

H-10554

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-40-1-94 ..  
Registry No. .... H-10554 ..

### LOCALITY

State ..... Alaska ..  
General Locality Alaska Peninsula ..  
Sublocality .. Eight Nautical Miles ..  
..... South of Sutwik Island ..

1994

CHIEF OF PARTY  
CAPT R.C. Arnold

### LIBRARY & ARCHIVES

DATE ..... March 22, 1996 ..

H-10554

HYDROGRAPHIC TITLE SHEET

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

FIELD NO.

RA-40-1-94

State Alaska

General locality Alaska Peninsula

Locality Eight Nautical Miles South of Sutwik Island

Scale 1:40,000 Date of survey July 19 - August 11, 1994

Instructions dated May 5, 1994 Project No. OPR-P180-RA

Vessel NOAA Ship RAINIER (2120), RA-4(2124), RA-5(2125), RA-6(2126), RA-3(2123)

Chief of party CAPT Russell C. Arnold, NOAA

Surveyed by CAPT R. Arnold, LT D. Neander, LTJG D. Lemke, ENS A. Caron, ENS G. Glover,  
ENS S. Maenner, ENS S. Smith, CST F. Paranada, SST J. Fleischmann, ST M. Frost

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

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Evaluation by: B. Mihailov Automated plot by HP Design Jet 650L


Verification by D. Doles, R. Shipley, J. Stringham

Soundings in ~~fathoms~~ ~~feet~~ at ~~MLW~~ Meters & Decimeters MLLW

REMARKS: All times 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.

Annex/SURF check 3/26/96 mcr


**PROGRESS SKETCH**

EAGLE I. 

HYDRA 

OPR-P180-RA

HYDROGRAPHIC SURVEY  
SOUTHERN ALASKA PENINSULA, ALASKA

GARDEN I. 


May 27 - August 16, 1994

HYDRA I.

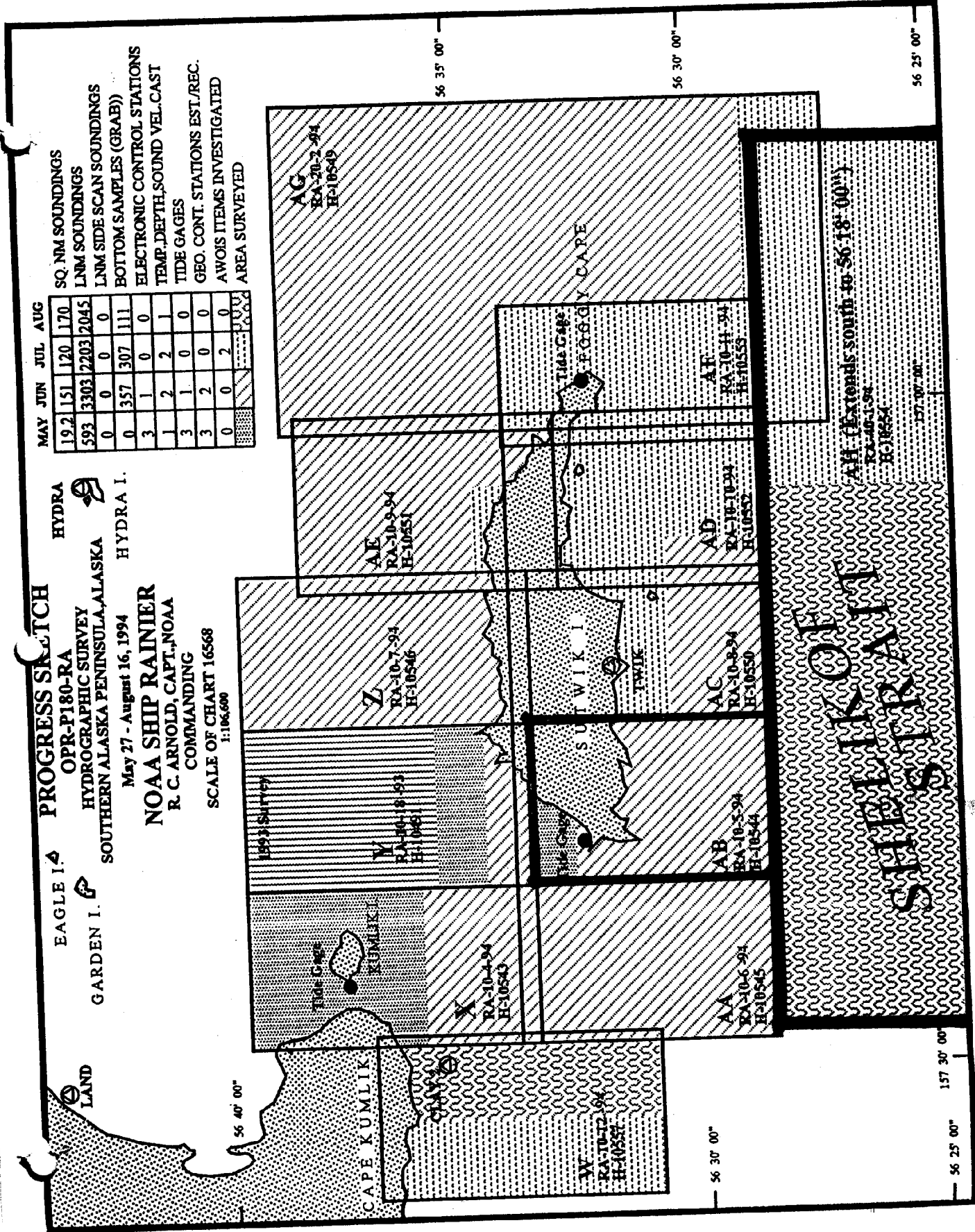
**NOAA SHIP RAINIER**

R. C. ARNOLD, CAPT., NOAA  
COMMANDING

SCALE OF CHART 16568  
1:106,600

	MAY	JUN	JUL	AUG
SQ. NM SOUNDINGS	19.2	151	120	170
LNM SOUNDINGS	593	3303	2203	2045
LNM SIDE SCAN SOUNDINGS	0	0	0	0
BOTTOM SAMPLES (GRAB)	0	357	307	111
ELECTRONIC CONTROL STATIONS	3	1	0	0
TEMP. DEPTH SOUND VEL. CAST	1	2	2	1
TIDE GAGES	3	1	0	0
GEO. CONT. STATIONS EST./REC.	3	2	0	0
AWOIS ITEMS INVESTIGATED	0	0	2	0
AREA SURVEYED				

- SQ. NM SOUNDINGS
- LNM SOUNDINGS
- LNM SIDE SCAN SOUNDINGS
- BOTTOM SAMPLES (GRAB)
- ELECTRONIC CONTROL STATIONS
- TEMP. DEPTH SOUND VEL. CAST
- TIDE GAGES
- GEO. CONT. STATIONS EST./REC.
- AWOIS ITEMS INVESTIGATED
- AREA SURVEYED



AH (Extends south to 56°18' 00")  
RA-10-1-94  
H-10554

SHIP KAIT  
SHIPS

56 25' 00"

56 30' 00"

56 35' 00"

56 30' 00"

56 25' 00"

157 30' 00"

157 00' 00"

N O R T H P A C I F I C  
O C E A N

H-10549

SALTNIK ISLAND

H-10545

H-10548

H-10550

H-10552

H-10554

PRELIMINARY CHART

White Sea to C.

UNPRINTED

# Descriptive Report to Accompany Hydrographic Survey H-10554

Field Number RA-40-1-94

Scale 1:40,000

July-August 1994

NOAA Ship RAINIER

Chief of Party: Captain Russell C. Arnold

## A. PROJECT ✓

This basic hydrographic survey was completed along the Southern Alaska Peninsula, Alaska, as specified by Project Instructions OPR-P180-RA dated May 5, 1994.

Survey H-10554 corresponds to "sheet AH" as defined in the Project Instructions. However, the sheet limits were squared off on the west side of the sheet due to time constraints.

This survey will provide contemporary hydrographic survey data for updating existing nautical charts, and for constructing two 1:100,000 scale metric charts. The new charts will cover inshore and offshore areas between Sutwik Island and Mitrofanina Island along the Southern Alaska Peninsula. Requests for hydrographic surveys and updated charts have been received from the U.S. Coast Guard, Alaska congressional delegates, NOAA, Defense Mapping Agency, and local fishermen.

## B. AREA SURVEYED See Eval Report, Section B.

The survey area is located along the Southern Alaska Peninsula, southwest of Kodiak Island. The survey's northern limit is latitude 56° 28.6'N and the southern limit is latitude 56° 17.8'N. The eastern and western limits are bounded by longitudes 157° 27.0'W and 156° ~~48.0'W~~ <sup>47.8</sup>. There is no shoreline within survey limits.

Data acquisition was conducted from July 19, 1994, Day Number (DN 200), through August 11, 1994, (DN 223).

## C. SURVEY VESSELS ✓

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

<u>Vessel</u>	<u>EDP #</u>	<u>Operation</u>
RAINIER	2120	Sound Velocity Casts Bottom Samples Hydrography
RA-3	2123	Hydrography
RA-4	2124	Hydrography
RA-5	2125	Hydrography
RA-6	2126	Hydrography

**D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓**

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

<u>HDAPS 1994</u> <u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
BACKUP	2.00	3/7/94
BASELINE	1.14	3/7/94
BIGABST	2.07	3/7/94
BIGAUTOST	3.01	3/7/94
BLKEDIT	2.02	3/7/94
CARTO	2.13	5/12/94
CLASSIFY	1.05	3/7/94
CONVERT	3.62	3/7/94
DAS_SURV	6.70	5/12/94
DIAGNOSE	3.04	5/12/94
DISC-UTIL	1.00	3/7/94
DP	2.14	3/7/94
EXCESS	4.21	3/7/94
FILESYS	3.24	5/12/94
GRAFEDIT	1.06	3/7/94
LISTDATA	1.02	3/7/94
LOADNEW	2.10	3/7/94
LSTAWOIS	3.07	5/12/94
MAINMENU	1.20	3/7/94
MAN_DATA	2.01	3/7/94
NEWPOST	6.01	3/7/94
PLOTALL	2.27	5/12/94
POINT	2.10	3/7/94
PREDICT	2.01	3/7/94
PRESURV	7.08	5/12/94
PRINTOUT	4.03	5/3/94
QUICK	2.05	5/12/94
RAMSAVER	1.02	3/7/94
REAPPLY	2.10	3/7/94
SCANNER	1.00	3/7/94
SELPRINT	2.04	3/7/94
SYMBOLS		3/7/94
VERSIONS	1.00	3/7/94
ZOOMEDIT	2.24	5/12/94

Velocity corrections were determined using:

<u>Program Name</u>	<u>Version</u>	<u>Date Installed</u>
VELOCITY	2.10	15 Mar 1994

**E. SONAR EQUIPMENT ✓**

Sonar equipment was not used on sheet AH.

**F. SOUNDING EQUIPMENT** ✓

The Raytheon DSF-6000N is a dual frequency (100 kHz, 24 kHz), paper trace echo sounder. Serial numbers are included on the headers of the daily Raw Master Printouts. No problems which affect survey data were encountered. All DSF-6000N soundings were acquired using the High + Low, high frequency digitized setting.

**G. CORRECTIONS TO ECHO SOUNDINGS**

Correctors for the velocity of sound through water were determined from the casts listed below. Velocity tables 15 and 16 were used for data acquired by RAINIER, and tables 5 and 6 were used for data acquired by the launches.

<u>Velocity Table #</u>	<u>Cast#</u>	<u>DN</u>	<u>Cast Position</u>	<u>Deepest Depth</u>	<u>Applicable DN</u>	
5	5	207	56°28'49"N 157°25'55"W	225	200 - 209	outside survey area
15	5	207	56°28'49"N 157°25'55"W	225	200 - 209	outside survey area
6	6	221	56°24'36"N 157°15'06"W	292	214 - 223	
16	6	221	56°24'36"N 157°15'06"W	292	214 - 223	

The sound velocity casts were acquired with SBE SEACAT Profiler (S/N 811), calibrated 12/17/93. Velocity correctors were computed using the PC program VELOCITY in accordance with Hydrographic Survey Guideline (HSG) No. 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".

**Static Draft**

A transducer depth was determined using FPM Fig 2.2 for launches 2123, 2124, 2125, 2126 in the spring of 1994. RAINIER's transducer depth was determined during the 1990 winter inport. These depths were entered into the offset table for each vessel.

**Settlement and Squat**

Launch correctors were computed in accordance with Hydrographic Manual Section 4.9.4.2., using FPM Fig. 2.3, and are included with project data for OPR-P180-RA. The data used for the launches was collected in Shilshole Bay, Washington in March of 1994. RAINIER settlement and squat data was collected on 14 July 1994.

\* Filed with the hydrographic data.

Offset Tables ✓

Offset tables contain offset for the GPS antenna, as well as static draft measurements, and settlement and squat data. Offset table 1 corresponds to the RAINIER. Tables 3-6 correspond to the number of the launch. The offset tables were compiled with new measurements in the spring of 1994 and are contained in the "Separates to be Included with Survey Data". \*

Heave ✓

RAINIER and the launches are not equipped with heave, pitch and roll sensors. Data acquired during periods of significant sea action were scanned to account for inaccuracies caused by heave. *Data analyzed during office processing and found to contain no significant discrepancies.*

Bar Check and Lead Lines ✓

Bar check and lead lines were calibrated by RAINIER personnel during the winter inport 1993-1994. Calibration forms are included with project data for OPR-P180-RA. Bar checks were performed weekly and served as a functional check of the DSF-6000N.

Tide Correctors ✓

Predicted tides for the project were provided on diskette by N/OES334 for the Ugaiushak, Alaska reference station (945-8553).

Tidal correctors as provided in the project instructions for this sheet are:

<u>Time Correction</u>	<u>Height Correction</u> <u>Range Ratio</u>
0 hr 0 min.	X0.95

HDAPS listings of the data used in generating tide corrector tables are included in Appendix V<sup>\*</sup> of this report.

RAINIER personnel installed an 8200 digital gage at Foggy Cape (945-8582) on June 4, 1994, DN 155. Opening levels were conducted upon installation. Only two of the three hours of opening observations were able to be completed due to inclement weather. Closing levels were completed by RAINIER personnel on 7 August 94.

RAINIER personnel installed an 8200 digital gage at West End Sutwik Island (945-8665) on May 28, 1994, DN 148. Opening levels were conducted upon installation. Closing levels were completed by RAINIER personnel on 6 August 1994, DN 218.

The control station was Sand Point, Alaska (945-9450). Opening levels of the control station were performed by RAINIER personnel on May 21 and 22, 1994. Closing levels at Sand Point, Alaska were completed by the Pacific Operation Section N/OES214 during their annual visit in late July as per phone conversation with Mr. Mike Gibson (OES212).

The station description, field tide records, and Preliminary Field Tide Note (Appendix V<sup>\*</sup>) were forwarded to N/OES212 in accordance with HSG 50 and FPM 4.3 at the end of June. The final tide package will be forwarded to N/OES212 on August 16, 1994. A request for approved tides was forwarded to N/OES2 in accordance with FPM 4.2.3. *Tide note dated October 28, 1994 is attached.*

\* Filed with the hydrographic data.



## H. CONTROL STATIONS ✓ See Eval Report, Section H.

A listing of the geodetic stations used to control this survey is included in ~~Appendix III~~ of this report. The horizontal datum for this project is NAD83.

DGPS stations were setup on existing stations CLAY 2 and HYDRA. Station CLAY 2 is located on an islet south of Cape Kumlik, and station HYDRA is located on Hydra Island. These stations were recovered in accordance with methods stated in Section 5.2.4 of the FPM. Additional information is contained in the "Summer 1994 Horizontal Control Report", which will be submitted at the end of the project.

An additional DGPS station, TWIK, was established by RAINIER personnel on a small peninsula on the south shore of Sutwik Island. This station was positioned to Third-Order Class I accuracy using static GPS methods. Existing stations LAND and CLAY2 were used as control stations. For further information see the "Summer 1994 Horizontal Control Report", which will be submitted at the end of the project.

## I. HYDROGRAPHIC POSITION CONTROL See Eval Report, Section I.

### 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. \*

### Ashtech GPS ✓

VHF differential shore stations were established at stations TWIK, CLAY 2 and HYDRA. 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 any of the stations. Scatterplot results are included in the "Project related data for OPR-P180-RA". The scatterplot results for station HYDRA was obtained last year. The area around station HYDRA remains undeveloped, and the geography unchanged.

### Problems ✓

None

### Calibrations & Systems Check Methods ✓

System checks were performed by launch to launch or launch to RAINIER comparisons of position. Three observations of position were made by each launch using correctors from two independent DGPS base stations. Launch to launch system checks were performed on a weekly basis. RAINIER to launch system checks were performed on a leg to leg basis. The results were transferred to forms which are included in the project data for OPR-P180. 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".

### 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". \*

\* Filed with the hydrographic data.

**J. SHORELINE** ✓

None

**K. CROSSLINES** ✓

Crosslines are within 1-2 meter agreement with mainscheme hydrography. Crosslines totaled 106 nautical miles, representing 10.0% of the total mainscheme hydrography.

**L. JUNCTIONS** See Evaluation Report, Section L.

This survey junctions with survey H-10550 (1:10,000, 1994), H-10545 (1:10,000, 1994), H-10544 (1:10,000, 1994), ~~H-10552 (1:10,000, 1994)~~, H-10552 (1:10,000, 1994) and H-10549 (1:20,000, 1994) to the north. Junction soundings were found to be in general agreement with this survey.

A 16 meter sounding in the vicinity of 56°28'18"N and 157°10'53"W, was found at the junction between this survey and survey H-10550. On survey H-10550, the shoal area was developed by conducting 10 meter splits over the area, revealing a least depth of 15.2 meters in the vicinity of 56°28'19"N and 157°10'53"W. On this survey 50 meter splits were run over the area, yielding a least depth of 16 meters. *The 15.2 meter sounding was transferred in red from survey H-10550.*

Final comparisons will be made at the Pacific Hydrographic Section (PHS).

**M. COMPARISON WITH PRIOR SURVEYS** See Evaluation Report, Section M.

One prior survey was compared: H-6925 (1:120,000, 1944). Sparse soundings from this prior survey were in general agreement with the present survey. However, the present survey, due to much greater sounding density, revealed numerous shoal soundings not found during the prior survey. There were no instances where prior survey soundings were shoaler in a corresponding area.

Final comparisons will be conducted by PHS.

**N. ITEM INVESTIGATIONS** ✓

There were no item investigations on sheet AH.

**O. COMPARISON WITH THE CHART** See Eval Report, Section O.

This survey was compared to NOS chart 16568, 9th Edition, March 21, 1992, 1:106,600 (NAD83). The charted soundings were found to be in general agreement with this survey.

Final comparisons will be made at PHS.

**Dangers to Navigation** ✓

There were no dangers to navigation within the limits of survey H-10554.

**P. ADEQUACY OF SURVEY** ✓

Prior to final approval, survey H-10554 is complete and adequate to supersede charted depths.

**Q. AIDS TO NAVIGATION** ✓

None

**R. STATISTICS** ✓

<u>Vessel:</u>	<u>2120</u>	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>	<u>Total</u>
Number of Positions	2029	39	250	288	310	2916
NM Hydrography	1339.1	23.5	155.6	116.5	217.4	1852.1

Velocity Casts	2
Detached Position	0
Bottom Samples	32
Tide Stations	2
NM <sup>2</sup> Hydrography	219

**S. MISCELLANEOUS** ✓

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

No tidal current predictions are available within the sheet limits.

No unusual magnetic variations were noted.

**T. RECOMMENDATIONS** ✓

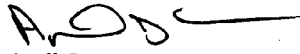
None

**U. REFERRAL TO REPORTS** ✓

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

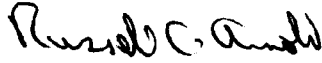
<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Summer 1994 Horizontal Control Report for OPR-P180-RA	August 1994	N/CG245
Summer 1994 Coast Pilot Report for OPR-P180-RA	August 1994	N/CG245
Project related data for OPR-P180-RA	Incremental	N/CG245

Respectfully Submitted,



April J. Caron  
Ensign, NOAA

Approved and Forwarded,



Russell C. Arnold  
Captain, NOAA  
Commanding Officer

CONTROL STATIONS as of 9 Aug 1994

No	Type	Latitude	Longitude	H	Cart	Freq	Vel Code	MM/DD/YY	Station Name
101	F	056:44:35.925	157:00:57.249	50	250	0.0	0.0	05/24/94	HYDRA(DGPS), 1944
102	F	056:36:08.811	157:29:12.200	44	250	0.0	0.0	05/24/94	CLAY 2(DGPS), 1944
103	F	056:31:22.546	157:11:42.067	35	250	0.0	0.0	06/03/94	TWIK(DGPS), 1944

**APPROVAL SHEET**

for

**H-10554**

**RA-40-1-94**

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*

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

ORIGINAL

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: October 28, 1994

MARINE CENTER: Pacific

OPR: P180

HYDROGRAPHIC SHEET: H-10554

LOCALITY: Eight NM South of Sutwik Island Cape, Shelikof Strait,  
Alaska

TIME PERIOD: July 19 - August 11, 1994

TIDE STATION USED: 945-8582 Foggy Cape, Sutwik Island,  
Alaska  
Lat.  $56^{\circ} 32.2'N$  Lon.  $156^{\circ} 58.5'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = 3.36 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 9.0 feet

TIDE STATION USED: 945-8665 West Sutwik Island,  
Alaska  
Lat.  $56^{\circ} 32.4'N$  Lon.  $157^{\circ} 19.6'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = 1.40 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 8.6 feet

page 1 of 2



REMARKS: RECOMMENDED ZONING

1. North of  $56^{\circ} 25.0'N$ , and east of  $157^{\circ} 08.0'W$ , times and heights are direct on Foggy Cape, Sutwik Island, Ak. (945-8582). Where data for Foggy Cape was not available, use West Sutwik Island, Ak. (945-8665), with times direct, and apply a X1.04 range ratio to the heights.
2. North of  $56^{\circ} 25.0'N$ , and west of  $157^{\circ} 08.0'W$ , times and heights are direct on West Sutwik Island, Ak. (945-8665).
3. South of  $56^{\circ} 25.0'N$ , and east of  $157^{\circ} 08.0'W$ , times are direct, and apply a X0.94 range ratio to heights at Foggy Cape, Sutwik Island, Ak. (945-8582). Where data for Foggy Cape was not available, use West Sutwik Island, Ak. (945-8665), with times direct, and apply a X0.99 range ratio to heights.
4. South of  $56^{\circ} 25.0'N$ , and west of  $157^{\circ} 08.0'W$ , times are direct, and apply a X0.96 range ratio to West Sutwik Island, Ak. (945-8665).

NOTES: Hourly heights are tabulated on Greenwich Mean Time. The data for Foggy Cape, Sutwik Island, Ak. (945-8582) and West Sutwik Island, Ak. (945-8665) are stored in the Next Generation Water Level Measurement System temporary files #745-8582 and #745-8665 respectively.

  
CHIEF, DATUMS SECTION



GEOGRAPHIC NAMES

Name on Survey	Source of Name										1	
	A	B	C	D	E	F	G	H	K			
NORTH PACIFIC OCEAN	X											1
												2
												3
												4
												5
												6
												7
												8
												9
												10
												11
												12
												13
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												18
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												20
												21
												22
												23
												24
												25

Approved

*Antonio C. Lopez*

Chief Geographer

JUL 25 1995

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					
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	EVALUATION	TOTALS
POSITIONS ON SHEET			2916
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			

PROCESSING ACTIVITY	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	48.0		48.0
VERIFICATION OF SOUNDINGS			
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	24.5		24.5
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		32.0	32.0
GEOGRAPHIC NAMES			
OTHER			
*USE OTHER SIDE OF FORM FOR REMARKS	72.5	32.0	104.5

Pre-processing Examination by <b>Li M. Larsen</b>	Beginning Date 8/18/94	Ending Date 8/11/95
Verification of Field Data by <b>R. Shipley, D. Doles, J. Stringham</b>	Time (Hours) 48	Ending Date 2/22/95
Verification Check by <b>J. Stringham, B. Olmstead</b>	Time (Hours) 3	Ending Date 12/11/95
Evaluation and Analysis by <b>B. Mihailov</b>	Time (Hours) 32	Ending Date 12/15/95
Inspection by <b>B.A. Olmstead</b>	Time (Hours) 5	Ending Date 12/15/95

## EVALUATION REPORT H-10554

### A. PROJECT

Project information is discussed in the hydrographer's report.

### B. AREA SURVEYED

This survey was conducted in Alaska, and is located along the Southern Alaska Peninsula, approximately eighty nautical miles southwest of Kodiak Island. Specifically, this offshore survey area is eight nautical miles south of Sutwik Island. The bottom consists mainly of sand and broken shells. Depths range from 15.2 meters to 230 meters.

### C. SURVEY VESSELS

Survey vessel information is found in the hydrographer's report.

### D. AUTOMATED DATA ACQUISITION AND PROCESSING

Survey data were processed using the same Hydrographic Data Acquisition/Processing System (HDAPS) software used by the hydrographer, the Hydrographic Processing System (HPS) and autocad, Version 12.0.

At the time of the survey certification the format for transmission of digital data had not been formally approved. In the interim, digital data for this survey exists in the standard HPS format which is a database format using the .dbf extension. In addition, the sounding plot was created with .dbf (extension) and enhanced using the autocad system, are filed both in the autocad drawing format, .dwg (extension); and in the more universally recognized graphics transfer format, .dxf (extension). Copies of these files will be retained at PHS until data transfer protocols are developed and improved.

The drawing files necessarily contain information which is not part of the HPS data set such as geographic names text, line-type data, and minor symbolization. In addition, those soundings deleted from the drawing for clarity purposes, remain unrevised in the HPS digital files to preserve the integrity of the original hydrographic data set. Cartographic codes used to describe the digital data are those authorized by Hydrographic Survey Guideline No. 75.

The field sheet parameters have been revised to center the hydrography on the office plot. The data is plotted using a Modified Transverse Mercator projection and are depicted on a single sheet.

## **E. SONAR EQUIPMENT**

Side scan sonar was not used on survey H-10554.

## **F. SOUNDING EQUIPMENT**

Sounding equipment is discussed in the hydrographer's report.

## **G. CORRECTIONS TO SOUNDINGS**

The sounding data have been reduced to Mean Lower Low Water (MLLW). The reducers include corrections for an actual tide, dynamic draft, and sound velocity. These reducers have been reviewed and are consistent with NOS specifications. Actual tide reduction is derived from the Foggy Cape (Sutwik Island), Alaska, gage 945-8582 and West Sutwik Island, Alaska, gage 945-8665.

## **H. CONTROL STATIONS**

Control stations are discussed in the hydrographer's report and separates. A list of control stations used on survey H-10554 is attached to this report.

The positions of horizontal control stations used during hydrographic operations are published values based on NAD 83. The geographic positions of all survey data are based on NAD 83. The smooth sheet is annotated with an NAD 27 adjustment tick based on values determined with the NGS program NADCON.

Data based on NAD 27 may be referenced to this survey by applying the following corrections:

Latitude: -2.677 seconds (-82.803 meters)  
Longitude: 7.345 seconds (126.042 meters)

The year of establishment of the control stations originates with the horizontal control report and the hydrographer's signal list.

## **I. HYDROGRAPHIC POSITION CONTROL**

Differential GPS (DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 15.0 was computed for survey operations. The quality of several 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 features or soundings located by these fixes are consistent with the surrounding information. These fixes are considered acceptable.

## **J. SHORELINE**

There is no shoreline within the limits of the survey area.

## **K. CROSSLINES**

Crosslines are discussed in the hydrographer's report.

## **L. JUNCTIONS**

Survey H-10554 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10544	1994	1:10,000	North
H-10545	1994	1:10,000	Northwest
H-10549	1994	1:20,000	Northeast
H-10550	1994	1:10,000	North
H-10552	1994	1:10,000	North

The junction with survey H-10549 has not been formally completed as this survey was previously forwarded for charting. The junction was made using a copy. There is good agreement between soundings within the common areas. There are no common depth curves within the junction area.

The junctions with surveys H-10544, H-10545, H-10550 and H-10552 are complete. There is good agreement between depth curves and soundings within the common areas.

## **M. COMPARISON WITH PRIOR SURVEYS**

H-4506 (1925) 1:60,000  
H-6925 & Ad. Wk. (1943-44) 1:20,000

Surveys H-4506 (1925) and H-6925 (1943-44) cover the majority of the present survey. Sounding coverage on both prior surveys is sparse. Comparison with the prior surveys reveals differences of 1-5 meters (0.5-2.5 Fms). There is no apparent pattern as to shoaling or an increase in depths. The small differences can be attributed to increased bottom coverage and less accurate positioning and sounding methods available in 1925 and 1944.

H-10554 is adequate to supersede the prior surveys within the common area.

## **N. ITEM INVESTIGATIONS**

There were no item investigations assigned to survey H-10554.

## **O. COMPARISON WITH CHART**

Survey H-10554 was compared with the following charts.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16566	7th	October 28, 1989	1:77,477	NAD83
16568	10th	February 18, 1995	1:106,600	NAD83

### **A. Hydrography**

Charted hydrography originates with the above mentioned prior surveys and miscellaneous sources. The prior surveys are discussed in section 6 and require no further discussion

Charted miscellaneous source data originates from BP-134041, NOS trackline, conducted in 1987. The few charted soundings that originate from the blue prints reveal the same general differences as discussed in section M. The greater sounding coverage and the relative accuracy of the data acquisition methods account for the differences.

Survey H-10554 is adequate to supersede charted hydrography within the common area.

### **B. Dangers to Navigation**

There were no dangers to navigation reported during survey operations. No additional dangers to navigation were discovered during office processing.

## **P. ADEQUACY OF SURVEY**

Hydrography contained on survey H-10554 is adequate to:

- A. Delineate the bottom configuration, determine least depths, and draw the required 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.

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, April 1994 Edition.

**Q. AIDS TO NAVIGATION**

There are no fixed or floating aids to navigation located within the survey area. There are no features of landmark value located within the area of this survey.

**R. STATISTICS**

Statistics are itemized in the hydrographer's report.

**S. MISCELLANEOUS**

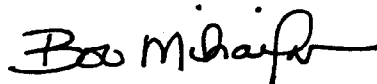
Miscellaneous information is discussed in the hydrographer's report. There are no additional items meriting further discussion.

**T. RECOMMENDATIONS**

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

**U. REFERRAL TO REPORTS**

Referral to reports is discussed in the hydrographer's report.



Bob Mihailov  
Cartographer

APPROVAL SHEET  
H-10554

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. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report. Final control, position and sounding printouts have been included with the survey records.

Bruce A. Olmstead Date: 12/15/95  
Bruce A. Olmstead  
Senior Cartographer, Cartographic Section  
Pacific Hydrographic Branch

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.

Kathy Simmons Date: 12/18/95  
Kathy Simmons  
Commander, NOAA  
Chief, Pacific Hydrographic Branch

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Final Approval

Approved:

Andrew A. Armstrong III Date: 3-21-96  
Andrew A. Armstrong III  
Captain, NOAA  
Chief, Hydrographic Surveys Division



MARINE CHART BRANCH  
**RECORD OF APPLICATION TO CHARTS**

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10554

**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
16568	1/5/96	B. Michaluk	Full Part Before After Marine Center Approval Signed Via Full application of Drawing No. Soundings and Features From smooth sheet.
16013	1/6/96	D. McEALLEN D. Hoffmann	Full Part Before After Marine Center Approval Signed Via Drawing No. 30 26TH ED AUG 92 REVISED SALES THRU CHART 16568 & DRAWING BP 157660
16011	6-21-96	D. Hoffmann William J. Shaw	Full Part Before After Marine Center Approval Signed Via Revised hydro thru Drawing No. 32 16013
16006	8/10/96	Christopher Jones William J. Shaw	Full Part Before After Marine Center Approval Signed Via Rev. red hydro thru Drawing No. 28 16011
531	8-21-96	William J. Shaw	Full Part Before After Marine Center Approval Signed Via Revisal hydro thru Drawing No. 22 16006
530	2/3/98	D. Hoffmann	Full Part Before After Marine Center Approval Signed Via Drawing No. 38 Edition 27
16566	2/20/98	Laurie Bennett	Full Part Before After Marine Center Approval Signed Via Full application of Drawing No. soundings & curves From smooth sheet and chart 16568
			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.