9945

9945

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-20-2-81

Office No. H-9945

LOCALITY

State Alaska

General Locality Kachemak Bay

Locality Barabara Point to Point Pogibshi

1981

CHIEF OF PARTY
CDR R.J. Land

AREA 6
CHTS
16640
16645 } 1:82,664
16646 } to sign off see
16013 Record of Application
531
500

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

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-9945

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

FIELD NO.
RA-20-2-81

State Alaska

General locality Kachemak Bay

Locality Barabara Point to Point Pogibshi

Scale 1:20,000 Date of survey June 8 - August 14, 1981

Instructions dated January 8, 1981 Project No. OPR-P114-RA-81

Vessel NOAA Ship RAINIER and Launches 2123, 2124, 2125

Chief of party CDR R. J. Land

Surveyed by LT M. Kretsch, ENS M. Mathwig

Soundings taken by echo sounder, hand lead, pole Ross Model 5000 Fathometer

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verification ~~Protracted~~ by T. O. Jones Automated plot by PMC Xynetics Plotter

Evaluation ~~Verification~~ by K. M. Scott

Soundings in fathoms feet at MLW MLLW

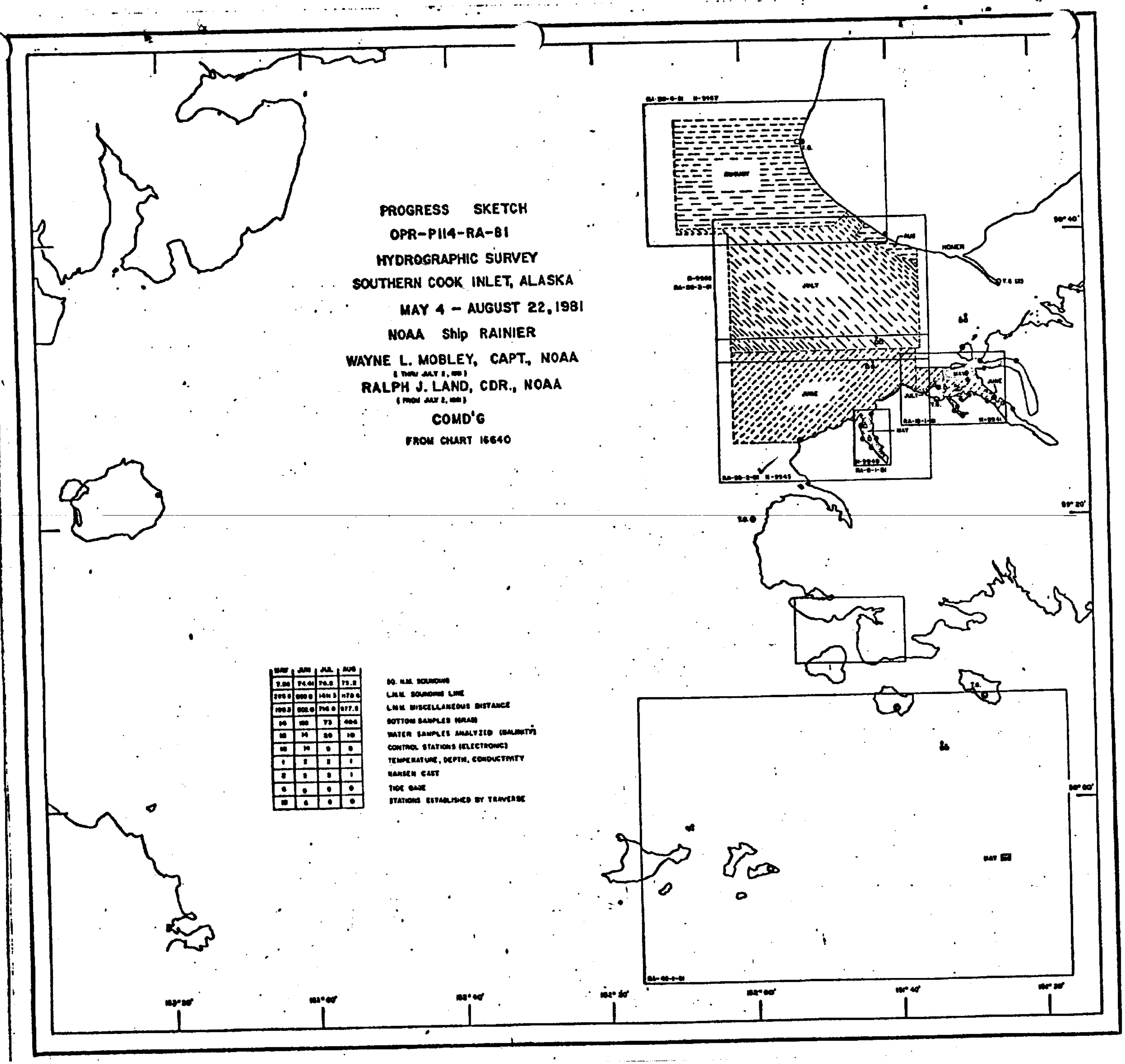
REMARKS: Revisions and marginal notes in black were made by the Evaluator.

AWOIS check. RWD 6/84

Appd TP Stds 2-28-84 [illegible]

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO. 6



MAY	JUN	JUL	AUG	
[illegible]	74.41	76.5	73.2	SQ. N.M. SOUNDING
[illegible]	[illegible]	[illegible]	[illegible]	L.N.M. SOUNDING LINE
[illegible]	[illegible]	716.0	677.5	L.N.M. MISCELLANEOUS DISTANCE
[illegible]	[illegible]	73	[illegible]	BOTTOM SAMPLES (GRAB)
[illegible]	[illegible]	20	[illegible]	WATER SAMPLES ANALYZED (SALINITY)
[illegible]	[illegible]	[illegible]	[illegible]	CONTROL STATIONS (ELECTRONIC)
[illegible]	[illegible]	[illegible]	[illegible]	TEMPERATURE, DEPTH, CONDUCTIVITY
[illegible]	[illegible]	[illegible]	1	HANSEN CAST
[illegible]	[illegible]	[illegible]	[illegible]	TIDE GAGE
[illegible]	[illegible]	[illegible]	[illegible]	STATIONS ESTABLISHED BY TRAVERSE

A. PROJECT

This hydrographic survey was conducted in accordance with Project Instructions OPR-P114-RA-81, Southern Cook Inlet, Alaska, dated January 8, 1981, and in compliance with subsequent changes as follows:

Change #1	Amendment to Instructions, February 23, 1981
Change #2	Amendment to Instructions, March 10, 1981
Change #3	Amendment to Instructions, June 4, 1981

B. AREA SURVEYED

The area surveyed is bounded on the south by the southern coast of Kachemak Bay from longitude 151° 36.9' W westward to 59° 25.2' N, 151° 53.0' W, and from this point, by a line due west to 152° 01.5' W longitude, which forms the western boundary. The northern boundary is latitude 59° 32.0'N. The eastern boundary is longitude 151° 36.8' W.

Survey work was done on the following dates:

Launch RA-3 (2123)	Launch RA-4 (2124)	Launch RA-5 (2125)
June 12-13	June 8-12	June 25
June 15-17	June 14	August 11-14
June 19	June 25-26	
June 23-24	August 14	
June 29		

C. SOUNDING VESSELS

Three RAINIER hydrographic survey launches were used during this survey as follows:

Launch	Vessel (EDP) Number	Hull Number
RA-3	2123	1007
RA-4	2124	1016
RA-5 (bottom samples only)	2125	1003

There were no unusual vessel configurations or problems during this survey.

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-20-2-81 (H-9945) in Cook Inlet, Alaska. This survey was conducted between June 8, 1981 and

August 14, 1981 (JD 159-226). 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 Fineline 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)
Transceiver	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	3,4
Nansen	7/13/81	59/28/48 N 151/33/00 W	H-9941 H-9945 H-9958 H-9967	4

Cast Type	Date	Location	Applicable Survey	Velocity Table
Nansen	7/17/81	59/30/48 N 151/42/54 W	H-9941 H-9945 H-9958 H-9967	4,5
Nansen/Martek	8/14/81	59/32/30 N 151/42/42 W	H-9941 H-9945 H-9958 H-9967	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 the 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. Computed 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 method: 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 effects were considered. Tides were accounted for on the RA-3 full-speed test by comparing launch 0 RPM elevation before and after the test. The speeds utilized were the same normally used by RAINIER personnel in the field.

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:

> 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.

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.

For additional information, refer to the Corrections to Echo Soundings Report, OPR-P114-RA-81.

E. HYDROGRAPHIC SHEETS

Hydrographic field and smooth field sheets were prepared by the RAINIER Survey Department using a PDP 8/e Complot system. The sheets were constructed on a modified transverse mercator projection. The list of parameters used to define the hydrographic sheets is included in the attachments to this report.

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

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 using 8 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 intersection and traverse methods, and were monumented and described. The North American 1927 datum was used in the survey. 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.

The stations appearing on this sheet are: Seldovia 1910, West 1956, Seldovia Entrance Light, and Point Pogibshi Light.

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 serial numbers and station descriptions follows:

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

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 station 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 calibration 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 days:

Julian Date	Vessel	Positions	Agreement (mm at Scale)
159/160	2124	4000-4169	Red: 0.7 mm
160/161	2124	4170-4345	Red: 0.6 mm
163/164	2124	4598-4752	Green: 0.8 mm
168/169	2123	3451-3542	Green: 0.7 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

The shoreline for this survey was taken from a digitized shoreline of film ozalid TP-00814 (1:10,000 scale) at a 1:20,000 scale, a digitized shoreline of TP-00811 at a 1:20,000 scale, a Class III manuscript of film ozalid TP-00810 (1:20,000 scale), and a mylar blow-up (to 1:20,000) of Chart 16645, 12th Edition, dated October 21, 1978 at a scale of 1:82,662.

Shoreline details on TP-00814 were field-edited and field edit information was transferred to the field sheet. Shoreline details on TP-00810 were field-edited by the NOAA Ship FAIRWEATHER in 1980. Data from the FAIRWEATHER's field edit was unavailable for transfer to the field sheet. Shoreline details for that portion of shoreline taken from the blow-up of Chart 16645 were field-edited and the results included in Field Edit Report TP-00811 (1:10,000). This information was transferred to the field sheet.

See the Master Field Edit film ozalids and Field Edit Reports for TP-00814, TP-00810, and TP-00811 for all field edit details.

I. CROSSLINES

Eleven percent of the 504.8 nautical miles of hydrography in this survey are crosslines. Of the 277 line intersections looked at, 258 (93.1%) agreed exactly with the mainscheme and the remaining 19 (6.9%) were within one fathom of agreement.

Using the standards listed in Section 1.1.2, Part B.II.1. of the Hydrographic Manual, 93.1% of the line intersections fall within the allowable error limits. (See Section P.)

J. JUNCTIONS

This survey junctions with the following surveys:

Registry No./Field Sheet No.	Scale	Year Surveyed
H-9877	1:20,000	1980
H-9879	1:20,000	1980
H-9940/RA-5-1-81	1:5,000	1981
H-9941/RA-10-1-81	1:10,000	1981
H-9958/RA-20-3-81	1:20,000	1981

This survey's mylar smooth sheet was overlayed onto H-9877 for comparison. Depths in the junction area were greater than 48 fathoms. Of the 26 soundings compared, 92.3% fall within the allowable error limits given in Section 1.1.2, Part B.II.1. of the Hydrographic Manual. The remaining 7.7% differed by no more than one fathom from the surrounding soundings. General contour agreement, however, is good.

This survey's mylar smooth sheet was overlayed onto H-9879 for comparison. Of the 89 line intersections compared, 87.6% fall within the allowable error limits given in the Hydrographic Manual. The remaining 12.4% differed by no more than one fathom from the surrounding soundings. General contour agreement is good here also.

Twenty-eight soundings from this survey were transferred by hand to the RA-5-1-81 field sheet. Of the 28, 89.3% meet the accuracy standards given in the Hydrographic Manual. The remaining 10.7% show differences, 0.3 fathom maximum, from surrounding soundings outside those limits mainly because of actual differences in position of the soundings used for comparison. General contour agreement is good.

A total of 58 soundings from this survey's semi-smooth sheet were manually transferred to the semi-smooth sheet of RA-10-1-81. Of this total, 42 (72.4%) agreed with the surrounding soundings, 10 (17.2%) were within 0.1 fathom, 4 (6.9%) within 0.2 fathom, and the remaining 2 (3.5%) within one fathom (these one fathom differences were beyond the 10 fathom curve). 89.6% of the sounding comparisons made meet the accuracy limits given in the Hydrographic Manual. Although 10.4% of the soundings compared are outside numerical accuracy limits, when compared to the nearest sounding, all soundings looked at agree well with the general contour trends.

This survey's mylar smooth sheets were overlayed onto the mylar smooth sheet of RA-20-3-81. A total of 46 one-half mile long parallel sounding lines were compared. In all cases the soundings satisfactorily agree with the contour trends. The accuracy limits given in the Hydrographic Manual are likewise met.

K. COMPARISON WITH PRIOR SURVEYS

There is one numbered presurvey review item within the boundaries of this survey. It is taken from Page 5 of Presurvey Review, OPR-P114, Southern Cook Inlet, dated March 16, 1979:

> A non-dangerous, sunken wreck, PA, charted at latitude 59°28'29", longitude 151°43'59" originated with a newspaper account of the sinking (CL-1787/67). The vessel is described as a 32-foot crab boat, broken in half. The stern section was located at Barabara Point. The vessel is identified as the HARRIET. The charted position is based on a recollection by a crew member.
>
> The hydrographer is not required to conduct an extensive search for the wreck. However, fathograms should be monitored for possible indications of the feature and a limited development conducted in the immediate vicinity only.

An investigation of the immediate area, which consisted of splitting the mainscheme and running crosslines, showed no evidence of the wreck. Its existence was not verified nor disproved. Because this wreck would not be potentially dangerous, it is recommended it be removed from the chart.
N/CG241 Recommends chart as "PD." RWD 6/84

This survey was compared to prior survey H-3204, 1:40,000 scale, conducted in 1910. Soundings from the prior survey were manually transferred to this survey's smooth sheets at convenient latitude and longitude intersections. While contour agreement within the 30 fathom curve is acceptable, this survey reveals an extensive area greater than 50 fathoms in depth in the northeast portion of the sheet (north of 59°30.5'N and west of 151°47'W), which is not shown on the prior survey. In fact, the soundings on this survey are as much as 26 fathoms deeper (see 59°30.7'N and 151°36.4'W). Likewise, in the southwest portion of the sheet, this survey reveals an extensive area greater than 40 fathoms in depth not shown on the prior survey. Here the soundings differ up to 20 fathoms (see 59°26.4'N and 152°01.6'W).

See Eval Rpt Sec. 6 + See. 4c

In general, areas of depth greater than 30 fathoms do not compare favorably and would not meet the accuracy standards given in Section 1.1.2, Part B.II.1 of the Hydrographic Manual. Over the years, geologic events and the action of currents in and out of Kachemak Bay may have altered these areas considerably, and may account for the observed differences. It is recommended that this survey supersede the prior survey for charting.

See Eval Rpt Sec. 6

L. COMPARISON WITH THE CHART

This survey was compared to Chart 16645, 13th Edition, dated October 4, 1980 at a scale of 1:82,662. For comparison, a mylar blow-up of the chart (to 1:20,000) was overlayed over this survey's smooth sheets.

In areas of depth greater than 30 fathoms, in particular those areas referred to in Section K of this report, charted soundings are significantly shoaler than those on this survey (see Section K of this report).

Even in those areas shoaler than 30 fathoms the charted depths are consistently 1 to 4 fathoms shoaler than this survey indicates.

The 3¼ fathom shoal charted at 59°28.7'N and 151°42.3'W was investigated by splitting the mainscheme lines and adding crosslines. (see Expansion #1) This survey found a least depth of 2.4 fathoms at 59°28'43"N and 151°42'13"W. This feature should be charted as such.

The 4¼ fathom shoal charted at 59°27.7'N and 151°43.9'W was investigated in the same manner (Expansion #3). This survey revealed a least depth of 4.0 fathoms at 59°27'36"N and 151°43'57"W. This feature should be charted.

A similar investigation was done of the area immediately off the point charted at 59°26.8'N and 151°47.0'W (Expansion #4). This survey revealed a trio of soundings shoaler than 1 fathom with the shoalest, 0.1 fathoms, located at 59°26'49"N and 151°46'58"W. These shoals should be charted.

A similar investigation was done of the area 1/4 to 1/2 NM west of Point Pogibshi in search of a suspected rock (Expansion #5). No rock or shoal dangerous to navigation could be found. This survey found a least depth in this area of 11 fathoms located at 59°25'17"N and 151°53'56"W. It is recommended this rock be removed from the chart.

The rock awash charted 0.2 NM north of Point Naskowhak was not found on this survey or seen by the field editor at low tide (see TP-00814). It is recommended this rock be removed from the chart. The northernmost rock awash north of this point lies approximately 0.1 NM off the point.

The three small islets charted at 59°29.1'N and 151°38.8'W, off Barabara Point, do not exist. These islets were not found by the hydrographer or the field editor at low tide, and should be removed from the chart.

The four rocks charted immediately around Point Pogibshi were not located by hydro nor was the area field-edited by the RAINIER this season. Shoreline details for that portion of shoreline (TP-00810) were field-edited by the NOAA Ship FAIRWEATHER in 1980. This data was not available for transferral to the field sheet. See the Field Edit Report for TP-00810 for details.

Refer to the attachments to this text for correspondence concerning the hazards to navigation discovered during the course of this survey.

In spite of the general differences in depths between this survey and the chart, there is no evidence to suggest that this survey is inaccurate or inadequate for charting. It is suspected that the action of earthquakes and the strong currents in this area over the past seventy years have caused changes in the bottom topography which account for the observed discrepancies. It is recommended that this survey supersede prior surveys for charting.

M. ADEQUACY OF SURVEY

This hydrographic survey is considered complete and adequate to supersede all prior surveys for charting.

N. AIDS TO NAVIGATION

There is one floating aid to navigation within the boundaries of this survey: Black and white lighted buoy lettered "KB". This buoy is charted at 59°27.3'N and 151°54.7'W. This survey positioned the buoy at 59°27'37"N and 151°55'05"W, a little over three-tenths of a nautical mile northwest of the charted position.

See Eval Rpt Sec. 7

This buoy is maintained seasonally by the U.S. Coast Guard.

O. STATISTICS

Survey Launch	Number of Positions	Linear/Nautical Miles of Hydrography	Bottom Samples
RA-3 (2123)	859	215.6	-
RA-4 (2124)	1129	289.2	-
RA-5 (2125)	110	-	85
TOTAL	2098	504.8	85

This survey covers an area of approximately 74.5 square nautical miles.

Three tide stations at Homer, Anchor Point, and Flat Island were maintained during this survey.

Four Nansen and two Martek casts were taken in the vicinity of this sheet during this survey.

P. MISCELLANEOUS

The sounding line run parallel to the shoreline on June 17 from the eastern boundary of the survey to Seldovia Bay (Positions 3509 to 3542) crosses a mainscheme line between Positions 3513 and 3515 with a poor depth agreement. The shoreline's negative soundings plot seaward of the mainscheme line's final positive sounding.

Six lane jumps were experienced on Pattern 1 (Red Raydist) during the running of the shoreline. These jumps are believed to have occurred during the first mile (eastern end) of this line. The jumps were identified on the strip chart and correctors applied, although interpretation of the strip chart was difficult in this area due to frequent maneuvering for gill nets.

See Eval Rpt Sec. 4

This poor crossing may be indicative of an erroneous lane jump corrector in this area. It is the hydrographer's opinion, however, that the shoreline is correct as plotted, and that all lane jumps occurred before Position 3523 on this line.

Q. RECOMMENDATIONS

This survey is considered complete and adequate for charting, and there are no recommendations for further field work. There are no known plans for dredging or construction which will affect the results of this survey.

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 Date
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 Oriented Editor	5/20/75
AM 603	Tape Consolidator	10/10/72
RK 606	Tape Duplicator	8/22/74

The HP9815 and HP97 calculators were used to compute geographic positions of electronic control stations and visual signs for calibrations.

S. REFERRAL TO REPORTS

The following reports, submitted separately to PMC, contain information related to this survey:

HORIZONTAL CONTROL REPORT, OPR-P114-RA-81

ELECTRONIC CONTROL REPORT, OPR-P114-RA-81

ECHO SOUNDER REPORT, OPR-P114-RA-81

FIELD EDIT REPORTS TP-00811, TP-00814, OPR-P114-RA-81

COAST PILOT REPORT, OPR-P114-RA-81

Respectfully submitted,

Michael J. Kretsch
LT, NOAA

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)	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

NOAA FORM 76-155 (11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9945

Name on Survey	A ON CHART NO. 16645	B ON PREVIOUS SURVEY NO.	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	K Manuscript	
ALASKA (TITLE)	X									1
BARABARA CREEK									TP-00811	2
BARABARA POINT	X								TP-00811	3
~~CAMEL ROCK~~									TP-00814	4
COOK INLET (title)	X								TP-00810	5
GRAY CLIFF	X								TP-00814	6
KACHEMAK BAY	X								TP-00814	7
KENAI PENINSULA	X									8
POINT NASKOWHAK	X								TP-00814	9
POINT POGIBSHI	X								TP-00810	10
SELDOVIA	X								TP-00814	11
SELDOVIA BAY	X								TP-00814	12
SELDOVIA POINT	X								TP-00814	13
										14
										15
										16
										17
										18
					Approved:					19
										20
					Charles E. Harrison					21
					Chief Geographer - N/CG2x5					22
					18 MAY 1983					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

PARAMETER TAPE LISTING
PA-20-2E-81 (H-9945)

```
EXPANSION SHEET NO.4
SKEW: 0,6,10
SCALE: 1:5000
FEST=66000
CLAT=6515000
CMER=152/30/0
CFID=15
PLSCL=5000
PLAT=59/26/42
PLON=151/47/54
VESNO=2124
YR=81
ANDIST=0.0

EXPANSION SHEET NO.5
SKEW: 0,9,11
SCALE: 1:5000
FEST=66000
CLAT=6515000
CMER=152/30/0
CFID=15
PLSCL=5000
PLAT=59/25/08
PLON=151/54/18
VESNO=2124
YR=81
ANDIST=0.0
```

PARAMETER TAPE LISTING
PA-20-2A-81 (H-9945)

```
SKEW:31,22,49
FEST=66CC
CLAT=6515CCC
CMER=152/30/CC
GRID=6C
PLSCL=2CCCC
PLAT=59/25/12
PLON=152/04/12
VERNC=2123
YR=81
ANDIST=C.C
```

PARAMETER TAPE LISTING
PA-2C-2E-81 (H-9945)

```
SKEW: 31,22,61
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=60
PLSCL=20000
PLAT=59/21/09
PLON=151/59/30
VESNO=2124
YR=81
ANDIST=0.0

EXPANSION SHEET NO.1
SKEW: 0,5,8
SCALE: 1:5000
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=15
PLSCL=5000
PLAT=59/28/36
PLON=151/42/42
VESNO=2124
YR=81
ANDIST=0.0

EXPANSION SHEET NO.2
SKEW: 0,8,9
SCALE: 1:5000
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=15
PLSCL=5000
PLAT=59/28/12
PLON=151/44/33
VESNO=2124
YR=81
ANDIST=0.0

EXPANSION SHEET NO.3
SKEW: 0,8,10
SCALE: 1:5000
FEST=66000
CLAT=6515000
CMER=152/30/0
GRID=15
PLSCL=5000
PLAT=59/27/18
PLON=151/44/39
VESNO=2124
YR=81
ANDIST=0.0
```

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

```
000035 0 0002 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-1C-1-81(H-9941)
PA-2C-2-81(H-9945)
PA-2C-3-81(H-9958)

TABLE NO. 4

```
2CCC45 C 2C2C CCC4 CC1 CCCCCC CCCCCC
CCC125 C CCC1
CCC21C C CCC2
CCC3CC C CCC3
CCC39C C CCC4
CCC48C C CCC5
2CC57C C CCC6
CCC665 C CCC7
CC2750 C CCC8
CCC835 C CCC9
CCC915 C CC1C
999999 C CC11
```

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

CORRECTIONS IN FEET FATHOMS

NOAA FORM 76-31 (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)

DEPTH IN FATHOMS

(For deep water add a 0 to these figures)

TABLE NO. 1 (HYDRO RUN BEFORE 6/15)

TABLE NO. 2 (HYDRO RUN BETWEEN 6/15 - 7/12)

TABLE NO. 3 (HYDRO RUN AFTER 7/12)

TABLE NO. 4 (HYDRO RUN BETWEEN 7/12 - 8/14)

TABLE NO. 5 (HYDRO RUN AFTER 8/14)

TABLE NO. 6

DEPTH (FM)	CORRECTIONS (FM)
2.0	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. 3

DEPTH (FM)	CORRECTIONS (FM)
5.0	0.0
16.0	0.1
25.5	0.2
36.6	0.3
47.5	0.4
58.5	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

46 1240

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TRA (TC/TI) TAPE: VESSEL 2124 (RA-4) SURVEY RA-20-2-81 (H-9945) FATHOMETER S/N 1071 YR 81 PAGE 1 OF 2

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
203029	0.3	159	4	0.0	0.0	0.3	0.0	0.0	HYDRO BEGINS
214825	0.2	159	4	0.0	0.0	0.3	0.0	-0.1	
230637	0.3	160	4	0.0	0.0	0.3	0.0	0.0	
005943	0.2	161	4	0.0	0.0	0.3	0.0	-0.1	
011342	0.3	161	4	0.0	0.0	0.3	0.0	0.0	
200135	0.2	161	4	0.0	0.0	0.3	0.0	-0.1	
002523	0.3	163	4	0.0	0.0	0.3	0.0	0.0	
002658	0.2	163	4	0.0	0.0	0.3	0.0	-0.1	
192448	0.3	163	4	0.0	0.0	0.3	0.0	0.0	
000629	0.2	164	4	0.0	0.0	0.3	0.0	-0.1	
013323	0.3	164	4	0.0	0.0	0.3	0.0	0.0	
014558	0.2	164	4	0.0	0.0	0.3	0.0	-0.1	
193843	0.3	165	4	0.0	0.0	0.3	0.0	0.0	
003007	0.2	166	4	0.0	0.0	0.3	0.0	-0.1	
010543	0.0	166	0	0.0	0.0	0.0	0.0	0.0	D.P. ON BUOY.
010944	0.2	166	4	0.0	0.0	0.3	0.0	-0.1	RESUMED HYDRO

3-32

TRA (TC/TI) TAPE: VESSEL 2124 (RA-4) SURVEY RA-20-2-81 (H-9945) FATHOMETER S/N 1071 YR 81 PAGE 2 OF 2

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
194522	0.3	177	4	0.0	0.0	0.3	0.0	0.0	
212825	0.0	177	0	0.0	0.0	0.0	0.0	0.0	D.P Rock
214903	0.3	177	4	0.0	0.0	0.3	0.0	0.0	RESUME HYDRO
012011	0.0	178	0	0.0	0.0	0.0	0.0	0.0	D.P Rock
012643	0.3	178	4	0.0	0.0	0.3	0.0	0.0	HYDRO RESUME
183858	0.3	226	5	0.0	0.0	0.3	0.0	0.0	
210600	0.3	226	5	0.0	0.0	0.3	0.0	0.0	HYDRO ENDS

3-32

TRA (TC/TI) TAPE: VESSEL 2123 (RA-3) SURVEY RA-20-2-81 (H-9945) 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
185557	0.3	163	4	0.0	0.0	0.3	0.0	0.0	HYDRO BEGINS
232808	0.3	210	5	0.0	0.0	0.3	0.0	0.0	
030000	0.3	211	5	0.0	0.0	0.3	0.0	0.0	HYDRO ENDS

3-32

TRA (TC/TI) TAPE: VESSEL 2125 (RA-5) SURVEY RA-20-2-81 (H-9945) FATHOMETER S/N BOTTOM SAMPLES 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
194556	0.0	176	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLE BEGINS.
010000	0.0	227	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLE ENDS.

3-32

TC/TI TAPE LISTING
RA-20-2-81(H-9945)

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

203029 0 0003 0004 159 212400 000000
214825 0 0002
230637 0 0003 0004 160 000000 000000
005943 0 0002 0004 161 000000 000000
011342 0 0003
200135 0 0002
002523 0 0003 0004 163 000000 000000
002658 0 0002
192448 0 0003
000629 0 0002 0004 164 000000 000000
013323 0 0003
014558 0 0002
193843 0 0003 0004 165 000000 000000
003007 0 0002 0004 166 000000 000000
010543 0 0000 0000 166 000000 000000
010944 0 0002 0004 166 000000 000000
194522 0 0003 0004 177 000000 000000
212825 0 0000 0000 177 000000 000000
214903 0 0003 0004 177 000000 000000
012011 0 0000 0000 178 000000 000000
012643 0 0003 0004 178 000000 000000
183858 0 0003 0005 226 000000 000000
210600 0 0003

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

185557 0 0003 0004 163 212300 000000
232808 0 0003 0005 210 000000 000000
030000 0 0003 0005 211 000000 000000

VESSEL - 2125(RA-5)
BOTTOM SAMPLES ONLY

194556 0 0000 0000 176 212500 000000
010000 0 0000 0000 227 000000 000000

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 CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : RA-20-2-81

TIME	DAY	PATTERN 1	PATTERN 2
185557	163	-00010	-00242
~~000001~~	~~164~~	~~-00010~~	~~-00242~~
200637	164	+00022	+00014
201449		-00078	+00014
~~000346~~	~~165~~	~~-00078~~	~~+00014~~
193913	166	+00008	+00022
200958	167	-00029	-00034
000025	168	-00029	-00034
190613	168	-00022	-00036
223955		-00122	-00036
224721		-00422	-00036
225740		-00522	-00036
000037	169	-00522	-00036
203507	170	-00042	+00043
200714	175	-00010	-00011
002418	176	-00010	-00011
232808	210	+00020	-00032
000012	211	+00020	-00032

ELECTRONIC CORRECTOR ARTIFACT

VESSEL : 2124 SHEET : FA-20-2-81

TIME	DAY	PATTERN 1	PATTERN 2
203029	159	-00014	-00001
000001	160	-00014	-00001
134238	160	-00033	+00000
003126	161	-00033	+00000
200135	161	+00012	+00014
000006	162	+00012	+00014
202342	162	+00007	+00010
000007	163	+00007	+00010
191423	163	-00022	+00006
000013	164	-00022	+00006
193843	165	-00005	+00029
000014	166	-00005	+00029
205604	176	+00010	-00078
000948	177	+00010	-00078
194522	177	+00003	+00032
000330	178	+00003	+00032
183858	226	-00014	+00003

ELECTRONIC COMPUTER ABSTRACT

VESSEL : 2125 SHEET : PA-20-2-81

TIME	DAY	PATTERN 1	PATTERN 2
194556	176	+00004	-00007
000900	177	+00004	-00007
162206	223	-00014	-00005
205007	224	-00006	-00016
215550	225	-00020	-00127
001753	226	-00020	-00127
200256		-00012	-00071
000359	227	-00012	-00071

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

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: 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

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

Date of Survey June 12th to July 30th 1981

Field Sheet No. RA-20-2-81 Registry No. H-9945

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
159	203029	-	160	022557
160	184338	-	161	012742
161	200135	-	162	020459
162	202342	-	163	004855
163	185557	-	164	014727
163	191423	-	164	015658
164	195041	-	165	014550
165	193843	-	166	013330
166	193913	-	166	233212
167	200958	-	168	020510
168	190613	-	169	002450
170	203507	-	170	230120
174	212781	-	175	020828
175	200714	-	176	011123
176	182655	-	177	004109
176	205604	-	177	002056
177	194522	-	178	024045
210	232808	-	211	024515
223	162206	-	223	202121
224	205007	-	224	212642
225	215550	-	226	024648
226	183858	-	226	211559
226	200256	-	227	005459
		-		
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		-		
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		-		

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

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 2127 (RA-7)

Date of Survey 5/19/81 - 6/16/81

Field Sheet No. TP-00811 (RA-10-1-81 & RA-20-2-81) Registry No. H-9941; H-9945

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
139	0000	-	141	0000
153	0000	-	157	0000
163	0000	-	164	0000
165	0000	-	168	0000

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

CHANGE NO. 3-75
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 2127 (RA-7)

Date of Survey 5/4/81 - 6/10/81

Field Sheet No. TP-00814 (RA-5-1-81 & RA-20-2-81) Registry No. H-9940; H-9945

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
124	1855	-	124	1955
125	1745	-	125	2011
126	1500	-	127	0000
127	1500	-	128	0000
138	1500	-	139	0000
160	1800	-	161	0011

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

ABSTRACT OF POSITIONS

RA-20-2B-81
(H-9945)

VESSEL: 2124 (RA-4) ANDIST: 0.0

Day	Position	Control	S1 M S2	Remarks
159/160	4000-4106	04	101 102	Mainscheme
	4107-4109	04	101 102	Mainscheme inside Expansion #2
	4109-4111	04	101 102	Mainscheme inside Expansion #3
	4111-4167	04	101 102	Mainscheme
	4168-4169	04	101 102	Mainscheme inside Expansion #4
160/161	4170-4180	04	101 102	Mainscheme
	4181-4183	04	101 102	Mainscheme inside Expansion #4
	4183-4283	04	101 102	Mainscheme
	4284-4286	04	101 102	Mainscheme inside Expansion #5
	4287-4345	04	101 102	Mainscheme
161/162	4346-4380	04	101 102	Mainscheme
	4381-4382	04	101 102	Mainscheme inside Expansion #1
	4383-4394	04	101 102	Mainscheme
	4395-4396	04	101 102	Mainscheme inside Expansion #3
	4397-4400	04	101 102	Mainscheme inside Expansion #2
	4401-4406	04	101 102	Mainscheme
	4407-4408	04	101 102	Mainscheme inside Expansion #2
	4409-4412	04	101 102	Mainscheme inside Expansion #3
	4413-4479	04	101 102	Mainscheme
162/163	4480-4491	04	101 102	Mainscheme
	4492-4494	04	101 102	Mainscheme inside Expansion #1
	4495-4506	04	101 102	Mainscheme
	4507-4509	04	101 102	Mainscheme inside Expansion #2
	4510-4514	04	101 102	Mainscheme inside Expansion #3
	4515-4517	04	101 102	Mainscheme inside Expansion #2
	4518-4525	04	101 102	Mainscheme
	4526-4528	04	101 102	Mainscheme inside Expansion #3
	4596-4597	04	101 102	Mainscheme inside Expansion #4

Day	Position	Control	S1 M S2	Remarks
163/164	4599-4602	04	101 102	Mainscheme
	4603-4605	04	101 102	Mainscheme inside Expansion #2
	4606-4607	04	101 102	Mainscheme inside Expansion #3
	4608-4626	04	101 102	Mainscheme
	4627-4628	04	101 102	Mainscheme inside Expansion #4
	4629-4752	04	101 102	Mainscheme
165/166	4753-4776	04	101 102	Mainscheme
	4777-4785	04	101 102	Mainscheme inside Expansion #1
	4786-4790	04	101 102	Mainscheme inside Expansion #3
	4791-4819	04	101 102	Mainscheme
	4820-4825	04	101 102	Mainscheme inside Expansion #4
	4826-4835	04	101 102	Mainscheme
	4836-4837	04	101 102	Mainscheme inside Expansion #4
	4838-4857	04	101 102	Mainscheme
	4858-4859	04	101 102	Mainscheme inside Expansion #5
	4860-4866	04	101 102	Mainscheme
	4867	04	101 102	D.P. on buoy
	4868-4881	04	101 102	Mainscheme
177/178	4964-4966	04	101 102	Shoreline inside Expansion #3
	4967-4971	04	101 102	Shoreline
	4972-4974	04	101 102	Shoreline inside Expansion #4
	4975-4995	04	101 102	Shoreline
	4996-4997	04	101 102	Shoreline inside Expansion #5
	4998-5000	04	101 102	Mainscheme
	7000-7005	04	101 102	Mainscheme inside Expansion #5
	7006-7021	04	101 102	Development #5
	7022-7031	04	101 102	Development #4
	7032	04	101 102	D.P. on rock (submerged/no trace)
	7033	04	101 102	D.P. on rock (submerged/no trace)
	7035	04	101 102	D.P. on rock
	7036-7037	04	101 102	Development #5
	7038-7064	04	101 102	Radials into shoreline

Day	Position	Control	S1 M S2	Remarks
226/227	7065-7103	04	101 102	Splits
	7104-7107	04	101 102	Splits inside Expansion #1
	7108-7114	04	101 102	Splits
	7115-7118	04	101 102	Splits inside Expansion #4
	7119-7120	04	101 102	Splits
	7121-7123	04	101 102	Splits inside Expansion #4
	7124-7126	04	101 102	Splits inside Expansion #5

REJECTED POSITIONS:

4452, 4453, 4454, 4598, 4742, 4743, 4744, 4835,
7034, 7038, 7039, 7042, 7043

ABSTRACT OF POSITIONS

RA-20-2B-81

(H-9945)

VESSEL: 2123 (RA-3) ANDIST: 0.0

Day	Position	Control	S1 M S2	Remarks
163/164	3000-3126	04	101 102	Mainscheme
	3126-3144 (4th/OOT)	04	101 102	Crossline
164/165	3149-3218	04	101 102	Mainscheme
	3219-3248	04	101 102	Crossline
	3249-3261	04	101 102	Mainscheme
166	3262-3327	04	101 102	Crossline
	3328-3337	04	101 102	Mainscheme inside Expansion #5
	3338-3361	04	101 102	Mainscheme
167	3362-3385	04	101 102	Crossline
167/168	3386-3423	04	101 102	Mainscheme
	3424-3426	04	101 102	Mainscheme inside Expansion #5
	3427-3434	04	101 102	Mainscheme inside Expansion #3
	3435-3450	04	101 102	Mainscheme
168	3451-3508	04	101 102	Crossline
168/169	3509-3542	04	101 102	Shoreline
170	3543-3598	04	101 102	Mainscheme
174/175	3601-3693	04	101 102	Mainscheme (Data rejected due to bad calibration)
175/176	3694-3738	04	101 102	Mainscheme
210/211	3786-3860	04	101 102	Mainscheme

REJECTED POSITIONS:

3005, 3006, 3045, 3145, 3146, 3147, 3148, 3158, 3162,
3190, 3249, 3427, 3428, 3475, 3476, 3753

ABSTRACT OF POSITIONS

RA-20-2B-81
(H-9945)

VESSEL: 2125 (RA-5) ANDIST: 0.0

Day	Position	Control	S1 M S2	Remarks
176/177	5000-5023	04	101 102	Bottom samples
223	5024-5053	04	101 102	Bottom samples
224	5054-5060	04	101 102	Bottom samples
225	5061-5085	04	101 102	Bottom samples
226/227	5086-5109	04	101 102	Bottom samples

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 08282  250 0015 000000
/BALSA 1956                                591513

104 3  59 05 30907 151 44 06833  250 0007 000000
/DIXIE 1956                                591513

105 1  59 24 52738 151 42 56807  250 0000 000000
/ELBOW 1956

106 4  59 25 24124 151 42 53646  250 0001 000000
/POWDER 1956                               591513

107 4  59 26 34812 151 43 08884  250 0000 000000
/WATCH 1956                                581513

108 2  59 25 31891 151 42 22008  250 0003 000000
/GRACE 1981                    VOL. 1 PAGES 30-31

109 3  59 26 22102 151 44 15441  250 0000 000000
/ATLAS 1956

110 5  59 24 52737 151 42 56903  243 0000 000000
/ELBOW 1956 ECC.

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

116 2  59 30 35922 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 09991 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 58564 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
~~/AP 6 VOL. 3 PAGES 8-9~~

129 4 59 39 37645 151 39 44972 250 0227 000000
/BLUFF ~~PT~~ POINT 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 21048 151 29 11056 250 0000 000000
/GRASS ISLAND AZIMUTH MARK 1975 591512

134 5 59 30 33728 151 30 25245 250 0000 000000
~~/SNACK 1965 591514~~

138 3 59 31 21320 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 47802 151 33 13438 250 0323 000000
/WOOD 1964

~~141 0 59 28 06964 151 30 20369 250 0004 000000~~
/HOLLEY 1981 VOL.2 PAGE 36

142 4 59 28 22772 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 21379 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 32 01894 139 0005 000000
/DORIS 1981 VOL. 2 PAGES 12-14

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

206 6 59 26 55316 151 30 38952 139 0004 000000
/ANDY 1981 VOL. 2 PAGES 15-16

207 7 59 28 12905 151 42 08004 139 0065 000000
/SELDOVIA 1910

208 3 59 36 09213 151 25 09260 139 0010 000000
/SALTY DAWG

209 3 59 33 03328 151 27 54887 139 0000 000000
/COHEN ISLAND ROCK ~~LT~~ LIGHT, 1975

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 ~~LT~~ LIGHT 1975

~~212 3 59 58 53582 151 47 02423 139 0071 000000~~
/STARISKY 1964 591514 (1018)

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 (1018)~~

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~~

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 243 0003 000000
/TP 13 VOL. 3 PAGE 33

231 4 59 38 56877 151 38 21328 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 26 28318 151 43 07025 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 01625 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 46390 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~~

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	33728	151	30	25245	250	0000	000000
138	3	59	31	21320	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	54887	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	53582	151	47	02423	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

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-2-81 (11-9945)		

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	6/25	27 12.28	45 32.53	9.2	25 lbs			gn	S		
5001	"	27 50.77	45 42.89	13.6	"				P brk Sh		
5002	"	28 28.30	45 50.39	16.9	"				brk Sh		
5003	"	29 06.70	45 59.80	19.0	"				S brk Sh		
5004	"	29 06.70	46 09.81	40.9	"				S brk Sh		
5005	"	30 23.79	46 21.37	1.0	"				S brk Sh		
5006	"	31 02.03	46 32.28	52.5	"			gn	fne S		
5007	"	30 42.84	47 41.01	50.5	"			gn	fne S		
5008	"	30 06.31	47 28.83	40.2	"			gn	S brk Sh		
5009	"	29 27.82	47 18.12	39.2	"			gn	S brk Sh		
5010	"	28 50.81	47 07.58	20.2	"			gn	S brk Sh		
5011	"	28 11.20	46 58.63	17.9	"				brk Sh		
5012	"	27 32.89	46 50.22	11.1	"				kelp	Crab	
5013	"	26 52.89	47 52.70	5.3	"				kelp		
5014	"	27 31.29	48 01.99	15.3	"				brk Sh		
5015	"	28 10.23	48 10.64	21.5	"				brk Sh		
5016	"	28 47.28	48 18.56	29.9	"				S brk Sh		

Use more than one line per sample if necessary.

☆ U.S.GPO:1978-761190 Region No. 6

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-2-81 (H-9945)		

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.
5017	6/25	29 30.72	48 30.04	36.8	25 lbs				S brk Sh		
5018	"	30 04.82	48 40.37	44.4	"			gn	S		
5019	"	30 14.54	48 52.56	43.9	"			gn	fne S		
5020	"	30 08.70	49 55.67	41.6	"			gn	S brk Sh		
5021	6/26	29 29.33	49 45.11	36.6	"			gn	S brk Sh		
5022	"	28 52.98	49 29.84	37.3	"			gn	S brk Sh		
5023	"	28 13.93	49 21.28	25.5	"				S brk Sh		
5024	8/11	29 00.40	36 47 44.29	5.4	"			gn/gy	M		
5025	"	29 37.28	36 53.21	11.9	"			gn/gy	M		
5026	"	30 14.97	37 02.78	45.1	"			gn/gy	M		
5027	"	30 53.80	37 13.00	60.7	"			gy	Cl		
5028	"	31 31.81	37 24.52	56.7				gy	Cl		
5029	"	31 27.71	38 41.55	57.3	"			gy	Cl		
5030	"	30 48.01	38 27.23	58.2	"			gy	Cl		
5031	"	30 09.37	38 17.16	37.3	"			gy	Cl fne S		
5032	"	29 30.47	38 07.45	6.8	"			gy	fne S brk Sh		
5033	"	29 26.75	39 24.59	8.5	"				P S	snail	

Use more than one line per sample if necessary.

☆ U.S.GPO: 1978-765 1190 Region No. 6

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-2-81 (H-9945)		

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.
5034	8/11	30 05.54	39 34.43	38.3	25lbs.			gy	M fne S brk Sh		
5035	"	30 43.96	39 45.27	53.2	"			gy	M		
5036	"	31 22.18	39 57.28	58.0	"			gn	M		
5037	"	31 19.46	41 13.15	58.8	"			gn	M		
5038	"	30 41.17	41 01.48	51.8	"			gn	M		
5039	"	30 00.98	40 50.27	28.7	"			gy	S brk Sh P		
5040	"	29 23.42	40 40.62	12.4	"			gy	S brk Sh P		
5041	"	28 48.24	40 33.06	5.7	"				crs S brk Sh		
5042	"	28 40.82	41 48.60	6.9	"			gy	crs SP brk Sh		
5043	"	29 18.50	41 56.56	13.7	"			gn/gy	fne S brk Sh		
5044	"	29 56.51	41 06.19	36.5	"			gn/gy	fne S M		
5045	"	30 36.50	42 17.46	50.2	"			gn/gy	fne S M		
5046	"	31 14.15	42 28.83	61.5	"			gn/gy	fne S M		
5047	"	31 11.18	43 44.87	61.4	"			gn/gy	fne S M		
5048	"	30 32.00	43 35.89	47.5	"			gn/gy	fne S M brk Sh		
5049	"	29 52.27	43 23.20	33.8	"			gy	fne S brk Sh		
5050	"	29 15.73	43 13.54	16.5	"				brk Sh		

Use more than one line per sample if necessary.

U.S.GPO: 1978-761 1190 Region No. 6

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-2-81 (H-9945)		

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.
5051	8/11	28 36.31	43 05.09	10.1	25lbs.			gy	crs S P brk Sh		
5052	"	27 57.67	42 56.23	9.7	"			gy	crs S P brk Sh		
5053	"	27 29.74	42 52.13	7.0	"			gy	fne S M		
5054	8/12	31 04.42	45 00.57	60.0	"			gn/gy	yl spk M fne S		
5055	"	30 26.75	44 50.48	46.1	"			gn/gy	fne S brk Sh		
5056	"	29 48.09	44 40.07	37.8	"			gn/gy	wh spk fne S brk Sh		
5057	"	29 09.93	44 29.37	18.1	"			gn/gy	fne S brk Sh		
5058	"	28 30.84	44 20.77	14.8	"				brk Sh sm P		
5059	"	27 51.40	44 13.67	11.2	"				fne G sml P		
5060	"	27 16.11	44 06.48	5.3	"			gn/gy	fne S		
5061	8/13	27 01.20	46 50.23	7.5	"				kelp	likely rocky sml amount - bottom	
5062	"	26 31.74	49 03.23	9.1	"				kelp	likely rocky sml amount - bottom	
5063	"	26 59.56	49 13.95	18.1	"				P brk Sh		
5064	"	27 39.84	49 21.61	24.2	"				brk Sh crs S sml P		
5065	"	26 21.74	50 25.91	14.2	"			gn	S brk Sh lrg St		
5066	"	27 00.83	50 31.13	24.2	"			gn	S P brk Sh G		
5067	"	27 34.95	50 34.39	28.7	"			gn	fne S brk Sh		

Use m[illegible]han one line per sample if necessary.

U.S.GPO: 1978-761[illegible] 1190 Region No. 6

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-2-81 (H-9945)		

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.
5068	8/13	28 15.87	50 41.32	30.3	25 lbs			gn	S brk Sh	sml sample	
5069	"	28 56.65	50 52.23	37.2	"			gn	S brk Sh		
5070	"	29 32.35	51 02.15	38.1	"			gn	S brk		
5071	"	30 09.81	51 13.57	38.1	"			gn/gy	fne S brk Sh		
5072	"	31 00.21	51 31.33	37.6	"			gn/gy	fne S	wh brk speckles	
5073	8/14	29 26.78	52 18.39	40.9	"			gn/gy	fne S brk Sh		
5074	"	28 47.21	52 07.43	38.9	"			gn	S brk. Sh		
5075	"	28 11.60	51 58.89	34.4	"			gn	S brk Sh sml P		
5076	"	27 33.11	51 53.07	31.3	"			gy	P S brk Sh		
5077	"	26 50.20	51 44.32	26.1	"				st sm P brk Sh	sml sample	
5078	"	26 13.29	51 39.69	19.4	"			gy	S brk Sh		
5079	"	25 48.06	51 35.02	11.5	"			gy	fne S brk Sh		
5080	"	25 37.82	52 54.29	9.0	"			gy	fne	likely rocky bottom sml sample	
5081	"	26 13.49	52 55.23	24.9	"				sml P brk Sh	sea star	
5082	"	26 53.50	53 03.36	30.8	"			gn/gy	sml P fne S Co Sh		
5083	"	27 30.79	53 09.47	28.4	"			gy	fne S brk Sh sml P		
5084	"	28 07.34	53 16.20	39.3	"			gy	S brk Sh Co		

Use m[illegible] than one line per sample if necessary.

U.S.GPO:1978-76[illegible] 1190 Region No. 6

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-81	81	SOUTHERN COOK INLET, ALASKA RA-20-2-81 (H-9945)		

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.
5085	8/14	28 42.63	53 24.09	46.0	25 lbs			gn/gy	S brk Sh		
5086	"	30 56.51	54 05.17	36.6	"			gy	fne S wh spk		
5087	"	29 24.55	53 33.33	41.3	"			gy	S wh spk		
5088	"	28 39.45	54 41.89	42.9	"			gy	crs S brk Sh		
5089	"	28 01.89	54 31.34	46.8	"			gy	crs S sml P brk Sh Co		
5090	"	27 24.32	54 23.85	27.7	"			gy	fne S brk Sh St		
5091	"	26 46.53	54 16.00	26.8	"				brk Sh sml P		
5092	"	26 10.09	54 08.55	28.6	"			gy	S Co P	Plant life	
5093	"	25 29.83	54 05.84	19.6	"				P	Plant life	
5094	"	26 06.12	55 24.41	25.7	"				Sh P		
5095	"	26 43.41	55 31.81	25.8	"				sml St brk Sh		
5096	"	27 22.31	55 39.10	43.2	"			gy	S brk Sh P	sea creature	
5097	"	28 00.27	55 48.36	44.1	"			gy	S brk Sh		
5098	"	28 37.89	55 56.57	40.9	"			gy	crs S brk Sh		
5099	"	29 55.11	56 18.81	42.1	"			gy	fne S		
5100	"	31 09.77	56 45.57	32.5	"			gy	fne S brk Sh		
5101	"	31 01.21	59 18.01	28.9	"			gn/gy	fne S brk Sh		

Use more than one line per sample if necessary.

☆ U.S.GPO: 1978-761190 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-20-2-81 (H-9945)		

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.
5102	8/14	29 43.27	58 54.09	34.1	25 lbs			gy	S brk Sh		
5103	"	28 27.79	58 31.94	51.0	"			gy	S fne brk Sh		
5104	"	27 11.31	58 14.55	47.5	"				brk Sh P S	Plants	
5105	8/15	25 53.94	58 00.33	32.5	"				sml St brk Sh	sea urchin	
5106	"	25 46.65	152° 00 31.04	40.6	"			gy	S P brk Sh	(sml amount S)	
5107	"	27 06.47	152° 00 46.86	61.3	"			gy	fne S		
5108	"	28 25.34	152° 01 03.87	41.1	"			gy	fne S brk Sh		
5109	"	29 34.14	152° 01 24.49	32.1	"			gn/gy	fne S brk Sh		

Use more than one line per sample if necessary.

U.S.GPO:1978-760 1190 Region No. 6

NOAA FORM 76-40
3-78

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

NONFLOATING AIDS [redacted] FOR CHARTS

Replaces C&GS Form 567.

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 Division ANC, Norfolk, VA	Alaska	Cook Inlet, East Side, Cape Douglas to Barren Islands	2 Feb, 82

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

PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
	CM 1417	TP-00911	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
NOT ON SURVEY			19.49		00.70	75E(I)1487	P-6-3-V	16640
LIGHT	Seldovia Breakwater Light 7	59 26	60.31	151.43	11	10Aug1975	6/14/81	16645, 16646
NOT ON SURVEY			27.561		05.331	75E(I)1487	F-3-6-L	"
LIGHT	(Seldovia Dock South Light 1981)	59.26	853.0'	151.43	84.0	10Aug1975	6/14/81	
NOT ON SURVEY			29.161		07.653	75E(I)1487	F 3-6-L	"
LIGHT	(Seldovia Dock North Light 1981)	59.26	902.4	151.43	120.6	10Aug 1975	6/14/81	
	Seldovia Bay Light 5		34.84		09.38	75E(I)1487	Triang Rec	"
NC/ dip file ↓ LIGHT	(Seldovia Entrance Light, 1956)	59 26	1078.2	151.43	147.8	10Aug 1975	6/14/81	✓
	Seldovia Bay Entrance Light 1		09.91		08.22	75E(I)1487	Triang Rec	"
LIGHT	(Gray Cliff Light Center, 1956)	59.27	306.7	151 43	129.5	10Aug 1975	6/14/81	✓
*	Note: Recovery note on the Form 75-82A shows Description of Seldovia Dock South Light. (The light is used for night illumination of the pier)							
	Light is shown in the 1982 Light List as a private aid on pole.							
	See L-1042(83)							

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

ORIGINATING ACTIVITY

- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [x] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
TO BE CHARTED TO BE REVISED TO BE DELETED	Coastal Mapping Division, Norfolk, VA	Alaska	Cook Inlet, East Side, Cape Kasilof to Barren Island	Oct 8 1981

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
FH4 FA-80	CM-7412	TP-00910	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	LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side): OFFICE	FIELD	CHARTS AFFECTED
LIGHT	(Point Pogibshi Light, 1975) NC/dup file	59° 25′	30.165 933.5	151° 53′	5.113 80.6	75 F(c) 4448	F-2-3-6-L June 1980	16645 8531 16646

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: Jun 1980

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

JOB NUMBER: [redacted] CM-7412

SURVEY NUMBER: T- TP-00811

STATE: Alaska

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
	None								

RTTUZYUW RUHPTEF0148 2780045-UUUU--RUHPSUU.
ZNR UUUUU
R 050045Z OCT 81
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAACPM SEATTLE WA
CM GRNC
BT
UNCLAS
DANGERS TO NAVIGATION.
1. NOS CHART 16645, 0.5NM N OF SELSOVIA POINT-
A SHOAL COVERED 2.4 FM AT PREDICTED MLLW AT
LAT 59/28/43N, LONG 151/42/13W. PRESENTLY CHARTED
AS A SHOLE COVERED 3.25FM.
2. NOS CHART 16645, 1.5 NM W OF POINT NASKOWHAK-
A SHOAL COVERED 0.7 FM AT PREDICTED MLLW AT
LAT 59/26/52N, LONG 151/47/00W.
3. NOS CHART 16645, 1.5NM W OF POINT NASKOWHAK-
TWO ROCKS, ONE COVERED 0.1FM AT PREDICTED MLLW
AT LAT 59/26/49N, LONG 151/46/58W, THE OTHER COVERED
0.4FM AT PREDICTED MLLW AT LAT 59/26/51N, LONG
151/46/55W.
4. THESE ITEMS WERE OBTAINED FROM HYDROGRAPHIC
SURVEY DATA COLLECTED BY THE NOAA SHIP RAINIER MAY
THROUGH AUG 1981.
BT
#0148

NNNN

INT QSL K

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-9945

RA-20-2-81

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-9945

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	2
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	10

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

T-SHEET PRINTS (List) TP-00810, TP-00811, TP-00814 (TP-00810 transmitted with H-9819)

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			1968
POSITIONS CHECKED		1968	
POSITIONS REVISED		--	
SOUNDINGS REVISED		134	134
SOUNDINGS ERRONEOUSLY SPACED		--	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		--	
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	5	*(VER)/(EVAL)	5
VERIFICATION OF CONTROL		02/00	2
VERIFICATION OF POSITIONS		40/00	40
VERIFICATION OF SOUNDINGS		181/00	181
COMPILATION OF SMOOTH SHEET		143/00	143
APPLICATION OF TOPOGRAPHY		34/00	34
APPLICATION OF PHOTOBATHYMETRY		00/00	0
JUNCTIONS		15/01	16
COMPARISON WITH PRIOR SURVEYS & CHARTS		00/16	16
VERIFIER'S REPORT		10/44	54
OTHER		00/33	33
TOTALS	5	425/94	524

Pre-Verification by J. S. Green	*Beginning Date* 10/29/81	*Ending Date* 10/29/81
Verification by R. Mueller, T. Jones	*Beginning Date* 12/16/81	*Ending Date* 2/15/83
Evaluation by K. M. Scott	*Time (Hours)* 41	*Date* 2/23/83
Verification Check by J. L. Stringham, J. S. Green	*Time (Hours)* 5	*Date* 3/9/83
Marine Center Inspection by HIT	*Time (Hours)*	*Date*
Quality Control Inspection by	*Time (Hours)*	*Date*
Requirements Evaluation by		

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

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-9945 FIELD NO: RA-20-2-81

Alaska, Kachemak Bay, Barabara Point to Point Pogibshi

SURVEYED: June 8 - August 14, 1981

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

SOUNDINGS: Ross 5000 Fathometer CONTROL: Raydist - Range/Range

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

Surveyed by.....LT M. Kretsch
ENS M. Mathwig

Automated Plot by.....PMC Xynetics Plotter

Verified by.....T. O. Jones

Evaluated by.....K. M. Scott

1. INTRODUCTION

H-9945 is a basic hydrographic survey lying at the entrance to Kachemak Bay between Point Pogibshi and Barabara Point. It was conducted by NOAA Ship RAINIER and her launches in accordance with Project Instruction OPR-P114-RA-81 dated January 8, 1981, Change No. 1 dated February 23, 1981, Change No. 2 dated March 10, 1981 and Change No. 3 dated June 4, 1981.

Predicted tides based on the Seldovia gage with time and range adjustments were used during shipboard processing. Tides used for the reduction of final soundings are zoned from the Seldovia gage and computed from the approved hourly heights supplied by Tides Division, Rockville, Maryland.

The projection parameters and revised signal list are shown in the smooth printouts accompanying the smooth sheet and are noted in the appropriate listing included in the descriptive report.

2. CONTROL AND SHORELINE

The control stations governing this survey are, for the most part, established and recovered triangulation points. All of these are published and preliminary adjusted field positions referenced to North American 1927 datum.

The position control method employed during survey operations is adequately outlined in section G of the descriptive report.

The following unreviewed Class I manuscripts were used for shoreline detail on the smooth sheet:

Number	Scale	Date of Photography/Field Edit
TP-00810	1:20,000	July-Aug. 1975 / July 1980
TP-00811	1:20,000 Reduction	July-Aug. 1975 - Jan. 1976/ May - June 1981
TP-00814	1:20,000 Reduction	July-Aug. 1975 / May-June 1981

During verification it was necessary to modify ledge limits to agree with hydrography. Furthermore, the following rocks were not transferred to the smooth sheet due to congestion:

Latitude	Longitude
59°25'25.7"N	151°52'23.7"W
59°25'42.3"N	151°51'00"W
59°26'11.5"N	151°49'45.5"W
59°26'55.4"N	151°46'17.3"W
59°27'18.6"N	151°42'54.7"W
59°27'54.1"N	151°42'27.5"W
59°28'56.2"N	151°37'31.6"W
59°28'49.7"N	151°37'11.1"W

The following rock elevations were changed to agree with hydrography from H-9879:

Latitude	Longitude	T-Sheet Elevation	Hydro Elevation
59°25'34.1"N	151°53'14"W	(0)	Cov 1 ft MLLW
59°25'33.2"N	151°53'09"W	(2)	(4)

3. HYDROGRAPHY

Crosslines incorporated within this survey are in good agreement, generally within .3 to .5 fathoms.

The bottom configuration, development of shoal soundings, determination of least depths, and development of standard depth curves are adequate. The zero curve is portrayed by a combination of depth curves and the photogrammetric low water line.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual of July 4, 1976, with the following exceptions:

a. The capability to digitize line data into the hydro file is not available at PMC at present. Therefore, the following categories are not in digital format:

(1) Registered shoreline manuscript source data

(2) Prior survey source data

(3) Ledges, reefs, foul or submerged ledge limit lines, and other line data originating from the hydrographic record

See Addendum

(4) All depth curves

(5) Bottom sample descriptions

(6) Annotations, descriptions, and geographic names

b. The ship was instructed to compare their survey with prior surveys of the area. They compared one, H-3204, but did not compare H-2930, H-3206, and H-8285WD. These comparisons were accomplished during evaluation.

5. JUNCTIONS

H-9945 joins H-9877 (1:20,000) 1980 to the northeast. All soundings are in good agreement. The junction note and curves have been inked accordingly.

H-9879 (1:20,000) 1980 joins this survey to the southwest. Soundings are in good agreement, with those needed to define depth curves or rocks have been carried forward to this survey. The junction was adequately performed and note inked.

H-9940 (1:5,000) 1981 joins at the mouth of Seldovia Bay. Soundings are in good agreement and have been transferred to support depth curves. The junction note is inked.

This survey joins H-9941 (1:10,000) 1981 to the east. Soundings have not been verified at this date. The junction note and depth curves are penciled.

H-9945 is bounded on the north by H-9958 (1:20,000) 1981. All soundings are in agreement; some have been transferred to support depth curves. The junction note has been inked accordingly.

There is no contemporary survey to the west. Depth curves and the appropriate note are penciled.

6. COMPARISON WITH PRIOR SURVEYS

H-2930 (1:10,000) 1906-07
H-3204 (1:40,000) 1910
H-3206 (1:120,000) 1910
H-8285WD (1:10,000) 1956

All the prior surveys listed above, with the exception of H-8285WD, in the area covered by H-9945 were accomplished using sextant navigation and leadline soundings. Apparent plane tabled shoreline delineated the high water line on H-3204. An approximate shoreline was transferred to H-2930. Soundings and features shown on the priors are generally comparable with depths being less on the early surveys. The greatest differences occur within the 50 fathom depth curve and range from 10-20 fathoms. This region has changed due to seismic activity and strong currents which has resulted in the differences of offshore hydrography.

The rocks located on H-3204 at Pt. Pogibshi, latitude 59°25'34.3"N, longitude 151°53'13.8"W, and at the eastern limits of H-9945, latitude 59°28'42.4"N, longitude 151°36'06.5"W are confirmed by present hydrography as is the rocky and kelp scattered near shore area. The few soundings were further indicative of the nature in the area.

Datum shift to North American 1927 was considered during evaluation as most of the prior surveys were plotted using the Valdez datum. H-2930 has no grid; only a relative and general comparison could be accomplished.

H-8285WD is a 1956 survey of Seldovia Bay plotted using North American 1927 datum. Wire drags were set at depths ranging from 13 to 21 feet. Three hangs were encountered within the limits of this survey. All soundings are less deep than present survey soundings. Two of these soundings have been plotted on the smooth sheet in green. The third sounding was slightly deeper than the other two and could not be plotted due to the scale of the survey. These soundings are:

Sounding	Latitude	Longitude
2.2 fathoms	59°27'21.7"N	151°43'49.0"W
2.2 fathoms	59°27'20.9"N	151°43'44.9"W
2.6 fathoms	59°27'19.7"N	151°43'43.3"W

One presurvey review item was adequately disposed of by the ship in the descriptive report, section K.

H-9945 is adequate to supersede hydrography within the common area with the exception of those wire drag soundings that have been transferred to this survey.

7. COMPARISON WITH THE CHART

16645 (13th Ed., October 4, 1980)

a. Hydrography - Charted information for the most part originates from representative prior survey soundings, rocks and kelp.

All soundings and features originating with the aforementioned prior surveys have been addressed in section 6 of this report.

The shoreline, nearshore rocks and islets, and the 3/4 fathom sounding at latitude 59°27'33"N, longitude 151°42'37"W originate with an unknown source. These features should be charted from present survey data.

Charted shoals were investigated during survey operations and are discussed in the descriptive report, section L. Three need further explanation:

(1) The investigation in the vicinity of latitude 59°26.8'N, longitude 151°47.0'W revealed three rocks awash; see positions 7032, 7033 and 7035. Two rocks awash, the highest and furthest offshore, are plotted. This area should be charted according to present survey data.

(2) The rock charted at latitude 59°25'17"N, longitude 151°53'56"W was previously searched for in 1980 by the field editor. A full explanation of the investigation and disposition is attached in the Field Edit Report, TP-810, Cook Inlet East Side, July 1980. This feature is considered disproven. This area should be charted according to the present survey.

(3) The charted rock .2nm north of Point Naskowhak originates with the shoreline source for H-8285WD. It appears that during chart compilation the rock was offset due to the charting scale and actually depicts the northernmost end of the ledge. The present survey delineates the same feature. Further charting should reflect present survey data.

H-9945 is adequate to supersede all charted hydrography within the common area.

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

c. Aids to Navigation - There is one floating aid to navigation and two nonfloating aids to navigation within the limits of H-9945. All are accurately portrayed on this survey and adequately serve the purpose for which they are intended.

8. COMPLIANCE WITH PROJECT INSTRUCTIONS

H-9945 (RA-20-2-81) adequately complies with Project Instructions OPR-P114-RA-81, Southern Cook Inlet, Alaska.

9. ADDITIONAL FIELD WORK

This is a good basic survey. No additional field work is required.

Respectfully submitted,

Karol M Scott

Karol M. Scott
Cartographer
February 15, 1983

This survey has been verified and evaluated. I have examined the survey and it meets Charting and Geodetic Services survey standards and requirements for use in nautical charting except as noted in the Evaluation Report. The survey is recommended for approval.

J S Green

James S. Green
Supervisory Cartographer

FIELD EDIT REPORT
TP-0810
Cook Inlet East Side
July, 1980

Description

Point Pogibshi is a rocky point with a prominent bluff that rises approximately 50 feet to a flat grassy area on which stands Point Pogibshi Light. Both north and south of the point the shoreline is composed of alternating pebble beaches and headlands with ledges. There are also areas that are foul with boulders and some detached rocks that lie as much as 200 meters offshore. The majority of this coastline is also foul with Kelp.

Method

A low water search for a rock in the area marked in blue on the manuscript, at 59°25'30"N, 151°53'50"W, was conducted from a skiff on J. D. 166 by the field editor with a predicted -4.7 foot tide and on J. D. 167 by the hydrographer with a predicted -3.9 foot tide. No sign of a dangerous rock awash was found in 12 to 15 fathoms of water. This "rock" was monoscopically identified and reported as a change to the chart via a Notice to Mariners. It was called a dangerous rock awash. Given the difficulty encountered when trying to remove erroneous items from the chart, such items as a "rock" seen on one photo but not the overlapping photos should not be reported without field verification. This creates extra work for ourselves and degrades the quality of our charts. It is recommended that this item and any others like it on other manuscripts that were reported due to photo identification but not found by the field editor should be followed by a negative report in the Notice to Mariners when the compiler applies the field edit.

The remainder of the field edit was completed during one lower low tide using both a launch and a skiff. All features were visible on the photos, thus no sextant fixes were recorded.

Adequacy and Completeness of Compilation

The manuscript as compiled is adequate and complete except for some ledges and detached rocks that were not recognized by the compiler which had to be added during field edit. There are no bluffs as compiled, except for a few hundred meters of the coast on either side of Point Pogibshi, where a 50 foot cliff is of landmark value. This entire sheet was field edited.

Manuscript Accuracy

No formal accuracy tests were performed.

Recommendation

This manuscript after the field edit data is applied will be complete, accurate and acceptable for charting purposes.

Submitted by

Christopher P. Hancock
Lt(jg)., NOAA

Approved by:

A. J. Patrick
Capt., NOAA

U.S. DEPARTMENT OF COMMERCE
February 10, 1982 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): 945-5500 Seldovia, AK

Period: June 8 - August 14, 1981

HYDROGRAPHIC SHEET: H-9945

OPR: P114

Locality: Kachemak Bay Entrance, Cook Inlet, Alaska

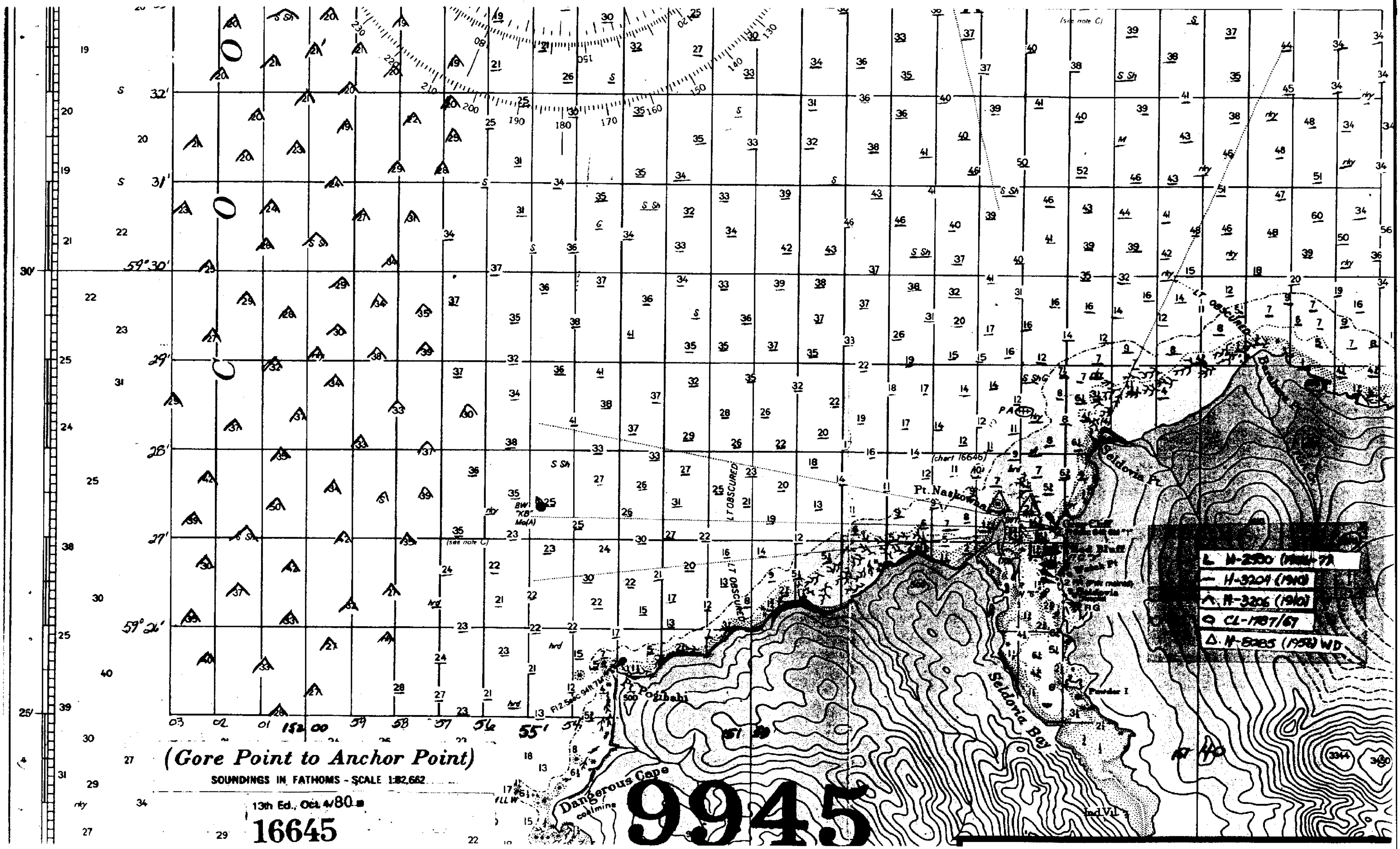
Plane of reference (mean lower low water): 8.15 feet

Height of Mean High Water above Plane of Reference is 17.16 feet

REMARKS: Recommended Zoning:

1. From 152°06.0' east to 151°57.0' apply -10 minute time correction and x0.91 range ratio.
2. From 151°57.0' east to 151°50.0' apply x0.94 range ratio.
3. East of 151°50.0' zone direct.

Chief, Datums and Information Branch



(Gore Point to Anchor Point)
SOUNDINGS IN FATHOMS - SCALE 1:82,662
13th Ed., Oct. 4/80
16645
9945
Dangerous Cape
Pt. Pogibshi
Pt. Naskowhak
Seldovia Pt.
Seldovia Bay
Powder I
LT OBSCURED
(chart 16646)
59°30'
59°26'
L H-2590 (1900-7?)
— H-3204 (1910)
^ H-3206 (1910)
○ CL-1187/67
△ H-8085 (1958) WD

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

March 2, 1983

Commander (OAN)
Seventeenth Coast Guard District
P. O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

A review of verified hydrographic survey H-9945, Point Pogibshi to Barabara Point, Cook Inlet, Alaska, indicates the following changes affecting NOAA Chart 16645. The indicated depths are reduced to MLLW.

1. A 2.3 fathom sounding supersedes a 3-1/4 fathom charted sounding at latitude 59°28'43"N, longitude 151°42'14"W.

2. A 3.8 fathom sounding supersedes a 4-1/4 fathom charted sounding at latitude 59°27'36"N, longitude 151°43'58"W.

Any questions regarding the above items may be directed to Cdr. Ned C. Austin, Chief, Nautical Chart Branch, telephone (206) 442-4764.

Sincerely,

Charles K. Townsend
Rear Admiral, NOAA
Director, Pacific Marine Center

ATTACHMENT TO DESCRIPTIVE REPORT H-9945

I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

Ved C Austin 3/10/83
Chief, Nautical Chart Branch

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:KWJeffers K.W. Jeffers 3/14/83

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

Allen K Thompson 4/14/83
Director, Pacific Marine Center

ADDENDUM TO EVALUATION REPORT FOR H-9945

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.

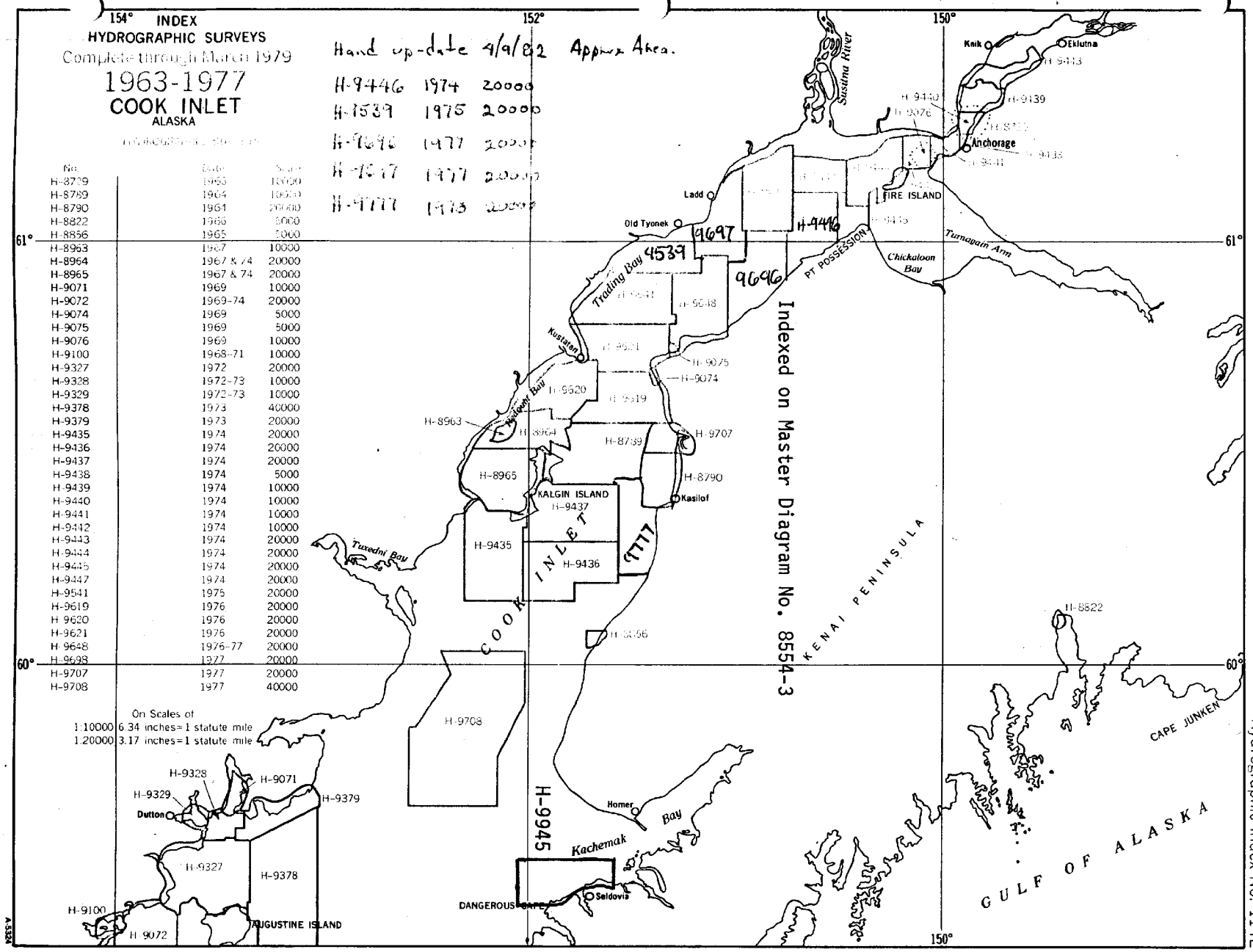
Respectfully submitted,

James S. Green
Supervisory Cartographer
~~October 14~~, 1983
November 22,

APPROVED:

Ned C. Austin 11/23/83

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

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9945

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	9/5/84	B. Fernandez	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 18, Exam, no critical corr.
16013	12/5/84	H.J. Borowski	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. Exam. for critical corrections only, no correction.
500	5/29/85	R.S. House	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 5 Exam for critical corr. only No corr.
16646	8-13-85	J H O'Connor RSH	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 13
16646	10-85	J M O'Connor	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 22 Applied thru cht 16646
16646	7/5/86	J A Graham	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. #1 applied ~~through~~ thru chart 16646 reconstruction
16645	3/15/91	Almacen	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. Full application of sndgs. ~~from~~ SS. Part thru 16646 — Part direct
16013	3/18/91	Almacen	Full ~~Part~~ ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. Full application of sndgs. from SS thru 16645.
16640	3/21/91	Almacen	Full ~~Part~~ ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. Full application of sndgs. from SS thru 16645,
531	4/9/91	Almacen	Full ~~Part~~ ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. Applied two (2) sndgs. (23 & 33 fathoms) from SS thru 16013.
500	4/16/91	Almacen	Applied 42 & 56 meters sndgs. and a wreck (PA) from SS thru 531.
531	7-14-95	R. Elliott	FULL
	8-1-95		DWG #21 APPL'D THRU 16013 (#30)

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

USCOMM-DC 8558-P63