circ}30'44''^{\text{W}}$	8190	-2.4 -2.1	Uncovers Exposed

The T-Sheet rocks in the vicinity $057^{\circ}27'02''^{\text{N}}$, $133^{\circ}30'25''^{\text{W}}$, are in a foul area defined by Position Nos. 8000-8002.

Recommendations: The hydrographer recommends that the shoreline detail from this survey be used to supersede prior shoreline information. *concur*

I. CROSSLINES ✓

Crosslines are in good agreement with mainscheme hydrography. Crosslines totaled 21.7 nautical miles, representing 13.0 % of the total mainscheme hydrography.

J. JUNCTIONS *See Eumc Report, section 5*

This survey junctions with survey H-10469 (1:10,000, 1993) to the east and H-10463 (1:10,000, 1993) to the south, and H-10470 (1:10,000, 1993) to the north. No irregularities were found when comparing soundings and depth curves. Final comparisons will be made at the Pacific Hydrographic Section (PHS).

K. COMPARISON WITH PRIOR SURVEYS *See Eumc Report, section 6*

This survey was compared to the following prior surveys:

H-1996 (1:80,000, 1889-92)
T-3806 (1:20,000, 1920)
 H-4143A WD AD. WK (1:20,000, 1921)
 H-4143B WD AD. WK (1:20,000, 1922)

The soundings from this survey generally agree with all prior surveys in their common area. Final comparisons and recommendations will be made at PHS.

L. COMPARISON WITH THE CHART *See Eumc Report, section 7*

This survey was compared to NOS chart 17360, 28th Edition, February 8, 1992, 1:217,828 (NAD83) and NOS chart 17363, 11th edition, April 27, 1991, 1:40,000 (NAD83).

Soundings were found to be in general agreement with this survey. Charted discrepancies are noted below. Final comparisons will be made at PHS.

The charted ledge, scaled from chart 17360, shown in the vicinity 057°25'12"N, 133°32'00"W is not present. T-sheet ledges depict the actual shoreline. *concur*

The charted ledge, scaled from chart 17360, shown in the vicinity 057°25'19"N, 133°31'46"W is not present. T-sheet ledges depict the actual shoreline. *concur*

Recommendation: The charted ledges should be deleted in favor of the T-Sheet ledges. *concur*

One AWOIS item was investigated. The findings are discussed on the attached item investigation report form.

Dangers to Navigation

No dangers to navigation were reported for this survey.
One danger was reported during office processing, attached to this report.

M. ADEQUACY OF SURVEY *See Eval Report, section 6 and 7*

This survey is complete and adequate to supersede the T-Sheets, chart letters, and all prior surveys in the common areas.

Do not concur, see section 6 and 7 of Eval Report

N. AIDS TO NAVIGATION ✓

None.

O. STATISTICS ✓

<u>Vessel:</u>	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>	<u>Total</u>
# of Pos	429	207	55	640	1331
NM Hydro	60.55	45.7	0	60.95	167.2

NM ² Hydrography	19
Velocity Casts	1
Detached Position	26
Tide Stations	4
Reference Numbers	8
Bottom Samples	33

P. MISCELLANEOUS ✓

Loran C comparisons were not required according to the Project Instructions.

Bottom samples were sent to the Smithsonian Institution in accordance with the Project Instructions.

The Coast Pilot current and predicted current comparisons were made in accordance with the Project Instructions. The current predictions were adequate and the descriptions accurate.

Duplicate Position numbers for RA-5 were block edited and are not sequential with the day numbers.

Q. RECOMMENDATIONS ✓

None.

R. REFERRAL TO REPORTS ✓

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

<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Spring 1993 Horizontal Control Report for OPR-O136-RA	May 1993	N/CG2333
Spring 1993 Electronic Control Data Package for OPR-O136-RA	March 1993	N/CG245
Spring 1993 Corrections to Echo Soundings Data Package for OPR-O136-RA	May 1993	N/CG245

Spring 1993 Coast Pilot Report
for OPR-O136-RA

May 1993

N/CG245

Spring 1993 User Evaluation Report
for OPR-O136-RA

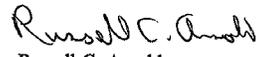
May 1993

N/CG245

Respectfully Submitted,

Approved and Forwarded,


Steven A. Leinke
Lieutenant (jg), NOAA


Russell C. Arnold
Captain, NOAA
Commanding Officer


Beth Judson
Survey Technician

NOAA SHIP RAINIER
Item Investigation Report

AWOIS/Investigation #: 51867

Item Description: Two dolphins

Source: CL 946/52; CL 1838/76;
USCGS LTR, Position scaled from Chart 17360 (1:217,828)

Investigation Date: Apr 21 93 DN: 111 Time: 18:31:07UTC

Position Number(s): DP # 8007

Vessel(s): 2126

Corrections Applied: Velocity Draft ~~Predicted~~ ^{Actual} Tides Pneu-me-Gal.

Depth/Height: -1.6 meters

Position	Latitude	Longitude
	<u>57 28/00.740</u>	<u>133/31/09.180 (NAD 83)</u>
Reported	<u>57 28/02N</u>	<u>133/31/03W (NAD 27)</u>
Observed	<u>57°27'59.2"</u>	<u>133°30'54.14" (NAD 83)</u>

Positioning Method: DGPS Falcen R/A#

Method of Investigation: Area was split to 10 meter line spacing in a 100 meter radius about the reported Awois position. The search was conducted using visual and echo sounder. One hour of time was spent looking for the Awois item.

Findings: AWOIS 51867 is not present at the charted location. There are three stumps 17 meters high about 0.5 meters apart which may have been a dolphin at one time. The position of these is noted above. About 30 meters SW of these stumps there are three 20-30 cm high stumps grouped together. this could have been the other reported dolphin.

Charting Recommendation: Correct the dolphins charted position using the survey information. Cancel, Remas charted dolphins

Compilation Use Only	
CHART	APPLIED
<u>17363</u>	<u>subm pile</u>
<u>17360</u>	<u>subm pile</u>

April 30, 1993

CONTROL STATIONS as of 13 Apr 1993

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY	Station Name
100	F	057:16:13.397	133:37:53.480	25	250	0.0	0.0	03/22/93		INDX(DGPS)
101	F	057:15:03.885	133:32:35.533	7	250	0.0	0.0	03/23/93		BILL POINT
102	F	057:18:17.893	133:31:16.092	7	250	0.0	0.0	5-03/23/93		VAL
200	0	057:17:57.880	133:27:52.297	0	254	0.0	0.0	03/23/93		ROBERT IS TP (FIXED-CAL)
201	0	057:17:45.967	133:20:36.141	0	254	0.0	0.0	03/23/93		PART HOUGHTON TP (FIXED-CAL)
202	0	057:19:34.133	133:11:00.320	0	254	0.0	0.0	03/23/93		AUNT BEA RM A (FIXED-CAL)
203	0	057:24:45.171	133:26:25.046	0	254	0.0	0.0	04/13/93		ENTRANCE ISLAND PILLING (FIXED)

- 980 4/13



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Coast and Geodetic Survey
Seattle, Washington 98115-0070

November 15, 1993

Commander (OAN)
Seventeenth Coast Guard District
P.O. Box 25517
Juneau, AK 99802-5517

Dear Sir:

During office processing of hydrographic survey H-10468, Approach to Hobart Bay, Stephens Passage, Alaska, it was determined that an uncharted shoal exists. This potential danger affects the following nautical charts.

Chart Number	Edition No.	Horizontal Date	Datum
17360	28th	2/8/92	NAD83
17363	11th	4/27/91	NAD83

It is recommended that this information be included in the Local Notice to Mariners.

Questions concerning this report should be directed to the Pacific Hydrographic Section at (206) 526-6853.

Sincerely,

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

Enclosure

cc: DMAH/TC
N/CG221



Report of Danger to Navigation

Hydrographic Survey Registry Number: H-10468

Survey Title:

State: Alaska

General Locality: Stephens Passage

Sublocality: Approach to Hobart Bay

Project Number: OPR-0136-RA

The following was discovered during hydrographic survey operations:

An uncharted depth of 1 fathom

Affected nautical charts:

Chart Number	Edition No.	Date	Survey Depth	Horizontal Datum	Geographic Position	
					Latitude	Longitude
17363	28th	2/8/92	1 fathom	NAD83	57/27/21.31N	133/30/31.73W
17360	11th	4/27/91	1 fathom	NAD83	57/27/21.31N	133/30/31.73W

Fix 7729

The depth has been reduced to Mean Lower Low Water.

Questions concerning this report should be directed to the Pacific Hydrographic Section at (206) 526-6853.

APPROVAL SHEET

for

H-10468
RA-10-7-93

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.



Russell C. Arnold
Captain, NOAA
Commanding Officer



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

ORIGINAL

DATE: August 18, 1993

MARINE CENTER: Pacific

OPR: 0136

HYDROGRAPHIC SHEET: H-10468

LOCALITY: Approach to Hobart Bay, Stephens Passage, Alaska

TIME PERIOD: April 13, 1993 - April 26, 1993

TIDE STATION USED: 945-1785 The Brothers, Alaska
Lat. 57° 17.7'N Lon. 133° 47.8'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = -0.88 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 13.8 feet

REMARKS: RECOMMENDED ZONING

Times are direct and apply a x1.03 range ratio to The Brothers, Ak. (945-1785). Data from the back-up gauge at The Brothers (945-1786) is used.

NOTE: Hourly heights for The Brothers are tabulated on Greenwich Mean Time.

William M. Adams
ACTING CHIEF, DATUMS SECTION

@



GEOGRAPHIC NAMES

H-10468

Name on Survey	Source of Name									
	A	B	C	D	E	F	G	H	I	J
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	FRAND McNALLY ATLAS	U.S. LIGHT LIST		
ALASKA (title)	X									1
HOBART BAY (title)	X		X							2
LIBBY CREEK			X							3
ROCKY POINT	X		X							4
STEPHENS PASSAGE	X	X	X							5
SUNSET COVE	X		X							6
SUNSET ISLAND	X	X								7
TWINS, THE	X	X	X							8
										9
										10
										11
										12
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										25

Approved:

Charles J. Hamilton

Chief Geographer - N/CG-25

FEB 17 1994

HYDROGRAPHIC SURVEY STATISTICS

H-10468

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

RECORD DESCRIPTION		AMOUNT		RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1		SMOOTH OVERLAYS: POS., ARC, EXCESS			
DESCRIPTIVE REPORT		1		FIELD SHEETS AND OTHER OVERLAYS			
DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS		
ACCORDION FILES	2						
ENVELOPES							
VOLUMES	2						
CAHIERS							
BOXES							
SHORELINE DATA							
SHORELINE MAPS (List):							
PHOTOBATHYMETRIC MAPS (List):							
NOTES TO THE HYDROGRAPHER (List):							
SPECIAL REPORTS (List):							
NAUTICAL CHARTS (List):							
OFFICE PROCESSING ACTIVITIES							
<i>The following statistics will be submitted with the cartographer's report on the survey</i>							
PROCESSING ACTIVITY				AMOUNTS			
				VERIFICATION	EVALUATION	TOTALS	
POSITIONS ON SHEET						1331	
POSITIONS REVISED							
SOUNDINGS REVISED							
CONTROL STATIONS REVISED							
				TIME-HOURS			
				VERIFICATION	EVALUATION	TOTALS	
PRE-PROCESSING EXAMINATION							
VERIFICATION OF CONTROL							
VERIFICATION OF POSITIONS				37		37	
VERIFICATION OF SOUNDINGS				73		73	
VERIFICATION OF JUNCTIONS							
APPLICATION OF PHOTOBATHYMETRY							
SHORELINE APPLICATION/VERIFICATION							
COMPILATION OF SMOOTH SHEET				34		34	
COMPARISON WITH PRIOR SURVEYS AND CHARTS					7	7	
EVALUATION OF SIDE SCAN SONAR RECORDS							
EVALUATION OF WIRE DRAGS AND SWEEPS							
EVALUATION REPORT					14	14	
GEOGRAPHIC NAMES							
OTHER:							
*USE OTHER SIDE OF FORM FOR REMARKS				TOTALS	144	21	
						165	
Pre-processing Examination by D. Haines				Beginning Date	5-18-93	Ending Date	6-1-93
Verification of Field Data by E. Domingo				Time (Hours)	144	Ending Date	3-16-94
Verification Check by J. Stringham				Time (Hours)	17	Ending Date	2-25-94
Evaluation and Analysis by R. Davies				Time (Hours)	21	Ending Date	4-7-94
Inspection by D. Hill				Time (Hours)	4	Ending Date	8-8-94

**EVALUATION REPORT
H-10468**

1. INTRODUCTION

Survey H-10468 is a basic hydrographic survey accomplished by the NOAA Ship *Rainier* under the following Project Instructions.

OPR-O136-RA, dated February 5, 1993

This survey was conducted in Stephens Passage, Alaska between Windam and Hobart Bays. The surveyed area extends from latitude 57/23/39N to latitude 57/29/48N, and from longitude 133/30/06W to longitude 137/37/00W. The shoreline in the area is characterized by rocky and gravel beaches, rock ledges and isolated islands and reefs offshore. The bottom consists of mud and shells. Depths range from zero along the shoreline to 366 meters offshore.

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Three Brothers, Alaska, gage 945-1785 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 computation. The offset values and sound velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey that includes categories of information required to comply with Hydrographic Survey Guidelines No. 52, Standard Digital Data Exchange Format, April 15, 1986. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

Sections H and I of the hydrographer's report and the Spring 1993 Horizontal Control Report for OPR-O136-RA, contain adequate discussions of horizontal control and hydrographic positioning.

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 3.75 was computed for survey operations. The quality of 301 positions exceeded the limit in terms of HDOP. These positions are isolated and occur

randomly throughout the survey area. A review of the data, however, indicates that none of these fixes are used to position dangers to navigation. The features or soundings located by these fixes are consistent with the surrounding information. These fixes are considered acceptable.

The position of the horizontal control station used during hydrography is a 1993 field value based on NAD 83.

The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values determined with 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: -1.247 seconds (-38.569 meters)
Longitude: 6.203 seconds (103.456 meters)

The year of establishment of control stations shown on the smooth sheet originates with the horizontal control records for this survey.

The following registered shoreline map was compiled on NAD 83 and applies to this survey.

	<u>Photo Date</u>	<u>Scale</u>
TP-01387	June 1988	1:20,000

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;
- c. show the survey was properly controlled and soundings are correctly plotted.

4. CONDITION OF SURVEY

With the exception of the following, 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, March 1993 edition, except for the following.

Several charted features and features originating from prior shoreline map T-3806 were not investigated, or were inadequately investigated during this survey. Refer to sections 6 and 7 of this report for the identification of these features.

5. JUNCTIONS

Survey H-10468 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10463	1993	1:10,000	South
H-10469	1993	1:10,000	East
H-10470	1993	1:10,000	North

The junctions with surveys H-10463, H-10469 and H-10470 are not formally complete. Depth curves depicted on survey H-10468 adhere to specifications promulgated by N/CG24 through the memorandum, Changes for Smooth Sheet Appearance and Record Submission to Headquarters, dated February 10, 1994. These curves are located at depths equivalent to the location of charted curves. However, the curves on surveys H-10463, H-10469 and H-10470 are drawn at locations specified in HSG 69. There is excellent agreement between soundings and depth curves if the curves are the same value, however, since the depth curves shown on survey H-10468 delineate different depths they, therefore, do not agree. Soundings have been transferred to survey H-10468 from all of the above surveys to better portray the bottom in the common areas.

6. COMPARISON WITH PRIOR SURVEYS

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

Survey H-1996 covers the entire area common to survey H-10468. There is an average difference in depths of four meters with extreme cases of 10 to 18 meters. These extremes occur on steeply sloping bottoms. In most cases, the prior soundings are deeper. This area has experienced earthquakes, possible isostatic rebound and natural accretion and erosional processes. These processes, the different horizontal datums, the greater sounding coverage and relative accuracy of the data acquisition techniques account for the depth differences between the surveys.

T-3806(1920) 1:20,000

Prior shoreline map T-3806 covers the entire area common to survey H-10468. The shoreline has remain relatively stable and survey H-10468 compares adequately, however, the following features were not investigated or were inadequately investigated. The below features have been brought forward to this survey from prior shoreline map T-3806.

<u>Feature</u>	<u>Latitude(N)</u>	<u>Longitude (W)</u>
Subm piles	57/27/53	133/30/51
Subm piles	57/27/50	133/30/57
Subm piles	57/27/48	133/30/48
Subm piles	57/27/19	133/30/24

There are no AWOIS items, which originate with the above mentioned prior surveys.

In accordance with Hydrographic Survey Guideline No. 39, the effects of the 1964 Prince William Sound earthquake were considered in the comparison of this survey. No reasonable adjustment value for prior soundings could be determined.

With the transfer of the above features, survey H-10468 is adequate to supersede the prior survey within the common area.

H-4143A WD AD. WK(1921) 1:20,000

H-4143B WD AD. WK(1922) 1:20,000

Surveys H-4143A and B cover the entire area of the present survey. There are four wire drag (hang) depths that originate with survey H-4143B. The depths found on survey H-10468 are equal to or less than these hang depths.

Depths from survey H-4143A differ between 5 to 10 meters with extreme cases of 20 to 30 meters on steep sloping bottoms. These soundings should be superseded by the present survey.

7. COMPARISON WITH CHART

Chart 17360 28th Edition, February 8, 1992; scale 1:217,828

Chart 17363 11th Edition, April 27, 1991; scale 1:40,000

a. Hydrography

Charted hydrography originates with the prior surveys mentioned in section 6 and miscellaneous sources and requires no further discussion.

~~From T3806(1980)~~

A group of submerged piles charted at latitude 57/27/51N, longitude 133/30/57W were not investigated adequately. There is evidence of these piles in the raw records, the echograms. These submerged piles should be retained as charted.

Except for the above mentioned submerged piles, survey H-10468 is adequate to supersede charted hydrography within the common area.

b. AWOIS

AWOIS item 51867 originates with a miscellaneous source. Refer to the hydrographer's report for discussion and disposition of this feature.

c. Controlling Depths

There are no controlling depths found within the survey area.

d. Aids to Navigation

There are no fixed or floating aids to navigation within the survey area.

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

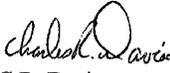
No dangers to navigation were reported by the hydrographer. One danger to navigation report was generated during office processing. A copy of the report is attached.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10468 adequately complies with the project instructions except where noted in this report.

9. ADDITIONAL FIELD WORK

This is an adequate hydrographic survey. Additional field work on a low priority basis is recommended to investigate features, as noted in sections 6 and 7 of this report.


C.R. Davies
Cartographer

APPROVAL SHEET
H-10468

Initial Approvals:

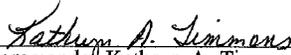
The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and 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.



Date: 8/8/94

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

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.

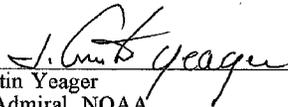


Date: 8/8/94

Commander Kathryn A. Timmons, NOAA
Chief, Pacific Hydrographic Section

Final Approval

Approved:



Date: 10/27/94

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

