10030

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-10-2-82

Office No. H-10030

LOCALITY

State Alaska

General Locality Cook Inlet

Locality Port Chatham

1982

CHIEF OF PARTY
CAPT R.J. Land

LIBRARY & ARCHIVES

DATE September 25, 1984

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

Area 6
CHTS:
16645 ✓ INSET } to sign off as
16640 ✓ } Record of Hydrographer
16013 NX ✓

10030

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-10030

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-10-2-82

State ALASKA

General locality Cook Inlet

Locality Port Chatham

Scale 1:10,000 Date of survey July 10 - 24, 1982

Instructions dated February 24, 1982 Project No. OPR-P114-RA-82

Vessel 2123, 2124, 2125, 2126

Chief of party CAPT. Ralph J. Land, NOAA

Surveyed by LT J. O'Clock, LTJG B. Hillard, ENS R. Koehler, ENS B. Postle and SST R. Hastings

Soundings taken by echo sounder, hand lead, ~~pole~~ ROSS Fineline Fathometer and assoc. equipment

Graphic record scaled by NOAA Ship RAINIER personnel

Graphic record checked by NOAA Ship RAINIER personnel

Verification ~~Protracted~~ by J. Shofner, R. Davies Automated plot by PMC Xynetics

Evaluation ~~Verification~~ by C. R. Davies

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

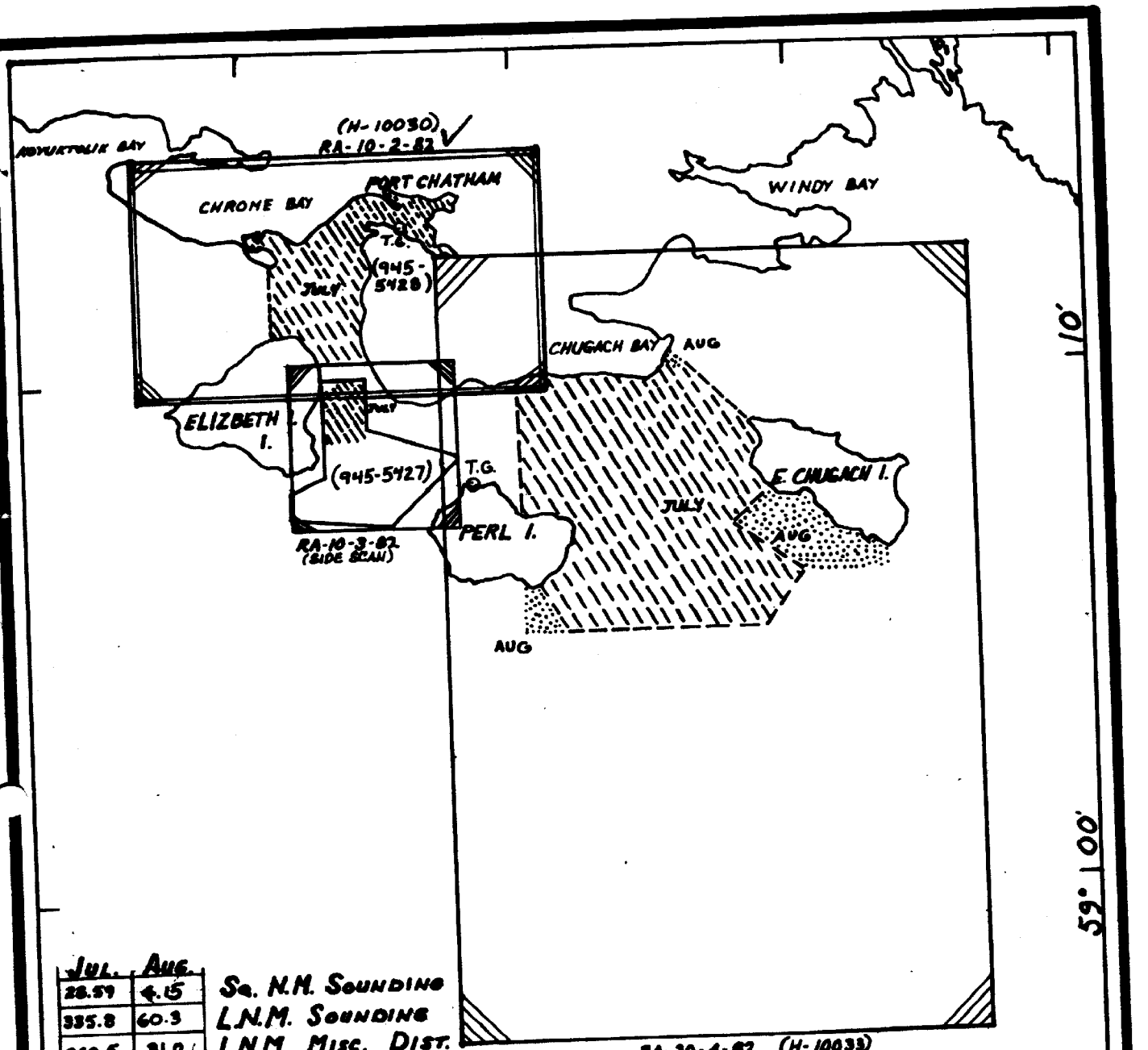
REMARKS: All times are in U.T.C. Revisions and marginal notes in black are by evaluator.

STANDARDS CK'D
C. Coy 10-3-84

AWOIS MSM 11/1/84
SURF MSM 11/1/84

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

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



JUL.	AUG.	
28.59	4.15	Sq. N.M. Sounding
335.8	60.3	L.N.M. Sounding
260.5	31.0	L.N.M. Misc. Dist.
48	0	Bottom Samples (Grab)
9	0	Water Samples Analyzed
16	5	Electronic Control Stations
1	0	Nansen Cast
2	0	Tide Gage
7	0	Stations Established By Traverse
269/216	0	L.N.M. Sidescan (Sound./Misc.)

PROGRESS SKETCH

OPR-P114-RA-82

HYDROGRAPHIC SURVEY

Southern Cook Inlet, Alaska
NOAA Ship Rainier
Ralph J. Land Capt. NOAA
Commanding

JULY 7 - AUGUST 5, 1982

151° 50' 40' 30'

A. PROJECT

Hydrographic survey H-10030 (RA-10-2-82) was conducted in accordance with Project Instructions OPR-P114-RA-82, Southern Cook Inlet, Alaska, dated ~~March 3~~ FEB. 24, 1982, with the following amendments: Change No. 1, Supplement to Instructions, dated March ~~30~~ 26, 1982 and Change No. 2, Amendment to Instructions , dated ~~June 3~~ MAY 25, 1982.

B. AREA SURVEYED

Port Chatham, Alaska is on the southwestern end of the Kenai Peninsula. The approximate limits of this survey included the entire area of Port Chatham bound on the west by 151° 49' 45" W Longitude and on the south by 59° 10' 35" N Latitude. Dates of this survey were JD ~~189~~ 191 through JD 205. (July 10-24, 1982)

C. SOUNDING VESSELS

All sounding data, leadlines, detached positions and bottom samples were obtained by the RAINIER's hydrographic launches RA-3 (2123), RA-4 (2124), RA-5 (2125), and RA-6 (2126). RA-5 collected all of the bottom samples. A Klein side scan sonar unit was installed on RA-3 before the launch was used for hydrographic work. RA-3 was used to investigate Presurvey Review Items, to test the side scan sonar, and was not used to collect sounding data.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Introduction

Echo sounding corrections for survey RA-10-2-82 discussed in this section are sound velocity, draft, settlement and squat, instrumentation corrections for blanking,and phase and initial drift errors.

Sounding Equipment

Echo soundings were obtained by each hydrographic launch using the Ross Fineline Fathometer systems. This system includes the Ross model 400 transceiver, Ross model 5000 analog trace recorder, Ross model 6000 digitizer and a 100 kHz transducer. Table I summarizes the Ross component serial numbers.

TABLE I

Echo Sounding Component Serial Numbers

LAUNCH	2123	2124	2125	2126
Transceiver	1041	1080	1040	1042
Analog Recorder	1071	1046	1042	1070
Digitizer	1041	1080	1040	1042

As mentioned in section B, RA-3 was equipped with a Klein side scan sonar unit. The unit was used in separate investigations to prove or disprove the existence of PSR items. These investigations are addressed in section P of this report.

Sound Velocity Correctors

Water samples collected from the Nansen casts were analyzed for salinity using standard laboratory procedures (see H.O. 607, Instruction Manual for Obtaining Oceanographic Data, Third Edition, U.S. Naval Oceanographic Office, 1968). The salinometer used for salinity analysis was Beckman model No. RS-7B (S/N 59265). The unit was last calibrated April, 1982 by the Northwest Regional Calibration Center, Bellevue, Washington (see separates following text for calibration results). The results of the Nansen casts were input into computer program RK530: Velocity Correction Computations (May 10, 1976 version) and run on the RAINIER's PDP 8/e digital computer system to yield velocity correction tables. The standard velocity correctors for the survey sheets were then obtained by plotting the actual depth minus velocity correction versus velocity correction and picking off depths that corresponds to standard correction intervals (see Hydrographic Manual, Fourth Edition). A list of the computed correctors are provided in the separates following the text.

The cast on July 20, 1982 determined velocity correctors for survey H-10030 and was taken at 59° 10.7' N and 151° 59.5' W. The values are listed in velocity Table 5.

Launch Settlement and Squat Corrections

Settlement and squat tests were conducted at Shilshole Bay Marina in Puget Sound, Washington on April 2 and April 6, 1982 and at Port Chatham, Alaska on July 23, 1982. The second location was to obtain new settlement and squat values for RA-3 only, after the side scan sonar equipment was installed. The largest difference in readings for RA-3 in the two settlement and squat tests was 0.1 feet. This difference is insignificant since surveys for southern Cook Inlet were completed in fathoms.

Tests were conducted with an observer on shore who sighted through a level to a leveling rod located over the transducer on the launch. The readings started at 0 RPM and went to 2600 RPM. A second set of readings were taken at full speed back down to 0 RPM. These two runs were averaged to arrive at the final readings. The readings are included in the separates following the text.

Launch Draft Correctors

Corrections for launch drafts were determined from standard bar checks (see Hydrographic Manual, Fourth Edition, 1976). Bar checks

were performed daily except when wind and/or rough seas prevented launch personnel from obtaining accurate bar checks. Mean fathometer depth values were corrected for velocity and subtracted from the true bar depths. The resulting values agreed with the historic value of 0.3 fathoms. The only launch with values that were different was RA-3. This was due to the increased weight of the additional side scan sonar equipment. The new TRA of RA-3 was computed to be 0.45 fathoms.

All smooth field sheets were plotted with a launch TRA value of 0.3 fathoms. It is recommended that the soundings from RA-3 should be smooth plotted by the Pacific Marine Center with a TRA value of 0.45 fathoms.

Sounding Instrument Correctors

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

The initial trace on the analog recorders was continuously and scrupulously monitored by dedicated and highly trained personnel to prevent any error that might be caused by a drifting initial. These same personnel also performed phase calibrations to prevent belt length error and stylus/paper misalignment on launch fathometers in accordance to the PMC OPORDER.

Manual Sounding Correctors

Manual soundings were taken with hand-held lead lines where required. Depth markings on these lines were compared with a steel measuring tape before survey operations and found to be accurate.

E. HYDROGRAPHIC SHEETS

This survey's smooth hydrographic sheets were prepared using a PDP 8/e complot system aboard the RAINIER. A modified transverse mercator projection was used for plotting the data. A list of parameters used to define the projections are included in the separates following the text. Soundings on the smooth sheets have been corrected for predicted tides, launch draft, preliminary velocity correctors and correctors to ranges based on Mini-Ranger calibrations.

In addition, there are two side scan position plots and six expansion sheets at a 1:2500 scale. A more detailed discussion of the side scan information is in section P. A more detailed discussion of the expansion sheets appears in section K.

Two field sheets, RA-10-2E-82 and RA-10-2W-82, were used to cover the survey area. Field records have been forwarded to the Pacific Marine Center, Seattle, Washington for verification.

F. PORT CHATHAM CONTROL STATIONS

The following control stations were either recovered or established for use in this survey:

RECOVERED	ESTABLISHED
ALBERTA 1980	BALL
CHATHAM ISLAND LIGHT	
CHROME 1980	BASE
CLAIM 1931	HELGA
CROW 1931	HORST
JACQUELINE 1980	KEYES 2
JOY 1931	
KELP 1906	
LIZ 1931	
ON 1931	

The new stations were established using Third Order, Class I traverse methods. Recovered control is also of Third Order, Class I specifications. The North American 1927 Datum was used.

G. HYDROGRAPHIC POSITION CONTROL

Electronic range/range and range/azimuth methods were used for hydrographic position control. Motorola Miniranger III positioning systems and Wild Theodolites were used. The Tables below summarize the location of all Miniranger mobile and shore equipment.

TABLE I

MINIRANGER MOBILE EQUIPMENT

VESSEL	CONSOLE S/N	R/T S/N
2123	720	2710
2124	30269	1636
2125	715	1557
2126	711	1646

TABLE II

MINI-RANGER SHORE EQUIPMENT

Code	Transponder s/n	Station #
A	1573	104
B	4951	101,102,109
C	1628	108
D	1569	105
E	911721	103,105,110
F	911711	107,111
0	911632	108
1	911635	109

On JD 197 high winds in the work area caused Code 0 to fall into the water. On JD 201 high winds caused Code 1 to fall in the water. Both codes were not used in this survey after they were recovered from the beach.

There is no ending baseline calibration for these codes. For more information on this matter, refer to Electronic Control Report OPR-P114-RA-82.

On August 6, 1982 RA-4 was damaged while being lifted from the water. The damage included the Mini-Ranger console s/n 30269. No ending calibration for this console was possible. All daily system checks were within specifications and there is no reason to believe that data quality was jeopardized.

Mini-Ranger Calibration and System Check

System checks were performed daily. These checks were completed by observing horizontal sextant angles to visible Third Order, Class I or better geodetic stations. Mini-Ranger baseline calibrations for this survey were performed July 4,5, July 24, and August 19, 1982. These calibrations took place at the municipal pier in Anchorage, Alaska, at Port Chatham, Alaska, and at Sand Point, Seattle, Washington. Only the initial correctors were used to plot the smooth field sheet. The initial baseline calibration for each R/T console pair and transponder combination also determine minimum signal strength cutoff values for each system. The data for all baseline calibrations are included in the Electronic Control Report.

Miniranger Performance

All shore stations were positioned on Third Order, Class I or better geodetic control stations. Power was supplied by two or four 12-volt batteries connected in series and/or parallel. Overall, shore transponder units performed very well as did all mobile equipment.

H. SHORELINE

Shoreline for RA-10-2-82 was obtained from the blowup of Chart 16645, Thirteenth Edition, October 4, 1980. The field edit was completed by the FAIRWEATHER on field edit manuscript TP-00820. Only the rocks from TP-00820 were transfered to the field sheets and smooth field sheets.

No additional features or discrepancies were noted between the previously edited manuscript and the current hydrography. The original manuscript supplied to the RAINIER for transferring shoreline and field edit data was of very poor quality. The 1:10,000 scale grid was not accurate and parts of the print were illegible. A request to CPM33 then resulted in a more legible print, however, the grid was still poor.

I. CROSSLINES

Crosslines for this survey totaled 12.8 nautical miles or 15% of the principle system of sounding lines exclusive of developments. Crossline agreement was excellent. Nearly all the sounding comparisons agreed within two fathoms. There were two 3 fathom differences located at 59° 12' 01.5" N, 151° 48' 00" W and 59° 11' 45.5" N, 151° 49' 28" W. These soundings were located on a steep bottom gradient and a small position change could result in a large depth difference.

J. JUNCTIONS

Junctions were compared to survey H-9890, FA-20-3N-80. Sounding comparisons were excellent. All soundings were within two fathoms with 95% of the soundings within one fathom. See FUAL. Report Section 5, Junctions

K. COMPARISONS WITH PRIOR SURVEYS

Several PSR items were addressed during this survey. The PSR items are for Chart 16645 and are numbered 42 through 46 and 49. In addition, ~~11~~ 7 unnumbered PSR items for the same chart were addressed.

PSR #42 Piles 59° 12' 34.8" N, 151° 48' 50.0" W

On JD 203, launch RA-3 placed marker buoys at 59° 12' 32.3" N, 151°-48' 59.5" W and 59° 12' 34.8" n, 151° 48' 52.5" W. This was done at high tide using Miniranger positioning control. At low tide on the same day, a dive investigation was performed. The search area extended 50 meters from all points on a line connecting the two marker buoys. Approximately 25% of this area was bare at low water and the pilings were searched for on foot but none were found. The remaining area was investigated by two divers performing a bottom sweep with a 50 meter nylon line drawn between them. In a small kelp area, the divers searched for the pilings without using the line sweep. No pilings were found in the area or in the rest of the investigation. It is recommended that these piles be removed from the next edition of Chart 16645.

CONCUR AWO15 M SM 10/29/84 50181

PSR #43 Sunken Rocks 59°11'36" N, 151°45'48" W

Field edit sheet TP-00820 from OPR-P114-FA-80 covers this investigation and information is available on that field edit manuscript.

See EVAL Report Section 6. AW015 10/29/84 MSM 50180

PSR #44 5¼ Fathom Sounding 59°13'02" N, 151°46'19" W

A series of arcs spaced 25 meters were run over the area of the 5¼ fathom sounding. A crossline was also run through the investigation area. The shoalest sounding obtained was ~~8.7~~ 9.2 fathoms. There was no indication of a shoaler sounding. The ~~8.7~~ 9.2 fathom sounding should be on the next edition of chart 16645.

AW015 #50270 10/29/84 MSM See EVAL Report Section 6 Prior Survey.

PSR #45 16 Fathom Sounding 59°13'10.2" N, 151°45'16.0" W

This PSR item investigation area is part of expansion sheet #2. The area was covered using 25 meter spacing. No shoaling whatsoever was found. The shoalest sounding in the search area was 28 fathoms. This depth should be included in the next edition of Chart 16645.
16 fathom sounding is considered disproven, chart accordingly to present survey.

AW015 #50267 10/30/84 MSM

PSR #46 20 Fathom Sounding 59°13'11.2" N, 151°45'19.5" W (NOT CHARTED)

The search area was included in expansion sheet #2. This sounding was searched for while also investigating PSR #45. As noted earlier, 25 meter spacing was used and the shoalest sounding obtained was 28 fathoms. The survey depth of 28 fathoms should be included in the next chart edition. 20fm sounding is considered disproven, chart accordingly to present survey

AW015 #50268 10/30/84 MSM

PSR #49 1¼ Fathom Shoal 59° 12' 50.8" N, 151° 46' 24.3" W

A shoal sounding of ~~2.3~~ 1.7 fathoms was located at 59° 12' 50.92" N, 151° 46' 24.70" W and was the least depth in the search for this PSR item. After an initial search of the area using 25 meter splits, launch RA-6 concentrated on the shoalest area and took four leadlines. The shoalest sounding was recorded on the launch fathometer (fix 6265) and was used for plotting purposes. The 1¼ fathom depth should be retained on Chart 16645.

See Section 6 of EVAL. Report AW015 #50271 10/30/84 MSM

Unnumbered PSR Items

Summarized below are the unnumbered PSR items and locations. All items are from Chartlet 16645-PSR-OPR-P114, sheet 2 of 3, dated 3/16/79. ✓

33 Fathom Sounding 59° 12' 07.5" N, 151° 47' 31" W

No indication of shoaling was found. Fifty meter spacing and crosslines were run over the investigation area. The shoalest sounding was 41 fathoms. The 33 fathom depth should be removed from Chart 16645.

NOT A PSR ITEM, but I concur

33 Fathom Sounding 59° 11' 57.5" N, 151° 46' 34" W

NOT A P&R Item, but I concur.

No indication of shoaling was found. Fifty meter spacing and crosslines were run over the investigation area. The shoalest sounding was 51 fathoms. The 33 fathom septh should be removed from Chart 16645.

12 Fathom Sounding 59° 12' 18.5" N, 151° 46' 27" W

No indication of shoaling was found. Fifty meter spacing and crosslines were run over the investigation area. The shoalest sounding was 28 fathoms. This search area is included on expansion sheet #6. The 12 fathom depth should be removed from Chart 16645.

concur

4 3/4 Fathom Sounding 59° 12' 11" N, 151° ~~45~~ 48' 34" W

Fifty meter spacing was run over the investigation area. A least depth of 4.46 fathoms was located at 59° 12' 10.5" N, 151° 48' 34" W. The 4.46 fathom depth should be included in the next edition of Chart 16645.

AWOIS 10/30/84 concur MSM

5¼ Fathom Sounding 59° 12' 32" N, 151° 46' 40" W

The search area was covered by 50 meter line spacing. A least depth of 4.45 fathoms was located at 59° 12' 32.0" N, 151° 46' 40.6" W. The 4.45 fathom depth should be included on the next edition of Chart 16645. This investigation area is included on expansion sheet #6.

AWOIS 10/31/84 concur MSM

8 Fathom Sounding 59° 12' 04.5" N, 151° 45' 57" W

The search area was covered by 50 meter splits and a least depth of 8.~~3~~ 2 fathoms was located at 59° 12' 03.9" N, 151° 45' 57.0" W. The 8 fathom depth should be kept on Chart 16645. This search area is included in expansion sheet #5. Chart accordingly to present survey.

AWOIS 10/31/84 MSM

18 Fathom Sounding 59° 12' 58.5" N, 151° 46' 05.0"W

The search area was covered by 50 meter splits and a least depth of 13.6 fathoms was found at 59° 12' 58.5" N, 151° 46' 06.3" W. The 13.6 fathom depth should be used on the next edition of Chart 16645. This search area is included on expansion sheet #3.

AWOIS concur 10/31/84 MSM

19 Fathom Sounding 59° 13' 03.0" N, 151° 45' 59.0" W

The search area was covered by 50 meter line spacing. No unusual shoaling was noticed and a least depth of 20.6 fathoms was found at 59° 13' 03.0 N, 151° 45' 59.0" W. The 20.6 fathom sounding should be used for the next edition of Chart 16645 also dependent on smooth tides. The search area is on expansion sheet #3.

concur

2¼ Fathom Sounding 59° 13' 18.0" N, 151° 43' 30" W

Line spacing of 25 meters was used to cover the investigation area. There were two areas with depths of ~~two~~ 2.3 fathoms, and are located at

NOT A P&R Item, but I concur

AWOIS 11/1/84 MSM

59° 13' 21.9" N, 151° 43' 30.0" W and 59° 13' 17.0" N, 151° 43' 28.0" W. Both ~~two~~ 2-3 fathom depths should be used in the next edition of Chart 16645. This area is included on expansion sheet #1.

4¼ Fathom Sounding 59° 12' 4~~2~~3" N, 151° 45' 49" W

The investigation area was covered by 25 meter line spacing. A ~~least~~ minimum observed depth of ~~4.9~~ 5.3 fathoms was located at 59° 12' 42.7" N, 151° 45' 48.7" W. The 4¼ fathom depth should be retained on Chart 16645. The search area is included on expansion sheet #4. The 4¼ (4.2) fm sounding was transferred from H-2847 (1906) concur AWO 19 MSM 11/1/84

3¼ Fathom Sounding 59° 12' 32" N, 151° 46' 04" W

The search area was covered by 25 meter line spacing. The least depth found was 2.1 fathoms, located at 59° 12' 30.5" N, 151° 46' 04" W. The 2.1 fathom sounding should be used on the next edition of Chart 16645. The investigation area is included on expansion sheet #4. NOT A PR Item, but I concur AWO 19 MSM 11/1/84

Comparisons were made with the following surveys: H-2847 (1906), H-3804 (1915), and H-4029 (1918). The comparisons to survey H-2847 were very good. All soundings were within two fathoms except at ~~four~~ position 59° 12' 48.5" N, 151° 43' 27.5" W where H-2847 had a ~~five~~ four fathom sounding and H-10030 had an eight fathom sounding. However, around the ~~five~~ four fathom sounding on H-2847 were eight fathom soundings. It is possible that the ~~five~~ four fathom sounding was missed in the recent survey. It is recommended that the ~~five~~ four fathom depth be retained. See Eval Report Section 6 concur Comparisons to prior survey H-4029 were also excellent, with all soundings comparing within two fathoms except one comparison at three fathoms difference. However, this difference was in greater than 20 fathoms of water and not significant. Seventy-two per cent of the soundings from H-3804 agreed within one fathom of the soundings of H-10030. Ninety-six per cent of the soundings agreed within two fathoms. The table below summarizes the major differences found between surveys H-3804 and H-10030. All positions are from the H-10030 soundings.

H-3804	H-10030*	POSITION
a) 8¼ (fm)	2.89 (fm)	59° 12' 28" N, 151° 45' 53" W ✓
b) ~~6 2/3~~ 5½	4.83	59° 12' 13" N, 151° 45' 50" W ✓
c) ~~8~~ SAND (S)	9.24	59° 12' 25" N, 151° 46' 22" W ✓
d) ~~7 3/4~~ 5½	3.62	59° 12' 34.5" N, 151° 46' 00" W ✓
e) 11	6.21	59° 12' 04.5" N, 151° 48' 57" W ✓
f) 25	17.1	59° 11' 10" N, 151° 46' 19" W ✓
g) 21	15.1	59° 11' 03" N, 151° 46' 19" W ✓
h) 32	41	59° 12' 07.5" N, 151° 47' 26" W ✓
i) 12	17.2	59° 12' 22" N, 151° 47' 58" W ✓

*Depths revised with observed tides

The difference in item g) in the above table seems to be caused by a steep bottom gradient. A small position error of a sounding would cause such a difference. The most significant difference was item a). A shoal peak of two fathoms was found. concur

L. COMPARISON WITH THE CHART

Comparisons were made to Chart 16645, 13th Edition, Port Chatham 1:30,000 inset enlarged to 1:10,000.

Seventy-nine per cent of all soundings compared were within one fathom. Ninety-two per cent of all soundings compared were within two fathoms.

The following soundings were significantly different from the charted depths. All positions are for survey H-10030 depths.

CHARTED DEPTH	SURVEY DEPTH*	POSITION
5¼ (fm)	3.~~0~~5 (fm)	59° 11' 50.5" N, 151° 45' 54" W
5½	3.~~1~~0	59° 10' 50.1" N, 151° 49' 10" W
8	3.~~4~~5	59° 12' 29" N, 151° 46' 13" W
3 3/4	7.~~1~~0	59° 13' 22.5" N, 151° 44' 56" W
3 3/4	8.1	59° 12' 52.5" N, 151° 43' 08" W
4¼	~~8.3~~ 5.9	59° 12' 01" N, 151° 45' 30" W
5½	10.0	59° 10' 54.5" N, 151° 48' 27" W
6 3/4	10.~~8~~2	59° 12' 48" N, 151° 43' 49" W
14	22	59° 11' 41" N, 151° 46' 13" W
34	2~~8~~2	59° 12' 01" N, 151° 48' 00" W
18	3~~2~~3	59° 11' 52" N, 151° 46' 19" W
17	38	59° 11' 14" N, 151° 46' 34" W
29	4~~8~~3	59° 12' 01" N, 151° 46' 28" W
4½ ¼	2.1	59° 12' 34" N, 151° 45' 38" W

Depths from the recent survey should be used for the next edition chart, except for those mentioned in earlier discussions. While investigating many PSR items, the water clarity was good enough to see rocks and shoals at five to six fathoms. When surveying in shoal areas, a person was located on the bow of the boats and could visibly see these shoals.

M. ADEQUACY OF SURVEY

Survey H-10030 is complete and adequate to supercede all prior surveys for charting. See Eval Report Section 9

* depths revised with approved tides

N. AIDS TO NAVIGATION

The only fixed aid to navigation in the survey area was Chatham Island Light (Light List #3461, Light List name Port Chatham Entrance Light) and was located by Third Order, Class I methods. For details, refer to the Horizontal Control Report, OPR-P114-RA-82. There were two floating aids to navigation in the survey area. Light List names are Chugach Passage Bouy 3 and Port Chatham Shoal Bouy PC. Bouy "3" is a black can and Bouy "PC" is a red and black can.

O. STATISTICS

LAUNCH	LINEAR/NAUTICAL MILES OF HYDROGRAPHY	SQUARE NAUTICAL MILES	POSITIONS
2123	---	---	~~--~~ 2
2124	91.5	---	~~817~~ 791
2125	1.4	---	~~59~~ 445
2126	11.4	---	~~474~~ 461
TOTAL	104.3	22.3	~~1350~~ 1699

Bottom Samples: 35

One tide station was located at Port Chatham.

One Nansen Cast was made during this survey.

P. MISCELLANEOUS

Two side scan sonar investigations in Port Chatham were run in identical locations on two different days (JD 196 and 203). In addition, a side scan sonar investigation was run in Chugach Passage on JD 205, 206, and 207. A separate position plot for each of the investigations is included in the hydrographic field sheets submitted for this survey.

All side scan sonar lines were run using the 150 meter range scale with a line spacing of 100 meters. This corresponds to 200 per cent bottom coverage as outlined in the Project Instructions, Change No. 2.

Four Presurvey Review Items are located within the Port Chatham side scan investigation area that the Project Instructions defined. Three of the four PSR items are clearly identifiable on the sonargrams. The investigation in the area of the 19 fathom unnumbered PSR item showed no significant features. See section K of this descriptive report for the results of the hydrographic investigation of the above PSR items. CONCUR

The following table lists the position numbers on the sonargrams and position plots that correspond to each PSR item:

PSR ITEM	JD 196	JD 203
Number 44	3018, 3030	3043, 3083
Number 49	3004, 3010, 3023, 3030	3057, 3068, 3085, 3098
(unnumbered) 18 fm	3009, 3021, 3031	3053, 3081, 3103
(unnumbered) 19 fm	3008 (no significant features)	3050 (no significant features)

Of interest in the Chugach Passage area were a variety of sand wave patterns on the flat bottom. No observations or significant changes in the bottom topography were noted.

Time did non permit completing the entire area delineated in the Project Instructions for Chugach Passage. PSR Item #50 was included in these limits and was not investigated.

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (Fourth Edition), Manual of Automated Hydrographic surveys, the PMC OPORDER, Hydrographic Survey Guidelines and the Hydrographic Data Requirements for 1982.

Soundings and positions were taken by an ASI Logger and a Hydroplot system using range - range program RK112, and range - azimuth program FA181. There are daily master tapes and corresponding corrector tapes which include the TRA for the launches and electronic control baseline correctors for Miniranger consoles and R/T units and all depth corrections. Velocity tapes were generated from Nansen cast data. The following is a list of all computer programs and version dates used for data acquisition or processing:

	PDP 8/e Programs	Version Date
RK112	Hyperbolic, R/R Hydroplot	08/04/81
FA181	Range - Azimuth Logger	02/23/76
RK201	Grid, Signal and Lattice Plot	04/18/75
RK211	Range - Range Non-Real Time Plot	02/02/81
RK212	Visual Station Table Load	04/01/74
RK216	Range - Azimuth Non-Real Time Plot	02/09/81
RK300	Utility Computations	10/21/80
RK330	Reformat and Data Check	05/04/76
PM360	Electronic Corrector Abstract	02/02/76

	PDP 8/e Programs	Version Date
RK407	Geodetic Inverse/Directo Computation	09/25/78
AM500	Predicted Tide Generator	11/10/72
RK530	Layer Corrections for Velocity	05/10/76
RK561	H/R Geodetic Calibration	02/19/75
AM602	Elinore-Line Oriented Editor	05/20/75
AM603	Tape Consolidator	10/10/72
RK606	Tape Duplicator	08/22/74

The HP97 and HP9815A programmable 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:

Echo Sounding Report	OPR-P114-RA-82
Electronic Control Report	OPR-P114-RA-82
Horizontal Control Report	OPR-P114-RA-82
Coast Pilot Report	OPR-P114-RA-82

Respectfully submitted,

Richard B. Koehler

Richard B. Koehler
ENS, NOAA

Approved and forwarded,

Ralph J. Land
CAPT, NOAA
Commanding Officer

PARAMETER TAPE LISTING
RA-10-2-82 (H-10030)

```
RA-10-2E-82
SKEW: 0,19,26
SCALE: 1:10000

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=30
PLSCL=10000
PLAT=59/11/48
PLON=151/47/48
VESNO=2124
YR=82
ANDIST=0.0
```

```
RA-10-2E-82
EXPANSION NO. 1
SKEW: 90,5,6
SCALE: 1:2500

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=10
PLSCL=2500
PLAT=59/13/12
PLON=151/43/19
VESNO=2124
YR=82
ANDIST=0.0
```

```
RA-10-2E-82
EXPANSION NO. 2
SKEW: 90,4,8
SCALE: 1:2500

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=10
PLSCL=2500
PLAT=59/13/03
PLON=151/45/10
VESNO=2124
YR=82
ANDIST=0.0
```

PARAMETER TAPE LISTING
RA-10-2-82 (H-10030)

```
RA-10-2E-82
EXPANSION NO. 3
SKEW: 31,7,13
SCALE: 1:2500

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=10
PLSCL=2500
PLAT=59/12/46
PLON=151/46/30
VESNO=2124
YR=82
ANDIST=0.0
```

```
RA-10-2E-82
EXPANSION NO. 4
SKEW: 31,6,13
SCALE: 1:2500

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=10
PLSCL=2500
PLAT=59/12/27
PLON=151/46/07
VESNO=2124
YR=82
ANDIST=0.0
```

```
RA-10-2W-82
SKEW: 90,22,36
SCALE: 1:10000

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=30
PLSCL=10000
PLAT=59/09/42
PLON=151/44/42
VESNO=2123
YR=82
ANDIST=0.0
```

PARAMETER TAPE LISTING
RA-10-2-82 (H-10030)

```
RA-10-2W-82
EXPANSION NO. 5
SKEW: 90,6,11
SCALE: 1:2500

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=10
PLSCL=2500
PLAT=59/11/48
PLON=151/45/40
VESNO=2123
YR=82
ANDIST=0.0
```

```
RA-10-2W-82
EXPANSION NO. 6
SKEW: 300,4,12
SCALE: 1:2500

FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=10
PLSCL=2500
PLAT=59/12/35
PLON=151/46/52
VESNO=2123
YR=82
ANDIST=0.0
```

PARAMETER TAPE LISTING
RA-10-3-82
(SIDE SCAN)

SKEW:90,22,24
SCALE - 1:10000
FEST=76000
CLAT=6514000
CMER=152/30/0
GRID=30
PLSCL=10000
PLAT=59/07/00
PLON=151/42/18
VESNO=2123
YR=82
ANDIST=0.0

FIELD TIDE NOTE

Correctors for this survey were forwarded with appropriate information to C3. The tide gage was located in Port Chatham, Alaska at 59° 12' 43'N, 151° 43' 40" W. The gage was installed on July 8, 1982 and removed on July 30, 1982. Levels to the gage indicate no changes in the tide staff. However, the last staff to gage comparison before the gage was removed was significantly different. All hydrography had ended six days earlier and staff to gage comparisons at that time showed no changes. There is no reason to suspect tide data quality. Gage value of 0.0 read as a 16.46 ft on the tide staff the time meridian used for record annotation was 000° (UCT). There were no missing hourly tide values that were required for field edit or hydrography. The reference station was Seldovia, Alaska.

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10030

Name on Survey	A ON CHART NO. 16645	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA (Title)										1
CHATHAM ISLAND	X									2
CHROME	X									3
CHROME BAY	X									4
CHUGACH PASSAGE	X									5
CLAIM COVE	X									6
CLAIM POINT	X									7
COOK INLET (Title)	X									8
ELIZABETH ISLAND	X									9
KELP POINT	X									10
PORT CHATHAM	X									11
PORTLOCK	X									12
										13
										14
										15
										16
										17
										18
					Approved:					19
										20
					Charles L. Harrington					21
					Chief Cartographer - N/CG2x5					22
					29 Nov. 1983					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

VELOCITY TAPE LISTING
FA-10-2-82(H-10030)

TABLE NO.5

```
000042 0 0000 0005 001 000000 000000
000125 0 0001
000210 0 0002
000298 0 0003
000400 0 0004
000526 0 0005
000692 0 0006
000975 0 0007
999999 0 0008
```

IC/TI TAPE LISTING
RA-10-2-82(H-10030)

LAUNCH - 2124(RA-4)

```
233458 0 0002 0005 190 212400 000000
233819 0 0003
234347 0 0002
234918 0 0003
235705 0 0002
000159 0 0003 0005 191 000000 000000
000739 0 0002
001250 0 0003
001741 0 0002
002305 0 0003
002702 0 0002
003206 0 0003
003715 0 0002
004237 0 0003
004721 0 0002
005210 0 0003
010222 0 0002
010728 0 0003
181942 0 0002
182202 0 0003
182836 0 0002
183334 0 0003
183734 0 0002
184237 0 0003
184714 0 0002
185243 0 0003
185731 0 0002
193302 0 0003
193825 0 0002
194349 0 0003
195041 0 0002
195656 0 0003
200246 0 0002
200804 0 0003
201739 0 0002
202256 0 0003
203103 0 0002
203644 0 0003
204349 0 0002
204925 0 0003
205707 0 0002
210251 0 0003
222525 0 0002
223202 0 0003
224036 0 0002
225809 0 0003
225901 0 0002
230518 0 0003
231306 0 0002
232004 0 0003
232658 0 0002
233414 0 0003
233804 0 0002
235331 0 0003
```

TC/TI TAPE LISTING ✓
HA-10-2-82(H-10030)
(CONTINUATION)

```
001531 0 0002 0005 192 000000 000000
002119 0 0003
004149 0 0002
004826 0 0003
190136 0 0002
201431 0 0003
202433 0 0002
204501 0 0003
204633 0 0002
205324 0 0003
210405 0 0002
211059 0 0003
223007 0 0002
184628 0 0000 0000 193 000000 000000
185608 0 0002 0005 193 000000 000000
190122 0 0003
191620 0 0002
192422 0 0003
192827 0 0002
193704 0 0003
194720 0 0002
200027 0 0003
200322 0 0002
201137 0 0003
210032 0 0000 0000 193 000000 000000
220035 0 0003 0005 193 000000 000000
231606 0 0002
231738 0 0003
232820 0 0002
233505 0 0003
235138 0 0002
235853 0 0003
001017 0 0002 0005 194 000000 000000
001812 0 0003
201826 0 0002
202440 0 0003
205112 0 0002
222416 0 0003
214549 0 0002 0005 195 000000 000000
215120 0 0003
000103 0 0002 0005 196 000000 000000
002407 0 0003
194527 0 0002
194726 0 0003
~~213000~~ 0 0003
235959
```

225053 100
225901 130

TC/TI TAPE LISTING
RA-10-2-82(H-10030)
(CONTINUATION)

LAUNCH - 2125(RA-5)

201047 0 0000 0000 191 212500 000000
193549 0 0003 0005 196 000000 000000
180512 0 0000 0000 203 000000 000000
181730 0 0003 0005 203 000000 000000
~~004000~~ 0 0003 0005 206 000000 000000
235959

LAUNCH - 2126(RA-6)

224948 0 0003 0005 196 212600 000000
002158 0 0000 0000 203 000000 000000
002700 0 0003 0005 203 000000 000000
194906 0 0000 0000 205 000000 000000
~~200000~~ 0 0000
235959

TC/TI TAPE LISTING
RA-10-2-82(H-10030)

NOT used

VESSEL - 2123(RA-3)
SIDE SCAN SONAR ONLY

192523 0 0000 0000 196 212300 000000
~~231000~~ 0 0000 0000 203 000000 000000
235959

TC/TI TAPE LISTING
RA-10-3-82
SIDE SCAN

NOT used

VESSEL - 2123(RA-3)
230837 0 0000 0000 205 212300 000000
000200 0 0000 0000 208 000000 000000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : RA-10-2-82

TIME	DAY	PATTERN 1	PATTERN 2
233458	190	-00001	-00002
000005	191	-00001	-00002
180025	191	-00001	-00002
222421		-00002	+00002
001231	192	-00002	+00002
190136	192	-00002	+00002
184628	193	-00002	+00002
231606		-00001	-00002
000008	194	-00001	-00002
175850	194	-00001	-00002
232831	194	-00003	-45000
000007	195	-00003	-16008
005500		+00000	+00000
181003	195	-00003	-95291
195100		+00000	+00000
214549	195	+00002	-00001
000103	196	-00001	-00002
002407		+00002	-00001
194527	196	+00002	-00001
204440	196	-00002	-15080
213000		+00000	+00000

FOR RANGE AZIMUTH HYDRO DISREGARD PATTERN 2 CORRECTORS.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-10-2-82

TIME	DAY	PATTERN 1	PATTERN 2
193549	196	-00004	+87468
000000	197	-00004	-40591
013000		+00000	+00000
234700	201	-00004	-45102
000620	202	-00004	-22349
012000		+00000	+00000
225320	202	-00004	-34235
001800	203	-00004	-41472
012000		+00000	+00000
180512	203	-00004	-99578
181730		-00004	-56492
000520	204	-00004	+28299
010400		+00000	+00000
234241	205	-00005	-23515
000320	206	-00005	+84081
004000		+00000	+00000

FOR RANGE AZIMUTH HYDRO DISREGARD PATTERN 2 CORRECTORS.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-10-2-82

TIME	DAY	PATTERN 1	PATTERN 2
201047	191	-00003	-00002
002259	192	-00003	-00002
182221	195	-00003	-00002
201712		-00002	-00005
231329		-00003	-00006
235957		+00000	+00000
002759	196	-00006	-00007

ABOVE CORRECTORS ARE FOR BOTTOM SAMPLES ONLY.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2126 SHEET : RA-10-2-82

TIME	DAY	PATTERN 1	PATTERN 2
224948	196	-00004	-76000
003700	197	-00004	-37437
004700		+00000	+00000
225800	201	+00003	+78534
000200	202	+00003	+54384
013100		+00000	+00000
223600	202	+00003	-68582
000000	203	+00003	-54179
002158		+00003	-75538
002700		+00003	-66577
012500		+00000	+00000
180640	203	+00003	-73393
215540		+00005	-94215
233800		+00003	+89130
000440	204	+00003	-40257
002500		+00000	+00000
180436	204	+00003	-68547
181500		+00003	+00000
231000	204	+00004	-44558
000520	205	+00004	-24032
000900		+00000	+00000
182340	205	+00003	-30171
194906		+00003	-74203
200000		+00000	+00000

FOR RANGE AZIMUTH HYDRO DISREGARD PATTERN 2 CORRECTORS.

Not used on S.S.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : RA-10-2-82

TIME	DAY	PATTERN 1	PATTERN 2
192523	196	-00001	-00003
211021	203	+00003	-00002

ABOVE CORRECTORS ARE FOR SIDE SCAN SONAR ONLY.

Two shoal soundings were held from Raw data on day 203 ✓

230152	203	4.00	-2.00

MASTER STATION LIST
OPR-P114-RA-82
COOK INLET, ALASKA

FINAL VERSION

100 3 59 10 30927 151 50 00481 250 0009 000000
/ON 1931

101 2 59 12 09757 151 48 48343 250 0006 000000
/CLAIM 1931

102 3 59 12 15821 151 49 43688 250 0001 000000
/CROW 1931

103 0 59 13 12078 151 44 13210 250 0003 000000
/BASE 1982

104 1 59 12 40249 151 48 21786 250 0000 000000
/CHROME 1980

105 4 59 12 35325 151 46 26368 250 0000 000000
/CHATHAM ISLAND LIGHT ~~1931~~ 1980

106 5 59 10 49437 151 47 58488 250 0000 000000
/JACQUELINE 1980

107 4 59 10 41289 151 45 45196 250 0000 000000
/ALBERTA 1980

108 3 59 12 28049 151 47 57532 250 0000 000000
/KELP 1906 1982

109 3 59 13 06245 151 46 29731 250 0007 000000
/KEYES 2 1982

110 5 59 13 13777 151 43 16446 250 0003 000000
/BALL 1982

111 3 59 12 23845 151 42 53690 250 0002 000000
/HORST 1982

112 ~~1 59 12 27352 151 42 58369 250 0002 000000~~
/HELGA 1982

113 1 ~~59 08 30272 151 47 20596 250 0000 000000~~
/GET 1931

114 1 ~~59 09 42111 151 40 43872 250 0000 000000~~
/HIKE 1980

115 6 ~~59 07 49216 151 40 59129 250 0000 000000~~
/WND 1931

116 6 ~~59 07 06675 151 38 16550 250 0024 000000~~
/PERL ISLAND LIGHT

117 6 ~~59 08 48786 151 31 14587 250 0000 000000~~
/SPIT 2 1977

118 3 ~~59 05 46006 151 39 27627 250 0000 000000~~
/TOP 1931

119 3 59 ~~06 25029 151 26 29533 250 0111 000000~~
/EAST CHUGACH LT. 1977

200 3 ~~59 05 59785 151 45 56097 250 0000 000000~~
/NAG 1931

201 3 ~~59 05 26267 151 41132513 250 0000 000000~~
/PEA 1931

202 3 ~~59 05 26266 151 41 32583 250 0020 000000~~
/PERL RK LT.

203 3 ~~59 08 49791 151 52 28805 250 0015 000000~~
/CAPE ELIZABETH LIGHT

ABSTRACT OF POSITION

RA-10-2-82 (H-10030)

SIDE SCAN SONAR

VESSEL: 2123 (RA-3) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
196	3000-3033	04	108-109	Development with side scan sonar.
203	3034-3106	04	105-109	Development with side scan sonar. Pos. 3106 duplicates same this Julian Day.
203	3106-3107	04	104-108	D.Ps on temporary dive markers. Pos. 3106 duplicates same this JD.

ABSTRACT OF POSITION

RA-10-2-82 (H-10030)

VESSEL: 2124 (RA-4) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
190/191	4000-4096	04	102-105	Mainscheme Hydro.
191	4097-4235	04	102-105	Mainscheme Hydro Pos. 4233-4234 inside expansion sheet No.5. Scale: 1:2500
191/192	4236-4339	04	105-107	Mainscheme Hydro.
192	4340-4396	04	105-107	Crosslines. Pos. 4392-4393 inside expansion sheet No.6. Scale: 1:2500.
192	4397-4438	04	105-107	Mainscheme Hydro.
193	4439	04	105-107	D.P. on Buoy.
193	4440-4508	04	105-107	Mainscheme Hydro.
193	4509-4516	04	105-107	Development-PSR Item unnumbered.
193	4517-4520	04	105-107	Mainscheme Hydro.
193	4521	04	105-107	D.P. on rock.
193	4522-4527	04	105-107	Development - PSR item unnumbered.
193	4528-4533	04	105-107	Development - PSR item unnumbered on expansion sheet No. 6.
193	4534-4538	04	105-107	Mainscheme Hydro.
193/194	4539-4585	04	101-105	Mainscheme Hydro. Pos. 4541-4543; 4546-4548; 4554-4556; 4559-4561; 4566-4568; 4571-4573 inside expansion sheet No.5.

ABSTRACT OF POSITION

RA-10-2-82 (H-10030)

VESSEL: 2124 (RA-4) Continued ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
194	4586-4589	04	101-105	Development - PSR item unnumbered inside expansion No.6.
194	4590-4606	04	101-105	Shoreline.
194	4607-4615	04	101-105	Mainscheme Splits Pos. 4607-4610; 4612-4613; 4614-4615 inside expansion No.5.
194	4616-4622	04	101-105	Development -split lines.
194	4623-4628	04	101-105	Mainscheme Hydro.
194	4629-4630	04	101-105	Crossline.
194	4631-4651	04	101-105	Mainscheme Hydro Pos. 4634-4635; 4636-4639; 4646-4648; 4649-4650 inside expansion No.6.
194/195	4652-4671	11	104-R/Az	Mainscheme Hydro.
195	4672-4693	11	104-R/Az	Mainscheme Hydro.
195	4694-4705	11	104-R/Az	Crosslines.
195	4706-4726	04	107-101	Mainscheme Hydro Pos. 4706-4710; 4718-4719; 4721-4723.
195	4727-4734	04	107-101	Detached Positions - (Leadlines) Pos. 4732; 4734 inside expansion No.5.
195/196	4735-4754	04	101-105	Crosslines.
196	4755-4777	04	107-101	Mainscheme Hydro Pos. 4763-4766; 4773-4775 inside expansion No.6.
196	4778	04	107-101	D.P. on Port Chatham Buoy "PC".
196	4779-4784	04	107-101	Mainscheme Hydro Pos. 4780-4781 inside expansion No.6.
196	4785-4802	04	107-101	Development. Pos. 4785-4792 on expansion No.5.; Pos. 4793-4802 on expansion No.6.
196	4803-4818	11	109-R/Az	Mainscheme Hydro Pos. 4804-4817 inside expansion No.3.

ABSSRACT OF POSITION

RA-10-2-82 (H-10030)

VESSEL: 2125 (RA-5) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
191/192	5000-5024	04	105-107	Bottom samples.
195	5025-5026	04	105-107	Bottom samples.
195	5027-5034	04	107-101	Bottom samples.
195	5035	04	105-109	Bottom samples.
195	5036	04	103-110	Bottom samples.
196	5037-5040	04	108-109	Bottom samples.
196/197	5041-5118	11	103	Mainscheme Hydro Pos. 5045-5047; 5058-5063 inside expansion sheet No.1. Scale: 1:2500.
197	5119-5130	11	103	Crosslines Pos. 5019-5020 inside expansion No.1.
197	5131-5139	11	103	Mainscheme Hydro Pos. 5137-5138 inside expansion No.1.
201/202	5140-5202	11	103	Shoreline.
202	5204-5206	11	103	Crosslines.
202/203	5207-5280	11	103	Shoreline Pos. 5265-5268 inside expansion No.1.
203	5281-5305	11	103	Mainscheme Hydro Pos. 5265-5268 inside expansion No.1.
203	5306,5307	11	103	Detached positions on mooring buoy.
203	5308-5312	11	103	Crossline.
203	5313-5317	11	103	Maincheme Hydro.
203	5318-5330	11	103	Development Lines on expansion No.1. (Pos. 5327-5330 Crosslines).
203	5331-5361	11	110	Shoreline.
203	5362-5377	11	110	Mainscheme Hydro.
203/204	5378-5384	11	110	Crosslines.
204	5385-5408	11	110	Mainscheme Hydro.
204	5409-5412	11	110	Crossline.
205	5413-5418	11	108	Mainscheme Hydro.
206	5419-5457	11	108	Shoreline.

REJECTED POSITIONS: 5028, 5029, 5037, 5041-5044, 5067, 5187-5189, 5203, 5418.

DUPLICATE POSITIONS: 5112, 5113.

ABSTRACT OF POSITION

RA-10-2-82 (H-10030)

VESSEL: 2126 (RA-6) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
196/197	6000-6048	11	109-R/Az	Mainscheme Hydro Pos. 6040-6041 inside expansion No.4. Scale: 1:2500. Pos. 6000-6007, 6010-6015 inside expansion No.3. Scale: 1:2500.
201	6053-6089	11	109-R/Az	Shoreline.
201/202	6090-6165	11	109-R/Az	Mainscheme Hydro Pos. 6091-6096 inside expansion No.3. Pos. 6098-6099, 6108-6115 inside expansion No.4. Pos. 6116-6120, 6124-6128, (6132-6134 - Crossline) inside expansion No.2. Scale: 1:2500.
202	6168-6205	11	109-R/Az	Mainscheme Hydro Pos. 6168-6174, 6181-6186, 6189-6190 inside expansion No.4.
202/203	6206-6232	11	109-R/Az	Crosslines 6212-6215, 6221-6224, 6228-6232 inside expansion No.3. Pos. 6217-6220, 6226-6227 inside expansion No.4. Pos. 6209-6211, Pos. 6218 duplicates same this day.
203	6233	11	109-R/Az	D.P. on buoy "PC".
203	6234-6250	11	109-R/Az	Development Pos. 6240-6244 inside expansion No.4. Pos. 6235-6239, 6245-6247 inside expansion No.3.
203	6251-6261	11	109-R/Az	Crosslines Pos. 6253-6254 inside expansion No.2.
203	6265	11	109-R/Az	D.P. on rock - leadline.
203	6266-6297	11	109-R/Az	Development Pos. 6265-6279 inside expansion No.3. Pos. 6280-6289 inside expansion No.4. Pos. 6290-6291, 6294-6297 inside expansion No.2.
203	6298-6309	11	111-R/Az	Crosslines.
203	6310-6320	11	111-R/Az	Mainscheme Hydro.
203/204	6321-6366	11	109-R/Az	Shoreline Pos. 6334-6336, 6344-6350 inside expansion No.4.
204	6367-6372	11	109-R/Az	Development.
204/205	6373-6423	11	104-R/Az	Shoreline.
205	6425-6472	11	108-R/Az	Shoreline.
205	6473-6475	11	108-R/Az	D.P.'s on rock.

REJECTED POSITIONS: 6039, 6049-6052, 6097, 6166-6167, 6262-6264, 6408-6410, 6424.

ABSTRACT OF POSITIONS
SIDE SCAN SONAR
RA-10-3-82 (H-10030)

VESSEL: 2123 (RA-3) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
205/206	3108-3156	04	115-113	Mainscheme
206/207	3157-3192	04	115-113	Mainscheme
207/208	3193-3244	04	115-113	Mainscheme

REJECTED POSITIONS: (3108-3127 NOT USED), 3135-3137, 3155-3156, 3183, 3201, 3211, 3214-3216.

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-82	82	PORT CHATHAM, SOUTHERN COOK INLET, ALASKA RA-10-2-82 (H-10030)	ADT T. TAYLOR	8/16/82

SERIAL NO.	DATE 1982	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 151°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5000	7/10	10/46.23	47/20.67	19.1	45 lbs			gn	ok ~~fne~~ G, ~~crs~~ P, brk Sh		JWO
5001	7/10	10/45.64	46/48.99	57.7	"			gn, br	~~med~~ G, ~~crs~~ P, brk Sh, ~~sml~~ Co		JWO
5002	7/10	10/46.51	46/13.81	65.2	"			gn	spk ~~med~~ S, ~~lrg~~ Sh, brk Sh, ~~sml~~ Co, Wd		JWO
5003	7/10	11/01.97	45/58.70	27.9	"			gn	fne S, ~~lrg~~ Sh, brk Sh, ~~med~~ P		JWO
5004	7/10	11/03.01	46/35.06	53.0	"			gn	spk ~~lrg~~ Sh, ~~sml~~ Sh, Wd, ~~crs~~ P, fne S		JWO
5005	7/10	11/03.63	47/11.16	29.4	"			gn	spk fne S, ~~fne~~ G, ~~med~~ P		JWO
5006	7/10	11/02.45	47/47.13	14.4	"				spk brk Sh, ~~med~~ P, ~~crs~~ P, fne S		JWO
5007	7/10	11/03.02	48/20.22	14.2	"			gn	spk brk Sh, fne S, lrg Sh, ~~sml~~ Co, ~~med~~ P		JWO
5008	7/10	11/02.08	48/50.16	16.8	"			gn	~~crs~~ P, ~~med~~ P, brk Sh, fne S, ~~sml~~ Co		JWO
5009	7/10	11/02.88	49/24.41	18.1	"			gn	spk ~~med~~ P, ~~fne~~ P, brk Sh, fne S		JWO
5010	7/10	11/20.73	49/15.06	24.8	"			gn	fne S, brk Sh, ~~crs~~ P, ~~med~~ P		JWO
5011	7/10	11/19.68	48/40.40	28.5	"			gn	spk fne S, brk Sh, ~~crs~~ S		JWO
5012	7/10	11/23.79	48/07.05	42.7	"			gn	spk, ~~fne~~ S, ~~med~~ S, ~~crs~~ S, brk Sh		JWO
5013	7/10	11/23.29	47/29.20	61.0	"			gn	St, ~~crs~~ P, ~~med~~ P, fne S, brk Sh, Wd		JWO
5014	7/10	11/22.03	46/52.98	35.40	"			gn	fne S, Co, fne P		JWO
5015	7/10	11/36.94	46/52.87	32.6	"			gn	fne S		JWO
5016	7/10	11/38.71	47/24.78	31.0					~~spk~~ fne G, sml Co, brk Sh		JWO

Use more than one line per sample if necessary.

★ U.S. GOVERNMENT PRINTING OFFICE: 1978—665-018/1064

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-82	82	PORT CHATHAM, SOUTHERN COOK INLET, AK RA-10-2-82 (H-10030)	TAT	8/16/82

SERIAL NO.	DATE 1982	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 151°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5017	7/10	11/30.54	48/13.78	57.6	45 lbs.			br	St		JWO
5018	7/10	11/37.48	48/33.42	49.1	"			gn	~~crs~~ S, ~~crs~~ G, ~~crs~~ P, brk Sh		JWO
5019	7/10	11/37.37	49/03.02	33.1	"			gn/gy	fne S, ~~crs~~ P, ~~fne~~ P		JWO
5020	7/10	11/35.66	49/40.60	22.6	"			gn	~~med~~ P, ~~med~~ G, fne S, brk Sh		JWO
5021	7/10	11/50.15	49/18.27	17.0	"			gn	spk, St, brk Sh, fne S, Wd, ~~crs~~ P		JWO
5022	7/10	11/53.49	48/38.65	16.0	"			gn	brk Sh, Co, fne S		JWO
5023	7/10	11/51.54	48/07.33	40.3	"			gn	Sh, fne S		JWO
5024	7/10	11/49.59	47/04.46	42.2	"			gn	fne S		JWO
5025	7/14	12/40.48	49/07.89	1.5	"			gn	fne S		JWO
5026	7/14	12/22.26	48/11.76	12.9	"			gn	spk fne S		JWO
5027	7/14	11/21.58	46/20.95	35.4	"			gn	crs G, ~~med~~ P, ~~crs~~ P		JWO
5030	7/14	11/49.94	46/01.93	9.5	"			gn	fne S, Co, Wd		JWO
5031	7/14	12/25.22	46/01.80	9.2	"			gn	spk fne S, Sh		JWO
5032	7/14	12/25.11	47/04.56	39.4	"			gn, bk	~~Sh~~, brk Sh, fne S, ~~med crs~~ P		JWO
5033	7/14	12/53.01	46/46.58	13.8	"			gn	spk fne S		JWO
5034	7/14	12/57.15	45/49.94	22.3	"			gn	~~spk~~ M, fne spk S		JWO
5035	7/14	13/18.8	45/12.6	21.7	"			gn	M, ~~Oz~~		JWO

Use more than one line per sample if necessary.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978—865-018/1084

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-P114-RA-82	82	PORT CHATHAM - SOUTHERN COOK INLET, AK RA-10-2-82 (H-10030)	TAT	8/16/82

SERIAL NO.	DATE 1982	SAMPLE POSITION LATITUDE 59°N	SAMPLE POSITION LONGITUDE 151°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
✓ 5036	7/14	13/09.30	44/23.05	18.3	45 lbs.			gn	brk Sh. M		JWD
✓ 5038	7/15	12/59.28	43/42.72	12.8	"			gn	M, brk Sh		JWD
✓ 5039	7/15	12/50.96	43/36.98	12.0	"			gn	M, St		JWD
✓ 5040	7/15	13/10.14	43/17.63	9.5	"			gn	M		JWD

Use more than one line per sample if necessary.

★ U.S. GOVERNMENT PRINTING OFFICE: 1978—665-018/1084

NOAA FORM 76-40
(8-74)
Replaces C&GS Form 567.

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

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

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

(See reverse for responsible personnel)

[X] TO BE CHARTED [ ] TO BE REVISED [ ] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA Ship RAINIER	Alaska	Port Chatham	9/26/82

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-P114-RA-82	N.A.	H-10030	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	(CHATHAM ISLAND LIGHT,1980)		35.325		26.368		Triang. Rec.	16645
	PORT CHATHAM ENTRANCE LIGHT 4 -	59 12	1093.1	151 46	418.4		7/14/82	
	1982 LIGHT LIST #3461							
	LIGHT LIST AND NGS LISTING POSITIONS							
	ARE IN ERROR							
	Light List and NGS Listing used old G.P.							
	dated 1931.							
	NC L-8(83)							

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

December 2, 1982

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

Dear Sir:

The following danger to navigation was noted during preliminary office review of the hydrographic survey of Port Chatham, Alaska, and is submitted for inclusion into the local Notice to Mariners for NOAA Chart 16645. The indicated least depth is reduced to MLLW based on predicted tides.

A 3.8 fathom shoal at latitude 59°10'57"N, longitude 151°48'08"W

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

Sincerely,

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

DESCRIPTION OF SEARCH
CHARTED PILINGS
JULY 22, 1982

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

OTHER _____

WIDTH 50 ~~XXX~~/METERS DEPTH _____ FT/METERS/ON BOTTOM

OVERLAP _____ FT/METERS STARTING - ENDING LINES/ARCS _____

SIMULTANEOUS VISUAL SEARCH Y/~~XX~~ WATER VISIBILITY 20 FT/~~METERS~~

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

OR _____

SWEPT IN BOTH DIRECTIONS Y/N SEAS: DIRECTION & HEIGHT LESS THAN ONE FOOT

WIND: DIRECTION & KNOTS _____ CURRENT: DIRECTION & KNOTS FLOODING TIDE

ANY OTHER PERTINENT DATA _____

INFORMATION FROM LOCALS: _____

1) Tide was at -5 feet, 2 divers walked in kelp in 2-3 feet of water. Nothing visible above water. Search in kelp lasted 20 minutes.
2) Two divers snorkeled just outside of kelp approx 50 meters each side of marked line in approx. 5-10 feet of water. Bottom visible. Search lasted 25 minutes.
3) Two divers did a 50 meter radius search from buoy marked pos. 3107, using nylon line sweep. Algae and eel grass over 90% of bottom. Line was 1-3 feet above bottom. Three hangs on kelp or small rock outcroppings. No pilings. Search lasted 100 minutes.
4) Buoy moved to outsied of kelp. D.P. not taken. Two divers- 1-5 feet did a 50 meter radius semi-circular line sweep. One diver searching visually along line , checking line 1-2 feet off bottom. Search lasted 40 minutes.
5) RESULT - NO PILING FOUND.

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-10030

RA-10-2-82

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

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

Ralph J. Land
Captain, NOAA
Commanding Officer

U.S. DEPARTMENT OF COMMERCE

REGISTRY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-10030

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	8
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	8

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDIAN FILES						
ENVELOPES						
VOLUMES						
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): TP-00820

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List):

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			1699
POSITIONS REVISED	100	-----	100
SOUNDINGS REVISED	283	-----	283
CONTROL STATIONS REVISED	-----	-----	-----
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION	4	-----	4
VERIFICATION OF CONTROL	8	1	9
VERIFICATION OF POSITIONS	38	4	42
VERIFICATION OF SOUNDINGS	226	8	234
VERIFICATION OF JUNCTIONS	3	2	5
APPLICATION OF PHOTOBATHYMETRY	-----	-----	-----
SHORELINE APPLICATION/VERIFICATION	10	-----	10
COMPILATION OF SMOOTH SHEET	62	10	72
COMPARISON WITH PRIOR SURVEYS AND CHARTS	6	8	14
EVALUATION OF SIDESCAN SONAR RECORDS	-----	1	1
EVALUATION OF WIRE DRAGS AND SWEEPS	-----	-----	-----
EVALUATION REPORT	8	20	28
OTHER			
Digitization	18	-----	18
TOTALS	383	54	437

Pre-processing Examination by	*Beginning Date*	*Ending Date*
Verification of Field Data by J. Shofner, R. Davies	~~Time (Hours)~~ Beginning 3-31-83	*Ending Date* 4-10-84
Verification Checks by J. L. Stringham, J. S. Green	*Time (Hours)* 48 hours	*Ending Date* 8-2-84
Evaluation and Analysis by C. R. Davies	*Time (Hours)* 7-23-84	*Ending Date* 8-16-84
Inspection by D. Hill	*Time (Hours)* 2	*Ending Date* 8-17-84

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10030

FIELD NO: RA-10-2-82

Alaska, Cook Inlet, Port Chatham

SURVEYED: July 10 - July 24, 1982

SCALE: 1:10,000

PROJECT NO: OPR-P114-RA-82

SOUNDINGS: Ross Fineline Fathometer

CONTROL: Range/Range
Range/Azimuth
Motorola MiniRanger III

Chief of Party.....Capt. R. J. Land
Surveyed by.....LT. J. O'clock
LTjg. B. Hillard
ENS R. Koehler
ENS B. Postle
SST R. Hastings

Automated Plot by.....PMC Xynetics Plotter

Verified by..... C. Davies, J. Shofner

Evaluated by.....C. R. Davies

1. INTRODUCTION

H-10030 is a basic hydrographic survey conducted by the NOAA Ship Rainier in accordance with the following:

Project Instructions for OPR-P114-RA-82, dated February 24, 1982 and
Change No. 1, dated March 26, 1982,
Change No. 2, dated May 25, 1982.

The survey is a part of a continuing project to update hydrography in Southern Cook Inlet. H-10030 is centered in Port Chatham, Alaska.

The survey included two side scan investigations. The investigation of PSR item 50, which is beyond the limits of the survey, was incomplete. The other side scan survey investigation of PSR item 49, supplements hydrographic developments. The sonograms and side scan sonar overlays have been forwarded separately to N/CG241, per paragraph 7.12.3 of Change No. 2 to OPR-P114-RA-82 project instructions.

Predicted tides based on the Seldovia, Alaska tide gage with time and range adjustments were utilized during shipboard processing. Tide correctors used for the reduction of the final soundings are computed from approved hourly

heights from one temporary bubbler tide gage, Port Chatham, Alaska (945-5428). During verification, the following was changed:

a. Projection parameters were changed to center the hydrography on the smooth sheet and to change the projection to polyconic.

b. Tide level values are from observed tides, see form 712.

c. Electronic correctors were revised to reflect the mean of baseline correctors.

2. CONTROL AND SHORELINE

Hydrographic control and hydrographic positioning are adequately discussed in Descriptive Report paragraphs F and G, and Horizontal and Electronic Control Report for OPR-P114-RA-82.

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

The mean high waterline and other photogrammetrically determined features were applied from unreviewed Class I manuscript, TP-00820.

	Dates of Photography	Dates of Field Edit
TP-00820	July, Aug., 1975, June 1976	July, 1980

Numerous rocks which appear on the field sheet and not on the smooth sheet originate from the Class III manuscript. These rocks are shown on the field sheet in approximate positions since an accurate enlargement was not available to the field. One rock at latitude 59°12'27"N and longitude 151°48'46"W has been transferred to the smooth sheet from the field sheet without supporting positional information.

Triangulation station Jacqueline, 1980 is described on the smooth sheet as an islet with an elevation of 9 feet above MHW. This information, acquired from the geodetic station description, differs from that shown on the Class I Manuscript TP-00820 (reef uncovers 8 feet at MLLW).

3. HYDROGRAPHY

Crossline soundings are in fair agreement. Small discrepancies can be attributed to the irregular nature of the bottom. Hydrography within the limits of H-10030 was adequate to determine the bottom configuration and least depths with the following exceptions:

Soundings (fms)	Latitude	Longitude
4 7	59°13'23"N	151°45'15"W
2 9	59°12'27"N	151°45'55"W*
0 9	59°10'50"N	151°48'14"W
3 2	59°12'25"N	151°46'10"W*
3	59°10'52"N	151°49'11"W
4 3	59°12'12"N	151°45'30"W
5 1	59°13'10"N	151°43'29"W*
1 9	59°12'05"N	151°49'22"W

Soundings marked by an asterisk were excessed and prior survey soundings displayed in these locations.

A holiday exists at Latitude 59°12'25"W and Longitude 151°48'42"W.

4. CONDITION OF SURVEY

The hydrographic records and report are adequate and conform to the requirements of the Hydrographic Manual with the exception of:

Several soundings warranted further development to determine the least depth (See Section 3, Hydrography). The investigation of these features was incomplete (Hydrographic Manual, 4.3.4).

5. JUNCTIONS

H-10030 (1982) is bordered by one survey, H-9890 (1980).

Soundings in the junctioned area of the "Adjoins" survey are in fair agreement, ±2 fathoms. H-10030 "Adjoins" H-9890 because H-9890 is not available at PMC. Refer to H-10030 for the depth curves in the junctional area. Two soundings are tranferred from H-9890 (1980):

Soundings (fms)	Latitude	Longitude
4^{1}	59°12'05"N	151°49'34"W
4^{6}	59 10'41"N	151°47'22"W

6. COMPARISON WITH PRIOR SURVEYS

a. H-2847 (1906) 1:10,000

Generally, differences in depths are small, ±one fathom. Generally the standard depth curves compare well. Any differences are attributed to data acquisition techniques. The following soundings were brought forward from H-2847 (1906).

Soundings (fm)		Latitude	Longitude
3 3/4	(3.7)	59°13'13"N	151°43'33"W
3 3/4	(3.7)	59°13'13"N	151°43'25"W
3 3/4	(3.7)	59°13'23"N	151°44'55"W
2 1/2	(2.5)	59°12'24"N	151°46'09"W
2 1/4	(2.2)	59°12'28"N	151°45'54"W
5 1/4	(5.2)	59°13'02"N	151°46'19"W
4 1/4	(4.2)	59°12'43"N	151°45'49"W
4		59°12'48.8"W	151°43'27"W
1 1/4	(1.2)	59°12'50.8"W	151°46'24.3"W

PSR item 43, sunken rocks originating with T-2795 (1906) at latitude 59°11'36"N, longitude 151°45'48"W, were investigated during field edit and are shown on the smooth sheet as portrayed on the Class I manuscript. This area should be charted according to H-10030.

AWOIS 50180
10/29/84
MSM

PSR item 44, 5 1/4 fathom sounding at latitude 59°13'02"N and longitude 151°46'19"W was investigated with 25 meters sounding lines with no indication of shoaling at the charted position. A shoal of 6.4 fathoms was located to the southwest of the charted position. The 6.4 fathom should have been further developed to determine a least depth as it could have been the charted PSR item. The 5 1/4 (5.2) fathom sounding was carried forward from H-2847. The 5.2 fathom sounding should be continued to be charted. AW015 50270 10/29/84 msm

PSR item 49, 1 1/4 (1.2) fathom shoal at latitude 59°12'50.8"N and longitude 151°46'24.3"W, originating from H-2847, was not adequately developed during survey operations. The 1.2 fathom sounding has been transferred to H-10030 and should be retained as charted. AW015 # 50271 10/30/84 msm

The four fathom sounding at latitude 59°12'48.8"N and longitude 151°43'27.0"W originates from H-2847. This is discussed in the descriptive report as a five fathom sounding, however, at this coordinate a four fathom sounding exists on H-2847 coinciding with an eight-fathom sounding on H-10030. The four fathom sounding has been transferred to H-10030. The charted four fathom sounding should be retained on the chart. AW015 11/1/84 msm

With the transferring of the above soundings, H-10030 (1982) is adequate to supersede H-2847 (1906) within the common area.

Presurvey Review Item 42.45, and 46 were adequately discussed by the hydrographer.

b. H-3804 (1915) 1:20,000

Generally, differences are small, ±2 fathoms. The standard depth curves compare well. Any differences are attributed to data acquisition techniques and contour of the bottom.

H-10030 (1982) is adequate to supersede H-3804 (1915) within the common area.

c. H-4929 (1918) 1:5,000

Generally differences are small, ±1 fathom. The standard depth curves compare well. Any differences are attributed to data acquisition techniques. H-10030 (1982) is adequate to supersede H-4029 (1918) within the common area.

7. <u>COMPARISON WITH CHART</u>

16645, 13th Edition, Oct. 4, 1980

a. Hydrography -- Charted information originates with the prior surveys previously discussed in section 6.

The two charted rocks awash at latitude 59°13"16.5'N and longitude 151°45'59"W and latitude 59°12'02"N and longitude 151°45'46"W originate from the preliminary Class III shoreline manuscript. Subsequent field edit of the manuscript and review of the aerial photography shows the rocks to be nonexistent, and the present survey shows depths of 7 and 14 fathoms at the charted positions. The rocks should be removed from the next edition of the chart.

The area covered by H-10030 was examined for unreported dangers to navigation. One was found during preliminary office review, see letter attached. H-10030 is adequate to supersede charted hydrography within the common area.

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

c. Aids to Navigation -- There is one fixed aid and two floating aids to navigation. The aids are as follows:

Light Name	Light List Number	Latitude	Longitude
Port Chatham Entrance Light 4	3461	59°12'35.33"N	151°46'26.37"W
Buoy			
C "3"		59°10'54.23"N	151°47'25.46"W
C "PC"		59°12'49.57"N	151°46'25.57"W

The above aids adequately serve the purposes intended.

8. COMPLIANCE WITH INSTRUCTIONS

H-10030 adequately complies with the project instructions and changes listed in section 1 of this report except as noted in section 4, Condition of Survey.

9. ADDITIONAL FIELD WORK

H-10030 is an adequate basic hydrographic survey. Additional field work concerning the development of least depths (section 3, Hydrography) and Presurvey Review Items 44 and 49 should be addressed in future project planning for Port Chatham.

Respectfully submitted,

Charles R. Davies

Charles R. Davies
Cartographer
August 3, 1984

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

James S. Green
Supervisory Cartographer

DATE: November 29, 1982

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-5428 Port Chatham, Alaska

Period: July 9-24, 1982

HYDROGRAPHIC SHEET: H-10030

OPR: P-114

Locality: Port Chatham, Alaska

Plane of reference (mean lower low water): 27.15 ft.

Height of Mean High Water above Plane of Reference is 13.3 ft.

REMARKS: Recommended Zoning:

Zone Direct

for Donald A. Carrier
Chief, Tidal Datums and Information Branch

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10030

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.

8/21/84

Chief, Nautical Chart Branch (Date)

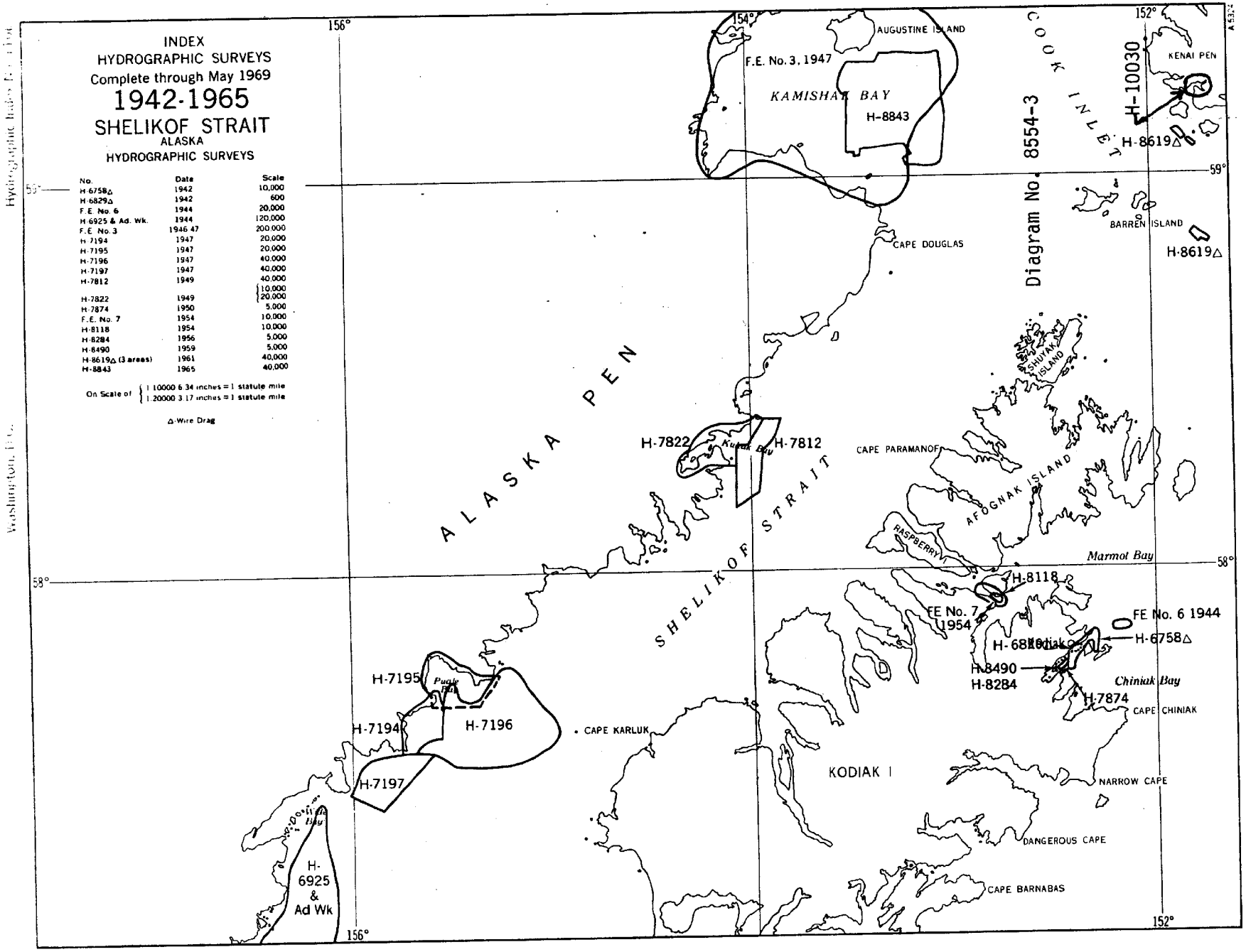
CLEARANCE:

SIGNATURE AND DATE:

N/MOP2:LWMordock 8/23/84

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.

Director, Pacific Marine Center (Date)


INDEX
HYDROGRAPHIC SURVEYS
Complete through May 1969
1942-1965
SHELIKOF STRAIT
ALASKA
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H-6758△ 1942 10,000
H-6829△ 1942 600
F.E. No. 6 1944 20,000
H-6925 & Ad. Wk. 1944 120,000
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H-7194 1947 20,000
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FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10030

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	10/27/85	J. M. O'Connor	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 22 Exam for critical correction
			Hold for application to new cht 16647
16646	3-6-87	J. Graham	Full ~~Part~~ ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. #1
16645	10/20/88	CORDTS	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 17 14th Ed
16640	6-22-89	Pearce Hunt	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 23 20th Ed.
			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.
			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.

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

USCOMM-DC 8558-P63