

9940

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-5-1-81
Office No. H-9940

LOCALITY

State Alaska
General Locality Cook Inlet
Locality Seldovia Bay

1981

CHIEF OF PARTY
CDR R. J. Land

LIBRARY & ARCHIVES

DATE November 30, 1983

9940

AREA 6

CHTS:

16640

16645

16646

HYDROGRAPHIC TITLE SHEET

H-9940

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-5-1-81

State Alaska

General locality Cook Inlet

Locality Seldovia Bay

Scale 1:5,000 Date of survey May 6 - August 19, 1981

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

Vessel NOAA Ship RAINIER, Launches RA-3 (2123), RA-5 (2125), Skiff RA-7 (2127)

Chief of party CDR Ralph J. Land

Surveyed by LTJG David Kruth, LT Thomas Clark, LT Michael Kretsch

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verification

~~Checked~~ by Thelma O. Jones Automated plot by PMC Xynetics Plotter

Evaluation

~~Checked~~ by Gordon E. Kay

Soundings in fathoms feet at MLW MLLW and tenths of fathoms

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

*12-05-83
STANDARDS CR'D*

C.Lay

AWOIS - 12/15/83 mgf

RWW 8/2/92

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H-9940

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*12-05-83
STANDARDS CK'D*

C. Kay

AWOIS - 12/15/83 mjt

RWW 8/21/92

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SURVEY

H-9940

RA-5-1-81

Scale 1:5,000

1981

NOAA Ship RAINIER S221

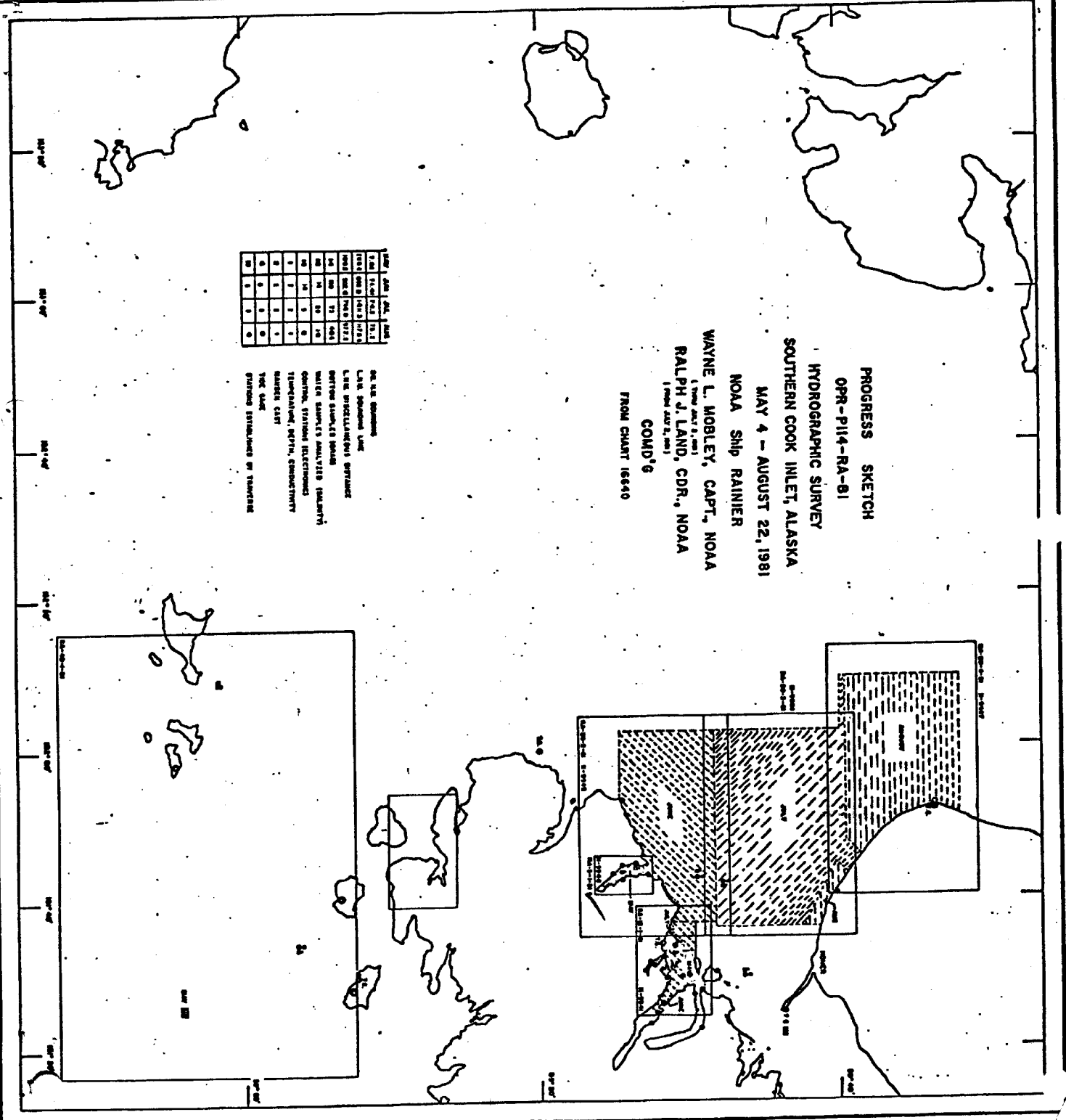
CDR Ralph J. Land

Commanding

PROGRESS SKETCH
 OPR-P114-RA-81
 HYDROGRAPHIC SURVEY
 SOUTHERN COOK INLET, ALASKA
 MAY 4 - AUGUST 22, 1981
 NOAA SHIP RAINIER
 WAYNE L. MOBLEY, CAPT., NOAA
 RALPH J. LAND, CDR., NOAA
 (1 Year, 2001)
 (1 Year, 2001)
 COMD'g
 FROM CHART 16440

DATE	TIME	DEPTH	TEMP	COND	SP. COND	WIND	WAVE	SEA	SWELL	ICE	VIS	WEATHER	MOON	STAR	REMARKS
05	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
06	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
07	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
08	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
09	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
10	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
12	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
13	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
15	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
16	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
17	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
18	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
19	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
20	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
21	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10
22	00	10	10	10	10	10	10	10	10	10	10	10	10	10	10

ON SEA SURVEYING
 LINE OBSERVATION LINE
 LINE OBSERVATION POINT
 SURVEY STATION'S POSITION
 WATER SAMPLES ANALYSIS (SALINITY)
 CURRENT, STATION ELECTRONIC
 TEMPERATURE, WPT'S, CONDUCTIVITY
 WINDSPEED (KTS)
 WAVE (KTS)
 SEA (KTS)
 SWELL (KTS)
 ICE (KTS)
 VIS (KTS)
 WEATHER (KTS)
 MOON (KTS)
 STAR (KTS)
 REMARKS (KTS)



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 Seldovia Bay south of a line joining 59/27/15 N, 151/43/00 W; 59/27/27 N, 151/43/45 W; and 59/27/20 N, 151/44/25 W, and north of a line between 59/24/10 N, 151/41/15 W and 59/24/00 N, 151/41/45 W. The lagoon just south of Point Maskowhak was not sounded because it bares before MLW. This survey does not extend east of the breakwater into the Seldovia small boat basin. See Section "P" for details. ✓

Survey work in Seldovia Bay was done on the following dates:

Launch RA-3 (2123)

May 6-8
May 11-18
June 25-28
August 14

Launch RA-5 (2125)

June 23-24
August 18 ✓

C. SOUNDING VESSELS

Two RAINIER hydrographic survey launches were used during this survey: ✓

<u>Launch</u>	<u>Vessel (EDP)</u>	<u>Hull Number</u>
RA-3	2123	1007
RA-5	2125	1003

 ✓

Both launches collected bottom samples as well as hydrography. No unusual vessel configurations or problems were encountered. ✓

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Introduction

The echo sounding corrections contained in this report are to be applied to Hydrographic Survey RA-5-1-81 (H-9940) in Cook Inlet, Alaska. This survey was conducted between May 6 and August 18, 1981 (JD 126-230). The following echo sounding corrections are discussed: Sound velocity corrections, launch draft corrections, settlement and squat corrections, and instrument corrections for blanking, initial, and phase errors. Sea and swell errors were not found to be significant during this project and were not corrected for. ✓

Sounding Equipment

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

<u>Component</u>	<u>Echo Sounder Component Serial Numbers</u>	
	<u>RA-3 (2123)</u>	<u>RA-5 (2125)</u>
Transceiver	1041	1040
Analog Recorder	1042	1040
Digitizer	1041-4	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, therefore were 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

<u>Cast Type</u>	<u>Date</u>	<u>Location</u>	<u>Applicable Survey</u>	<u>Velocity Table #</u>	✓
Nansen	5/4/81	59/25/48 N 151/43/30 W	H-9940	1	
Nansen/Martek	6/27/81	59/26/24 N 151/43/18 W	H-9940	1	✓

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 8/3 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 separate 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 Sandpoint Naval Support Activity on Lake Washington. Tests were performed on RA-4 on April 27, 1981. The RA-3 full speed test was performed at Kawaihae, Hawaii on October 3, 1981. Tests were performed by the following methods: a level rod, graduated in feet, was held above the transducer in each launch. A self leveling Zeiss Ni 2 level was set up on stable ground and readings were taken at different speeds as the launch headed directly toward the level operator. Since the tests were run on an inland lake, no tidal effects were considered. Tides were accounted for on the RA-3 full speed test by comparing the launch 0 RPM elevation before and after the test. The speeds utilized were the same normally used by RAINIER personnel in the field. ✓

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 OORDER 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 8/3 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 16 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 which appear on the smooth sheet are listed below:

Elbow 1956	Atlas 1956
Elbow 1956 ECC	Seldovia Entrance Light 1956
Powder 1956	Watch 1956
Dixie 1956	Seldovia, Church, Cross
Grace 1981	Balsa 1956
	West 1956

G. HYDROGRAPHIC POSITION CONTROL

Electronic range/azimuth methods were used for hydrographic position control during this survey. A Motorola Mini-Ranger III system and Wild T-1 and T-2 theodolites were employed. No unusual problems were encountered that would degrade the expected positioning accuracies.

A list of mobile equipment used follows:

<u>Launch</u>	<u>Console #</u>	<u>R/T #</u>	<u>Dates</u>
RA-3	720	2710	126 - 138
RA-5	715	1557	174 - 175 (failed 184)
RA-3	711	1646	176 - 179
RA-5	711	1646	230 - 233

On August ¹⁸~~17~~ through August 21 (JD ²³⁰~~229~~, 233), RAINIER skiff RA-7 was mounted with Mini-Ranger console ⁷¹⁵~~711~~ and R/T ¹⁶⁴⁶~~1650~~ and used to locate PSR items and least depths over shoals using Range/Azimuth control. Power was supplied by batteries and a converter.

Performance of all mobile equipment was satisfactory during this project, with the exception of one R/T magnetron failure - R/T #1557 on Day 184. The failure was not found to jeopardize the quality of data collected.

During data collection, Mini-Ranger performance was monitored and noted on the raw data printout. When signal strengths fell below the cutoff values determined by the baseline calibrations, data collection was discontinued until acceptable signal strengths could be obtained.

Mini-Ranger shore stations used were as follows: ✓

MINI-RANGER SHORE STATIONS

<u>Transponder Code</u>	<u>Serial Number</u>	<u>Dates (JD)</u>
A	1606 1573	5/10 (130) - 6/7 (158) 6/7 (158) - 8/21 (233)
B	1645 4951	5/10 (130) - 6/22 (173) 6/22 (173) - 8/21 (233)
C	1628	All Dates ✓
D	1569	"
E	912741	"
F	912698	"
O	912721	"

Performance of all Mini-Ranger equipment was satisfactory throughout the course of OPR-P114-RA-81. All shore stations were situated over Third Order, Class I or better geodetic control stations. The transponders were one to three meters above the stations. Power to shore transponders was provided by two 12 volt Gel Cell batteries. ✓

Major equipment failures were limited to two transponder magnetrons. No failure was found to jeopardize data quality. ✓

Of the seven low voltage cutout boxes supplied at the beginning of the season, only two did not fail. All failures were catastrophic and non-repairable. On failure, the leads to the box were cut, spliced, and the transponder returned to service. It was found that no calibration values were affected by this change. ✓

Systems checks were performed twice daily, before and after data gathering. Systems checks conformed to tolerances specified in section 1.3.3.2.4 of the Hydrographic Manual and the PMC OORDER, Appendix M. These checks were obtained by sextant resection to visible Third Order stations or by positioning the R/T unit within one meter of a pile whose geodetic position was determined by Third Order intersection methods. Agreement with the baseline correctors was good in all cases. See the attached separates for data on the fixed calibration point. ✓

Baseline calibrations were performed at the Homer Airport per the PMC Operational Order, Appendix M. The initial baseline calibration values were used to rough plot all data and the initial and ending ✓

values were averaged for smooth plotting. In cases of equipment failure when ending values were unobtainable, initial values were used in smooth plotting after verifying agreement with the daily systems checks. The initial baseline calibration provided cutoff signal strengths for the survey. ✓

More information can be found in the Electronic Control Report, OPR-P114-RA-81, submitted separately. ✓

H. SHORELINE

The shoreline for this survey was transferred from a digitized 1:5,000 scale expansion of film ozalid TP-00814 (1:10,000 scale). Shoreline details have been field-edited and all changes noted were transferred to the field sheet. See the Master Field Edit film ozalid, TP-00814, and the Field Edit Report, TP-00814, OPR-P114-RA-81, for all field edit details. ✓

Of the horizontal control stations used during this survey, Station Atlas (#109) and Station Grace (#108) plot seaward of the shoreline. See the Horizontal Control Report, OPR-P114-RA-81 for details. ✓

I. CROSSLINES

Eleven percent of the 135.7 nautical miles of hydrography in this survey are crosslines. Even though a complete comparison could not be made because, due to legibility, over 5% of the survey soundings were not plotted on the smoothsheet, a total of 332 crossline intersections with the mainscheme and developmental lines were looked at. The soundings at these intersections agree with the contour trends considering that very few intersections were "sounding on top of sounding". ✓

Of the 332 intersections compared, 313 (94.3%) meet the accuracy specifications given in Section 1.1.2, Part B.II.1 of the Hydrographic Manual. The remaining 19 (5.7%) are concentrated along the crossline run from 59°26'02" N and 151°43'30" W northwest to 59°26'20" N and 151°43'40" W (Positions 3038 to 3070; in particular, Positions 3038 to 3044). The differences here vary from 0.2 to 0.4 fathoms. ✓

^{one}
~~No~~ area does stand out as candidates for further development based on crossline intersections. The 1.9 fm sounding at 59°25'37" N and 151°44'09" W. This sounding is just seaward of an area foul with rocks and may indicate additional rocks. (See Position 5534) *see hydrographer report section 3*

^{4.1}
The 2.4 fm sounding at 59°25'56" N and 151°43'26" W may also indicate a prominent obstruction requiring further development. (See Positions 4233-4234) *Position number # 4233/1* *see hydrographer report section 3*

Crossline comparison is considered good. ✓

J. JUNCTIONS

This survey junctions with contemporary Survey H-9945, RA-20-2-81 (1:20,000 scale). ✓

A total of 28 soundings from RA-20-2-81 were transferred by hand to this survey's field sheet. Of the 28, 12 (42.9%) agreed exactly with the surrounding soundings. 10 (35.7%) agreed within one tenth of a fathom, 3 (10.7%) within two tenths of a fathom, and the remaining 3 (10.7%) within three tenths of a fathom. However, all soundings agree well with the overall contour trend. ✓

Expansion 3 of H-9945 shows a 3.9 fm and a 3.5 fm sounding near this survey's 4.4 fm and 4.1 fm soundings respectively. (See 59/27/23 N and 151/44/00 W). The difference can be explained by the irregular rocky bottom in this area. The shoaler soundings of the expansion should show on the chart. ✓

The accuracy standards given in Section 1.1.2, Part B.II.1 of the Hydrographic Manual are met by 25 of the 28 (89.3%) soundings plotted. The remaining 3 (10.7%) show differences in depth, 0.3 fathoms maximum, outside those limits ~~mainly~~ because of actual differences in position of the soundings used for the comparison. The junction agreement is considered very good. ✓

K. COMPARISON WITH PRIOR SURVEYS

There are a total of seven presurvey review items within the boundaries of this survey. Three of them are numbered items taken from Page 5 of Presurvey Review, OPR-P114, Southern Cook Inlet, dated March 16, 1979. The remaining four are dashed items taken from the attachment to this same Presurvey Review, Sheet 3 of 3. ✓

The numbered items are as follows: ✓

32. The piles charted at latitude ²59°25.96' longitude 151°42.90' originate with T-9566 (1953-56) and are the remains of a cannery pier. ✓

Following " *QUOTES FROM PRESURVEY REVIEW INSTRUCTIONS*

" The hydrographer should verify or disprove the piles employing a wire sweep if necessary. Other piles may exist submerged and should be identified by position and depth if found. " ✓

33. " The visible wreck charted at latitude 59°25.81', longitude 151°42.76' originates with U.S. Army photography of 1948. The wreck is undescribed and its condition then, or now, is unknown. " ✓

" The hydrographer should locate the wreck, if it continues to exist. Otherwise, proof of its removal or deterioration will be required and should be attempted through authoritative local documentation or an intensive hydrographic search extending no more than about 500 meters in any direction from the charted position. Displacement of the wreck caused by about 4.0 feet of subsidence and unusual water level changes resulting from the 1964 earthquake should be considered when searching. " ✓

40. ✓ The submerged obstruction charted at latitude 59°25.55', longitude 151°42.58' originates with 1964 NOS aerial photography. The obstruction is undescribed. ✓

The hydrographer shall locate and identify the obstruction. ✓

A special discussion of PSR #40 follows: Using the position given on TP00814, a submerged tree was discovered by field editors on May 6, 1981 during a negative tide, while searching for PSR Item #40. A tide corrected depth of 18 fms was determined. However, at that early date they were unable to position the tree so it was marked with a plastic bottle float. ✓ The tree, although submerged, was easily visible and no other obstructions were found in the general area. ✓

A number of days later, a hydro launch in the area noticed that the plastic float was gone. The launch proceeded to drag the area with its lead line with hopes of snagging the tree. An obstruction was snagged and marked with one of the launch's fenders as a float. At this point the field editor decided to investigate and position the object using divers at a later date. ✓

A couple of weeks later it was discovered that the fender used as a float had been stolen and replaced with an old chunk of styrofoam. On June 27, 1981, RAINIER divers returned to investigate the obstruction and found that the styrofoam float marking the area had disappeared. Due to depletion of their air supply, they dragged the area with a lead line from the whale boat. They snagged what they thought was an obstruction and marked it with the lead line and a fender float, planning to return at a later date to complete the investigation underwater. ✓

On August 19, 1981, divers investigated the obstruction at the foot of the fender float and lead line and found nothing. A subsequent underwater search discovered a submerged tree with a tide corrected depth of 1.9 fms (see Soundings Volume). The tree was positioned at 59°25/33.98' N and 151°42/39.32' W using the range/azimuth method. This tree appeared to be the same one originally found by the field editor. No other obstruction was located and no further search was made. ✓ *Post 500*

Divers stated that the tree was not embedded in the bottom and that it could be partially rotated using its branches for leverage. Given the number of searches made and the condition of the tree, it is likely that the tree has migrated over time from the original 1964 photogrammetric position to the present position. Both the tree and the original PSR obstruction locations are shown on the smooth field sheet. However, since both the hydrographer and field editor spent considerable time searching this relatively small area and both feel that no other obstructions exist, it is recommended that only the tree be carried forth on the smooth sheet. ✓ *see instructions sheet 6*

PSR Items #32 and #33 can be positioned photogrammetrically and are shown on the Master Field Edit film ozalid, TP00814. ✓

Splits of the mainscheme arcs and additional cross lines were run in the immediate vicinity of each of the four dashed presurvey review items shown on Sheet 3 of 3 of the attachment to the Presurvey Review dated March 16, 1979, with the following results: ✓

The 1 3/4 fathom sounding at 59/26/27 N and 151/43/30 W could not be verified. (See Positions 5000-5008). This survey revealed a least depth of 2.5 fathoms at 59/26/28 N and 151/43/28 W. *Pos# 5007/4* ✓

The 1 3/4 fathom sounding at 59/26/07 N and 151/43/42 W could not be verified. (See Positions 5021-5035) The search for this sounding was not very extensive. This survey indicates a least depth of 3.1 fathoms within 10 meters of the given position. Mainscheme soundings did reveal a 2.5 fm ~~obstruction~~ *shoal* at 59/26/08 N and 151/43/54 W. (See Positions 4286/4). *4287*. *0.81* *53.75* ✓

The 4 3/4 fathom sounding at 59/25/28 N and 151/43/32 W could not be verified. (See Positions ~~5036-5040~~) The search for this sounding was not very extensive. This survey indicates a least depth of 5.8 fathoms at 59/25/29 N and 151/43/34 W. *28.70* *33.54* *Pos# 5039/5* ✓

The 2 1/2 fathom sounding at 59/25/33 N and 151/42/59 W was verified. (See Positions ~~5395-5412~~) The investigation does indicate a shoal with a shoalest sounding of 2.7 fathoms at 59/25/31 N and 151/42/59 W. This depth was determined by acoustic sounding only. *Pos# 5410/6* *2.7* ✓

It is recommended that this survey not supersede these presurvey review soundings. *See evaluator Report section 4*

The following prior surveys exist for Seldovia Bay: ✓

<u>Registry Number</u>	<u>Scale</u>	<u>Year Surveyed</u>
H-2930 rec	1:10,000	1906-07
H-2930 a	1:10,000	1906-07 1908
H-3681	1:5,000	1914
H-3681 a	1:5,000	1918
H-8285 W.D.	1:10,000	1956

Prior surveys H-2930 rec (1:10,000) and H-2930 a (1:10,000) are not very extensive. They concentrate on the approaches to the town of Seldovia in the northern portion of the bay. Their soundings, in general, are 0.5 to 1.5 fathoms shoaler than those on this survey. Due to the age of these prior surveys and the geologic events which have occurred in the area since, this survey's results more accurately reflect the actual existing conditions. *See evaluator Report section 6* ✓

Prior survey H-3681 (1:5,000) includes only that area immediately west of the town of Seldovia on the east side of the bay. Soundings from H-3681 match the general contour trend found during this survey with the exception of three peaks (16, 21, and 21 feet) in the channel approaching the town from the north. These peaks could not be verified by this survey. The least depth found in the area is 4.5 fathoms. ✓

** source is H-2930A*

Prior survey H-3681 a (1:5,000) is a special investigation of the small area surrounding a shoal which is now the northern of two breakwaters guarding the Seldovia small boat basin. Due to the construction in the immediate area since the prior survey, a comparison to verify or disprove actual existing conditions would be of little value. ✓

Prior survey H-8285 W.D. is a wire drag survey which covers the approaches to the town of Seldovia on the east side of the bay. Wire drags were not employed during the course of this survey. Comparing this survey's findings with the area wire-dragged, we find no soundings which are shoaler than the wire drag indicates. ✓

It is recommended that this survey supersede all but the wire drag information from prior surveys for charting. ✓

L. COMPARISON WITH THE CHART

This survey is compared to Chart 16646, 8th Edition, dated February 18, 1978, at a scale of 1:20,000. A mylar 1:5,000 scale enlargement of the chart was overlaid on the field sheet. ✓

Soundings, in general, on Chart 16646 are shoaler than this survey indicates, even though the overall depth pattern is the same. The west side of the bay is represented as being as much as 3 fathoms shoaler than this survey indicates (see 59/25/16 N and 151/43/40 W). ✓

Charted depths along the entrance channel on the east side of the bay north of the town of Seldovia are only slightly shoaler (to 0.5 fathoms) than this survey indicates. However, this survey shows the area immediately southwest of black buoy #3 to be as deep as 12 fathoms while Chart 16646 shows this area to be 9 fathoms. The shoal area east of black buoy #3 was confirmed. A dive to verify least depths was attempted, but abandoned due to strong currents and poor visibility. ✓

The shoal at 59/27/20 N and 151/43/45 W was investigated by divers on June 27, 1981. Due to strong currents and poor visibility, however, the shoal soundings given on Chart 16646 could not be diver-verified. Lead line depths determined by the divers were not the least depths found during the survey. This survey found a least depth of 2.5 fathoms over the northwest half of the shoal, and 3.3 fathoms over the southeast half. Existing soundings should not be superseded by this survey. Post# 5465 ✓

Return Charted Wire Drag Sounding from H-8285
The 3/4 fathom sounding charted at 59/27/04 N and 151/44/03 W could not be verified, although no special investigation was carried out. This survey showed a least depth of 1.3 fathoms at 59/27/03 N and 151/44/05 W. Post# 4303/5 ✓

The 2 1/2 fathom sounding at 59/26/17 N and 151/43/16 W was not verified. This survey shows a least depth of 3.6 fathoms in the area. The 2 3/4 fathom wire drag sounding at 59/26/05 N and 151/43/17 W was not verified. This survey indicates a least depth of 3.8 fathoms in the area. The existing soundings should not be superseded by this survey. ✓

Return charted wire drag sounding from H-8285. Post# 4255/2

The mooring buoy shown on the chart at 59/25/09 N and 151/43/21 W was located at 59/25/35 N and 151/43/55 W, over 1/2 nm northwest of the charted position. *Post 4589* ✓

There is a dolphin between the Seldovia City Pier and the Pacific Pearl Seafoods pier. This survey located it at 59/26/28.⁵⁷₃₈ N and 151/43/04.⁷⁵₈ W. ✓
See Position #4594.

There is a piling north of the Pacific Pearl Seafoods pier. This survey located it at 59/26/31.⁸⁹₉ N and 151/43/04.⁰⁵₁₁ W. See Position #4591. ✓

The 1 3/4 fathom wire drag sounding charted at 59/26/29 N and 151/43/09 W was not verified. No special search was made. It should remain on the chart. *Retain charted wire drag sounding from H-8285.* ✓

The small islet north of Powder Island charted at 59/25/35 N and 151/42/47 W does not bare at MHW. It should be charted as a rock (See Master Field Edit Print, TP-00814). ✓

The small peninsula with islet immediately south of Red Bluff (59/26/55 N and 151/42/59 W) does not exist as represented on the chart. See the Master Field Edit Print, TP-00814, for the correct shoreline. ✓

This survey should only supersede general depths and not the dashed PSRs nor the 5 WD depths. *see evaluator Report Section 6.*

M. ADEQUACY OF SURVEY

This hydrographic survey, with the exceptions mentioned in Sections K and L, is considered complete and adequate to supersede all prior surveys for charting. ✓

In certain areas of this sheet, sounding lines which were run parallel to the shoreline plot inshore of the inshore ends of the mainscheme lines. This is because mainscheme lines were run at a lower tide and the launch could not run as far up the sloping beach. The small holidays which result near the low water line are in no case indicative of islets, rocks or other obstructions, unless such observations are shown on the sheet or on TP-00814. ✓

Sounding line spacing is considered adequate with no gaps wider than 60 meters and spacing 50 meters or closer in all critical areas. ✓

N. AIDS TO NAVIGATION *see evaluator Report Section 7*

There are three floating aids to navigation in Seldovia Bay which this survey positioned. Black lighted buoy #3 which marks the east side of the approach channel to the town of Seldovia was located at 59/26/55.45 N and 151/43/18.66 W. Red lighted buoy #4 which marks the west side of the channel was located at 59/26/45.42 N and 151/43/17.34 W. Red buoy #6, also marking the west side of the channel, was located at 59/26/27.31 N and 151/43/21.40 W.

This survey's position for buoy #3 is 46.061 meters, bearing 346°57' from the FFAID position. *see evaluator report section 7*

This survey's position for buoy #4 is 17.674 meters, bearing 042°40' from the FFAID position. *see evaluator report section 7*

This survey's position for buoy #6 is 9.695 meters, bearing 118°36' from the FFAID position. *see evaluator report section 7*

See attached table.

It is recommended that this survey's positions supersede those of the FFAID Listing for charting. *see evaluator report section 7*

A submerged cable, which constitutes a hazard to anchoring, crosses the southern portion of Seldovia Bay. This cable is shown on Field Edit Print TP-00814, and should be shown on the chart. *Concun*

The attached table, Non-Floating Aids Position Comparison, lists G.P.s for the five lights from three different sources: This survey, the FFAID Listing, and the Light List (Volume 3, 1982).

The table indicates that the Light List (Volume 3, 1982) is in error by as much as 5" of latitude and 6" of longitude (see Seldovia Breakwater Light 7). However, the Light List rounds its positions to tenths of minutes so the differences are not as apparent. This survey's results should be provided to the Coast Guard for updating the Light List. *see evaluator report section 7*

Results of a comparison between the FFAID Listing and this survey are included in the separates to this report. Briefly, the results are as follows: This survey differs from the FFAID Listing by 9.724 meters for the Seldovia Breakwater Light 7; 2.026 meters for the Seldovia Dock North Light; 4.586 meters for the Seldovia Dock South Light; 0.066 meters for the Seldovia Bay Light 5; and 0.70 meters for the Seldovia Bay Entrance Light 1. *Concun*

The Alaska Marine Highway Ferry route into and out of Seldovia Bay follows the marked entrance channel on the east side of the bay. The ferry runs as far south as the Seldovia Native Association Pier (formerly Anderson Dock), at which point it comes about and ties up at the north end of the Seldovia City Pier.

0. STATISTICS

<u>Survey Launch</u>	<u>Number of Positions</u>	<u>Miles of Hydrography</u>	<u>Bottom Samples</u>
RA-3 (2123)	3149 2925	127.7	20
RA-5 (2125)	385 378	8.0	96
Total	3534 3308	135.7	116

This survey covers an area of approximately 1.75 square nautical miles.

One tide station was maintained at Seldovia during this survey. ✓

Two Nansen casts and one Martek cast were taken in Seldovia Bay during this survey.

P. MISCELLANEOUS

This survey did not include the Seldovia small boat basin. This survey stayed westward of the breakwaters and a line joining the southern breakwater with the point at 59/26/10 N and 141/43/00 W. The reason for this is that the town of Seldovia is presently in the process of dredging and enlarging their boat basin. Any survey data taken within the basin would be altered by construction in the near future. *cmw*

It is important to note here that the March 1964 earthquake reportedly caused a bottom subsidence of 3.7 feet at Seldovia (ref. Coast Pilot #9, January 1981, p. 115). This must be kept in mind when comparing this survey's data to any prior surveys. It is suspected that this subsidence may account for the general differences in depths (about 0.5 to 1.5 fm) observed between this survey and prior surveys. ✓

Q. RECOMMENDATIONS

It is recommended that upon completion of the dredging and expansion work in the Seldovia small boat basin, a survey be conducted within the basin or survey information be obtained from Seldovia's contractor. The U.S. Army Corps of Engineers also conducts regular hydrographic surveys in the basin, with the next scheduled survey in 1984 (see attached correspondence). *cmw*

The fact that Seldovia is enlarging their boat basin attests to the amount of boat traffic in and out of the area. Seldovia's expansion progress should be monitored so that the changes eventually made can, if possible, be included on the new chart(s) made from this survey's data. *cmw* ✓

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 2 hydroplot systems using range/azimuth program FA-181. There are daily master tapes and corresponding corrector tapes which include the TRA for the launches, baseline correctors for M/R 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: ✓

<u>PDP 8/e Programs</u>	<u>Version Dates</u>
FA-181 Range-Azimuth Logger	2/23/78 <i>correct but not checked</i>
RK-201 Grid, Signal & Lattice Plot	4/18/75
RK-300 Utility Computations	2/05/76
RK-330 Reformat and Data Check	5/04/76
RK-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	1/19/75
AM-602 Elinore - Line Oriented Editor	5/20/75 ✓
AM-603 Tape Consolidator	10/10/72
AM-606 Tape Duplicator	8/22/74
RK-212 Visual Station Table Load & Plot	4/01/74
RK-216 Range-Azimuth Non-Real Time Plot	2/09/81
no # Focal, 1969 and Nansen Cast Calculations	8/15/79

The HP 9815 and H 97 calculators were used to compute geographic positions of electronic control stations and visual signals 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
- Coast Pilot Report, OPR-P114-RA-81
- Field Edit Report, TP-00814, OPR-P114-RA-81

Respectfully Submitted,

Michael J. Kretsch

Michael J. Kretsch
LT. NOAA

BUOY POSITION COMPARISON

	<u>BUOY #3</u>		<u>BUOY #4</u>		<u>BUOY #6</u>	
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude
This Survey's Position	59° 26' 55.45"N	151° 43' 18.66"W	59° 26' 45.42"N	151° 43' 17.34"W	59° 26' 27.31"N	151° 43' 21.40"W
FFAID Position	59° 26' 54.00"N	151° 43' 18.00"W	59° 26' 45.00"N	151° 43' 18.10"W	59° 26' 27.46"N	151° 43' 21.94"W
Distance Between Positions	46.061 meters		17.674 meters		9.695 meters	
Bearing From FFAID Position To This Survey's Position	346° 57' 01.858"		042° 39' 37.699"		118° 36' 27.293"	

NON-FLOATING AIDS POSITION COMPARISON

	Seldovia Breakwater Light 7	Seldovia Dock South Light	Seldovia Dock North Light	Seldovia Bay Light 5 Seldovia Entrance Light - Watch Point	Seldovia Bay Entrance Light 1 Gray Cliff Light
FFAID Listing	59° 26' 19.484" N 151° 43' 00" W	59° 26' 27.484" N 151° 43' 05.085" W	59° 26' 29.097" N 151° 43' 07.627" W	59° 26' 34.84" N 151° 43' 09.38" W	59° 27' 09.91" N 151° 43' 08.22" W
This Survey	59° 26' 19.44682"N 151° 43' 0.61258" W	59° 26' 27.56282"N 151° 43' 05.33137"W	59° 26' 29.16112"N 151° 43' 07.65293"W	59° 26' 34.8385" N 151° 43' 09.383" W	59° 27' 09.9081" N 151° 43' 08.21756"W
USCG Light List-Vol.3 1982	59° 26' 24" N 151° 43' 06" W	59° 26' 30" N 151° 43' 06" W	59° 26' 30" N 151° 43' 06" W	59° 26' 36" N 151° 43' 12" W	59° 27' 12" N 151° 43' 12" W

INDEX TO ATTACHMENTS FOLLOWING TEXT

Hydrographic Sheet Projection Parameters

Field Tide Note

Master Station List

ASCII Signal Tape Listing

Velocity Graphs

Velocity Corrector Tape Listing

Abstracts of TC/TI Tape Computations

Abstracts of TC/TI Tapes

Settlement and Squat Test Results

Abstracts of Positions

Bottom Samples (Log Sheet M)

Final Baseline Correctors

Electronic Corrector Abstracts

Description of Search Form

Abstracts of Times of Hydrography

Geographic Names

Nonfloating Aids or Landmarks for Charts (76-40)

Geodetic Data for Fixed Calibration Point

Inverse Computations for Aids to Navigation and Fixed Point Calibrations

Correspondence (Hazards, COE)

Approval Sheet

PARAMETER TAPE LISTING
FA-5-1-81(H-9940)

SKEW:291,22,64
FEST=66000
CLAT=6515000
CMEF=152/30/0
CFIL=15
FLSCL=5000
FLAT=59/27/27
FLCN=151/45/55
VESNO=2123
YF=81
ANLIST=C.O

EXPANSION SHEET NO.1

SKEW:303,5,10
SCALE - 1:1000
FEST=66000
CLAT=6515000
CMEF=152/30/0
CFIL=C5
FLSCL=1000
FLAT=59/26/29
FLCN=151/43/11
VESNO=2123
YF=81
ANLIST=C.O

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.

<u>Site</u>	<u>Location</u>	<u>Period</u>
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 $\frac{1}{2}$ 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)

<u>BM No.</u>	<u>5/04/81</u>	<u>8/20/81</u>
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)

<u>BM No.</u>	<u>5/12/81</u>	<u>8/20/81</u>
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)

<u>BM No.</u>	<u>5/17/81</u>	<u>8/19/81</u>
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)

<u>BM No.</u>	<u>5/09/81</u>	<u>8/21/81</u>
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)

<u>BM No.</u>	<u>5/28/81</u>	<u>7/12/81</u>	<u>8/21/81</u>
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)

<u>BM No.</u>	<u>5/16/81</u>	<u>5/21/81</u>
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

RA-20-4-81, (H-9967), F
RA-20-3-81, (H-9958), EE
RA-20-2-81, (H-9945), FF
RA-5-1-81, (H-9940), JJ
RA-10-1-81, (H-9941), GG
RA-40-1-81, V

Tide Station(s)

945-5606
945-5558, 945-5606
945-5452
945-5500
945-5517
945-5415

MASTER STATION LIST
OPR-PI14-RA-81
COOK INLET, ALASKA

FINAL VERSION

101	3	59	22	16846	153	21	10454	250	0104	329646	
/MOUND 1913 RED RAYDIST STATION 591532 (1007)											
102	3	59	54	58131	152	42	23706	250	0006	329646	
/RED 1979 GREEN RAYDIST STATION 591532 (FA-79)											
103	4	59	27	09854	151	43	08282	250	0015	000000	
/BALSA 1956 591513 (1004)											
104	3	59	25	30907	151	44	06333	250	0007	000000	
/DIXIE 1956 591513 (1026)											
105	1	59	24	52738	151	42	56807	250	0000	000000	
/ELBOW 1956 591513 (1032)											
106	4	59	25	24124	151	42	53646	250	0001	000000	
/POWDER 1956 591513 (1091)											
107	4	59	26	34812	151	43	08884	250	0000	000000	
/WATCH 1956 591513											
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 591513 (1002)											
110	5	59	24	52737	151	42	56903	243	0000	000000	
/ELBOW 1956 ECC. RA-1951											
145	4	59	30	41909	151	22	54163	139	0000	000000	
/ODIN 1980 RA-1980											
116	2	59	30	35922	151	26	59763	139	0000	000000	
/CHINOOK 1980 RA-1980											
117	6	59	28	39254	151	26	33320	139	0000	000000	
/DOUBT 1980 RA-1980											
118	3	59	27	57932	151	26	33222	139	0000	000000	
/TUT 1980 RA-1980											
119	3	59	28	09991	151	25	48936	139	0000	000000	
/BATH 1980 RA-1980											

~~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 250 0007 000000~~
~~/TP 7~~ VOL. 3 PAGES 10-12

~~147 4 59 28 06304 151 29 05675 250 0005 000000~~
~~/BOB 1981~~ VOL. 3 PAGES 6-7

~~148 1 59 28 06872 151 29 19954 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 36 24030 151 42 51329 139 0020 000000~~
~~/SELDOVIA CHURCH CROSS, 1956~~ 591513 (1074)

~~201 5 59 26 34838 151 43 09382 139 0000 000000~~
~~/SELDOVIA ENTRANCE LT 1956 (SEL. BAY ENT. LT. 5)~~
 591513 (1095)

~~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 07200 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~~ 591513 (1093)

~~208 3 59 36 09213 151 25 09280 139 0010 000000~~
~~/SALTY DAWG 1975~~ 591511 (1037)

~~209 3 59 33 03328 151 27 54887 139 0000 000000~~
~~/COHEN ISLAND ROCK LT, 1975~~ 591511 (1008)

210 6 59 26 52708 151 44 57477 139 0000 000000
 /WEST, 1956 591513 (1109)

~~211 6 59 25 30165 151 53 05113 139 0025 000000~~
~~/POINT POGIBSHI LT 1975 591513 (1082)~~

~~212 3 59 52 53582 151 47 02423 139 0071 000000~~
~~/STARISKY 1964 591514 (1018)~~

~~213 3 59 45 09476 151 51 35934 139 0006 000000~~
~~/PINK 1968 591514 (1016)~~

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

~~215 4 59 42 52229 151 48 38503 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 41074 139 0000 000000~~
~~/KQTL TWR RA-1981~~

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

~~230 4 59 41 09914 151 44 36646 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 RA-1981

234 4 59 27 09908 151 43 08217 139 0019 000000
 /GRAY CLIFF LIGHT CENTER 1956 (SEL.BAY ENT LT.1) 591513 (1046)

235 4 59 26 19447 151 43 00612 139 0007 000000
 /SELDOVIA BREAKWATER LT. 7 RA-1981
Light

236 6 59 26 27563 151 43 05331 139 0005 000000
 /SELDOVIA DOCK SOUTH LIGHT RA-1981

237 1 59 26 29161 151 43 07653 139 0005 000000
 /SELDOVIA DOCK NORTH LIGHT RA-1981

ASCII SIGNAL TAPE LISTING
OPR-PI14-RA-81

101	3	59	22	16846	153	21	18454	250	0104	329646	MOUND, 1913 RED BAYDIST STATION
102	3	59	54	58131	152	42	28706	250	0006	329646	RED, 1977 GREEN BAYDIST STATION
103	4	59	27	09854	151	43	08282	250	0015	000000	BALSA 1956
104	3	59	25	30907	151	44	06833	250	0007	000000	DIXIE 1956
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
107	4	59	26	34812	151	43	08884	250	0000	000000	WATCH 1956
108	2	59	25	31891	151	42	22008	250	0003	000000	GRACE 1981
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	54160	139	0000	000000	ODIA 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	53564	151	24	53113	139	0000	000000	AMOS 1980
122	4	59	27	09872	151	23	18004	139	0000	000000	ARNIE 1980
123	7	59	27	20715	151	31	10513	139	0006	000000	TP 6
129	4	59	39	37645	151	39	44972	250	0227	000000	BLUFF PT. 2, 1956
130	4	59	30	45561	151	27	38838	250	0000	000000	NEAL 1960
131	6	59	30	15593	151	26	57558	250	0000	000000	POWER 1980
132	2	59	29	57436	151	29	31824	250	0000	000000	GRASS ISLAND 1975
133	3	59	29	21048	151	29	11056	250	0000	000000	GRASS ISLAND AZI. MARK 1975
134	5	59	30	33728	151	30	25245	250	0000	000000	SNACK 1965
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
142	4	59	28	22772	151	30	32935	250	0006	000000	JACKIE 1981
143	3	59	28	44161	151	30	51973	250	0005	000000	JOSHUA 1981
144	6	59	28	47211	151	30	23585	250	0005	000000	BIRCH 1981
145	6	59	28	24999	151	29	03732	250	0004	000000	STARK 1981
146	7	59	28	21379	151	29	43029	250	0007	000000	TP 7
147	4	59	28	06203⁴	151	29	05686¹⁵	250	0005	000000	BOB 1981
148	1	59	28	06876²	151	29	19945⁵⁴	250	0006	000000	TP 8
149	4	59	28	14842	151	27	36837	254	0006	000000	TP 9
150	3	59	46	11106	151	51	53280	250	0022	000000	ANCHOR PT. LT., 1975
200	4	59	26	24030	151	42	51329	139	0020	000000	SELDOVIA CHURCH CROSS, 1981
201	5	59	26	34838	151	43	09382	139	0000	000000	SELDOVIA ENT. LT., 1956 (SEL. BAY ENT. LT. 5)
202	1	59	30	17976	151	31	20219	139	0005	000000	SHAWN 1981
203	0	59	28	55513	151	33	26794	139	0006	000000	BAXTER, 1981
204	5	59	28	07208	151	32	01894	139	0005	000000	DORIS 1981
205	7	59	27	35361	151	31	09864	139	0004	000000	BUCKY B 1981

RLH 4/2/82
RLH 4/2/82

206	6	59	26	55316	151	30	38952	139	0004	000000	ANDY 1981
207	7	59	28	12905	151	42	08004	139	0065	000000	SELDOVIA 1910
208	3	59	36	09213	151	25	09200	139	0010	000000	SALTY DAWG, 1975
209	3	59	33	03328	151	27	54887	139	0000	000000	COHEN ISLAND ROCK LT, 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 DOGIBSHI LT, 1975
212	3	59	52	53582	151	47	02423	139	0071	000000	STARISKY 1964
213	3	59	45	29476	151	51	35934	139	0006	000000	PINK 1968
214	3	59	47	46312	151	50	49736	139	0065	000000	LEE 1968
215	4	59	42	52220	151	48	38514	139	0050	000000	NEW 2, 1981 RLH 4/2/82
216	4	59	39	36355	151	40	37161	243	0003	000000	TP 11
218	4	59	39	54943	151	41	25800	139	0003	000000	KILLER LADY 1981
219	3	59	41	02323	151	37	41274	139	0000	000000	KGTL TOWER
220	4	59	42	00054	151	46	45905	139	0005	000000	MILLARD 1981
230	4	59	41	09914	151	44	36646	243	0003	000000	TP 13
231	4	59	38	56877	151	38	21328	243	0002	000000	TP 10
232	3	59	46	10101	151	51	53359	243	0011	000000	TP 9
233	4	59	26	28318	151	43	07025	243	0000	000000	FIXED CALIBRATION POINT
234	4	59	27	09908	151	43	08217	139	0019	000000	GRAY CLIFF LIGHT CTR. (SEL. BAY ENT. LT. 1) 1956
235	4	59	26	19447	151	43	00612	139	0007	000000	SELDOVIA BREAKWATER LIGHT CENTER, 1981
236	6	59	26	27563	151	43	05331	139	0005	000000	SELDOVIA DOCK SOUTH LIGHT, 1981
237	1	59	26	29161	151	43	07653	139	0005	000000	SELDOVIA DOCK NORTH LIGHT, 1981
238	1	59	26	04000	151	42	50706	139	0000	000000	SELDOVIA EASTERN CHURCH CROSS, 1981
300	3	59	27	35485	151	42	22779	243	0000	000000	PHOTO SIGNAL
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
303	3	59	26	54343	151	43	01625	243	0000	000000	CAMEL ROCK (PHOTO SIGNAL)
304	3	59	28	06257	151	31	44238	243	0000	000000	PHOTO SIGNAL
305	3	59	27	03160	151	30	57800	243	0000	000000	PHOTO SIGNAL
306	3	59	26	53270	151	30	02190	243	0000	000000	PHOTO SIGNAL
307	3	59	27	53346	151	31	19509	243	0000	000000	PHOTO SIGNAL
308	3	59	27	43546	151	31	35816	243	0000	000000	PHOTO SIGNAL
309	3	59	28	48390	151	30	33110	243	0000	000000	PHOTO SIGNAL
310	3	59	26	19440	151	43	01020	243	0000	000000	PHOTO SIGNAL

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

CORRECTIONS IN FEET FATHOMS

NOAA FORM 11-21 (10-72) U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEAN SURVEY

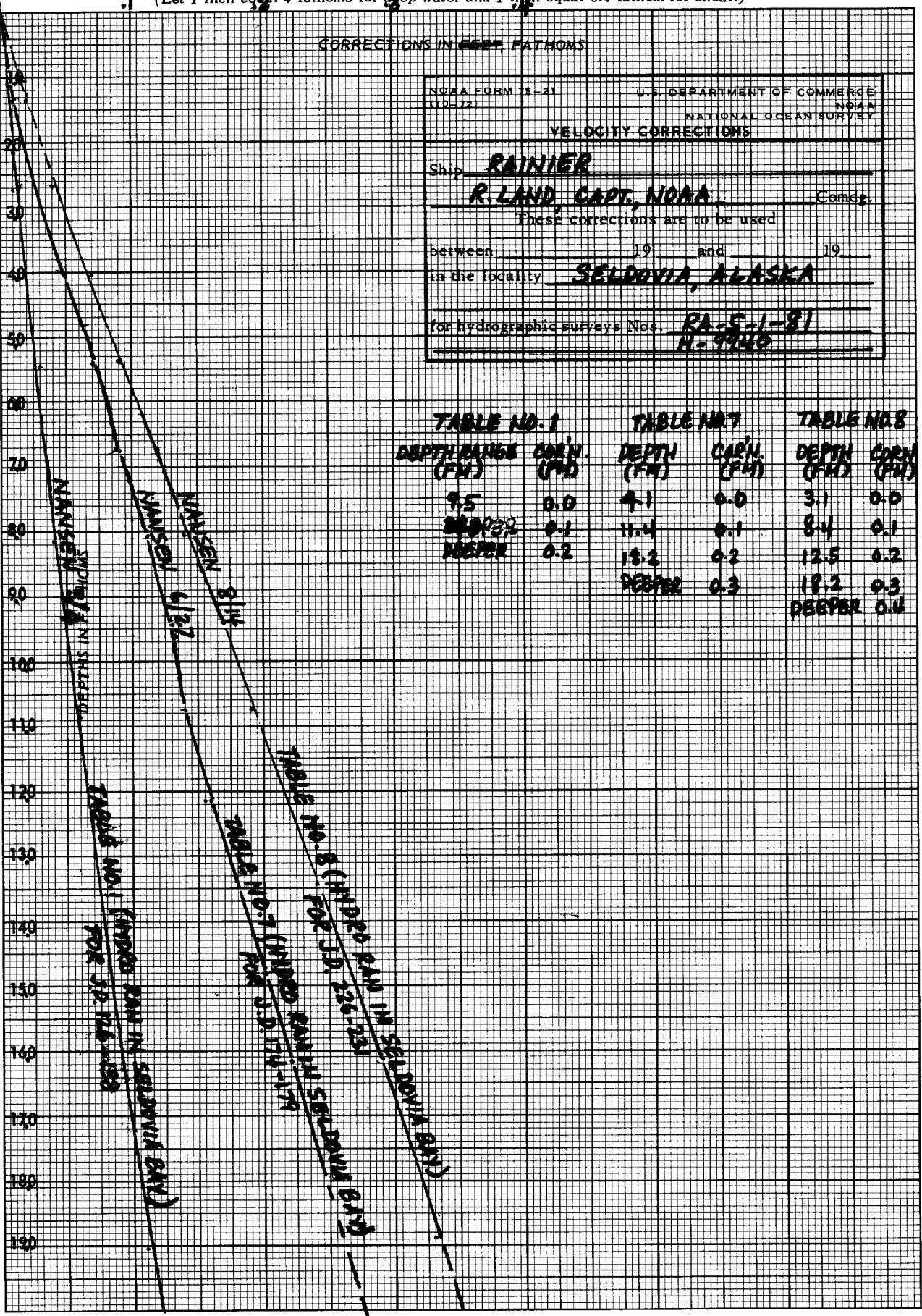
VELOCITY CORRECTIONS

Ship RAINIER
R. LAND, CAPT, NOAA Comdr.

These corrections are to be used
 between 19 and 19
 in the locality SELDovia, ALASKA
 for hydrographic surveys Nos. RA-5-1-81
H-9945

TABLE NO. 1		TABLE NO. 7		TABLE NO. 8	
DEPTH RANGE (FM)	CORR. (FM)	DEPTH (FM)	CORR. (FM)	DEPTH (FM)	CORR. (FM)
9.5	0.0	4.1	0.0	3.1	0.0
DEEPER	0.1	11.4	0.1	8.4	0.1
	0.2	18.2	0.2	12.5	0.2
		DEEPER	0.3	18.2	0.3
				DEEPER	0.4

(For deep water add a 0 to these figures)



46 1240

20 X 20 TO THE INCH • 7 X 10 INCHES
 KEUFFEL & ESSER CO. MADE IN U.S.A.

VELOCITY TAPE LISTING
RA-5-1-81(H-9940)

TABLE NO. 1

000095 0 0000 0001 001 000000 000000
000240 0 0001
999999 0 0002

TABLE NO. 7

000041 0 0000 0007 001 000000 000000
000114 0 0001
000182 0 0002
999999 0 0003

TABLE NO. 8

000031 0 0000 0008 001 000000 000000
000084 0 0001
000125 0 0002
000182 0 0003
999999 0 0004

FROM TIME	TRA CORR.	DAY	VEL. TRBL.	TRA CORR. INITIAL	TRA CORR. is the algebraic sum of these columns SCALE-PHASE	DRAFT	F. ARC	S. / SQVAL	COMMENTS
191530	0.3	174	7	0.0	0.0	0.3	0.0	0.0	HYDRO BEGINS
215947	0.0	174	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
013000	0.3	175	7	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
195220	0.0	175	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
202233	0.3	230	8	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
020000	0.3	231	8	0.0	0.0	0.3	0.0	0.0	HYDRO ENDS

RA-5-1-81

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA CORR. INITIAL	Is the algebraic sum of these columns	DRAFT	F. ARC	S. / SQUAT	COMMENTS
					SCALE-PHASE				
184921	0.3	136	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
211003	0.0	132	0	0.0	0.0	0.0	0.0	0.0	DETACHED POSITION ON ROCK
185616	0.3	133	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
234728	0.0	134	0	0.0	0.0	0.0	0.0	0.0	DETACHED POSITION ON BUOY
002146	0.3	135	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
184943	0.0	137	0	0.0	0.0	0.0	0.0	0.0	LEADLINE DR ON ROCK
185309	0.3	137	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
225704	0.0	137	0	0.0	0.0	0.0	0.0	0.0	LEADLINE D.P.S.
231237	0.3	137	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
232449	0.0	137	0	0.0	0.0	0.0	0.0	0.0	LEADLINE SDGS. ON PIER
234729	0.3	137	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
005659	0.0	138	0	0.0	0.0	0.0	0.0	0.0	DETACHED POSITION ON PLUMB
005802	0.3	138	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
200000	0.0	138	0	0.0	0.0	0.0	0.0	0.0	DETACHED POSITION ON BUOY
201828	0.3	138	1	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
195018	0.0	177	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES BEGIN

FROM TIME	TRA CORR.	DAY	VEL. TBL.	TRA CORR. INITIAL	SCALE-PHASE	DRAFT	F. ARC	S. / SQUAT	COMMENTS
200820	0.3	177	7	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
210343	0.0	177	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES BEGIN
224744	0.3	177	7	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
232326	0.0	177	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
235406	0.3	177	7	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
001733	0.0	178	0	0.0	0.0	0.0	0.0	0.0	LEAD LINES ON PIER
005057	0.3	178	7	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
013519	0.0	178	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES & LEADLINE D.R.S
202103	0.3	178	7	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
002802	0.0	179	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES BEGIN
223025	0.3	236	8	0.0	0.0	0.3	0.0	0.0	HYDRO RESUMES
003000	0.3	227	8	0.0	0.0	0.3	0.0	0.0	HYDRO ENDS

TRA (NO/TI) TAPE: VESSEL 2127 (R1-7) SURVEY RA-S-1-81 (H-990)

FATHOMETER S/N D.P.O.D YR 81 LEADLINE
 DIVE INVESTIGATION) PAGE 1 OF 1

FROM TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns					COMMENTS
				INITIAL	SCALE-PHASE	DRAFT	F. ARC	S. / SQUAT	
211000	0.0	231	0	0.0	0.0	0.0	0.0	0.0	DIVE INVESTIGATION D.P.
220000	0.0	231	0	0.0	0.0	0.0	0.0	0.0	END D.P.

TC/TI TAPE LISTING
RA-5-1-81 (H-9940)

VESSEL - 2125 (RA-5)
FATHOMETER S/N 1040

191530	0	0003	0007	174	212500	000000
215947	0	0000	0000	174	000000	000000
013000	0	0003	0007	175	000000	000000
195220	0	0000	0000	175	000000	000000
202233	0	0003	0008	230	000000	000000
020000	0	0003	0008	231	000000	000000

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

184921	0	0003	0001	126	212300	000000
211003	0	0000	0000	132	000000	000000
185616	0	0003	0001	133	000000	000000
234728	0	0000	0000	134	000000	000000
002146	0	0003	0001	135	000000	000000
184943	0	0000	0000	137	000000	000000
185309	0	0003	0001	137	000000	000000
225704	0	0000	0000	137	000000	000000
231237	0	0003	0001	137	000000	000000
232449	0	0000	0000	137	000000	000000
234729	0	0003	0001	137	000000	000000
005659	0	0000	0000	138	000000	000000
005802	0	0003	0001	138	000000	000000
200000	0	0000	0000	138	000000	000000
201828	0	0003	0001	138	000000	000000
195018	0	0000	0000	177	000000	000000
200820	0	0003	0007	177	000000	000000
210343	0	0000	0000	177	000000	000000
224741	0	0003	0007	177	000000	000000
232326	0	0000	0000	177	000000	000000
235406	0	0003	0007	177	000000	000000
001723	0	0000	0000	178	000000	000000
005057	0	0003	0007	178	000000	000000
013519	0	0000	0000	178	000000	000000
202103	0	0003	0007	178	000000	000000
002802	0	0000	0000	179	000000	000000
223025	0	0003	0008	226	000000	000000
002000	0	0003	0008	227	000000	000000

VESSEL - 2127 (RA-7)
DIVE INVESTIGATION ONLY

211000	0	0000	0000	231	212700	000000
220000	0	0000				

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.

RPM	RA-3 (1007)		RA-4 (1016)		RA-5 (1003)		RA-6 (1013)	
	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				

ABSTRACT OF POSITIONS

RA-5-1-81 (H-9940)

Vessel: 2123 (RA-3)

ANDIST: 0.0

<u>Day</u>	<u>Positions</u>	<u>Ctrl</u>	<u>S1 M S2</u>	<u>Remarks</u>
126	3000-3100	03	105 R/AZ	Crosslines
126-127	3101-3291	03	105 "	Mainscheme
127-128	3300-3477	03	105 "	Mainscheme
128	3478-3494	03	105 "	Crossline
128	3495-3533	03	105 "	Mainscheme
128	3535-3558	03	105 "	Crosslines
128	3559-3646	03	105 "	Mainscheme
131-132	3664-3832	03	105 "	Mainscheme
132	3834-3892	03	105 "	Shoreline
132	3893-3960	03	105 "	Mainscheme
133	3961-4138	03	105 "	Shoreline
133	4146-4206	03	105 "	Mainscheme
133	4207-4210	03	105 "	Crossline
133-134	4211-4324	03	105 "	Mainscheme
134	2000-2096	03	105 "	Mainscheme
134	2097-2239	03	105 "	Shoreline
134	2240-2300	03	105 "	Development (Radials) Lat. Approx 59°25'00" Lon. Approx 151°42'30"
134	2301-2304	03	105 "	Detached Positions Lat. Approx 59°26'45" Lon. Approx 151°43'20"
135	2307-2346	03	105 "	Development Lat. Approx 59°26'30" Lon. Approx 151°43'15"
135	2348-2391	03	105 "	Mainscheme
135	0011-0073	03	108 "	Mainscheme
135	0074-0116	03	108 "	Shoreline
135	0118-0122	03	108 "	Crossline
135	2395-2405	03	108 "	Crosslines
135	2406-2469	03	108 "	Mainscheme
135	2470-2472	03	108 "	Detached Positions Lat. Approx 59°25'30" Lon. Approx 151°42'45"
136	2473-2537	03	104 "	Shoreline
136	2539-2580	03	104 "	Mainscheme
136	2581-2594	03	104 "	Development Lines Lat. Approx 59°26'15" Lon. Approx 151°43'00"
136	2596-2748	03	103 "	Mainscheme
136	2749-2790	03	103 "	Shoreline
136-137	2791-2930	03	103 "	Mainscheme

<u>Day</u>	<u>Positions</u>	<u>Ctrl</u>	<u>S1 M S2</u>	<u>Remarks</u>
137	2931-2932	03	103 R/AZ	Detached Positions Lat. Approx 59°26'45" Lon. Approx 151°43'00"
137	2933-2995	03	103 "	Mainscheme
137	2997-2999	03	103 "	Crossline (Part)
137	4401-4406	03	103 "	Crossline (Part)
137	4407-4426	03	103 "	Mainscheme
137	4427-4436	03	103 "	Crossline
137	4437-4457	03	109 "	Development (See Expan.)
137	4461-4467	03	109 "	Lead Line (See Expan.)
137	4468-4483	03	109 "	Development (See Expan.)
137	4484-4492	03	109 "	Lead Line (See Expan.)
137-138	4493-4552	03	109 "	Shoreline
138	4553-4588	03	109 "	Mainscheme
138	4591	03	109 "	Detached Position Lat. Approx 59°26'30" Lon. Approx 151°43'00"
138	4592-4593	03	109 "	Development Line (See Expan.)
138	4594	03	109 "	Detached Position (See Expan.)
138	4595-4599	03	109 "	Shoreline (See Expan.)
138	4338-4348	03	109 "	Development Lat. Approx 59°26'30" Lon. Approx 151°43'00"
138	4349-4376	03	109 "	Mainscheme
138	4379-4388	03	109 "	Development Line Lon. Approx 151°25'45" Lat. Approx 151°43'00"
138	4389	03	109 "	Detached Position Lat. Approx 59°25'35" Lon. Approx 151°43'55"
138	4390-4400	03	109 "	Shoreline
176	5126-5185	03	105 "	Mainscheme
176	5186-5192	03	105 "	Crosslines
177	5193-5207	03	103 "	Mainscheme
177	5208-5219	03	103 "	Crosslines
177	5220-5233	03	103 "	Mainscheme
177	5234-5251	03	103 "	Development (Radials) Lat. Approx 59°27'00" Lon. Approx 151°44'00"
177	5300-5354	03	105 "	Mainscheme
177	5355-5367	03	105 "	Shoreline
177	5368-5370	03	105 "	Bottom Samples
177	5371-5389	03	105 "	Development (Radials)
177	5391-5394	03	105 "	Bottom Samples
177	5395-5406	03	104 "	Development, <i>PSR UNNUMBERED</i> Lat. Approx 59°25'30" Lon. Approx 151°43'00" <i>RLH</i>
177	5407-5412	03	104 "	Crossline
177	5414-5416	03	104 "	Bottom Samples
177-178	5417-5432	03	104 "	Development (Radials) Lat. Approx 59°25'45" Lon. Approx 151°43'00"

<u>Day</u>	<u>Positions</u>	<u>Ctrl</u>	<u>S1 M S2</u>	<u>Remarks</u>
178	6433-5438	03	104 R/AZ	Lead Line (See Expan.)
178	5439-5442	03	104 "	Shoreline
178	5444-5459	03	104 "	Development (See Expan. Part)
178	5460-5462	03	104 "	Bottom Samples
178	5464-5465	03	103 "	Lead Line Lat. Approx 59 ⁰ 27'22" Lon. Approx 151 ⁰ 43'45"
178	5466-5479	03	109 "	Development (Radials) Lat. Approx 59 ⁰ 26'45" Lon. Approx 151 ⁰ 43'00"
178	5480-5486	03	109 "	Shoreline
178	5487-5489	03	103 "	Development (Radials) Lat. Approx 59 ⁰ 27'00" Lon. Approx 151 ⁰ 44'00"
178-179	5490-5577	03	103 "	Shoreline
179	5579-5591	03	103 "	Bottom Samples
226	5592-5612	03	104 "	Shoreline
226	5614-5621	03	104 "	Development (Line) Lat. Approx 59 ⁰ 25'30" Lon. Approx 151 ⁰ 42'45"
226-227	5623-5632	03	104 "	Development (Arcs) Lat. Approx 59 ⁰ 26'15" Lon. Approx 151 ⁰ 43'15"

REJECTED POSITION NUMBERS:

0014, 0022-0023, 0032, 0038, 0050, 0062-0065, 0078, 0080, 0083-0084, 0095, 0117.

2007, 2010, 2012, 2025, 2055, 2071, 2072, 2087, 2090, 2117, 2146-2148, 2156-2158, 2303, 2305-2306, 2341, 2344, 2347, 2370, 2392-2394, 2413, 2421-2434, 2441, 2445, 2538, 2549, 2589, 2602, 2629, 2805, 2815, 2834, 2865, 2901, 2984, 2996, ~~2692~~.

3056, 3165, 3242-3245, 3302-3303, 3310, 3323, 3337, 3339-3343, 3356-3362, 3368, 3378, 3389, 3417, 3419, 3431-3432, 3443, 3452, 3454, 3460, 3469-3470, 3479, 3492, 3509, 3511-3514, 3534, 3542, 3549, 3554, 3557, 3565, 3568, 3576, 3580, 3584, 3588-3589, 3597, 3607-3608, 3676, 3684, 3687, 3702, 3713-3714, 3724, 3726, 3735, 3737, 3766, 3787, 3293-3796, 3810, 3897, 3899, 3965, 3966, 3976, ~~3833~~.

4007-4008, 4021, 4026-4027, 4099, 4139-4145, 4148, 4173, 4186-4187, 4237, 4289, 4323, 4345, 4384, 4389, 4458-4460, 4589-4590.

5390, 5393, 5413, 5443, 5494, 5520, 5532, 5578, 5581-5582, 5584-5585, ~~5587~~, 5600-5602, 5611, 5613, 5622, 5627.

DUPLICATE POSITION NUMBERS: 3196-3197, 5126-5215.

ABSTRACT OF POSITIONS - RA-5-1-81 (H-9940)

Vessel: 2125 (RA-5)

ANDIST: 0.0

<u>Day</u>	<u>Positions</u>	<u>Ctrl</u>	<u>S1 M S2</u>	<u>Remarks</u>
174	5000-5008	03	105 R/AZ	Development (P.S.R. #100) Lat. Approx 59°26'15" Lon. Approx 151°43'15"
174	5009-5020	03	105 "	Development Lat. Approx 59°26'15" Lon. Approx 151°43'15"
174	5021-5022	03	105 "	Crossline
174	5023-5033	03	105 "	Development, PSR - UNNUMBERED Lat. Approx 59°26'00" Lon. Approx 151°44'00"
174	5034-5037	03	105 "	Crosslines
174	5038-5040	03	105 "	Development PSR - UNNUMBERED Lat. Approx 59°25'30" Lon. Approx 151°43'30"
174-175	5041-5071	03	105 "	Bottom Samples
175	5072-5078	03	105 "	Mainscheme
175	5079-5102	03	105 "	Development Lat. Approx 59°25'15" Lon. Approx 151°43'15"
175	5103-5145	03	105 "	Shoreline (Buffer)
175	5146-5150	03	105 "	Mainscheme
175-176	5151-5215	03	105 "	Bottom Samples
230	5633-5637	03	109 "	Detached Positions Lat. Approx 59°26'45" Lon. Approx 151°43'00"
230	5639-5652	03	104 "	Shoreline
230-231	5653-5688	03	104 "	Mainscheme
231	5689-5725	03	104 "	Shoreline
231	5726-5740	03	104 "	Mainscheme
231	5741-5800	03	105 "	Shoreline

REJECTED POSITIONS NUMBERS: 5080, 5638

DUPLICATE POSITION NUMBERS: 5126-5215, 5683

ABSTRACT OF POSITIONS

RA-5-1-81 (H-9940)

VESSEL: 2127 (RA-7)

ANDIST: 0.0

<u>Day</u>	<u>Positions</u>	<u>Ctrl</u>	<u>S1 M S2</u>	<u>Remarks</u>
231	0500	03	108 R/AZ	D.P. on obstruction PSR #40 Dive Investigation

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

NOAA FORM 75-44.
(11-72)

VESSEL	SERIAL NO.	DATE	PROJ. NO.		YEAR	DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP. PROX. PENE- TRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dated cutler, anal. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. (INIT.)
			082-P114-RA-81	RA-5-1-81									
2125		1981	59°N	151°W	81								
5206		6/25	24 34.45	42 28.17	2.3	25 lbs			gn	CI P			MM
5207		"	24 40.90	42 17.41	2.6	"			gn	CI			
5208		"	24 33.18	42 08.90	2.2	"			bk	CI			
5209		"	24 27.23	42 20.95	2.3	"			bk	CI			
5210		"	24 18.83	42 17.48	1.8	"			bk	CI P			
5211		"	24 21.91	42 04.33	1.9	"			bk	M P			
5212		"	24 30.29	41 53.44	1.8	"			bk	CI			
5213		"	24 21.93	41 46.69	1.9	"			gn	S			
5214		"	24 16.83	41 56.29	2.0	"			gn	CI			MM

CHECKED BY
TT

DATE CHECKED
3/20/81

Use more than one line per sample if necessary.

VESSEL	SERIAL NO.	DATE	PROJ. NO.		YEAR	DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP. PROX. PENE- TRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, deformed cutter, state of bottom, relief, etc.)	DATE CHECKED	OBS. INIT.
			LATITUDE	LONGITUDE										
2125	5189	1981	6/24	OPR- P114-RA-81	81	7.2	25 lbs			St brk Sh		8/24/81	MM	
	5190	"	"			2.7	"			S P Co				
	5191	"	"			1.8	"			S				
	5192	"	"			1.0	"			S St				
	5193	"	"			2.5	"			S				
	5194	"	"			2.6	"			S G				
	5195	"	"			7.3	"			S				
	5196	"	"			5.0	"			S P				
	5197	"	"			6.0	"			S P				
	5198	"	"			3.7	"			S				
	5199	"	"			2.1	"			S				
	5200	6/25	"			2.8	"			S				
	5201	"	"			2.6	"			S				
	5202	"	"			11.8	"			P			Detritus	
	5203	"	"			4.1	"		gn	Cl				
	5204	"	"			3.0	"		gn	Cl				
	5205	"	"			1.7	"		gn	M P			MM	

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	DATE	PROJ. NO.	YEAR	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP. PROX. TRA- N- SITION	LENGTH OF CORE	COLOR OF SED- IMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dotted cutter, stat. no., type of bottom relief, etc., slope, plain, disposition, etc.)	OBS. INIT.
				LATITUDE	LONGITUDE								
2125	1981	PR-1314-RA-81	81	59°N	151°W								
	6/24	25 50.31 43 49.24	5.6	25/65					br	CI P			MM
5173	"	25 46.55 44 03.19	4.8	"					br	CI St brk Sh			
5174	"	25 42.13 44 14.80	1.3	"					br	M S			
5175	"	25 35.20 44 06.48	2.7	"					br	M P			
5176	"	25 39.91 43 53.89	6.9	"					br	CI			
5177	"	25 43.61 43 40.57	6.3	"					br	CI P			
5178	"	25 46.35 43 24.33	9.4	"					br	CI			
5179	"	25 47.97 43 11.58	5.7	"					br	brk Sh P			
5180	"	25 40.17 43 00.43	5.6	"					br	CI			
5181	"	25 39.01 43 18.15	10.2	"					br	CI			
5182	"	25 36.78 43 31.56	6.5	"					br	CI St			
5183	"	25 32.91 43 46.30	7.3	"					br	CI			
5184	"	25 27.87 43 58.76	1.2	"					br	S P			
5185	"	26 23.77 43 53.22	1.4	"						P St			
5186	"	26 25.78 43 37.82	2.8	"						P Co			
5187	"	26 27.34 43 21.79	5.9	"						P brk Sh			
5188	"	26 27.50 43 08.44	4.2	"						G			MM

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	SERIAL NO.	DATE	PROJ. NO.		YEAR	DEPTH (Fathoms)	WEIGHT OF SAMPLER	AP. PROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesion, denting, cutter, stat. no., type of bottom relief, etc.)	OBS. INIT.
			OPER-PI14-RA-81	RA-5-1-81									
			SAMPLE POSITION		CHECKED BY		DATE CHECKED						
			LATITUDE	LONGITUDE	TT		8/20/81						
5155	6/24	1981	26 19.05 43 25.56	59° N 151° W	81	4.6	25 lbs			S P Co		MM	
5156	"	"	26 19.79 43 10.15			6.0	"		br	M S			
5157	"	"	26 12.01 43 05.57			6.5	"		br	M			
5158	"	"	26 11.37 43 17.91			4.0	"		br	M S P			
5159	"	"	26 09.73 43 34.65			2.8	"		br	M P Co			
5160	"	"	26 07.56 43 49.90			3.5	"			P			
5161	"	"	26 04.52 44 02.00			3.7	"		br	M P			
5162	"	"	26 00.70 44 16.24			2.3	"		br	CI			
5163	"	"	25 58.22 44 17.73			3.6	"		br	CI St			
5164	"	"	25 55.06 44 05.76			4.8	"		br	CI			
5165	"	"	25 59.17 43 48.26			4.2	"			St brk Sh			
5166	"	"	26 01.96 43 32.05			3.1	"			St			
5167	"	"	26 03.10 43 20.7			3.6	"			M P			
5168	"	"	26 03.92 43 05.46			1.5	"		br	M S P			
5169	"	"	25 55.91 43 02.81			4.5	"		br	M P			
5170	"	"	25 55.04 43 18.07			3.9	"		br	M S P			
5171	"	"	25 53.19 43 32.36			8.7	"		br	M brk Sh		MM	

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

NOAA FORM 75-41
(11-72)

VESSEL	SERIAL NO.	DATE	PROJ. NO.		YEAR	DEPTH (Fathoms)	WEIGHT OF SAMPLER	AP. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, denting, cutter, stat. no., type of bottom relief if b, slope, plain, disposition, etc.)	OBS. INIT.
			SAMPLE POSITION										
			LATITUDE	LONGITUDE									
2125		1981	02P-P114-RA-81	81									
			59° N	151° W									
5058	6/23		24 48.24	42 11.52	2.9	25 lbs.			br	M St brk Sh			44
5059	"		24 52.95	42 26.32	3.8	"			br	M St			
5060	"		24 56.03	42 43.28	4.6	"			br	M St			
5061	"		25 00.20	42 56.97	6.0	"			gn	Cl St			
5062	"		24 55.12	43 10.85	6.1	"			gn	Cl			
5063	"		24 55.84	41 55.61	1.9	"			br	Cl St			
5064	"		24 46.17	41 56.44	2.1	"			br	M S			
5065	6/24		24 38.77	42 01.37	2.0	"			br	M S			
5066	"		24 36.99	41 46.15	1.8	"			br	SG			
5067	"		24 44.96	41 41.19	2.2	"			br	Cl			
5068	"		25 31.33	43 10.70	7.6	"			br	Cl			
5069	"		25 28.97	43 26.34	8.6	"			br	Cl			
5070	"		25 25.39	43 39.70	7.7	"			br	Cl			
5151	"		26 08.57	44 20.06	0.9	"				SP			
5152	"		26 11.70	44 10.36	1.2	"				SP			
5153	"		26 15.09	43 55.06	2.0	"				SP			
5154	"		26 17.19	43 46.84	3.0	"				SP Co			44

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	SERIAL NO.	DATE	PROJ. NO.		YEAR	DEPTH (Fathoms)	WEIGHT OF SAMPLER	AP. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, corer, cutter, etc., type of bottom relief, i.e., slope, plain, disposition, etc.)	OBS. INIT.
			OPR-PI14-RA-81	RA-5-1-81									
			SAMPLE POSITION		CHECKED BY		DATE CHECKED						
			LATITUDE	LONGITUDE	TT		8/10/81						
		1981	59° N	157° W	81								
5041		6/23	25 13.14	43 43.31	1.1	25 lbs.				bk	S P		MM
5042		"	25 17.97	43 32.95	6.4	"				br	CI		
5043		"	25 22.05	43 18.26	5.6	"				bk	CI St		
5044		"	25 23.94	43 03.29	5.5	"					st brk Sh		
5045		"	25 16.04	42 56.33	5.2	"				bk	M St		
5046		"	25 14.72	43 11.80	7.1	"				bk	CI St		
5047		"	25 10.87	43 26.21	5.8	"				bk	CI St		
5048		"	25 16.43	43 34.08	4.6	"				bk	CI		
5049		"	24 59.86	43 23.67	2.8	"				bk	CI		
5050		"	25 05.95	43 13.12	5.8	"				bk	CI		
5051		"	25 08.27	42 58.27	5.7	"				bk	CI St		
5052		"	25 06.41	42 42.03	4.0	"				bk	CI St		
5053		"	25 14.60	42 41.01	3.1	"				br	CI		
5054		"	25 10.49	42 26.62	1.5	"				gn	CI		
5055		"	25 00.97	42 30.67	3.9	"				gn	M St		
5056		"	25 03.86	42 16.10	1.3	"				bk	M S		
5057		"	24 56.48	42 11.49	3.6	"				bk	CI St		MM

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

NOAA FORM 75-48
(11-72)

VESSEL	DATE	PROJ. NO.		YEAR	SOUTHERN COOK INLET, ALASKA (H-9940)	CHECKED BY	DATE CHECKED	REMARKS (Unusual conditions, collection, depth of cutter, stat. no., type of bottom, relief, etc., slope, plain, disposition, etc.)	OBS. INIT.
		OPR-2114-RA-81	81						
SERIAL NO.	LATITUDE	LONGITUDE	DEPTH (Fathoms)	WEIGHT OF SAMPLER	AP. PEN. TRA. TION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	
5368	6/26	26 41.05 N	03.11 W	1.8	25 lbs		gy	S	
5370	"	26 20.24 N	10.07 W	1.3	"		bk	rky	
5391	"	24 11.16 N	52.84 W	1.3	"		bk	M	
5392	"	24 13.58 N	47.02 W	1.3	"		bk	M	
5394	"	24 20.90 N	37.43 W	1.4	"		gy	S	
5414	"	25 32.37 N	35.43 W	2.4	"		gy	M Sh	
5415	"	25 33.09 N	42.48 W	3.3	"		gy	M St brk Sh	
5416	"	25 48.87 N	48.57 W	0.7	"		bk	G	
5460	6/27	26 18.05 N	43.02 W	2.9	"		gy	P	
5461	"	26 46.23 N	43.03 W	2.5	"		gy	S	
5462	"	26 52.53 N	43.06 W	3.9	"		gy	P brk Sh	
5519	6/28	27 11.37 N	43.19 W	5.5	"			Kelp	
5580	"	27 11.13 N	43.37 W	5.5	"			S	
5583	"	27 07.87 N	43.51 W	4.2	"			Grs	
5588	"	27 19.43 N	44.05 W	4.0	"		gy	S	
5589	"	27 08.32 N	44.08 W	2.0	"		gy	S	
5590	"	26 57.98 N	44.16 W	1.2	"		bc	S	

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	SERIAL NO.	DATE	PROJ. NO.		YEAR	WEIGHT OF SAMPLER	AP. PROX. POSITION	SAMPLE POSITION		DEPTH (Fathoms)	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, denting, cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
			LATITUDE	LONGITUDE											
2123		1981	08R-PI14-RA-81	81			59° N	157° W							
5591		6/28	27 08.72 44	16.84	11	25 lbs					gy	S	snails	MM	8/20/81

Use more than one line per sample if necessary.

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

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

J.D. 159-169

<u>CODE</u>	<u>CORRECTOR</u>
A	-4
B	-2
C	2
D	2
E	0
F	0
O	2

<u>CODE</u>	<u>CORRECTOR</u>
A	---
B	-1
C	-2
D	1
E	---
F	-1
O	3

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

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

<u>CODE</u>	<u>CORRECTOR</u>
A	0
B	---
C	3
D	1
E	---
F	4
O	0

<u>CODE</u>	<u>CORRECTOR</u>
A	4
B	5
C	3
D	5
E	---
F	5
O	2

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

<u>CODE</u>	<u>CORRECTOR</u>
A	0
B	4
C	1
D	0
E	2
F	2
O	4

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

CONSOLE: 711
R/T UNIT: 1646
J.D. 130-158

J.D. 159-189

<u>CODE</u>	<u>CORRECTOR</u>
A	-6
B	-4
C	-1
D	-2
E	-4
F	-2
O	0

<u>CODE</u>	<u>CORRECTOR</u>
A	---
B	-4
C	-1
D	-3
E	---
F	-2
O	0

J.D. 190-233

<u>CODE</u>	<u>CORRECTOR</u>
A	-13
B	-4
C	-2
D	-4
E	-5
F	-2
O	0

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

CONSOLE: 720
R/T UNIT: 2710
J.D. 130-158

J.D. 159-189

<u>CODE</u>	<u>CORRECTOR</u>
A	-1
B	-1
C	0
D	0
E	-1
F	-1
O	0

<u>CODE</u>	<u>CORRECTOR</u>
A	---
B	-2
C	0
D	0
E	---
F	-1
O	-2

J.D. 190-233

<u>CODE</u>	<u>CORRECTOR</u>
A	-7
B	-4
C	-2
D	-1
E	-2
F	-2
O	-4

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

<u>CODE</u>	<u>CORRECTOR</u>
A	---
B	0
C	-1
D	1
E	---
F	0
O	0

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123

SHEET : 5-1-81

TIME	DAY	PATTERN 1	PATTERN 2
184921	126	700000 1	+75108
000005	127	700000 1	-31334
023200		700000 1	+00000
225901	127	700000 1	+36082
000352	128	700000 1	-78206
030000		700000 1	+00000
184844	128	700000 1	+25258
232000		700000 1	+00000
222841	131	-00001 ✓	+82342
002145	132	-00001	+47050
020000		+00000	+00000
191604	132	-00001 ✓	-56162
211003		-00001	-79500
211200		+00000	+00000
185616	133	-00001 ✓	-67020
002120	134	-00001	+69080
005000		+00000	+00000
182255	134	-00001 ✓	+84261
002146	135	-00001	+78092
033000		+00000	+00000
203709	135	-00001 ✓	+20152
004747	136	-00001	-43169
030000		+00000	+00000
190206	136	-00001 ✓	-32008
001419	137	-00001	-54151
013000		+00000	+00000

(CONTINUED NEXT PAGE)

NOTE: FOR R/AZ HYDRO AND BOTTOM SAMPLES DISREGARD PATTERN 2 CORRECTORS.

184943	137	-00001 ✓	-61168
185309		-00001 ✓	-51239
225704		-00001 ✓	-96309
231237		-00001 ✓	-91439
232449		-00001 ✓	-91446
234729		-00001 ✓	-87550
000001	138	-00001 ✓	-53420
010700		+00000	+00000
184614	138	-00001 ✓	-93389
220000		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123

SHEET : RA-5-1-81

TIME	DAY	PATTERN 1	PATTERN 2
183838	176	-00002 ✓	-62518
001524	177	-00002 ✓	-90115
025000		+00000	+00000
174738	177	-00002 ✓	-04118
224741		-00002 ✓	-65152
000008	178	-00002 ✓	-39208
001723		-00002 ✓	-08150
005836		-00002 ✓	-05172
015000		+00000	+00000
194243	178	-00002 ✓	-86351
202103		-00002 ✓	-88082
000007	179	-00002 ✓	-73532
000200		+00000	+00000
223025	226	-00004 ✓	+66282
001732	227	-00004 ✓	-68423
001959		+00000	+00000

NOTE: FOR R/AZ HYDRO AND BOTTOM SAMPLES DISREGARD
PATTERN 2 CORRECTORS.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125

SHEET : 5-1-81

TIME	DAY	PATTERN 1	PATTERN 2
191530	174	+00004 ✓	-07514
000633	175	+00004	-33293
030000		+00000	+00000
185500	175	+00004 ✓	+79590
000118	176	+00004	-03109
022000		+00000	+00000
202233	230	-0000 ^p	-59587
000001	231	-0000+4	-67535
020000		+00000	+00000

NOTE: FOR R/AZ HYDRO AND BOTTOM SAMPLES DISREGARD PATTERN 2 CORRECTORS.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2127

SHEET : RA-5-1-81

*Console 711 (see vol 1)
KIT 1646*

TIME	DAY	PATTERN 1	PATTERN 2
211000	231	-00004 ✓	-9339C
220000		+00000	+00000

NOTE: FOR R/AZ HYDRO DISREGARD PATTERN 2 CORRECTORS.

DIVE INVESTIGATION
RA-5-1-81, J.D. 231
Seldovia Bay, Alaska

To investigate PSR item #40 (1979)
Minimum depth 2.1 FM at 1210 ADT 8/19/81
Hydrography had shown no object. Field edit early in season (at a
-5 ft. tide) had determined obstruction was a tree. It was marked with
a float, but float had disappeared when the D.P. was to be taken.

On this day general area was dragged with grappling hook with no
success. Divers descended and searched area by following magnetic
compass bearings, keeping spread out but in sight of each other.
Visibility was 10 ft. Tree was found, leadlined, and located using a
R/AZ observer on station GRACE 1981. No other object was found.

Tree is 5.3 fm long. The highest point was 0.8 fm from northernmost
part of tree, a branch which sticks up 3 ft from the bottom. Axis of
tree from highest point is 120° magnetic.

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 No. 2123
 Date of Survey May 6th to August 19th 1981 2125
 Field Sheet No. RA-5-1-81 Registry No. H-9940
 Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)	-	J.D.	Time (Z)	J.D.	Time (Z)	J.D.	Time (Z)
126	174548	-	127	023027				
127	225901	-	128	026405				
131	222841	-	132	013257				
132	191604	-	132	211003				
133	185616	-	134	004806				
134	182255	-	135	022736				
135	203709	-	136	021750				
136	190206	-	137	012143				
137	184943	-	138	010511				
138	182604	-	138	202122				
174	191530	-	175	023925				
175	180607	-	176	023758				
176	183838	-	177	024744				
177	165605	-	178	014537				
178	194243	-	179	010047				
226	223025	-	227	001958				
230	202233	-	231	021828				
231	211000	-	231	213000				
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Computed 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 5/4/81 - 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
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J.D.	Time (Z)	-	J.D.	Time (Z)
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		-		

GEOGRAPHIC NAMES

H-9940

Name on Survey

A ON CHART NO. 16646
 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
 TP-00874

CAMEL ROCK									X	1
GRAY CLIFF	X								X	2
KACHEMAK BAY									X	3
POINT NASKOWHAK									X	4
POWDER ISLAND	X								X	5
RED BLUFF	X								X	6
SELDOVIA									X	7
SELDOVIA BAY	X								X	8
WATCH POINT	X								X	9
ALASKA (title block)										10
COOK INLET (title block)										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

Approved:

Chas E. Harrington

Chief Geographer - N/CG2x5

6 July 1983

NOAA FORM 76-40
(6-74)

Replaces C&GS Form 567.

NONFLOATING AIDS

TO BE CHARTED
 TO BE REVISED
 TO BE DELETED

REPORTING UNIT
(Field Party, Ship or Office)

RAINIER

STATE

ALASKA

LOCALITY

SELDOVIA BAY, AK

DATE

4/1/82

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

ORIGINATING ACTIVITY

- HYDROGRAPHIC PARTY
 - GEODETIC PARTY
 - PHOTO FIELD PARTY
 - COMPILATION ACTIVITY
 - FINAL REVIEWER
 - QUALITY CONTROL & REVIEW GRP.
 - COAST PILOT BRANCH
- (See reverse for responsible personnel)

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

OPR PROJECT NO.

OPR-P114

JOB NUMBER

H-9940

DATUM

N.A. 1927

METHOD AND DATE OF LOCATION
(See instructions on reverse side)

OFFICE

FIELD

CHARTING NAME

LIGHT

LL # 3475

SELDOVIA BREAKWATER LT. 7

LIGHT

LL # 3474

SELDOVIA DOCK SOUTH LIGHT

LIGHT

LL # 3473

SELDOVIA DOCK NORTH LIGHT

see L-1042(83)

POSITION

LATITUDE

59 26
19 44 682
151 43

LONGITUDE

05 33 37
06 25 8
07 65 293

DESCRIPTION
(Record reason for deletion of landmark or aid to navigation.
Show triangulation station names, where applicable, in parentheses.)

CHARTS AFFECTED

16640
16643
16645
16646

"

"

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RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	ORIGINATOR <input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	OFFICE ACTIVITY REPRESENTATIVE <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64.)

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.
 EXAMPLE: 75E(C)6042
 8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

- F - Field
- L - Located
- V - Verified
- 1 - Triangulation
- 2 - Traverse
- 3 - Intersection
- 4 - Resection
- 5 - Field identified
- 6 - Theodolite
- 7 - Planetable
- 8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
 8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.
 EXAMPLE: P-8-V
 8-12-75
 74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
 8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
 8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

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

U.S. DEPARTMENT OF COMMERCE-NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
 FIELD INSPECTION
 FIELD EDIT
 COMPILATION
 FINAL REVIEW
 QUALITY CONTROL AND REVIEW
 (See reverse for responsible personnel)

DATE
May 8, 1980

ORIGINATING LOCATION
Coastal Mapping Division, Norfolk, Va.

TO BE CHARTED
 TO BE DELETED *None*

The following objects *(None)* been inspected from seaward to determine their value as landmarks:

JOB NUMBER *CM-791Z*
 SURVEY NUMBER *T-TP-00814*
 STATE *Alaska*

DATUM *N.A. 1927*

POSITION
 LATITUDE LONGITUDE
 D.M. METERS D.P. METERS
 0 / 0 /
 24.030 151.42
 743.6 809.0

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

CHARTS AFFECTED
*Triang Bc 16640, 16643
 16645, 16646
 6/14/81*

CHARTING NAME

CROSS
Delete. Not of L.M.V.
(Seldovia Church Cross, 1956)

*cross does exist
 but not prominent
 from seaward.*

See L-1042(B3)

FIELD INSPECTION

COMPILATION

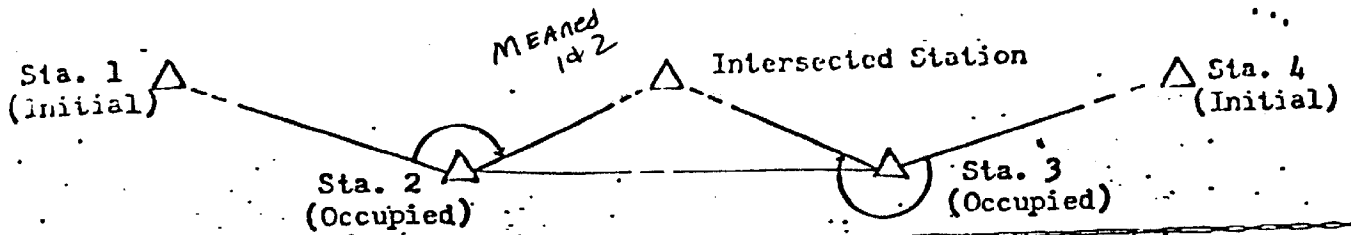
FIELD EDIT

FIXED CALIBRATION POINT LOCATION (*233)

The geographic position of a piling on the face of the Seldovia Municipal pier was determined by Third Order, Class I intersection techniques. The G.P. was determined by meaning the two computed positions acquired.

This piling was used as a fixed calibration point by pulling the launch alongside the pier so that the Miniranger R/T unit was within 1 meter of the piling. Ranges were compared with previously computed distances between the piling and the Miniranger shore stations, as prescribed in the Hydrographic Manual, Section 4.4.3 and the PMC OPORDER, Appendix M.

Position computations for this fixed calibration point are attached.



STATION: Fixed Calibration Pt. #233

Sta. 1	<u>Gray Cliff Light</u>	ϕ	<u>59 ° 27 ' 09.940</u>	"	λ	<u>151 ° 43 ' 08.220</u>	"
Sta. 2	<u>Atlas 1956</u>	ϕ	<u>59 ° 26 ' 22.102</u>	"	λ	<u>151 ° 44 ' 15.441</u>	"
Sta. 3	<u>Dixie 1956</u>	ϕ	<u>59 ° 25 ' 30.907</u>	"	λ	<u>151 ° 44 ' 06.833</u>	"
Sta. 4	<u>Balsa 1956</u>	ϕ	<u>59 ° 27 ' 09.854</u>	"	λ	<u>151 ° 43 ' 08.282</u>	"
Sta. 2 Obs.	<u>44 ° 16 ' 54.8</u>	"			Sta. 3 Obs.	<u>11 ° 10 ' 57.4</u>	"
ϕ	<u>59 ° 26 ' 28.318</u>	"			λ	<u>151 ° 43 ' 7.024</u>	"

#1

Fix Cal. Pt.

Sta. 1	<u>Gray Cliff Light</u>	ϕ	<u>59 ° 27 ' 9.910</u>	"	λ	<u>151 ° 43 ' 8.220</u>	"
Sta. 2	<u>Atlas 1956</u>	ϕ	<u>59 ° 26 ' 22.102</u>	"	λ	<u>151 ° 44 ' 15.441</u>	"
Sta. 3	<u>Elbow 1956</u>	ϕ	<u>59 ° 24 ' 52.738</u>	"	λ	<u>151 ° 42 ' 56.807</u>	"
Sta. 4	<u>Atlas 1956</u>	ϕ	<u>59 ° 26 ' 22.102</u>	"	λ	<u>151 ° 44 ' 15.441</u>	"
Sta. 2 Obs.	<u>44 ° 16 ' 54.8</u>	"			Sta. 3 Obs.	<u>21 ° 01 ' 22.0</u>	"
ϕ	<u>59 ° 26 ' 28.318</u>	"			λ	<u>151 ° 43 ' 7.026</u>	"

#2

Sta. 1		ϕ	° ' "	"	λ	° ' "	"
Sta. 2		ϕ	° ' "	"	λ	° ' "	"
Sta. 3		ϕ	° ' "	"	λ	° ' "	"
Sta. 4		ϕ	° ' "	"	λ	° ' "	"
Sta. 2 Obs.	° ' "	"			Sta. 3 Obs.	° ' "	"
ϕ	° ' "	"			λ	° ' "	"

Computed by R. Eivens Checked by JRG

DE PRINTER (Y/N)? N
QUADRANT(NE/NW/SE/SW)? NW

DIRECT OR INVERSE(D/I)? I

INVERSE COMPUTATION

FROM STATION = FIXED CALIBRATION POINT(233)

LATITUDE = 59/26/28.318
LONGITUDE = 151/43/07.025

TO STATION = ELBOW 1956(105)

LATITUDE = 59/24/52.738
LONGITUDE = 151/42/56.807

DISTANCE = 2962.178

FWD AZIMUTH = 356/52/51.391

BCK AZIMUTH = 176/53/00.188

FROM STATION = FIXED CALIBRATION POINT(233)

LATITUDE = 59/26/28.318
LONGITUDE = 151/43/07.025

TO STATION = Balsa 1956(103)

LATITUDE = 59/27/09.854
LONGITUDE = 151/43/08.282

DISTANCE = 1285.519

FWD AZIMUTH = 179/07/02.116

BCK AZIMUTH = 359/07/01.033

FROM STATION = FIXED CALIBRATION POINT(233)

LATITUDE = 59/26/28.318
LONGITUDE = 151/43/07.025

TO STATION = DIXIE 1956(104)

LATITUDE = 59/25/30.907
LONGITUDE = 151/44/06.833

DISTANCE = 2011.320

FWD AZIMUTH = 27/57/44.681

BACK AZIMUTH = 207/56/53.184

FROM STATION = FIXED CALIBRATION POINT(233)

LATITUDE = 59/26/28.318
LONGITUDE = 151/43/07.025

TO STATION = ATLAS 1956(109)

LATITUDE = 59/26/22.102
LONGITUDE = 151/44/15.441

DISTANCE = 1095.371

FWD AZIMUTH = 79/53/38.343

BACK AZIMUTH = 259/52/39.430

SELDONIA DOCK
NORTH LIGHT

SELDONIA DOCK
SOUTH LIGHT

→ I INVERSE FROM:

FFAID

STNDPT LAT&LON:

LAT 59 DEG
26 MIN
29.09700 SEC
LON 151 DEG
43 MIN
7.62700 SEC

→ J TO:

THIS SURVEY

FOREPT LAT&LON:

LAT 59 DEG
26 MIN
29.16112 SEC
LON 151 DEG
43 MIN
7.65293 SEC

DST 2.026 M

FWD AZ 168 DEG
21 MIN
41.135 SEC
BCK AZ 348 DEG
21 MIN
41.112 SEC

→ I INVERSE FROM:

FFAID

STNDPT LAT&LON:

LAT 59 DEG
26 MIN
27.48400 SEC
LON 151 DEG
43 MIN
5.08500 SEC

→ J TO:

THIS SURVEY

FOREPT LAT&LON:

LAT 59 DEG
26 MIN
27.56282 SEC
LON 151 DEG
43 MIN
5.33137 SEC

DST 4.586 M

FWD AZ 122 DEG
8 MIN
4.598 SEC
BCK AZ 302 DEG
8 MIN
4.385 SEC

Bouy #3

→ I INVERSE FROM:

Survey
STNDPT LAT&LON:

LAT 59 DEG
26 MIN
55.45000 SEC
LON 151 DEG
43 MIN
18.66000 SEC

→ J TO:

FFAID
FOREPT LAT&LON:

LAT 59 DEG
26 MIN
54.00000 SEC
LON 151 DEG
43 MIN
18.00000 SEC

DST 46.061 M

FWD AZ 346 DEG
57 MIN

1.858 SEC
BCK AZ 166 DEG
57 MIN
2.426 SEC

Bouy #4

→ I INVERSE FROM:

Survey
STNDPT LAT&LON:

LAT 59 DEG
26 MIN
45.42000 SEC
LON 151 DEG
43 MIN
17.34000 SEC

→ J TO:

FFAID
FOREPT LAT&LON:

LAT 59 DEG
26 MIN
45.00000 SEC
LON 151 DEG
43 MIN
18.10000 SEC

DST 17.674 M

FWD AZ 42 DEG
39 MIN

37.699 SEC
BCK AZ 222 DEG
39 MIN
37.045 SEC

Bouy #6

→ I INVERSE FROM:

Survey
STNDPT LAT&LON:

LAT 59 DEG
26 MIN
27.31000 SEC
LON 151 DEG
43 MIN
21.40000 SEC

→ J TO:

FFAID
FOREPT LAT&LON:

LAT 59 DEG
26 MIN
27.46000 SEC
LON 151 DEG
43 MIN
21.94000 SEC

DST 9.695 M

FWD AZ 110 DEG
36 MIN

27.293 SEC
BCK AZ 298 DEG
36 MIN
26.020 SEC

SELDOWIA BAY
LIGHT 5

→I INVERSE FROM

FFAID

STNDPT LAT&LON:

LAT 59 DEG
26 MIN
34.84000 SEC
LON 151 DEG
43 MIN
9.38000 SEC

→J TO:

THIS SURVEY

FOREPT LAT&LON:

LAT 59 DEG
26 MIN
34.83050 SEC
LON 151 DEG
43 MIN
9.38300 SEC

DST 0.066 M

FWD AZ 45 DEG
32 MIN
52.843 SEC
BCK AZ 225 DEG
32 MIN
52.841 SEC

SELDOWIA BAY
ENTRANCE LIGHT
1

→I INVERSE FROM

FFAID

STNDPT LAT&LON:

LAT 59 DEG
27 MIN
9.91000 SEC
LON 151 DEG
43 MIN
8.22000 SEC

→J TO:

THIS SURVEY

FOREPT LAT&LON:

LAT 59 DEG
27 MIN
9.90810 SEC
LON 151 DEG
43 MIN
8.21756 SEC

DST 0.070 M

FWD AZ 326 DEG
48 MIN
50.192 SEC
BCK AZ 146 DEG
48 MIN
50.194 SEC

AUTO START

BP-00/811101

EXEC PROGRAM FOR
GEODETTIC PACKAGE

ON CLARKE 1866

→A NEW ELLIPSOID
→Q LISTS OPTIDMS

→RUN→RUN AT END
OF EACH PROGRAM
RETURNS CONTROL
TO THE EXECUTIVE

SELECT PROGRAM

GP-01/800610

150-KM GEODETTIC
DIRECT, INVERSE,
AND TRAVERSE

→O LISTS OPTIONS

ENTER ANGLES AS
DEG↑MIN↑SEC→RUN
ALL + OR ALL -

LAT+N-S, LON+W-E
AZIMUTHS FROM S

SELDONIA
BREAKWATER
LIGHT 7

→I INVERSE FROM:

--- FFAID ---

STNDPT LAT&LON:

LAT	59 DEG
	26 MIN
	19.48400 SEC
LON	151 DEG
	43 MIN
	0.00000 SEC

→J TO:

--- THIS SURVEY ---

FOREPT LAT&LON:

LAT	59 DEG
	26 MIN
	19.44682 SEC
LON	151 DEG
	43 MIN
	0.61258 SEC

DST 9.724 M

FWD AZ	83 DEG
	12 MIN
	17.288 SEC
BCX AZ	263 DEG
	12 MIN
	16.761 SEC

RTTUZYUW RUHPTEF0144 2741930-UUUU--RUHPSUU.
ZNR UUUUU

R 011930Z OCT 81
FM NOAA S RAINIER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAAACPM SEATTLE WA
CM GRNC
BT

NMO | 23062
---|
BS | 6455

UNCLAS
DANGERS TO NAVIGATION
NOS CHART 16645

1. IN JAKOLOF BAY- A ROCK COVERED 0.7 FM AT PREDICTED MLLW AT
LAT 59/27/47N, LONG 151/31/37 W.
2. IN JAKOLOF BAY- A ROCK COVERED 1.5 FM AT PREDICTED MLLW AT
LAT 59/28/04N, LONG 151/31/58W.
3. IN KASITSNA BAY- A ROCK COVERED 1.9 FM AT PREDICTED MLLW AT
LAT 59/28/50N, LONG 151/30/13W.
4. IN KASITSNA BAY- A ROCK COVERED 1.9 FM AT PREDICTED MLLW AT
LAT 59/28/50N, LONG 151/30/21W.
5. IN KASITSNA BAY- A ROCK COVERED 2.7 FM AT PREDICTED MLLW AT
LAT 59/28/42N, LONG 151/29/46W.
6. IN KASITSNA BAY- A ROCK COVERED 1.6 FM AT PREDICTED MLLW AT
LAT 59/29/10N, LONG 151/30/26W.
7. IN KASITSNA BAY- A ROCK COVERED 2.9 FM AT PREDICTED MLLW AT
LAT 59/29/15N, LONG 151/30/38W.
8. IN KASITSNA BAY- A ROCK COVERED 1.5 FM AT PREDICTED MLLW AT
LAT 59/30/11N, LONG 151/28/26W.
9. IN KASITSNA BAY- A ROCK COVERED 3.4 FM AT PREDICTED MLLW.
PRESENTLY CHARTED AS ROCK COVERED 5.0 FM AT MLLW AT
LAT 59/29/29N, LONG 151/30/14W.
10. IN TUTKA BAY- A ROCK COVERED 2.5 FM AT PREDICTED MLLW AT
LAT 59/28/12N, LONG 151/27/21W.
11. IN KASITSNA BAY- A ROCK COVERED 3.1 FM AT PREDICTED MLLW AT
LAT 59/28/30N, LONG 151/28/31W.
12. IN KASITSNA BAY- A ROCK COVERED 3.9 FM AT PREDICTED MLLW AT
LAT 59/28/28N, LONG 151/28/32W.
13. IN KASITSNA BAY- A ROCK COVERED 2.0 FM AT PREDICTED MLLW AT
LAT 59/30/41N, LONG 151/27/29W.
14. IN KASITSNA BAY- A ROCK COVERED 2.0 FM AT PREDICTED MLLW AT
LAT 59/29/33N, LONG 151/33/15W. ROCK IS NEAR THE CHARTED
ROCK AT LAT 59/29/30N, LONG 151/33/09W.

NOS CHART 16646

15. IN SELDOVIA BAY- A TREE COVERED 1.9 FM AT PREDICTED MLLW
AT LAT 59/25/34N, LONG 151/42/39W.
16. THESE ITEMS WERE OBTAINED FROM HYDROGRAPHIC SURVEY DATA.
COLLECTED BY THE NOAA SHIP RAINIER MAY THROUGH AUG 1981.

BT
#0144

2318J WTEF DE NMO RGR QSL 011930Z QRV KT
V

NNNN



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, CORPS OF ENGINEERS
P.O. BOX 7002
ANCHORAGE, ALASKA 99510

*in
X 0 5 10
FOO Ram
DMD
INCLUDE IN D.R.
FOR 5-1-81*

REPLY TO
ATTENTION OF:

9 JUN 1981

NPACO-NF-H

SUBJECT: Seldovia Harbor Survey

Commanding Officer
NOAA Ship Rainier S221
ATTN: Field Operations Officer
General Delivery
Homer, AK 99603

Dear Captain Mobley:

Inclosed are two copies of our most recent condition survey (May 1979) of Seldovia Small Boat Basin. Our next scheduled survey is in 1984 unless reports of shoaling would justify investigating sooner. As indicated on the inclosed charts, the authorized project depth within the federal limits was available except for a small area in the southeast corner. At that time this area did not justify dredging due to the limited quantity of material.

The City of Seldovia informed representatives of our Engineering Division last month that there apparently was a shoaling problem within the harbor. As part of a proposed harbor expansion by the city, survey work was performed in the area of the proposed expansion (southeast of the federal limits) and at the request of the city, within the entrance channel. The results from this survey will not be available until the week of 15 June 1981. We will obtain a copy of this survey and make the results available to you. The following firm is preparing this survey:

KPFF Architectural Engineering Planning
310 K, Suite 700, ATTN: Joe Hofbeck
Anchorage, AK 99501
Phone 277-7525

Please notify us if we can be of future assistance.

Sincerely,

DAVID R. EBERLE
Chief, Navigation and Flood Control Branch

2 Incl
As stated

INCLUDED W/SURVEY DATA, H-9940. Ram

APPROVAL SHEET

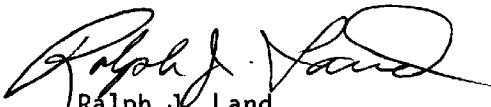
DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY

H-9940

RA-5-1-81

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OORDER, 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

HYDROGRAPHIC SURVEY STATISTICS

H-9940

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		1	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		12	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1		2- NEW P/O 2- FATHO			
VOLUMES	1					
BOXES			1- smooth P/O 1- Sounding Vol			

T-SHEET PRINTS (List) TP-00814

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			3309
POSITIONS CHECKED		3313	
POSITIONS REVISED		2991	
SOUNDINGS REVISED		188	
SOUNDINGS ERRONEOUSLY SPACED		--	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		--	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	8	*(VER)/(EVAL)	8
VERIFICATION OF CONTROL		08/ 04	12
VERIFICATION OF POSITIONS		35/ 12	47
VERIFICATION OF SOUNDINGS		268/ 15	283
COMPILATION OF SMOOTH SHEET		41/ 16	57
APPLICATION OF TOPOGRAPHY		11/ 00	11
APPLICATION OF PHOTOBATHYMETRY		00/ 00	00
JUNCTIONS		02/ 04	06
COMPARISON WITH PRIOR SURVEYS & CHARTS		00/ 30	30
VERIFIER'S REPORT		00/ 38	38
OTHER		05/ 08	13
TOTALS	8	370/127	505

Pre-Verification by James S. Green	Beginning Date 10/28/81	Ending Date 10/28/81
Verification by Thelma O. Jones	Beginning Date 6/24/82	Ending Date 3/29/83
Evaluated by Gordon F. Kay	5/10/83	6/22/83
Verification Check by James L. Stringham, James S. Green	Time (Hours) 43	Date 6/28/83
Marine Center Inspection by HIT	Time (Hours) 8	Date 7/21/83
Quality Control Inspection by	Time (Hours)	Date
Requirements Evaluation by	Time (Hours)	Date

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-9940

FIELD NO: RA-5-1-81

Alaska, Cook Inlet, Seldovia Bay

SURVEYED: May 6 - August 19, 1981

SCALE: 1:5,000

PROJECT NO: OPR-P114-RA-81

SOUNDINGS: Ross 5000

CONTROL: Mini-Ranger
Range-Azimuth

Chief of Party.....CAPT W. L. Mobley
CDR R. J. Land

Surveyed By.....LTJG D. Kruth
LT T. Clark
LT M. Kretsch

Automated Plot By.....PMC Xynetics Plotter

Verified By.....Thelma O. Jones

Evaluated By.....Gordon E. Kay

1. INTRODUCTION

H-9940 is a basic hydrographic survey conducted by the NOAA Ship RAINIER in accordance with the following:

- Project Instructions OPR-P114-RA-81, Southern Cook Inlet, Alaska,
January 8, 1981
- Change No. 1, February 23, 1981
- Change No. 2, March 10, 1981
- Change No. 3, June 4, 1981

This survey is a continuation of the RAINIER 1980 work in Katchemak Bay and is situated in Seldovia Bay, opening into Katchemak Bay.

During verification/evaluation, the following data was changed:

- a. Projection parameters were changed to center the hydrography on the smooth sheet and to change the projection to polyconic.
- b. List of stations has been revised to be consistent with the National Geodetic Service listing.
- c. Tide level value used on H-9940 are from observed tides (see 77-12 on following separate).
- d. The TC/TI table has been amended to handle lead line soundings.

The digital records for this survey have been updated to include all categories of information required to comply with N/CG letter, Policy Certification and Delivery of Hydrographic Surveys, December 17, 1982.

2. CONTROL AND SHORELINE

Horizontal control and hydrographic positioning control are discussed in paragraphs F and G of the ship's Descriptive Report. Additional information is contained in the Electronic Control Report OPR-P114-RA-81 and Horizontal Control Report OPR-P114-RA-81.

The smooth sheet was plotted using published and field positions on the North American Datum of 1927.

The shoreline comes from TP-00814, a Class I unreviewed manuscript, at a scale of 1:10,000, (Date of Photography) July, August 1975, (Date of Field Edit) May, June 1981.

Three rocks were transferred from the field sheet onto the smooth sheet without supporting positional information, and are located as follows:

<u>Rock</u>	<u>Latitude</u>	<u>Longitude</u>
*	59°27'02"N	151°43'02"W
*	59°26'02"N	151°43'04"W
*	59°26'00"N	151°43'05"W

3. HYDROGRAPHY

Soundings at crosslines are in very good agreement. The ship reported (see Descriptive Report paragraph I) two crosslines areas that needed further investigation. These areas which contained a 1.9 fathom sounding (position number 5534), and a 2.4 fathom sounding (position number 4233/2), which when adjusted to real tides and correct depth data are in fact congruent with other soundings in the area. No further investigation is needed. The hydrography contained within this survey and the soundings carried from the wire drag are adequate to determine the bottom configuration and least depths.

Standard depth contours were adequately drawn to the limits of the hydrography.

4. CONDITION OF SURVEY

The hydrographic records and final reports adequately conform to the requirements of the Hydrographic Manual, July 4, 1976 edition, with the following exception. Dashed pre-survey review items were not adequately resolved by the field personnel.

5. JUNCTIONS

H-9940 junctions with H-9945, 1:20,000 (1981) which joins the entire northern limits of H-9940. Depth contours are in coincidence and marginal notes (in red) have been inked.

6. COMPARISON WITH PRIOR SURVEYS

There are 3 numbered presurvey review items and 4 dashed items for investigation located on H-9940. They are disposed of as follows:

<u>NUMBERED PRE-SURVEY REVIEW</u>						<u>H-9940</u>		
<u>Item #</u>	<u>Item</u>	<u>Latitude N</u>	<u>Longitude W</u>	<u>Source</u>	<u>Found</u>	<u>Source</u>	<u>Latitude N</u>	<u>Longitude W</u>
32	pile	59°25.96'	151°42.9'	T-9566	yes	TP-00814	59°25'57.0"	151°42'55.0"
33	visible rock wreck	59°25.81'	151°42.76'	USA Photo	yes	TP-00814	59°25'49.0"	151°42'46.5"
40	submerged obstruction	59°25.55'	151°42.58'	NOS Photo	yes	Pos. #500	59°25'33.87"	151°42'39.34"

ITEMS FOR INVESTIGATION

<u>CHART</u>				<u>H-9940</u>			
<u>Depth</u>	<u>Source</u>	<u>Latitude N</u>	<u>Longitude W</u>	<u>Depth</u>	<u>Latitude N</u>	<u>Longitude W</u>	<u>Position Number</u>
1.75	H-2930A	59°26'27"	151°43'30"	2.5	59°26'28"	151°43'28"	5007/4
1.75	H-2930A	59°26'07"	151°43'42"	2.4	59°26'05.81"	151°43'53.75"	4286/4
4.75	H-2930A	59°25'28"	151°43'32"	5.8	59°25'28.7"	151°43'33.54"	5039/3
2.5	H-2930A	59°25'33"	151°42'59"	2.7	59°25'30.66"	151°42'59.25"	5410/6

The entire area around Seldovia Bay has been exposed to seismic activity with a radical change in the subsurface topography attributed to the great earthquake of March 1964. Hydrographic surveys prior to March 1964 contain soundings that are shoaler than present depths, but when these pre-1964 survey soundings are adjusted to the general magnitude difference caused by the subsidence, the sounding data tends to match the present survey.

Due to age, positioning accuracies, and the general seismic subsidence of the area, the above dashed presurvey review items should be charted from the present survey.

H-9940 was compared to the following surveys:

H-2930, H-2930A, 1:10,000 (1906-1908). The present survey H-9940 entirely covers H-2930 and H-2930A, with present survey depths ranging from .5 to 1.0 fathoms deeper than the formers. The difference is attributed to positioning accuracies and a datum transformation with a general seismic subsidence of the area (see above). H-9940 is adequate to supersede H-2930 and H-2930A over their entire areas.

H-3681 1:5000 (1914). The present survey H-9940 entirely covers H-3681, with the present survey depths generally agreeing with the prior, but with the exception of numerous peaks that had been transferred from H-2930A (including a 16, 21 and 21 foot) which are shoaler. Due to age, data acquisition and positioning H-9940 should supersede H-3681 over its entire area.

H-3681A 1:5000 (1918). The present survey H-9940 entirely covers this limited special investigation of a small shoal, located just off of the Seldovia waterfront. Presently this shoal is contained in a portion of the northern breakwater protecting the Seldovia small boat basin. A comparison could not be made (due to the above circumstances). Present survey H-9940 should supersede H-3681A over its entire hydrographic area.

H-8285 1:10,000 (1956) Wire Drag. There are five "cleared to depths" charted within the limits of H-9940 which are tabulated as follows:

<u>Latitude N</u>	<u>Longitude W</u>	<u>H-8285 (1)</u>	<u>Charted (2)</u>	<u>H-9940</u>	<u>Position Number</u>
59°27'21" ✓	151°43'49" ✓	15 ft.	2.25 fm	2.5 fm*	2916/2, 5464*
59°27'19" ✓	151°43'45" ✓	16 ft.	2.50 fm	3.3 fm*	5465*
59°26'29" ✓	151°43'09" ✓	12 ft.	1.75 fm	4.1 fm	4489
59°26'17" ✓	151°43'16" ✓	19 ft.	3.0 fm	3.5 fm	3819/3
59°26'05" ✓	151°43'17" ✓	18 ft.	2.75 fm	4.0 fm	4270/5

(1) "hang depth" (2) "cleared to depth"

* indicates depths/positions obtained by dive investigation.

The "hang depths" (in fathoms) have been transferred from H-8285 to H-9940 in green, except for the first item which was confirmed by data from H-9940.

7. COMPARISON WITH CHART

H-9940 was compared with Chart 16646, 8th Edition, February 18, 1978, 1:20,000.

a. Hydrography - Charted information comes from the above mentioned prior surveys (see enclosed chartlet). As the comparison with prior surveys indicates, soundings on the chart do not compare well. Differences range from .5 to 1 fathom deeper.

With the exception of the charted wire drag depths, H-9940 is adequate to supersede Chart 16646 data over their common areas.

b. Controlling depths - There are no controlling depths contained within the limits of H-9940 (see paragraph P of the ship's Descriptive Report). The Seldovia boat basin when finished will be resurveyed by the USACE and contain USACE controlled depths.

c. Aids to navigation - There are five fixed aids and three floating aids to navigation on H-9940 as follows:

Fixed Aids to Navigation:

<u>Light</u> <u>Light Name</u>	<u>Chart 16646</u>		<u>H-9940</u>	
	<u>Latitude</u>	<u>Longitude</u>	<u>Latitude</u>	<u>Longitude</u>
Entrance Light 1	59°27'10"N ✓	151°43'08"W ✓	59°27'09.908"N ✓	151°43'08.217"W ✓
Seldovia Dock North Light	59°26'29"N ✓	151°43'08"W ✓	59°26'29.161"N ✓	151°43'07.653"W ✓

Seldovia Dock South Light	59°26'27.5"N	151°43'05"W	59°26'27.563"N	151°43'05.331"W
Seldovia Break- water Light 7	59°26'19.5"N	151°43'00"W	59°26'19.447"N	151°43'00.612"W
Light 5	59°26'35"N	151°43'09"W	59°26'34.838"N	151°43'09.383"W

Floating Aids to Navigation

<u>Light List Name</u>	<u>Chart 16646</u>		<u>Pos. No.</u>	<u>H-9940</u>	
	<u>Latitude</u>	<u>Longitude</u>		<u>Latitude</u>	<u>Longitude</u>
Lighted Buoy 3	59°26'54.0"N	151°43'17.5"W	2304	59°26'55.39"N	151°43'18.65"W
Lighted Buoy 4	59°26'45.0"N	151°43'18.5"W	2302	59°26'45.42"N	151°43'17.34"W
Buoy 6	59°26'27.5"N	151°43'22.0"W	2301	59°26'27.30"N	151°43'21.41"W

The above floating and fixed aids adequately mark the features intended. ✓

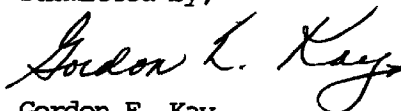
8. COMPLIANCE WITH INSTRUCTIONS

H-9940 complies with the project instructions.

9. ADDITIONAL FIELD WORK

H-9940 is an adequate hydrographic survey. Additional field work is not required at this time.

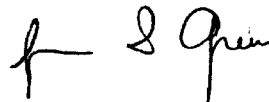
Submitted by,



Gordon E. Kay
Cartographer

This survey has been verified and evaluated. I have examined the survey and it meets Charting and Geodetic Services standards and requirements for use in nautical charting except as noted above in the Evaluation Report. This survey, H-9940, is recommended for approval.

James S. Green



Supervisory Cartographer

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: May 13-June 27, 1981

HYDROGRAPHIC SHEET: H-9940

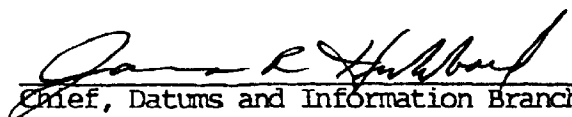
OPR: P114

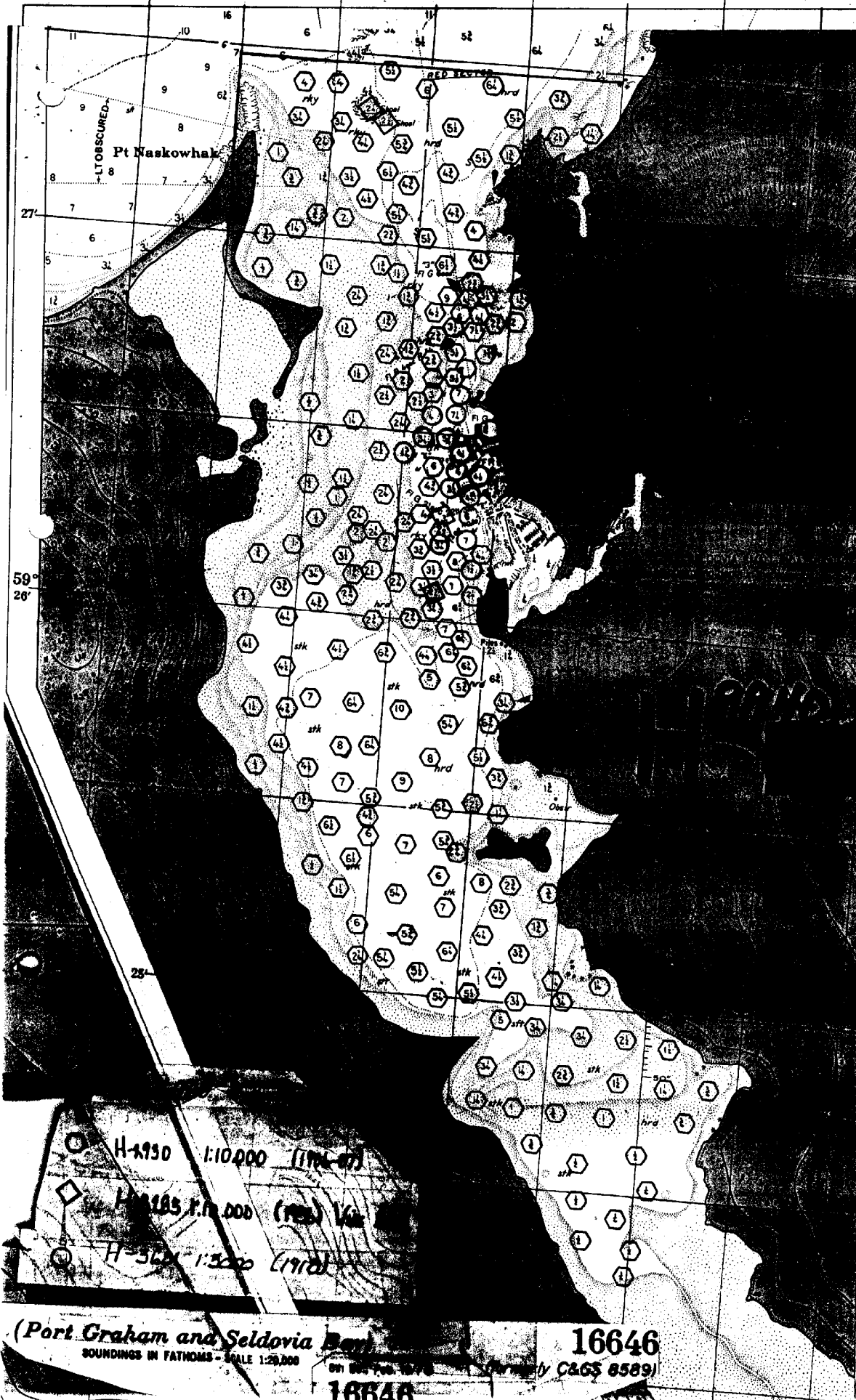
Locality: Seldovia Bay, Cook Inlet, Alaska

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

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

REMARKS: Zone Direct


Chief, Datums and Information Branch



H-4950 1:10,000 (1964-67)
 H-4955 1:10,000 (1965) 1/4
 H-5600 1:30,000 (1970)

(Port Graham and Seldovia Bay) 16646
 SOUNDINGS IN FATHOMS - SCALE 1:25,000
 (formerly C&GS 8589)
 16646

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-9940

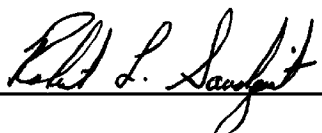
I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by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

 11/9/83
Chief, Nautical Chart Branch (Date)

CLEARANCE:

N/MOP2:RLSandquist

SIGNATURE AND DATE:

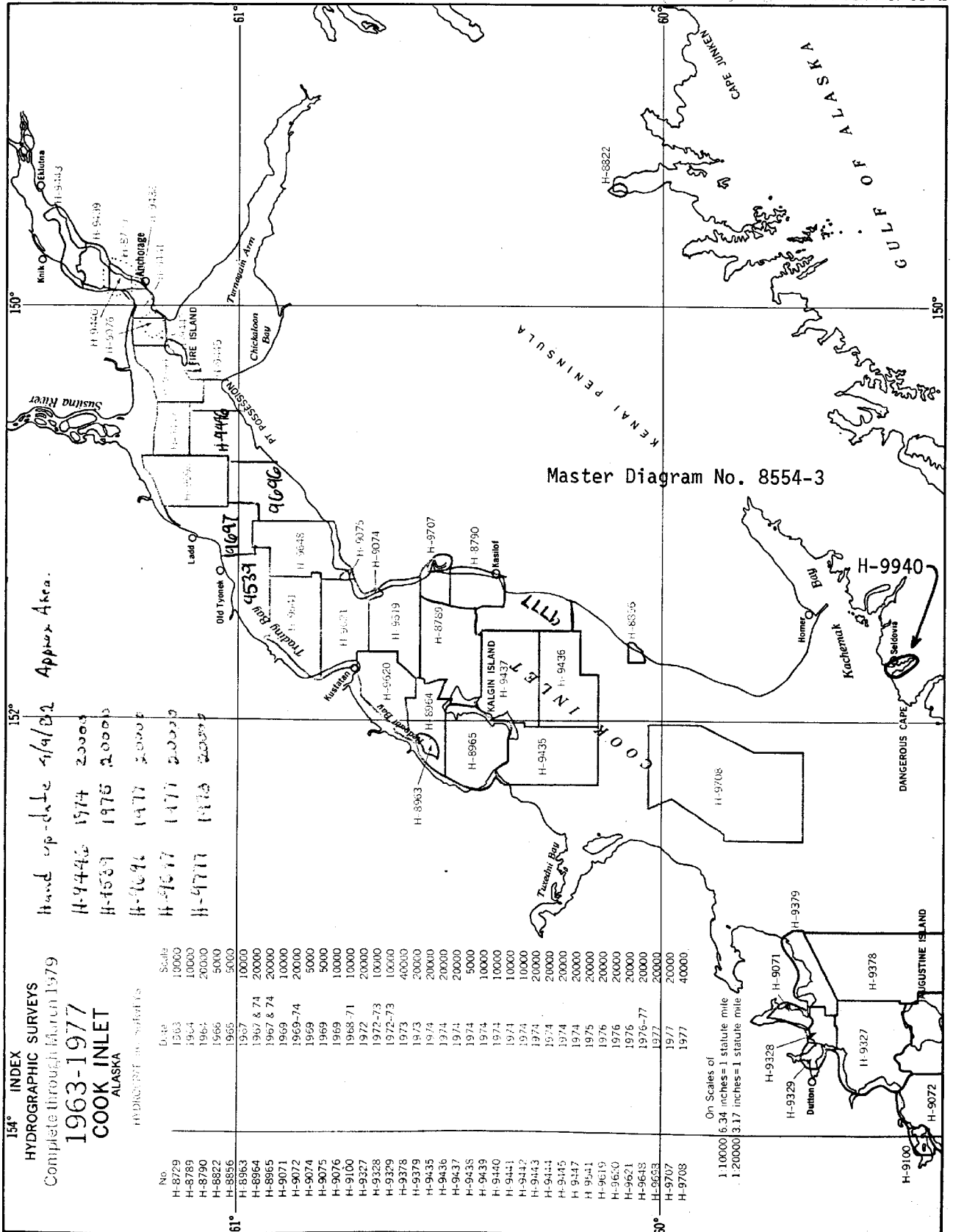
 11/9/83 LMS

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.

 11/9/83 LMS
Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 114E



Master Diagram No. 8554-3

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9940

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
16646	1-4-84	K. Van Ness	Full Part Before After Verification Review Inspection Signed Via Drawing No. 13
16640	10-85	J.M. O'Connor	Full Part Before After Verification Review Inspection Signed Via Drawing No. 22 Applied thru chrt 16646
16646	7/3/86	J.A. Graham	Full Part Before After Verification Review Inspection Signed Via Drawing No. 21 Applied to chart 16646 Reconstructions
16645	5-5-95	D. Shapiro	Full Part Before After Verification Review Inspection Signed Via Drawing No. 188 Appld thru Chart: 16646
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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