

10482

10482

NOAA FORM 78-35A U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE	
DESCRIPTIVE REPORT	
<i>Type of Survey</i>	Hydrographic
<i>Field No.</i>	RA-20-2-93
<i>Registry No.</i>	H-10482
LOCALITY	
<i>State</i>	Alaska
<i>General Locality</i>	Alaska Peninsula
<i>Sublocality</i>	Four Nautical Miles SW
	of Hydra Island
	19 93
	CHIEF OF PARTY
	CAPT. R. C. Arnold
LIBRARY & ARCHIVES	
DATE	November 16, 1994

HYDROGRAPHIC TITLE SHEET

H-10482

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

FIELD NO.

RA-20-2-93

State Alaska
 General locality Alaska Peninsula
 Locality Four Nautical Miles Southwest of Hydra Island
 Scale 1:20,000 Date of survey June 25 - July 11, 1993
 Instructions dated 4/13/93, Change #1-4/23/93 Project No. OPR-P180-RA
4/13/93, Change #2-6/16/93
 Vessel NOAA Ship RAINIER (2120), RA-3,(2123), RA-4(2124), RA-5(2125),RA-6(2126)
 Chief of party CAPT Russell C. Arnold, NOAA
 Surveyed by CAPT R. Arnold, LT M.Brown, LT D.Neander, LTJG S.Lemke, ENS G.Glover, ENS A.Caron, ENS G.Johnson
 Soundings taken by echo sounder, hand lead, pole DFS-6000N
 Graphic record scaled by RAINIER Personnel
 Graphic record checked by RAINIER Personnel
 Evaluation by: R.N. Mihailov Automated plot by PHS Xynetics Plotter
~~Plotted by~~
 Verification by R.N. Mihailov, R. Shipley, J. Stringham
 Soundings in ~~fathoms~~ meters and decimeters at ~~MEW~~ MLLW

REMARKS: All times are UTC. North American Datum of 1983. 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.
Surf / Anvils checked 12/9/94
MUR
SC 1/29/94
11/25/94

PROGRESS SKETCH
 OPR-P180-RA
 HYDROGRAPHIC SURVEY
 SOUTHERN ALASKA PENINSULA

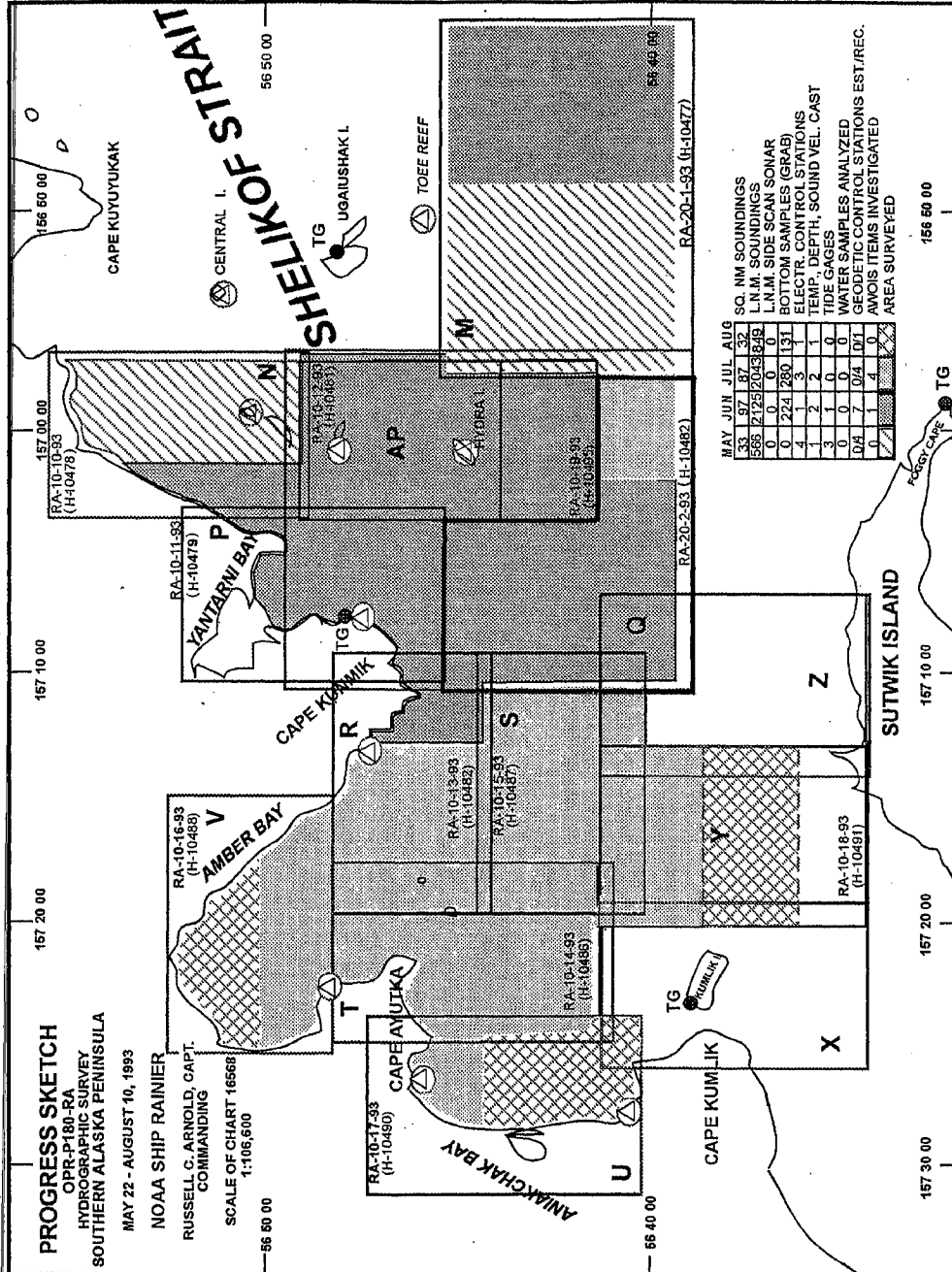
MAY 22 - AUGUST 10, 1993

NOAA SHIP RAINIER

RUSSELL C. ARNOLD, CAPT.
 COMMANDING

SCALE OF CHART 16568
 1:106,500

85 50 00



	MAY	JUN	JUL	AUG
SO. NM SOUNDINGS	133	157	87	32
L.N.M. SOUNDINGS	0	0	0	0
L.N.M. SIDE SCAN SONAR	0	0	0	0
BOTTOM SAMPLES (GRAB)	0	24	280	131
ELECTR. CONTROL STATIONS	4	2	3	1
TEMP. DEPTH, SOUND VEL. CAST	1	2	2	1
TIDE GAGES	3	1	0	0
WATER SAMPLES ANALYZED	0	0	0	0
GEODETIC CONTROL STATIONS EST./REC.	0.04	7	0.04	0.01
AWOIS ITEMS INVESTIGATED	0	1	4	0
AREA SURVEYED	0	0	0	0

SHELIKOF STRAIT

CENTRAL I.

UGAUSHAK I.

TOEEF REEF

CAPE KUYUYUKAK

YANBARWI BAY

CAPE KUMLIK

AMBER BAY

CAPE ANUTKA

AMAKCHAK BAY

CAPE KUMLIK

SUTWIK ISLAND

POGGY CAPE

RA-10-17-93 (H-10490)

RA-10-18-93 (H-10495)

RA-10-16-93 (H-10488)

RA-10-15-93 (H-10487)

RA-10-14-93 (H-10486)

RA-20-1-93 (H-10477)

RA-20-2-93 (H-10482)

RA-10-13-93 (H-10483)

RA-10-12-93 (H-10482)

RA-10-11-93 (H-10479)

RA-10-10-93 (H-10478)

RA-10-09-93 (H-10478)

RA-10-08-93 (H-10478)

RA-10-07-93 (H-10478)

RA-10-06-93 (H-10478)

RA-10-05-93 (H-10478)

RA-10-04-93 (H-10478)

RA-10-03-93 (H-10478)

RA-10-02-93 (H-10478)

RA-10-01-93 (H-10478)

RA-10-00-93 (H-10478)

RA-10-99-93 (H-10478)

RA-10-98-93 (H-10478)

RA-10-97-93 (H-10478)

RA-10-96-93 (H-10478)

RA-10-95-93 (H-10478)

RA-10-94-93 (H-10478)

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RA-10-92-93 (H-10478)

RA-10-91-93 (H-10478)

RA-10-90-93 (H-10478)

RA-10-89-93 (H-10478)

RA-10-88-93 (H-10478)

RA-10-87-93 (H-10478)

RA-10-86-93 (H-10478)

RA-10-85-93 (H-10478)

RA-10-84-93 (H-10478)

RA-10-83-93 (H-10478)

RA-10-82-93 (H-10478)

RA-10-81-93 (H-10478)

RA-10-80-93 (H-10478)

RA-10-79-93 (H-10478)

RA-10-78-93 (H-10478)

RA-10-77-93 (H-10478)

RA-10-76-93 (H-10478)

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RA-10-74-93 (H-10478)

RA-10-73-93 (H-10478)

RA-10-72-93 (H-10478)

RA-10-71-93 (H-10478)

RA-10-70-93 (H-10478)

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RA-10-57-93 (H-10478)

RA-10-56-93 (H-10478)

RA-10-55-93 (H-10478)

RA-10-54-93 (H-10478)

RA-10-53-93 (H-10478)

RA-10-52-93 (H-10478)

Descriptive Report to Accompany Hydrographic Survey H-10482

Field Number RA-20-2-93

Scale 1:20,000

June - July 1993

NOAA Ship RAINIER

Chief of Party: Captain Russell C. Arnold

A. PROJECT ✓

This basic hydrographic survey was completed along the Southern Alaskan Peninsula as specified by Project Instructions OPR-P180-RA dated April 13, 1993, change No. 1 dated April 23, 1993, and change No. 2 dated June 16, 1993.

Survey H-10482 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 constructing two new 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, Alaskan congressional delegates, NOAA, Defense Mapping Agency, and local fishermen.

B. AREA SURVEYED ✓ See Evaluation Report, section 1

This survey area is located four nautical miles southwest of Hydra Island off the Southern Alaskan Peninsula. The survey limits are $157^{\circ}10'25''$ W to the west, $157^{\circ}03'45''$ W to the east, $56^{\circ}45'20''$ N to the north, and $56^{\circ}39'30''$ N to the south. The northeast portion of this area, from $56^{\circ}43'45''$ N to the south and $157^{\circ}03'45''$ W to the west, was surveyed as part of sheet AP (H-10481), previously submitted by RAINIER. There is no shoreline on sheet Q. ** Junctional surveys H-10481 and H-10495 cover the area from latitude $56^{\circ}41'20''$ N, to latitude $56^{\circ}45'20''$ N, and east of longitude $157^{\circ}03'45''$ W.* Data acquisition was conducted from June 25, Day Number (DN) 176, through July 11, DN 192.

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	Bottom Samples SV Cast
RA-3	2123	Hydrography
RA-4	2124	Hydrography
RA-5	2125	Hydrography Bottom Samples SV Cast
RA-6	2126	Hydrography

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	6.33	5/17/93
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	3.02	5/17/93
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. SONAR EQUIPMENT ✓

Sonar equipment was not used on sheet Q.

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 casts 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	3	231	176 - 183	56°46'17"N 156°57'11"W	172 - offsheet
4	4	169	188 - 204	56°40'38"N 157°10'41"W	194

The sound velocity casts were acquired with 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 "Separates to be Included with Survey Data, IV. Sounding Equipment Calibrations and Corrections". ✕

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 with project data for OPR-P180-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

✕ Filed with the hydrographic records.

Heave ✓

Data acquired during periods of significant sea action were scanned to account for inaccuracies caused by heave.

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-P180-RA.

Tide Correctors

The tidal reference station used for this survey was Ugaiushak Island, Alaska (945-8553). Tidal correctors as provided in the project instructions for sheet Q are:

Time Correction		Height Correction
<u>High Water (min)</u>	<u>Low Water (min)</u>	<u>Range Ratio</u>
0	0	X1.00

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 Foggy Cape, Sutwik Is., Alaska (945-8582), Ugaiushak Island, Alaska (945-8553), Cape Kunmik (945-8631), and Cape Kumlik (945-8704). The control station was Sand Point, Alaska (945-9450). Bracketing levels were completed at the end of June, and will be performed again at the end of July. The control station will be levelled at the conclusion of the project.

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 forwarded to N/OES2. *Approved tides applied, see note dated 1/5/94 included in this report.*

H. CONTROL STATIONS *See Evaluation report, section 2.*

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. Further information can be found in the "Summer 1993 Horizontal Control Report for OPR-P180-RA."

I. HYDROGRAPHIC POSITION CONTROL *See Evaluation report, section 2.***Method of Position Control**

All soundings and features were positioned using differential GPS. Falcon was used solely for GPS system checks. Serial numbers for Falcon R/T units, RPU's and Ashtech GPS equipment are annotated on the data printouts. *

* Filed with the hydrographic records.

Calibrations & Systems Check Methods ✓

Falcon 484 ✓

Baseline calibrations were conducted in accordance with FPM 3.1.2.1 and 3.1.3.2. Calibrations were performed at the MATTHEWS PARK BEACH BASELINE on May 4-7, 1993. Calibration data and a description of the baseline is included with the project data for OPR-P180-RA.

Ashtech GPS ✓

A VHF differential shore station was established at station HYDRA. 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.

Launch system checks were made by a direct comparison of the Falcon position with the GPS position. HDAPS Survey Screen Two was used for the Falcon comparison, and was dumped to the system printer to record the results. Three such dumps were made for each system check. System checks were made every day and 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"). ✕

Problems ✓

The differential GPS station on HYDRA ran without problems 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 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." ✕

J. SHORELINE ✓

There is no shoreline on sheet Q, however, an uncharted rock was found within the limits of this survey. Concur ^{**} The uncharted rock found and positioned by this survey is most likely the same feature that has been reported and charted as RA in three separate locations. Pos. No. 3299 in the vicinity of 56°42'38.963"N, 157°08'28.744"^N is a new rock covered 0.2 m at MLLW. See Awois item in Section N of this report.

K. CROSSLINES ✓

Crosslines are in good agreement with mainscheme hydrography. Crosslines totaled 35.24 nautical miles, representing 9.1% of the total mainscheme hydrography.

* Filed with the hydrographic records.

L. JUNCTIONS See Evaluation report, section 5.

This survey junctions with survey H-10479 (1:10,000,1993) to the north, H-10477 (1:20,000,1993) to the east, and H-10481 (1:10,000,1993) to the northeast. No irregularities were found when comparing soundings and depth curves. Final comparisons will be made at the Pacific Hydrographic Section (PHS). This survey also junctions with surveys H-10484 (1:10,000,1993) to the northwest, H-10487 (1:10,000,1993) to the southwest, and H-10495 (1:10,000,1993) to the east.

M. COMPARISON WITH PRIOR SURVEYS ✓
There were no prior surveys for sheet Q. See Evaluation Report, section 6.

N. ITEM INVESTIGATIONS ✓

Three AWOIS item were investigated.

AWOIS ITEM 51211

1. Area of Investigation

State: Alaska
Locality: 4 nm southwest of Hydra Island.
Reported Latitude (PA): 56°42'45.31" N
Reported Longitude (PA): 157°08'49.36" W
Datum: NAD83
Depth: 0 meters
Feature: Rock Awash

2. Description of Source of Item

LMN24/79--17th CDG; 6/12/79; rock awash at MLLW reported; charted as a rock Rep 1979 PA.

3. Survey Requirements

Determine the position and height of the rock awash.

4. Method of Investigation

The area around the reported rock was visually searched and split to 10 meter line spacing using echo sounding.

5. Results of Investigation

A rock was found in the vicinity of the reported locations of AWOIS item Nos. 51211, 51212, and 51051. A detached position (HDAPS Pos. No.3299) was taken at the rock awash on July 7, DN 188, at 19:25:30 (UTC) in the vicinity of 56°42'38.963"N latitude, 157°08'28.744"W longitude. Loran C rates taken at the location of the rock were 9990-Y-33027.6 and 9990-Z-44929.3. * Position 3299, latitude 56°42' 58.963" N, longitude 157° 08' 28.744" W plots approximately 400 meters SE of charted location.
Raw Depth 0 meters
Tide Corrector 0.5 meters (smooth tides)
Corrected Depth -0.2 meters
0.5

6. Comparison with Prior Surveys See Evaluation Report, section 6.

There were no prior surveys for sheet Q.

7. Comparison with chart and charting recommendations

The largest scale chart depicting this area is NOS Chart 16568, 9th edition, March 21, 1992, 1:106,600 (NAD83). The item constitutes a danger to navigation. AWOIS item Nos. 51211, 51212, and 51051 have been resolved, and it is recommended that a rock covered 0.2m at MLLW be charted at the detached position mentioned above. - concur, see DTOW letter attached to this report. Remove rock awash and note, Rep (1979) PA as currently charted.

AWOIS ITEM 51212

1. Area of Investigation

State:	Alaska
Locality:	4 nm southwest of Hydra Island.
Reported Latitude (PA):	56°43'08.11" N
Reported Longitude (PA):	157°08'49.36" W
Datum:	NAD83
Depth:	0 meters
Feature:	Rock Awash

2. Description of Source of Item

CL933/82--NOS; fishing vessel Western Dawn reported to the NOAA Ship FAIRWEATHER, a rock awash 3.3 miles southeast of Cape Kunmik; charted as a rock Rep 1982 PA.

3. Survey Requirements

Determine the position and height of the rock awash.

4. Method of Investigation

The area around the reported rock was visually searched and split to 10 meter line spacing using echo sounding.

5. Results of Investigation

See Section 5 of AWOIS item #51211. Rock position at latitude 56/42/38.963N, longitude 157/08/28.744 was found approximately 900 meters SE of charted rock Rep (1982) PA

6. Comparison with Prior Surveys See Evaluation Report, section 6.

There were no prior surveys for sheet Q.

7. Comparison with chart and charting recommendations

See Section 7 of AWOIS item #51211. Based on the results of this investigation, the rock awash and charted note, Rep (1982) PA should be removed

AWOIS ITEM 51051**1. Area of Investigation**

State: Alaska
 Locality: 4 nm southwest of Hydra Island.
 Reported Latitude (PA): 56°41'44.11" N
 Reported Longitude (PA): 157°07'17.55" W
 Datum: NAD83
 Depth: not reported
 Feature: Shoal

2. Description of Source of Item

H10040/82-84--OPR-P146; fishing vessel Eagle reported a shoal 4.8 mi. SSE of Cape Kunmik.

3. Survey Requirements

Determine the nature, extent, and least depth of the shoal.

4. Method of Investigation

The area around the shoal was visually searched and split to 10 meter line spacing using echo sounding.

5. Results of Investigation

See Section 5 of AWOIS item #51211. AWOIS item 51211 is a cor rock approximately 10.5 MM NW of reported AWOIS location.

6. Comparison with Prior Surveys

(2084 meters). Based on the results of this investigation, the Note, shoal rep (1982) PA, should be removed from the

7. Comparison with chart and charting recommendations

See Section 7 of AWOIS item #51211.

O. COMPARISON WITH THE CHART See Evaluation report, section 7.

This survey was compared to NOS chart 16568, 9th Edition, March 21, 1992, 1:106,600 (NAD83).

These soundings were found to be in general agreement with the trackline soundings on this survey. There are, however, numerous features in this area which are not depicted on the chart. Final comparisons will be made at PHS.

Dangers to Navigation

Two dangers to navigation within the limits of this survey were reported to the Seventeenth Coast Guard District and DMAHTC. Copies of the radio message and correspondence are included in Appendix I of this report.

P. ADEQUACY OF SURVEY ✓

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

Q. AIDS TO NAVIGATION ✓

None.

R. STATISTICS ✓

<u>Vessel:</u>	<u>2123</u>	<u>2124</u>	<u>2125</u>	<u>2126</u>	<u>2120</u>	<u>Total</u>
# of Pos	290	1056	126	376	27	1876
NM Hydro	117.09	226.19	18.32	226.25	0	587.85

NM ² Hydrography	27.9
Velocity Casts	2
Detached Position	1
Tide Stations	4
Reference Numbers	0
Bottom Samples	30

S. MISCELLANEOUS ✓

LORAN C comparisons were required by the Project Instructions, and will be submitted to PHS at the end of the project.

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:

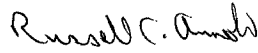
<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Summer 1993 Horizontal Control Report for OPR-P180-RA	1993	N/CG2333
Summer 1993 Coast Pilot Report for OPR-P180-RA	1993	N/CG245
Project related data for OPR-P180-RA	Incremental	N/CG245

Respectfully Submitted,



Gregory G. Glover
Ensign, NOAA

Approved and Forwarded,



Russell C. Arnold
Captain, NOAA
Commanding Officer

CONTROL STATIONS as of 14 Jul 1993

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY	Station Name
100	F	056:44:35.925	157:00:57.249	36	250	0.0	0.0	0	05/26/93	HYDRA 1944(M/R & DGPS STATION)
101	F	056:45:36.294	156:51:13.289	17	250	0.0	0.0	5	05/27/93	TBEE
102	F	056:50:12.455	156:59:01.802	33	250	0.0	0.0	3	05/23/93	WOLFF
103	F	056:51:01.500	156:53:50.164	112	250	0.0	0.0	2	05/23/93	CENTRAL 1944
104	F	056:40:00.515	157:01:01.282	4	250	0.0	0.0	6	06/15/93	LONG 1944
105	F	056:46:55.025	157:08:22.740	20	250	0.0	0.0	5	06/22/93	EXTRA 1944
106	F	056:47:34.560	157:16:31.888	8	250	0.0	0.0	3	07/08/93	GALE 1945
107	F	056:48:07.128	157:25:16.371	12	250	0.0	0.0	6	07/07/93	GAHN 1945
108	F	056:45:19.732	157:29:20.737	27	250	0.0	0.0	5	07/14/93	LAND 1945

-P80 7/14



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

October 5, 1994

**ADVANCE
INFORMATION**

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

Dear Sir:

During office processing of hydrographic survey H-10482, Alaska, Alaska Peninsula, Four Nautical Miles Southwest of Hydra Island, 3 shoal soundings were found that are considered potential dangers to navigation affecting the following chart.

<u>Chart</u>	<u>Edition/date</u>	<u>Datum</u>
16568	9th Ed., 3/21/92	NAD 83

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,

Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Section

Enclosure

cc: DMAHTC
N/CG221



REPORT OF DANGERS TO NAVIGATION

**ADVANCE
INFORMATION**

Hydrographic Survey Registry Number: H-10482

Survey Title: State: Alaska

Locality: Alaska Peninsula

Sublocality: Four Nautical Miles SW of Hydra Island

Project Number: OPR-P180-RA, NOAA Ship Rainier

The following were discovered during hydrographic surveying operations:

Affected nautical chart:

Chart Number	Edition No.	Date	Horizontal		Geographic Position	
			Depth	Datum	Latitude	Longitude
16568	9th	3/21/92	8 1/4fm	NAD83	56/44/47.30N	157/07/00.89W
16568	9th	3/21/92	10fm	NAD83	56/43/16.00N	157/06/11.22W
16568	9th	3/21/92	12fm	NAD83	56/42/02.93N	157/09/28.32W

Depths have been reduced to Mean Lower Low Water

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



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

NOAA Ship RAINIER

July 16, 1993

**ADVANCE
INFORMATION**

Director
DMAHTC
Attn: MCNM
6500 Brookes Lane
Washington, DC 20315-0030

Dear Sir:

While conducting hydrographic survey operations in Shelikof Strait, Alaska, NOAA Ship RAINIER discovered two dangers to navigation. They have been reported to DMAHTCNAVWARN and the Seventeenth Coast Guard District. A copy of the correspondence describing the dangers is enclosed.

Sincerely,

Russell C. Arnold
Russell C. Arnold
Captain, NOAA
Commanding Officer

Enclosures





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

NOAA Ship RAINIER

July 16, 1993

**ADVANCE
INFORMATION**

Commander
Seventeenth Coast Guard District
Post Office Box 25517
Juneau, AK 99802-5517

Dear Sir:

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

Sincerely,

Russell C. Arnold
Russell C. Arnold
Captain, NOAA
Commanding Officer

Enclosures

cc: DMAHTC
N/CG221
PMC



DR
00

**ADVANCE
INFORMATION**

21:09, Wednesday, 14 July 1993
tPostOUT : Hellickson

RA-PMC-087-085

P 141827Z JUL 93
FM NOAA S RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTCNAVWARN WASHINGTON DC//MCNM//
INFO NOAAADP SEATTLE WA
ACOT CM-VCAA
BT

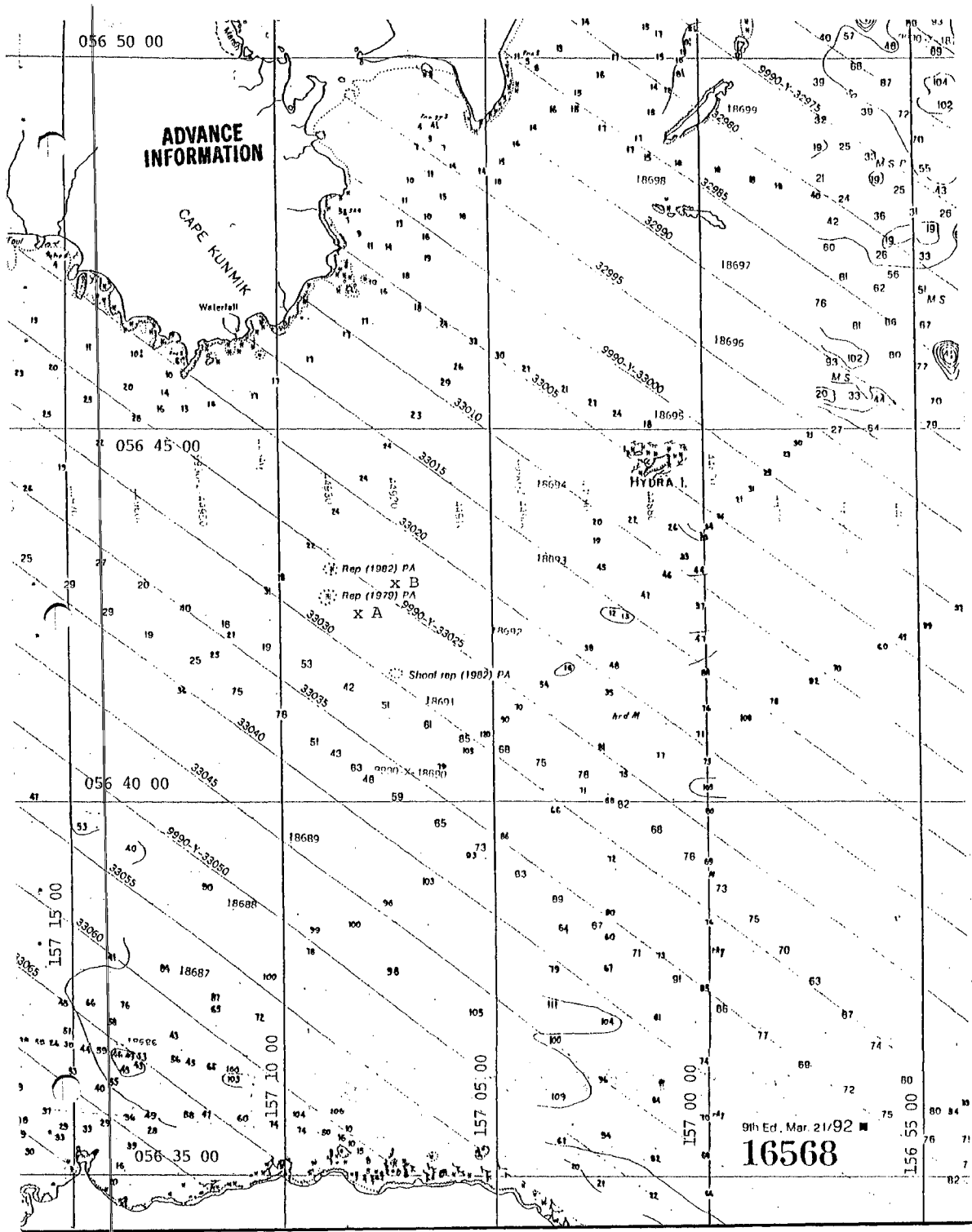
UNCLAS
NOAA SHIP RAINIER HAS LOCATED 2 DANGERS TO NAVIGATION IN SHELKOF STRAIT, ALASKA (PROJECT OPR-P180-RA) WITHIN THE LIMITS OF HYDROGRAPHIC SURVEY H-10482 (FOUR NAUTICAL MILES SOUTHWEST OF HYDRA ISLAND). THE FOLLOWING INFORMATION IS PROVIDED FOR PUBLICATION IN LOCAL NOTICE TO MARINERS:

CHARTS AFFECTED: 16568 9TH ED MAR 21/92 1:106,600 NAD 83

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.

ITEM	DANGER	DEPTH	LATITUDE	LONGITUDE	Pos #
A.	ROCK	COVERS 1 FOOT	56/42/38.96N	157/08/28.74W	3299
B.	SHOAL	5 3/4 FM	56/42/57.67N	157/07/23.62W	4101, Z

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW. QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO THE CHIEF, PACIFIC HYDROGRAPHIC SECTION AT (206) 526-6835. A LETTER WITH ATTACHED CHARTLET IS BEING MAILED TO CONFIRM THIS MESSAGE.
BT



ADVANCE
INFORMATION

CAPE KUNMIK
Waterfall

HYDRA I.

9th Ed. Mar 21/92
16568

APPROVAL SHEET

for

H-10482
RA-20-2-93

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

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: January 5, 1994

MARINE CENTER: Pacific

OPR: P180

HYDROGRAPHIC SHEET: H-10482

LOCALITY: Four Nautical Miles Southwest of Hydra Island,
Shelikof Strait, Alaska

TIME PERIOD: June 25, 1993 - July 12, 1993

TIDE STATION USED: 945-8631 Cape Kunmik, Alaska
Lat. $56^{\circ} 47.5'N$ Lon. $157^{\circ} 07.5'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): = 1.01 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: = 9.2 feet

REMARKS: RECOMMENDED ZONING

Times and heights are direct on Cape Kunmik, Ak. (945-8631).

NOTE: Hourly heights are tabulated on Greenwich Mean Time.

William M. Fisher
CHIEF, DATUMS SECTION

W.M.F.



NOAA FORM 77-27(H) (9-83)		U.S. DEPARTMENT OF COMMERCE			REGISTRY NUMBER	
HYDROGRAPHIC SURVEY STATISTICS					H-10482	
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		
DESCRIP- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	1					
ENVELOPES						
VOLUMES						
CAHIERS						
BOXES:				1		
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						2005
POSITIONS REVISED						
SOUNDINGS REVISED						
CONTROL STATIONS REVISED						
				TIME-HOURS		
				VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION						
VERIFICATION OF CONTROL						
VERIFICATION OF POSITIONS				39.0		39.0
VERIFICATION OF SOUNDINGS				31.0		31.0
VERIFICATION OF JUNCTIONS						
APPLICATION OF PHOTOBATHYMETRY						
SHORELINE APPLICATION/VERIFICATION						
COMPILATION OF SMOOTH SHEET				24.0		24.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS					2.0	2.0
EVALUATION OF SIDE SCAN SONAR RECORDS						
EVALUATION OF WIRE DRAGS AND SWEEPS						
EVALUATION REPORT					30.0	30.0
GEOGRAPHIC NAMES						
OTHER:						
*USE OTHER SIDE OF FORM FOR REMARKS			TOTALS	94.0	32.0	126.0
Pre-processing Examination by D. Haines				Beginning Date 6/25/93	Ending Date 8/27/93	
Verification of Field Data by R.N. Mihailov, R. Shipley, J. Stringham				Time (Hours) 94.0	Ending Date 7/26/94	
Verification Check by R. Davies, S. Otsubo, E. Domingo, J. Green				Time (Hours) 3.5	Ending Date 7/28/94	
Evaluation and Analysis by R.N. Mihailov				Time (Hours) 32.0	Ending Date 9/1/94	
Inspection by B. Olmstead				Time (Hours) 20	Ending Date 10/4/94	

EVALUATION REPORT

H-10482

1. INTRODUCTION

Survey H-10482 is a basic hydrographic survey accomplished by the NOAA Ship *Rainier*, under the following Project Instructions.

OPR-P180-RA, dated April 13, 1993
CHANGE NO. 1, dated April 23, 1993
CHANGE NO. 2, dated June 16, 1993

This survey was conducted in Alaska, and is located along the Southern Alaska Peninsula, approximately 85 nautical miles southwest of Kodiak Island. The surveyed area is bounded by latitude 56/45/20N to the north and latitude 56/39/30N to the south. The eastern limit is longitude 157/56/50W and the western limit is longitude 157/10/55W. There is no shoreline within the limits of survey H-10482. Depths range from 3.2 meters to 196 meters.

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 10, 20, 40, 50, 90, 120 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.

Predicted tides for Ugaiushak, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Cape Kunmik, Alaska, gage 945-8631, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. NAD 83 is used as the horizontal datum for plotting and position computations. The offset values and 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 complete information.

2. CONTROL AND SHORELINE

Sections H and I of the hydrographer's report contain adequate discussions of horizontal control and hydrographic positioning.

Additional detailed information on horizontal control is found in the Summer 1993 Horizontal Control Report for OPR-P180-RA.

Differential GPS (DGPS) was used to control this survey. Daily system checks by comparison with Miniranger positions confirmed the DGPS was operating properly. A horizontal dilution of precision (HDOP) not to exceed 7.5 was computed for survey operations. The quality of 101 positions exceeded the limit 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, suggests 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 positions of the horizontal control stations used during hydrography are published values based on NAD 83.

These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 27 adjustment ticks based on values determined with 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: -2.677 seconds (-82.791 meters)
Longitude: 7.355 seconds (125.128 meters)

The year of establishment of the control station shown on the smooth sheet originates with the above mentioned horizontal control report and the hydrographer's signal list.

There is no shoreline within the limits of survey H-10482.

3. HYDROGRAPHY

Hydrography 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.

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.

5. JUNCTIONS

Survey H-10482 junctions with the following surveys.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10477	1993	1:20,000	Southeast
H-10479	1993	1:10,000	North
H-10481	1993	1:10,000	Northeast
H-10484	1993	1:10,000	Northwest
H-10487	1993	1:10,000	Southwest
H-10495	1993	1:10,000	East

The junctions with surveys H-10477, H-10479, H-10481, H-10484, H-10487 and H-10495 are complete and the soundings are in good agreement.

6. COMPARISON WITH PRIOR SURVEYS

Prior survey H-4506(1925) covers the entire area of the present survey. There are 7 charted soundings originating with the prior survey. Sounding agreement varies between 4 meters and 36 meters, with the present survey data being shoaler. Differences can be attributed to increased line spacing and the less accurate positioning and sounding methods available at the time the prior survey was accomplished.

There are no AWOIS items which originate from prior survey H-4506.

Survey H-10482 is adequate to supersede the prior survey within the common area.

7. COMPARISON WITH CHART

Survey H-10482 was compared with the following chart.

<u>Chart</u>	<u>Edition</u>	<u>Date</u>	<u>Scale</u>	<u>Datum</u>
16568	9th	March 21, 1992	1:106,600	NAD 83

a. Hydrography

Charted hydrography originates with two USGS reconnaissance surveys (BP-39180-1944 and BP-40351-1945) and a NOS trackline (BP-134041 (D-74)-1987).

Comparison with the prior survey soundings has been previously discussed in section 6.

Comparison with the charted miscellaneous sources indicates a 1-11 meter difference with the present survey depths generally shoaler.

Survey H-10482 is adequate to supersede charted hydrography within the common area.

b. AWOIS

AWOIS items 51051, 51211 and 51212 originate with miscellaneous sources. Refer to the hydrographer's report for discussions and disposition of these features.

c. Controlling Depths

There are no channels with controlling depths located within the limits of survey H-10482.

d. 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.

e. Geographic Names

Names appearing in the survey title have been approved by the Chief Geographer. There are no geographic names appearing on the smooth sheet.

f. Dangers to Navigation

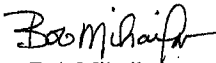
The hydrographer reported one shoal sounding and one rock as a dangers to navigation during the survey. Three additional shoal sounding were discovered as dangers to navigation during office processing. These dangers to navigation were reported to the local United States Coast Guard District, DMAHTC and N/CG221. Copies of these reports are attached to this report.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10482 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

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


Bob Mihailov
Cartographer

APPROVAL SHEET
10482

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 disproof 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.

for Bruce A. Olmstead _____ Date: 10/5/94
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.

Kathy Timmons _____ Date: 10/12/94
Commander Kathy Timmons, NOAA
Chief, Pacific Hydrographic Section

Final Approval

Approved:

for J. Austin Yeager _____ Date: 12-9-94
Rear Admiral, NOAA
Director, Coast and Geodetic Survey

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