9967

Diagram No. 8554-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey ... Hydrographic

Field No. ... RA-20-4-81

Office No. ... H-9967

LOCALITY

State ... Alaska

General Locality ... Cook Inlet

Locality ... Diamond Creek to Laida Spit

1981

CHIEF OF PARTY
CDR R.J. Land

LIBRARY & ARCHIVES

DATE ... January 9, 1984

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

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NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-9967

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-20-4-81

State Alaska

General locality Cook Inlet

Locality Diamond Creek to Laida Spit

Scale 1:20,000 Date of survey July 30 - August 18, 1981

Instructions dated Jan. 8, 1981; Chg 1 Feb. 23, 1981; Chg 2 Mar. 10, 1981; Chg 3 Jun 4, 1981 Project No. OPR-P114-RA-81

Vessel NOAA Ship RAINIER and Launches 2123, 2124, 2125

Chief of party Ralph J. Land, CDR, NOAA

Surveyed by LT M. Kretsch, ENS M. Mathwig, SST R. Hastings, G. Eaton

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verification ~~Protracted~~ by Mr. Russ Davies Automated plot by PMC Xynetics Plotter

Evaluation ~~Verification~~ by Mr. Bruce A. Olmstead

Soundings in fathoms feet at MLW MLLW and tenths of fathoms

REMARKS: This survey is complete and adequate to supersede all prior surveys for charting.

Time Meridian is 0° (UTC).

AWOIS - 2/28/84 mgf

STANDARDS CK'D 1-20-84

C. Loy

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

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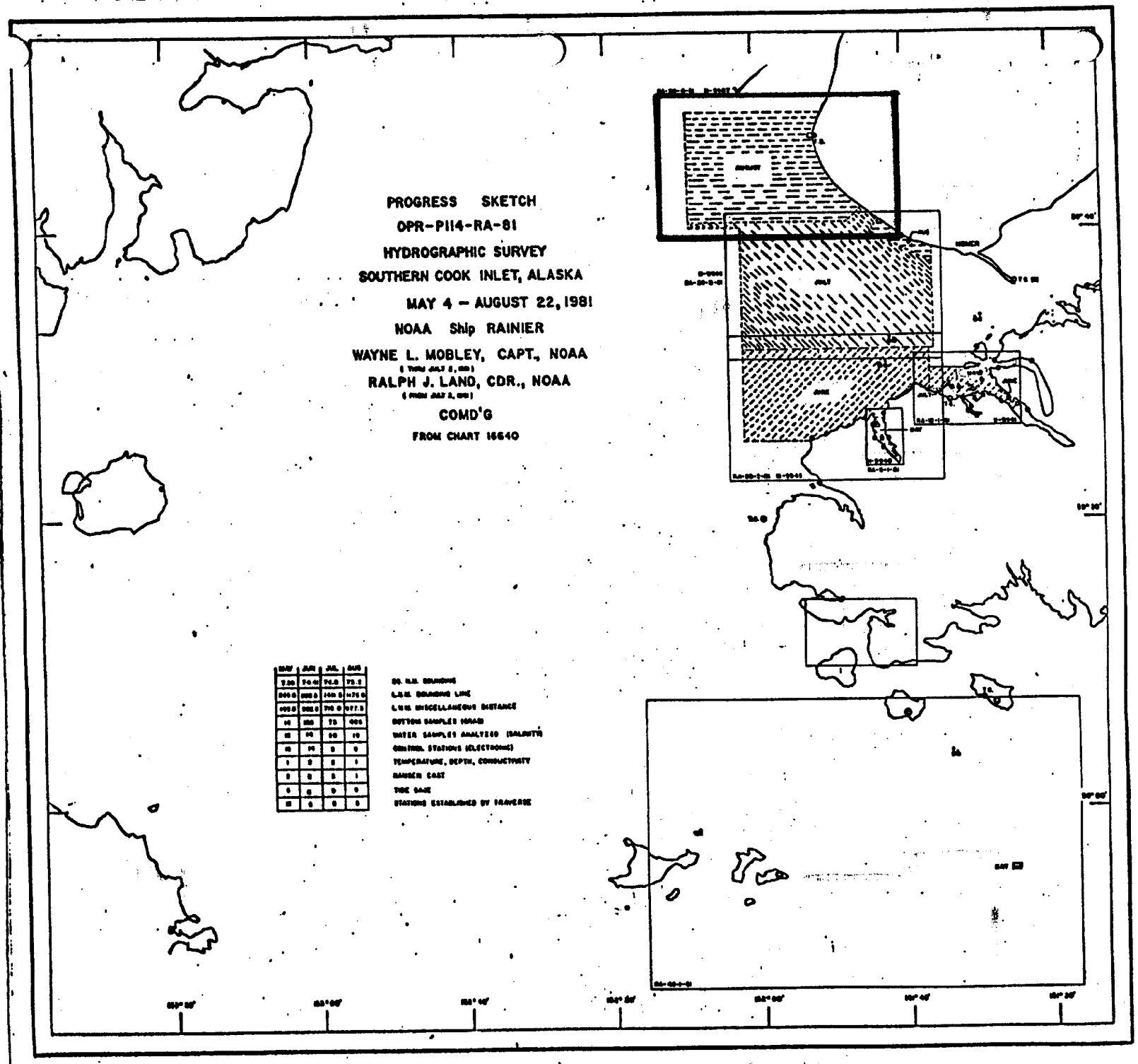
PROGRESS SKETCH
OPR-P114-RA-81
HYDROGRAPHIC SURVEY
SOUTHERN COOK INLET, ALASKA
MAY 4 – AUGUST 22, 1981
NOAA Ship RAINIER
WAYNE L. MOBLEY, CAPT., NOAA
RALPH J. LAND, CDR., NOAA
COMD'G
FROM CHART 16640

A. PROJECT

This survey was conducted in accordance with Project Instructions OPR-P114-RA-81, Southern Cook Inlet, Alaska, dated January 8, 1981. There were ~~no~~ three changes or amendments to the instructions regarding this survey: Change No. 1 dated February 23, 1981, Change No. 2 dated March 10, 1981 and Change No. 3 dated June 4, 1981.

B. AREA SURVEYED

Survey H-9967 covers an area off of the eastern shoreline of Southern Cook Inlet in the vicinity of Anchor Point within the following limits:

Southern limit	-	59° 40' 00" N Latitude
Northern limit	-	59° 48' 00" N Latitude
Western limit	-	152° 09' 00" W Longitude
Eastern limit	-	Shoreline

See Verification Report Section 1

The survey was conducted between July 30 and August 18, 1981.

C. SOUNDING VESSEL

Soundings were obtained using RAINIER launches RA-3 (2123) and RA-4 (2124). RA-5 (2125) was used to collect bottom samples.

No unusual sounding vessel configurations or problems were encountered.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Introduction

The echo sounding corrections contained in this report are to be applied to Hydrographic Survey RA-20-4-81 (H-9967) in Cook Inlet, Alaska. This survey was conducted between July 30 and August 18, 1981 (JD 211-230). The following echo sounding corrections are discussed: Sound velocity corrections, launch draft corrections, settlement and squat corrections, and instrument corrections for blanking, initial, and phase errors. Sea and swell errors were not found to be significant during this project and were not corrected for.

Sounding Equipment

Echo soundings obtained during this survey were taken with Ross Fine-line fathometer systems which include the following components: Ross Model 4000 Transceiver, Ross Model 5000 Analog Recorder, Ross Model 6000 Digitizer, and a 100 Khz transducer. The following table summarizes the serial numbers of the various components used in each vessel.

Echo Sounder Component Serial Numbers

Component	RA-3 (2123)	RA-4 (2124)	RA-5 (2125)
Transciever	1041	1042	1040
Analog Recorder	1042	1071	1040
Digitizer	1041-4	1042	1040

Sound Velocity Correctors

Seven Nansen and four Martek casts were performed during OPR-P114-RA-81 (see H.O. 607, Instruction Manual for Obtaining Oceanographic Data, Third Edition, U.S. Naval Oceanographic Office, 1968). Final sound velocity correctors were derived from the Nansen casts only. Some Martek data was questionable because of inconsistent conductivity readings, and therefore was not used.

The Martek TDC Instrument, Serial Number 357, was last calibrated at the Northwest Regional Calibration Center in Bellevue, Washington in April 1981.

The details of the Nansen and Martek casts which apply to this survey are presented in the following table.

Nansen/Martek Cast Data

Cast Type	Date	Location	Applicable Survey	Velocity Table
Nansen/Martek	6/05/81	59/33/36 N 151/29/42 W	H-9941 H-9945 H-9958 ~~H-9967~~ (Table not used)	3,4
Nansen	7/13/81	59/28/48 N 151/33/00 W	H-9941 H-9945 H-9958 ~~H-9967~~ (Table not used)	4
Nansen	7/17/81	59/30/48 N 151/42/54 W	H-9941 H-9945 H-9958 H-9967 (Applicable)	4,5
Nansen/Martek	8/14/81	59/32/30 N 151/42/42 W	H-9941 H-9945 H-9958 H-9967 (Applicable)	6

Samples from the Nansen casts were analyzed for salinity using standard laboratory procedures (see H.O. 607). The salinometer used for these analyses was a portable Hytech salinometer (S/N 4919), which was last calibrated in April 1981 by the Northwest Regional Calibration Center in Bellevue, Washington.

Results from the Nansen casts were input into computer program RK-530, Velocity Correction Computations, and run on RAINIER's PDP 8/e Digital Computer, S/N 1026. ✓

For more information on sound velocity corrections, refer to the CORRECTIONS TO ECHO SOUNDINGS REPORT, OPR-P114-RA-81.

Launch Draft Corrections

Corrections for launch draft were determined from standard bar checks (see Hydrographic Manual). Bar checks were performed each day by each launch prior to and at the completion of survey operations. Graduations on bar hand lines were compared with steel measuring tapes prior to and at the completion of OPR-P114-RA-81 and were found to be accurate. ✓

The mean fathometer depth values were subtracted from the corresponding true bar depths to obtain a series of "bar check correctors". Bar check correctors were co-plotted on the sound velocity correction curve. The sound velocity correction was subtracted from the bar check data to obtain the true TRA value. These were then averaged to obtain final launch draft corrections. ✓

Since these corrections were not available until completion of the project, an estimated launch draft correction of 0.3 fathoms was used for plotting of boat, semi-smooth, and smooth field sheets. Computer launch draft correctors, in the TC/TI tape listings, are included in the separates to this text. ✓

Launch Settlement and Squat Corrections

Settlement and squat tests on RA-3, RA-5, and RA-6 were performed April 15, 1981 off Sand Point Naval Support Activity on Lake Washington. Tests were performed on RA-4 on April 27, 1981. The RA-3 full-speed test was performed at Kawaihae, Hawaii on October 3, 1981. Tests were performed by the following methods: A level rod, graduated in feet, was held above the transducer in each launch. A self-leveling Zeiss Ni 2 level was set up on stable ground and readings were taken at different speeds as the launch headed directly toward the level operator. Since the tests were run on an inland lake, no tidal affects were considered. Tides were accounted for on the RA-3 full-speed test by comparing the launch 0 RPM elevation before and after the test. The speeds utilized were the same normally used by RAINIER personnel in the field.

See Verification Report Section 4

The corrections obtained from the tests are included in the attachments to this report for reference, but they were not placed on TC/TI tapes or applied to field plotting sheets. These corrections are considered insignificant for this project in accordance with PMC OPORDER 3-03.06x1, Page 3-31:

See Verification Report Section 4

> Settlement and squat errors are commonly ignored when operating in areas of irregular bottom, at various speeds, as this error is usually insignificant if the sounding unit is fathoms.

Since Launch RA-4 was not used above 2400 RPM, the largest potential error from settlement and squat during this project is 0.07 fathoms.

See Verification Report Section 4

Sounding Instrument Corrections

During survey operations, the "blanking" depth, when used, was set to a value slightly shoaler than the shoalest bottom depth expected, and was adjusted as the depth changed. Corresponding analog depths were substituted for missed digital soundings during field scanning operations. ✓

The initial trace on the analog recorder was frequently monitored and was adjusted, when necessary, to prevent errors. To prevent belt length error or stylus/paper misalignment on the analog recorders, RAINIER personnel performed "phase calibrations" of the recorders each day. ✓

Manual Sounding Corrections

Manual soundings were taken with hand-held lead lines where required. Depth markings on these lead lines were compared with a steel measuring tape before and after OPR-P114-RA-81, and were found to be accurate. Since the recording of lead line soundings was often interspersed with fathometer soundings, special care was taken to prevent the application of sound velocity corrections to lead line depths.

See Verification Report Section 3

For additional information, refer to the CORRECTIONS TO ECHO SOUNDINGS REPORT, OPR-P114-RA-81. ✓

E. HYDROGRAPHIC SHEETS

The field sheets were prepared utilizing a PDP 8/e Complot system aboard the RAINIER. These sheets are based on a Modified Transverse Mercator Projection. A list of the parameters used to define the projections is attached. ✓

All field records will be sent to the Pacific Marine Center, Seattle, Washington, for verification. ✓

The survey is complete on 2 smooth sheets at 1:20,000 scale, and 4 expansion sheets at 1:5000 scale. ✓

F. CONTROL STATIONS

Horizontal control during this project was provided by the recovery of 35 existing stations and establishment of 26 new stations. This survey was controlled by using 18 of those stations. A copy of the Master Station List is included in the attachments to this report. The stations used each day are listed in the raw records, and found on the Master Station List. The new stations were established using Third Order, Class I traversе methods, and were monumented and described. The North American 1927 datum was used in the survey.

See Verification Report Section 2

Details concerning the location and recovery of each station, including the field records and processing computations, are located in the HORIZONTAL CONTROL REPORT, OPR-P114-RA-81.

Stations used for this survey and appearing on the smooth sheet are as follows: Stations used for control and plotting outside the sheet limits are also listed.

KILLER LADY, 1981
Lee 1968
Pink 1968
Millard 1981
BLUFF POINT 2, 1956
POINT POGIBSHI LIGHT, 1975
HOMER SPIT SALTY DAWG TOWER, 1975
Anchor Point Light 1975
New 2 1981
TP# 13
MOUND, 1913
RED, 1979
KGTL RADIO TOWER, 1981
TP 11

G. HYDROGRAPHIC POSITION CONTROL

Electronic range/range methods were used for position control during this survey. Teledyne-Hastings Raydist systems were employed. A list of equipment and station descriptions follows:

Vessel	Transmitter	Navigator	Lane Followers	Panalogic
2123	TA-96B-170	ZA-75C-117	187	35
			188	13 (after JD 163)
2124	TA-96B-167	ZA-75C-115	181	17
			162	
2125	TA-96B-166	ZA-75C-114	170	12
			118	

Raydist	Station	Signal #	Transmitter #	Frequency
Red	Mound 1913	101	232	1648.015 Khz
Green	Red 1979	102	120	1648.425 Khz

Propane-fueled thermal generators supplied power at both Raydist sites.

Raydist Shore Station Performance

The Raydist installation gave excellent line of position intersection angles and signal reception throughout the survey area. Other than the following, no problems were encountered with the physical installation.

The tower section guy lines parted at Station Mound, the Red Raydist, in high winds on or before July 6, 1981, which led to the loss of three sections. The tower was reinstalled on July 12 and the new height was 40-feet, topped by a 35-foot whip. No field operations were affected.

Weak signal strength from the Red Raydist station at Mound was investigated on July 3. The problem was found to be a fuel line leak, which was repaired.

A faulty thermal generator was replaced at the Red Raydist station August 3, 1981. The generator voltage had been slightly low, causing a weak signal. No further problems were experienced with the Raydist shore stations.

Raydist Calibration and Correctors

Calibrations of the Raydist equipment were performed in the field at the beginning of each survey day, at the end, and at any time system integrity was in doubt.

Calibration was achieved by taking at least five observations of visual angles to signals over Third Order, Class I geodetic control stations or better. All electronic-visual observations agreed within the standards set forth in Section 1.3.3.2.4 of the Hydrographic Manual; that is, within 10 m or 0.5 mm at the scale of the survey, whichever is less. For all Raydist calibrations that tolerance was 10 m or approximately 0.2 lanes.

Miniranger ranges were often collected and recorded during Raydist-controlled hydrography to provide a check of Raydist lane count, and to assist in isolating lane jumps.

Morning and evening Raydist correctors were meaned to provide daily correctors for plotting the data. When lane jumps were encountered, the strip chart was analyzed to locate the jumps. Correctors were then applied at the appropriate times to account for the lane jumps. On the data where lane jumps could not be positively located, the survey data was rejected.

Morning and evening Raydist correctors agreed within 0.5 mm at the scale of the survey on all but the following day:

Julian Date	Vessel	Positions	Agreement (mm at scale)
230/231	2123	2587-2740	Red: 0.6 mm

When correctors for these days were meaned, the morning and evening correctors agreed within ± 0.5 mm of the mean at the scale of the survey.

For further information, see the ELECTRONIC CONTROL REPORT, OPR-P114-RA-81.

H. SHORELINE

Photo-Shoreline Manuscript TP-00799 was the source of the shoreline details shown on the field sheet. The manuscript included the following photographs:

Number & Type	Date	Scale	Stage of Tide
75 C (C) 6298-6300	July 5, 1975	1:60,000	9.0 ft above MLLW
75 E (C) 0021-0027	July 5, 1975	1:30,000	12.9 ft above MLLW
*75 E (I) 897-903	July 9, 1975	1:30,000	16.9 ft above MLLW
*75 E (I) 585-588	July 8, 1975	1:30,000	14.3 ft above MLLW
**75 E (I) 695-700	July 9, 1975	1:30,000	2.3 ft above MLLW

*The MHWL was compiled graphically from the above tide-coordinated infrared photography.

**The MLLWL was compiled, in part, graphically from the above tide-coordinated infrared photography. There were no tide-coordinated infrared photographs covering the southern portion of the field sheet.

The photographs are of poor quality, lacking clarity.

All shoreline details have been field-edited and changes transferred to the field sheet as well as detailed on the field edit sheet.

The shoreline data which had changed since the date of photography consisted mainly of the shifting of rocks in storms, and the movement of the beach sand below the MHWL.

Horizontal control stations on the field sheets which plot seaward of the shoreline at high water are TP# 13, Millard 1981, and Pink 1968. See the HORIZONTAL CONTROL REPORT, OPR-P114-RA-82, for descriptions of these stations.

I. CROSSLINES

A total of 98.8 nautical miles of crosslines were run, comprising 10.4% of the mainscheme mileage. Agreement with the principal sounding lines was excellent. The comparisons are as follows:

For 0-5 FM:

58 comparisons agree within 0.2 FM
11 comparisons agree within 0.5 FM

For 5-11 FM:

148 comparisons agree within 0.5 FM
4 comparisons agree within 1 FM

For 11-55 FM:

482 comparisons agree within 1 FM
2 comparisons agree within 2 FM

Therefore, 97.5% of the comparisons are within the criterion for agreement with principal sounding lines as stated in Section 1.1.2, Part B. II.1 of the Hydrographic Manual. ✓

The comparisons that exceed the above criteria (2.5%) do so by a small margin. The deviations are of a random nature and exist primarily in the shoaler regions of the survey within the proximity of the shoreline where a relatively irregular bottom profile exists. Since these crossing soundings are not exactly coincident, some disagreement is expected. ✓

J. JUNCTIONS

This survey junctions with three contemporary surveys as follows:

See Verification Report Section 4 & 5

To the:	North - Survey H-9840 (1979)	1:20,000
	South - Survey H-9958 (1981)	1:20,000
	West - Survey H-9708 (1977)	1:40,000

Depth agreement with these three surveys is excellent.

Agreement comparisons are as follows:

-Junction with Survey H-9840

For 0-5 FM:

14 comparisons agree within 0.2 FM
4 comparisons agree within 0.5 FM
1 comparison agrees within 0.7 FM

For 5-11 FM:

78 comparisons agree within 0.5 FM
1 comparison agrees within 1.0 FM

For 11-55 FM:

399 comparisons agree within 1 FM
1 comparison agrees within 2 FM

-Junction with Survey H-9958

For 0-5 FM:

4 comparisons agree within 0.2 FM
2 comparisons agree within 0.5 FM

For 5-11 FM:

61 comparisons agree within 0.5 FM
12 comparisons agree within 1.0 FM
2 comparisons agree within 1.5 FM

For 11-55 FM:

225 comparisons agree within 1.0 FM

-Junction with Survey H-9708

For 11-55 FM:

428 comparisons agree within 1.0 FM

Therefore, 98.1% of all the comparisons are within the same criteria used for crossline agreement. ✓

Again, the comparisons which exceed the above criteria (1.9%) do so by a small margin and are of a random nature. The majority of deviations occur, as with the crossline discrepancies, in the shallower, close to shore regions of the survey. The area's irregular bottom profile is the determinant for these slight errors in agreement. ✓

K. COMPARISON WITH PRIOR SURVEYS

PSR items within this survey are as follows:

PSR item #7 is a charted wreck in 7 FM of water at Latitude 59°47.7' N and Longitude 151°54.8' W. Data concerning the wreck was obtained from an investigation by the PATHFINDER in 1968. ✓

No indication of the existence of the wreck was generated during the course of normal hydrography for the present survey. Per instructions, no further investigation was made. See Verification Report Section 7

As the existence of the wreck is very doubtful and it does not constitute a hazard to navigation, it is recommended that it be removed from the chart.

PSR item #23 is a fishtrap located in the proximity of the shoreline at Latitude 59°40.3' N, Longitude 151°42.55' W. Data pertaining to this item originates from an undetermined source, but it has been charted since 1930. ✓

Investigation was performed via field edit only as the area in question was within a foul limit. There was no indication of the fishtrap at extremely negative tides. It is recommended that this fishtrap be removed from the chart. Evaluator Concurs

The survey was compared with prior surveys:

H-3204	1910	1:40,000 scale
H-3206	1910	1:120,000 scale

See Verification Report Section 6

Comparison sounding agreements are as follows:

-Comparison with prior survey H-3204

For 0-5 FM:

225 comparisons agree within 0.2 FM
55 comparisons agree within 0.5 FM
12 comparisons agree within 1.0 FM
4 comparisons agree within 1.5 FM

For 5-11 FM:

457 comparisons agree within 0.5 FM
59 comparisons agree within 1.0 FM
5 comparisons agree within 1.5 FM

For 11-55 FM:

57 comparisons agree within 1 FM
2 comparisons agree within 2 FM
1 comparison agrees within 3 FM

-Comparison with prior survey H-3206

For 5-11 FM:

4 comparisons agree within 0.5 FM
3 comparisons agree within 1.0 FM

For 11-55 FM:

293 comparisons agree within 1 FM
27 comparisons agree within 2 FM
9 comparisons agree within 3 FM
1 comparison agrees within 4 FM

Comparison with the prior surveys is very good. 85% of the comparisons are within the criteria stated in Section 1.1.2, Part B.II.1 of the Hydrographic Manual.

The majority of sounding disagreements exceeding the criteria are random and relatively small. Most discrepancies occur within the shoaler regions in the proximity of shore. The discrepancies are apparently due to the irregular bottom profile and perhaps small past positioning errors or small changes in the bottom topography. The present survey yields generally shoaler depths than the prior surveys in most areas. Where prior surveys yielded slightly shoaler depths, no effort was made to disprove these depths beyond investigation by normal mainscheme hydrography.

It is recommended that this survey supersede all prior surveys for charting.

L. COMPARISON WITH CHART

The present survey was compared with Chart 16645, 13th Edition, October 4, 1980. Agreement comparisons are as follows:

See Verification Report Section 7

For 0-5 FM:

76 comparisons agree within 0.2 FM
10 comparisons agree within 0.5 FM
5 comparisons agree within 1.0 FM

For 5-11 FM:

101 comparisons agree within 0.5 FM
20 comparisons agree within 1 FM
1 comparison agrees within 2 FM
1 comparison agrees within 3 FM

For 11-55 FM:

141 comparisons agree within 1 FM
4 comparisons agree within 2 FM
1 comparison agrees within 3 FM

Sounding agreement with the chart is very good. 88.3% of comparisons are within the criteria as described for the other comparisons made. Once again, most depth discrepancies are minor and exist within areas of irregular bottom profile. Several shoal areas on the chart appear slightly offset from their presently surveyed positions. This is apparently due to distortion in the chart expansion used for comparisons. There are several shoals on the chart whose least depths are slightly shoaler than those determined by this survey. These differences are very small. No investigations beyond normal mainscheme hydrography were undertaken to positively confirm the existence of these depths in the positions indicated on the chart. The present survey did, however, yield slightly shoaler depths overall. ✓

Two discrepancies of particular magnitude are as follows:

A charted 1/2 FM sounding at Latitude 59°44.9' N, Longitude 151°52.4' W coincides with a least depth of 2.7 FM determined by the present survey. This appears to be a sounding displacement on the chart to maintain clarity along the shoreline. See Verification Report Section 7

A 28 FM sounding charted at Latitude 59°44.8' N, Longitude 152°05.3' W coincides with a depth of 21 FM indicated on the present survey. The 28 FM depth is in total disagreement with the general bottom profile for that area. ✓

It is recommended that this survey supersede charted soundings in future chart updates.

M. ADEQUACY OF SURVEY

Survey H-9967 is complete and adequate to supersede all prior surveys for charting. ✓

N. AIDS TO NAVIGATION

There are no floating aids within the area of this survey. See Verification Report Section 7c

O. STATISTICS

Launch	Linear NM	Square NM	Positions
RA-3 (2123)	587.0	42.5	1595
RA-4 (2124)	506.6	38.0	1598
TOTAL	1093.6	80.5	3193 (1109) 3302

✓

Launch RA-5 (2125) obtained 109 bottom samples.

This survey utilized one tide station at Anchor Point.

Four Nansen and two Martek casts were made in the general area during the course of this survey.

P. MISCELLANEOUS

The survey area is characterized by strong tidal currents and winter storms. Good anchorage is available throughout the area. The sandy beach and smaller rocks thereon are subject to frequent shifting with resulting small changes in the mean lower low water line, and possibly very slight changes in the mean high water line.

Q. RECOMMENDATIONS

No additional field work is recommended. No dredging or construction which will affect survey results is known of.

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (4th Edition), Manual Automated Hydrographic Surveys, the PMC OPORDER, and the Hydrographic Data Requirements for 1981 Field Season.

Soundings and positions were taken by a Hydroplot system using Range-Range Program RK 111. There are daily master tapes and corresponding corrector tapes which include the TRA for the launches, electronic control calibration correctors for Raydist, baseline correctors for Miniranger consoles and R/T units, and all depth corrections. Velocity tapes were generated from Nansen cast data. The following is a list of all computer programs and version dates used for data acquisition or processing:

	PDP 8/e Programs	Version Dates
RK 111	Range-Range Real Time Plot	1/30/76
RK 201	Grid, Signal & Lattice Plot	4/18/75
RK 211	Range-Range Non-Real Time Plot	2/02/81
RK 300	Utility Computations	2/05/76
RK 330	Reformat and Data Check	5/04/76
PM 360	Electronic Corrector Abstract	2/02/76
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocity	5/10/76
RK 561	Geodetic H/R Calibration	2/19/75
AM 602	Elinore-Line Oritned Editor	5/20/75
AM 603	Tape Consolidator	10/10/72
RK 606	Tape Duplicator	8/22/74

The HP-9815 and HP-97 calculators were used to compute geographic positions of electronic control stations and visual signals for calibration.

S. REFERENCES TO REPORTS

The following reports contain information related to this survey:

ECHO SOUNDING REPORT	OPR-P114-RA-81
ELECTRONIC CONTROL REPORT	OPR-P114-RA-81
HORIZONTAL CONTROL REPORT	OPR-P114-RA-81
FIELD EDIT REPORT TP-00799	OPR-P114-RA-81
COAST PILOT REPORT	OPR-P114-RA-81

Respectfully submitted,

Michael R. Mathwig
ENS, NOAA

✓

INDEX TO ATTACHMENTS FOLLOWING TEXT

FIELD TIDE NOTE

Field tide reduction of soundings for OPR-P114-RA-81 was based on predicted tides from Seldovia, Alaska (945-5500), for all hydrography field sheets. Correctors were obtained from the Preliminary Zoning OPR-P114-RA/FA-79. Correctors for Sheet "V" (RA-40-1-81) were obtained from the Project Instructions. The predicted tides were interpolated using Program AM-500 on a PDP-8/E computer. All predicted tide data is based on GMT.

Five Bristol Bubbler gages and one ADR gage were installed within the project area. The locations and periods of operation are listed below.

Site	Location	Period
Seldovia (945-5500)	59°26.4'N 151°43.0'W	Control Station
Kasitsna Bay (Bubbler) (945-5517)	59°28.1'N 151°33.9'W	5/12/81 - 8/21/81
Flat Island (Bubbler) (945-5452)	59°19.8'N 151°59.5'W	5/17/81 - 8/19/81
Coal Point (ADR & Bubbler) (945-5558)	59°36.2'N 151°24.5'W	5/8/81 - 8/21/81
Anchor Point (Bubbler) (945-5606) (Used for Smooth Sheet)	59°46.2'N 151°52.7'W	5/29/81 - 8/21/81
East Chugach (Bubbler) (945-5415)	59°07.6'N 151°29.5'W	5/15/81 - 5/21/81

SELDOVIA (945-5500)

This is the reference station used for all predicted tides in the Kachemak Bay area. An ADR and Bubbler gage are being operated there by the Pacific Tide Party. Levels were run by the RAINIER on 5/4/81 and 8/20/81. RAINIER personnel visited the tide observer and gage often to insure proper operation. On 7/13/81 - 7/15/81 the Pacific Tide Party made its annual inspection of the station and ran second-order levels. They also replaced the ADR gage with a Leuphold and Stevens ADR gage (#78737-77). All data from this station is submitted directly to the Pacific Tide Party.

KASITSNA BAY (945-5517)

Kasitsna Bay tide gage was installed on 5/13/81 and removed on 8/21/81. Levels were run on 5/13/81 and 8/20/81. Two different gages were used at this site, but not simultaneously. Gage time was set to GMT. The first gage reads 22.6 ft. greater than the staff. The second gage reads 23.3 ft. greater than the staff. Observations showed no orifice movement.

Gage Problems

There were time keeping problems with gage 64A-11031. The initial time setting was ½ hour off, but was adjusted on the following day. The gage lost much time, so it was removed on 6/2/81 and gage #736220 was installed. This gage worked well with minor time adjustments. However, when this gage was installed it had a different gage/staff height comparison.

FLAT ISLAND (945-5452)

The Flat Island gage was installed and levels were run on 5/17/81. The gage was set to GMT. Staff observations were occasionally made by using a tape measure and measuring down from the tide staff to the water's edge when the staff was dry. The gage was removed and levels run on 8/19/81. At this time the staff was found to be broken off at the 7.4 ft. mark with the upper portion missing. The remaining part of the staff was still secure to the boulder.

Gage Problems

Gage #64A-11026 was installed on 5/17/81. This gage had problems with the chart drive (it would not stay wound for more than a few days) and the bellows arrangement. Hourly heights were picked off but they are separated by days when the gage malfunctioned. In addition, the values for 5/22 from 1600Z to 1900Z are suspect. It is recommended that data from this gage be discarded. This gage reads 19.9 ft. greater than the staff.

Gage #68A-2921 was installed on 6/9 to replace the above gage and it worked well with minor time adjustments. This gage reads 17.7 ft. greater than the staff.

COAL POINT (945-5558)

The Coal Point tide station has both an ADR and a bubbler. This was done because the ADR floatwell goes dry at a -2.5 ft. tide. Both gages were installed and levels run on May 8, 1981. The gages were set to Alaska Daylight Time (+9). The bubbler gage reads 10.2 ft. greater than the staff. Observations are fairly consistent. Levels were run and gages removed on August 21, 1981. ADR gage data was submitted but not analyzed.

Gage Problems - Bubbler

On May 17, from 1115 ADT until 1215 ADT, the pressure feed was off, resulting in a flat curve for that hour. The curve was approximated for the interval and a tide height was pulled off.

There were two complete gage malfunctions (i.e. no data) from 1100 ADT 6/17/81 until 1230 ADT 6/21/81 and from 0915 ADT 6/28/81 until 1400 ADT 6/29/81. Upon fixing the gage on 6/21, the marigram was set off by 12 hours. This was corrected on the abstracts of hourly heights and also on the marigram. After the second malfunction (6/27 - 6/28), the time was set correctly. Hourly heights are missing for these times. On 7/3/81 the gage ran out of paper for six hours.

ANCHOR POINT (945-5606)

The Anchor Point tide gage was installed on 5/28/81 and removed on 8/21/81. Installation and removal levels were run on 5/28/81 and 8/21/81 respectively. Levels were run on 7/12/81 from the staff stop to the first benchmark to insure that the staff stop didn't move during heavy seas on 6/30/81. Since it is impossible to install a tide staff at this location, levels were run to the water's edge by the tide observer and RAINIER personnel. On June 30 the bubbler tubing and orifice were destroyed by heavy seas. New tubing and orifice were reinstalled on 7/10/81. The gage reads 18.8 ft. less than the staff before 7/10/81 and 19.0 ft. less than the staff after this date.

Gage Problems

Problems were minor - mostly pen problems. On 6/16 from 1430 GMT to 2348 GMT, the pen ran out of ink. Later, at 0400 - 0425 GMT on 6/18 there was a plugged pen. Gage time was good, though by the end of June it was off by 5 minutes.

On 7/15/81 (1500 - 1900 GMT) there was no trace and the data had to be interpolated. From 7/19/81 - 8/4/81, small abnormal jumps occurred on the marigram trace. These jumps may be a result of periodic blocking of the orifice by kelp or small periodic movement of the orifice caused by the strong current in this area. Some data around these jumps had to be interpolated. Jumps occurred on the following dates at the approximate times (GMT).

7/19/81	1700
7/20/81	0500, 1300
7/21/81	1230
7/22/81	0200
7/26/81	0400, 2400
7/28/81	1230
7/30/81	0600, 2200
7/31/81	2300
8/1/81	0200, 1500
8/2/81	0030, 1900
8/4/81	0200, 1200, 2000

On 8/13/81 (2130 GMT) the bubbler tubing was cut, apparently by vandals. It was repaired and operating by 8/14/81 (1900 GMT).

EAST CHUGACH (945-5415)

The East Chugach Island Tide Gage was located on E. Chugach Island, Alaska at 59° 07.6' N, 151° 29.5' W. It was used to control hydrography on RA-40-1-81 (PSR item 48) on May 16, 1981. It was installed 5/15/81 and removed 5/21/81. On 5/21/81 the bubbler tubing was found piled up on the beach due to breaking waves. Installation and removal levels were run on 5/15/81 and 5/21/81 to three TBM's.

Staff observations were made to the waters edge since no staff could be easily installed. Leveling to the water's edge was performed every twelve minutes for one hour and then for two hours on the following day. One to two foot surf was encountered. The gage reads 32.9 feet less than the staff.

Observations were fairly consistent. Initial conversion from meters to feet was in error and corrected on the marigram.

There were no missing hourly heights.

Levels

Third Order closed-loop levels were run during the installation and removal of each tide station. Levels for all tide stations showed no staff movements greater than 0.02 feet. The following tables show bench mark elevations above zero of tide staff.

SELDOVIA (945-5500)

BM No.	5/04/81	8/20/81
20	32.612 ft	32.615 ft
19	32.746 ft	32.759 ft
22	32.385 ft	32.405 ft
30	--	35.928 ft
13	--	30.069 ft

KASITSNA BAY (945-5517)

BM No.	5/12/81	8/20/81
5517F	5.758 ft	5.758 ft
5517G	4.290 ft	4.295 ft
5517H	8.708 ft	8.707 ft

FLAT ISLAND (945-5452)

BM No.	5/17/81	8/19/81
5452C	31.506 ft	31.526 ft
5452B	26.007 ft	26.020 ft
5452D	28.484 ft	28.501 ft
5452E	29.124 ft	29.140 ft
5452A	26.438 ft	26.453 ft

COAL POINT (945-5558)

BM No.	5/09/81	8/21/81
5558A	26.024 ft	26.043 ft
C103	26.090 ft	26.109 ft
B103	26.018 ft	26.043 ft
No. 6	26.418 ft	26.440 ft
5558B	26.123 ft	26.145 ft

ANCHOR POINT (945-5606)

BM No.	5/28/81	7/12/81	8/21/81
5606E	66.165 ft	66.155 ft (A check on the staff stop)	66.155 ft
4	66.414 ft		66.404 ft
5	66.683 ft		66.666 ft
7	65.003 ft		64.987 ft
6	65.259 ft		64.243 ft
8	65.102 ft		65.085 ft

EAST CHUGACH (945-5415)

BM No.	5/16/81	5/21/81
TBM A	60.459 ft	60.466 ft
TBM B	61.456 ft	61.463 ft
TBM C	60.531 ft	60.538 ft

Recommended Zoning

It is recommended the following zoning be used:

Boat Sheet	Tide Station(s)
RA-20-4-81, (H-9967), F	945-5606
RA-20-3-81, (H-9958), EE	945-5558, 945-5606
RA-20-2-81, (H-9945), FF	945-5452
RA-5-1-81, (H-9940), JJ	945-5500
RA-10-1-81, (H-9941), GG	945-5517
RA-40-1-81, V	945-5415

(11-72) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

GEOGRAPHIC NAMES

H-9967

Name on Survey	A ON CHART NO. 16645	B ON ~~XXXXXXXXXX~~ XXP. Chart 16640	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST TP-00799		
ANCHOR POINT	X	X							X	1
ANCHOR RIVER	X	X							X	2
COOK INLET	X	X							X	3
DIAMOND CREEK	X								X	4
KACHEMAK BAY	X								X	5
LAIDA SLOUGH	X								X	6
LAIDA SPIT									X	7
KENAI PENINSULA	~~X~~								X	8
TRAVERS CREEK	X								X	9
TROUBLESOME CREEK	X	X							X	10
										11
										12
										13
										14
										15
										16
										17
										18
										19
					Approved:					20
										21
					Charles E. Harrington					22
					Chief Geographer - N/CG2x5					23
					19 MAY 1983					24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

(Let 2 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

NOAA FORM 75-21 (10-72) — U.S. DEPARTMENT OF COMMERCE — NOAA — NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship: RAINIER

R. J. LAND, CDR, NOAA, Comdg.

These corrections are to be used between JUNE 5, 1981 and AUG 14, 1981

in the locality KASITSNA & KACHEMAK BAYS, S. COOK INLET, AK.

for hydrographic surveys Nos. RA-10-1-81 (H-9941) RA-20-2-81 (H-9945), RA-20-3-81 (H-9958) RA-20-4-81 (H-9967)

DEPTHS IN FATHOMS

(For deep water add a 0 to these figures)

TABLE NO.3

DEPTH (FM)	CORRECTIONS (FM)
5.0	0.0
15.0	0.1
25.5	0.2
36.6	0.3
41.5	0.4
52.5	0.5
70.2	0.6
81.5	0.7
92.0	0.8
DEEPER	0.9

TABLE NO.4

DEPTH (FM)	CORRECTIONS (FM)
4.5	0.0
12.5	0.1
21.0	0.2
30.0	0.3
39.0	0.4
48.0	0.5
57.0	0.6
66.5	0.7
75.0	0.8
83.5	0.9
91.5	1.0
DEEPER	1.1

TABLE NO.5

DEPTH (FM)	CORRECTIONS (FM)
3.5	0.0
9.5	0.1
16.0	0.2
22.5	0.3
29.0	0.4
36.5	0.5
43.5	0.6
50.5	0.7
57.0	0.8
63.0	0.9
70.0	1.0
76.0	1.1
82.5	1.2
88.5	1.3
DEEPER	1.4

TABLE NO.6

DEPTH (FM)	CORRECTIONS (FM)
3.0	0.0
8.5	0.1
14.5	0.2
20.0	0.3
26.0	0.4
32.5	0.5
39.0	0.6
45.5	0.7
51.5	0.8
57.2	0.9
63.0	1.0
68.5	1.1
74.5	1.2
80.0	1.3
DEEPER	1.4

TABLE NO.2 (HAND RUN BEFORE 6/15)

TABLE NO.6 (HAND RUN BETWEEN 6/15-7/17)

TABLE NO.5 (HAND RUN BETWEEN 7/17-8/14)

HANSEN (6/14)

HANSEN (6/15)

HANSEN (7/17)

HANSEN (8/14)

46 1240

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VELOCITY TAPE LISTING
PA-10-1-81(H-9941)
PA-20-2-81(H-9945)
PA-20-3-81(H-9958)
PA-20-4-81(H-9967)

TABLE NO.5

0000?5 0 0000 0005 001 000000 000000
000095 0 0001
000160 0 0002
000225 0 0003
000290 0 0004
000360 0 0005
000435 0 0006
000505 0 0007
000570 0 0008
000630 0 0009
000700 0 0010
000760 0 0011
000825 0 0012
000885 0 0013
999999 0 0014

VELOCITY TAPE LISTING
PA-18-1-81(H-9941)
PA-23-3-81(H-9958)
PA-20-4-81(H-9967)

TABLE NO. 6

```
000030 0 0000 0006 001 000000 000000
000085 0 0001
000145 0 0002
000200 0 0003
000260 0 0004
000325 0 0005
000390 0 0006
000455 0 0007
000515 0 0008
000572 0 0009
000630 0 0010
000685 0 0011
000745 0 0012
000800 0 0013
999999 0 0014
```

TC/TI TAPE LISTING
RA-20-4-81(H-9967)

VESSEL - 2123(RA-3)
FATHOMETER S/N - 1042

211705 0 0003 0005 210 212300 000000
183750 0 0003 0006 230 000000 000000
015000 0 0003 0006 231 000000 000000

VESSEL - 2124(RA-4)
FATHOMETER S/N - 1071

185803 0 0002 0005 216 212400 000000
223158 0 0003 0005 217 000000 000000
223253 0 0002
194417 0 0003 0005 218 000000 000000
194611 0 0002
002818 0 0003 0005 220 000000 000000
183702 0 0002
184235 0 0003
184727 0 0002
185917 0 0003
190335 0 0002
191445 0 0003
192151 0 0002
193138 0 0003
193813 0 0002
194807 0 0003
195434 0 0002
200336 0 0003
200935 0 0002
201838 0 0003
202308 0 0002
203158 0 0003
203824 0 0002
204730 0 0003
205251 0 0002
210212 0 0003
210825 0 0002
211815 0 0003
212500 0 0002
193024 0 0003 0005 221 000000 000000
200424 0 0002
183716 0 0003 0005 222 000000 000000
224925 0 0002
232020 0 0003
001944 0 0002 0005 223 000000 000000
205312 0 0003
214230 0 0002
005041 0 0003 0005 224 000000 000000
182934 0 0002
223526 0 0003
234031 0 0002
020000 0 0002 0005 225 000000 000000

VESSEL - 2125(RA-5)
BOTTOM SAMPLES ONLY

000110 0 0000 0000 222 212500 000000
060000 0 0000 0000 225 000000 000000

TRA (TC/TI) TAPE: VESSEL 2125 (RA-5) SURVEY RA-20-4-81 (H-9967) FATHOMETER S/N BOTTOM SAMPLES YR 81 PAGE 1 OF ____

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
000110	0.0	222	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES BEGIN
060000	0.0	225	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLE ENDS

3-32

TRA (TC/TI) TAPE: VESSEL 2123 (RA-3) SURVEY RA-20-4-81 (H-9967) FATHOMETER S/N 1042 YR 81 PAGE 1 OF 1

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
211705	0.3	211	5	0.0	0.0	0.3	0.0	0.0	HYDRO BEGINS
183750	0.3	230	6	0.0	0.0	0.3	0.0	0.0	
015000	0.3	231	6	0.0	0.0	0.3	0.0	0.0	HYDRO ENDS

3-32

TRA (TC/TI) TAPE: VESSEL 2124 (RA-4) SURVEY RA-20-4-81 (H-9967) FATHOMETER S/N 1071 YR 81 PAGE 3 OF 3

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
224925	0.2	222	5	0.0	0.0	0.3	0.0	-0.1	
232020	0.3	222	5	0.0	0.0	0.3	0.0	0.0	
001944	0.2	223	5	0.0	0.0	0.3	0.0	-0.1	
205312	0.3	223	5	0.0	0.0	0.3	0.0	0.0	
214230	0.2	223	5	0.0	0.0	0.3	0.0	-0.1	
005041	0.3	224	5	0.0	0.0	0.3	0.0	0.0	
182934	0.2	224	5	0.0	0.0	0.3	0.0	-0.1	
223526	0.3	224	5	0.0	0.0	0.3	0.0	0.0	
234031	0.2	224	5	0.0	0.0	0.3	0.0	-0.1	
020000	0.2	225	5	0.0	0.0	0.3	0.0	-0.1	HYDRO ENDS

3-32

RA-20-4-81

TRA (TC/TI) TAPE: VESSEL 2124 (RA-4) SURVEY (H-9967) FATHOMETER S/N 1071 YR 81 PAGE 2 OF 3

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
195434	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
200336	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
200935	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
201838	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
202308	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
203158	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
203824	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
204730	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
205251	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
210212	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
210825	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
211815	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
212500	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
193024	0.3	221	5	0.0	0.0	0.3	0.0	0.0	
200424	0.2	221	5	0.0	0.0	0.3	0.0	-0.1	
183716	0.3	222	5	0.0	0.0	0.3	0.0	0.0	

3-32

TRA (TC/TI) TAPE: VESSEL 2124 (RA-4) SURVEY RA-20-4-81 (H-9967) FATHOMETER S/N 1071 YR 81 PAGE 1 OF 3

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns: INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
185803	0.2	216	5	0.0	0.0	0.3	0.0	-0.1	HYDRO BEGINS
223158	0.3	217	5	0.0	0.0	0.3	0.0	0.0	
223253	0.2	217	5	0.0	0.0	0.3	0.0	-0.1	
194417	0.3	218	5	0.0	0.0	0.3	0.0	0.0	
194611	0.2	218	5	0.0	0.0	0.3	0.0	-0.1	
002818	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
183702	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
184235	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
184727	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
185917	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
190335	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
191445	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
192151	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
193138	0.3	220	5	0.0	0.0	0.3	0.0	0.0	
193813	0.2	220	5	0.0	0.0	0.3	0.0	-0.1	
194807	0.3	220	5	0.0	0.0	0.3	0.0	0.0	

3-32

NOAA Ship RAINIER

Launch Settlement and Squat Tests

1981

The settlement and squat tests on RA-3, RA-5, and RA-6 were performed on 15 April 1981 off Sand Point Naval Support Activity, Lake Washington. Tests were performed on RA-4 on 27 April 1981. The full-speed test of RA-3 was performed at Kawaihae Harbor, Hawaii, on 3 October 1981.

Tests were conducted as follows: One man with a leveling rod stood over the transducer while another on shore sighted through a level to read the mark. The boats were run to the observer at the following RPM: 0, 800 (idle), 1000, 1200, 1500, 1800, 2000, 2200, and 2400. Launch RA-4 was also run at 2600 and full throttle, 2800, and Launch RA-3 at full-speed, 2750 RPM. At each speed there were at least two readings which agreed within 0.1 feet.

	RA-3 (1007)		RA-4 (1016)		RA-5 (1003)		RA-6 (1013)	
RPM	FT	FM	FT	FM	FT	FM	FT	FM
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
800	0.0	0.0	+0.1	0.0	0.0	0.0	0.0	0.0
1000	+0.1	0.0	+0.1	0.0	+0.1	0.0	0.0	0.0
1200	+0.2	0.0	+0.1	0.0	+0.1	0.0	+0.1	0.0
1500	+0.2	0.0	+0.2	0.0	+0.2	0.0	+0.1	0.0
1800	+0.3	0.0	+0.1	0.0	+0.2	0.0	+0.1	0.0
2000	+0.2	0.0	0.0	0.0	+0.2	0.0	0.0	0.0
2200	+0.1	0.0	-0.2	0.0	+0.1	0.0	-0.2	0.0
2400	0.0	0.0	-0.4	-0.1	-0.1	0.0	-0.3	0.0
2600	--	--	-0.5	-0.1				
Full RPM	-0.4 (2750)	-0.1	-0.6 (2800)	-0.1				

ELECTRONIC COMPUTER ABSTRACT

VESSEL : 2123 SHEET : PA-20-4A-81

TIME	DAY	PATTERN 1	PATTERN 2
181926	220	-00034	+00012
000009	221	-00034	+00012
182810	221	-00012	+00026
000002	222	-00012	+00026
183052	222	-00012	+00028
001102	223	-00012	+00028
182007	223	-00013	+00022
191123	223	-00013	+00022
191421		+00087	+00022
201439		+00287	+00022
000012	224	-00013	+00022
183750	230	-00022	+00030
000325	231	-00022	+00030

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : FA-2C-4A-81

TIME	DAY	PATTERN 1	PATTERN 2
182227	220	-00008	+00013

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-20-4-81

TIME	DAY	PATTERN 1	PATTERN 2
000110	222	+00014	-00026
231209		-00002	-00007
000236	223	-00002	-00007
000635	224	-00018	-00011
024838	225	-00004	+00009

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : RA-2C-4E-81

TIME	DAY	PATTERN 1	PATTERN 2	
211705	211	+00024	-00026 ✓	
000030	212	+00024	-00026	
184122	212	+00028	-00021 ✓	
223732		+00128	-00021 ✓	
224652		+00228	-00021 ✓	
225022		+00328	-00021 ✓	
225036		+00428	-00021 ✓	
225118		+00528	-00021 ✓	
225132		+00628	-00021 ✓	
225242		+00728	-00021 ✓	
225310		+00828	-00021 ✓	
225448		+00928	-00021 ✓	
182501	216	+00026	-00025 ✓	
220302		-00074	-00025 ✓	
220646		-00174	-00025 ✓	
224503		-00274	-00025 ✓	
224517		-00374	-00025 ✓	
224531		-00574	-00025 ✓	
230530		-00474	-00025 ✓	
000003	217	-00474	-00025 ✓	
000237		-00374	-00025 ✓	
000747		-00174	-00025 ✓	Data rejected during Verification
001703		-00074	-00025 ✓	
002051		+00126	-00025 ✓	

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : PA-2C-4E-81

TIME	DAY	PATTERN 1	PATTERN 2
195411	217	+00020	-00022
213715		-00080	-00022
213729		-00180	-00022
213935		-00280	-00022
222550		-00180	-00022
223222		+00020	-00022
223236		+00120	-00022
223812		+00420	-00022
223840		+00520	-00022
223908		+00720	-00022
001144	218	-00038	+00023
000006	219	-00038	+00023
182220	219	-00046	+00006
000008	220	-00046	+00006

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : FA-20-4E-81

TIME	DAY	PATTERN 1	PATTERN 2	
185803	216	+00004	-00002	
000007	217	+00004	-00002	
183225	217	+00004	+00007	
000003	218	+00004	+00007	
182439	218	-00005	+00006	
000000	219	-00005	+00006	
002818	220	-00006	+00000	
193024	221	+00003	-00010	
001255	222	+00003	+00010	← Should be -00010 (See Verification Report Section 2)
181910	222	+00016	+00006	
000009	223	+00016	+00006	
182934	224	-00006	-00003	
000507	225	-00006	-00003	
183739	223	-00007	-00010	
000724	224	-00007	-00010	

FINAL BASELINE CORRECTORS
OPR-P114-RA-81
SOUTHERN COOK INLET, ALASKA

CONSOLE: 720
R/T UNIT: 2710

J.D. 130-158

CODE	CORRECTOR
A	-1
B	-1
C	0
D	0
E	-1
F	-1
0	0

J.D. 159-189

CODE	CORRECTOR
A	---
B	-2
C	0
D	0
E	---
F	-1
0	-2

J.D. 190-233

CODE	CORRECTOR
A	-7
B	-4
C	-2
D	-1
E	-2
F	-2
0	-4

CONSOLE: 30269
R/T UNIT: SM312
J.D. 190-233

CODE	CORRECTOR
A	---
B	0
C	-1
D	1
E	---
F	0
0	0

FINAL BASELINE CORRECTORS
OPR-P114-RA-81
SOUTHERN COOK INLET, ALASKA

CONSOLE: 711
R/T UNIT: 1646

J.D. 130-158

CODE	CORRECTOR
A	-6
B	-4
C	-1
D	-2
E	-4
F	-2
0	0

J.D. 159-189

CODE	CORRECTOR
A	---
B	-4
C	-1
D	-3
E	---
F	-2
0	0

J.D. 190-233

CODE	CORRECTOR
A	-13
B	-4
C	-2
D	-4
E	-5
F	-2
0	0

FINAL BASELINE CORRECTORS
OPR-P114-RA-81
SOUTHERN COOK INLET, ALASKA

CONSOLE: 715
R/T UNIT: 1538
J.D. 130-158

CODE	CORRECTOR
A	-4
B	-2
C	2
D	2
E	0
F	0
0	2

J.D. 159-169

CODE	CORRECTOR
A	---
B	-1
C	-2
D	1
E	---
F	-1
0	3

CONSOLE: 715
R/T UNIT: 1557
J.D. 170-186

CODE	CORRECTOR
A	0
B	---
C	3
D	1
E	---
F	4
0	0

CONSOLE: 715
R/T UNIT: 4926
J.D. 187-214

CODE	CORRECTOR
A	4
B	5
C	3
D	5
E	---
F	5
0	2

CONSOLE: 715
R/T UNIT: 1660
J.D. 215-233

CODE	CORRECTOR
A	0
B	4
C	1
D	0
E	2
F	2
0	4

ASCII SIGNAL TAPE LISTING
OPR-P114-RA-81

101	3	59	22	16846	153	21	10454	250	0104	329646
102	3	59	54	58131	152	42	28706	250	0033	329646
129	4	59	39	37645	151	39	44972	250	0227	000000
134	5	59	30	33708	151	30	25245	250	0000	000000
136	3	59	31	01300	151	30	47939	250	0015	000000
150	3	59	46	11106	151	51	53280	250	0022	000000
201	5	59	26	34838	151	43	09382	139	0000	000000
202	3	59	30	17976	151	31	20219	139	0005	000000
207	7	59	28	12905	151	42	08004	139	0065	000000
208	3	59	36	09213	151	25	09280	139	0010	000000
209	3	59	33	03328	151	27	54867	139	0000	000000
210	6	59	26	52708	151	44	57477	139	0000	000000
211	6	59	25	30165	151	53	05113	139	0025	000000
212	3	59	52	53580	151	47	02403	139	0071	000000
213	3	59	45	29476	151	51	35934	139	0006	000000
214	3	59	47	46312	151	50	49736	139	0065	000000
215	4	59	42	52220	151	48	38514	139	0050	000000
216	4	59	39	36355	151	40	37161	243	0000	000000
218	4	59	39	54943	151	41	25800	139	0000	000000
219	3	59	41	02323	151	37	41274	139	0000	000000
220	4	59	42	00054	151	46	45905	139	0005	000000
230	4	59	41	09914	151	44	36646	243	0000	000000
231	4	59	38	56877	151	38	21328	243	0000	000000
232	3	59	46	10101	151	51	53359	139	0000	000000
233	4	59	26	28318	151	43	07025	243	0000	000000

MASTER STATION LIST
OPR-P114-RA-81
COOK INLET, ALASKA

FINAL VERSION

101 3 59 22 16846 153 21 10454 250 0104 329646
/MOUND 1913 RED RAYDIST STATION 591532

102 3 59 54 58131 152 42 28706 250 0006 329646
/RED 1979 GREEN RAYDIST STATION 591532

~~103 4 59 27 09854 151 43 08088 050 0015 000000~~
~~/BALSA 1956~~ ~~591513~~

~~104 3 59 25 30907 151 44 06833 050 0007 000000~~
~~/DIXIE 1956~~ ~~591513~~

~~105 1 59 24 52738 151 42 56807 050 0000 000000~~
~~/ELBOW 1956~~

~~106 4 59 25 24124 151 42 53646 050 0001 000000~~
~~/POWDER 1956~~ ~~591513~~

~~107 4 59 26 34812 151 43 08884 050 0000 000000~~
~~/WATCH 1956~~ ~~581513~~

~~108 2 59 25 31891 151 42 20008 050 0003 000000~~
~~/GRACE 1981~~ ~~VOL. 1 PAGES 30-31~~

~~109 3 59 26 22102 151 44 15441 050 0000 000000~~
~~/ATLAS 1956~~

~~110 5 59 24 52737 151 42 56903 043 0000 000000~~
~~/ELBOW 1956 ECC.~~

~~115 4 59 30 41909 151 22 54163 139 0000 000000~~
~~/ODIN 1980~~

~~116 2 59 30 35982 151 26 59763 139 0000 000000~~
~~/CHINOOK 1980~~

~~117 6 59 28 39254 151 26 33320 139 0000 000000~~
~~/DOUBT 1980~~

~~118 3 59 27 57932 151 26 33222 139 0000 000000~~
~~/TUT 1980~~

~~119 3 59 28 09981 151 25 48936 139 0000 000000~~
~~/BATH 1980~~

~~120 3 59 28 02820 151 24 50874 139 0000 000000~~
~~/BUSH 1980~~

~~121 3 59 26 53564 151 24 53113 139 0000 000000~~
~~/AMOS 1980~~

~~122 4 59 27 09872 151 23 18004 139 0000 000000~~
~~/ARNIE 1980~~

~~123 7 59 27 20715 151 31 10513 243 0006 000000~~
~~/TP 6 VOL. 3 PAGES 8-9~~

129 4 59 39 37645 151 39 44972 250 0227 000000
/BLUFF PT 2 1956

~~130 4 59 30 45561 151 27 38838 250 0000 000000~~
~~/NEAL 1966 591511~~

~~131 6 59 30 15593 151 26 57558 250 0000 000000~~
~~/POWER 1980 591511~~

~~132 2 59 29 57436 151 29 31824 250 0000 000000~~
~~/GRASS ISLAND 1975 591512~~

~~133 3 59 29 01048 151 29 11056 250 0000 000000~~
~~/GRASS ISLAND AZIMUTH MARK 1975 591512~~

~~134 5 59 30 33728 151 30 05245 250 0000 000000~~
~~/SNACK 1965 591514~~

~~138 3 59 31 01320 151 30 47939 250 0015 000000~~
~~/YUKON 1965.~~

~~139 3 59 40 13542 151 33 53878 250 0356 000000~~
~~/DIAMOND 1964~~

~~140 3 59 39 47800 151 33 13436 250 0323 000000~~
~~/WOOD 1964~~

~~141 0 59 28 06964 151 30 00369 250 0004 000000~~
~~/HOLLEY 1981 VOL.2 PAGE 36~~

~~142 4 59 28 22778 151 30 32935 250 0006 000000~~
~~/JACKIE 1981 VOL. 2 PAGES 33-35~~

~~143 3 59 28 44161 151 30 51973 250 0005 000000~~
~~/JOSHUA 1981 VOL. 2 PAGES 27-30~~

~~144 6 59 28 47211 151 30 23585 250 0005 000000~~
~~/BIRCH 1981 VOL. 2 PAGES 37-39~~

~~145 6 59 28 24999 151 29 03732 250 0004 000000~~
~~/STARK 1981 VOL. 2 PAGE 44~~

~~146 7 59 28 01379 151 29 43029 254 0007 000000~~
~~/TP#7 VOL. 3 PAGES 10-12~~

~~147 4 59 28 06309 151 29 05686 250 0005 000000~~
~~/BOB 1981 VOL. 3 PAGES 6-7~~

~~148 1 59 28 06876 151 29 19945 250 0006 000000~~
~~/TP#8 VOL. 3 PAGES 4-5~~

~~149 4 59 28 14842 151 27 36837 254 0006 000000~~
~~/TP#9 VOL. 3 PAGES 42-43~~

150 3 59 46 11106 151 51 53280 250 0022 000000
/ANCHOR POINT LIGHT, 1975 591514 (1002)

~~200 4 59 26 24030 151 42 51329 139 0020 000000~~
~~/SELDOVIA CHURCH CROSS 591513~~

~~201 5 59 26 34838 151 43 09382 139 0000 000000~~
~~/SELDOVIA ENTRANCE LIGHT~~

~~202 1 59 30 17976 151 31 20219 139 0005 000000~~
~~/SHAWN 1981 VOL.2 PAGES 9-11~~

~~203 0 59 28 55513 151 33 26794 139 0006 000000~~
~~/BAXTER 1981 VOL. 2 PAGES 9-11~~

~~204 5 59 28 07208 151 30 01894 139 0005 000000~~
~~/DORIS 1981 VOL. 2 PAGES 12-14~~

~~205 7 59 27 35361 151 31 09864 139 0004 000000~~
~~/BUGKY B 1981 VOL. 2 PAGES 12-14~~

~~206 6 59 26 55316 151 30 38958 139 0004 000000~~
~~/ANDY 1981 VOL. 2 PAGES 15-16~~

~~207 7 59 28 10905 151 42 08004 139 0065 000000~~
~~/SELDOVIA 1910~~

208 3 59 36 09213 151 25 09280 139 0010 000000
~~/SALTY DAWG~~ HOMER SPIT SALTY DAWG TOWER, 1975

~~209 3 59 33 03328 151 07 54887 139 0000 000000~~
~~/COHEN ISLAND ROCK LT~~

~~210 6 59 26 52708 151 44 57477 139 0000 000000~~
~~/WEST, 1956~~

211 6 59 25 30165 151 53 05113 139 0025 000000
/POINT POGIBSHI LIGHT, 1975

~~212 3 59 58 53582 151 47 02423 139 0071 000000~~
~~/STARISKY 1964~~ ~~591514 (1016)~~

213 3 59 45 29476 151 51 35934 139 0006 000000
/PINK, 1968 591514 (1016)

214 3 59 47 46312 151 50 49736 139 0065 000000
/LEE, 1968 591514 (1013)

215 4 59 42 52220 151 48 38514 139 0050 000000
/NEW 2, 1981 VOL. 3 PAGES 16-17,39-40,43-45

216 4 59 39 36355 151 40 37161 243 0003 000000
/TP 11 VOL. 3 PAGE 31

218 4 59 39 54943 151 41 25800 139 0003 000000
/KILLER LADY, 1981 VOL. 3 PAGES 32,46-47

219 3 59 41 02323 151 37 41274 139 0000 000000
/KGTL ~~TWR~~ RADIO TOWER, 1981

220 4 59 42 00054 151 46 45905 139 0005 000000
/MILLARD, 1981 VOL. 3 PAGES 29-30

230 4 59 41 09914 151 44 36646 254 ~~243~~ 0003 000000
/TP, 13 VOL. 3 PAGE 33

~~231 4 59 38 56877 151 38 21338 243 0002 000000~~
~~/TP 10~~ ~~VOL. 3 PAGES 29-30~~

~~232 3 59 46 10101 151 51 53359 243 0011 000000~~
~~/TP 17~~ ~~VOL. 4 PAGE 13~~

~~233 4 59 86 28318 151 42 07005 243 0000 000000~~
~~/FIXED CALIBRATION POINT~~

300 3 59 27 35485 151 42 02779 243 0000 000000
/PHOTO SIGNAL T-00814

301 3 59 27 17107 151 42 40271 243 0000 000000
/PHOTO SIGNAL

302 3 59 27 19836 151 42 56680 243 0000 000000
/PHOTO SIGNAL T-00814

303 3 59 26 54343 151 43 01605 243 0000 000000
/CAMEL ROCK(PHOTO SIGNAL) T-00814

304 3 59 28 06257 151 31 44238 243 0000 000000
/PHOTO SIGNAL T-00811

305 3 59 27 03160 151 30 57800 243 0000 000000
/PHOTO SIGNAL T-00811

306 3 59 26 53270 151 30 02190 243 0000 000000
/PHOTO SIGNAL T-00811

307 3 59 27 53346 151 31 19509 243 0000 000000
/PHOTO SIGNAL T-00811

308 3 59 27 43546 151 31 35816 243 0000 000000
/PHOTO SIGNAL T-00811

309 3 59 28 48390 151 30 33110 243 0000 000000
/PHOTO SIGNAL T-00811

310 3 59 26 19440 151 43 01020 243 0000 000000
/PHOTO SIGNAL T-00814

NOAA FORM 76-40 (2-71)
PRESCRIBED BY PHOTOGRAMMETRY INSTRUCTION NO. 64

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

NONFLOATING AIDS [redacted] FOR CHARTS

ORIGINATING ACTIVITY
- ☐ FIELD INSPECTION
- ☐ FIELD EDIT
- ☒ COMPILATION
- ☐ FINAL REVIEW
- ☐ QUALITY CONTROL AND REVIEW

(See reverse for responsible personnel)

☒ TO BE CHARTED
☐ TO BE DELETED

ORIGINATING LOCATION: Coastal Mapping Division, Norfolk, Va.

DATE:

The following objects [redacted] (have not) been inspected from seaward to determine their value as landmarks:

JOB NUMBER: [redacted] CM-7412

STATE: Alaska

SURVEY NUMBER: T-TP-00799

DATUM: N.A. 1927

CHARTING NAME	DESCRIPTION	POSITION LATITUDE ° ′	POSITION LATITUDE ″ D.M.METERS	POSITION LONGITUDE ° ′	POSITION LONGITUDE ″ D.P.METERS	METHOD AND DATE OF LOCATION (See instructions on reverse of this form) FIELD INSPECTION	COMPILATION	FIELD EDIT	CHARTS AFFECTED
LIGHT	Anchor Point Light (ANCHOR POINT LIGHT, 1975)	59 46	11.106 / 349.1	151 51	53.280 / 832.7	(F-3-6-L) 7/75	Not Vis.	V - VIS 8/81	16640 16643
	This light is built in 1975.	59 46	11.106	151 51	53.280	NGS POSITION			

#14 | Rock | — | 151/47/54.51 | FOUL LIGHTS

NOAA FORM 76-40
(2-71)
PRESCRIBED BY
PHOTOGRAMMETRY INSTRUCTION NO. 64.

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

[redacted] LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- ☐ FIELD INSPECTION
- ☐ FIELD EDIT
- ☑ COMPILATION
- ☐ FINAL REVIEW
- ☐ QUALITY CONTROL AND REVIEW

(See reverse for responsible personnel)

☒ TO BE CHARTED
☐ TO BE DELETED

ORIGINATING LOCATION: Coastal Mapping Division, Norfolk, Va.

DATE:

The following objects [redacted] (have not) been inspected from seaward to determine their value as landmarks:

JOB NUMBER: [redacted] CM-7412

STATE: Alaska

SURVEY NUMBER: T-TP-00799

DATUM: N.A. 1927

POSITION

METHOD AND DATE OF LOCATION (See instructions on reverse of this form)

CHARTING NAME	DESCRIPTION	LATITUDE ° ′	LATITUDE ″ D.M. METERS	LONGITUDE ° ′	LONGITUDE ″ D.P. METERS	FIELD INSPECTION	COMPILATION	FIELD EDIT	CHARTS AFFECTED
	NONE CHARTED								

114 | Rock | " | 161/44/54.91 | FOUL LIMITS

NOAA FORM 76-40
(5-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS [redacted] FOR CHARTS

ORIGINATING ACTIVITY
- ☐ HYDROGRAPHIC PARTY
- ☐ GEODETIC PARTY
- ☐ PHOTO FIELD PARTY
- ☒ COMPILATION ACTIVITY
- ☐ FINAL REVIEWER
- ☐ QUALITY CONTROL & REVIEW GRP.
- ☐ COAST PILOT BRANCH

(See reverse for responsible personnel)

☐ TO BE CHARTED
☐ TO BE REVISED
☐ TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
Coastal Mapping Div, AMC Norfolk, Va	Alaska	Cook Inlet, East Side, Cape Kasilof to Barren Islands	Jan 82

The following objects HAVE ☒ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-P114	CM-7412	TP-00799	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	(ANCHOR POINT LIGHT, 1975)	59 46	11.118 106 / 344.1	151 51	53.35 280 / 832.7	NOT VIS	V-VIS 8-81	16643 16645

NZ

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

[redacted] LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- ☐ HYDROGRAPHIC PARTY
- ☐ GEODETIC PARTY
- ☐ PHOTO FIELD PARTY
- ☒ COMPILATION ACTIVITY
- ☐ FINAL REVIEWER
- ☐ QUALITY CONTROL & REVIEW GRP.
- ☐ COAST PILOT BRANCH

(See reverse for responsible personnel)

☒ TO BE CHARTED
☐ TO BE REVISED
☐ TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): Coastal Mapping Div, AMC Norfolk, Va

STATE: Alaska

LOCALITY: Cook Inlet, East Side, Cape Kasiloff to Barren Islands

DATE: Jan 82

The following objects HAVE ☒ HAVE NOT ☐ been inspected from seaward to determine their value as landmarks.

CPR PROJECT NO.: OPR-P114

JOB NUMBER: CM-7412

SURVEY NUMBER: TP-00799

DATUM: NA, 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
	None Charted							

NC

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-4-81 (H-9967)	YB	8/21/81

SERIAL NO.	DATE 1981	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 151°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5000	8/ 10	40 53.08	44 20.11	3.0	25lbs				Kelp		MM
5001	"	41 13.02	46 02.71	4.7	"				brk Sh S		
5002	"	40 36.89	45 35.42	5.9	"				brk Sh S		
5003	"	40 26.37	46 48.18	7.4	"				rky	no sediment - sea urchin	
5004	"	41 02.34	47 14.75	6.0	"				S	algae . live sea urchin	
5005	"	41 37.95	47 41.00	5.1	"				S		
5006	"	42 15.64	48 10.60	3.3	"				P S		
5007	"	40 52.45	48 27.12	7.1	"				S		
5008	"	41 25.89	48 58.82	6.5	"				rky	no sediment algae, sea urchin	
5009	"	42 02.38	49 27.76	5.0	"				brk Sh St	location - kelp bed sea urchin	
5010	"	42 37.84	49 57.95	4.5	"				P.		
5011	"	43 14.23	50 29.15	3.5	"				brk Sh P		
* 5013	"	44 23.31	51 31.33	4.0	"				S		
5014	"	51 53.64	48 33.50	3.6	"				S		
5015	"	45 32.34	52 38.43	3.8	"				S	3 sea urchins	
5016	"	46 05.82	53 12.92	5.9	"				S brk Sh Co		
5017	"	46 41.09	53 50.57	6.9	"				S brk Sh P		MM

Use more than one line per sample if necessary.

* 5012 " 3.6 " P St

☆U.S.GPO:1978-765-092/1190 Region No. 6

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET RA-20-4-81 (H-9967)	YB	8/4/81

SERIAL NO.	DATE 1981	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 151°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5018	8/ 10	47 14.81	54 25.58	8.2	25 lbs.				S	yl sponges	MM
5019	"	47 48.62	55 02.95	11.0	"				S brk Sh P		
5020	"	47 26.82	53 06.56	5.8	"				P St brk Sh		
5021	"	46 50.75	52 26.85	5.0	"				S	sponge	
5022	"	47 50.76	51 56.86	5.6	"				S St		
5023	"	47 37.21	56 17.20	12.4	"				S brk Sh		
5024	"	47 04.11	55 40.44	9.9	"				S St		
5025	"	46 30.85	55 03.73	7.9	"				S brk Sh		
5026	"	45 57.20	54 27.89	7.4	"				S St	sea star	
5027		45 23.29	53 53.89	6.5	"				St brk Sh		
5028	"	44 47.33	53 18.28	6.3	"				S brk Sh		
5029	"	44 13.71	52 45.68	6.5	"				S		
5030	"	43 38.69	52 14.22	5.2	"				S brk Sh		
5031	"	43 03.28	51 42.55	5.8	"				S brk Sh	snails	
5032	"	42 27.30	51 11.64	6.0	"				S St brk Sh		
5033	"	41 50.81	50 40.95	6.0	"				P	snail	
5034	"	41 15.71	50 12.97	7.4	"				S		MM

Use more than one line per sample if necessary.

U.S.GPO: 1978-765-092/1190 Region No. 6

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-4-81 (H-9967)	YB	8/21/81

SERIAL NO.	DATE 1981	SAMPLE POSITION LATITUDE 59° N	SAMPLE POSITION LONGITUDE 151° W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5035	8/ 10	40 39.36	49 45.09	10.0	25 lbs				fine S		MM
5036	"	40 29.05	50 57.86	11.6	"				S brk Sh P		
5037		41 06.17	51 27.03	7.8	"				kelp	sea urchin no sediment, algae, crabs	
5038	"	41 43.14	51 56.47	6.3	"				rky	2 sea urchins no sediment, algae	
5039	"	42 16.93	52 25.77	6.4	"				S Sh	snail	
5040	"	42 52.54	52 55.52	6.0	"				S	snail	
5041	"	43 29.80	53 29.44	6.5	"				S		
5042	"	44 03.65	54 01.62	7.1	"				S St		
5043	8/ 11	44 39.86	54 36.54	6.8	"				S P	chiton, sea cucumber	
5044	"	45 13.94	55 10.90	7.1	"				S Sh		
5045	"	45 48.46	55 47.18	7.4	"				S Sh		
5046	"	46 21.05	56 21.77	8.5	"				S P		
5047	"	46 53.46	56 57.77	10.7	"				S brk Sh P		
5048	"	47 28.65	57 37.27	13.5	"				S P brk Sh		
5049	"	47 46.48	59 32.45	20.0	"				S St		
5050	"	47 13.65	58 49.84	14.4	"				S P		
5051	"	46 36.11	58 11.49	9.9	"				fine S	worm castings crabs, snails	MM

Use more than one line per sample if necessary.

☆U.S.GPO:1978-765-092/1190 Region No. 6

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-4-81 (H-9967)	YB	8/21/81

SERIAL NO.	DATE 1981	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 151° W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5052	8/ 11	46 06.64	57 32.71	9.0	25 lbs				St	algae snail	MM
5053	"	45 30.07	57 00.06	8.0	"				brk Sh P		
5054	"	44 54.35	56 22.84	7.5	"				S		
5055	"	44 20.02	55 48.58	8.1	"				P		
5056	"	43 46.34	55 14.99	8.0	"				P St		
5057	"	43 14.68	54 39.47	8.1	"				S brk Sh		
5058	"	42 38.76	54 07.49	8.3	"				S St brk Sh	no sediment hermit crabs, snails	
5059	"	42 04.05	53 37.38	6.8	"				rky	no sediment hermit crab, snails	
5060	"	41 28.15	53 06.68	9.0	"				S St	sea urchin	
5061	"	40 52.86	52 38.37	10.7	"				S P	algae	
5062	"	40 05.22	53 29.80	13.7	"				brk Sh. S		
5063	"	40 45.86	53 59.94	11.8	"				P brk Sh		
5064	"	41 17.66	54 26.48	10.1	"				S	sponge	
5065	"	41 53.65	54 56.96	10.2	"				S P	algae	
5066	"	42 27.50	55 25.87	10.0	"				P	sponge	
5067	"	43 04.66	55 59.22	9.8	"				brk Sh	algae	
5068	"	43 38.41	56 31.04	9.3	"				St	sponge, brittle star	MM

Use more than one line per sample if necessary.

U.S.GPO:1978-765-092/1190 Region No. 6

NOAA FORM 75-44 (11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-4-81 (H-9967)	YB	8/21/81

SERIAL NO.	DATE 1981	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 151°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5069	8/11	44 13.42	57 06.57	8.6	25 lbs				P	sea urchin snail	HM
5070	"	44 47.98	57 40.64	9.0	"				S brk Sh		
5071	"	45 23.00	58 17.56	9.6	"				S P	brittle stars, snails	
5072	"	45 10.15	59 30.19	12.3	"				S P	algae snails	
5073	"	44 34.70	58 52.55	10.6	"				S	(trace of S)	
5074	"	44 00.71	58 18.54	12.4	"				S P		
5075	"	43 26.68	57 44.05	12.6	"				S brk Sh P		
5076	"	42 51.65	57 11.63	13.9	"				P Sh		
5077	"	42 18.10	56 41.10	14.1	"				P brk Sh		
5078	"	41 39.80	56 07.37	15.0	"				brk Sh P		
5079	"	41 04.07	55 36.16	16.2	"				P S	sponges	
5080	"	40 28.33	55 07.40	17.8	"				P brk Sh		
5081	8/12	41 06.87	58 29.10	18.4	"			gy	crs S brk Sh P		
5082	"	42 19.29	59 35.69	18.8	"			gy	S brk Sh	sml sample	
5083	"	43 28.05	60 41.18 (152°)	17.3	"			gy	S brk Sh	sml sample	
5084	"	44 37.62	61 53.73 (152°)	23.3	"			gy	S brk Sh, P		
5085	"	45 42.76	63 06.38 (152°)	31.4	"			gy	crs S Sh	≈ 30 brittle stars	HM

Use more than one line per sample if necessary.

☆ U.S.GPO: 1978-765-092/1190 Region No. 6

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-4-81 (H-9967)	YB	8/21/81

SERIAL NO.	DATE 1981	SAMPLE POSITION LATITUDE 59° N	SAMPLE POSITION LONGITUDE 152° W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5086	8/18	46 49.70	04 25.43	19.5	25 lbs			gy	fne S Sh	≈ 20 brittle stars	MM
5087	"	47 22.48	02 01.07	28.6	"			gy	S P brk Sh		
5088	"	46 48.53	01 21.40	23.4	"			gy	crs S brk Sh St	1 brittle star	
5089	"	46 14.73	00 41.17	13.3	"				brk Sh P		
* 5091	"	45 55.03	58 55.60	10.6	"			gy	crs S Sh P	algae	
5092	"	46 30.39	59 34.41	10.1	"				S	sml amount S, 1 hermit crab	
5093	"	47 02.33	00 11.53	20.2	"			gy	S P		
5094	"	47 32.73	00 46.06	22.7	"			gn/gy	M fne S		
5095	8/13	40 32.37	00 50.45	15.5	"			gn/gy	M fne S	plant life	
5096	"	41 47.19	01 55.61	18.5	"				brk Sh	baby starfish	
5097	"	42 57.43	03 04.15	21.0	"				lrg P	likely rock bottom Plant life	
5098	"	44 00.45	04 17.32	17.5	"				1 lrg P Sh	sea urchin	
5099	"	45 17.96	05 30.75	24.4	"				sml St	likely rky bottom	
5100	"	46 19.78	06 50.23	17.1	"				sml P brk Sh	likely rky bottom	
5101	"	47 25.54	08 14.32	19.0	"				sml St brk Sh		
5102	"	44 43.89	07 56.05	17.6	"				sml St	likely rky bottom	
5103	"	43 36.60	06 39.67	18.5	"				P brk Sh		

Use more than one line per sample if necessary.

* 5090 " 45 42.57 00 05.76 15.2 " S brk Sh G MM

☆ U.S.GPO: 1978-765-092/1190 Region No. 6

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-4-81 (H-9967)	YB	8/21/81

SERIAL NO.	DATE 1981	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 152°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5104	8/13	42 27.49	05 31.5	19.2	25lbs				sml St		HM
5105	"	41 16.81	04 19.56	19.1	"				sml St P brk Sh Co		
5106	"	40 10.96	03 18.75	18.6	"				sml St P		
5107	"	40 39.01	06 34.07	19.3	"				brk Sh S	sea urchin	
5108	"	41 50.35	07 42.97	19.0	"				sml St brk Sh crs S	clams	HM

Use more than one line per sample if necessary.

U.S.GPO:1978-765-092/1190 Region No. 6

ABSTRACT OF POSITIONS

RA-20-4-81

VESSEL: RA-5 (2125) ANDIST: 0.0

Day	Positions	Control	S1 M S2	Remarks
222	5000-5035	04	101-102	Bottom samples
222/223	5036-5080	04	101-102	Bottom samples
225	5095-5108	04	101-102	Bottom samples

REJECTED POSITION: 5012

Day	Positions	Control	S1 M S2	Remarks
224/225	6406-6476	04	101-102	Development lines
225	6477-6524	04	101-102	Crosslines

REJECTED POSITIONS:

4267, 4268, 4471, 4482, 4483, 4752, 4753, 5015, 5016, 5017, 5018, 5019, 5020, 6114, 6115, 6202, 6203, 4886, 4887, 4888, 4889, 4890, 4835

DUPLICATE POSITIONS:

5014, 6116

Day	Positions	Control	S1 M S2	Remarks
218	4567-4590	04	101-102	Mainscheme hydro
218	4591-4609	04	101-102	Mainscheme hydro inside Expansion #2
218	4610-4613	04	101-102	Mainscheme hydro inside Expansion #3
218	4614-4628	04	101-102	Mainscheme hydro
218/219	4629-4632	04	101-102	Mainscheme hydro inside Expansion #3
219	4633-4636	04	101-102	Mainscheme hydro inside Expansion #2
219	4637-4644	04	101-102	Mainscheme hydro
219	4645-4648	04	101-102	Mainscheme hydro inside Expansion #2
219	4649-4670	04	101-102	Mainscheme hydro
219	4671-4675	04	101-102	Mainscheme hydro inside Expansion #2
219	4676-4683	04	101-102	Mainscheme hydro
219	4684-4688	04	101-102	Mainscheme hydro inside Expansion #2
219	4688-4698	04	101-102	Mainscheme hydro
219	4699-4719	04	101-102	Crossline
220	4720-4777	04	101-102	Short lines into shore
220	4778-4783	04	101-102	Short lines into shore
220	4784-4885	04	101-102	Longer lines into shore
221	4886-4973	04	101-102	Short lines into shore
221	4974-4978	04	101-102	Mainscheme hydro inside Expansion #4
221	4979-5012	04	101-102	Mainscheme hydro
221	5013-5014	04	101-102	Mainscheme hydro inside Expansion #4
222	5021-5045	04	101-102	Mainscheme hydro
222	5046-5053	04	101-102	Mainscheme hydro inside Expansion #4
222	5054-5073	04	101-102	Mainscheme hydro
222	6000-6046	04	101-102	Development lines
222	6047-6090	04	101-102	Short lines into shore
222/223	6091-6138	04	101-102	Development lines
223	6139-6328	04	101-102	Development lines
224	6329-6405	04	101-102	Crosslines

Day	Positions	Control	S1 M S2	Remarks
217	4335-4337	04	101-102	Mainscheme hydro inside Expansion #4
217	4338-4346	04	101-102	Mainscheme hydro
217	4347-4350	04	101-102	Mainscheme hydro inside Expansion #2
217	4351-4359	04	101-102	Mainscheme hydro
217	4360-4364	04	101-102	Mainscheme hydro inside Expansion #2
217	4365-4386	04	101-102	Mainscheme hydro
217	4387-4391	04	101-102	Mainscheme hydro inside Expansion #2
218	4392-4400	04	101-102	Mainscheme hydro
218	4401-4405	04	101-102	Mainscheme hydro inside Expansion #2
218	4406-4431	04	101-102	Mainscheme hydro
218	4432-4444	04	101-102	Mainscheme hydro inside Expansion #2
218	4445-4449	04	101-102	Mainscheme hydro inside Expansion #3
218	4450-4464	04	101-102	Mainscheme hydro
218	4465-4468	04	101-102	Mainscheme hydro inside Expansion #3
218	4469-4494	04	101-102	Mainscheme hydro
218	4495-4497	04	101-102	Mainscheme hydro inside Expansion #2
218	4498-4504	04	101-102	Mainscheme hydro
218	4505-4508	04	101-102	Mainscheme hydro inside Expansion #2
218	4509-4510	04	101-102	Mainscheme hydro
218	4511-4515	04	101-102	Mainscheme hydro inside Expansion #2
218	4516-4525	04	101-102	Mainscheme hydro
218	4526-4528	04	101-102	Mainscheme hydro inside Expansion #2
218	4529-4551	04	101-102	Mainscheme hydro
218	4552-4554	04	101-102	Mainscheme hydro inside Expansion #2
218	4555-4561	04	101-102	Mainscheme hydro
218	4562-4566	04	101-102	Mainscheme hydro inside Expansion #2

ABSTRACT OF POSITIONS

RA-20-4-81

VESSEL: RA-4 (2124)

ANDIST: 0.0

Day	Positions	Control	S1 M S2	Remarks
216	4000-4094	04	101-102	Mainscheme hydro
216	4095-4097	04	101-102	Mainscheme hydro inside Expansion #4
216	4098-4101	04	101-102	Mainscheme hydro
216	4102-4105	04	101-102	Mainscheme hydro inside Expansion #4
216	4106-4141	04	101-102	Mainscheme hydro
217	4142-4147	04	101-102	Mainscheme hydro inside Expansion #4
217	4148-4153	04	101-102	Mainscheme hydro inside Expansion #4
217	4154-4187	04	101-102	Mainscheme hydro
217	4188-4193	04	101-102	Mainscheme hydro inside Expansion #4
217	4194-4200	04	101-102	Mainscheme hydro inside Expansion #4
217	4201-4208	04	101-102	Mainscheme hydro
217	4209-4215	04	101-102	Mainscheme hydro inside Expansion #4
217	4216-4221	04	101-102	Mainscheme hydro inside Expansion #4
217	4222-4284	04	101-102	Mainscheme hydro
217	4285-4290	04	101-102	Mainscheme hydro inside Expansion #4
217	4291-4296	04	101-102	Mainscheme hydro inside Expansion #4
217	4297-4305	04	101-102	Mainscheme hydro
217	4306-4307	04	101-102	Mainscheme hydro inside Expansion #2
217	4308-4318	04	101-102	Mainscheme hydro
217	4319-4322	04	101-102	Mainscheme hydro inside Expansion #2
217	4323-4334	04	101-102	Mainscheme hydro

Day	Position	Control	S1 M S2	Remarks
221	2121-2151	04	101-102	Mainscheme hydro
221	2152-2153	04	101-102	Mainscheme hydro inside Expansion #1
221	2154-2171	04	101-102	Mainscheme hydro
221	2172	04	101-102	Mainscheme hydro inside Expansion #1
221/222	2173-2281	04	101-102	Mainscheme hydro
222	2282-2289	04	101-102	Crossline
222	2290-2293	04	101-102	Crossline
222	2294-2336	04	101-102	Mainscheme hydro
222/223	2339-2403	04	101-102	Crossline
223	2404-2423	04	101-102	Short lines into shore
223	2424-2552	04	101-102	Development lines
*229/230	2553-2586	04	101-102	*Development lines
230/231	2587-2740	04	101-102	Development lines

*This data was not smooth sheet plotted because data was redone on the following day. Refer to Day 230/231

Expansion No. 1, Expansion No. 2, Expansion No. 3, Expansion No. 4 are plotted in the 1:5000 scale.

REJECTED POSITIONS:

3053, 3086, 3173, 3204, 3229, 3230, 3445, 3446, 3447, 3474, 3701, 3761, 3702, 3740, 3741, 2337, 2338, 2539, 2540, 2650, 2574, 2575

Day	Position	Control	S1 M S2	Remarks
220	3900-3908	04	101-102	Mainscheme hydro
220	3909-3913	04	101-102	Mainscheme hydro inside Expansion #1
220	3914-3928	04	101-102	Mainscheme hydro
220	3929-3933	04	101-102	Mainscheme hydro inside Expansion #1
220	3934-3942	04	101-102	Mainscheme hydro
220	3943-3946	04	101-102	Mainscheme hydro inside Expansion #1
220/221	3947-3962	04	101-102	Mainscheme hydro
221	3963-3967	04	101-102	Mainscheme hydro inside Expansion #1
221	3968-3974	04	101-102	Mainscheme hydro
221	3975-3979	04	101-102	Mainscheme hydro inside Expansion #1
221	3980-3995	04	101-102	Mainscheme hydro
221	3996-3999	04	101-102	Mainscheme hydro inside Expansion #1
221	2000	04	101-102	Mainscheme hydro inside Expansion #1
221	2001-2007	04	101-102	Mainscheme hydro
221	2008-2012	04	101-102	Mainscheme hydro inside Expansion #1
221	2013-2029	04	101-102	Mainscheme hydro
221	2030-2035	04	101-102	Mainscheme hydro inside Expansion #1
221	2036-2048	04	101-102	Mainscheme hydro
221	2049-2054	04	101-102	Mainscheme hydro inside Expansion #1
221	2055-2070	04	101-102	Mainscheme hydro
221	2071-2074	04	101-102	Mainscheme hydro inside Expansion #1
221	2075-2082	04	101-102	Mainscheme hydro
221	2083-2086	04	101-102	Mainscheme hydro inside Expansion #1
221	2087-2103	04	101-102	Mainscheme hydro
221	2104-2106	04	101-102	Mainscheme hydro inside Expansion #1
221	2107-2117	04	101-102	Mainscheme hydro
221	2118-2120	04	101-102	Mainscheme hydro inside Expansion #1

Day	Position	Control	S1 M S2	Remarks
218	3541-3543	04	101-102	Mainscheme hydro inside Expansion #4
218/219	3544-3551	04	101-102	Mainscheme hydro
219	3552-3554	04	101-102	Mainscheme hydro inside Expansion #2
219	3555-3565	04	101-102	Mainscheme hydro
219	3566-3570	04	101-102	Mainscheme hydro inside Expansion #2
219	3571-3579	04	101-102	Mainscheme hydro
219	3580-3581	04	101-102	Mainscheme hydro inside Expansion #4
219	3582-3583	04	101-102	Mainscheme hydro
219	3584-3663	04	101-102	Short lines into shore
219	3664-3700	04	101-102	Mainscheme hydro
219	3703-3731	04	101-102	Crossline
219/220	3732-3767	04	101-102	Mainscheme hydro
220	3768-3772	04	101-102	Mainscheme hydro
220	3773-3775	04	101-102	Mainscheme hydro inside Expansion #1
220	3776-3791	04	101-102	Mainscheme hydro
220	3792-3796	04	101-102	Mainscheme hydro inside Expansion #1
220	3797-3806	04	101-102	Mainscheme hydro
220	3807-3811	04	101-102	Mainscheme hydro inside Expansion #1
220	3812-3826	04	101-102	Mainscheme hydro
220	3827-3830	04	101-102	Mainscheme hydro inside Expansion #1
220	3831-3839	04	101-102	Mainscheme hydro
220	3840-3844	04	101-102	Mainscheme hydro inside Expansion #1
220	3845-3859	04	101-102	Mainscheme hydro
220	3860-3864	04	101-102	Mainscheme hydro inside Expansion #1
220	3865-3873	04	101-102	Mainscheme hydro
220	3874-3878	04	101-102	Mainscheme hydro inside Expansion #1
220	3879-3894	04	101-102	Mainscheme hydro
220	3895-3899	04	101-102	Mainscheme hydro inside Expansion #1

ABSTRACT OF POSITIONS

RA-20-4-81

VESSEL: RA-3 (2123)

ANDIST: 0.0

Day	Positions	Control	S1 M S2	Remarks
211/212	3000-3099	04	101-102	Short lines into shore
212	3100-3202	04	101-102	Mainscheme hydro
216	3205-3295	04	101-102	Mainscheme hydro
216	3296-3299	04	101-102	Mainscheme hydro inside Expansion #4
216	3300-3305	04	101-102	Mainscheme hydro
216	3306-3308	04	101-102	Mainscheme hydro inside Expansion #4
216	3309-3344	04	101-102	Mainscheme hydro
216	3345-3349	04	101-102	Mainscheme hydro inside Expansion #4
216/217	3349-3365	04	101-102	Mainscheme hydro
218	3366-3398	04	101-102	Mainscheme hydro
218	3399-3404	04	101-102	Mainscheme hydro inside Expansion #4
218	3406-3411	04	101-102	Mainscheme hydro inside Expansion #4
218	3412-3444	04	101-102	Mainscheme hydro
218	3445-3450	04	101-102	Mainscheme hydro inside Expansion #4
218	3451-3452	04	101-102	Mainscheme hydro
218	3453-3457	04	101-102	Mainscheme hydro inside Expansion #4
218	3458-3490	04	101-102	Mainscheme hydro
218	3491-3496	04	101-102	Mainscheme hydro inside Expansion #4
218	3497-3498	04	101-102	Mainscheme hydro
218	3499-3502	04	101-102	Mainscheme hydro inside Expansion #4
218	3503-3524	04	101-102	Mainscheme hydro
218	3525-3526	04	101-102	Mainscheme hydro inside Expansion #2
218	3527-3535	04	101-102	Mainscheme hydro
218	3536-3540	04	101-102	Mainscheme hydro inside Expansion #4

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

ABSTRACT OF TIME OF ~~HYDROGRAPHY~~
~~AND/OR~~ FIELD EDIT

Date 9/2/81

Project No. OPR-P114-RA-81 Vessel 2124(RA-4); 2127(RA-7)

Date of Survey 6/17/81 - 8/18/81

Field Sheet No. TP-00799 (RA-20-3-81 & RA-20-4-81) Registry No. H-9958; H-9967

Field Sheet is Complete/~~Incomplete~~

	Time (Z)		J.D.	Time (Z)
189	1907	-		
198	1800	-	198	1804
216	2144	-	216	2254
217	2043	-	217	2120
230	1940	-	230	2051

J.D.	Time (Z)		J.D.	Time (Z)
		-		

CHANGE NO. 3
20 FEB 1975

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

ABSTRACT OF TIME OF ~~HYDROGRAPHY~~
~~AND/OR~~ FIELD EDIT

Date 9/2/81

Project No. OPR-P114-RA-81 Vessel 2124(RA-4); 2127(RA-7)

Date of Survey 6/17/81 - 8/18/81

Field Sheet No. TP-00799 (RA-20-3-81 & RA-20-4-81) Registry No. H-9958; H-9967

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
168	1907	-		
198	1800	-	198	1804
216	2144	-	216	2254
217	2043	-	217	2120
230	1940	-	230	2051

J.D.	Time (Z)		J.D.	Time (Z)
		-		

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

ABSTRACT OF TIME OF HYDROGRAPHY
~~AND/OR FIELD EDIT~~

Date AUGUST 27TH 1981

Project No. OPR - P114 - RA - 81

Vessel 2123 (RA-3); 2124 (RA-4) 2125 (RA-5)

Date of Survey 7/30 - 8/19/81

Field Sheet No. RA - 20 - 4 - 81

Registry No. H-9967

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
211	21705	-	212	000722
212	184122	-	212	225502
216	182501	-	217	002051
216	185803	-	217	023302
217	183225	-	218	024151
217	195411	-	217	224622
218	182439	-	219	025358
218	201144	-	219	034846
219	182220	-	220	010259
220	002818	-	220	022411
220	181926	-	221	024607
220	182227	-	221	003452
221	182810	-	222	025133
221	193024	-	222	021804
222	000110	-	222	051746
222	000110	-	223	044223
222	181910	-	223	005016
222	183052	-	223	003000
222	231209	-	223	044223
223	182007	-	224	003819
223	183739	-	224	005804
224	000635	-	225	051716
224	000635	-	224	021001
224	182934	-	225	015524
225	024838	-	226	063536
229	211748	-	229	221616
230	183750	-	231	014624
		-		

J.D.	Time (Z)		J.D.	Time (Z)
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Compiled by: R. Givens

PARAMETER TAPE LISTING
RA-20-4-81(H-9967)

```
RA-20-4B-81
EXPANSION NO.2
SKEW: 304,18,32
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=15
PLSCL=5000
PLAT=59/44/36
PLON=152/06/10
VESNO=2123
YR=81
ANDIST=0.0
```

```
RA-20-4B-81
EXPANSION NO.3
SKEW: 0,6,20
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=15
PLSCL=5000
PLAT=59/44/12
PLON=152/01/24
VESNO=2123
YR=81
ANDIST=0.0
```

```
RA-20-4B-81
EXPANSION NO.4
SKEW: 312,22,36
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=15
PLSCL=5000
PLAT=59/42/30
PLON=151/54/54
VESNO=2123
YR=81
ANDIST=0.0
```

PARAMETER TAPE LISTING
RA-20-4-81(H-9967)

```
RA-20-4A-81
SKEW: 0,22,48
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=60
PLSCL=20000
PLAT=59/43/24
PLON=152/13/00
VESNO=2123
YR=81
ANDIST=0.0


RA-20-4A-81
EXPANSION N0.1
SKEW: 59,22,31
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=15
PLSCL=5000
PLAT=59/44/51
PLON=151/59/39
VESNO=2123
YR=81
ANDIST=0.0


RA-20-4B-81
SKEW: 0,22,60
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=60
PLSCL=20000
PLAT=59/39/12
PLON=152/13/00
VESNO=2123
YR=81
ANDIST=0.0
```

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-9967

RA-20-4-81

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, and the Instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

The boatsheet and the accompanying records have been examined by me, are considered complete and adequate for charting purposes, and are approved.

Ralph J. Land
Commander NOAA
Commanding

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER H-9967

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	18
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	12

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2					
VOLUMES						
BOXES						

T-SHEET PRINTS (List) Class I Manuscript TP-00799

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	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			3367
POSITIONS CHECKED		3367	3367
POSITIONS REVISED		45/01	
SOUNDINGS REVISED		267/13	
SOUNDINGS ERRONEOUSLY SPACED		--	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		--	

PROCESSING ACTIVITY	TIME – HOURS: PRE-VERIFICATION	TIME – HOURS: VERIFICATION	TIME – HOURS: TOTALS
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	04	*(VER)/(EVAL)	
VERIFICATION OF CONTROL		05/00	05
VERIFICATION OF POSITIONS		89/00	89
VERIFICATION OF SOUNDINGS		73/00	73
COMPILATION OF SMOOTH SHEET		57/00	57
APPLICATION OF TOPOGRAPHY		03/00	03
APPLICATION OF PHOTOBATHYMETRY		NA	NA
JUNCTIONS		08/00	08
COMPARISON WITH PRIOR SURVEYS & CHARTS		05/27	32
VERIFIER'S REPORT		02/22	24
OTHER Quality Control		00/51	51
TOTALS		242/100	342

Pre-Verification by James S. Green	*Beginning Date* 11/2/81	*Ending Date* 11/2/81
Verification by Russ Davies Evaluation by Bruce A. Olmstead	*Beginning Date* 12/14/81	*Ending Date* 9/23/82 12/9/82
Verification Check by James L. Stringham, James S. Green	*Time (Hours)* 34	*Date* 12/10/82
Marine Center Inspection by Hydrographic Inspection Team	*Time (Hours)* 6	*Date* 12/17/82
Quality Control Inspection by	*Time (Hours)*	*Date*
Requirements Evaluation by	*Time (Hours)*	*Date*

* Time in this column is for Verification (VER) and Evaluation (EVAL)

PACIFIC MARINE CENTER
VERIFICATION/EVALUATION REPORT

REGISTRY NO: H-9967 FIELD NO: RA-20-4-81

Alaska, Cook Inlet, ~~Anchor Point~~ Diamond Creek to Laida Spit

SURVEYED: July 30 - August 18, 1981

SCALE: 1:20,000 PROJECT NO: OPR-P114-RA-81

SOUNDINGS: Ross Fineline 5000 CONTROL: Teledyne Hastings Raydist, Range-Range

Chief of Party.....CDR R. J. Land

Surveyed by.....LT M. Kretsch
ENS M. Mathwig
SST R. Hastings
G. Eaton

Automated Plot by.....PMC Xynetics Plotter

Verified by.....R. Davies

Evaluated by.....B. A. Olmstead

1. INTRODUCTION

NOTE: This survey has been processed utilizing a procedure developed to work in conjunction with the Verification Branch realignment, which established an evaluation process. The survey data was first verified and a smooth sheet compiled by a verifier. Then an evaluator reviewed the work of the verifier, made the necessary comparisons with prior surveys and charts and wrote the Verification/Evaluation Report.

H-9967 (RA-20-4-81) is a basic survey conducted under the current National Ocean Service methods of planning, executing and processing a hydrographic survey as defined in the Hydrographic Manual, 4th Edition. The PMC OPORDER and the Data Requirements Letter for 1981 further define field procedures. Project Instructions OPR-P114-RA-81, Southern Cook Inlet, Alaska dated January 8, 1981 were generated to supplement the Hydrographic Manual. Three supplements to instructions were appended for the 1981 field work: Change 1 dated February 23, 1981; Change 2 dated March 10, 1981; and Change 3 dated June 4, 1981.

H-9967 (RA-20-4-81) is an inshore survey situated along the northwestern portion of Kenai Peninsula in southern Cook Inlet. The area of survey operations encompasses more than 11 miles of shoreline from Bluff Point to Anchor Point and extends from the mean lower low water line to 10-16 miles offshore. The most prominent geographic features are Bluff Point (750 feet) and the adjoining bluffs along the shoreline to Anchor Point, Laida Spit and the Anchor River. Offshore and alongshore characteristics are composed primarily of isolated rocks and kelp. Generally, depths of water range from the zero fathom curve to sixteen fathoms. However, depths to thirty fathoms are found near the center of the survey. Bottom characteristics are composed primarily of broken shells, sand and pebbles.

One temporary tide gage, Anchor Point (Bubbler), was installed and operating during the 1981 field work. Anchor Point tidal data was employed to zone the survey for office reduction of sounding data. Field tide reduction of soundings was based on predictions from Seldovia, Alaska, with time and range ratios.

Sounding differences between the final field sheet and smooth sheet are attributed to the application of approved tidal zoning, application of final velocity correctors and settlement and squat (RA-4) during processing at the Marine Center.

The projection parameters, signal list and electronic corrector abstract were amended during the verification process. All corrected data is listed in the smooth printouts to accompany the final PMC plot.

2. CONTROL AND SHORELINE

Two Third Order triangulation stations were used to control the entire hydrographic survey. Both of these stations are located off the sheet limits. Teledyne Hastings Raydist electronic positioning equipment was employed for interrogation in determining positional data during launch operations. Corrections to positional data were determined by daily calibrations using visual angles to signals over Third Order Class I control stations. The Motorola Mini-Ranger III was used several days in conjunction with the Raydist positioning system to assist the hydrographer in verifying lane count and when necessary to isolate lane jumps. All remaining information affecting the positioning and station control of this survey is listed in Parts F and G of the ship's descriptive report.

The smooth sheet was plotted using a combination of NGS data base coordinates for existing stations and field geodetic positions for newly established horizontal control. Preliminary adjusted field positions were not available during processing.

The mean high water line and other photogrammetrically determined features were applied from Class I unreviewed manuscripts.

Dates of Photography	Dates of Field Edit
TP-00799 July 1975, June 1976	June, August 1981

The field edit report for TP-00799 stated that there were deficiencies depicting many features visible on the photographs. The photographs in many instances were not tide coordinated, limiting their usefulness to the field editor. These factors necessitated delimiting a foul line by the location of several offshore rocks. The photogrammetrist has incorporated this rock information and the kelp areas by delimiting a foul line 1.0 - 1.5 miles offshore. The smooth sheet reflects the unreviewed Class I information.

Five rocks, position approximate, as shown on the smooth sheet originate from the unreviewed Class I manuscript. The photogrammetrist advised N/MOP211C that these rocks were compiled without supporting positional data. The following is a listing of these rocks by geographic position.

1. Latitude 59°44'53"N, Longitude 151°52'33"W
2. Latitude 59°45'06"N, Longitude 151°51'57"W
3. Latitude 59°45'14"N, Longitude 151°52'00"W
4. Latitude 59°45'19"N, Longitude 151°51'54"W
5. Latitude 59°45'23"N, Longitude 151°51'56"W

One rock awash at latitude 59°41'07"N, longitude 151°44'48"W was transferred from the final field sheet. The hydrographic records provided no source information to substantiate this position.

3. HYDROGRAPHY

Depths at crossings are in good agreement.

The bottom configuration was adequately developed. Generally, all standard depth curves are complete and adequately defined. Parts of the zero fathom and one fathom depth curves could not be well delineated due to the foul nature of the inshore area. The determination of least depths was satisfactory with the exception of numerous isolated peaks situated within the ten fathom depth curve. Seven of these isolated shoal soundings merited further discussion in Section 7, comparison with chart. Here, the bottom profile becomes very irregular. This is attributed to the strong currents and isolated boulders characteristic of this area.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements as stated in the Hydrographic Manual, PMC OPORDER, and the 1981 Data Requirements Letter with the exception of:

a. Two charted items were not adequately resolved during the present work:

1. The submerged rock (PA) covered three feet at MLLW, latitude 59°44'54"N, longitude 151°52'36"W.

2. The 6.9 fathom depth at latitude 59°47'53"N, longitude 151°53'42"W.

See Section 7, Comparison With Chart, for specific information concerning these features (Hydrographic Manual, 5.3.4, Descriptive Report Text). These items have been retained on the smooth sheet.

b. The daily electronic correctors for pattern 2, day 222, launch 2124 should have carried a -.1 lane adjustment the entire day. The ship's electronic corrector abstract shows a +.1 lane corrector for positions 5021-5073. The accuracy of this data was assessed during evaluation and deemed insignificant. The smooth sheet, accompanying overlays and smooth printout have not been corrected.

c. Changes to the Class III manuscript as a result of field edit information are to be shown on the final field sheet in red. The numerous rocks awash located by the field editor to delimit a foul line were shown on the final field sheet in black. Additionally, numerous rocks located by the field editor were not transferred to the final field sheet. (Hydrographic Manual, 4.5.8, Verification of Alongshore and Offshore Detail.)

d. The ship's descriptive report, section N, Aids to Navigation, spoke solely to floating aids. The 1981 Data Requirements Letter specifically mentions that fixed aids also be discussed. Anchor Point Light, 1975 was not addressed in the ship's report as to its agreement with the charted position or as to whether it adequately marks the purposes intended. The verification report has discussed this item.

e. The ship's descriptive report stated that settlement and squat were considered insignificant for this project. Also, that launch 2124 was not used above 2400 RPM and therefore required no corrector. However, the TC/TI tables for launch 2124 do, in fact, correct for settlement and squat. The smooth sheet and accompanying printouts reflect this data.

f. Several least depths originating from expansion plots were plotted incorrectly on the final field sheet. The 5.1 fathom sounding at latitude 59°42'48"N, longitude 151°54'00"W is misplotted 250 meters to the northwest. The 9.8 fathom sounding at latitude 59°46'01"N, longitude 151°59'12"W is misplotted 230 meters to the southeast. See Hydrographic Manual 1.5.6, Field Sheet Soundings. The smooth sheet reflects the correct positioning.

5. JUNCTIONS

H-9967 (RA-20-4-81) is bordered by three contemporary surveys. A junction could not be accomplished at latitude 59°40'00"N, longitude 152°05'00"W to longitude 152°10'00"W for lack of contemporary survey data.

a. H-9958 (RA-20-3-81) - The common area of hydrography with this junctional sheet lies along latitude 59°40'00"N, from longitude 151°42'00"W to longitude 152°05'00"W. Adequate agreement was made with all standard depth curves. The junctional note is inked accordingly.

b. H-9840 (RA-20-3-79) - The common area of hydrography with this junctional sheet lies along latitude 59°48'00"N, from longitude 151°51'00"W to longitude 152°09'00"W. Depths of water range from the mean lower low water line to 28 fathoms. An adequate junction was effected and the junctional note is inked accordingly. However, several of the standard depth curves on H-9840 must be adjusted to reflect the 1981 survey data.

c. H-9708 (RA-40-1-77) - These surveys join along longitude 152°09'00"W, from latitude 59°40'00"N to latitude 59°48'00"N. Depths were in good agreement and an adequate junction was effected. The twenty fathom depth curve on H-9708 must be adjusted to reflect the present work. The junctional note is inked accordingly.

6. COMPARISON WITH PRIOR SURVEYS

H-3204 (1910) 1:40,000
H-3206 (1910) 1:120,000

Depths since these prior hydrographic surveys reveal that this area in southern Cook Inlet has remained relatively unchanged. Comparison of depths along the shoreline, seaward to the five fathom depth curve, generally indicate a slight shoaling of one-half to one fathom. Soundings outside the ten fathom depth curve seem to indicate a slight increase in depth (1/2-1 fathom) since 1910. The shoreline has remained relatively unchanged. Some change is attributed to the Alaskan Earthquake in 1964. Other factors contributing to these differences are quite likely the superior positioning and sounding techniques employed during the present survey.

H-9967 (RA-20-4-81) is adequate to supersede the prior information within the common area.

7. COMPARISON WITH CHART

a. Hydrography - A comparison was made with Chart 16645, 13th Edition, October 4, 1980 and Chart 16640, 18th Edition, November 29, 1980. The charted information originates with the previously discussed prior surveys, a 1968 hydrographic investigation, and unknown sources. The following items were not adequately resolved by the field:

(1) PSR #7 is a 7 fathom charted wreck originating from the Pathfinder investigation in 1968. The investigation conducted in 1968 utilized a DE-723 fathometer and produced a least depth of seven fathoms at latitude 59°47'42"N, longitude 151°54'48"W. The ship recommended this feature as possibly being the wreck. The contemporary junctional sheet H-9840 (1979) found a least depth of 6.9 fathoms at latitude 59°47'53"N, longitude 151°53'42"W, 1086 meters northeast of the charted feature. Again, this feature was thought possibly to be

the wreck. The present survey did not investigate nor resolve this; therefore, the 7 fathom wreck should continue to be charted from its original source.

(2) The 1/2 fathom rock charted at latitude 59°44'54"N, longitude 151°52'24"W originates from the 1968 hydrographic investigation conducted by the Pathfinder. The present survey generated one line of sounding data near this feature during the course of normal hydrography. An investigation to properly delineate this feature was not conducted. The final field sheet did not show this feature; however, the Class I manuscript shows a submerged rock covered three feet as a position approximate from field edit information. (See Section II.) Rather than show a PA rock with an estimated depth, it is recommended that a 1/2 fathom Rk continue to be charted from its original source.

The following items were not spoken to during the present survey and originate from an unknown source(s). The chart compiler should retain these features for charting unless additional information is available for supersession.

(1) 3-1/2 fathom sounding at latitude 59°41'10"N, longitude 151°50'59"W

(2) 3-1/2 fathom sounding at latitude 59°41'25"N, longitude 151°51'20"W

(3) 4-3/4 fathom sounding at latitude 59°41'58"N, longitude 151°53'30"W

(4) 3-3/4 fathom sounding at latitude 59°42'35"N, longitude 151°52'45"W

(5) 4-1/4 fathom sounding at latitude 59°44'35"N, longitude 151°55'20"W

(6) 5 fathom sounding at latitude 59°45'30"N, longitude 151°54'45"W

(7) 5 fathom sounding at latitude 59°45'48"N, longitude 151°54'45"N

With consideration of the above items, the present survey is adequate to supersede the charted hydrography within the common area.

b. Controlling Depths - There are no controlling depths within the limits of this survey.

c. Aids to Navigation - There are no floating aids to navigation within the limits of this survey. One fixed aid, Anchor Point Light, 1975 does fall on the sheet. This structure was compared to the charted position and adequately serves the purpose intended.

8. COMPLIANCE WITH INSTRUCTIONS

H-9967 (RA-20-4-81) adequately complies with the project instructions except as noted in section 4, Condition of Survey. It should be noted that the project instructions listed an outdated chart edition for prior data comparison. Both the ship and the evaluator used 1980 chart editions.

9. ADDITIONAL FIELD WORK

H-9967 (RA-20-4-81) is a good basic survey. Other than updated aerial photography as recommended by the ship, no additional field work is required. However, field work to be accomplished in the future should consider the southwest extremities of the present work where a junctional holiday exists with H-9958 (1981) and H-9708 (1977).

Respectfully submitted,

Bruce Alan Olmstead

Bruce Alan Olmstead
Evaluator

Examined and Approved,

James S. Green
Chief, Hydrographic Section

DATE: February 10, 1982

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

Tide Station Used (NOAA Form 77-12): 945-5606 Anchor Point, AK

Period: July 30 - August 16, 1981

HYDROGRAPHIC SHEET: H-9967

OPR: P114

Locality: Kachemak Bay, Cook Inlet, Alaska

Plane of reference (mean lower low water): 6.5 feet

Height of Mean High Water above Plane of Reference is 17.6 feet

REMARKS: Recommended Zoning:

1. From 152°15.0' east to 152°02.0' apply -10 minute time correction and x0.91 range ratio.

2. From 152°02.0' east to 151°55.0'
   a. North of 59°43.5' apply x0.95 range ratio
   b. South of 59°43.5' apply -10 minute time correction and x0.95 range ratio

3. From 151°55.0' east to 151°50.0'
   a. North of 59°43.5' zone direct
   b. South of 59°43.5' apply -10 minute time correction and x0.98 range ratio

4. East of 151°50.0' apply -10 minute time correction

Chief, Tidal Datums and Information Branch

APPROVAL SHEET
FOR
SURVEY H-9967

A. This hydrographic survey has been verified, evaluated and inspected. It meets the requirements of the Hydrographic Manual except as noted in the Verification/Evaluation Report. The automated data file has been updated to reflect the data presented on the smoothsheet.

Date: 12/15/82

Signed: [signature]

Title: Chief, Verification Branch

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the Verification/Evaluation Report.

Date: 12/29/82

Signed: [signature]

Title: Chief, Marine Surveys Division

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

December 30, 1982

TO: N/CG2 - C. William Hayes

FROM: N/MOP - Charles K. Townsend

SUBJECT: Administrative Approval of H-9967, ~~Anchor Point~~ Diamond Creek to Laida Spit, Cook Inlet, Alaska

The smooth sheet and reports of this survey have been examined and the survey is adequate for charting and to supersede common areas of prior surveys.

The field edit reports for this survey recommend new aerial photography of the area.

ADDENDUM TO EVALUATION REPORT FOR H-9967

The Evaluation Report for this survey is supplemented by the following statement:

The digital records for this survey have been updated to include categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be included 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.

Paragraph 7.c, Aids to Navigation, is supplemented by the following:

Anchor Point Light, 1975 is shown in the control file with NGS published coordinates. The Form 76-40's, NonFloating Aids or Landmarks for Charts, attached to this Descriptive Report have been updated to reflect this position.

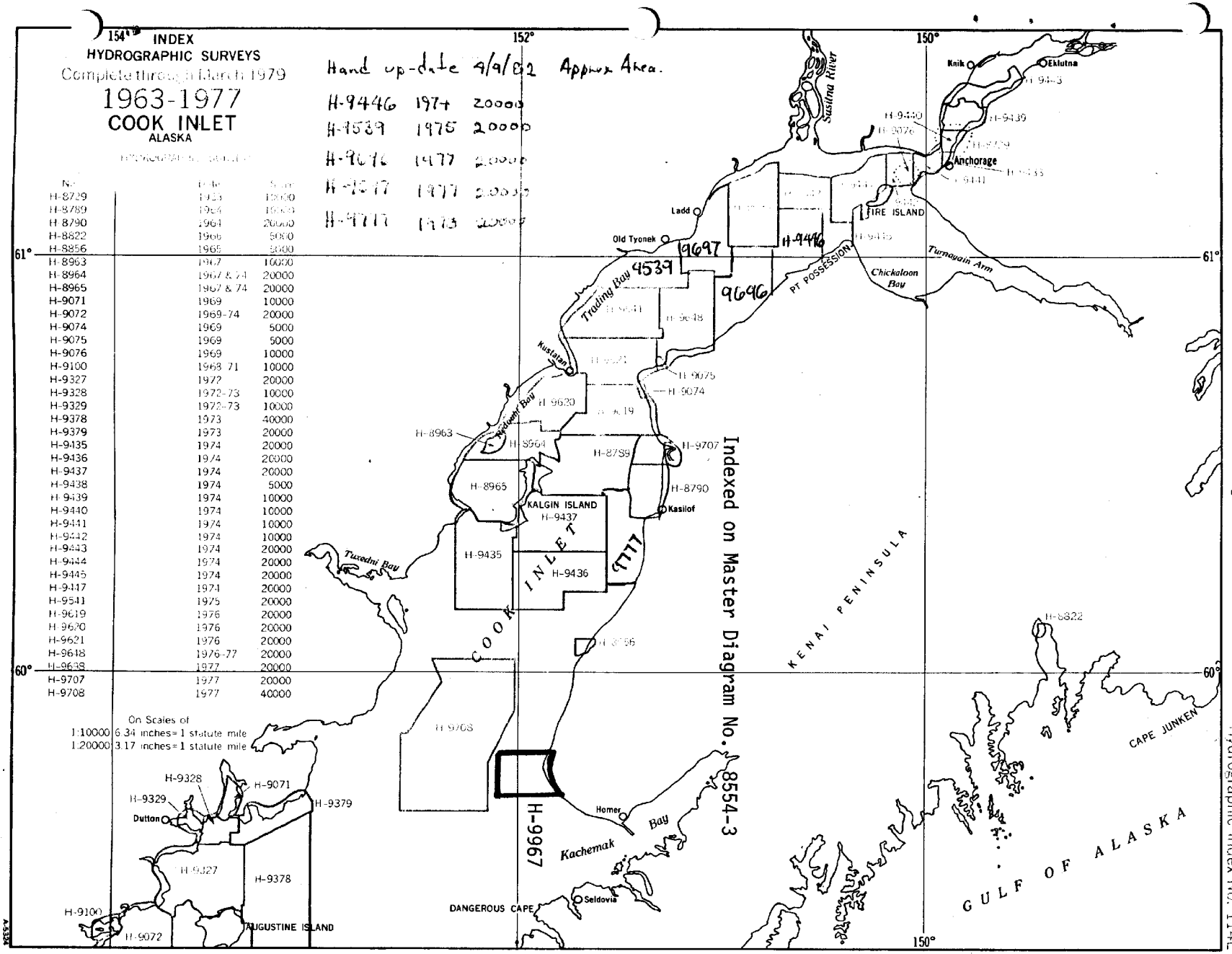
Respectfully submitted,

James S. Green
Supervisory Cartographer
November 16, 1983

APPROVED:

11/21/83

Ned C. Austin
Chief, Nautical Chart Branch



DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Washington, D.C.

Hydrographic Index No. 114E

132

FORM C&GS-8352
(3-25-68)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9967

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
531	6/6/84	J. Baily	~~Full~~ Part ~~Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. 18 Exam. for critical corrs. No corr.
16013	6/8/84	J. Baily	~~Full~~ Part ~~Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. 27 Exam. for critical corrs. No corr.
16645	8/7/84	J. Baily	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. 17 Fully revised hydro; revised MHW Line.
16661	8-24-84	Roy A. Desmarais	Full [redacted] After Verification Review Inspection Signed Via
			Drawing No. 1
500	5/28/85	R.S. House	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. 5
16640	9-9-85	JM O'Connor	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 22
16647	9-1-87	E.L. Belanger	Full Part Before After Verification Review Inspection Signed Via
			Drawing No. ~~4~~ 1
16013	3/27/91	ALMACEN	Full ~~Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. full application of sndgs. from 55 thru 16640.
531	4/10/91	ALMACEN	Full ~~Part~~ Before After Verification Review Inspection Signed Via
			Drawing No. Applied four sndgs. (3, 13, 14 & 15 fathoms) from 55 thru 16013.
531	7-14-95	L. Gilbert	(Full) Part Before After Verification Review Inspection Signed Via
	7-28-95	M. Sargent	Drawing No. 21 APPL'D THRU 16013 #30
~~531~~	7-14-95	L. Gilbert	

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

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