

# 9884

Diagrams 8554-3 & 8552-2

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-10-2-80 .....  
Office No..... H-9884 .....

### LOCALITY

State ..... Alaska .....  
General Locality Kachemak Bay .....  
Locality ..... Halibut Cove to China Poot Bay .....

19 80

CHIEF OF PARTY  
CAPT. W.L. Mobley

### LIBRARY & ARCHIVES

DATE ..... August 19, 1982 .....

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

9884

a-5  
Ckt

16645 } TO SIGN OFF SEE  
16640 } "RECORD OF APPLICATION TO CHARTS"

HYDROGRAPHIC TITLE SHEET

H-9884

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

FIELD NO.

RA-10-2-80

State ALASKA

General locality KACHEMAK BAY

Locality HALIBUT COVE AND PETERSON BAY to China Foot Bay

Scale 1:10,000 Date of survey June 5 - August 13, 1980

Instructions dated April 10, 1980 Project No. OPR-P114-RA-80

Vessel NOAA Ship RAINIER (S221), Launches 2126, 2123 and 2125

Chief of party CAPT W. L. MOBLEY, NOAA

Surveyed by LT A. Anderson, LT T. Clark, LTJG D. Kruth, ENS J. Gordon

Soundings taken by echo sounder, hand lead, pole DIVER

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verification

~~Recorded~~ by T. A. Almacen Automated plot by PMC Xynetics Plotter

Evaluation

~~Verification~~ by G. E. Kay

Soundings in fathoms feet at MLW MLLW and tenths of fathoms

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

Time Meridian: 0° (GMT)

*notes in red added during P.C.*

*miscellaneous pages have been removed and filed with the field records*

*✓ AWOIS and SURF RUD 9/85*

*STANDARDS C/D 11-4-85*

*Esley*

*RWW 1/23/83*

**PROGRESS SKETCH**

OPR-P114-RA-80

SOUTHERN COOK INLET, ALASKA

MAY 1 - AUGUST 18, 1980

NOAA SHIP RAINIER

WAYNE L. MOBLEY, CAPT. NOAA

COMD'G

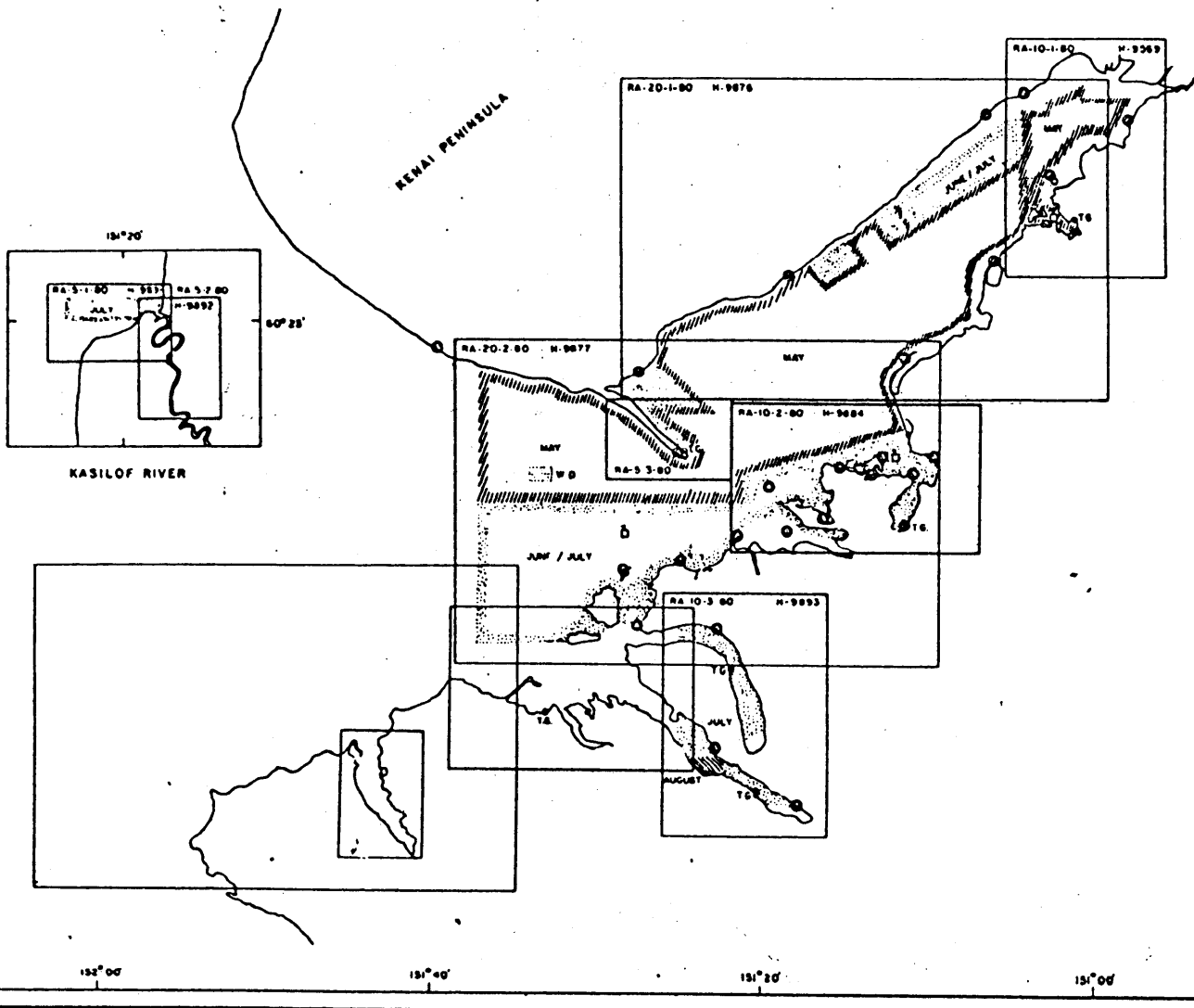
From chart 16640

**HYDROGRAPHIC SURVEY**

**LEGEND**

MAY	JUNE	JULY	AUG
80.67	3908	1768	230
868.95	596.6	416.9	100.6
824.9	1073	6375	6975
18	11	23	22
0	24	15	0
18	20	8	7
107	64	188	215
16	1	3	10
4	1	3	1
2	0	0	1
2	1	6	6
		0	23

- SQ NM SOUNDINGS
- LSM SOUNDING LINE
- LSM MISCELLANEOUS DISTANCE <sup>⊕</sup>
- CONTROL STATIONS (ELECTRONIC)
- STATIONS LOCATED
- STATIONS RECOVERED
- BOTTOM SAMPLES (GRAB)
- WATER SAMPLES ANALYZED (SALINITY)
- TEMPERATURE, DEPTH, CONDUCTIVITY
- HANSEN CAST -  $\delta$
- TIDE GAGE -  $\odot$
- WIRE DRAG, SQ NM
- <sup>⊕</sup> INCLUDES DISTANCE TO AND FROM T



## A. PROJECT

Hydrographic Survey RA-10-2-80 (H-9884) was conducted in accordance with Project Instructions OPR-P114-RA-80, FA-80, Southern Cook Inlet, Alaska, dated April 10, 1980 and with the following amendments: Change No.1, Supplement to Instructions, dated April 11, 1980 and Change No. 2, Supplement to Instructions, dated April 30, 1980. ✓

## B. AREA SURVEYED

The area surveyed is a continuation of the basic hydrographic survey of Kachemak Bay, Alaska. The survey area included Halibut Cove, Halibut Cove Lagoon, Peterson Bay, China Poot Bay and parts of Kachemak Bay. It covers the south shore of Kachemak Bay from longitude 151°09'W to 151°21'W. This survey was bounded to the north by a line between 59°35'30"N, 151°21'00"W and 59°37'00"N, 151°11'30"W, on the west by 151°21'00"W and on the south and east by shoreline. With the exception of shoreline, boundaries were determined by junctions with other surveys. Hydrography commenced on June 5, 1980 (JD 157) and was completed on August 13, 1980 (JD 226). ✓

## C. SOUNDING VESSELS

All sounding data, developments, lead lines, detached positions and bottom samples were obtained by the RAINIER's aluminum launches RA-3 (2123, hull no. 1007), RA-5 (2125, hull no. 1003) and RA-6 (2126, hull no. 1013). All launches were equipped with the Ross fathometer system. Launch RA-5 obtained all of the bottom samples. No unusual sounding vessel configurations or problems were encountered. ✓

## D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

### Introduction

The corrections to echo soundings contained in this report are to be applied to Hydrographic Survey RA-10-2-80. The following corrections to echo soundings are discussed: sound velocity corrections, launch draft corrections, settlement and squat corrections, and instrument corrections for blanking, phase and initial drift errors. Sea and swell errors were not found to be significant during this survey and were not corrected for. ✓

### Sounding Equipment

Echo soundings obtained during RA-10-2-80 were taken by the RAINIER's three survey launches (RA-3, RA-5 and RA-6) using Ross Fineline fathometer systems which include the following components: Ross model 4000 transceiver, Ross model 5000 analog recorder, Ross model 6000 digitizer and a 100 KHz transducer. Table I summarizes the serial numbers of the various components used in each vessel. ✓

TABLE I

Echo Sounder Component Serial Numbers

<u>Component</u>	<u>RA-3 (2123)</u>	<u>RA-5 (2125)</u>	<u>RA-6 (2126)</u>
Transceiver	1041	1047	1042
Analog Recorder	1070	1040	1071
Digitizer	1080	1040	1044

Sound Velocity Corrections

Sound velocity corrections for echo soundings were derived from data obtained from five Martek CTD casts and one Nansen cast performed in the survey area during this survey. The details relating to these casts are presented in Table II.

TABLE II

<u>Cast Type</u>	<u>Date</u>	<u>Location</u>	<u>Nansen &amp; Martek Cast Data, RA-10-2-80</u> <u>Applicable</u> <u>Survey Dates</u>	<u>Velocity</u> <u>Table No.</u>
Martek	May 29, 1980	Lat 59 <sup>0</sup> 43'48" λ 151 <sup>0</sup> 03'00"	May 26 - July 3	2
Martek	June 17, 1980	Lat 59 <sup>0</sup> 36'06" λ 151 <sup>0</sup> 11'54"	May 26 - July 3	2
Martek	July 2, 1980	Lat 59 <sup>0</sup> 28'36" λ 151 <sup>0</sup> 32'48"	May 26 - July 3	2
Martek	July 24, 1980	Lat 59 <sup>0</sup> 36'12" λ 151 <sup>0</sup> 24'12"	July 14 - Aug 19	3
Martek/ Nansen	Aug 15, 1980	Lat 59 <sup>0</sup> 33'45" λ 151 <sup>0</sup> 28'54"	July 14 - Aug 19	3

Samples from the Nansen cast were analyzed for salinity using standard laboratory procedures (see H.O. 607). The salinometer used for these analyses was a Bissett/Berman model 6210, s/n 28298, which was last calibrated in April 1980, by the Northwest Regional Center, Bellevue, Washington. The Martek s/n 358, was also calibrated there in February, 1980.

Results from the Nansen and Martek CTD casts were input into computer program RK-530 - VELOCITY CORRECTION COMPUTATIONS and run on RAINIER's PDP-8/e digital computer, s/n 1015, to yield velocity correctors for each cast.

All the cast data was plotted on one graph. From this graph, a shift in correctors with time is apparent. Averages were taken to break the data in three sets of correctors divided by time. Tables two and three apply

to Survey RA-10-2-80, and are included in the separates following this report.

### 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-80 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 the 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.

### Launch Settlement and Squat Corrections

Settlement and squat characteristics of RA-3, RA-5, RA-6 were measured prior to OPR-P114-RA-80 in Lake Washington, Seattle, Washington on April 11, 1980 (J.D. 102).

These corrections are considered negligible and were not applied to any soundings on the field sheets. ✓

### Sounding Instrument Corrections

During survey operations, the "blanking" was normally set at 0 fathoms. This was adjusted as needed. Analog depths were substituted for missed digital soundings during on-line or end-of-day field record scanning.

The initial trace on the analog recorder was continuously monitored and adjusted to prevent errors due to a drifting initial.

To prevent belt length error or stylus paper misalignment on the analog recorders, RAINIER personnel performed "phase calibrations" of the fathometers each day, in accordance with the calibration procedures contained in the PMC OORDER. ✓

### Manual Sounding Corrections

Where manual soundings needed to be taken, hand-held lead-lines were used which had been compared with a steel measuring tape prior to OPR-P114-RA-80 and were found to be accurate. Special care was taken to prevent application of sound velocity corrections to lead-line depths. ✓

For further information, consult the "Corrections to Echo Soundings" Report, OPR-P114-RA-80.

#### E. HYDROGRAPHIC SHEETS

All hydrographic field sheets including the smooth field sheets were prepared using the PDP-8/e COMLOT hydroplot system on board the RAINIER.

A modified transverse mercator projection was used for plotting hydrographic data. The lists of parameters used to define the projections are included in the separates following the text.

Soundings on the smooth field sheet have been corrected for predicted tides, launch draft and preliminary velocity corrections. No noticeable distortion of mylar sheets was observed during plotting of hydrographic data on smooth field sheets. ✓

Three field sheets, RA-10-2A-80, RA-10-2B-80, and RA-10-2C-80 were used to cover the survey area. Expansion sheets are included for easier verification of highly developed areas and for delineation of the high-use area behind Ismailof Island.

Field records will be forwarded to PMC for verification.

#### F. CONTROL STATIONS

Horizontal control for this survey was provided by the recovery of nine existing stations and the establishment of twenty new stations. All stations were positioned by Third Order Class I geodetic methods. A listing of the recovered and newly established stations follows:

##### Recovered

GULL, 1923  
RUG 2, 1965  
WADE, 1923  
COHEN 2, 1951 USE  
HAL 1923  
GULL ISLAND LIGHT 1975  
HALIBUT COVE LIGHT 1965  
HOMER SPIT, SALTY DAWG  
SALOON TOWER, 1975  
POOT, 1976

##### Established

DANA 2, 1980  
GLACIER 3, 1980  
VERTIGO, 1980  
NUNZIO, 1980  
COVE, 1980  
LISA, 1980  
DIANA, 1980  
TERESA, 1980  
POLE, 1980  
BARBARA, 1980  
\*LAGOON, 1980  
\*HALIBUT COVE ROCK DAYBEACON, 1980  
TROLL, 1980  
PETER, 1980  
TP 1, 1980  
TP 2, 1980  
CHINA, 1980  
CHICAGO, 1980  
RESERVATION, 1980  
SON, 1980 ✓

(\*) indicates a no-check position.

All new stations, with the exception of TP1 and TP2, 1980, were monumented and described. For further information relating to the positioning of all new stations refer to Horizontal Control Report, OPR-P114-RA-80.

G. HYDROGRAPHIC POSITION CONTROL

Electronic range-range and range-azimuth methods were used for hydrographic position control during this survey. A Motorola Miniranger III system and Wild T-1 and T-2 Theodolites were employed.

Description of Miniranger Shore Stations

During this survey six horizontal control stations were recovered and fifteen were established for use as hydrographic positioning stations. Data on the use of the stations is as follows:

RA-10-2-80 (H-9884)

<u>Station #</u>	<u>Station Name</u>	<u>M/R Code</u>	<u>Transponder S/N</u>	<u>Dates</u>
101	WADE 1923	B	775	158-159 161-163 204-206 209
102	GULL 1910-1923	E D	824281 777	176-177 223-224
105	COHEN 2, 1951	C	776	177-178
106	GLACIER 3, 1980	B	775	223
107	DANA 2, 1980	A D	001 777	157-159 161-165 204-206 209
109*	HOMER SPIT SALTY DAWG TOWER ECC.	E	824281	157-158
112	LAGOON, 1980	D	777	171-172 179-180 226-227
113	TROLL, 1980	E	824281	176-177
114	PETER, 1980	E	824281	175-176
115	SON, 1980	B	775	172 175-176 206-207 227
116	CHICAGO, 1980	C	776	208-209
203	RUG 2, 1980	D	777	162
205	HALIBUT COVE LT. 1965	C	776	169-170
208	POOT 1976	C	776	178-181

\* NOT USED.



RA-10-2-80 (H-9884) (continued)

<u>Station #</u>	<u>Station Name</u>	<u>M/R Code</u>	<u>Transponder S/N</u>	<u>Dates</u>
210	VERTIGO 1980	D	777	171
211	NUNZIO 1980	C E	776 824281	169-171 209 226-227
212	COVE 1980	D	777	175-177
213	LISA 1980	D	777	177-178
214	DIANA 1980	D	777	224-226
215, 216, 217	TERESA 1980	D	777	177-179
218, 221	RESERVATION 1980	D	777	226-227

The Minirangers and Theodolites were positioned over Third Order Class I stations. The Miniranger transponder was two to four feet above the station. See "Master Station List" for station elevations above MSL. Power for the shore stations was provided by two 12-volt auto batteries in series to provide 24 volts DC, except for HOMER SPIT SALTY DAWG TWR ECC.(#109), which used 120-volt AC power and a converter.

Miniranger Shore Station Performance

There were two transponder failures during this survey. The first was at the beginning of 18 June (JD 170) and the second on 18 August (JD 231) during the calibration. Both times involved Code C (#776). Thus there is no ending baseline calibration for this code for these two periods. Except for these cases and a few low voltage cut-offs from low battery strength, Miniranger operation during collection of data was good.

Miniranger Mobile Station Performance

There were three vessels involved in the hydrographic operations, but due to console-R/T unit failures there were several combinations of vessels and systems. They are as follows:

<u>Vessel</u>	<u>Date</u>	<u>Console</u>	<u>R/T Unit</u>
RA-3 (2123)	JD 152-166*	715	718
	JD 166-231	720	720
RA-5 (2125)	JD 198-231	711	727
RA-6 (2126)	JD 152-166*	720	720
	JD 166-173	711	727
	JD 173-231	715	713302

\*The asterisk indicates the particular system failed at the ending baseline calibration. Thus, for these periods there is no ending calibration.

Signal strengths were generally well above the cut-off values and there were no problems with skip zones. Overall performance was good.

#### Description of Baseline Calibrations

There were several baseline calibrations during the survey. All the calibrations were performed at Homer Airport, Homer, Alaska. There are several large correctors for vessels RA-6 and RA-5 during some periods. This is because, after the repair of a failing unit, the console calibration potentiometers were not readjusted during the baseline calibration. The beginning baseline calibration for a period determined low signal strength cut-off values for each Miniranger console, R/T unit and transponder combination. The beginning calibration also determined correctors for plotting all field data. A final corrector, computed by averaging the beginning and end calibrations, was used to smooth plot the data. For those units which failed before an ending calibration could be performed, the initial correctors, confirmed by the daily checks, were used to plot all data. ✓

#### Description of Daily Calibrations

Visual sextant fixes were used to check Miniranger accuracy. Signals for these fixes were positioned over Third Order Class I stations. This check was done twice a day, morning and evening, and each check consisted of at least five visual fixes.

The only exception was the static calibration point set up in Halibut Cove Lagoon. This was used on JD 171; the point used was LAGOON 1980 to calibrate Code D on VERTIGO 1980. The launch was positioned so that the R/T unit was next to the station. Agreement was good. ✓

#### H. SHORELINE

Shoreline for RA-10-2-80 was transferred from Class III manuscripts TP-0804, TP-0805, TP-0808 and TP-0809. Field edit of these manuscripts, covering all the shoreline on this survey, was performed in conjunction with this survey. All field edit data was transferred to the field sheets and smooth field sheets. The field editor and hydrographer worked together to prevent duplication of features.

There is a slight misalignment of the Halibut Cove Lagoon shoreline between manuscripts TP-00805 and TP-00809 when these manuscripts are aligned by their grids. On Field Sheet RA-10-2A-80, the shoreline from TP-00809 was matched with that of TP-00805 to provide a continuous shoreline. However, this manuscript discrepancy should be resolved before charting the data from this survey. ✓

#### I. CROSSLINES

Crosslines for RA-10-2-80 totaled 27.2 nautical miles or 8% of the principle system of sounding lines exclusive of developments. Crossline ✓

agreement was excellent with all soundings agreeing within one fathom. All crossline and shoreline soundings were plotted in red ink on the smooth field sheet.

#### J. JUNCTIONS

H-9884 junctions with H-9877 (RA-20-2-80) along the northern and western boundaries of the survey. A comparison was made by plotting soundings from H-9877 directly on the semi-smooth sheet of H-9884. Excellent agreement was obtained with all soundings agreeing within one fathom. ✓

#### K. COMPARISONS

H-9884 was compared with the most recent prior survey covering this area: H-4297, a 1923 1:20,000 scale survey. A comparison was made by transferring selected soundings corrected for the 1927 datum and plotting them on the rough boat sheet in purple ink. By applying the datum corrector to H-4297, a slight positioning error may have been produced. Of the 43 soundings that were compared between H-9884 and H-4297, 26 agreed within 1 fathom, 8 agreed within 1-2 fathoms and 9 disagreed by more than 2 fathoms. ✓

There were no presurvey review items within the survey limits of H-9884.

It is recommended that this survey supersede the prior survey for charting.

#### L. COMPARISON WITH THE CHART

H-9884 was compared to 1:82,662 scale chart 16645, 12th edition, dated 10-21-78. The comparison was made by overlaying H-9884 directly on a 1:10,000 scale expansion of the chart. Considerable distortion is associated with such a large blow-up of a chart making a direct meaningful comparison quite difficult. Of the 39 charted soundings that were compared, 18 agreed within one fathom, 13 agreed within 1-2 fathoms and 8 disagreed by more than 2 fathoms.

Two significant discrepancies should be noted. The charted 27 fathom sounding at approximately  $59^{\circ}34.9'N$ ,  $151^{\circ}20.8'W$  was found to be incorrect. Survey H-9884 showed this area to be 47 fathoms deep and it should be charted as such. Also several soundings on the eastern side of Peterson Bay were found to disagree by 5 to 10 fathoms. A steep bottom and small position error or distortion due to chart expansion could be the reason for the disagreement here. It is recommended that this survey supersede the chart in this area for future charting. *See Professor's Report Section 689*

The two most eastern rocks awash of the group of three charted at  $59^{\circ}36.1'N$ ,  $151^{\circ}14.5'W$  should be removed from the chart. These rocks were not seen by the field editor or hydrographer. Sounding lines were run over these positions without any indication of rocks. The charted position of these rocks may be in error. For the accurate location of rocks in this area, see the Field Edit Report OPR-P114-RA-80 covering TP-00805. *Do not concur See QCRPT Item II*

The three charted rocks awash behind Ismailof Island located at approximately: 59°30.7'N, 151°14.8'W; 59°35.6'N, 151°13.2'W; 59°35.6'N, 151°12.9'W were thoroughly searched for and not found by both the hydrographer and field editor and should be removed from the chart. The hydrographer developed their charted positions with 10-meter spacing on JD 175/176, fix # 3956-3968; JD 176/177, fix # 4095-4143; and on JD 178/179, fix # 4548-4567. The field editor searched for them at low tide. The hydrographer questioned local residents about rocks in these locations. They knew of none. The field editor's report on TP-00805 accurately shows the location of all rocks in this area. *See Keuffers Report section 7*

The charted rock at 59°36'<sup>09"</sup>19"N, 151°13'11"W is mislocated. It should be charted closer to shore at 59°36'08"N, 151°13'09"W as shown on TP-00805 by the field editor. No rock was found by the field editor or hydrographer in the charted position. *See Keuffers Report section 6*

M. ADEQUACY OF SURVEY

Survey H-9884 is complete and adequate to supersede all prior surveys for charting.

N. AIDS TO NAVIGATION

All nonfloating aids to navigation in the survey area were located by Third Order Class I methods. Refer to the Horizontal Control Report, OPR-P114-RA-80 for details. There were no floating aids to navigation in the area of this survey. GULL ISLAND LIGHT (L/L #3479), Halibut Cove Light (L/L #3480) and Halibut Cove Daybeacon are the only fixed aids to navigation on this survey.

The overhead power cables in this survey area are adequately shown on Chart 16645. *See Keuffers Report section 4*

O. STATISTICS

This survey contains <sup>4702</sup>~~3612~~ positions in 317.3 linear nautical miles covering approximately 12.15 square nautical miles.

Linear Nautical Miles

<u>Vessel</u>	<u>Main Scheme</u>	<u>X-Lines</u>	<u>Development</u>	<u>Total</u>
2123	93.7	15.1	61.0	169.8
2126	<u>120.6</u>	<u>12.1</u>	<u>14.8</u>	<u>147.5</u>
Total	214.3	27.2	75.8	317.3

<u>Vessel</u>	<u>Positions</u>	<u>Bottom Samples</u>
2123	2035	0
2125	85	85
2126	<u>1492</u>	<u>0</u>
Total	3612	85

Two tide gages were located in the survey area. They were at Halibut Cove (945-5556) and Halibut Cove Lagoon (945-5555). See the attached field tide note for details.

Two Martek casts were performed in Halibut Cove on Julian day 142 and Julian day 169. See paragraph "D" for details.

P. MISCELLANEOUS

Two small areas to the west of Gull Island were developed with 10-meter spacing. The least depths obtained were 6.6 fathoms and 8.7 fathoms corrected for tides. These peaks can be found by looking at the fathogram tracer positions #4905 between the 2nd and 3rd outs and #4925 between the 2nd and 3rd outs. These are shown on expansion sheet #3 of RA-10-2B-80.

The shoal sounding at fix #6118 between the 4th and 5th outs was rejected. The high gain knob was being adjusted at the time and appears to have caused the fathometer to sound off something floating in the water and not the bottom. The area was developed with 10-meter spacing between fixes 5035-5056 with no evidence of any shoaling.

A rocky shoal just south of Gull Island was developed with 5 and 10 meter spacing. The least depth found was 1.3 fathoms corrected for tides. This information can be seen by looking at fix #6897 between the 2nd and 3rd outs on expansion #3, RA-10-2B-80.

A small shoal was found in Peterson Bay. This shoal can be a real danger to small boats trying to get back to the head of the bay. It appears to be a flat rock and is right in the middle of the entrance to the back of Peterson Bay. A local sailboat reported grounding on it during a negative tide in 1979. The least depth obtained during the development of this shoal was 1.3 fathoms corrected for tides, located at  $59^{\circ}34'19.6''N$ ,  $151^{\circ}16'19.2''W$ . It is highly recommended that this shoal be charted.

A peak was found and developed at  $59^{\circ}36'08.6''N$ ,  $151^{\circ}16'20.8''W$ . The least depth was 4.2 fathoms and can be seen on fix #6966, 4th out. The development is shown on expansion sheet 2 of RA-10-2B-80.

On expansion sheet #4 of RA-10-2B-80, the least depth obtained (corrected for tides) during a development was 6.9 fathoms. This peak is located at  $59^{\circ}36'14.4''N$ ,  $151^{\circ}14'18.8''W$ . On the same expansion sheet in a separate development, a peak of 8.5 fathoms was found. This sounding is located at  $59^{\circ}36'09.5''N$ ,  $151^{\circ}15'5.1''W$ .

A dive investigation was conducted on Julian day 224 to obtain a least depth in a developed shoal area. The least depth obtained by the divers using a leadline was 12.6 fathoms, not corrected for tides (fix #1003). However, the fathometer showed an <sup>uncorrected</sup> depth of 12.0 fathoms. The divers said there were lots of large white sea anemones, several feet in height, growing on the shoal. This could be the reason for the difference between the leadline and fathometer depths. For safety it is recommended the <sup>(lat  $59^{\circ}36'36''N$ )</sup> <sup>(long.  $151^{\circ}13'11''W$ )</sup>

12.0 fathom sounding be used for charting. *Reduced to 9.4 fathoms*

On Julian day 226/227 two dive investigations were performed on shoals near the entrance of Halibut Cove. The dive on the first shoal revealed a flat mud bottom with a 3-foot dome-shaped rock outcrop. The divers searched the area for a radius about 200 yards from this outcrop. The least depth obtained by leadline was 7.9 fathoms uncorrected for tides at fix #5033. The dive on the second shoal area revealed a mud bottom with numerous rock outcrops. The shoalest outcrop was one that came up approximately 10 feet off the bottom. The least depth over this shoal, obtained by leadline, was ~~4.8~~ <sup>4.6</sup> fathoms, uncorrected for tides (fix #5034). Refer to the "Description of Search" included in the separates, for details of these dive investigations. *reduced to 4.9 fathoms*

Pos. 5033 (lat. 59°36'01"N, long 151°11'10"W)  
Pos. 5035 (lat 59°36'04"N, long 151°11'51"W)

Halibut Cove Lagoon and China Poot Bay were two areas surveyed that can be entered only during high tide by any but the shallowest draft vessels. Strong currents are found in both entrances. China Poot Bay is a very easy place to go aground. A wandering crossline was run down the middle of what is believed to be the main channel for China Poot Bay. It can be seen on the smooth sheet. This channel is subject to change and requires local knowledge to navigate safely. Most of the bay goes dry at low tides.

Two small holidays exist behind Ismailof island. The first one located at approximately 59°35'48"N, 151°14'30"W was a result of several small boats anchored in the way. The very small holiday at approximately 59°35'39"N, 151°14'40"W was due to a lack of control in this area.

There was numerous duplication of position numbers on this survey. Some positions were duplicated two or three times. Refer to the abstract of positions in the separates following the text for details.

Wherever possible, adjacent mainscheme sounding lines were run alternately on rising and falling tides to flag any problems with tide control. No problems were noted. The areas of Halibut Cove Lagoon and China Poot Bay were surveyed near high tide due to the difficulty of access to these areas at other times. The tides in these areas are significantly different from those outside. See the attached Field Tide Note for details.

#### Q. RECOMMENDATIONS

Due to the large volume of small boat and commercial (fishing) traffic in these bays and lagoons, it is recommended that they be charted at a larger scale than presently charted. In particular, the area of Halibut Cove between Ismailof Island and the mainland is well populated and deserves a 1:10,000 or 1:20,000 scale chart inset.

#### R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (4th edition), the Manual of Automated Hydrographic

Surveys, the PMC OORDER, and other guidelines and standard operating procedures Rockville and PMC issue from time to time.

Soundings and positions were taken by a hydroplot system using range-range program RK-111 and range azimuth program FA-181. There are daily master and corresponding corrector tapes which include the TRA for the launches, baseline correctors for the minirangers and all depth corrections. Velocity tapes were generated from Nansen and Martek CTD 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 Date</u>
RK 111 RANGE-RANGE REALTIME PLOT	1/30/76
FA 181 RANGE AZIMUTH LOGGER	2/23/78
RK 201 GRID SIGNAL & LATTICE PLOT	4/18/75
RK 211 RANGE-RANGE NON-REALTIME PLOT	1/15/76
RK 212 VISUAL STATION TABLE LOAD	4/01/74 ✓
RK 216 RANGE AZIMUTH NON-REALTIME PLOT	2/05/76
RK 300 UTILITY COMPUTATIONS	2/05/76
RK 330 REFORMAT AND DATA CHECK	5/04/76
PM 360 ELECTRONIC CORRECTOR ABSTRACT	2/02/76
AM 500 PREDICTED TIDE GENERATOR	11/10/72
RK 530 LAYER CORRECTIONS FOR VELOCITY	5/10/76
RK 561 GEODETIC H/R CALIBRATION	2/19/75
AM 602 ELINORE-LINE ORIENTED EDITOR	5/20/75
AM 603 TAPE CONSOLIDATOR	10/10/72
RK 606 TAPE DUPLICATOR	8/22/74

The Wang series 700 and two HP calculators were used to compute geographic positions of electronic control stations and visual signals for calibrations.

#### S. REFERRAL TO REPORTS

The following reports contain information related to this survey:

- Electronic Control Report, OPR-P114-RA-80
- Horizontal Control Report, OPR-P114-RA-80
- Corrections to Echo Soundings, OPR-P114-RA-80
- Tide Station Reports, OPR-P114-RA-80 ✓
- Coast Pilot Reports, OPR-P114-RA-80
- Field Edit Reports, OPR-P114-RA-80

Respectfully submitted,  
*David J. Kruth*  
David J. Kruth  
LTJG, NOAA

RA-10-2A-80  
H-9884

AUGUST 11, 1980  
J.D. 224

DESCRIPTION OF SEARCH

TYPE: SWEEP/DRAG CHAIN/WIRE ONE/TWO BOAT OTTERBOARD DIVERS ALONE

OTHER \_\_\_\_\_

WIDTH \_\_\_\_\_ FT/METERS DEPTH \_\_\_\_\_ FT/METERS/ON BOTTOM

OVERLAP \_\_\_\_\_ FT/METERS STARTING - ENDING LINES/ARCS \_\_\_\_\_

SIMULTANEOUS VISUAL SEARCH Y WATER VISIBILITY 5 9 FT/METERS

SIMULTANEOUS GREASE POLE VERIFICATION Y/N OR DIVER VERIFICATION Y/N

OR \_\_\_\_\_

SWEPT IN BOTH DIRECTIONS Y/N SEAS: DIRECTION & HEIGHT NONE

WIND: DIRECTION & KNOTS CALM CURRENT: DIRECTION & KNOTS 1

ANY OTHER PERTINENT DATA SCUBA DIVE INVESTIGATION AND LEAST DEPTH DETERMINATION OF ~~THE~~ RIDGE IN HALIBUT COVE ENTRANCE.

DIVERS CDR ALBRIGHT, STHASTINGS, MT FISHER. FOUND KNIFE

~~INFORMATION FROM LOCALS:~~ EDGE RIDGE OF ROCK W/ EXTREMELY STEEP SIDES OUT OF SAND BOTTOM, COVERED WITH LARGE (3') WHITE ANEMONES. LEAD LINE LEAST DEPTH 12.6 FM, POSITION # 1003, J.D. 224. SHOWN ON EXPANSION # 2 OF RA-10-2A-80.

GP



RA-10-2A-80  
H-9884

AUGUST 13, 1980  
J.D. 226

DESCRIPTION OF SEARCH

TYPE: SWEEP/DRAG CHAIN/WIRE ONE/TWO BOAT OTTERBOARD DIVERS ALONE

OTHER \_\_\_\_\_

WIDTH \_\_\_\_\_ FT/METERS DEPTH \_\_\_\_\_ FT/METERS/ON BOTTOM

OVERLAP \_\_\_\_\_ FT/METERS STARTING - ENDING LINES/ARCS \_\_\_\_\_

SIMULTANEOUS VISUAL SEARCH Y/N WATER VISIBILITY 10 FT METERS

SIMULTANEOUS GREASE POLE VERIFICATION Y/N OR DIVER VERIFICATION Y/N

OR \_\_\_\_\_

SWEPT IN BOTH DIRECTIONS Y/N SEAS: DIRECTION & HEIGHT NONE

WIND: DIRECTION & KNOTS 5 CURRENT: DIRECTION & KNOTS NONE

ANY OTHER PERTINENT DATA SCUBA DIVE INVESTIGATION AND LEAST

DEPTH DETERMINATION OF PEAKS IN HALIBUT COVE. DIVERS

COR ALBRIGHT, ENS KRUTH. FOUND TWO PEAKS, EACH

INFORMATION FROM LOCALS: A 3 FOOT HIGH ROCK OUTCROP

COVERED WITH LARGE (2 FT) WHITE ANEMONES ON A

FLAT MUD DOME. LEAD LINE LEAST DEPTH DETERMINATION

§ SIMULTANEOUS D.P. SHOWN ON EXPANSION SHEET 1

AND SMOOTH FIELD SHEET AS PEAKS OF 4.3 § 4.9 FM.

GR

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

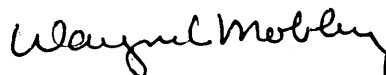
HYDROGRAPHIC SURVEY

H-9884

OPR-P114-RA-80

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.



Wayne L. Mobley  
Captain, NOAA  
Commanding Officer

MASTER STATION LIST  
OPR-P114-RA-80  
SOUTHERN COOK INLET, ALASKA

FINAL VERSION

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/WADE 1923											
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/GULL 1910-1923											
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<del>111</del>	<del>0</del>	<del>59</del>	<del>46</del>	<del>37313</del>	<del>151</del>	<del>06</del>	<del>52201</del>	<del>250</del>	<del>0005</del>	<del>000000</del>	
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113	3	59	34	48047	151	17	34228	250	0002	000000	
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								591511			
114	6	59	34	06289	151	15	46949	250	0000	000000	
/PETER 1980											
								591511			
115	6	59	34	28787	151	16	11884	250	0003	000000	
/SON 1980											
								591511			
116	6	59	33	37045	151	15	45032	250	0001	000000	
/CHICAGO 1980											
								591511			
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/HOMER SPIT LIGHT 1964 PUBLISHED 591511											
201	1	59	36	09213	151	25	09280	250	0010	000000	
/HOMER SPIT SALTY DAWG TOWER 1975 PBLSHD 591511											
202	6	59	40	24332	151	00	07774	109	0000	000000	
<del>/CHRISTINA AZI STN 1980 591511</del>											
203	6	59	30	52262	151	24	58370	109	0002	000000	
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204 4	59 33	03328	151 27	54887	139 0021	000000	
/COHEN IS. RK. LT. 1975					PUBLISHED	591511	
205 3	59 36	03201	151 12	45058	139 0012	000000	
/HALIBUT COVE LT. 1965					PUBLISHED	591511	
206 4	59 44	52611	151 02	52594	139 0001	000000	
/BEAR 2 1965					PUBLISHED	591511	
<del>207 4</del>	<del>59 46</del>	<del>32779</del>	<del>150 58</del>	<del>13475</del>	<del>139 0000</del>	<del>000000</del>	
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/POOT 1976					PUBLISHED	591511	
<del>209 1</del>	<del>59 35</del>	<del>06807</del>	<del>151 19</del>	<del>38169</del>	<del>139 0030</del>	<del>000000</del>	
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/NUNZIO 1980						591511	
212 6	59 35	36508	151 13	20097	250 0002	000000	
/COVE 1980						591511	
213 6	59 35	47430	151 14	14976	250 0002	000000	
/LISA 1980						591511	
214 4	59 35	52546	151 14	02547	250 0002	000000	
/DIANA 1980						591511	
215 1	59 35	42370	151 14	18503	250 0004	000000	
/TERESA 1980						591511	
216 3	59 35	46952	151 15	15845	250 0007	000000	
/POLE 1980						591511	
217 1	59 33	55930	151 15	57839	139 0002	000000	
/CHINA 1980						591511	
218 4	59 33	59280	151 17	35242	250 0003	000000	
/RESERVATION 1980						591511	
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ASCII SIGNAL TAPE LISTING  
 OPR-P114-RA-80  
 SOUTHERN COOK INLET, ALASKA  
 FINAL VERSION

101	1	59	38	39094	151	27	28932	250	0005	000000
102	1	59	35	06778	151	19	38031	250	0022	000000
<del>103</del>	<del>3</del>	<del>59</del>	<del>43</del>	<del>09342</del>	<del>151</del>	<del>03</del>	<del>11457</del>	<del>250</del>	<del>0009</del>	<del>000000</del>
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105	6	59	32	33360	151	28	26375	250	0018	000000
106	4	59	39	01744	151	11	32834	250	0012	000000
107	1	59	41	40467	151	18	36074	250	0035	000000
108	4	59	42	07707	151	06	26592	250	0009	000000
<del>109</del>	<del>3</del>	<del>59</del>	<del>36</del>	<del>09212</del>	<del>151</del>	<del>25</del>	<del>09347</del>	<del>254</del>	<del>0010</del>	<del>000000</del>
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112	4	59	33	46035	151	11	27520	250	0000	000000
113	3	59	34	48047	151	17	34228	250	0002	000000
114	6	59	34	06289	151	15	46949	250	0000	000000
115	6	59	34	28787	151	16	11884	250	0003	000000
116	6	59	33	37045	151	15	45032	250	0001	000000
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<del>127</del>	<del>0</del>	<del>59</del>	<del>06</del>	<del>16472</del>	<del>151</del>	<del>24</del>	<del>45024</del>	<del>250</del>	<del>0005</del>	<del>000000</del>
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<del>129</del>	<del>4</del>	<del>59</del>	<del>25</del>	<del>15503</del>	<del>151</del>	<del>17</del>	<del>56312</del>	<del>250</del>	<del>0000</del>	<del>000000</del>
<del>130</del>	<del>3</del>	<del>59</del>	<del>26</del>	<del>53564</del>	<del>151</del>	<del>24</del>	<del>53113</del>	<del>250</del>	<del>0000</del>	<del>000000</del>
<del>131</del>	<del>3</del>	<del>59</del>	<del>26</del>	<del>53514</del>	<del>151</del>	<del>24</del>	<del>52707</del>	<del>254</del>	<del>0000</del>	<del>000000</del>
<del>132</del>	<del>3</del>	<del>59</del>	<del>26</del>	<del>53523</del>	<del>151</del>	<del>24</del>	<del>52645</del>	<del>254</del>	<del>0000</del>	<del>000000</del>
<del>133</del>	<del>1</del>	<del>59</del>	<del>28</del>	<del>02820</del>	<del>151</del>	<del>24</del>	<del>50874</del>	<del>250</del>	<del>0000</del>	<del>000000</del>
200	1	59	36	04186	151	24	26883	139	0007	000000
201	1	59	36	09213	151	25	09280	250	0010	000000
<del>202</del>	<del>6</del>	<del>59</del>	<del>43</del>	<del>24002</del>	<del>151</del>	<del>03</del>	<del>07774</del>	<del>139</del>	<del>0000</del>	<del>000000</del>
203	6	59	32	52262	151	24	50370	139	0002	000000
204	4	59	33	03328	151	27	54887	139	0021	000000
205	3	59	36	03201	151	12	45058	139	0012	000000
206	4	59	44	52611	151	02	52594	139	0001	000000
<del>207</del>	<del>4</del>	<del>59</del>	<del>46</del>	<del>32779</del>	<del>150</del>	<del>58</del>	<del>13475</del>	<del>139</del>	<del>0000</del>	<del>000000</del>
208	4	59	33	21033	151	21	43381	250	0007	000000
<del>209</del>	<del>1</del>	<del>59</del>	<del>35</del>	<del>06807</del>	<del>151</del>	<del>19</del>	<del>38169</del>	<del>139</del>	<del>0030</del>	<del>000000</del>
210	3	59	35	40842	151	10	42091	250	0016	000000
211	4	59	35	56865	151	09	36895	250	0010	000000
212	6	59	35	36508	151	13	20097	250	0002	000000
213	6	59	35	47430	151	14	14976	250	0002	000000
214	4	59	35	52546	151	14	02547	250	0002	000000
215	1	59	35	42370	151	14	18503	250	0004	000000
216	3	59	35	46952	151	15	15845	250	0007	000000
217	1	59	33	55930	151	15	57839	139	0002	000000
218	4	59	33	59280	151	17	35242	250	0003	000000
<del>219</del>	<del>4</del>	<del>59</del>	<del>27</del>	<del>09872</del>	<del>151</del>	<del>23</del>	<del>18004</del>	<del>250</del>	<del>0000</del>	<del>000000</del>
<del>220</del>	<del>3</del>	<del>59</del>	<del>27</del>	<del>57932</del>	<del>151</del>	<del>26</del>	<del>33222</del>	<del>139</del>	<del>0002</del>	<del>000000</del>
221	4	59	35	48281	151	12	28559	139	0000	000000
<del>301</del>	<del>4</del>	<del>59</del>	<del>42</del>	<del>21903</del>	<del>151</del>	<del>06</del>	<del>21650</del>	<del>243</del>	<del>0000</del>	<del>000000</del>

NOAA FORM 76-40  
(8-74)

Replaces C&GS Form 567.

### NONFLOATING AIDS FOR CHARTS

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

**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)

REPORTING UNIT  
(Field Party, Ship or Office)

NOAA SHIP RAINIER

LOCALITY

KACHEMAK BAY

DATE

9/80

STATE

ALASKA

The following objects HAVE  BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.

OPR PROJECT NO. OPR-P114-RA-80

JOB NUMBER

H-9884

DATUM

N. A. 1927

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

OFFICE

191/77

FIELD

Triang. rec'd  
5/80

POSITION

LATITUDE	LONGITUDE	
	D.M. Meters	D.P. Meters
59 35	151 19	38.16944
59 36	151 12	45.05801
59 35	151 12	28.559

DESCRIPTION

GULL ISLAND LIGHT 4 L.L.# 3479  
(Gull Island Light, 1975) (SIGNAL # 209)

HALIBUT COVE LIGHT 2 L.L.# 3480  
(Halibut Cove Light, 1965) (SIGNAL # 205)

HALIBUT COVE DAYBEACON 4 L.L.# 3480  
(Halibut Cove Rock Daybeacon, 1980) (SIGNAL # 221)

CHARTING NAME

LIGHT

LIGHT

DAYBEACON

CHARTS AFFECTED

16640  
16645

16640  
16643  
16645

"  
"  
"

L-1051(85)

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	RICHARD L. HASTINGS, SST
POSITIONS DETERMINED AND/OR VERIFIED	LTJG JOSEPH TALBOTT
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	
<p align="center"><b>INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'</b> (Consult Photogrammetric Instructions No. 64.)</p>	
<p><b>OFFICE</b></p> <p><b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> 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</p> <p><b>FIELD</b></p> <p><b>I. NEW POSITION DETERMINED OR VERIFIED</b> Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection</p> <p><b>A. Field positions* require entry of method of location and date of field work.</b> EXAMPLE: F-2-6-L 8-12-75</p> <p>*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.</p>	<p><b>FIELD (Cont'd)</b></p> <p><b>B. Photogrammetric field positions** require date of method of location or verification, date of field work and number of the photograph used to locate or identify the object.</b> EXAMPLE: P-8-V 8-12-75 74L(C)2982</p> <p><b>II. TRIANGULATION STATION RECOVERED</b> 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</p> <p><b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75</p> <p>**PHOTOGAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.</p>
<p><input type="checkbox"/> PHOTO FIELD PARTY</p> <p><input checked="" type="checkbox"/> HYDROGRAPHIC PARTY</p> <p><input type="checkbox"/> GEODETIC PARTY</p> <p><input type="checkbox"/> OTHER (Specify)</p>	<p>FIELD ACTIVITY REPRESENTATIVE</p>
<p><input type="checkbox"/> REVIEWER</p> <p><input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE</p>	<p>OFFICE ACTIVITY REPRESENTATIVE</p>



VELOCITY CORRECTOR TAPE LISTING  
OPF-F114-PA-82  
SOUTHERN COOK INLET, ALASKA

TABLE NO. 1

RA-10-1-80(H-9569)  
RA-20-1-80(H-9876)  
RA-20-2-80(H-9877)  
000138 0 0000 0001 001 000000 000000  
000368 0 0001  
000630 0 0002  
000870 0 0003  
001087 0 0004  
001300 0 0005  
999999 0 0006

TABLE NO. 2

RA-10-1-80(H-9569)  
RA-10-2-80(H-9884)  
RA-20-1-80(H-9876)  
RA-20-2-80(H-9877)  
000070 0 0000 0002 001 000000 000000  
000215 0 0001  
000350 0 0002  
000485 0 0003  
000630 0 0004  
000760 0 0005  
000885 0 0006  
001000 0 0007  
001120 0 0008  
001250 0 0009  
001370 0 0010  
999999 0 0011

TABLE NO. 3

RA-5-3-80(H-9900)  
RA-10-1-80(H-9569)  
RA-10-2-80(H-9884)  
RA-10-3-80(H-9893)  
RA-20-1-80(H-9876)  
RA-20-2-80(H-9877)  
000045 0 0000 0003 001 000000 000000  
000125 0 0001  
000205 0 0002  
000280 0 0003  
000370 0 0004  
000450 0 0005  
000530 0 0006  
000610 0 0007  
000690 0 0008  
000775 0 0009  
000855 0 0010  
000940 0 0011  
001020 0 0012  
001100 0 0013  
999999 0 0014

TABLE NO. 4

KASILOF RIVER PROJECT

RA-5-1-80(H-9891)

RA-5-2-80(H-9892)

000035 0 0000 0004 001 000000 000000

000110 0 0001

000190 0 0002

000275 0 0003

999999 0 0004

TABLE NO. 5

SCALE - FEET

TUTKA BAY LAGOON

RA-10-3-80(H-9893)

000055 0 0000 0005 000 000000 000000

000144 0 0001

000233 0 0002

000325 0 0003

000419 0 0004

000513 0 0005

000611 0 0006

999999 0 0007

## FIELD TIDE NOTE

Field tide reduction of soundings for OPR-P114-RA-80 was based on predicted tides from Seldovia, Alaska, corrected to Homer, Alaska, for all hydrographic sheets except RA-5-1-80 (H-9891) and RA-5-2-80 (H-9892). For these two sheets, Seldovia predicted tides were corrected to Kasilof. Correctors were obtained from the Preliminary Zoning, OPR-P114-RA/FA-79. The predicted tides were interpolated using program AM-500 on a PDP-8/E computer. All predicted tide data is based on GMT.

Eleven 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>
Tutka Bay Lagoon (Temporary Station)	59° 26.4'N 151° 21.4'W	8 August - 9 August
Halibut Cove Lagoon (945-5555)	59° 33.8'N 151° 11.8'W	17 June - 22 July
Tutka Bay (945-5506)	59° 25.9'N 151° 21.4'W	27 June - 14 August
Halibut Cove (945-5556)	59° 35.8'N 151° 13.8'W	5 June - 30 June 21 July - 14 August
Bear Cove (945-5595)	59° 43.5'N 151° 01.4'W	6 May - 12 August
Cape Kasilof (945-5711)	60° 20.2'N 151° 22.8'W	9 July - 12 August
Kasitsna Bay (945-5517)	59° 28.1'N 151° 35.9'W	26 June - 14 August
Sadie Cove (945-5514)	59° 29.4'N 151° 21.9'W	14 July - 14 August
Coal Point (ADR) (945-5558)	59° 36.2'N 151° 24.5'W	1 May - 18 August
Coal Point (Bubbler) (945-5558)	59° 36.2'N 151° 24.5'W	31 May - 18 August
Kasilof, Kasilof River (945-5715)	60° 21.5'N 151° 16.6'W	1 July - 27 July
Kasilof River Entrance (945-5722)	60° 23.2'N 151° 17.5'W	2 July - 28 July

Seldovia  
(945-5500)

59° 26.4'N  
151° 43.0'W

CONTROL STATION

### Tutka Bay Lagoon

Bubbler Gage (S/N 736620) was installed on 8 August. This was a temporary gage used only while hydrography was run in the lagoon. There was no staff installed or levels run. The gage was removed on 9 August. The gage was set to GMT. This station was installed to record the tides during hydrography in this small lagoon with a restricted entrance. Datums should be somewhat different within this lagoon.

### Halibut Cove Lagoon

Bubbler Gage (S/N 64A11031) was installed on 17 June. There were no problems with this gage. The gage was removed on 22 July. There was no tide staff at this gage; levels were run to the water surface to provide a staff reading. TBM-1 served as a staff stop. The gage was set to Alaska Daylight Time (GMT -9hrs). This station was installed to record the significantly different tide within the lagoon (Halibut Cove Lagoon has severely restricted entrance at low tide) during the times of hydrography. The tide range is reduced in the Lagoon, and the datums will differ significantly from those just outside the Lagoon.

### Tutka Bay

Bubbler Gage (S/N 67A10291) was installed and levels run on 27 June. It ran accurately until 2 July when it was shut off until needed further, to prevent it running down while unattended. It was re-started on 14 July. On 9 August the clock stopped. Approximately 24 hours of data was lost. The gage was secured and levels run on 14 August. The marigram reads 13.1 ft. greater than the staff. The gage was set to GMT.

### Halibut Cove

Bubbler Gage (S/N 63A2921) was installed and levels run on 5 June. The clock was secured on 30 June until required for further data. It was restarted on 21 July. It ran accurately until it was removed and levels run on 14 August. The gage reads 5.7 ft. greater than the staff. The gage was set to GMT.

### Bear Cove

Bubbler Gage (S/N 68A9329) was installed and levels run on 6 May. Gage marigrams for 6 May - 3 June were forwarded to Pacific Marine Center on 18 June. The clock was not running accurately, but this did not affect the accuracy of the data. The ink pen came partly off its guide pins on 24 June and read about 5 feet low until replaced on 19 July. Levels were run and the gage removed on 12 August. The gage reads 13.7' above the tide staff. The gage was set to GMT.

### Cape Kasilof

Bubbler Gage (S/N 62A297) was installed and levels run on 9 July. There was no tide staff at this station. Levels were run to the waters edge to provide a staff reading. BM1 served as a staff stop. There were no problems with this gage. Levels were run and the gage removed on 12 August. The gage was set to GMT.

### Kasitsna Bay

Bubbler Gage (S/N 72A21482) was installed and levels run on 25 June. The gage ran accurately until 15 August when levels were run and the gage was removed. The gage reads 12.5 ft. greater than the tide staff. The gage was set to GMT.

### Sadie Cove

Bubbler Gage (S/N 68A-9337) was installed and levels run on 14 July. The chart drive was found defective and replaced on 26 July. From 16 July - 25 July the marigram came off the sprockets. A template was made from a portion of the marigram paper and the marigram interpolated for this data, using the marks left on the paper by the sprockets as a guide. The gage ran satisfactorily from 25 July until levels were run and the gage removed on 14 August. The gage was set to GMT. The gage reads 7.7' greater than the staff.

### Coal Point

A Fisher-Porter ADR Gage (S/N 7304A1380M2) was installed and levels run on 1 May. The gage was removed and levels run on 18 August. All leveling data is the same for both Coal Point gages. This gage ran satisfactorily until removal except for the loss of tides lower than -2.5 feet.

### Coal Point

Bubbler Gage (S/N 64A-11026) was installed on 31 May as a back up to the ADR at the same location. The ADR gage goes dry at tides less than -2.5 ft. The gage ran accurately until it was removed and levels run on 18 August. The gage reads 8.7 ft. greater than the staff. The gage was set to Alaska Daylight Time (GMT -9hrs).

### Kasilof, Kasilof River

Bubbler Gage (S/N 63A-2928) and tide staff were installed on 30 June. Levels were run on 1 July. The gage ran accurately until 27 July when levels were run and the gage removed. The gage reads 13.1 ft. greater than the staff. The gage was set to GMT.

### Kasilof River Entrance

Bubbler Gage (S/N 736620) was installed and levels run on 1 July. The marigram came off the sprockets on 5 July and did not advance for 4 days. Slight irregularities in the curve apparently resulted from a low nitrogen flow rate. Levels were run and the gage removed on 27 July. The gage reads 16.7' greater than the staff. The gage was set to GMT.

## Seldovia

This is the reference station used for all predicted tides in Kachemak Bay. An ADR gage is being operated here by the Pacific Tide Party. Second Order Class One levels were run to three marks at this station on 2 May and again on 15 August. On 28 July RAINIER personnel assisted the Pacific Tide Party in installing a back up Bristol Bubbler Gage at this location, and running levels to five marks.

## Levels

Levels were run at each station at installation and removal. Levels were run to three marks at all stations with the following exceptions: Levels were run at Bear Cove to six marks, at Cape Kasilof to five marks, at Coal Pt. to five marks, and at Halibut Cove to 5 marks.

A comparison of installation levels with removal levels showed no significant staff or bench mark movement except at Coal Point. The Coal Point levels show an apparent subsidence of the staff by 0.506m. However the staff at Coal Point is securely attached to a solid pier piling. There is no evidence of the staff having moved at all, and the gage/staff difference did not change. There was certainly not a 1/2m shift in the pier. Although all levels are internally consistent, it is suspected that a canceling error was made by reading the rod 1/2m off twice during the levels. It is not known whether this error occurred during installation or removal levels. The staff is still in place and can be re-checked. It is recommended that the tide data collected at Coal Point be accepted for hydrography, and that it be assumed that the gages and staff there did not move during the period of hydrography. Future levels can confirm the staff/bench mark relative elevations if the staff is still in place.

## Recommended Zoning

Little difference was observed in times and heights of tides between Homer and Bear Cove. It is expected that the following zoning will be sufficient for this project:

<u>Boat Sheets</u>	<u>Tide Station(s)</u>
RA-20-1-80 (H-9876)	945-5558
RA-20-2-80 (H-9877)	945-5558
RA-5-3-80 (H-9900)	945-5558
RA-10-1-80 (H-9569)	945-5595
RA-10-2-80 (H-9884)	945-5556
RA-10-2-80 (Halibut Cove Lagoon)	945-5555
RA-10-3-80 (H-9893, Sadie Cove)	945-5514
RA-10-3-80 (H-9893, Tutka Bay)	945-5506
RA-10-3-80 (Tutka Bay Lagoon)	Tutka Bay Lagoon Gage
RA-5-1-80 (H-9891)	945-5711
RA-5-2-80 (H-9892)	945-5722 & 945-5715

Hydrography in the Kasilof River, Halibut Cove Lagoon and Tutka Bay Lagoon must be reduced using actual tides from the gages at these locations. The tides in these areas bear little resemblance to the predicted tides available for nearby stations, due to the restricted nature of the entrances to the areas. All these areas have low water datums which are significantly higher than those just outside. The smooth field sheets for these areas were plotted using predicted tides for stations outside the restricted areas, and replotting the data using the actual local tides should show some differences. In Halibut Cove and Tutka Bay Lagoons, the MLLW datum should be near the observed low, flat portions of the tide curve. The Kasilof River has an additional complication due to seasonal fluctuations in the river level. In fact, the river level (the lower, flat part of the tide curve) can be seen to rise even during the period of operation of the short term gages installed for this project.

U.S. DEPARTMENT OF COMMERCE  
April 29, 1981 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, Alaska  
945-5555 Halibut Cove Lagoon, Alaska  
945-5556 Halibut Cove, Alaska

Period: June 3 - August 13, 1980

HYDROGRAPHIC SHEET: H-9884

OPR: P114

Locality: Kachemak Bay, Cook Inlet, Alaska

Plane of reference (mean lower low water): 945-5500 = 8.15 ft.  
945-5555 = 14.0 ft.  
945-5556 = 5.4 ft.

Height of Mean High Water above Plane of Reference is 945-5500 = 17.16 ft.  
945-5555 = 11.3 ft.  
945-5556 = 17.5 ft.

REMARKS: Recommended Zoning:

Using latitude  $59^{\circ}37.5'$  as the northern limit and  $59^{\circ}32.5'$  as the southern limit of the H-sheet.

From longitude  $151^{\circ}21.0'$  east to  $151^{\circ}07.0'$  except in Halibut Cove Lagoon, zone direct on 945-5556, Halibut Cove, Alaska. For days 155 through 157 and 183 through 226 when the gage at Halibut Cove was inoperative zone on 945-5500 Seldovia, Alaska, and apply xl.03 range ratio.

From latitude  $59^{\circ}35.7'$  south into Halibut Cove Lagoon, but following the Bottom Contour, for days 169 through 182 only, zone direct on 945-5555 Halibut Cove Lagoon, Alaska.

  
Chief, Datums and Information Branch



GEOGRAPHIC NAMES

H-9884

Name on Survey

A ON CHART NO. 16645 & 16640  
 B ON PREVIOUS SURVEY NO. H-4297  
 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  
 T-Street  
 K 00805

Name on Survey	A	B	C	D	E	F	G	H	T-Street	K
CHINA POOT BAY	X	X							X	1
GULL ISLAND	X	X								2
HALIBUT COVE	X	X							X	3
HALIBUT COVE LAGOON	X								X	4
HALIBUT CREEK	X								X	5
ISMAILOF ISLAND	X	X							X	6
KACHEMAK BAY	X								X	7
<del>KENAI PENINSULA</del>	X								X	8
PETERSON BAY	X								X	9
PETERSON POINT	X								X	10
THE NARROWS									X	11
										12
										13
										14
										15
										16
										17
						Approved,				18
						<i>Charles E. Harrington</i>				19
						Chief Geographer - N/C62x5				20
						17 MAY 1983				21
										22
										23
										24
										25

APPROVAL SHEET  
FOR  
SURVEY H- 9804

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

Date: August 3, 1982

Signed: Stanley H. Holt

Title: Chief, Verification Branch

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

Date: August 5, 1982

Signed: Raymond D. Woodcock

Title: Chief, Marine Surveys Division

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		15
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		11

DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	5		3-Raw			
VOLUMES	2					
BOXES			1-Sound. Vol. Smooth Plo			

T-SHEET PRINTS (List) TP-00804, TP-00805, TP-00808, TP-00809

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			
POSITIONS CHECKED	0	4702	4702
POSITIONS REVISED	0	3920	3920
SOUNDINGS REVISED	0	294	294
SOUNDINGS ERRONEOUSLY SPACED	0	0	0
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED	0	0	0
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	4	* (VER)/(EVAL)	4
VERIFICATION OF CONTROL		24/00	24
VERIFICATION OF POSITIONS		209/00	209
VERIFICATION OF SOUNDINGS		212/00	212
COMPILATION OF SMOOTH SHEET		58/00	58
APPLICATION OF TOPOGRAPHY		32/00	32
APPLICATION OF PHOTOBATHYMETRY		00/00	0
JUNCTIONS		02/00	02
COMPARISON WITH PRIOR SURVEYS & CHARTS		00/53	53
VERIFIER'S REPORT		01/12	13
OTHER		00/10	10
<b>TOTALS</b>	<b>4</b>	<b>538/75</b>	<b>617</b>
Pre-Verification by <b>James S. Green</b>	Beginning Date <b>12/18/80</b>	Ending Date <b>12/18/80</b>	
Verification by <b>B.A. Olmstead, I.A. Almacen</b>	Evaluation by <b>G. E. Kay</b>	Beginning Date <b>3/6/81</b>	Ending Date <b>6/16/82</b>
Verification Check by <b>Stanley H. Otsubo</b>	Time (Hours) <b>24</b>	Date <b>7/13/82</b>	
Marine Center Inspection by <b>HIT</b>	Time (Hours) <b>9</b>	Date <b>7/15/82</b>	
Quality Control Inspection by <b>S Baumgardner</b>	Time (Hours) <b>149</b>	Date <b>12/15/82</b>	
Requirements Evaluation by <b>Paul DeKazarian</b>	Time (Hours) <b>4hr.</b>	Date <b>9/26/85</b>	

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

S.A. Meyer 15 Nov 5/4/83

REGISTRY NO. 9884

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

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

MAGNETIC TAPE CORRECTED

DATE \_\_\_\_\_ TIME REQUIRED \_\_\_\_\_ INITIALS \_\_\_\_\_

REMARKS:

PACIFIC MARINE CENTER  
VERIFICATION/EVALUATION REPORT

REGISTRY NO: H-9884

FIELD NO: RA-10-2-80

Alaska, Kachemak Bay, Halibut Cove <sup>to China Post Bay</sup> & ~~Peterson Bay~~

SURVEYED: June 5 to August 13, 1980

SCALE: 1:10,000

PROJECT NO: OPR-P114-RA-80

SOUNDINGS: Ross Fineline  
Fathometer  
Lead line  
Diver

CONTROL:  
Mini-Ranger Range/Range  
Range-Azimuth

Chief of Party.....CAPT W. L. Mobley

Surveyed by.....LT A. Anderson  
LT T. Clark  
LTJG D. Kruth  
ENS J. Gordon

Automated Plot by.....PMC Xynetics Plotter

Verified by.....I. A. Almacen  
B. O. Olmstead

Evaluated by.....Gordon E. Kay

I. INTRODUCTION

NOTE: This survey has been processed utilizing a procedure developed to work in conjunction with the Verification Branch realignment, which established an evaluation process. The survey data was first verified and a smooth sheet compiled by a verifier. Then an evaluator reviewed the work of the verifier, made the necessary comparisons with prior surveys and charts and wrote the Verification/Evaluation Report. Then the completed survey was reviewed by the Hydrographic Inspection Team (H.I.T.) where additional modifications to the smooth sheet and report were made.

NOAA Ship RAINIER (S-221) conducted this hydrographic survey of a portion of the eastern shoreline of Kachemak Bay, Alaska, including Halibut Cove and Peterson Bay. The survey encompasses the 50 fathom contour inshore to the zero fathom contour. The shoreline varies from soft, sandy beaches to rocky ledges and cliffs, which indicates the type of bottom configuration portrayed on this survey.

Projection parameters used to prepare the field sheet have been revised to center the hydrography on the smooth sheet. Smooth sheet parameters and all correctors used to reduce the soundings by the Pacific Marine Center (PMC), Seattle, Washington, are appended in the smooth print-outs. The tide correctors and sounding analysis statistics are in the raw data cahier. Field tide reductions are based on predicted tides from Seldovia, Alaska. See Field Tide Note in the Ship's Descriptive Report H-9884 for an adequate description of tides. Smooth sheet reduced sounding data are based on observed tides at the following:

Seldovia, Alaska (945-5500)  
 Halibut Cove, Alaska (945-5556)  
 Halibut Cove Lagoon, Alaska (945-5555)

No unusual problems were encountered during verification of H-9884.

## 2. CONTROL AND SHORELINE

No unusual problems were encountered during verification of positioning and control. See Horizontal Control Report and Electronic Control Report for OPR-P114-RA-80 and Ship's Descriptive Report, paragraphs F and G for an adequate description of positioning and control.

The shoreline on H-9884 came from the following unreviewed Class I manuscripts:

<u>Sheet Number</u>	<u>Scale</u>	<u>Date of Photography</u>	<u>Date of Field Edit</u>
TP-00804	1:10,000	July, August 1975, June 1976	June 1980
TP-00805	1:10,000	July, August 1975, June 1976	June 1980
TP-00808	1:10,000	July, August 1975, June 1976	June 1980
TP-00809	1:10,000	July, August 1975, June 1976	June 1980

A sketch of a pier located on the southern shore of Isailof Island is provided on the smooth sheet to show the soundings along the pier face in this congested area.

An islet in the vicinity of latitude 59°35'45"N and longitude 151°15'25"W originates from a hydrographic position. **Disregard**

## 3. HYDROGRAPHY

a. Crosslines and main scheme sounding lines are in good agreement. Differences between soundings at points of coincidence are as follows:

+ 0.0 to 0.3 fathoms for depths up to 20 fathoms  
 + 1.0 fathom for depths greater than 20 fathoms

These differences can be attributed to the steep bottom slope.

b. Standard depth contours were easily and completely drawn, with the exception of portions of the zero fathom curve. Several brown curves were added to emphasize shoal depths.

c. Hydrographic Survey H-9884 is adequate to determine the bottom configuration and determine least depths in this area. See Sec. 6 below

d. The bottom samples obtained consist mainly of grey mud or grey sand.

#### CONDITION OF SURVEY

The smooth sheet, accompanying overlays and hydrographic records are adequate and conform to the requirements of the Hydrographic Manual H.M.), but with the following exceptions:

a. Overhead cables - located at:

(1) China Poot Bay; latitude 59°33'36"N  
longitude 151°15'30"W

L-994/69  
VERT CL 152 FT

(2) The Narrows; latitude 59°35'45"N  
longitude 151°15'00"W

L-1688/69  
VERT CL 93 FT

Elevation clearances were not obtained on these potential hazards. "Field parties shall measure overhead bridge and cable clearances only where charted values are questionable, definitive information is lacking..." (H.M. 4.5.14). Present chart does not indicate any elevation values on these cables.

b. Sounding lines - located at the southeastern end of Halibut Cove at latitude 59°35'39"N, longitude 151°10'00"W were run parallel to the depth contour, thus portraying a somewhat unrealistic sharp drop in the sub-surface terrain. "Radiating sounding lines often provide the most efficient development of the bottom in small bays..." (H.M. 4.3.5.3).

*This deficiency not critical.  
Daw  
N/C62421*

#### 5. JUNCTIONS

H-9884 junctions with H-9877, 1:20,000 (1980-81) along the entire northern limit of H-9884. No problems were encountered in making the junction. Depth curves and marginal note (in red) have been inked on H-9884. Not available during Q.C.

#### 6. COMPARISON WITH PRIOR SURVEY

H-9884 was compared with the following prior survey:

a. SEE Q.C. item 2

b. H-4297, 1:20,000 (1923). Soundings compare well, with slight differences, except for a 27 fathom depth at latitude 59°34'52"N, longitude 151°20'32"W. The present survey reveals depths of 47 fathoms in this area, but this area was not adequately developed, with the 27 fathom sounding falling between sounding lines. This sounding has been transferred in violet onto H-9884. H-4297 contains numerous rocks, almost which were located by either the hydrographer or field editor during the course of this survey. <sup>with the exception of the above</sup> The present hydrographic survey H-9884 is adequate to supersede H-4297 over their common areas.

\* in addition, several rky bottom characteristics and two rocks were carried forward to the present survey. There are no numbered or dashed presurvey review items contained within the boundaries of this survey.

## 7. COMPARISON WITH CHART

H-9884 was compared with Chart 16645, 1:82,662, 1<sup>2</sup><sub>3</sub>th Ed., October 21, 1978.

a. Hydrography - The charted information originates from the previously discussed prior survey H-4297, except for the following rocks which come from unknown sources:

- (1) Rock - latitude 59°35.7'N, longitude 151°14.8'W  
(source - USGS Quad. Seldovia C-4)

This rock was thoroughly investigated by the ship and was disproven. (See descriptive report paragraph L.4.) This rock should be removed from the chart. *Concur.*

- (2) Submerged rock - latitude 59°34'1<sup>9</sup>17"N, longitude 151°16'18"W

This rock was not searched for during this survey. Present sounding data reveal depths in this area ranging from ~~4.2~~ 4.8 fathom to ~~4.8~~ 5.8 fathoms. It is recommended that this submerged rock continue to be charted at the above location. *Donot concur, rock considered to no longer exist. delete from chart.*

*Most of the*  
~~All other~~ charted rocks can be located within the vicinity of rocks located on the present survey. Hydrographic survey H-9884 is adequate *(See Sec 6.)* to supersede the charted information over their common areas except for rock<sup>s</sup> noted above.

One noted discrepancy with the chart is the way China Poot Bay is portrayed on the chart. Present Class I maps and the hydrographic information reveals that this bay extends eastwardly .5 nautical mile more than as charted. It is recommended that the present Class I maps be used to upgrade and recompile the inshore features on Chart 16645, where available.

b. Controlling depths - There are no controlling depths within the boundaries of this hydrographic survey H-9884.

c. Aids to navigation - There are no floating aids to navigation on this survey, but there are three fixed aids to navigation as follows:

Gull Island Light 4	Light list #3479
Halibut Cove Light 2	Light List #3480
Halibut Cove Daybeacon 4	

These aids adequately mark the features intended.

## 8. COMPLIANCE WITH INSTRUCTIONS

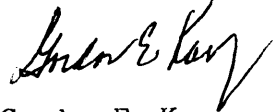
H-9884 complies with Project Instructions for OPR-P114-RA, FA-80, Southern Cook Inlet, Alaska, April 10, 1980, and CHANGES No. 1 and 2, dated 4-1-80 and 4-30-80 respectively.



9. ADDITIONAL FIELD WORK

Additional field work is neither recommended nor required at this time for hydrographic survey H-9884, but it is advised that if any future work is performed in this area, the 27 <sup>items</sup> fathom sounding transferred from H-4297 (see Section 6) be thoroughly investigated.

Respectfully submitted,



Gordon E. Kay  
Cartographer

Examined and Approved



Stanley H. Otsubo  
Acting Chief, Verification Branch



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SURVEY  
Pacific Marine Center  
1801 Fairview Avenue East  
Seattle, Washington 98102

CPM3/LWM

TO: C3 - C. William Hayes  
FROM: CPM - Charles K. Townsend  
SUBJECT: Administrative Approval of H-9884, Halibut Cove <sup>to China Poot</sup> ~~and Peterson~~  
Bay, Kachemak Bay, Alaska

The smooth sheet and reports of this survey have been examined and the survey is adequate for charting and to supersede common areas of prior surveys except for the 27 fathom sounding at latitude  $59^{\circ}34'52''N$ , longitude  $151^{\circ}20'32''W$  which should be carried forward from H-4297, and the submerged rock at latitude  $59^{\circ}34'15''N$ , longitude  $151^{\circ}16'18''W$  which should be carried forward from Chart 16645. (See Verifier's Rpt. sec. 6 and 7)





**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SERVICE  
OFFICE OF CHARTING AND GEODETIC SERVICES  
ROCKVILLE, MARYLAND 20852

N/CG242:SRB

March 5, 1985

TO: Roy K. Matsushige *RM*  
Chief, Hydrographic Surveys Branch

THRU: Chief, Standards Section *am*

FROM: S. R. Baumgardner *SR Baumgardner*  
Quality Evaluator

SUBJECT: Quality Control Report for Survey H-9884 (1980), Alaska, Kachemak Bay, Halibut Cove to China Poot Bay

A quality control inspection of survey H-9884 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, shoreline transfer, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a  $\frac{1}{2}$ -scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to National Ocean Service standards and requirements except as stated in the Verifier's Report, ~~the HIT Report,~~ and as follows:

1. The existence of two rocks awash charted at latitude  $59^{\circ}36'09''N$ , longitude  $151^{\circ}14'21''W$  and latitude  $59^{\circ}36'05''N$ , longitude  $151^{\circ}14'33''W$  was not proved or disproved on the present survey. Here, an investigation was not done as implied by the hydrographer in section L of the Descriptive Report. A development is only found near the rock locations in the sounding records. It is probable that a presurvey plot of these items was transferred to the field sheet from an 8:1 ratio enlargement of the chart instead of the prior survey, H-4297 (1923), at a scale of 1:20,000.

These rocks were carried forward from H-4297 (1923) to supplement present hydrography during quality control.

2. The following should be included in section 6 of the Verifier's Report:

H-3204                      (1910)                      1:40,000

This smaller scale prior survey with only a few sounding lines falling in the common area of the present survey is of limited value for comparative purposes between prior and present depths.



H-9884

2

The present survey is adequate to supersede the prior survey in the common area.

3. In order to have made the shoal investigations more comprehensive, and as an aid to the verifier, it would have been desirable for the hydrographer to obtain bottom samples in the vicinity of the least depths acquired.

cc:

N/CG241



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL OCEAN SERVICE  
OFFICE OF CHARTING AND GEODETIC SERVICES  
ROCKVILLE, MARYLAND 20852

OCT 7 1985

N/CG241:RWD

TO: N/MOP - Robert L. Sandquist  
FROM: N/CG2 - *J. Austin Yeager*  
SUBJECT: Report of Compliance for Survey H-9884

The smooth sheet and Descriptive Report for survey H-9884 (1980), Alaska, Kachemak Bay, Halibut Cove to China Poot Bay, have been reviewed. Please extend my appreciation to RAINIER and your processing unit at the Pacific Marine Center for their efforts in completing this survey. This survey, except as noted in the Quality Control Report, dated March 5, 1985 (copy attached), and the Verification/Evaluation Report is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-P114-RA-80, dated April 10, 1980.

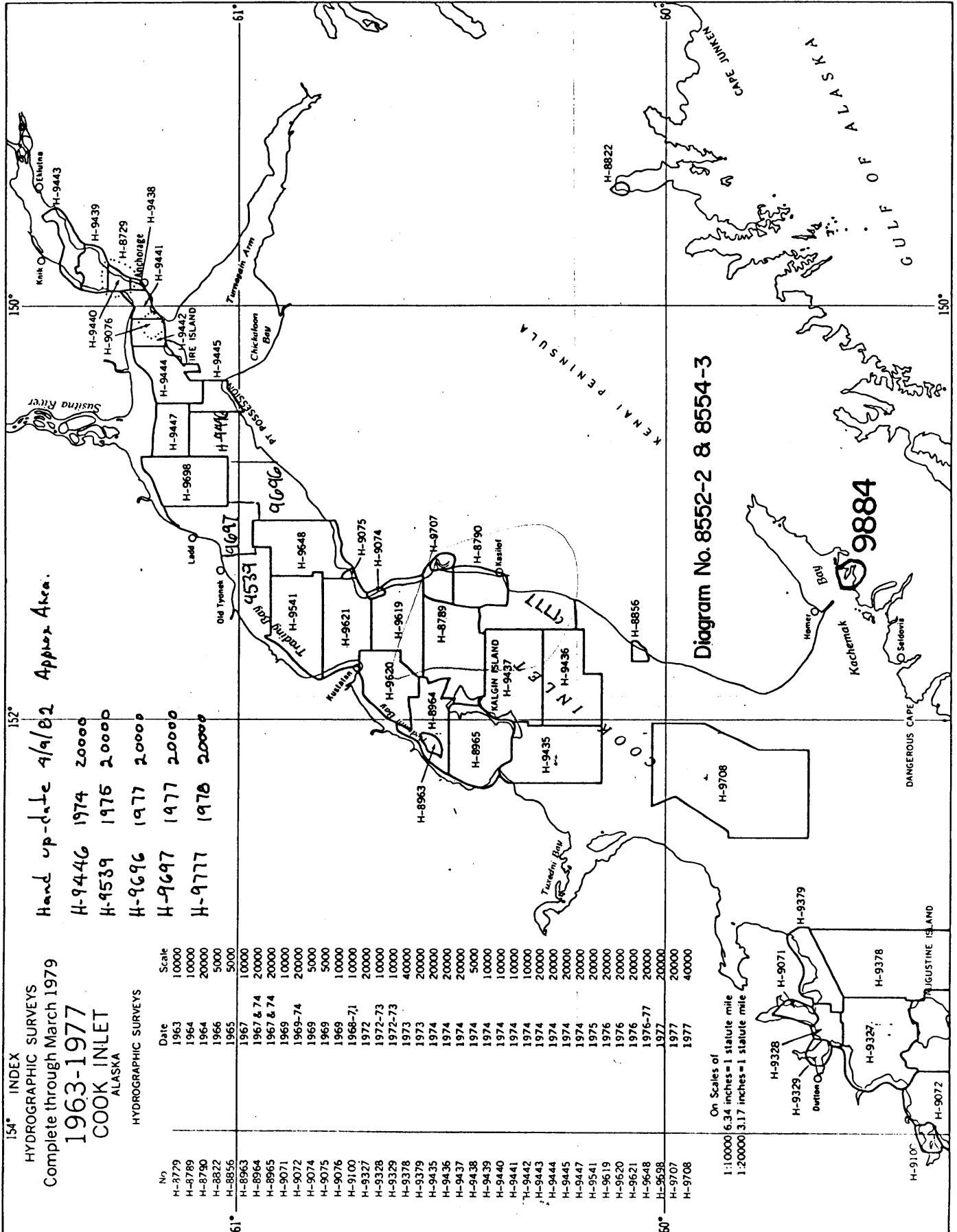
Attachment

cc:  
N/CG242 w/o att.



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

Hydrographic Index No. 114E



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9884

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
16640	11 - 85	J.M.O'Connor	<del>Full Part Before</del> After Verification Review Inspection Signed Via Drawing No. 22
16646		J.H. Graham	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Re-Const - #1</i>
16645	2/1/91	A.MACEN	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No. <i>full application of sndgs. from SS.</i>
16640	2/4/91	A.MACEN	Full <del>Part Before</del> After Verification Review Inspection Signed Via Drawing No.
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