

9828

Diag. Cht. No. 8554-2.

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. FA-20-2-79.....
Office No..... H-9828.....

LOCALITY

State Alaska.....
General Locality ... Cook Inlet.....
Locality Chinitna Bay.....

19 79

CHIEF OF PARTY

A.J. Patrick.....

LIBRARY & ARCHIVES

DATE May 1, 1981.....

☆U.S. GOV. PRINTING OFFICE: 1980-668-537

9828

AREA 6

CHTS:

16640 }

16013 }

to sign off see
Record of Application

530 }
531 } ENC

HYDROGRAPHIC TITLE SHEET

H-9828

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.

FA-20-2-79

State Alaska

General locality Cook Inlet

Locality Chinitna Bay

Scale 1:20,000 Date of survey 1 June - 24 August 79

Instructions dated 2 March 1979 Project No. OPR-P114-FA-79

Vessel Ship Fairweather
Launches FA-3 (2023), FA-4 (2024), FA-5 (2025), FA-6 (2026), and Boston
Whaler #1 (2027)

Chief of party CAPT A. J. Patrick

Surveyed by LTJG J. P. Quinlan, LT. A. H. Yanaway, CST E. R. Krick, LTJG M. S. Finke,
LTJG L. A. Roberts, ENS. V. D. Ross, ENS M. J. Willis

Soundings taken by echo sounder, hand lead, pole Ross 5000 Fineline, Ross 200A, Raytheon DE-719B

Graphic record scaled by Ross Digitizer and Ship's Personnel

Graphic record checked by Ship's Personnel

Positions verified

Extracted by L. T. Deodato Automated plot by Xynetics Plotter (PMC)

Soundings verified

Verification by L. T. Deodato

Soundings in fathoms ^{and tenths} ~~feet~~ at MLW MLLW

REMARKS: Survey completed.

Time Meridian = GAT
ANDIS - 2/22/84 JJA

STANDARDS CK'D 4-5-84
C. LOY

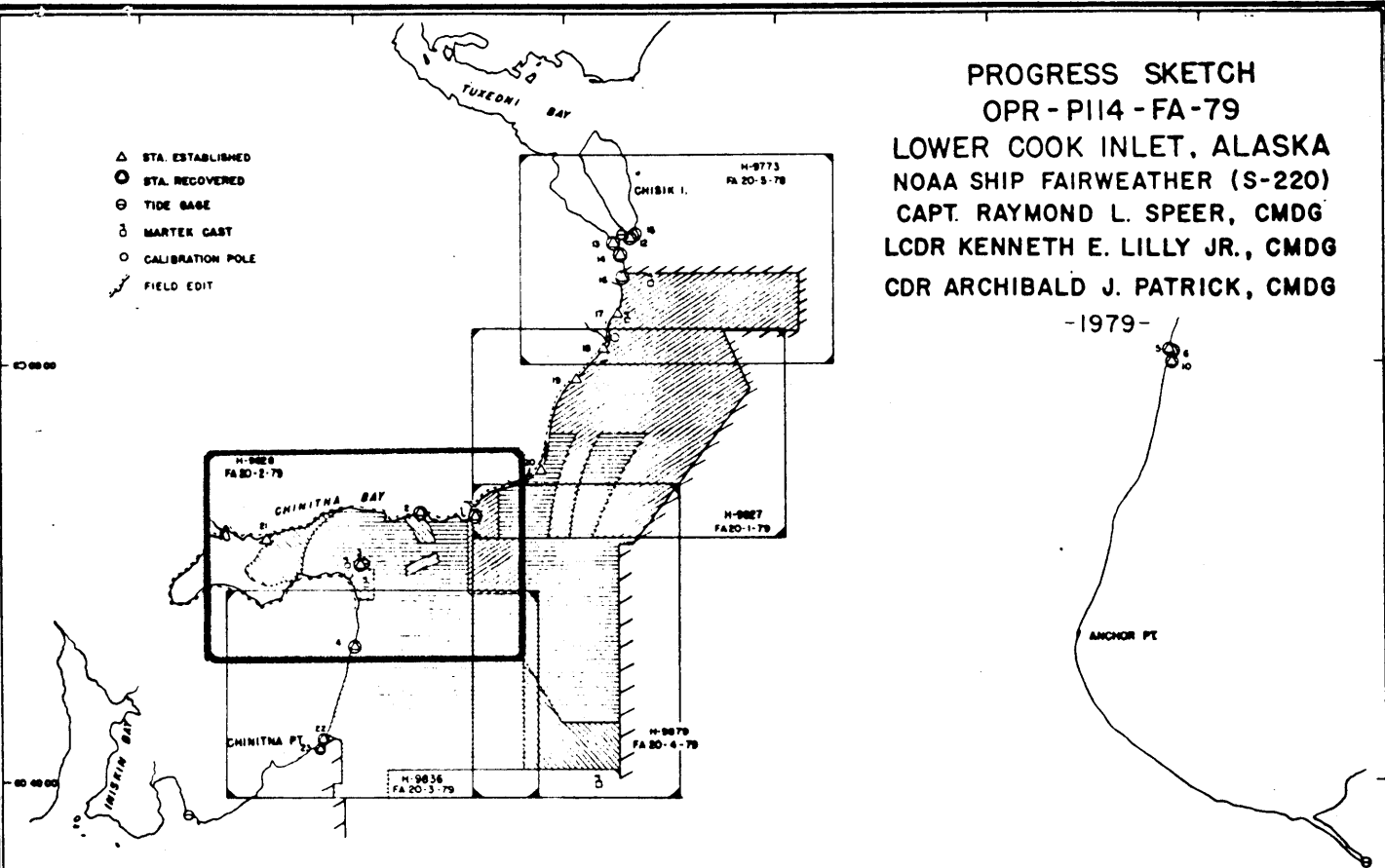
PROGRESS SKETCH

OPR - P114 - FA-79

LOWER COOK INLET, ALASKA
 NOAA SHIP FAIRWEATHER (S-220)
 CAPT. RAYMOND L. SPEER, CMDG
 LCDR KENNETH E. LILLY JR., CMDG
 CDR ARCHIBALD J. PATRICK, CMDG

-1979-

- △ STA. ESTABLISHED
- STA. RECOVERED
- ⊙ TIDE GAGE
- ⊖ MARTEK CAST
- CALIBRATION POLE
- ⊘ FIELD EDIT



STATIONS RECOVERED AND ESTABLISHED

MAY

- 1 SPRING, 1970 (MINI-RANGER)
- 2 HICK, 1967 (MINI-RANGER)
- 3 TUNE, 1967 (MINI-RANGER)
- 4 BARB, 1967
- 5 NINILCHIK, 1908
- 6 NINILCHIK RM-4, 1978 (RAYDIST)
- 7 HERON, 1956
- 8 FLAT ISLAND LIGHT, 1956
- 9 FLAT ISLAND, 1956 (RAYDIST)
- 10 BM W 75, 1964
- 11 PT. BEDE, 1956
- 12 MILL, 1970
- 13 JASON, 1978
- 14 JEREMY, 1978
- 15 CHISIK ISLAND LIGHT, 1978
- 16 BAKE, 1970

JUNE

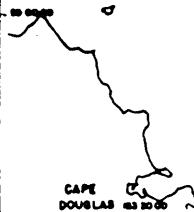
- 17 ILIAMNA PT., 1979
- 18 NOEL, 1979
- 19 SILVER, 1979 (MINI-RANGER)
- 20 RED, 1979 (MINI-RANGER)

JULY

- 21 HORN 2, 1979

AUGUST

- 22 CHIT 2, 1967
- 23 BLUFF, 1913
- 24 SHAG, 1931
- 25 GATE, 1931



	JUNE	JULY	AUGUST
LN M SOUNDING LINE	1368	2242	708
50 NM SOUNDING LINE	108	201	58
STD CAST (MARTEK)	1	2	2
BOTTOM SAMPLE	260	128	130

HYDROGRAPHY

Descriptive Report to Accompany
Hydrographic Survey H-9828
(Field No. FA-20-2-79)
Scale 1:20,000 1979
NOAA Ship FAIRWEATHER S220
Capt. A. J. Patrick
Chief of Party

A. Project

The area was surveyed according to Project Instructions OPR-P114-FA-79, Southern Cook Inlet, Alaska, dated March 2, 1979, with Changes #1 and #2, dated ~~April 7~~ ^{Mar. 29 1979}, 1979, Change #3, dated July 18, 1979, and Change #4, dated August 4, 1979.

B. Area Surveyed

The area surveyed extends from Spring Point, Lat. N 59° 52.7' to N 59° 49.0'. It includes all of Chinitna Bay and runs east to Long. W 152° 44.2'. ✓

The survey began June 1 and was finished August 24, 1979.

C. Sounding Vessels

All four of the FAIRWEATHER launches were used in the survey. A 17 foot Boston Whaler was also fitted with a Motorola Miniranger console and a Raytheon DE-719B fathometer and used for sounding in the extensive mud flat area in the western part of Chinitna Bay.

<u>Vessel Letter Designation</u>	<u>Electronic Data Processing (EDP) #</u>
FA-3	2023
FA-4	2024
FA-5	2025
FA-6	2026
Whaler 1	2027

 ✓

D. Sounding Equipment and Corrections to Echo Soundings

The Ross Fathometers were used on all four launches with few problems. On J.D. 193 analog recorder #1047 failed and was replaced with #1054. The Raytheon fathometer was used with the Boston Whaler because it is much more portable than the Ross fathometers. A complete listing of the serial numbers of equipment used by each

launch each day follows. A copy of each Abstract of Corrections to Echo Soundings is appended. For additional information see "Report on Corrections to Echo Soundings" for OPR-P114-FA-79, dated October 1, 1979.

<u>Launch</u>	<u>J.D.</u>	<u>Analog S/N</u>	<u>Digitizer S/N</u>	<u>Inverter S/N</u>
2023	181-193	1047	1054	1046
	193-194	1047, 1054	1054	1046
	221-225	1054	1054	1046
	226-227	1047	1054	1046
2024	152	1046	1047	1103
	180-209	1046	1046	1103
	235-236	1054	1047	1103
2025	169-194	1036	1036	1054
	221-224	1036	1036	1103
	233-234	1036	1036	1054
2026	184-185	1036	1036	1053
	186-187	1048	1036	1053
2027	209-215	Raytheon DE-719B, S/N 6168		

Analog #1036 is a Ross 200a; #'s 1046, 1047, & 1054 are Ross 5000 Finelines.

E. Hydrographic Sheets

All Field sheets were prepared on the ship's Digital PDP-8e computer, S/N 12451, with Complot plotter model DP3-5, S/N 6166-22. See appended parameter tapes for details. Field records will be sent to the Pacific Marine Center for verification and smooth plotting.

F. Control Stations

Four monumented and three temporary stations are within the boundaries of the sheet. Station HICK #189, TUNE #110, and SPRING #108 1970 were already in the area. Station HORN 2 1979 was added for the survey, as were the three temporary stations. All four stations were located via triangulation, using NGS third order, Class I methods. TP-4 #117 and TP-5 #118 were located in order to position the Chinitna Bay calibration pole. TP-6 #119 was used to check the position of HORN 2 1979. #120 For additional information see "Horizontal Control Report" for OPR-P114-FA-79, dated October 1, 1979.

G. Hydrographic Position Control

Both range/azimuth and range/range positioning systems were used for control of the survey. The Teledyne-Hastings Raydist system

1985

was used for virtually all of the range/range hydrography, with the exception of one day of Motorola Miniranger range/range. The majority of the survey was controlled with Miniranger range/azimuth control, with arcs centered on Gull Island, where station TUNE 1956-1967 is located. One day of range/azimuth was run from station HICK 1967.

Calibration for launch hydrography was accomplished by a calibration pole. This pole occupied 3 positions during the season. The position of the pole at each site was determined by third order, Class I intersection methods. These were in turn used as a basis for establishing Raydist rates for the launch, taking into account the state of the tide (ebb or flood), and the distance from the pole to the antenna on the launches stern (the launch assumed one of two positions in relation to the pole; see pictogram in separates). In calibrating, the launch would approach the pole with pre-determined rates set in the Panelogic and phase meters. Upon the launches bow touching the pole the phase meters would be activated also causing the Panelogic to track. The cox'n would then hold the launch in the appropriate position while several DP's would be taken. These rates would then be averaged and compared to the pre-determined rates (their derivation described above) to arrive at a set of correctors. This same procedure would take place in reverse to establish correctors for an ending calibration. The average of the 2 calibrations would then be used for the daily corrections. These daily calibrations are included in the raw data. ✓

Daily system checks for the Motorola Miniranger were done at the Chinitna Bay calibration pole. The observed distance was checked against the computed slope distance. The Miniranger consoles and transponders were calibrated four times over a measured distance in Homer, Alaska. Appropriate corrections were applied to the raw data.

Abstracts of all electronic corrections are appended. For additional information see "Electronic Control Report" for OPR-P114-FA-79, dated October 1, 1979.

The following equipment was used on the days indicated.

Raydist Range/Range

<u>Base Stations:</u>	<u>Station #</u>	<u>Station Name</u>	<u>Color</u>	<u>S/N</u>
	101	Ninilchik RM 4, 1978	RED	AA60 124
	102	Flat Island, 1956	GREEN	AA60 125

<u>Launch</u>	<u>Days</u>	<u>Navigator</u>	<u>Interface</u>	<u>Mobile Transmitter</u>
2023	181-192	21	9	83
	193	16	9	83
2024	180	18	37	no record
	207	18	37	90
	235-236	18	20	90
2025	169	16	20	no record

Miniranger Range/Range

<u>Launch</u>	<u>Days</u>	<u>Console</u>	<u>Station/Transponder</u>		<u>Station/Transponder</u>	
2023	223-224	703	120	704	121	702

Miniranger Range/Azimuth

<u>Launch</u>	<u>Days</u>	<u>Console</u>	<u>Station/Transponder</u>	
2023	221-227	703	110	703
2024	152	701	109	702
	207-209	701	110	704
2025	191-194	703	110	703
	221-222	702	110	701
	223-224	702	110	702
	233-234	702	110	703
2026	184-187	703	110	703
2027	209-213	703	110	704
	213-214	702	110	704
	214-215	703	110	703

H. Shoreline

The shoreline sources for the field sheet are manuscripts T-12356, ~~T-12360~~, T-12357, T-12361, T-12362, which were field edited by FAIRWEATHER personnel. See "Field Edit Report" for OPR-P114-FA-79, dated October 1, 1979.

I. Crosslines

Total mileage for the survey is 764, of which 44 miles or 5.7% are crosslines. Main scheme and crosslines agree very well, most within 1/2 fathom (the maximum disagreement is two fathoms, which is on the slope of the kettle hole so could easily be a positional difference). Another 1.7 fathom difference, at Lat. N 59° 51.0', Long. W 152° 59.0', is probably a positional difference. All other crossline soundings are within one fathom. The differences would also be attributable to positional differences and predicted tide differences.

See VR

J. Junctions

This survey junctions with prior surveys H-3354, 1:40,000, 1911, and H-3355, 1:100,000, 1911. For results of comparison see section K. Contemporary survey junctions include H-9827, H-9836, and H-9837, all 1:20,000 scale, 1979 surveys. All junction soundings agree with in 1 fathom, which could easily be rounding off differences, positional differences, or predicted tide differences. *See VR*

K. Comparison With Prior Surveys

According to the Project Instructions four prior surveys are to be compared with H-9828. These are H-3354, a 1:40,000 scale, 1911 survey of Chinitna Bay and the shoreline north of the bay, H-3355, a 1:100,000 scale, 1911 survey of Western Cook Inlet in the vicinity of Chinitna Bay, H-8296, a 1:20,000 scale, 1911 survey of the main channel leading into the bay, and H-8334 WD, a 1:20,000 scale, 1956 wire drag done in conjunction with H-8296. There is one Pre-survey Review item addressed in this paragraph. It is not a numbered Presurvey Review item.

H-3354

The 1979 soundings agree well with the H-3354 soundings if one or two fathoms are added to the 1979 soundings. It appears as if the bay has silted up by one to two fathoms over 68 years. In the northwest corner of the bay the silting may be slightly less, but it is difficult to compare because the 1911 survey is in feet and is of a smaller scale than this survey. Other features worth noting include the 6 fathom change in the maximum depth of the large kettle hole west of Gull Island. It has changed from 25 fathoms in 1911 to 19 fathoms in 1979. (See the comparison with H-8296 for further discussion of this.) Also note the 2 fathom soundings in the vicinity of Lat. N 59° 52.0', Long. W 152° 50.0', west to Lat. N 59° 52.0, Long. W 152° 51.5'. These soundings are not on H-3354, which could easily have missed them because of the smaller scale and the type of equipment of the survey. The 29 foot sounding at Lat. N 59° 51.6', Long. W 153° 01.8', and 11 foot difference from soundings on either side, was not noticed in the 1979 survey. *The 29 ft. sdg. on H-3354 is considered in error and should be disregarded.* *See VR*

H-3355

There are no major differences between H-3355 and H-9828. The soundings on H-3355 are one to two fathoms deeper, similiar to what was found when comparing H-3354 and H-9828. *See VR*

H-8296

Comparing H-8296 to the 1979 survey it appears as if the 1956 control is off by about 60 meters. The 1956 position for station TUNE 1956-1967 is about 3mm different than the 1979 plotted position. The position used by the FAIRWEATHER for TUNE is the published NSG position, which was located in 1967. If the 1956 position is shifted 3mm's the contour lines of the two surveys agree very well. Whether the position is shifted or not the soundings of the two surveys agree very well, generally within one fathom. Many areas agree exactly or within a few feet. One unusual item is that the maximum depth of the kettle hole on H-8296 agrees with the 1911 survey, but the 1979 survey is 6 fathoms less. The entire deep part of the hole shows little change between 1956 and 1911, but between 1956 and 1979 it apparently filled in by 20 to 30 feet. In 1979 100 meter spacing was run. In 1956 the spacing appears to be close to 150 meters in this vicinity. The 1956 survey did not cover the entire bay so further investigation of the silting is impossible. *- see VR*

H-8334 WD

In comparing H-8334 WD to H-9828 each area swept with the wire has been listed along with the depth of the wire. The least depth from H-9828 was found for each of these areas and listed. Three areas that were not cleared, a 30', a 4', and a 17' drag, show no reason on the 1979 survey for not clearing. All three areas show deeper soundings than these wire depths. The 23' drag that was finally cleared at 15' also shows nothing in 1979. The depth found is deeper than 15'. *See VR & Q.C. Report*

<u>Lat.</u>	<u>Long.</u>	<u>Cleared By, ft.</u>	<u>Present Least Depth, fm.</u> <i>(uncorrected)</i>
N 59° 50.10'	W 153° 05.70'	6	0.8
50.20	05.60	8	0.7
50.30	05.00	9	1.1
50.15	05.00	6	0.4
50.15	04.50	7	0.8
50.30	04.50	10	1.2
50.45	04.50	8	1.3
50.50	04.00	9	1.5
50.70	04.00	11	1.6
51.00	04.00	9	1.5
51.17	04.10	2	1.6
51.20	03.50	11	1.7
51.50	03.80	12	1.7

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<u>Lat.</u>	<u>Long.</u>	<u>Cleared By, ft.</u>	<u>Present Least Depth, fm.</u>
N 59°	51.50	W 153° 03.00	13 1.9
	51.50	02.0	15 1.8
	51.20	02.50	12 1.5
	51.20	01.70	13 1.8
	51.00	01.00	15 1.8
	51.57	01.00	14 2.2
	50.80	03.30	13 2.1
	50.90	03.50	11 2.1
	50.90	03.10	10 2.3
	50.90	03.50	12 2.2
	50.30	03.80	7 0.9
	50.30	03.00	9 0.9
	50.50	03.00	10 0.0
	50.66	02.60	13 1.9
	50.65	02.30	15 1.8
	50.80	02.50	15 2.3
	50.80	02.50	17 2.0
	50.60	02.20	14 2.0
	50.50	01.50	12 1.2
	50.65	01.70	17 2.3
	50.70	01.50	18 2.3
	50.75	01.50	25 3.3
	50.85	01.50	29 5.8
	50.94	01.00	23 5.9
	51.35	00.95	14 2.2
	51.50	00.50	16 2.4
	51.40	00.80	13 2.3
	51.50	00.00	18 2.4
	51.00	00.25	16 1.7
	51.00	00.30	14 1.7
	51.00	00.45	15 1.8
	51.00	00.60	14 2.0
	50.95	00.80	23 3.8
	50.85	00.60	18 4.3
	50.85	00.40	15 2.9
	50.80	00.30	14 2.9
	50.75	00.60	25 4.8
	50.70	00.70	33 13.0
	50.55	00.50	23 1.8 - probably poor control
	50.50	00.80	6 0.8
	50.45	00.55	12 1.2
	50.35	01.00	4 1.1
	50.30	00.90	4 2.2
	50.28	01.10	3 1.2
	50.25	00.75	3 1.1
	51.50	152° 59.50	17 2.6

See VR

<u>Lat.</u>	<u>Long.</u>	<u>Cleared By, ft.</u>	<u>Present Least Depth, fm.</u>
N 59° 51.20	W 152° 59.50	14	2.1
51.15	59.80	17	1.8
51.20	59.90	15	2.1
50.70	59.90	14	2.4
50.60	59.90	17	3.6 not cleared
50.30	59.70	17	4.9
50.20	59.60	24	5.4
50.20	59.50	21	5.4
50.40	59.80	25	4.8
50.15	59.50	27	5.5
50.15	59.80	32	5.4
50.00	59.50	22	5.6
50.00	59.30	30	5.1 not cleared
49.80	59.60	31	5.9
49.70	59.50	29	4.9
49.50	59.40	30	7.4
49.50	59.20	32	6.5
49.35	59.20	27	6.1
49.10	57.20	31	7.3
49.40	58.00	33	6.3
49.40	58.50	31	7.0
49.65	58.30	32	6.4
49.70	58.65	27	6.4
49.65	58.80	30	6.9
49.80	59.00	28	6.0
49.95	59.30	30	6.2
49.40	59.30	26	5.3
50.95	59.60	16	3.1

See VR

See also Q.C. Report for W.D.

The Presurvey Review development item on this survey is not significant. The least depth has been circled on the 1:10,000 scale plot of the item. It is a 4.9 fathom sounding, 2 and 3/4 soundings out of position number 5063. It is about 1 fathom less than other soundings in the immediate vicinity and should be charted. However, this is not an unusual feature in this bay. *This questionable trace reduces to 5.3 fms. & was added to the S.S. during Q.C.I.*

L. Comparison With Chart *in lat. 59°50.60'N, long. 152°54.68'W*

The largest scale chart covering this area is 16640, 5th Edition, 27 November 1976. Generally, the charted soundings are about 1 fathom deeper than soundings of this survey. In the southwest side of the bay, west of Gull Island, the charted soundings are about 1/2 fathom deeper than this survey. The 2 fathom soundings in the small cove at Lat. N 59° 52.7', Long. W 152° 50.0', should be changed to a 1/4 or 0 fathom sounding. The area around Spring Point should *chart the area as shown on the S.S.*

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① with final correctors least depths on S.S. are 2.1 fms, retain

be indicated as being extremely rocky. ① The 2 & 1/4 fathom sounding at Lat. N 59° 51.0, Long. W 153° 01.0', which indicates the area has been wire dragged to this depth, should be removed. There are two soundings under 2 fathoms in the area. They are listed as 1.7 fathoms on the raw data printout, one being 2/3 of a sounding before #5255 and one being 1/4 of a sounding out of #5255. ② There is also a large shoal nearby with a least depth of 1.6 fathoms. This is at Lat. N 59° 51.1, Long. W 153° 00.3'. Position #'s 6150 through 6195 include this area. ③ At Lat. N 59° 51.55', Long. W 153° 02.4', there is a 0.0 sounding which should be added. This is the second sounding out of position #5514. ④ The rocks charted in Chinitna Bay should all be retained and added to, especially in the vicinity of Lat. N 59° 52.8', from Long. W 152° 57.5' to Long. W 152° 59.3'. There is also a rock at Lat. N 59° 50.2', Long. W 153° 00.2', which should be charted. For additional information see "Field Edit Report" for OPR-P114-FA-79, dated October 1, 1979.

cleared 2 1/4 fms as charted
 See V/R
 ② With final correctors least depths in area are 2.1 fms.
 ③ Do not concern Bad read-out on raw data tape. Rejected as sq. in verification, 1.8 fms falls here.

④ Chart the rocks as shown on the present survey.

M. Adequacy of Survey

with a few items brought fwd. from prior surveys

This survey is complete and adequate to supersede prior surveys for charting. ✓

N. Aids to Navigation

There are no aids to navigation within the limits of this survey. ✓

O. Statistics

Total mileage for the survey was 764. One tide gage was installed at Snug Harbor, north of the sheet. Three Martek casts were taken within the area of the survey. Sixty-two bottom samples were taken. Log Sheet's M are appended. 3129 positions were used. Miles of hydrography per vessel are as follows: ✓

<u>Vessel</u>	<u>Positions</u>	<u>Nautical Miles of Hydrography</u>	<u>Square Nautical Miles</u>
2023	1290	367	45.9
2024	330	68	3.3
2025	930	207	10.6
2026	241	64	3.4
2027	<u>338</u>	<u>58</u>	9.0
	3129	764	

One tide gage was installed on Gull Island.

✓ JPS

P. Miscellaneous

Position numbers 7114 - 7130 were used for delineating the foul limit line around Spring Point. A note from the Field Edit Officer is appended. *added during Q.C.I.*

One hundred meter spacing was run in many areas of this survey due to the extremely rocky nature of much of the bay. This includes almost the entire area around Gull Island, most of the northeastern shore of the bay, and all around Spring Point. Even closer spacing was run in the Spring Point area. A development of 40 meter spacing was run in one area that was particularly rough, just south of the point. The most significant depths located here are a 3.9 and a 5.0 fathom sounding, both in the vicinity of the 8 and 9 fathom curves. The 3.9 sounding is 1/2 sounding out of position #4261, and the 5.0 is 1 & 1/2 out of #4261. These soundings are at Lat. N 59° 51' 47", Long. W 152° 48' 20". *with final correctors least depth in area is 4.7 fms at lat. 59° 51.8' N, long. 152° 48.30' W*

The channel leading into Chinitna Bay was also surveyed at 100 meter spacing. This was done because it is the main entrance to the bay.

Landmarks are listed on NOAA Form 76-40, which is appended. The survey was conducted using Greenwich Mean Time (+9 hours). *see VR*

Q. Recommendations

It is recommended that this survey be accepted and used for charting purposes. *Concur*

R. Automated Data Processing

The following programs were used in the survey:

- RK 110 Range/Range On-Line, version 1-30-76
- RK 211 Range/Range Off-Line Plot, version 1-30-76
- FA 181 Range/Azimuth On-Line, version 2-23-78
- RK 212 Visual Station Load & Plot, version 4-1-74
- RK 216 Range/Azimuth Non-Real Time Plot, version 2-5-75
- RK 201 Grid, Signal, and Lattice Plot, version 4-18-75
- AM 602 ELINOR (Extended Line Oriented Editor), version 5-12-75
- RK 330 Data Reformat and Check, version 5-4-76

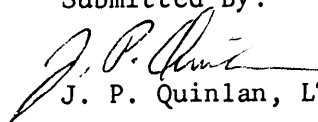
S. Referral to Reports

The following reports from OPR-P114-FA-79 will be necessary for complete understanding of this survey:

✓ JPS

Coast Pilot Report, dated October 1, 1979
Field Edit Report, dated October 1, 1979
Horizontal Control Report, dated October 1, 1979 ✓
Electronic Control Report, dated October 1, 1979
Sounding Equipment and Corrections to Echo Soundings Report, dated
October 1, 1979

Submitted By:

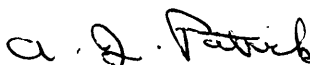

J. P. Quinlan, LTJG, NOAA

APPROVAL SHEET

FIELD NUMBER : FA-20-2-79

REGISTER NUMBER : H-9828

This field sheet and all accompanying records are hereby approved.
This survey was conducted under my supervision, and the survey is
complete and adequate for charting purposes.



Captain A.J. Patrick
Commanding Officer
NOAA Ship Fairweather

IRANSUDGER CORRECTION TABLES

VESSEL: 2023 YR: 79 FM				VESSEL: 2024 YR: 79 FM				VESSEL: 2025 YR: 79 FM			
DAY	TIME	TKA COR	VEL TABLE	DAY	TIME	TKA COR	VEL TABLE	DAY	TIME	TKA COR	VEL TABLE
181	200519	.30	3	152	220138	.30	3	169	194215	.30	3
227	235959	.30	3	236	235959	.30	3	235	235959	.30	3

VESSEL: 2026 YR: 79 FM

VESSEL: 2027 YR: 79 FT

VESSEL: 2026 YR: 79 FM				VESSEL: 2027 YR: 79 FT			
DAY	TIME	TKA COR	VEL TABLE	DAY	TIME	TKA COR	VEL TABLE
184	221705	.30	3	208	181700	.00	1
187	235959	.30	3	210	185730	-1.00	1
				210	211630	.00	1
				210	230800	-.30	1
				211	184900	.00	1
				212	200300	.20	1
				212	224700	.00	1
				213	222715	.30	1
				214	192300	.60	1
				214	235300	.00	1
				215	235959	.00	1

Insert

201200 .00 1
201230 .20 1

VELOCITY CORRECTION TABLES

TABLE# 01 YR: 79 FT TABLE# 03 YR: 79 FM

DEPTH	VEL COR	DEPTH	VEL COR
7.60	.00	3.70	.00
22.10	.20	10.80	.10
36.30	.40	17.40	.20
50.20	.60	24.20	.30
64.80	.80	31.30	.40
78.80	1.00	38.80	.50
93.00	1.20	46.50	.60
106.80	1.40	9999.90	.60
120.00	1.60		
133.20	1.80		
147.00	2.00		
160.00	2.20		
9999.90	2.20		

1

2

3

4

8/20/79

L
001 SIGNAL LISTING OPR-P114-FA-79

- 002 ~~for H-9828~~
- ~~003 NINILCHIK RM4, 1978 RED RAYDIST~~
- ~~004 101 4 60 00 33344 151 42 48441 250 0089 330040~~
- 005
- ~~006 FLAT IS., 1956 GREEN RAYDIST~~
- ~~007 102 7 59 19 53423 151 59 33865 250 0018 330040~~
- 008
- ~~009 CHISIK IS. LIGHT, 1978~~
- ~~010 103 4 60 05 47462 152 33 33610 139 0065 000000~~
- 011
- ~~012 MILL, 1970~~
- ~~013 104 1 60 05 44223 152 33 46484 139 0007 000000~~
- 014
- ~~015 JASON, 1978~~
- ~~016 105 3 60 05 35389 152 35 18221 139 0002 000000~~
- 017
- ~~018 JEREMY, 1978~~
- ~~019 106 3 60 05 08326 152 34 36944 139 0007 000000~~
- 020
- ~~021 BAKE, 1970~~
- ~~022 107 3 60 04 11697 152 34 24675 139 0117 000000~~
- 023
- 024 SPRING, 1970 ✓
- 025 108 0 59 52 42408 152 48 21199 139 0003 000000 ✓
- 026
- 027 HICK, 1967 ✓
- 028 109 0 59 52 57498 152 53 44636 250 0024 000000 ✓
- 029
- 030 TUNE, 1967⁵⁶-67 ✓
- 031 110 3 59 50 34688 152 59 09326 250 0033 000000 ✓

032
~~033 CALIBRATION POLE, JOHNSON RIVER TO JD 173~~
~~034 111 0 60 01 17425 152 35 08041 243 0000 000000~~
 035
~~036 ILIAMNA POINT, 1979~~
~~037 112 0 60 02 24920 152 34 56973 139 0008 000000~~
 038
~~039 NOEL, 1979~~
~~040 113 0 60 00 47300 152 36 17005 139 0005 000000~~
 041
~~042 SILVER, 1979~~
~~043 114 0 59 59 19154 152 38 52999 250 0005 000000~~
 044
~~045 RED, 1979~~
~~046 115 0 59 54 58131 152 42 28706 250 0006 000000~~
 047
~~048 CALIBRATION POLE, JOHNSON RIVER JD 179 TO JD 184~~
~~049 116 7 60 01 28186 152 35 13425 243 0000 000000~~
 050
 051 TP-4(TEMP PT FOR INTERSECTING CHINITNA BAY POLE) ✓
 052 117 5 59 49 53891 153 00 32872 243 0000 000000 ✓
 053
 054 TP-5(TEMP PT FOR INTERSECTING CHINITNA BAY POLE) ✓
 055 118 5 59 49 47934 153 00 09611 243 0000 000000 ✓
 056
 057 CHINITNA BAY CALIBRATION POLE JD 184 TO JD 240 ✓✓
 058 119 5 59 49 52892 153 00 10524 243 0000 000000 ✓
 059
 060 HORN 2, 1979 ✓
 061 120 1 59 51 29424 153 08 50608 250 0004 000000 ✓
 062
 063 TP-6, 1979 ✓
 064 121 1 59 52 35453 152 56 51763 254 0007 000000 ✓
 *

FA 20-2-79

FOUL LINE LIMIT & ROCK D.P.'S

The areas southwest of Spring Point, perimeter of Gull Island and Sea Otter Point are characterized by hazardous foul w/rock areas offshore. As is shown on the accompanying field sheet, a foul w/rocks offshore limit has been delineated. Isolated rocks and offshore reef areas have been located separately. See master printouts for times of hydrography and rock heights. Pos. No. 7951 was determined to be the *pos. 7951 * (Q)* highest point of reef. Approximate reef foul limit has been denoted *lat. 59°50'45"N* on the sheet (see hydrography for further delineation). *long. 152°58'43"W*

The foul limit areas and isolated rock (designated positions) are *(subm reef)* accurate and should be accepted for charting purposes.

Approved By:



Capt. A. J. Patrick, NOAA
Commanding Officer

Submitted By:



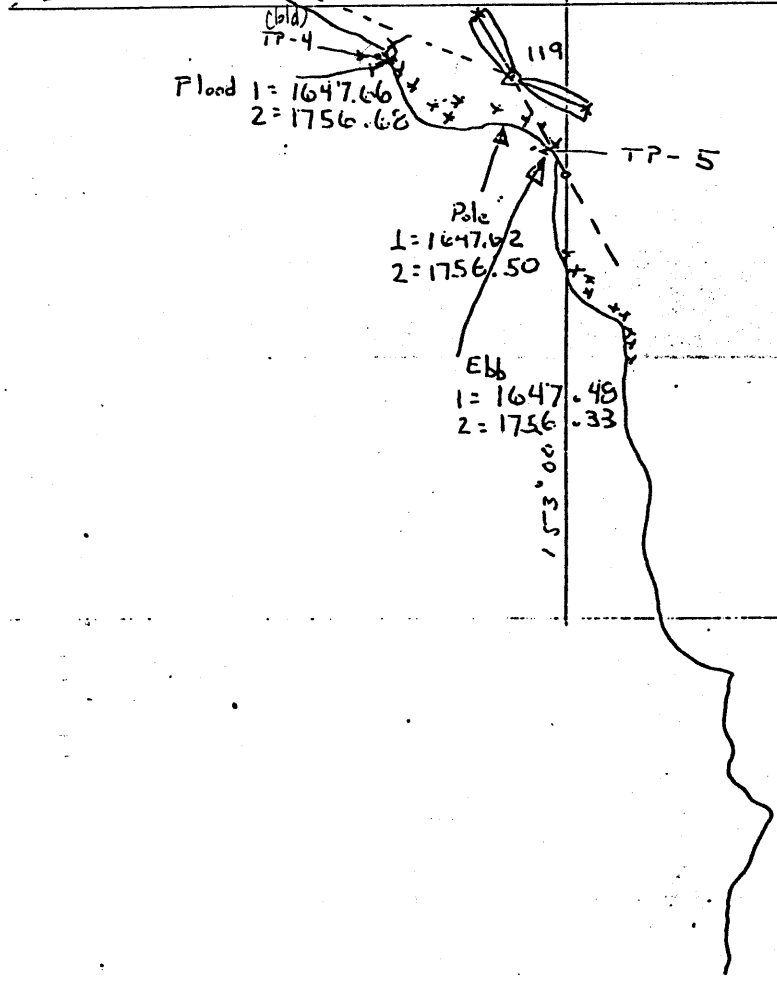
Ens. Michael J. Willis, NOAA
Field Edit Officer

CALIB Pole Chinitna Bay
JD(GMT) - 185 to JD 240

59° 51'

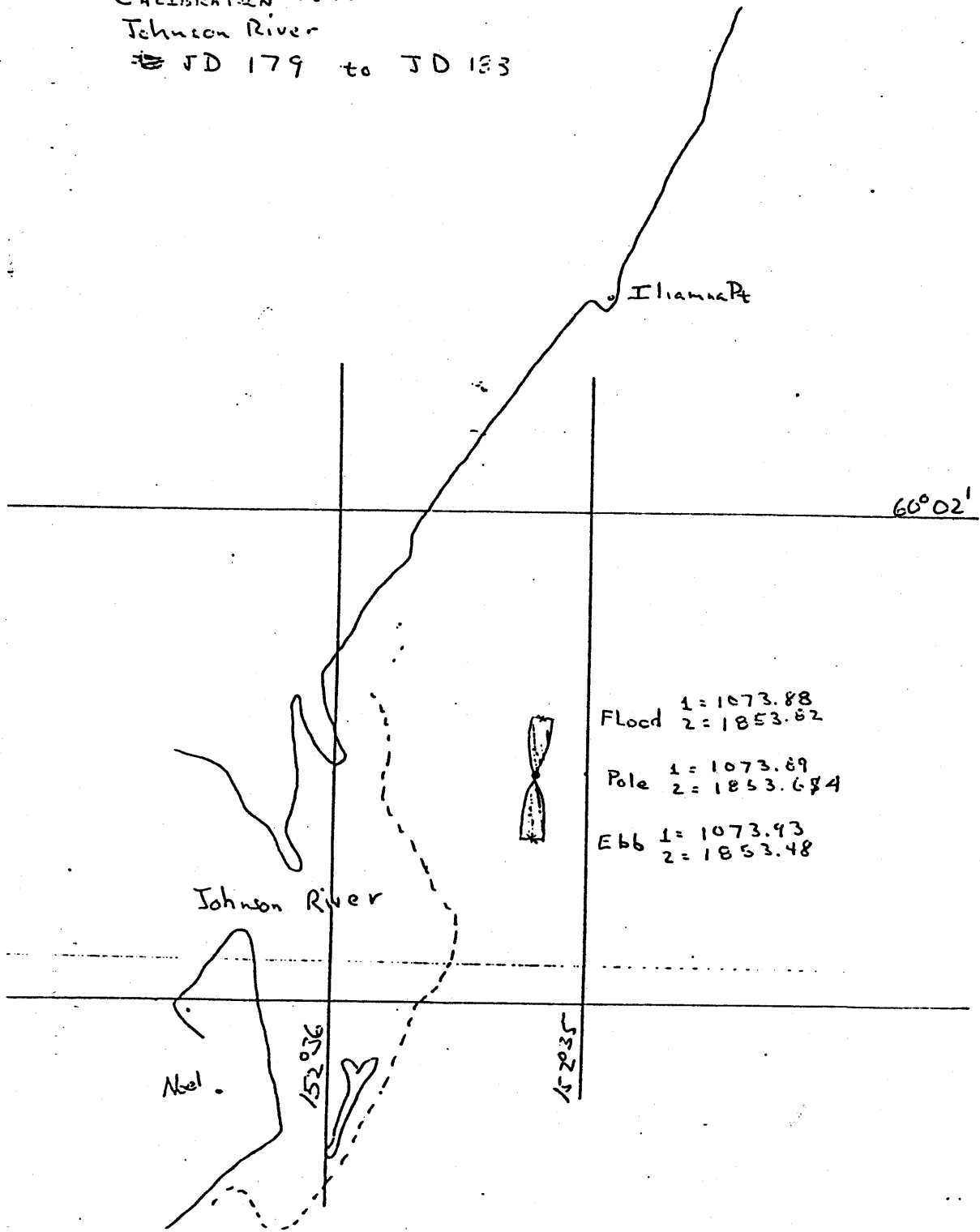


59° 50'



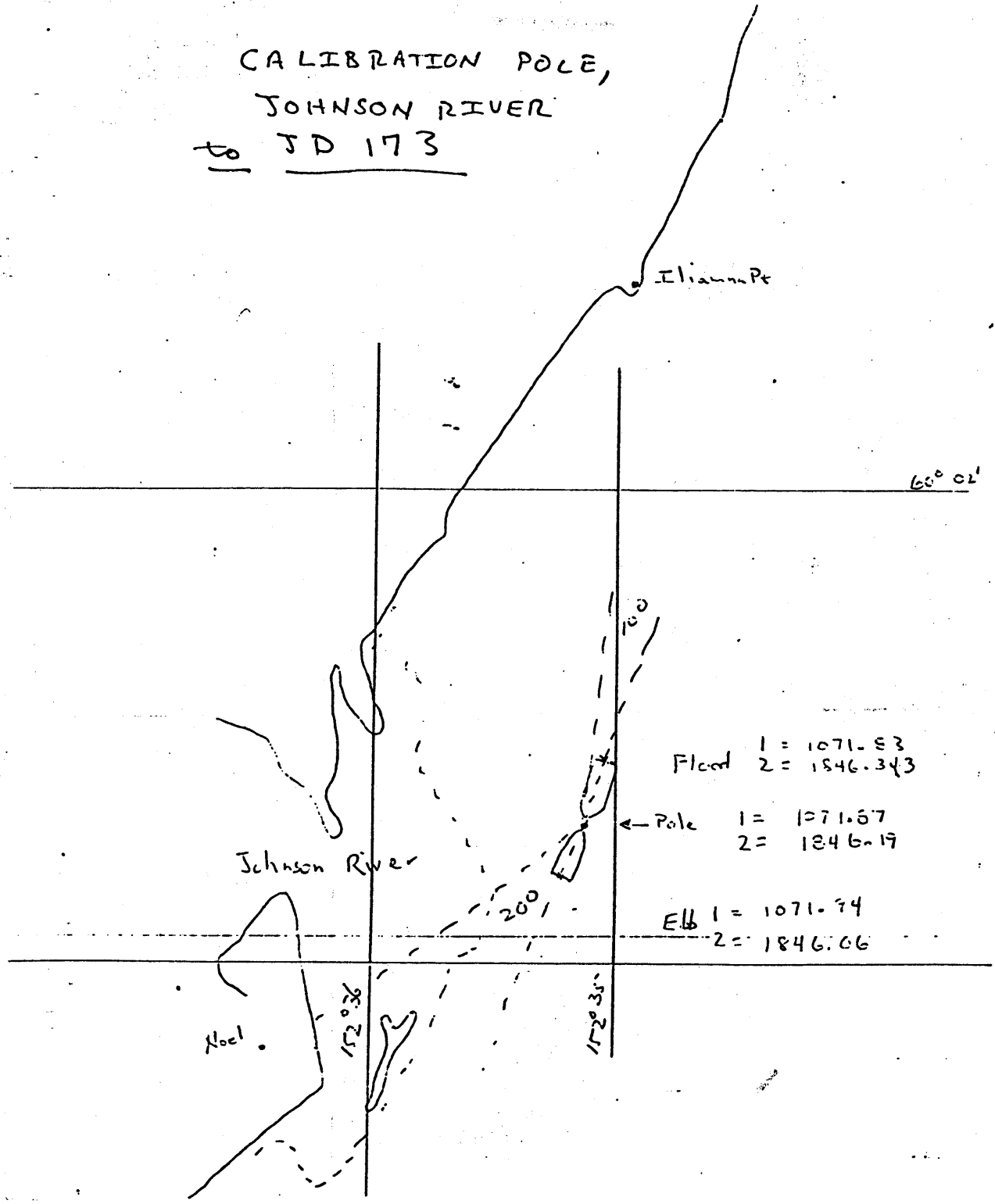
2

CALIBRATION POLE
Johnson River
JD 179 to JD 183



Flood 1 = 1073.88
2 = 1853.62
Pole 1 = 1073.69
2 = 1853.684
Ebb 1 = 1073.93
2 = 1853.48

CALIBRATION POLE,
 JOHNSON RIVER
 to JD 173



Flood 1 = 1071.83
 2 = 1846.343

← Pole 1 = 1071.87
 2 = 1846.19

ELL 1 = 1071.74
 2 = 1846.66

FIELD TIDE NOTE

Field tide reduction of soundings was based on predicted tides from Seldovia, Alaska, corrected to an area east of Slope Mountain, an area offshore southeast of Mt. Iliamna, and to Chinitna Bay, and were interpolated by PDP-8/e computer utilizing AM 500. All times of both predicted and recorded tides were GMT.

Two Fisher-Porter ADR gages were installed at two locations in the project area and three Bristol Bubbler Tide Gages were installed at three other locations in the project area. The locations and period of operation of the gages were as follows:

<u>SITE</u>	<u>LOCATION</u>	<u>PERIOD</u>
SNUG HARBOR (ADR)	60°06.5'N 152°34.7'W	93 days 30 May-30 August
CHINITNA BAY (Bubbler)	59°50. ⁷ 8 'N 153°00. 0 ² 59.2'W	99 days 23 May-29 August
OIL BAY (Bubbler)	59°38.4'N 153°15.7'W	41 days 15 July-24 August
COAL POINT (ADR)	59°36'11"N 151°24'30"W	32 days 3 August-3 September
FLAT ISLAND (Bubbler)	59°19.8'N 151°59.5'W	19 days 8 August-26 August

In addition, a Bristol Bubbler Tide Gage installed by the NOAA Ship RAINIER was removed. Its location and period of operation follows:

ANCHOR POINT	59°46'12"N 151°52'42"W	52 days 12 July-1 September
--------------	---------------------------	--------------------------------

SNUG HARBOR

Gage (#7403A3402M5) was installed on 30 May and began operation on the same day. Excellent records were obtained for 93 days, with no interruptions. The marigram read 2.4 feet greater than the staff (which was a taped distance from a known point on the cofferdam).

CHINITNA BAY

Gage (#6814940) was installed and began operation on 23 May. Due to a malfunctioning differential regulator, the gage was replaced on 1 June with gage #72A233. On 12 June, the tubing at the orifice was repaired because it was crimped where the tubing entered the orifice. On 9 July, the paper ran out at 0130 and was restarted at 2205 GMT, 10 July. From 27 July through 30 July the gage gained 23 minutes. At 1600, 23 August, the marigram jammed and was not restarted until 1736, 28 August. Except for these difficulties, the gages obtained excellent records. The gage read 5.35 feet greater than the staff.

OIL BAY

Gage (#67A10292) was installed and began operation on 15 July. The staff was installed and leveled to on 14 July. On 24 July (0415), the marigram jammed and was restarted on 25 July (2032 GMT). On 14 August (0855) the marigram again jammed and was not restarted until 21 August (1830 GMT). Only one day of tides need be interpolated since field work requiring tides was not conducted after 1327 GMT, 15 August, until the gage was restarted. Other than the above mentioned problems, the gage obtained excellent records. The gage read 5.8 feet greater than the staff.

COAL POINT

Gage (7403A3402M4) was installed and began operation on 3 August. No problems were encountered during the gage's operation. The gage read 6.8 feet greater than the staff (which was a taped distance from a recoverable point on the pier).

FLAT ISLAND

Gage (#67A16204) was installed and began operation on 8 August. The staff was installed and leveled to on 7 August (immediately before the gage began operation). Due to an erratic clock, the gage was replaced with gage #67A16206. No loss of records resulted from the malfunctioning gage. The gage read 10.15 feet greater than the staff.

ANCHOR POINT

Gage (#73A227) was installed on 12 July by the NOAA Ship RAINIER. On 28 August (1430 GMT), the paper for the marigram ran out and was not replaced before the gage was removed on 1 September. For further information on this gage, refer to the Tide Note submitted by the NOAA Ship RAINIER.

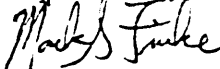
LEVELS

In a comparison of level records, all staffs (or staff stops) had negligible shifts of less than 0.01 feet with the exception of Chinitna Bay where the staff settled 0.108 feet. In addition several marks changed elevations substantially suggesting that they were unstable. As discussed on the Forms 77-12 submitted on the various stations, the marks were: at Snug Harbor, BM Cannery 1970; at Chinitna Bay, BM 6357A; and at Coal Point, BM B103 1965.

ZONING

No significant observations were made in the field that would have necessitated the installation of another tide gage. It is recommended that all the accumulated data be used to provide a three-dimensional real-time tidal graph. Before real tides are available, it is recommended that the tidal zoning as provided for OPR-P114-FA-79 be used for both hydrography and field edit.

Respectfully Submitted By:



Mark S. Finke LTJG NOAA
Tides Officer

GEOGRAPHIC NAMES

H-9828

Name on Survey

A ON CHART NO.

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

KT-Sheet

Name on Survey	A	B	C	D	E	F	G	H	KT-Sheet
CAMP PT. ✓									12361 1
CHINITNA BAY ✓	16640								12356 12361 12362 2
CLAM COVE ✓									12356 3
COOK INLET ✓	16640								12357 12362 4
EAST GLACIER CREEK ✓	16640								12356 5
FITZ CREEK ✓									12361 6
GLACIER SPIT ✓									12361 7
GULL ISLAND ✓	16640								12362 8
INISKIN PENINSULA ✓									12361 12362 9
MIDDLE GLACIER CREEK ✓									12361 10
PARK CREEK ✓									12361 11
SEAL SPIT ✓									12361 12
SEA OTTER PT. ✓									12362 13
SINKING CREEK ✓									12361 14
SPRING PT. ✓									12357 15
WEST GLACIER CREEK ✓	16640								12361 16
									17
									18
									19
									20
									21
									22
									23
									24
									25

Approved:

Chas. E. Harrington
Chief Geographer - e3,5

JUNE 30, 1981

April 9, 1980

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): 945-6357 Chinitna Bay, AK

Period: June 1 - August ⁴~~27~~, 1979

HYDROGRAPHIC SHEET: H-9828

OPR: P114

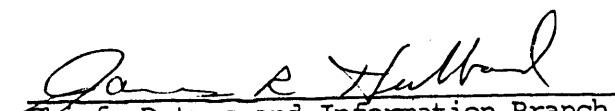
Locality: Lower Cook Inlet, Alaska

Plane of reference (mean lower low water): 5.2 ft.

Height of Mean High Water above Plane of Reference is
13.7 ft. - Chinitna Bay

REMARKS: Recommended zoning:

- (1). West of 152°50' zone direct.
- (2). East of 152°50' apply range ratio x1.05.


Chief, Datums and Information Branch

APPROVAL SHEET

FOR

SURVEY H- 9828

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position print-out has been made. A new final sounding print-out has been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the verifier's report.

Date: 3/2/87

Signed: _____

Title: Chief, Verification Branch

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		5	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS. ARC, EXCESS		5	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2					
VOLUMES	2					
BOXES (1)			1-smooth(2 parts)			

T-SHEET PRINTS (List) T-12357, T-12356, T-12361, T-12362

SPECIAL REPORTS (List) 1ea smooth tides, soundng analysis plots&P/O; 1ea contour plot

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			3175
POSITIONS CHECKED		3175	
POSITIONS REVISED		706	
SOUNDINGS REVISED		527	
SOUNDINGS ERRONEOUSLY SPACED		9	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	6		
VERIFICATION OF CONTROL		16	
VERIFICATION OF POSITIONS		59	
VERIFICATION OF SOUNDINGS		244	
COMPILATION OF SMOOTH SHEET		58	
APPLICATION OF TOPOGRAPHY		41	
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		9	
COMPARISON WITH PRIOR SURVEYS & CHARTS		47	
VERIFIER'S REPORT		46	
OTHER			
TOTALS	6	520	526
Pre-Verification by J. S. Green	Beginning Date 11/9/79	Ending Date 11/9/79	
Verification by L. T. Deodato	Beginning Date 4/1/80	Ending Date 2/13/81	
Verification Check by S. H. Otsubo & J. S. Green	Time (Hours) 73	Date 2/18/81	
Marine Center Inspection by <i>HIT</i>	Time (Hours) 20	Date 4/7/81	
Quality Control Inspection by F. P. Sautsbury	Time (Hours) 61	Date 6/26/81	
Requirements Evaluation by	Time (Hours)	Date	

G. Myers 9/12/81 14 hrs.

REGISTRY NO. H-9828

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
VERIFIER'S REPORT

REGISTRY NO. H-9828

FIELD NO. FA-20-2-79

Alaska, Cook Inlet, Chinitna Bay

SURVEYED: June 1 - August 24, 1979

SCALE: 1:20,000

PROJECT NO. OPR-P114-FA-79

SOUNDING: Ross Finline Fathometer
Raytheon DE-719B
Lead Line
Sounding Pole

CONTROL: Range/Range,
Raydist and Mini-
Ranger; Range/
Azimuth, Mini-
Ranger

Chief of Party.....CAPT A. J. Patrick
Surveyed by.....LT A. H. Yanaway, LTJG M. S.
Finke, LTJG J. P. Quinlan,
LTJG L. A. Roberts, ENS.
V. D. Ross, ENS M. J.
Willis, CST E. R. Krick
Automated Plot by.....PMC Xynetics Plotter
Verified by.....L. T. Deodato
February 13, 1981

1. INTRODUCTION

a. This is a basic hydrographic survey of Chinitna Bay, Alaska, covering the area defined by the shoreline on the north western limit by longitude 153°11.0'W, southern limit is the shoreline to latitude 59°48.9'N at longitude 155°59.5'W, east to longitude 152°44.2'W, north to latitude 59°52.1'N, west to longitude 152°46.0'W north northwest to latitude 59°52.8'N, then west until the shoreline intersection. ✓

b. The following were unusual problems encountered and corrected, during verification:

(1) Calibration corrections were not applied in the TDC ✓
(Martek) cast. The corrections were applied and the velocity correction was re-computed in the office.

(2) On JD 169/170, Vessel 2025, the starting calibration was not shown on the raydist strip chart where the lane count is supposed to start. There is no afternoon calibration print out. An abstract of ✓
PM correctors is shown. It also appears that the computer is not getting the right numbers displayed on the Navigator Interface. Refer to Fix Nos. 5121, 5127 and 5139 on the Raw Master printout. Raydist

does not have the repeatable capability of a Mini-Ranger. Since this data fit the adjoining data, it was accepted. ✓

(3) A 250° arc was run by Mini-Ranger range/azimuth. It was not stated in the Descriptive Report whether the Xponder was rotated during hydrography to keep the boat within the 80° arc for good positional accuracy as shown on Table A-7 or whether an omnidirectional antenna was used. ✓

(4) In the use of the Raytheon DE-7195 fathometer by Vessel 2027, it was not stated in the Descriptive Report whether the transducer was set to a permanent draft or variable draft settings. This was not operated as per paragraph 4.9.1.2 of the Hydrographic Manual. ✓

(a) On JD-210 and JD-214, the fathograms have two different draft settings. It was presumed that the transducer was set permanently for the day and the setting with pole calibrations in the fathogram governs for the days' work. ✓

(b) On JD-212, the fathograms have two different draft settings with pole calibration on each. It was presumed the transducer draft can be set to any draft setting to suit the area being surveyed. ✓

c. Except where noted, no non-standard procedure was used. ✓

d. The following were revised during verification:

(1) Field projection parameters have been revised to meet PMC software requirements. ✓

(2) The field signal list was revised to include only signals used to control hydrography and for calibration. ✓

(3) TRA of Vessel 2023 was changed from 0.4 fm. to 0.3 fm. for JD-192 and JD-226. ✓

(4) Part of the electronic corrector abstract was revised to conform to the calibrations. ✓

(5) Velocity corrections were revised based on velocity correction graphs done in the office. ✓

(6) Predicted tide reductions were based on Seldovia tides, corrected to Chinitna Bay. Approved tides from Chinitna Bay tide gage ~~was~~ utilized for soundings on the smooth sheet. ✓

~~was~~
were

2. CONTROL AND SHORELINE

a. The source of control is adequately described in Sections F and G of the Descriptive Report. ✓

b. The following unreviewed Class I manuscripts with their respective dates of photography and field edit were used in this survey. ✓

T-12356	1970	1979 ✓
T-12357	1970	1979 ✓
T-12361	1970	1979 ✓
T-12362	1970	1979 ✓

(1) The dash lines, ^{delimiting foul areas} west of longitude 152°57.0'W were not shown in the smooth sheet. *added during Q.C.1. to the smooth sheet*

(2) Three islets in the vicinity of latitude 59°52.3'N, longitude 152°56.3'W were not shown on the smooth sheet for hydro was run over ^{them} ~~it~~. It was decided to retain the foul limits with the notation "foul with reef." *Revised to reef symbol during Q.C.1.*

(3) A rock about 10 meters south of signal No. 121 (TP 6) was not shown on the smooth sheet. *added during Q.C.1. to the smooth sheet*

3. HYDROGRAPHY

- a. Crossline soundings agree within 0 to 0.4 fm. at all depths. ✓
- b. Standard depth curves were adequately drawn with the exception of the 0 fm. curve *& small portions of the 1 fm curve.*
- c. Except where noted in this report the development of the bottom configuration and the determination of least depths are ✓ adequate.

4. CONDITION OF SURVEY

With the exception of the following, the smooth sheet, accompanying overlays, hydrographic records, and reports are adequate and conform to the requirements of the Hydrographic Manual.

- a. Whenever the Raytheon DE-7198 fathometer was used all deviation from the initial zero and draft settings on the fathogram were incorporated in the TC/TI of Vessel 2027. Soundings affected by ✓ deviations from the calibrate on 50 ft. line were corrected while scanning the fathogram using the gerber scale.
- b. Prior surveys were included in Section J of the Descriptive ✓ Report.
- c. On JD-215, Vessel 2027, Fix #7355 and 7356, it is stated in the sounding volume that they went around a buoy but no description nor detach^{ed} position was taken on it. *Buoy is considered a temporary fishermans marker, falls in 0.2 fm depths & is not shown on the smoothsheet*

5. JUNCTION

H-9827	(1979)	1:20,000 ✓
H-9836	(1979)	1:20,000 ✓
H-9837	(1979)	1:20,000 <i>not in other sheets</i>

With the exception of some soundings transfered from H-9827 in the vicinity of latitude 59°52.2'N, longitude 152°47.8'W, in irregular bottom, the junction with the above surveys is satisfactory. Junction

notes and depth curves have been inked. ✓

6. COMPARISON WITH PRIOR SURVEYS

a.	H-3354	(1911)	1:40,000
	H-3355	(1911)	1:100,000

(1) On H-3354 the shoreline has either moved inshore or offshore by 20 to 160 meters due to natural changes. Seal Spit had been reduced in size and had moved east northeast by about 1300 meters. Glacier Spit has also changed in size and the tip became an islet ✓ and has also extended southwest by around 400 meters. The present survey is shoaler by 0.3 to 0.6 fm. The bottom configuration has changed probably due to the accumulation of sediments from melting glaciers and a shifting of material as a result of earthquakes in the area. A Shoaler soundings were transferred to the present survey west of longitude 152°49.0'W.

(2) H-3355 has no shoreline. The bottom configuration has also changed due to the reasons stated above except in the vicinity of latitude 59°50.4'N, longitude 152°45.0'W where there is no noticeable change. The present survey agrees within ±0.2 to -1.5 fms. Shoaler soundings were also transferred to the present survey. Two 32 foot soundings (charted as 5 1/4 fms.) in the vicinity of latitude 59°50.5'N, longitude 152°54.5'W were dashed unnumbered PSR items. The area was properly developed and the shoalest sounding is 5.7 fms., therefore, these two soundings are superceded by data from this survey *due to bottom change.*

b.	H-8296	(1956)	1:20,000
----	--------	--------	----------

This survey has no shoreline also. A change in bottom configuration is also noticed which may be due to shifting of material as a result of earthquakes in the area and also due to controls used in hydrography as stated in Section K paragraph 3 of the Descriptive Report. The present survey is generally shoaler by 0.1 to 0.3 fm. in depths less than 10 ✓ fms. and 0 to 4 fms. in greater depths. Shoaler soundings were also transferred to the smooth sheet.

c.	H-8334 WD	(1956)	1:20,000
----	-----------	--------	----------

Wire drag was not used to disprove data from this survey. As a result *15 ft* five (5) wire drag soundings were transferred to the smooth sheet. A *sdg is a* wire drag sounding of *14.5 ft. (2.5 fms.)* charted as 2 1/4 *basket sdg. grounding,* at latitude 59°51.02'N, longitude 153°00.45'W was a circled unnumbered PSR *cleared by 14 ft.* item and was not transferred for it agrees with the soundings of the present survey. Two of the five transferred soundings were also circled unnumbered PSR items as follows: *See also Q.C. Report for comments on H-8334 (1956) WD.*

4 ft. (0.6 fm.) charted as 1/2 fm. at latitude 59°50.31'N, longitude 153°00.93'W. *brought fwd to present survey.*

10 ft. (1.6 fms.) charted as 1 1/2 fms. at latitude 59°50.94'N, longitude 153°03.35'W. *10 ft. is a cleared effective drag depth, not a sounding. See also Q.C. Report.*

d. With the transferences of some prior survey soundings to the smooth sheet, the present survey is adequate to supersede the above ✓ prior surveys, except H-8334 WD, in the common area.

7. COMPARISON WITH CHARTS

Comparison was made with Chart #16640 (15th edition, Nov. 27, 1976).

a. Hydrography

(1) Charted features and soundings that originate from the previously discussed prior surveys were disposed of in Section 6 of ✓ this report, also see enclosed chartlet.

(2) The charted rocks at latitude 59°52.9'N, longitude 152°59.0'W and latitude 59°52.9'N, longitude 153°01.6'W were not verified during field edit of T-12356 manuscript and should continue to be charted from ~~its~~ original source. *Source of rocks are unknown.*
their

(3) With the exception of the rocks mentioned above, H-9828 is adequate to supercede the charted data. *concur*

b. Aids to Navigation

There are no fixed or floating aids to navigation in the area covered by this survey. *See also note appended to item 4.c. of the Verif. Report*

8. COMPLIANCE WITH PROJECT INSTRUCTIONS

Except where noted, this survey adequately complies with the Project Instructions dated March 2, 1979 and with Change No. 1 dated March 30, ✓ 1979.

9. ADDITIONAL FIELD WORK

This is a good basic survey and no additional field work is recommended. *concur*

Submitted by,

Leonardo T. Deodato
Leonardo T. Deodato
February 13, 1981

Examined and approved,

J. S. Green
James S. Green
Chief, Verification Branch


✓
FPS




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

April 7, 1981

OA/CPM3/JWC

TO: OA/CPM - Charles K. Townsend 

FROM: OA/CPM3 - John W. Carpenter 

SUBJECT: PMC Hydrographic Inspection Team Report for Survey H-9828

This survey is a basic hydrographic survey of Chinitna Bay, Cook Inlet, Alaska. This survey was conducted by NOAA Ship FAIRWEATHER in 1979 in accordance with Project Instructions OPR-P114-FA-79 dated March 2, 1979; Change No. 1, dated March 30, 1979; Change No. 2, dated March 29, 1979; Change No. 3, dated July 18, 1979; and Change No. 4, dated August 6, 1979.

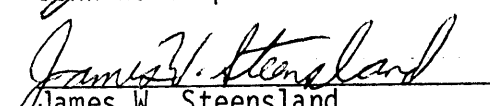
The following items were noted:

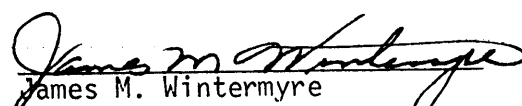
1. The Descriptive Report Section I "Crosslines" states that "all other crossline soundings are within one fathom." This statement is not exact enough since the Hydrographic Manual specifies that in areas of smooth bottom with depths less than 20 fathoms, the discrepancies should not exceed 0.4 fathoms and in areas of irregular bottom, the discrepancies should not exceed 3% of the lesser depth (Section 4.6.1). The amount of crosslines should be 8-10% of the principal sounding lines instead of the 5.7% listed in the survey.

2. The Corrections to Echo Sounding Report does not describe or document how bar checks were used to determine TC/TI correctors. Martek casts were used for velocity determination without the confirming Nansen cast as required in paragraph 4.9.5.2 of the Hydrographic Manual. In addition, paragraph 1.5.2 of the Hydrographic Manual was not followed in accomplishing twice daily bar checks when sea conditions permit accurate observations.

The inspection team finds H-9828 to be a basic survey adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended. *concur*


John W. Carpenter


James W. Steensland


James M. Wintermyre


James L. Stringham



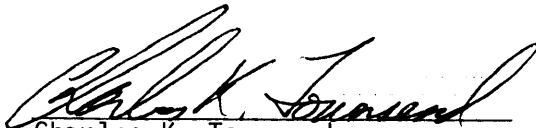
10TH ANNIVERSARY 1970-1980

National Oceanic and Atmospheric Administration

A young agency with a historic
tradition of service to the Nation

ADMINISTRATIVE APPROVAL
H-9828

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


Charles K. Townsend
Director
Pacific Marine Center


Date



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
CHARTING AND GEODETIC SERVICES
Rockville, Md. 20852

N/CG242:FPS

February 2, 1984

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

THRU: Chief, Standards Section *jm*

FROM: F. P. Saulsbury *F. P. Saulsbury*
Quality Evaluator

SUBJECT: Quality Control Report for Survey H-9828 (1979), Alaska, Cook Inlet,
Chinitna Bay

A quality control inspection of survey H-9828 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. 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. Marsh areas of shoreline are not described as such on the present survey; however, these areas are depicted on the contemporary photogrammetric manuscripts which are in common with the present survey.

2. Because of the many low-water rocks scattered throughout the survey area, any future survey should be supported by low-water photography in this area.

3. Unorthodox and conflicting delineations of rocky bottom, foul areas, boulders, and ledge in the vicinity of Sea Otter Point as portrayed on the field sheet and on the unreviewed contemporary shoreline map T-12362 make it difficult to suitably delineate these features during survey processing. Discussions with the hydrographer during the quality control inspection assisted in the final delineation of the foreshore in this area. // *Good*

4. Several depths on the present survey are in conflict by 1 to 3 feet with effective drag depths on H-8334 (1956) WD, except in the vicinity of latitude 59°50.68'N, longitude 153°00.8'W where a difference of about 16 feet is noted. Here, an extension of a 33-foot wire-drag effective depth infringes on the

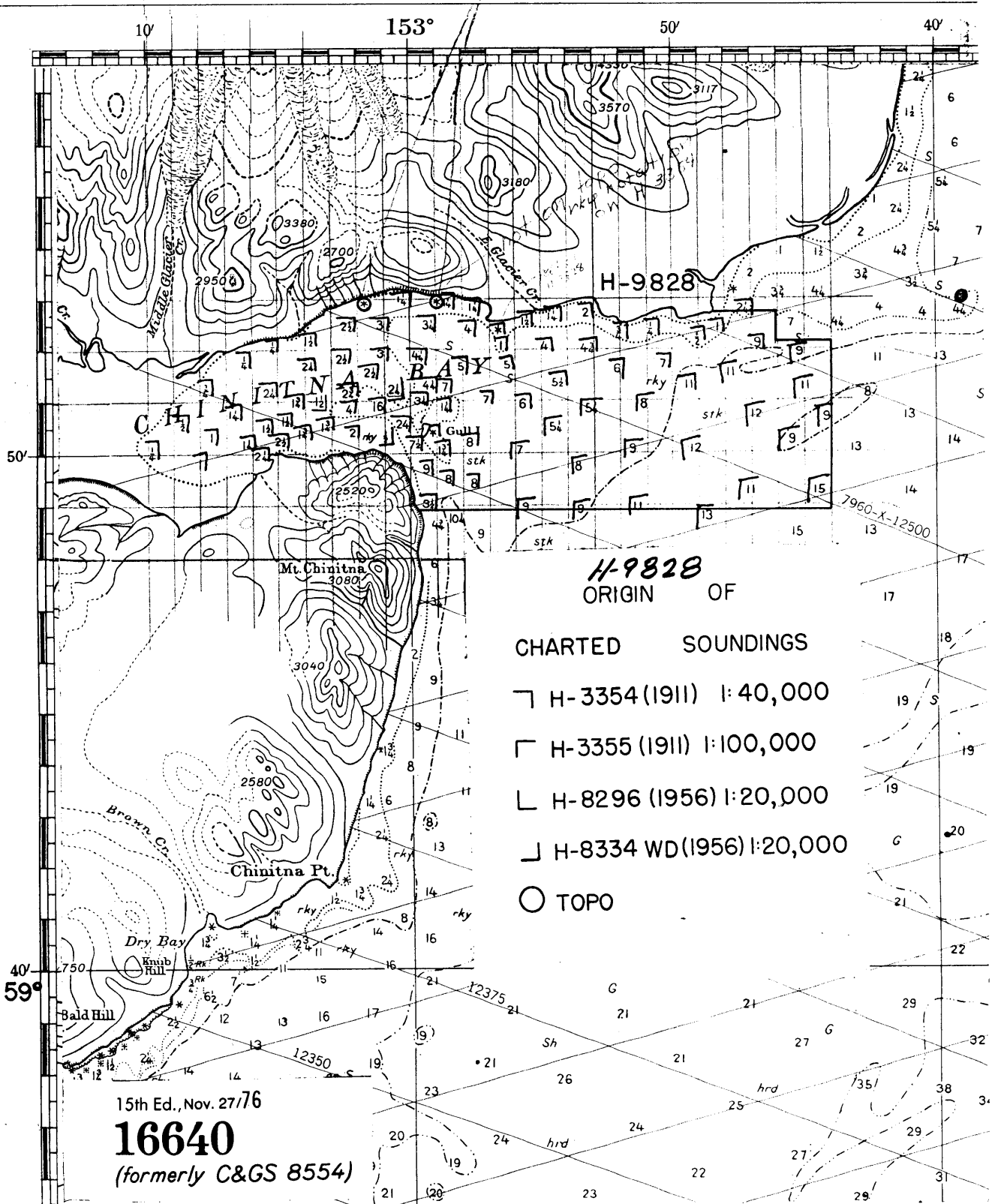


3-fathom depth curve to present depths of 2.8 fathoms. This conflict is attributed to a positional error on the wire-drag survey. The smaller differences probably result from an accumulation of sediments and minor inaccuracies in wire-drag effective depths.

5. Some clearance depths from H-8334 (1956) WD were erroneously transferred to the smooth sheet during verification as detached soundings. These clearance depths were appropriately replaced by grounding depths, as indicated on the wire-drag survey, during quality control. Also, the initials "WD" used to identify the source of these prior wire-drag survey depths on the smooth sheet had to be properly entered after the year. (See sections 7.3.7.12 and 6.3.7.3 of the Hydrographic Manual.)

cc:
N/CG241

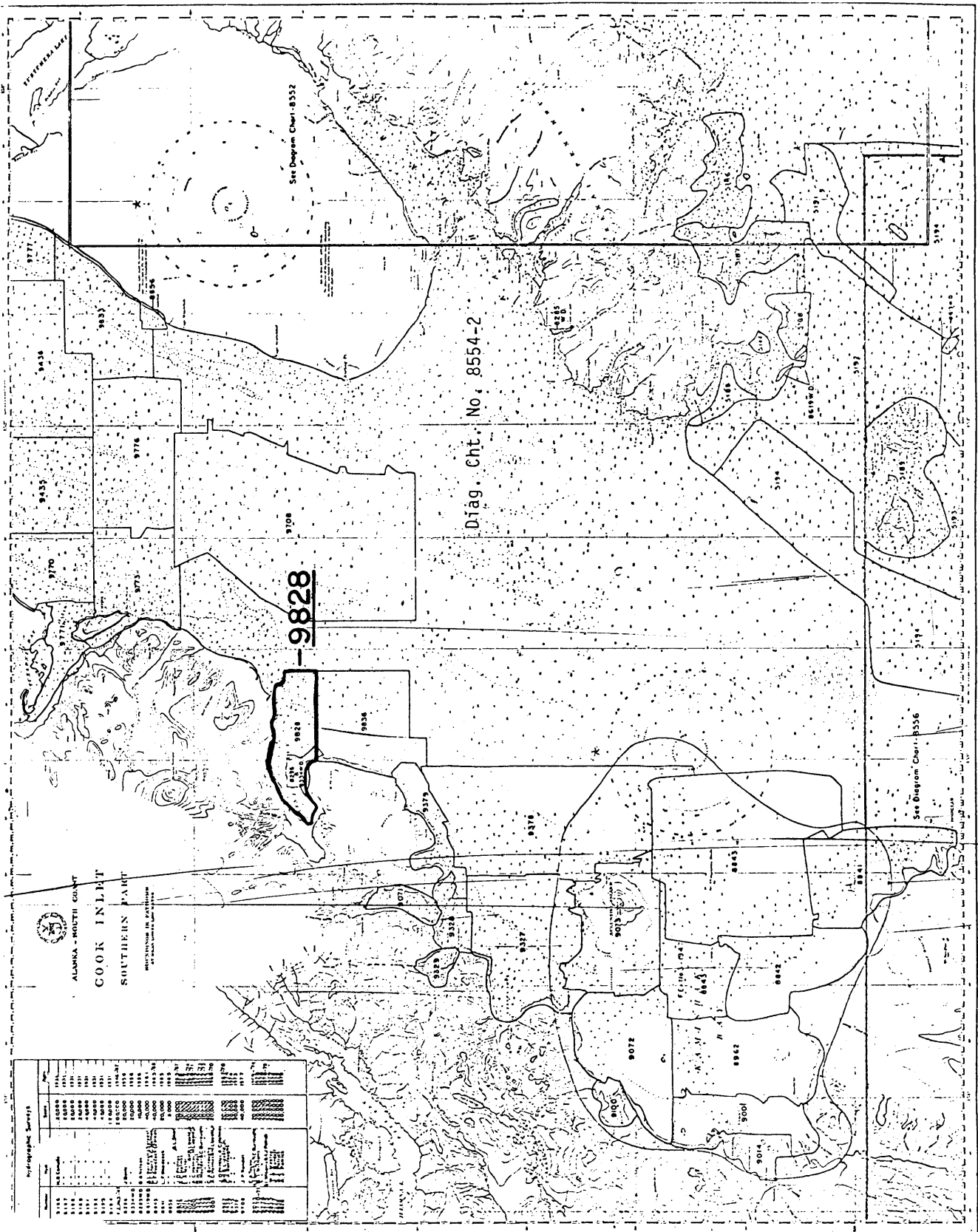
not on topo



H-9828
ORIGIN OF

- CHARTED SOUNDINGS
- ┐ H-3354 (1911) 1:40,000
 - ┌ H-3355 (1911) 1:100,000
 - └ H-8296 (1956) 1:20,000
 - └ H-8334 WD (1956) 1:20,000
 - TOPO

15th Ed., Nov. 27/76
16640
(formerly C&GS 8554)



Hydrographic Survey 11

Symbol	Description	Symbol	Description
(Symbol)	1000	(Symbol)	1000
(Symbol)	2000	(Symbol)	2000
(Symbol)	3000	(Symbol)	3000
(Symbol)	4000	(Symbol)	4000
(Symbol)	5000	(Symbol)	5000
(Symbol)	6000	(Symbol)	6000
(Symbol)	7000	(Symbol)	7000
(Symbol)	8000	(Symbol)	8000
(Symbol)	9000	(Symbol)	9000
(Symbol)	10000	(Symbol)	10000
(Symbol)	11000	(Symbol)	11000
(Symbol)	12000	(Symbol)	12000
(Symbol)	13000	(Symbol)	13000
(Symbol)	14000	(Symbol)	14000
(Symbol)	15000	(Symbol)	15000
(Symbol)	16000	(Symbol)	16000
(Symbol)	17000	(Symbol)	17000
(Symbol)	18000	(Symbol)	18000
(Symbol)	19000	(Symbol)	19000
(Symbol)	20000	(Symbol)	20000
(Symbol)	21000	(Symbol)	21000
(Symbol)	22000	(Symbol)	22000
(Symbol)	23000	(Symbol)	23000
(Symbol)	24000	(Symbol)	24000
(Symbol)	25000	(Symbol)	25000
(Symbol)	26000	(Symbol)	26000
(Symbol)	27000	(Symbol)	27000
(Symbol)	28000	(Symbol)	28000
(Symbol)	29000	(Symbol)	29000
(Symbol)	30000	(Symbol)	30000

ALASKA - NORTH COAST
COOK INLET
 SOUTHERN PART
 HYDROGRAPHIC SURVEY NO. 11
 UNITED STATES NAVY

Diag. Cht. No. 8554-2

9828

See Diagram Chart 8556

See Diagram Chart 8552



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NATIONAL OCEAN SERVICE
CHARTING AND GEODETIC SERVICES
Rockville, Md. 20852

N/CG241:MJF

MAR 5 1984

TO: N/MOP - Charles K. Townsend

FROM: *for* N/CG2 - C. William Hayes *Sign of R. P. Peters*

SUBJECT: Report of Compliance for Survey H-9828

The smooth sheet and Descriptive Report for survey H-9828 (1979), Alaska, Cook Inlet, Chinitna Bay, have been reviewed. This survey, except as noted in the Quality Control Report, dated February 2, 1984 (copy attached), and the Hydrographic Survey Inspection Team Report, dated April 7, 1981, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-P114-RA,FA-79, dated March 2, 1979.

Attachment

cc:
N/CG242 w/o att.



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9828

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	4/10/84	J. Bailey	Full Part Before After Verification Review Inspection Signed Via Drawing No. 22 <i>Applied</i>
16013	6/8/84	J. Bailey	Full Part Before After Verification Review Inspection Signed Via Drawing No. 27 <i>Exam. for critical corr. No corr.</i>
16013	7/14/84	H.G. Barawski	Full Part Before After Verification Review Inspection Signed Via Drawing No. #27 <i>Fully app'd thru 16640</i>
16661	8-24-84	Roy A. Drummond	Full Part Before After Verification Review Inspection Signed Via Drawing No. 1
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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