H10507

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. RA-20-4-93

Registry No. H-10507

LOCALITY

State Alaska

General Locality Prince William Sound

Sublocality Northern Portion of Unakwik Inlet

1993

CHIEF OF PARTY
CAPT Russell C. Arnold, NOAA

☆U.S. GOV. PRINTING OFFICE: 1987—756-980

FORM 77-28 | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-10507

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-20-4-93

State: Alaska

General locality: Prince William Sound

Locality: Northern Portion of Unakwik Inlet

Scale: 1:20,000 Date of survey: Sept 26 - Oct. 7, 1993

Instructions dated: 7/19/93 Change #1-8/25/93 * Project No.: OPR-P125-RA

Vessel: NOAA Ship RAINIER and launches 2124, 2125 and 2126

Chief of party: CAPT Russell C. Arnold, NOAA

Surveyed by: LT M. Brown, LTJG Lemke, ENS Johnson, SST Fleischmann

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

Graphic record scaled by: Ship Personnel

Graphic record checked by: Ship Personnel

Evaluation by: Gordon E. Kay Automated plot by: Xynetics Plotter

Verification by: D. Doles, L. Deodato, R. Mayor, E. Domingo, J. Stringham, S. Otsubo

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

* Change #2 - 11/5/93

Surf/Awois ck 8/11/95 mcR

5-1-96

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174

PROGRESS SKETCH

OPR-P125-RA
HYDROGRAPHIC SURVEY
NW PRINCE WILLIAM SOUND, ALASKA

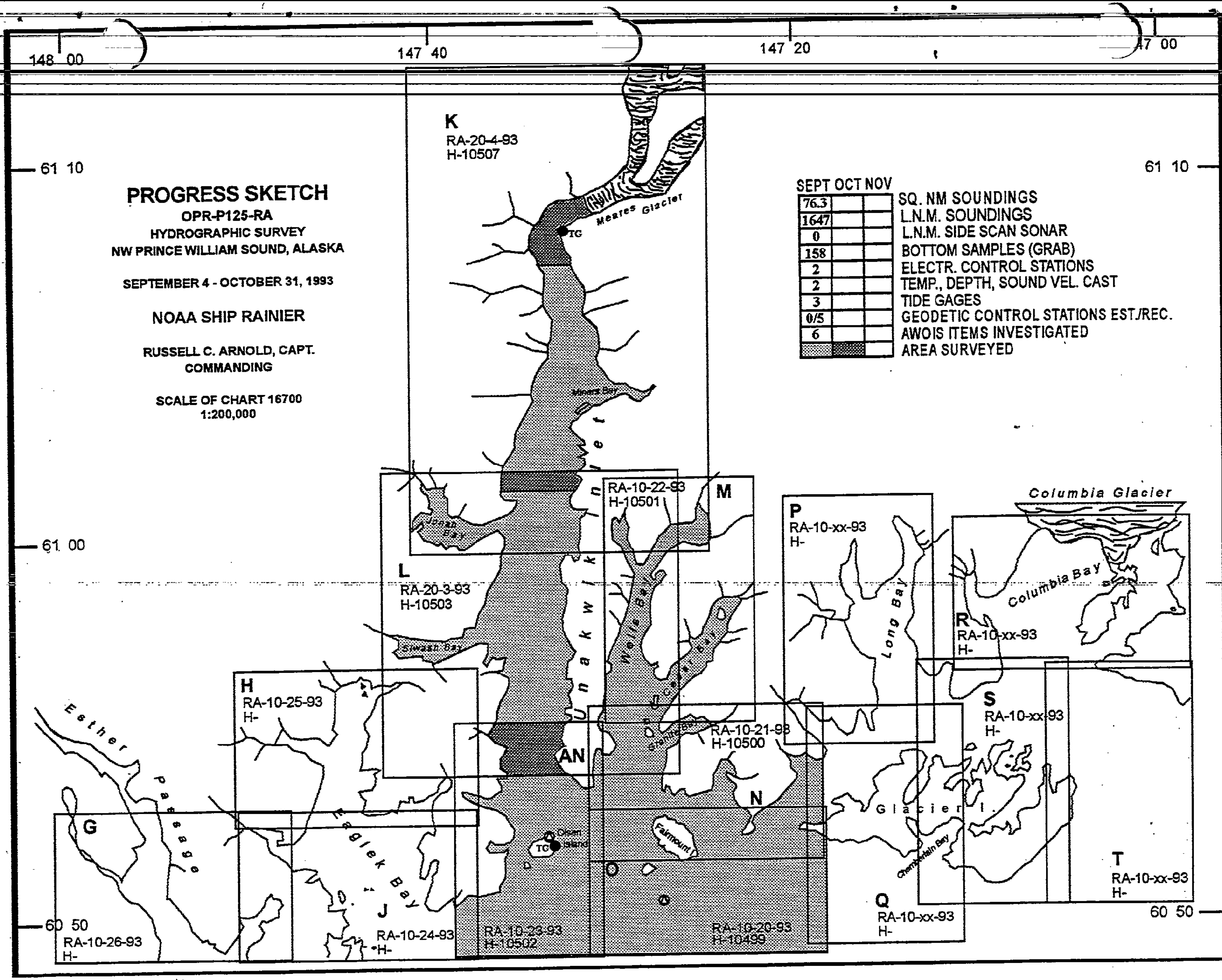
SEPTEMBER 4 - OCTOBER 31, 1993

NOAA SHIP RAINIER

RUSSELL C. ARNOLD, CAPT.
COMMANDING

SCALE OF CHART 16700
1:200,000

SEPT	OCT	NOV	
76.3			SQ. NM SOUNDINGS
1647			L.N.M. SOUNDINGS
0			L.N.M. SIDE SCAN SONAR
158			BOTTOM SAMPLES (GRAB)
2			ELECTR. CONTROL STATIONS
2			TEMP., DEPTH, SOUND VEL. CAST
3			TIDE GAGES
0/5			GEODETIC CONTROL STATIONS EST./REC.
6			AWOIS ITEMS INVESTIGATED
			AREA SURVEYED



Descriptive Report to Accompany Hydrographic Survey H-10507

Field Number RA-20-4-93
Scale 1:20,000
September - October 1993

NOAA Ship RAINIER
Chief of Party: Captain Russell C. Arnold NOAA

A. PROJECT

This basic hydrographic survey was completed in northwest Prince William Sound, Alaska, as specified by Project Instructions OPR-P125-RA dated July 19, 1993, change No. 1 dated August 25, 1993, and change No. 2 dated ~~September 2,~~ November 25, 1993.

Survey H-10507 corresponds to "Sheet K" as defined in the Project Instructions.

This survey will provide contemporary hydrographic survey data for updating existing nautical charts, and for constructing two new 1:100,000 scale metric charts covering the fiords and bays of northwest Prince William Sound. Requests for hydrographic surveys and updated charts have been received from the Defense Mapping Agency, Southwest Alaska Pilot's Association, cruise ship lines (particularly Holland America Line and Westours, Inc.), and local fishermen.

B. AREA SURVEYED See Eval Rpt, Section I

This survey area includes Unakwik Inlet, Meares Glacier, and Miners Bay. The survey limits are 147°28'30"W to the east, 147°36'05"W to the west, 61°09'10"N to the north, and 61°01'55"N to the south.

Data acquisition was conducted from September 26, Day Number (DN) 269, through October 7, DN 280.

C. SURVEY VESSELS

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

Vessel	EDP No	Operation
RAINIER	2120	Sound Velocity Cast
RA-4	2124	Hydrography
RA-5	2125	Hydrography Shoreline Verification Bottom Samples
RA-6	2126	Hydrography Shoreline Verification

D. AUTOMATED DATA ACQUISITION AND PROCESSING

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

Program Name	Version	Date Installed
AUTOST	3.00	9/24/92
BACKUP	2.00	8/20/93
BASELINE	1.14	8/20/93
BIGABST	2.05	8/20/93
BLKEDIT	2.02	8/20/93
CARTO	2.09	8/20/93
CONVERT	3.54	8/20/93
DAS_SURV	6.42	8/20/93
DP	2.14	8/20/93
EXCESS	4.11	8/20/93
FILESYS	3.10	8/20/93
GRAFEDIT	1.04	8/20/93
LSTAWOIS	3.04	8/20/93
LISTDATA	1.02	8/20/93
MAINMENU	1.10	8/20/93
MAN_DATA	2.01	8/20/93
NEWPOST	6.01	8/20/93
PLOTALL	2.12	8/20/93
PRESURV	7.04	8/20/93
PRINTOUT	4.03	8/20/93
QUICK	2.04	8/20/93
RAMSAVER	1.02	8/20/93
REAPPLY	2.03	8/20/93
SYMBOLS	2.00	9/24/92
ZOOMEDIT	2.12	8/20/93

Velocity corrections were determined using:

Program Name	Version	Date Installed
VELOCITY	2.0	24 Mar 1993

E. SONAR EQUIPMENT

Sonar equipment was not used on ~~sheet~~ Survey H-10507.

F. SOUNDING EQUIPMENT

DSF-6000N serial numbers are included on the headers of the daily Raw Master Printouts.*

G. CORRECTIONS TO ECHO SOUNDINGS

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

* Filed with the hydrographic records.

Velocity Table No.	Cast No.	Deepest Depth (m)	Applicable DN	Cast Position	Day
2	2	531	269 - 280	60°52'58"N 147°30'10"W	267

The sound velocity cast was acquired with SBE SEACAT Profiler S/N 220. Cast 2 plots outside the survey limits.
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 "Separates to be Included with Survey Data, IV. Sounding Equipment Calibrations and Corrections". filed with the survey data.

Static Draft

A transducer depth was determined for launches 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 with project data for OPR-P125-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 K.

Offset Tables*

Vessel	Offset Table No.
2124	4
2125	5
2126	6

Heave

Data were not acquired during periods of significant sea action for sheet K.

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 with the project data for OPR-P125-RA.

Tide Correctors

The tidal reference station used for this survey was Cordova, Alaska (945-4050). Tidal correctors as provided in the project instructions for Sheet K are:

* Filed with the hydrographic data.

Time Correction				Height Correction
High Water		Low Water		Range Ratio
0 hr	0 min	0 hr	0 min	X0.96

HDAPS listings of the data used in generating tide corrector tables are included in Appendix V of this report. *

Tide gages were installed and maintained by RAINIER personnel at Storey Island, Alaska (945-4553), Unakwik Inlet, Alaska (954-4602), and Olsen Island, Alaska (945-4596). The control station was Valdez, Alaska (945-4240). Opening levels for the Valdez station were completed by the Pacific Operations Section. Requirements for closing levels were waived in Change No. 1 of the Project Instructions.

The station descriptions, field tide records, and Field Tide Notes will be forwarded to N/OES212 monthly in accordance with HSG 50 and FPM 4.3, and at the end of the project. Requests for approved tides ~~will be~~ was forwarded to N/OES2. * Approved Tide Note dated March 8, 1994 is attached.

H. CONTROL STATIONS See Eval Rpt, Section 2.

A listing of the geodetic stations used to control this survey is ~~included in Appendix III~~ attached to 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. Further information can be found in the "Fall 1993 Horizontal Control Report for OPR-P125-RA."

I. 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.*

Calibrations & Systems Check Methods

Ashtech GPS

VHF differential shore stations were established at stations QUOTE and INDIA. After the stations were established, a remote sensor was connected directly 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 either station.

System checks were performed by launch to launch comparisons of position. Three observations of position were made by each launch using correctors from two independent DGPS base stations. System checks were made every day and the results were transferred to forms which are included in the project data for OPR-P125. An abstract of the system checks is included in the "Separates to be Included with Survey Data, III. Horizontal Position Control and Corrections to Position Data". *

* Filed with the survey records.

Problems

The differential GPS stations on QUOTE and INDIA ran without problems for sheet K.

Offset

The launch GPS antenna offsets are stored in the HDAPS Offset Tables as listed in Section G. 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." filed with the survey records

J. SHORELINE See Eval Rpt, Section 2.

The shoreline maps (T-sheets) used to transfer shoreline detail to the final sheets were DM-10058 (1:10,000, NAD 83), DM-10059 (1:10,000, NAD 83), and DM-10060 (1:10,000, NAD 83).

Shoreline verification was conducted as near as possible to predicted lower low water in accordance with FPM 7.1, however tides were not ideal for shoreline verification during the survey period. RAINIER conducted shoreline verification at the lowest possible tides during this survey. 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 general agreement.

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

DPs taken during shoreline verification were recorded on the master printouts* and on the DP forms.* These 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, reference numbers, and notes relating to each feature. The information from these plots was transferred to a final field plot. Verified T-sheet features were retained and shown in black. 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. New islets have been shown in red on the smooth sheet. There was only one revision to the MHWL. Heights shown on the smooth sheet are corrected for approved tides.

Disprovals

None.

Changes

T-sheet photographs were apparently taken at a high stage of tide and many minor near shore changes were made. Changes to the T-sheet are noted on the final field plot.

* Filed with hydrographic records.

K. CROSSLINES

Crosslines are in good agreement with mainscheme hydrography. Crosslines totaled 8.22 nautical miles, representing 7.1% of the total mainscheme hydrography.

L. JUNCTIONS SEE Evaluation Report section 6

This survey junctions with survey H-10503 (1:20,000,1993) to the south. No irregularities were found when comparing soundings and depth curves. Final comparisons will be made at the Pacific Hydrographic Section (PHS).

M. COMPARISON WITH PRIOR SURVEYS

There were no prior surveys for sheet K.

N. ITEM INVESTIGATIONS

None.

O. COMPARISON WITH THE CHART SEE Evaluation Report section 7

This survey was compared to NOS chart 16700, 24th Edition, January 11, 1992, 1:200,000 (NAD83).

The charted soundings were found to be in general agreement with the survey. Final comparisons will be made at PHS.

Dangers to Navigation

There were no dangers to navigation noted for this survey.

P. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede previous chart letters in their common areas. Concur

Q. AIDS TO NAVIGATION

None.

R. STATISTICS

Vessel:	2124	2125	2126	Total
# of Pos	93	159	889	1,141
NM Hydro	9.51	6.64	99.54	115.69

NM^2 Hydrography	5.5
Velocity Casts	1
Detached Position	19
Tide Stations	3
Reference Numbers	34
Bottom Samples	6

S. MISCELLANEOUS

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.

T. RECOMMENDATIONS

None.

U. REFERRAL TO REPORTS

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

Title	Date Sent	Office
Fall 1993 Horizontal Control Report for OPR-P125-RA	1993	N/CG2333
Fall 1993 Coast Pilot Report for OPR-P125-RA	1993	N/CG245
Project related data for OPR-P125-RA	Incremental	N/CG245

Respectfully Submitted,

Steven A. Lemke
Lieutenant (jg), NOAA

Approved and Forwarded,

Russell C. Arnold
Captain, NOAA
Commanding Officer

APPROVAL SHEET

for

H-10507
RA-20-4-93

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

Station No	Type	No ?	Lat	Lon	H	Cart	Freq	Vel Code	MM/DD/YY	Station Name
[illegible]	F		060:50:49.581	147:27:05.696	15	250	0.0	0	09/04/93	QUOTE 1947(DGPS)
	F		060:52:35.967	147:33:15.597	6	250	0.0	0	09/04/93	INDIA 1947(DGPS)
	F		060:48:21.781	147:41:49.698	7	250	0.0	0	09/28/93	AXEL 1947
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/93	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	
			000:00:00.000	000:00:00.000	0	0	0.0	0	03/01/92	

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: March 8, 1994

MARINE CENTER: Pacific

HYDROGRAPHIC PROJECT: OPR-P125-RA

HYDROGRAPHIC SHEET: H-10507

LOCALITY: Northern Portion of Unakwik Inlet, Prince William Sound, Alaska

TIME PERIOD: September 26 - October 7, 1993

TIDE STATION USED: 945-4602 North Unakwik Inlet, Unakwik Inlet, Ak.
Lat. 61° 08.2'N Lon. 147° 32.5'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): -4.83 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 10.9 ft.

REMARKS: RECOMMENDED ZONING

Times and heights are direct on North Unakwik Inlet, Ak. (945-4602).

Notes: 1. Times are tabulated in Greenwich Mean Time.

2. Data for North Unakwik Inlet, Ak. (945-4602) is temporarily stored in file #556-4602.

Wilbur M. Hoon

CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10507

Name on Survey	A ON CHART NO. 16700	B TP-DM-10058	C TP-DM-10059	D TP-DM-10060	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA (TITLE)										1
MEARES GLACIER	X	X								2
MINERS BAY	X			X						3
RANNEY CREEK	X									4
UNAKWIK INLET	X	X	X	X						5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
				Approved:						16
				Charles L. Harrington						17
				Chief Geographer, NOS/CG275						18
										19
				JUN 27 1994						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-10507

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

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

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

SHORELINE DATA

SHORELINE MAPS (List):	DM-10058, DM-10059 and DM-10060
PHOTOBATHYMETRIC MAPS (List):	No
NOTES TO THE HYDROGRAPHER (List):	NA
SPECIAL REPORTS (List):	None
NAUTICAL CHARTS (List):	16700

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			1132
POSITIONS REVISED			2
SOUNDINGS REVISED			5
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	47.0		47.0
VERIFICATION OF SOUNDINGS	103.0		103.0
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	82.0		82.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		4.0	4.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		9.0	9.0
GEOGRAPHIC NAMES			
OTHER: Digitization	3.5		3.5
USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	235.5	13.0	248.5

Pre-processing Examination by LT D. Haines	*Beginning Date* 10/19/93	*Ending Date* 11/05/93
Verification of Field Data by D. Doles,L.Deodato,R.Mayor,J.Stringham,S.Otsubo	*Time (Hours)* 235.5	*Ending Date* 9/21/94
Verification Check by S. Otsubo, J. Stringham	*Time (Hours)* 44	*Ending Date* 10/28/94
Evaluation and Analysis by G.E. Kay	*Time (Hours)* 13	*Ending Date* 3/31/95
Inspection by E. Olmstead	*Time (Hours)* 8	*Ending Date* 4/11/95

EVALUATION REPORT
SURVEY H-10507

1. INTRODUCTION

Survey H-10507 is a basic hydrographic survey accomplished by the NOAA Ship *Rainier,* under the following Project Instructions.

OPR-P125 RA, dated July 19, 1993
CHANGE NO. 1, dated August 25, 1993
CHANGE NO. 2, dated November 5, 1993

This survey was conducted in Alaska situated in the northern portion of Prince William Sound. The survey area covers the northern portion of Unakwik Inlet to include Miners Bay. The surveyed area is bounded by latitude 61/01/48N to the south and extends northward to the face of Meares Glacier. The shoreline is rocky and steep consisting of numerous isolated rocks, ledges and small islands. Rocky pinnacles that rise up very near the surface were found throughout the inlet. The bottom characteristic is mud. Depths range from less than a meter along the shoreline to a depth of 275 meters, located west of Miners Bay in Unakwik Inlet.

Depth curves depicted on the smooth sheet were selected from those authorized through HSG 69. However, instead of drafting all authorized curves only those curves considered necessary for the reasonable portrayal of the bottom were drafted. The selected curves were the 0, 20 and 180 meter. A note was added to the smooth sheet to identify these values. A few supplemental depth curves have been added to the smooth sheet in brown as warranted. The bottom characteristics are annotated on a separate overlay.

Predicted tides for Cordova, Alaska, were used for the reduction of soundings during field processing. Approved hourly heights are zoned from North Unakwik Inlet, Unakwik Inlet, Alaska, gage 945-4602, 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. 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 Guideline 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 a complete depiction of the survey data.

2. CONTROL AND SHORELINE

Sections H and I of the hydrographer's report and the Fall 1993 Horizontal Control Report for OPR-P125-RA, contains 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 89 positions exceeds limits in terms of horizontal dilution of precision (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 soundings located by these fixes are consistent with the surrounding information. These fixes are considered acceptable.

Positions of horizontal control stations used during this survey are published values based on NAD 83.

The smooth sheet is annotated with an NAD 27 adjustment tick based on values determined with the NGS program NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude:	-1.911 seconds	(-59.161 meters)
Longitude:	7.447 seconds	(111.582 meters)

The year of establishment of control stations shown on the smooth sheet originates with published NGS data.

The following digital shoreline maps were compiled on NAD 83, enlarged to the scale of 1:10,000 and apply to this survey.

Map Number	Photography date	Scale
DM-10058	July 1989	1:20,000
DM-10059	July 1989	1:20,000
DM-10060	July 1989	1:20,000

There is a dashed red ink line, depicting an approximate shoreline change on the smooth sheet at latitude 61/07/10N, longitude 147/33/38W. This change has no supporting positional information. This revision is considered adequate to supplement the common photogrammetrically delineated shoreline.

3. HYDROGRAPHY

Except for the following, 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.

Authorized depth curves were adequately drawn and developed except the zero curve. The inshore limit as defined by the Project Instructions (section 1.8), is the 3-meter depth curve in steeply sloping areas.

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, March 1993 Edition.

During the course of his survey the hydrographer failed to investigate and dispose of three charted rocks. An investigation is required in accordance with the Field Procedures Manual, Figure 6.3, Section O, paragraph 4a, page 6-35. Which states, "Those charted features not found during the present survey shall be listed, the investigation described, and recommendation for charting given." Refer to section 7a and 9 of this report for disposition.

5. JUNCTIONS

Survey H-10507 junctions with the following surveys.

Survey	Year	Scale	Area
H-10503	1993	1:20,000	South

The junction with survey H-10503 is complete.

6. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys within the limits of survey H-10507.

7. COMPARISON WITH CHART

Survey H-10507 was compared with the following chart.

Chart	Edition	Date	Scale	Datum
16700	24th	January 11, 1992	1:200,000	NAD 83

a. Hydrography

The charted hydrography on the above chart originates with reconnaissance surveys by the United States Geological Survey between 1973 to 1978, and miscellaneous sources.

Present survey soundings do not compare well with the charted soundings. Differences between 30 meters deeper on the present survey, to 30 meters shoaler can be found. These differences are attributed to the data acquisition, positioning techniques and the large scale difference in the charting source to the chart.

The following rocks were not investigated or specifically address during the course of this survey.

Feature	Latitude North	Longitude West	
* rock (awash)	61//06/36	147/33/12	- from USGS recon survey, 1979
submerged rock	61/02/57	147/32/00	
submerged rock	61/02/30	147/31/46	

* 2.2m subm. feature shown 150M to the SE, on H-10507

However, only the rock at latitude 61/06/36N, longitude 147/33/12W should be retained as charted. The two submerged rocks which originate from a miscellaneous source are likely used to describe, the rocky nature of the area. These areas are shown on DM-10060 as strewn with isolated rocks awash and islets and have been transferred to the smooth sheet.

With the exception of the above feature, survey H-10507 is adequate to supersede charted hydrography within the survey area. Refer to the smooth sheet for the final depiction of this survey area.

A study of prior survey data, in accordance with Hydrographic Survey Guideline No. 39, the effect of the 1964 Prince William Sound earthquake was not performed, because of the lack of prior survey data.

b. AWOIS

There are no AWOIS items located within the limits of survey H-10507.

c. Controlling Depths

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

d. Aids to Navigation

There are no aids to navigation located within the limits of this survey. There are no charted landmarks there are located within the limits 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 did not report any dangers to navigation. No dangers were found during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10507 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a fair hydrographic survey. Additional field work is required to investigated the charted rock as mentioned in section 7a.

Gordon E. Kay
Cartographer

APPROVAL SHEET
H-10507

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 processings 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.

Bruce A. Olmstead Date: 4/19/95
Bruce A. Olmstead
Senior Cartographer, Pacific Hydrographic Unit
Pacific Hydrographic Section

I have reviewed the smooth sounding plot, 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.

Kathy A. Timmons Date: 4/20/95
Kathy A. Timmons
Commander, NOAA
Chief, Pacific Hydrographic Section

****

Final Approval

Approved:

Andrew A. Armstrong III Date: 5/2/95
Andrew A. Armstrong III
Captain, NOAA
Chief, Hydrographic Surveys Branch

NOAA FORM 75-96
(11-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10507

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
16700	9/15/95	ALMACEN	Full ~~Part Before~~ After Marine Center Approval ~~Signed Via~~ Full application of
			Drawing No. sndgs & features from SS.
16013			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
500			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
531			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
50			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.