

9302

Diag. Cht. No. 8556-2.

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT (HYDROGRAPHIC)	
Type of Survey	HYDROGRAPHIC
Field No.	RA-10-3-72
Office No.	H-9302
LOCALITY	
State	ALASKA
General Locality	AFOGNAK - SHUYAK ISLANDS
Locality	EAST PORTION OF SHUYAK STRAIT
1972	
CHIEF OF PARTY	
G. E. Haraden	
LIBRARY & ARCHIVES	
DATE	4/11/75

9302

HYDROGRAPHIC TITLE SHEET

H-9302

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

FIELD NO.

RA-10-3-72

State Alaska

General locality Afognak - Shuyak Islands

Locality East Portion of Shuyak Strait

Scale 1:10,000 inset- 1:2,500 Date of survey 3 June - 26 July, 1972

Instructions dated 3 March 1972 Project No. OPR-478-RA-72

Vessel NOAA Ship RAINIER Launches RA-3, RA-4 & skiff

Chief of party CAPT G.E. Haraden

Surveyed by LCDR E.M. Gelb, LT L.M. Mordock, LTJG N.M. Franklin, LTJG R.L. Johnson, LTJG H.r. Faris, LTJG S.J. Hollinshead, LTJG R.A. Schiro, LTJG J.W. McCab
Soundings taken by echo sounder, hand lead, pole RATHYEON DE-723, No. 253; ROSS MODEL 500 FINELINE, No. 1041.

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Protracted by _____ Automated plot by PMC - Gerber Digital Plotter

Soundings penciled by _____

Soundings in fathoms XXX at XXX MLLW _____

REMARKS: The boat sheets for survey H-9302 (RA-10-3-72) were plotted on the PDP 8/e Hydroplot/Hydrolog System using AM 205 and visual data.

Applied to stds 6/24/75
CAB

A. Project

This survey was conducted in accordance with PROJECT INSTRUCTIONS: OPR-478-RA-72, dated 3 March 1972. There have been no supplemental instructions or amendments applicable to this survey.

B. Area Surveyed

The general locality of the survey is Shuyak Strait, which divides Shuyak Island from Afognak Island. The survey project limits are bounded on the West by a line formed between a point on Shuyak Island at Lat. $58^{\circ}29'24''$ N and Long. $152^{\circ}35'51''$ W and a point on Afognak Island at Lat. $58^{\circ}28'36''$ N and Long. $152^{\circ}36'35''$ W. The survey extends eastward into Perenosa Bay and is bounded by a line joining the points Lat. $58^{\circ}28'54''$ N and Long. $152^{\circ}26'48''$ W, Lat. $58^{\circ}27'45''$ N and Long. $152^{\circ}23'15''$ W, Lat. $58^{\circ}25'25''$ N and Long. $152^{\circ}23'15''$ W, and Lat. $56^{\circ}26'00''$ N and Long. $152^{\circ}30'42''$ W which is on Afognak Island. Also the survey limits extend North of the project limits to Lat. $58^{\circ}29'33''$ N into Big Fort Channel, a small Bay on the Southeast corner of Shuyak Island.

The boat sheet for H9302 (RA-10-3-72) was divided into two parts (RA-10-3A-72 and RA-10-3B-72) due to the size limitations imposed by the onboard Hydroplot/Complot

system. Most of the survey is shown on RA-10-3A-72.

Only the southern portion of the Perenosa Bay survey has been placed on RA-10-3B-72.

The survey work was accomplished from 3 June 1972 to 26 July 1972. Prior surveys covering the area of RA-10-3-72 include H-4585, (1926,) 1:20,000 scale; H-5260, (1932) 1:20,000 scale; and H-5265, (1932) 1:20,000 scale.

This survey junctions to the West with contemporary survey H-9303 ⁽¹⁹⁷²⁾ (~~RA-10-4-72~~), 1:10,000 scale.

C. Sounding Vessels

The sounding vessels for the entire survey were the NOAA Ship RAINIER's Bertram launches, RA-3 and RA-4. In addition, hand leadline soundings were taken in conjunction with detached positions by a survey party in a 16 foot skiff.

D. Sounding Equipment

About 40% of the soundings were recorded in RA-3 on the Ross Model 5000 Fineline fathometer number 1041, (*digital*) and 60% of the soundings were recorded in RA-4 on the Raytheon DE-723 fathometer number 253. Both fathometers were operated in a range of 0-90 fathoms of water. Detached position soundings were recorded from leadline observations.

The transducer draft applied to boat sheet soundings for the Bertram launches, RA-3 and RA-4 was +0.3 fathoms *and +0.4 fathoms*. Velocity corrections for both launches were computed using the data from bar checks obtained regularly in the working

area and the data from a Nansen cast taken on 19 June 1972 in latitude 58°32.6' N and longitude 152°51.1'W. The initial on both fathometers was checked regularly during the survey, and when found to differ from zero, it was reset to zero. This was done with the Ross fathometer for scanning purposes only since the soundings were digitized on line and were not read from the fathogram. An abstract of values of the initial corrections for the Raytheon was obtained by scanning the fathograms.

Instrument error, draft, and velocity corrections were applied to the Ross fathometer soundings. The Ross fathometer was internally phased and adjusted so as to have no phase corrections. Routine phase checks were made in order to assure no change in the phasing.

Draft and instrument error, velocity, initial, phase, and fine arc corrections were considered for application to the Raytheon DE-723 fathometer soundings. On 21 May 1972 the Raytheon was electronically phased using a Digital Phase Checker and the phase correction was determined to be zero. Frequent A and F scale checks were made during operations as a check. All Raytheon fathograms were scanned for fine arc error. Although some stylus arm error was observed, it was not of sufficient magnitude to warrant correction.

A velocity tape was made for velocity corrections, and all other corrections were merged into the Transducer

Correction/Table Indicator (TC/TI) tape for automated processing (see appendix).

For further sounding correction information see Special Report, Corrections to Echo Soundings, OPR-478, NOAA Ship RAINIER, 1972.

No fathometer problems were encountered during this survey which would adversely influence the quality of the sounding data.

E. Smooth Sheet

The smooth sheet will be mechanically produced at PMC from automated processing tapes provided by the RAINIER. Prior to plotting the smooth sheet, consideration should be given to properly positioning the sheet since this survey comes very close to the sheet limits.

The boat sheet was mechanically produced aboard the RAINIER by the PDP-8/e Hydroplot/Hydrolog system and is a Modified Transverse Mercator Projection with the central meridian located at Long. 153°50'00" W and the control latitude at 6,301,000 meters north of the equator.

Positions and soundings were plotted on a rough sheet at the end of each working day by the system's Complot Model DP-3-5 plotter, and later smoothed where necessary before being plotted on the final copy of the boat sheet. Main scheme lines appear in black ink; crosslines and detached positions in red ink. Red ink was also used for some main scheme lines in congested areas.

F. Control

This survey was controlled by three point sextant fixes on visual objects. Photogrammetric methods were used to establish most of the 112 signals used on the survey, eleven signals were located over triangulation stations, and three were located by sextant angles. Map manuscripts used for transfer of signals were TP-00290, TP-00289, TP-00288, and TP-00285. It should be noted that TP-00288 and TP-00290 are badly blurred and the projections are out of scale. TP-00289 is not blurred, but it is also out of scale. Possible signal location errors due to this distortion are considered to be too great to allow on the smooth sheet. See Section F^G, Recommendations, for further discussion of this problem.

G. Shoreline

Shoreline details were taken from 1:10,000 scale ~~unreviewed~~
 map manuscripts TP-00290 ^(class I-1971/72) TP-00289 ^(class I-1971/72) TP-00288 ^(class III-1971/72) and TP-

~~00285.~~ All shoreline and topographic details have been investigated in the field and are drawn in black ink on

the boat sheet. *All shoreline transferred from the previously mentioned manuscripts were inked in black on the smooth sheet.*

Numerous changes to the limits of foul areas have been made on RA-10-3A-72. Of particular interest is the sizeable extension of the foul area around signal number 321 in the latitude 58°28'30" N and longitude 152°27'30" W. Small foul areas have been added along Shuyak Strait and in Red Fox Bay. Only minor changes were made to the

PART 17

compiled shoreline on this plotter sheet. No shoreline corrections were made on RA-10-3B-72; however, numerous corrections were made to the limits of foul areas near the shoreline and near islands in Perenosa Bay.

Although the photogrammetric compilation of the shoreline is excellent, the compilation of offshore and alongshore rock is very poor. Many rocks which were clearly visible on the photographs were not compiled. To compensate for this deficiency many rocks were located by three point sextant fixes with check angles. This was done at the same time that the map manuscripts were field edited.

Three rocks in Red Fox Bay deserve discussion. The two rock awash symbols on Chart 8573 (3rd ed. June 16, 1969) at the west entrance to Red Fox Bay in latitude 58°28.1'N and longitude 152°36.1'W were inspected on 9 August 1972. (J.D. 191) Three detached positions were taken on three rocks (position numbers 5513, 5514, 5515); one covers 4ft. MLLW, one covered by ^{seven} ~~three~~ feet of water, ^{MLLW} and the other covered by ^{five} ~~two~~ feet of water ^{MLLW + 0.7 fm. and + 0.6 fm. smooth tide correction} ~~on a 4-foot tide.~~ However, only the rock covered by 4ft. of pos. 5513 was shown on the smooth sheet due to congestion in the area.

The rock shown on the ^{incomplete} manuscript in latitude 58°28'00" N and longitude 152°32'57" W was not found and should be deleted.

In most areas the zero curve line could not be defined by soundings due to the abrupt shoreline and numerous rocks in foul areas that made passage dangerous.

(07 Rk)

H. Crosslines

Crosslines make up 8.1% of the total miles of sounding lines on this survey. Agreement of crosslines with main scheme lines is excellent; however, there are a few discrepancies that deserve discussion.

On sheet RA-10-3A-72 at latitude 58°28'26" N and longitude 152°29'49" W there is a discrepancy between the main scheme line sounding at position ^{J.D. 156,} 146^v and the crossline sounding which was taken 45 seconds after position ^{J.D. 180.} 1268. Inspection of the fathogram and master tape print out shows that on the crossline, a nearby peak of ^{7.3} 8.6 fathoms ^{final sdg.} was recorded as the depth on the mark, while the actual depth was ^{7.7} 9.6 fathoms ^{final sdg.}. On the main scheme line a deep of ⁷ 8.4 fathoms ^{final sdg.} was recorded at position 146, while the nearby bottom was consistently ⁴ 8.1 fathoms. The peak crossline depth plus the irregular bottom could account for the apparent discrepancy, which is more evident after correcting the soundings for tides. The ^{7.7} ~~9.0~~ fathoms ^{final} sounding should ^{Not} be retained and the 8.7 fm. ^{sdg.} excessed. The 7.3 fm. ^{sdg.} was smooth plotted.

The second apparent discrepancy is at latitude 58°27'44" N and longitude 152°32'25" W. Inspection of the crossline fathogram at the sounding taken 15 seconds before position ^{J.D. 189,} 1395^v shows a peak of 5.8 fathoms ^{final sdg.} while the general contour in absence of the peak would be 7.2 fathoms which would fit the contour of the main scheme line. However, since the crossline sounding did not fall directly on the main

scheme sounding, the peak was only recorded on the crossline fathogram and thus seems to be valid. The ^{final 5¹ fm. sdg. was smooth plotted.} final 5¹ fm. sdg. was smooth plotted.

Another discrepancy on sheet RA-10-3A-72 is at latitude 58°28'02" N and longitude 152°33'37" W. Inspection of both the crossline and main scheme fathograms reveals a very irregular bottom in this area. The main scheme fathogram distinctly shows a peak ^{of 8² fm. final sdg.} close to or ^{J.D. 191.} on the sounding taken 15 seconds after position 1618, V. On the other hand, the depth recorded on the crossline fathogram was taken from a very steeply sloped trace. Thus the shoaler depth ^{was smooth plotted. For 9² final} ~~should be used.~~ The ^{J.D. 180,} 6 fathoms sounding from the crossline (Pos. 1264 - 1265) ^{final} which plots at nearly the same location as the ^{J.D. 157,} 10² fathoms sounding at the third sounding after Pos. 341, V in Lat. 58°28.17' N and Long. 152°28.65' W appears to be a side echo on the fathogram. The launch was running parallel to the beach when this sounding was obtained and the slope is very steep in this area. Additionally, there exists many offshore rocks in this area which could have generated the side echo. It is recommended that the ^{10² final} 9² fathom sounding on the main scheme line be considered correct. However, both ~~sdgs. were~~ ^{sdgs. were} ~~excessed~~ on the smooth sheet.

On sheet RA-10-3B-72 there are two apparent discrepancies. The first is at latitude 58°26'50" N and longitude 152°26'06" W. Inspection of the main scheme fathogram shows that ^{J.D. 180} the sounding taken 15 seconds after position 1177 ^{J.D. 180} (41-5 42 fathoms) ^{final sdg. was smooth plotted} is on the edge of a dropoff to ⁴⁹ 49.7 fathoms ^{final sdg. was smooth plotted} which

agrees with the crossline soundings of ⁵²51.7 fathoms and ^{final sdy, was excessed} and
⁵¹50.7 fathoms ^{final sdy was smooth plotted} taken 45 seconds after position 1437 ^{J.D. 190} and
 30 seconds ^{J.D. 192} after position 1661 ^{J.D. 192} respectively. This same

rapid descent from approximately 40 fathoms down to 50

fathoms is shown on both crossline fathograms. This is attributed to the
 irregular bottom within a short amount of time and distance.

The second apparent discrepancy on sheet RA-10-3B-

72 is at latitude 58°26'46" N and longitude 152°26'12"

W. The main scheme sounding (^{37.0}36.8 fathoms) ^{final sdy,} taken at position

^{J.D. 180, was smooth plotted which was} 1196 ^{43.0} is slightly west of the crossline sounding (42.4

fathoms) ^{final sdy,} taken at position 1662. ^{J.D. 192, was excessed.} Inspection of the main

scheme fathogram shows that the depth increases rapidly

from the ³⁷36.8 fathom sounding. This rapid ascent, also

shown on the crossline fathogram, accounts for the apparent

discrepancy since the two soundings are not plotted at

exactly the same location.

I. Junctions

This survey junctions to the west with contemporary
 survey H-9303 (RA-10-4-72), 1:10,000, 1972. Junction
 soundings agree very well. Compared soundings agreed
 within 0-1 fathoms and no displacement of depth curves
 were encountered at the junction.

J. Comparison with Prior Surveys

About 95% of the soundings compared agree well (within
 0-³ $\frac{1}{2}$ fathoms) with those on H-4585 (1:20,000, 1926, in
 carmine on boat sheet); 97% agree well with those on H-
 5260 (1:20,000, 1932, in violet on boat sheet); and 91%

agree well with those on H-5265 (1:20,000, 1932, in brown on boat sheet).

There were some discrepancies in which the difference between soundings was greater than 2 fathoms. In some cases these discrepancies may be due to rugged bottom relief. Since superior positioning and sounding procedures were used on this survey, the 1972 soundings should be considered correct.

The Presurvey Review ^{dashed circle} item located in latitude 58°26'12" N and longitude 152°28'54" W was verified, but its least depth, ^(6-16-69 chit. edition) charted as 3.5 fathoms, should be changed to ^{a final} 2.83 fathoms. *(charted as 2 fms. on 1975 chit. edit.)*

The 21 fathom Presurvey Review item, located in latitude 58°26'56" N and longitude 152°28'24" W, was verified and a ^{final} least depth of ¹⁸ 17.5 fathoms was located about 5040 meters ^{east} north of the sounding. *Recommend charting shallowest sdg.*

The 33 fathom Presurvey Review item located in latitude 58°26'06" N and longitude 152°25'36" W was found 75 meters northwest of the sounding. *However, a 30-fm shoal with a least depth of 28-fm is located approximately 75 meters north of the 33-fm. Recommend charting shallowest sdg. in the vicinity.*

The 9 fathom Presurvey Review item located in latitude 58°27'33" N and longitude 152°35'50" W was not found and may possibly refer to a 9 fathom area found 125 meters southeast of the sounding. *concur*

The 22 fathom Presurvey Review item located in latitude 58°26'59" N and longitude 152°26'24" W was verified with ^{final} a depth of ²³ 23.6 fathoms. ^{final 21} A ~~23.0~~ fathom sounding was also

found about 50 meters north of this item. ^{concur} ✓ Another 22 fathom
Presurvey Review item located in latitude 58°26'56" N and
 longitude 152°25'48" W was verified by soundings of 24.6
 fathoms and 24.3 fathoms on either side of the Presurvey
 Review item and about 50 meters apart. ^{However, a final 24-fm. sdg. was smooth plotted.} ✓ It is quite possible
 that the bottom comes up to 22 fathoms. Another 22 fathom
Presurvey Review item located in latitude 58°26'54" N and
 longitude 152°25'26" W was verified with a ^{final} depth of ²¹ 20.5
 fathoms ⁶⁰ 40 meters southwest of the charted 22 fathom sounding.
 A 21 fathom Presurvey Review item located in latitude 58°26'53"
 N and longitude 152°25'03" was verified by a ^{final} depth of ²¹ 20.7
 fathoms 30 meters north of the Presurvey Review item position. ^{concur} ✓

The 2 3/4 fathom Presurvey Review item located in
 latitude 58°28'18" N and longitude 152°26'15" W was verified
 with a ^{final} least depth of 1. ² 5 fathoms using a hand lead. The
 charted soundings on this reef should be changed to reflect
 the 1972 survey. ^{concur} ✓ The 1 3/4 fathom Presurvey Review item
 located in latitude 58°28'32" N and longitude 152°25'57"
 W was verified by a ^{final} 1.5 fathom sounding. However, it is
 recommended that the ^{1.5} 1 3/4 fathom sounding be retained
 on the chart. ^{concur} ✓

The 20 fathom Presurvey Review item located in latitude
 58°29'03" N and longitude 152°34'36" W was verified by
 a ^{final} depth of ¹⁹ 19.3 fathoms. However, a 15-fm. sdg. is located 100 meters NW of the 19 fm.
 Recommend charting shallowest sdg. in the area.

The dolphins at Port Williams, ^{originates with CL-968/1950, C of S permit plan and are} listed as item number

3 on the 3rd of 7 Presurvey Review charts dated 2/25/71. ^{They} were not ^{verified or disproved.} found. Sounding lines were run over the area at low tide, and no indication of the dolphins was detected visually or on the fathogram. It is recommended that these ⁵ dolphins be ^{changed on} ~~deleted~~ from the chart to submerged dolphins. The rock, ^{bare at low tide is} listed as item 6a on the same Presurvey

chart at latitude 58°28.13' N and longitude 152°29.10' ^{originates with prior survey # 4585 (1926) - 1:20,000 and} W, ^{was found to be} 1 foot at 08 h 39 m 00 s on Julian Day 180. ^{and covers 1 ft. of MLLW.} For further information see detached position 9236 in the sounding volume and the Field Edit Report, OPR-478, NOAA Ship RAINIER under Detached Positions for sheet RA-10-3-72 dated 6/28/72.

The following Presurvey Review items ^(dashed circle items) were ~~disproven~~ ^{are discussed below} and ~~should not be charted~~: See Chart 8533 for items 1-3

1. The 58 fathom item ^{from H-5260} located in latitude 58°26'11" ^{25' 45"} N and longitude 152°23'39" W; ^{was verified on chart 8533 south} this item falls ~~in 77 fathoms of water~~. ^{Recommend retaining on chart 8533 in present survey position.}
2. The 42 fathom item ^{from H-5260} located in latitude 58°26'12" ^{5' 55"} N and longitude 152°24'24" W; this sounding falls in 69 fathoms of water. ^{42 misplotted - see present survey depths}
3. The 23 fathom item ^{from H-5260} located in latitude 58°26'12" ^{5' 58"} N and longitude 152°24'54" W; this sounding falls ^{was verified} in 65 fathoms of water.
4. The 21 fathom item ^{from H-5260} located in latitude 58°27'09" ^{on chart 8573 is} N and longitude 152°28'42" W; this sounding falls in 32 fathoms of water. ^{21 is disproved} The shallowest ~~is 30 fm~~, which is 60 meters W of the charted 21-fm. ^{Recommend charting 30 fm depth in the area.}

K. Comparison with Charts

Comparisons were made with chart 8573 (1:20,000; 3rd edition; June 16, 1969) and chart 8533 (1:78,000;

4th edition; April 7, 1969). Both showed excellent agreement with this survey, and only a few minor discrepancies were noted. In all the minor discrepancies the 1972 depths were greater than the charted depths, which may be an indication of changes caused by the 1964 earthquake.

L. Adequacy of Survey

The survey should be considered complete and adequate to supersede prior surveys for charting.

M. Aids to Navigation

No floating or fixed aids to navigation exist in the area covered by this survey. One pinnacle rock and one building gable are of landmark value and are shown on NOAA Form 76-40, Nonfloating Aids and Landmarks, which is included in the appendix. ~~not available~~

N. Statistics

Launch	Number of Positions	Sounding line (l.n.m.)	Area Surveyed (s.n.m.)
RA-3	1151	130.8	5.8
RA-4	1448	185.4	6.8
SKIFF	<u>261</u>	<u>-----</u>	<u>---</u>
TOTALS	2860	316.2	12.6

Bottom samples 44 (Position #8001 - 8044)

O. Data Processing

Raw data was collected in the field using sounding volumes, hand data loggers (Milcom and Climatronics loggers), and the PDP 8/e computer in conjunction with the Hydroplot Controller

and a newly written visual hydrolog program, RA 174. The data recorded in sounding volumes was later hand logged. The hand logged data was later converted to master tape format using program AM 330 on the PDP 8/e computer. Data tapes made by the PDP 8/e computer, the Hydroplot controller, and the program RA 174 were punched in master format. Data tapes were then edited to remove rejected data, and corrector tapes were prepared using the standard Hydroplot/Hydrolog corrector tape format to correct soundings, to include peaks and deeps, and to correct errors in recorded angles or signal numbers.

Separate master tapes and corresponding corrector tapes were prepared for each julian day number. Detached positions from field edit/shoreline inspection work are separate from the basic hydrographic data and are covered by separate sets of master and corrector tapes.

Main scheme lines were plotted on the boat sheet with black ink, crosslines and detached positions with red ink, and bottom samples with green ink.

P. Miscellaneous

A 1:2,500 scale inset to RA-10-3A-72 has been prepared to show soundings along the face of the Port William cannery pier.

Q. Recommendations

Because of the excessive distortion and blurring of map manuscripts TP-00288, TP-00289, and TP-00290 (see

section F. Control), it is recommended that prior to smooth plotting, the radial plot for all signals located by photogrammetric methods be reworked using distortion-free manuscripts. After relocating these signals, a new signal tape should be generated.

It is recommended that the 36" x 60" smooth sheet have its origin (southwest corner) at latitude 58°24'50" N and longitude 152°38'00" W.

R. References to Reports

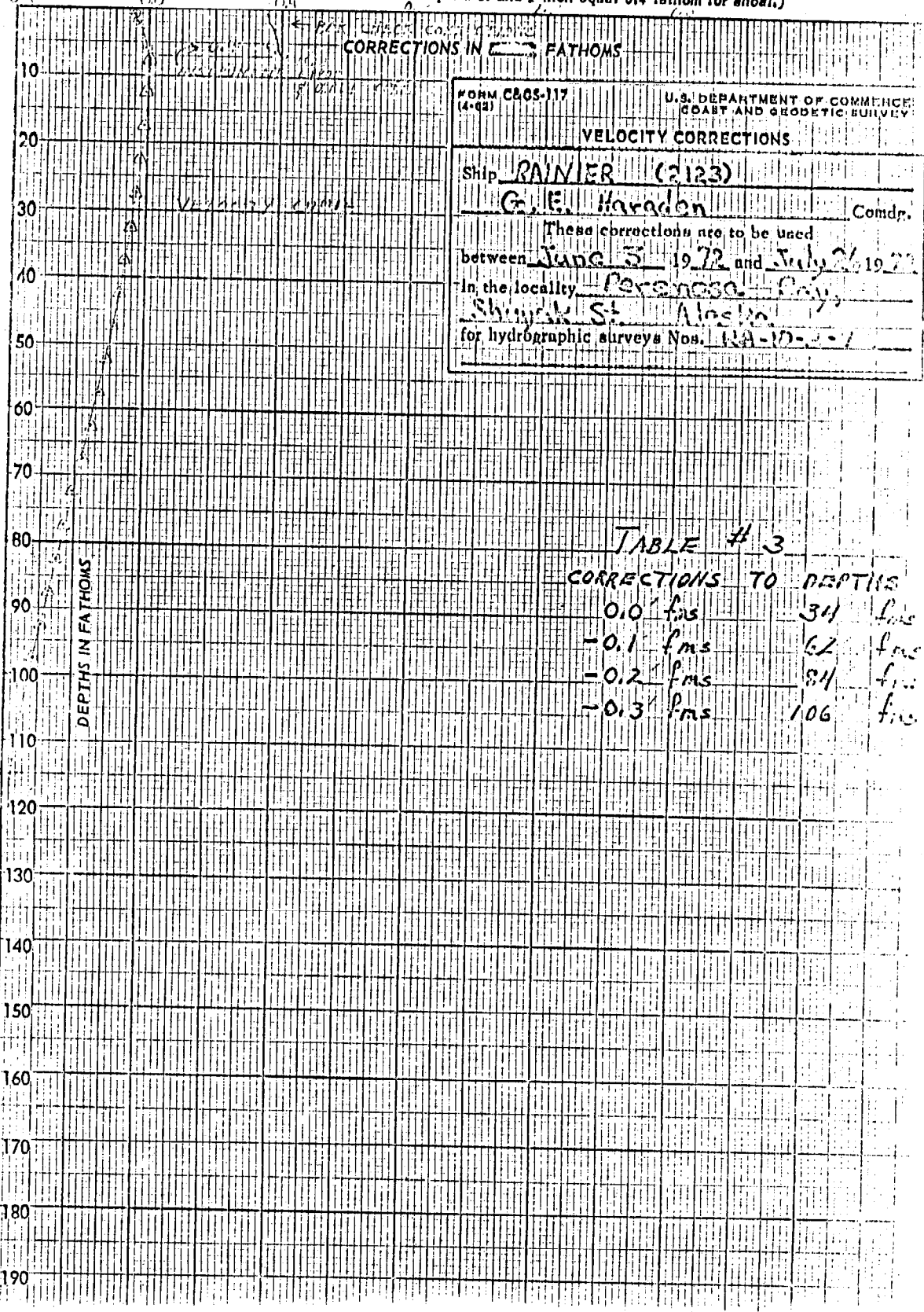
1. Corrections to Echo Soundings, OPR-478, NOAA Ship RAINIER, 1972
2. Field Edit Report, OPR-478, NOAA Ship RAINIER, 1972

Respectfully submitted,

Roger G. Hendershot

ENS Roger G. Hendershot

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)



FORM C&GS-117 (4-62) U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship RAINIER (2123)

G. E. Haraden Comdr.

These corrections are to be used between June 3 1972 and July 26 1972

In the locality Perovosca Bay, Shumagin St., Alaska

for hydrographic surveys Nos. RA-10-5-1

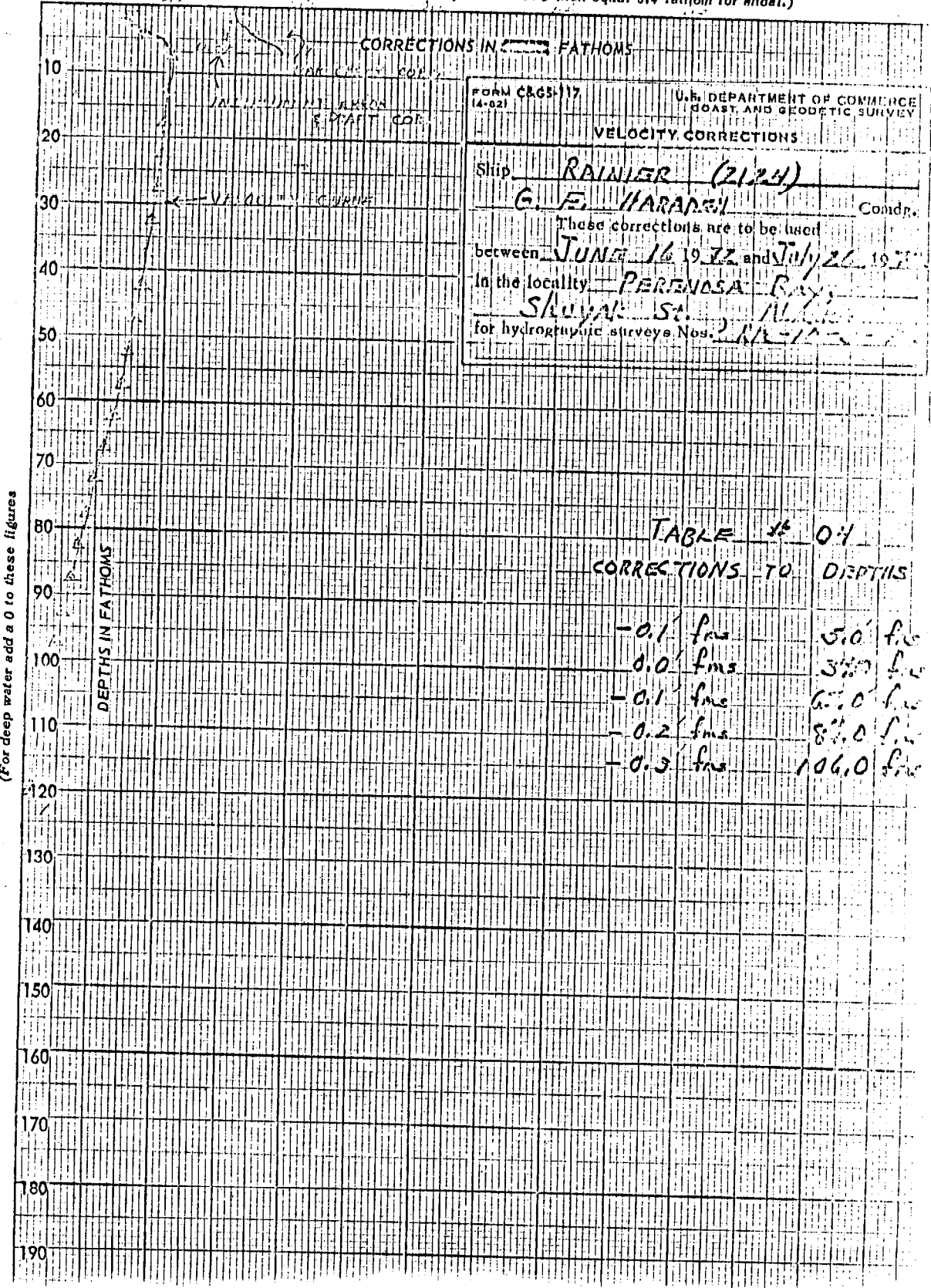
TABLE # 3

CORRECTIONS TO DEPTHS	
0.0 fms	311 fms
-0.1 fms	62 fms
-0.2 fms	84 fms
-0.3 fms	106 fms

(For deep water add a 0 to these figures)

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 NEUFEL & ESLER CO.

0.0 (Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)



505 10th
 PLEASANT
 KUFFEL & ESSER CO.

RA (TC/TT) TAPE: VESSEL 2123 SURVEY RA-10-5-72 FAITHFULER S/N 1041 YR 72 PAGE 1 OF 2

FROM TIME	TPA CORR.	DAY	VEL. TBL.	TRA CORR. IS THE ALGEBRAIC SUM OF THESE COLUMNS				INITIAL	SCALE-PHASE	INST/DRAFT	STYLUS/F. ARC	S./SQUAT	COMMENTS
122321	0004	155	03		0.0	0.0			1.0d	N/A	N/A		
092038		156											
005953		157											
105805		155											
100240		166											
144925		189											
085342		190											
091615		191											

1013

TRA (TC/TT) TAPE: VESSEL 2122 BY PA-10-3-72 FATHOMETER S/N 1041 YR 72 PAGE 2 OF 2

FROM TIME	TRA CORR.	DAY	VEL. TBL.	TRA CORR. IS THE ALGEBRAIC SUM OF THESE COLUMNS.					COMMENT
				INITIAL	SCALE-PHASE	INST/DRAFT	STYLUS/F. ARC	S./SQUAT	
083310	0004	192	03	0	0	rad'	n/A	n/A	
091410		193							
090335		205							
113212		206							
103/20		207							
091112		208							
	✓		✓	✓	✓	✓	✓	✓	

1041

TRA (TC/TI) TAPE: VESSEL 2124 SURVEY RA-10-3-32 FAHOMETER S/N 253 YR 72 PAGE 1 OF 2

FROM TIME	TRA CORR.	DAY	VEL. TBL.	TRA CORR. INITIAL	IS THE ALGEBRAIC SUM OF THESE COLUMNS SCALE-PHASE INST/DRAFT	STYLUS/F. ARC	S./SQUAT	COMMENTS
093300	0003	168	04'	0	0	+0.3'	0	NA
092215	0003	170	04'	0	0	+0.3'	0	NA
104945		171		0				
090830		172		0				
093215		173		0				
115430		179		0				
153500	0002	199		-0.1				
102600	0003	180		0				
120645	0002			-0.1				
145600	0003			0				
091929	0003	181		0				
114000	0003	192		0				
145330	0003	194		0				
091030	0003	195		0				
130215	0003	204		0				
085800	0004	205		+0.1				

TRA (TC/TT) TAPE: VESSEL 2124 SURVEY RA-10-3-72 FATHOMETER S/N 253 YR 72 PAGE 2 OF 2

FROM TIME	TRA CORR.	DAY	VEL. TBL.	TRA CORR. INITIAL	IS THE ALGEBRAIC SCALE-PHASE	SUM OF THESE COLUMNS INST/DRAFT	STYLUS/F. ARC	S./SQUAT	COMMENT
090200	0003	205	04'	0	0	+0.3'	0	NA	
083045	0003	206		0					
14630	0002			-0.1					
14700	0003			0					
143730	0002			-0.1					
143845	0003			0.0					
150745	0002			-0.1					
150900	0003			0					
151945	0002			-0.1					
152115	0003			0					
090200	0003	207		0					
090700	0002			-0.1					
090730	0003			0					
082430	0003	208		0					
151130	0000		00	00		00			Lead
155500	0000		01	00		00			Lead

EM: Jan

Signals 402-427 either do not plot or
 plot from questionable locations. Probably
 due to -1850 G.U. offset in X.

S I G N A L P L O T T E R C A R D S

H-NO.		LATITUDE	LONGITUDE	X	Y	X
09302	290	72 58264040	152275472	11425	03912	290
09302	291	72 58262023	152275632	11398	03256	291
09302	298	72 58253271	152272876	11868	01713	298
09302	299	72 58254037	152282100	10978	01962	299
09302	301	72 58302443	152224334	16715	11196	301
09302	302	72 58291176	152254128	13692	08830	302
09302	303	72 58285646	152261018	13201	08333	303
09302	304	72 58281464	152291579	10043	06973	304
09302	305	72 58291060	152261401	13135	08792	305
09302	306	72 58281454	152300111	09272	06969	306
09302	307	72 58285588	152263935	12705	08314	307
09302	308	72 58285637	152264614	12589	08330	308
09302	309	72 58285953	152264157	12667	08432	309
09302	310	72 58290394	152263912	12708	08576	310
09302	311	72 58291057	152263246	12822	08790	311
09302	312	72 58291755	152262419	12962	09018	312
09302	313	72 58292935	152261500	13118	09401	313
09302	314	72 58293581	152260617	13268	09611	314
09302	315	72 58293633	152261537	13112	09628	315
09302	318	72 58275785	152300573	09194	06427	318
09302	319	72 58283998	152273004	11843	07796	319
09302	320	72 58283907	152263504	12779	07768	320
09302	321	72 58282754	152272591	11913	07392	321
09302	322	72 58283310	152275150	11478	07573	322
09302	323	72 58281994	152281153	11137	07145	323
09302	324	72 58281164	152283738	10697	06875	324
09302	325	72 58273778	152284057	10643	05776	325
09302	326	72 58273384	152290771	10181	05648	326
09302	328	72 58270915	152291936	09983	04846	328
09302	329	72 58265698	152294653	09520	04450	329
09302	330	72 58264428	152295639	09353	04037	330
09302	331	72 58262728	152301664	09008	03485	331
09302	332	72 58260297	152303636	08672	02695	332
09302	333	72 58254615	152303653	08669	02150	333
09302	334	72 58250711	152312495	07843	00881	334
09302	335	72 58261719	152274714	11554	03158	335
09302	336	72 58274871	152290425	10240	06131	336
09302	337	72 58275656	152293514	09714	06385	337
09302	338	72 58281490	152293608	09698	06981	338
09302	339	72 58281716	152302837	08808	07054	339
09302	340	72 58280368	152303744	08654	06617	340
09302	341	72 58275291	152313520	07671	06267	341
09302	342	72 58274037	152315782	07285	05860	342
09302	343	72 58273975	152322078	06894	05840	343
09302	344	72 58272424	152324957	06404	05336	344
09302	345	72 58275287	152324316	06514	06266	345

SIGNAL PLOTTER CARDS

09302	346	72	58270785	152331763	05926	04805	346
09302	347	72	58271638	152331688	05939	05082	347
09302	348	72	58273723	152330604	06124	05758	348
09302	349	72	58275171	152333286	05668	06230	349
09302	350	72	58275465	152324007	06566	06325	350
09302	351	72	58281012	152341696	04918	06829	351
09302	352	72	58283229	152310944	08109	07546	352
09302	353	72	58282482	152315496	07335	07304	353
09302	354	72	58283455	152324231	06529	07620	354
09302	355	72	58283924	152333479	05636	07774	355
09302	356	72	58285494	152335428	05305	08284	356
09302	357	72	58285979	152333510	05632	08441	357
09302	358	72	58290349	152334357	05488	08562	358
09302	359	72	58290275	152340123	05187	08537	359
09302	360	72	58290934	152335301	05327	08751	360
09302	361	72	58291377	152335357	05318	08896	361
09302	362	72	58291432	152334567	05452	08913	362
09302	363	72	58292175	152334616	05444	09155	363
09302	364	72	58291610	152335677	05263	08971	364
09302	366	72	58292146	152340969	05044	09146	366
09302	368	72	58291513	152343332	04642	08941	368
09302	369	72	58292450	152343684	04582	09245	369
09302	370	72	58293781	152343641	04590	09677	370
09302	371	72	58294134	152343369	04636	09792	371
09302	372	72	58293523	152344499	04444	09593	372
09302	373	72	58292718	152345029	04353	09332	373
09302	374	72	58292670	152345597	04257	09317	374
09302	375	72	58292799	152345165	04330	09358	375
09302	376	72	58280045	152345564	04259	06515	376
09302	377	72	58273959	152352762	03714	05838	377
09302	378	72	58271477	152355641	03222	05032	378
09302	379	72	58270717	152355555	03237	04786	379
09302	380	72	58265924	152355232	03291	04528	380
09302	381	72	58265239	152355614	03226	04305	381
09302	384	72	58272217	152353520	03584	05272	384
09302	385	72	58270171	152362898	02667	04609	385
09302	386	72	58270824	152361948	02829	04821	386
09302	387	72	58271719	152362004	02820	05112	387
09302	388	72	58270928	152362374	02757	04855	388
09302	389	72	58271348	152364766	02350	04992	389
09302	390	72	58273516	152362910	02667	05696	390
09302	391	72	58274715	152361370	02930	06084	391
09302	392	72	58280897	152361369	02931	06793	392
09302	393	72	58280549	152354219	03467	06679	393
09302	398	72	58271638	152330235	06186	05081	398
09302	399	72	58273048	152330140	06203	05539	399
09302	402	72	58283717	152363285	02606	07710	402
09302	404	72	58285899	152390161	00077	08424	404
09302	406	72	58292279	152355153	03312	09191	406
09302	407	72	58292786	152361185	02966	09356	407
09302	408	72	58293904	152364937	02329	09721	408

SIGNAL PLOTTER CARDS

UNIT - 1850 X

these are no. plots

09302	409	72 58294851	152375735	01173	10031	409
09302	410	72 58295950	152372721	01686	10387 ✓ NP	410 -
09302	411	72 58300727	152373173	01610	10639 ✓ NP	411 -
09302	412	72 58302731	152372593	01710	11289 ✓ NP	412 -
09302	413	72 58303791	152371803	01845	11634 ✓ NP	413 -
09302	414	72 58304302	152371463	01903	11800 ✓ NP	414
09302	415	72 58304366	152371716	01860	11821 ✓ NP	415
09302	416	72 58302796	152374482	01389	11311 ✓ NP	416
09302	417	72 58301842	152375131	01278	11001	417
09302	418	72 58301131	152375692	01182	10771 -	418 ✓
09302	419	72 58300863	152374952	01307	10683 -	419
09302	420	72 58300262	152381204	00924	10489	420 x
09302	421	72 58300911	152381852	00814	10701	421 x
09302	422	72 58301367	152382964	00626	10849	422 x
09302	425	72 58283206	152373485	01551	07546 ✓ NP	425
09302	426	72 58282686	152375829	01152	07377	426 ✓
09302	427	72 58284942	152382665	00671	08111	427 x

POSITION ABSTRACT

(RA-10-3-72)

<u>LAUNCH</u>	<u>JULIAN DAY</u>	<u>POSITION NUMBERS</u>	<u>TOTAL POS.</u>
RA-3	155	01-67	67
	156	068-227	160
	157	228-364	137
	165	365-386	22
	166	387-497	111
	189	1382-1426	45
	190	1427-1534	108
	191	1535-1624	90
	192	1628-1679 Reject 1654-1679	27
	193	1680-1737	58
	205	1815-1824, 1834-1863	40
	206	1864-1953 Reject 1899,1900	88
	207	1954-2052 Reject 2017,2018	97
	208	2053-2157 Reject 2062-2065	101
RA-4	168	498-617 Reject 590,91,92	117
	170	618-761	144
	171	762-911	150
	172	912-953	42
	173	954-1100	147
	179	1101-1169	69
	180	1170-1279	110
	181	1280-1381 Reject 1351-1354	98
	---	5006-5077	72
	194	1738-1762	25
	195	1763-1799	37
	204	1800-1814	15
	205	5078-5192	115
	206	5193-5320	128
	207	5321-5422 Reject 5331,53,56,59,62, 65,80,83,86,89;5410,5413	89
	208	5423-5512	90

FIELD EDIT

JD DAY	POS.NO.	TOTAL POS.
167-169	9001-9039	39
170	9040-9043	4
171-172	9044-9093	50
173	9094-9129	36
179-181	9201-9322	122
189-190	9323-9332	10

PARAMETER TAPE LISTING

OPR-478, SHELIKOF STRAIT

RA-10-3A-72

FEST=160000
CLAT=6301000
CMER=153/50/00
GRID=30
PLSCL=10000
PLAT=58/27/00
PLON=152/37/00
S1LAT=58/23/29.514
S1LON=153/57/40.528
S2LAT=58/50/49.119
S2LON=153/17/47.572
Q=1799.6
VESNO=2120
YR=72

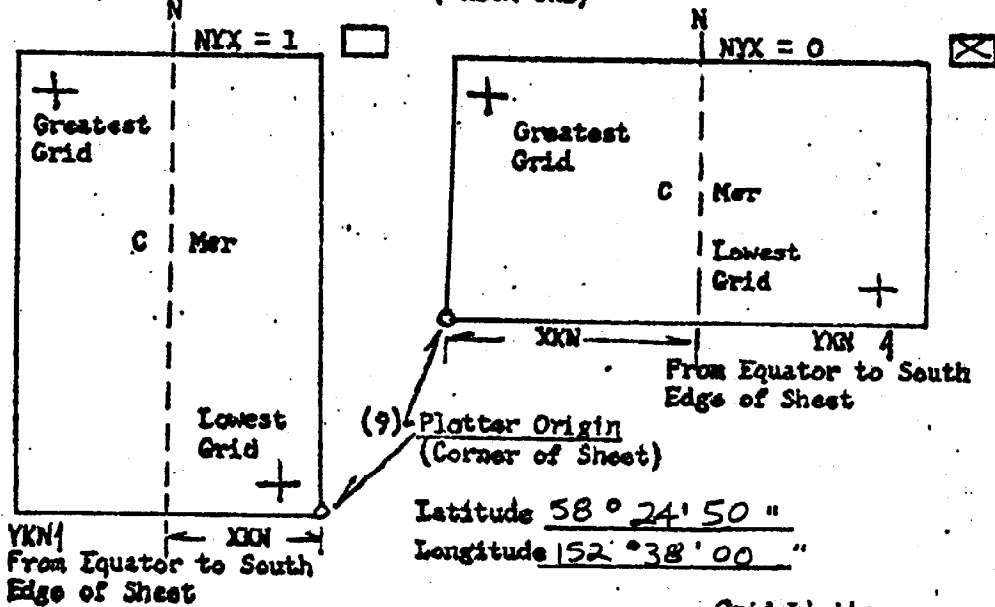
RA-10-3B-72

FEST=160000
CLAT=6301000
CMER=153/50/00
GRID=30
PLSCL=10000
PLAT=58/24/50
PLON=152/31/30
S1LAT=58/23/29.514
S1LON=153/57/40.528
S2LAT=58/50/49.119
S2LON=153/17/47.572
Q=1799.6
VESNO=2120
YR=72

FORM # 2
 PARAMETERS FOR DIGITAL COMPUTING
 POLYCONIC PROJECTION

- (1) Project No. OPR 478 (4) Requested by _____
- (2) H No. 9302 (5) Ship or Office RAINIER
- (3) Field No. RA-10-3-72 (6) Date Required _____
- (7) Visual Ft. (0) or Fathoms (1) (8) Electronic (fill out form #3)
- (10) XKN (SP 5) Distance from CMER to East Edge (NYX = 1) or West Edge (NYX = 0). (Origin) _____ Meters
- (11) YKN (SP 241) Distance from Equator to South Edge of Sheet. (Origin) _____ Meters
- (12) Central Meridian _____ " _____ "
- (13) Survey Scale 1:10,000
- (14) Size of Sheet (Check one) 36x60 42x60
- (15) NYX, Orientation of sheet (Check one)

Revised



Grid Limits	
(16) Greatest Latitude	<u>58° 29' 30"</u> (Projection Line Interval Page 4
(17) Lowest Latitude	<u>58° 25' 00"</u> Hydro Manual)
(18) Difference	_____ "
(21) Greatest Longitude	<u>152° 37' 30"</u> (20) _____ YSN
(22) Lowest Longitude	<u>152° 22' 30"</u> (24) _____ "
(23) Difference	_____ " (25) _____ XSN

FORMS II AND III PARAPLYR CARDS

H 9302
 Field No. RA-10-372
 Date 3-25-74

PARAPLYR CARD II

Semi major axis of the earth	6,378,206.4									
X Constant - Distance from central meridian to origin of plotter SP 5	meters									
Y Constant - Distance from equator to origin of plotter SP 2.1	meters									
Central Meridian of Projection	1	5	2	3	0	0	0	0	0	0
Plotter Scale/Survey Scale	*30/98.6876 1:10,000									
North/south axis of sheet - to correspond to (Y axis - 0)	0 - feet 1 - fathom									
Feet/Fathom Indicator	FOF									
H Identification No.	JN									
FOF - 1	YR									

PARAPLYR CARD III

West Lat. Intersection	5	8	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lowest Long. Intersection	1	5	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Difference between Grid																			
Interval (Long)	DXI																		
Interval (Lat)	YSM																		

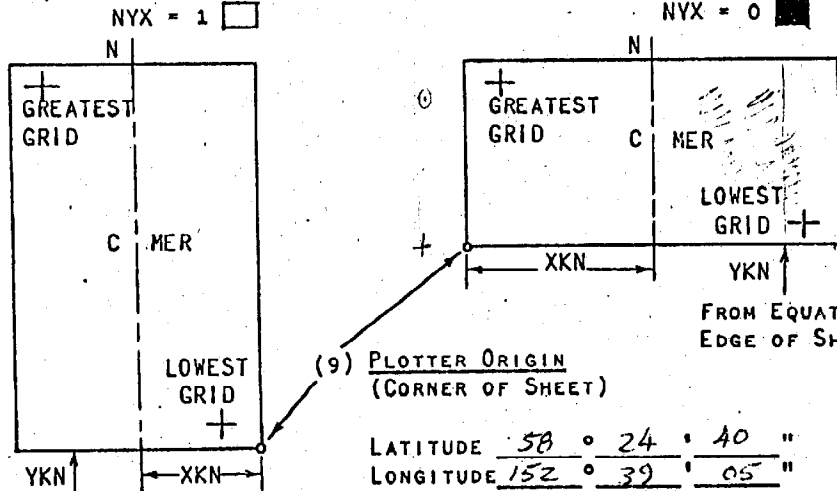
Computed _____
 Punched _____
 Checked _____
 Date _____

FORM # 1

FIG. 15

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

- (1) PROJECT No. 478
- (2) H No. 9302
- (3) FIELD No. RA-10-3-72
- (4) REQUESTED BY Processing
- (5) SHIP OR OFFICE _____
- (6) DATE REQUIRED _____
- (7) VISUAL
- (8) ELECTRONIC (FILL OUT FORM #3)
- (10) XKN (SP 5) DISTANCE FROM CMER TO EAST EDGE (NYX = 1) OR WEST EDGE (NYX = 0). 8849.56 METERS
- (11) YKN (SP 241) DISTANCE FROM EQUATOR TO SOUTH EDGE OF SHEET. 6,476,862.787 METERS
- (12) CENTRAL MERIDIAN 152° 30' 00"
- (13) SURVEY SCALE 1: 10,000
- (14) SIZE OF SHEET (CHECK ONE) 36X54 42X60 OTHER
- (15) NYX, ORIENTATION OF SHEET (CHECK ONE)



LATITUDE 58° 24' 40"
 LONGITUDE 152° 39' 05"

GRID LIMITS

- (16) GREATEST LATITUDE 58° 30' 00" (PROJECTION LINE
- (17) LOWEST LATITUDE 58° 25' 00" INTERVAL, PAGE 4
- (18) DIFFERENCE 0° 5' 00" HYDRO MANUAL)
- (19) 30"
- (20) 10 YSN
- (21) GREATEST LONGITUDE 152° 38' 00"
- (22) LOWEST LONGITUDE 152° 23' 00"
- (23) DIFFERENCE 0° 15' 00"
- (24) 30"
- (25) 31 XSN

3/25/74 - REVISED
FORM - USE IT TO THE
COMPUTE NEW GRID LIMITS
(CENTRAL), AND DRAW PLOT
CARD - THEN PLOT
PROZ w/ -1850 X OFFSHORE -
0404 off w/ sheet limits @ 152° 39' 01" +

DL - sheet limits @ 1850 X OFFSHORE

APPROVAL SHEET

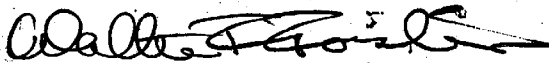
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,



James S. Green
Supervisory Cartographic Technician

Approved and forwarded,



Walter F. Forster, Cdr., NOAA
Chief, Processing Division
Pacific Marine Center

APPROVAL SHEET

H-9302 (RA-10-3-72)

SHUYAK STRAIT, ALASKA

In producing this sheet, standard hydrographic procedures were observed and the data was examined daily during the execution of the survey.

The boat-sheet and accompanying records have been examined by me and are considered complete and adequate and are approved.

A handwritten signature in cursive script, appearing to read "G.E. Haraden".

G.E. Haraden CAPT, NOAA

TIDE NOTE

H-9302 (RA-10-3-72)

The Shuyak Strait tide station established at Cape Current Narrows, Shuyak Strait, Shuyak Island, in latitude 58°28'16.5" N and longitude 152°30'25.0" W, will be used direct to control the soundings on this survey. This gage operated on time meridian 135° W. Hourly heights are being furnished to the Pacific Marine Center Processing Division and the Tides Section in Rockville. See the Tide Report - OPR-478, NOAA Ship RAINIER, 1972 for more information on this gage.

Predicted tides for this boat sheet were applied directly from Red Fox Bay, Shuyak Strait and obtained from the 1972 Tide Tables for the North American Coast. The predicted tide correctors were computer generated using the PDP 8/e computer and programs AM 500 and AM 504.

6/6/74

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Shuyak Strait

Period: May 22 - July 20, 1972

HYDROGRAPHIC SHEET: H9302

OPR: 478

Locality: Shelikof Strait

Plane of reference (mean lower low water): 3.9

Height of Mean High Water above Plane of Reference is ~~12.5~~ ^{14.7 inlet} ~~12.5~~ ^{15.5 inlet} ~~12.5~~ ^{11.7} MHW
Correction: Tide Division 6/22/76 JPS

Remarks:

Recommended Zoning

- | | | | |
|----|-------------------|------------------------------|------------------------------|
| 1. | 152°24' - 152°30' | Zone direct on Shuyak Strait | 11.7 |
| 2. | 152°30' - 152°33' | Apply ratio of 1.04 | 12.2
13.0 16 |
| 3. | 152°33' - 152°35' | Apply ratio of 1.07 | 12.5
13.4 16.4 |
| 4. | 153°35' - 153°37' | Apply ratio of 1.11 | 13.0
13.9 16.9 |

James R. Hubbard
Chief, Tides Branch

Survey No.

H-9302

Name on Survey

	On Chart No.	On previous No.	On U.S. Survey No.	From local information	On local maps	P. C. Guide or Range	Range locality	U.S. Light. List	
	A	B	C	D	E	F	G	H	K
AEOGNAK ISLAND /									1
BIG FORT CHANNEL /									2
BIG FORT ISLAND /									3
CAPE CURRENT /									4
CAPE CURRENT NARROWS /									5
DAYLIGHT HARBOR /									6
PERENOSA BAY /									7
PORT WILLIAM (locality) /									8
^{one word} RED FOX BAY /									9
SHUYAK ISLAND /									10
SHUYAK STRAIT /									11
Port William (water)									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25
									26

Approved
Chas. E. Harrington
 Staff Geographer C51X2
 8 Sept. 1975

HYDROGRAPHIC SURVEY STATISTICS
 HYDROGRAPHIC SURVEY NO. H-9302

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & PNO		1	BOAT SHEETS		1 2	
DESCRIPTIVE REPORT		1	OVERLAYS		4 5	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES		1				
CAHIERS	2					
VOLUMES		7				
BOXES			1			
T-SHEET PRINTS (List) 10000000, 10000000, 10000000, 10000000						
SPECIAL REPORTS (List)						

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED		2860		
POSITIONS REVISED		220		
DEPTH SOUNDINGS REVISED		47		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		50		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		1		
	TIME (MANHOURS)			
Verification of Control		4		
Verification of Positions		86		
Verification of Soundings		54		
Smooth Sheet Compilation		260		
ALL OTHER WORK		46		
TOTALS		450	110PEC-188	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Clarence R. Lehman</i>	3/13/74		3/7/75	
REVIEW BY <i>Mark J. Fruse</i>	11/12/75		4/21/76	

Supv. F. Sautelberg Carstens 39 10/27/76

REGISTRY NO. _____

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. _____

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

H-9302

Information for Future Presurvey Reviews

The positions of some rocks awash unsupported by hydrographic fixes may be faulty.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
582	1524	1	2	50 yrs.
582	1523	3	2	50 yrs.

OFFICE OF MARINE SURVEYS AND MAPS
MARINE SURVEYS DIVISION
MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9302

FIELD NO. RA-10-3-72

Alaska, Afognak-Shuyak Islands, East Portion of Shuyak Strait

SURVEYED: June 3 - July 26, 1972

SCALE: 1:10,000; 1:2,500 inset

PROJECT NO.: OPR-478

SOUNDINGS: Leadline
Raytheon DE-723 Depth Recorder
Ross 5,000 Finline Depth Recorder

CONTROL: Visual Fixes on
Shore Signals

Chief of Party G. E. Haraden
Surveyed by..... E. M. Gelb
..... L. M. Mordock
..... N. M. Franklin
..... R. L. Johnson
..... J. R. Faris
..... S. J. Hollinshead
..... R. A. Schiro
..... J. W. McCabe
Automated Plot by..... Gerber Digital Plotter, PMC
Verified by..... C. R. Lehman
Reviewed by..... M. J. Friese
Date: April 21, 1976
Inspected by..... F. P. Saulsbury

1. Control and Shoreline

The source of control is adequately stated in Part F of the Descriptive Report.

The shoreline originates with class I (unreviewed) shoreline manuscripts TP-00288, TP-00289, and TP-00290 compiled from aerial photography of 1971 and a field edit in 1972. The shoreline and rocks from TP-00288 were applied in ink to the smooth sheet at the time of review.

Many rocks awash located by sextant fixes and check angles differ with their photogrammetric positions by 10 to 40 m. These conflicts are attributed to questionable positions of the rocks on the topographic surveys resulting from erroneous pricking of field photography during field edit. The quality of the photographs was poor, and in many instances the images of the rocks were unidentifiable. The hydrographic position was used in place of the topographic position of rocks awash in the following locations:

	<u>Latitude</u>	<u>Longitude</u>
1.	58°28.67'	152°33.24'
2.	58°28.42'	152°31.89'
3.	58°28.49'	152°31.58'
4.	58°28.02'	152°30.92'
5.	58°27.95'	152°29.48'
6.	58°27.81'	152°29.50'
7.	58°27.85'	152°29.32'
8.	58°27.8 '	152°29.4 '
9.	58°27.83'	152°29.18'
10.	58°27.83'	152°29.07'
11.	58°27.85'	152°28.71'
12.	58°27.83'	152°28.79'
13.	58°27.86'	152°28.5 '
14.	58°28.72'	152°27.5 '

The mean high water line is shown for guidance only, and except for revisions in red determined by the hydrographer, its true position is shown on the topographic surveys previously mentioned.

2. Hydrography

A. Depths at crossings are in general good agreement. However, there are some isolated instances where there were discrepancies caused by the irregularities of the bottom configuration. For a discussion of those areas, see Part H of the Descriptive Report.

B. The standard depth curves are adequately delineated. The 60 and 70-fathom supplemental depth curves were added at the time of review to better delineate the bottom configuration.

C. The development of the bottom configuration and the investigation of least depths are adequate. However, in most instances least depths over shoals were not verified with a hand lead or close-line development and some least depths and other supplementary soundings were carried forward from prior surveys to supplement present hydrography.

3. Condition of Survey

The field work, sounding records, smooth plotting and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual--Automated Hydrographic Surveys. However, the following exceptions are noted:

A. The elevations of several rocks were incorrectly computed at the time of verification.

B. Current notations and kelp were not fully applied to the smooth sheet from raw data printouts, or sounding volumes.

C. Several topographic signals, falling outside the high water line, were not described.

D. The raw data printouts were submitted to Headquarters as a mixed tied bundle instead of being arranged according to day numbers and filed in a suitable container.

4. Junctions

An adequate junction was effected with H-9303 (1972) on the west.

No contemporary surveys join the present survey on the south or east.

5. Comparison with Prior Survey

H-4585 (1926) - 1:20,000

H-5260 (1932) - 1:20,000

H-5265 (1932) - 1:20,000

These prior surveys taken together cover the entire area of the present survey. A general comparison of prior and present depths reveals 1-2 fathoms differences though in depths beyond the 20-fathom curve in the eastern portion of Perenosa Bay differences are generally greater than 3 fathoms. These differences are attributed mainly to the different survey methods employed, strong currents, 1964 earthquake subsidence and an irregular bottom configuration.

A 1965 agency study of "The Prince William ^{Fox} Sound, Alaska, Earthquake of 1964" revealed subsidence of 3.4 ft. at Red ~~Box~~ Bay and 5.2 ft. at Tonki Bay, Afognak Island. A comparison of prior and present rock elevations indicates approximately 4 ft. of subsidence as having occurred. This 4 ft. correction was applied to items carried forward to the present survey. Rocks awash on the prior surveys, with no elevations given, were carried forward to the present survey as rocks awash. Several least depths for rocks awash and bottom characteristics have been carried forward from these prior surveys to supplement the present survey information. With these additions, the present survey is adequate to supersede the prior surveys in the common area.

6. Comparison with chart 8573 (latest print date June 7, 1975);
chart 8533 (latest print date August 2, 1975)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys supplemented by the partial application of the present survey boat sheet (Bp-85785-6).

Specific mention is made of the following:

1. The five dolphins (PSR items No. 3) in Port William charted approximately in latitude $58^{\circ}29.53'$, longitude $152^{\circ}34.67'$ originate with CL 968/50 (CofE permit plan). These dolphins were not verified or disproved on the present survey and should be retained on the chart. However, it is recommended that they be changed to submerged dolphins.

2. The rock awash bare 4-ft. MLLW (PSR item No. 6a), charted in latitude $58^{\circ}28.13'$, longitude $152^{\circ}29.10'$, originates with H-4585 (1926). The rock was verified by detached position 9236, 25 meters northwest of the above position on Julian Day 180 and is now covered 1 foot MLLW. The new location and elevation should be charted.

3. The rock awash, charted in latitude $58^{\circ}27.98'$, longitude $152^{\circ}32.95'$ originates with incomplete photogrammetric manuscript TP-00289 (1971) - Bp 83406. The rock is not shown on the advance manuscript TP-00289 (1971-72) and should be disregarded.

4. The pier ruins, charted in latitude $58^{\circ}29.12'$, longitude $152^{\circ}33.88'$ originate with H-4585 (1926) and CL-65/38. The pier was not verified or disproved on the present survey and should be retained on the chart. However, it is recommended that it be changed to submerged pier ruins.

Attention is directed to the discussion of presurvey review items mentioned in Part J of the Descriptive Report. Except for the items noted above and in the Descriptive Report, the present survey supersedes the charted information in the common area.

B. Aids to Navigation

There are no aids to navigation within the limits of this survey.

7. Compliance with Project Instructions

This survey adequately complies with the Project Instructions.

8. Additional Field Work

This is a good basic survey and no additional field work is recommended.

Examined and Approved:

Chief
Marine Surveys Division

Associate Director
Office of Marine Surveys
and Maps

