10019

Diagram No. 8502-2

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-10-3-82
Office No. H-10019

LOCALITY

State Alaska
General Locality Shelikof Strait
Locality Southwest Portion of Wide Bay

1982

CHIEF OF PARTY
CDR W.F.Forster

LIBRARY & ARCHIVES

DATE March 29, 1985

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

TO SIGN OFF SEE
"RECORD OF APPLICATION"

NOAA FORM 77-28 (11-72) | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-10019

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-10-3-82

State: Alaska

General locality: Shelikof Strait

Locality: Southwest Portion of Wide Bay

Scale: 1:10,000 Date of survey: June 6 - July 13, 1982

Instructions dated: Feb 23, 1982 Project No.: OPR-P146-FA-82

Vessel: NOAA Ship FAIRWEATHER 2020, Launches (2023), (2024), (2025)

Chief of party: Cdr. Walter F. Forster, NOAA

Surveyed by: Ens. Steele, Ens. Pingry, Ens. Migaiolo, Ens. Francis

Soundings taken by echo sounder, hand lead, pole

Graphic record scaled by: Ship Personnel

Graphic record checked by: Ship Personnel

Verification ~~Protracted~~ by: A. A. Luceno Automated plot by: PMC Xynetics Plotter

Evaluation ~~Verification~~ by: G. E. Kay

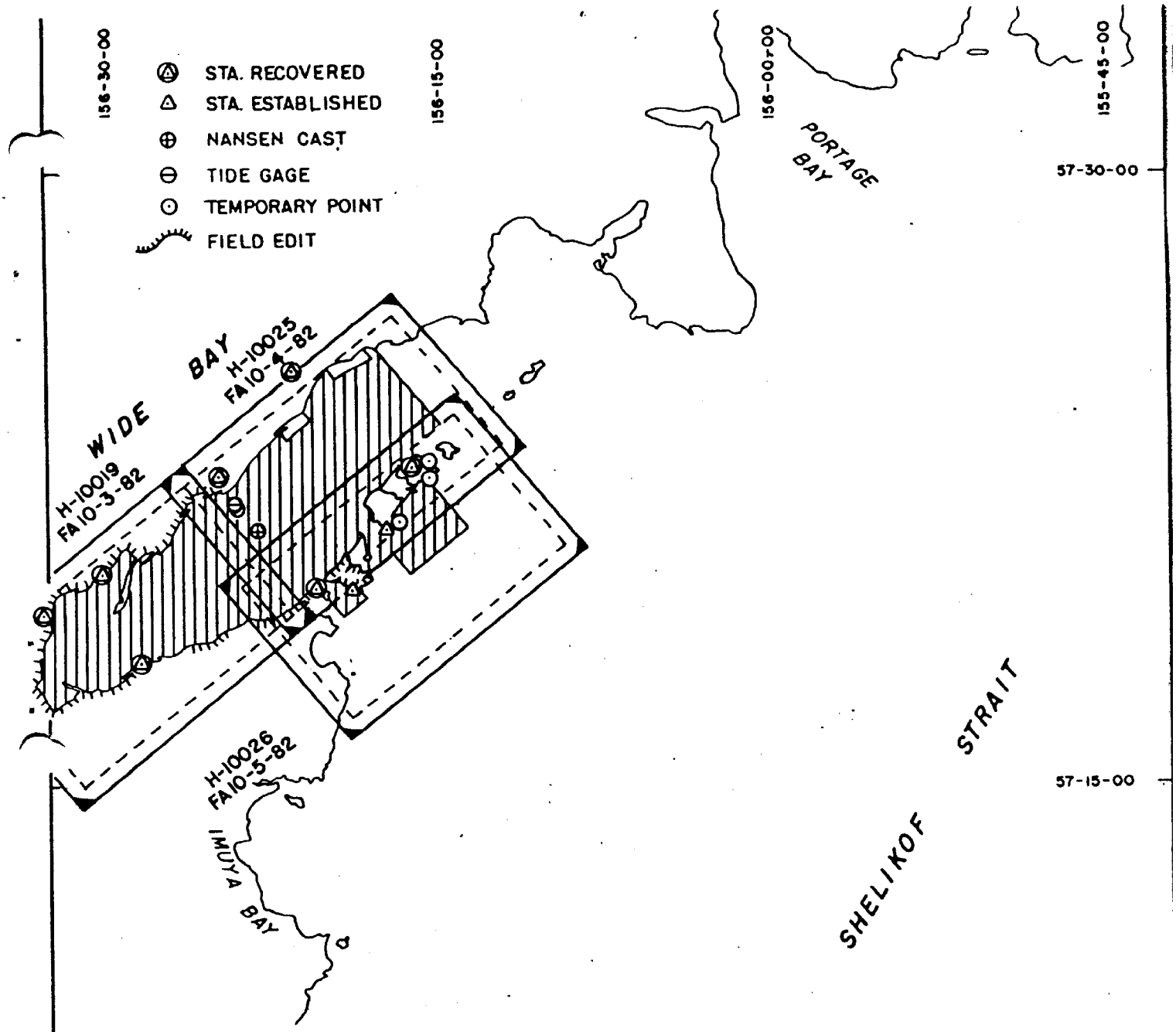
Soundings in fathoms feet at MLW MLLW and tenths of fathoms

REMARKS: Annotation in black in the Descriptive Report were made during evaluation at the Pacific Marine Center, Seattle, Washington. Separates are filed with the hydrographic records.

AWOIS + SURF MSM 6/11/85

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174



MONTHLY PROGRESS SKETCH
OPR-P146-FA-82
SHELIKOF STRAIT, ALASKA
NOAA SHIP FAIRWEATHER (S-220)
CDR WALTER F. FORSTER, CMDG
UGASHIK TOPO MAP 1:250,000

	JUNE		
SQ NM SOUNDING LINE	31.5		
LNM SOUNDING LINE	729.7		
BOTTOM SAMPLES	53		
NANSEN CAST	2		
HYDRO CONTROL STATIONS	13		
WATER SAMPLES ANALYZED	20		
HYDROGRAPHY				

Figure 1

DESCRIPTIVE REPORT

Hydrographic Survey H-10019

Field No. FA-10-3-82

A. Project

This hydrographic survey was performed in accordance with Hydrographic Project Instructions OPR-P146-FA-82, Shelikof Strait, Alaska, dated February 23, 1982; Change No. 1: Supplement to Instructions, dated MAY 25, → ~~June 3,~~ 1982; PMC OPORDER and the Hydrographic Manual, 4th Edition.

B. Area Surveyed

Survey H-10019 (FA-10-3-82) is a survey of the southwestern portion of Wide Bay, Shelikof Strait, Alaska. The limits of hydrography are the shoreline of the bay and the junction with contemporary surveys, H-10025 and H-10026 on the northeastern part of the survey. (See Figure 1, Monthly Progress Sketch)

Dates of survey were from J.D. 157 through J.D. 194, 1982 inclusive.

C. Sounding Vessels

The vessels used to run hydrography on this survey were launches FA-3 (2023) and FA-4 (2024). Survey launch FA-5 (2025) was used, along with FA-4, to collect bottom samples and investigate PSR #24. The FAIRWEATHER (2020) accomplished all three Nansen casts. No unusual configurations were used or unusual problems encountered.

D. Sounding Equipment and Corrections to Echo Soundings

All survey launches were equipped with Ross Fineline 5000 narrow beam echo sounders (see Table I, Sounding Equipment). Belt tension and phase checks were performed daily, when paper was changed and periodically during operations. At times belt tension and phase checks were performed before operations began and anotation inadvertently destroyed.

Fathometer initial was checked frequently during the day for correct paper alignment. All data was scanned, at least twice, to compare analog values to corresponding digitized values and to insert peaks and deeps between soundings. Depths of this survey ranged between -1.0 and 39 fathoms.

On June 10 (J.D. 161) analog 1054 was removed from launch 2023 because the instrument had an unstable phase calibration trace. All malfunctions and equipment casualities were dealt with in a timely manner resulting in no loss of data due to sounding equipment failure or malfunction.

Velocity of sound was calculated from three Nansen casts taken within or near the limits of this survey (Table II, Location of Nansen Casts). See Velocity Corrector Tables in Appendix, for applicable correctors.

TABLE I

Sounding Equipment

Vessel	Instrument	Model	Analog	Digitizer	Inverter	Trans-ceiver
2023	Ross Fineline	5000	1054 (JD 157-161) 1047 (JD 166-167)	1054	1046	1047
2024	Ross Fineline	5000	1097	1046	1054	1046
2025	Ross Fineline	5000	1036	1054	1053	1036

TABLE II

Location of Nansen Casts

Cast	Date	Latitude	Longitude	Vicinity
001	JD 155	57° 21.34'N	156° 23.71'W	H-10019, Southeast Stn "PIPE"
002	JD 172	57° 21.33'N	156° 23.51'W	H-10019, Southeast Stn "PIPE"
003	JD 188	57° 22.05'N	156° 21.25'W	H-10025, Southeastern Portions

Bar checks were used to confirm fathometer systems function and to provide data to compute TRA correctors. Bar checks were performed twice daily except when winds, seas or currents were not conducive.

Settlement and Squat for all launches was determined at Shilshole Bay Marina, Seattle, Washington in March 1982, this was performed in accordance with Section 4.9.4.2 of the Hydrographic Manual, 4th Edition. A Ziess level was used, on shore, to observe a stadia rod held vertically directly over the launch transducer. Differences between dead in the water and increased speed in 200 RPM increments were observed. All Settlement and Squat observations were reduced with predicted tides for final correctors. Certain vessel speeds produced correctors greater than 0.05 fathom (See Table III, Restricted Settlement and Squat Speeds). These speeds were not used while running hydrography, eliminating the need to apply settlement and squat correctors. For more information, see the Corrections to Echo Soundings Report for this project.

TABLE III

Restrictive Launch Speeds

Launch	Restrictive Speeds
2023	2250-Full
2024	2400-Full
2025	2300-Full

E. Hydrographic Sheets

Final field sheets FA-10-3N-82, FA-10-3S-82 and Development PSR #24 investigation sheet scale 1:2,500 were plotted aboard the FAIRWEATHER using two PDP8/e computers (S/N 09524 and 01020) and two complot plotters (S/N 5557-5 and 5848-17). (See Table IV, Hydrographic Sheets) Five areas were split to 45 meters to help define contours or improve line spacing. No developments were performed on this survey except for PSR #24.

TABLE IV

Hydrographic Sheets

Field Number	Scale	Size
FA-10-3N-82	1:10,000	22" x 36"
FA-10-3S-82	1:10,000	22" x 36"
PSR #24	1:2,500	12" x 12"

F. Control Stations

All horizontal control stations used on this survey except station PIPE, (see Signal Listing FA-10-3-82, Appended) were recovered or established and have Third Order Class I, or better, positions. Intersection station PIPE was located at Third Order Class I accuracy.

Station PIPE is a drill casing approximately 3' in diameter located at latitude 57° 21' 54.092"N and longitude 156° 24' 07.137"W approximately 0.5 miles off shore. Station PIPE, because of its nature and location can be used as a landmark for navigation. The well casing was used as a support for the tide station (945-8461), as a calibration pole, for critical electronic control systems checks, and as a Mini Ranger electronic control station.

All recovered horizontal control stations used National Geodetic Survey adjusted positions as furnished from Pacific Marine Center.

For further geodetic control information see Horizontal Control Report OPR-P146-FA-82, Shelikof Strait, Alaska. The Horizontal Control Report will be submitted by August 1982.

No unconventional survey methods were used. All positions in Wide Bay should be subject to final NGS adjustment to improve existing closures.

G. Hydrographic Position Control

All mainscheme hydrography and splits were gathered using Motorola Mini-Ranger III in the Range/Range mode. Bottom samples were also collected using Mini-Rangers in the Range/Range mode with a third Range as a confirming check on position. Table V is a tabulation of launch positioning component equipment and serial numbers.

TABLE V

Hydrographic Positioning Equipment

Vessel	Dates	Console	R.T. Unit
2023	157-161	702	1649
2024	158-194	701	1633
2025	161-175	B0323	B1398
~~2020~~		~~703~~	~~4926~~ NOT USED

The initial baseline calibration (BLC), for hydrography run on this survey was performed on a baseline at Port Frederick, Alaska on May 22, 1982. Initial correctors (see Table VI, Initial Correctors/ Minimum Signal Strengths) were confirmed by daily critical systems checks and were utilized to plot final field sheets.

TABLE VI

Corrector/Minimum Signal Strength

Console	Code 5	Code 6	Code 7	Code 8	Code 9	Code A	Code B	Code C
701	-1/6	-3/5	+6/6	-2/7	+2/5	+2/5	0/5	+1/5
702	0/6	-2/5	+7/6	-2/6	0/5	0/6	+1/6	0/6
~~703~~	~~-2/4~~	~~-3/4~~	~~+7/5~~	~~-1/5~~	~~-1/5~~	~~+2/5~~	~~+2/4~~	~~+3/3~~ NOT USED
~~704~~	~~0/4~~	~~+1/5~~	~~+11/6~~	~~-3/4~~	~~+3/5~~	~~+1/5~~	~~+2/3~~	~~+2/4~~

Daily systems checks were performed by the critical calibration pole (fixed point) method outlined in PMC OPORDER, Appendixes M and S.

Electronic Control Report OPR-P146-FA-82, Shelikof Strait, Alaska has a listing of the beginning and closing system checks for each block of position numbers. All positions were covered and all systems checks confirmed initial BLC's. There were no unusual methods of electronic control operations and no unusual atmospheric conditions affecting data quality.

H. Shoreline

Shoreline delineation for this survey was taken from TP-00717 and TP-00629 digitized to a scale of 1:10,000. Shoreline details were field edited on both sheets. Corrections and additions were transferred to the final field sheet in accordance with Section 4.5.8 of the Hydrographic Manual, 4th Edition, July 4, 1976 as amended through June 1, 1981. For further details, see forthcoming Field Edit Report, OPR-P146-FA-82 for sheets TP-00717 and TP-00629. ✓

Hydrographic shoreline was run in five instances to help delineate the zero fathom curve. ✓

Utilizing periods of high tide, the hydrographer was at times able to run hydrography over spits or into areas that Field Edit delineated as fouled. In all instances the hydrography supported Field Edit's observations. ✓

Only control station PIPE (208) was located seaward of the shoreline. See section F "Control Stations" for a further description of station PIPE. ✓

The photogrammetrically compiled shoreline along with the hydrography run on survey H-10019 should be used to update future charts. *Concur* ✓

I. Crosslines

A total of 260.7 nautical miles of mainscheme hydrography were run on this survey with an additional 21.4 miles of crosslines. All crosslines were run at right angles to the mainscheme and represent 8.2% of the mileage run. ✓

Ninety-eight percent (98%) of all crosslines meet the comparison criteria as specified in section 1.1.2, Part B.11.1 of the Hydrographic Manual. The crossline soundings that did not meet the comparison criteria are either located in areas of steeply sloping contours and are valid representations of a rapidly changing bottom or are attributed to slight positional differences. No significant crossline/mainscheme discrepancies exist. ✓

J. Junctions

This survey junctions with two comtemporary surveys, H-10025 (FA-10-4-82) and H-10026 (FA-10-5-82), to the northeast of this survey (see Figure 1, Monthly Progress Report Layout). All junction soundings meet the comparison requirements stated in section 1.1.2 of the Hydrographic Manual. ✓

K. Comparison With Prior Surveys

This survey was compared with H-4295, "Wide Bay - Western Part", dated August 13 to September 14, 1923. The scale of H-4295 was 1:20,000. Survey H-4295 was enlarged to a scale of 1:10,000 and overlayed for comparisons. All soundings were checked. Soundings in water greater than 10 fathoms compared very well. Ninety-eight percent (98%) fell within the guidelines from section 1.1.2, Part B.11.1 of the Hydrographic Manual. Soundings in more than 10 fathoms that did not meet the criteria could be the result of rounding differences or plotting differences due to the 1927 North American Datum shift.

SEE EVALUATION 6

In water less than 10 fathoms comparisons were variable. Comparison of the 0-5 fathom contours between H-4295 and H-10019 indicate that substantial shoaling has occurred in the intervening 60 years. Disagreements up to 6 feet occur in the extreme southwestern end of the bay shifting the 0-5 fathom curves as much as 1000 meters in a northeasterly direction. Table VII, Comparison with Prior Surveys, lists some major sounding differences between surveys H-4295 and H-10019. On survey H-4295 few soundings were taken within the 2 fathom curve, along the western side of the bay between latitude 57° 20'00"N, longitude 156° 29' 00"W and latitude 57° 22' 05"N, longitude 156° 24' 00"W. Survey H-10019, with more depth information, shows deeper water, see Table VII, Comparisons with Prior Surveys. Sounding on survey H-4295 appear to be from one reconnaissance line which may have had positional control problems.

This is a Confression with the Rice Survey to "T" Sheet

Descrepancies between H-4295 and the current photogrammetrically compiled shoreline exist. Generally, the rocky eastern shoreline is in agreement but the sandy, less stable western shoreline shows movement in the last 60 years. Examples of movement are the length of the sand spit, latitude 57° 19' 15"N, longitude 156° 29' 30"W and the shape and size of the sand bars, latitude 57° 22' 00"N, longitude 156° ~~20'~~ 25' 30"W.

SEE EVALUATION Rpt SECTION 2

TABLE VII

Comparisons with Prior Surveys

Position	H-4295	H-10019 (Reduced)	Comments
57° 19' 43"N 156° 30' 50"N	1/6	~~-0~~ 0'	Represents the extent of shoaling at the southwestern end of the bay. Use H-10019 soundings. Concur
57° 18' 18"N 156" 30' 51"W	5/6	~~-0~~ 0'	"
57° 18' 31"N 156° 31' 12"W	0	~~-0~~ 0	"

(Table VII Cont.)

Reduced

Position	H-4295	H-10019	Comments
57° 18' 11"N 156° 29' 09"W	1	0.9	Represents the extent of shoaling at the southwestern end of the bay. Use H-10019 soundings. Concur
57° 18' 48"N 156° 29' 00"W	3 2/6	2.3	"
57° 19' 00"N 156° 28' 46"W	3	2.3	"
57° 19' 32"N 156° 27' 30"W	5	4.5	"
57° 20' 23"N 156° 27' 57"W	4/6	1.2	Representative soundings along western shoreline. Discrepancies suggest control problems H-4295. Use H-10019 soundings. Concur
57° 20' 47"N 156° 27' 10"W	-1/6	0.4	"
57° 21' 02"N 156° 26' 43"W	1/2	0.1	"
57° 21' 42"N 156° 25' 41"W	2/6	0.7	"

One Pre Survey Review (PSR) item was located within the limits of this survey. PSR item #24 was an investigation of a reported "causeway" connecting shore and a drill platform .5 mile off shore. Alaska Department of Natural Resources reported the causeway and drill platform in ruins except for a 150 yard section of pier extending from shore and a pipe casing 3' in diameter and 15 feet high located at latitude 57° 21' 54.1"N and longitude 156° 24' 07.1"W. The section of pier and the pipe casing (Station PIPE) were located but no sign of ruins between the two were found. AWOIS #50182 ✓

The pipe was located by intersection and one direct distance measurement. The pipe was used during this survey as a calibration pole, tide gage site (945-8461) and electronic control station (208). The pier was accurately located on the shoreline manuscript and was used as a tide staff location. ✓

An area 50 meters seaward and 50 meters on either side of the pier was visually cleared by Field Editors at a -0.5 ft. tide. On July 12, J.D. 193, a chain drag of the area was attempted. FA-4 (2024) and FA-5 (2025) were used and were positioned by Mini Rangers on Stations TERRACE (310) and TITCLIFF (301). FA-4 was the master launch and steered a line on a heading of 335°T. FA-5 positioned itself 100 meters northeast of FA-4 by use of a Mini-Ranger located on FA-4. The chain length was 59 meters ✓

and the tow lines were 46 meters each. A buoy was located at each end of the chain. Sextant angles were turned from each boat to the buoys and between the buoys to calculate the width of the drag. The drag width was calculated to be 23 meters. At the end of the first line, approximately 50 meters shoreward of the "pipe", the chain hung. Divers were sent down to investigate and found a piece of 2" pipe covered with sand exposed approximately 6". This does not constitute a hazard to navigation or significant obstruction. While clearing the drag chain the divers noticed significant amounts of Eel grass and broad leafed kelp fouling the chain. This was cleared and the second drag commenced. Twice during the second drag the chain had to be cleared of kelp. Due to continued kelp fouling of the chain, attempts at dragging the area were abandoned and a diver tow was rigged using FA-4. On J.D. 193 and 194 the remainder of the 100 meter wide area, from the pier to a line 50 meters beyond the "pipe" was cleared by slowly towing divers along the bottom. Two 30' lines with 40# weights on the ends were towed behind FA-4 at a speed of 2.5 knots. The divers were able to visually clear the entire area. The divers kept approximately 3' off the bottom, were 3 meters apart and had a visability of approximately 7 meters, resulting in a 20 meter visual sweep width. To insure area coverage 15 meter line spacing was utilized.

Within the sweep area, the divers reported moderate amounts of Eel grass and broad leafed kelp and a sandy bottom. A small amount of 2" pipe was reported lying flat on the bottom within a 50 meter radius of station PIPE. Conclusions are that no significant obstructions exist. Recommendations are that the ruins shown on Chart 16570 be reduced to the limit of the photogrammetrically located pier.

L. Comparison With Chart

Comparisons were made with Chart 16570, "Portage and Wide Bay", 8th Edition, February 18, 1978 (formerly C&GS 8666), scale 1:50,000. For comparison purposes this chart was photo enlarged and overlaid.

The charted pier ruins, latitude 57° 22' 00"N, longitude 156° 24' 12"W, were thoroughly investigated (see PSR Item #24, section K, Comparison with Prior Surveys) and no signs of ruins between the pier and pipe casing were found. The term ruins should be applied to the photogrammetrically identified pier only and not to the area between the end of the existing pier and station PIPE.

Limits of the sand spit, latitude 57° 19' 15"N, longitude 156° 29' 30"W, were well defined by hydrography and show significant signs of shifting to the south. These new limits should be shown on future charts. Generally, charted depths in the lower tidal flat area are deeper than those obtained by this survey. This shoaling could be a result of years of deposition by the numberous streams in the area or by tidal action.

A list of significant features on the NOS charts, USGS topographic maps and shoreline manuscripts was compiled, features compared and presented in Table VIII, Chart Comparisons, and Table IX, Representative Depth Discrepancies. The soundings and compiled shoreline for survey H-10019 are adequate to supersede all prior surveys. ✓

TABLE VIII

Chart Comparisons

Position	Feature	Comment
57° 19' 15"N 156° 29' 30"W	Sand spit on Chart 16570	More extensive than shown on chart 16570. Use photogrammatically compiled shoreline. *Concur* ✓
57° 19' 56"N 156° 30' 44"W	Rock on Chart 16570	Chart claims bare 6' at low water. Field Edit observed ~~2'~~ 2'. Use H-10019 data. *Concur* AWOIS 11165 MSM
57° 22' 11"N 156° 24' 21"W	Pier on Chart 16570	Charted adequately. *CONCUR*
57° 22' 00"N 156° 24' 12"W	Pier ruins on Chart 16570	No ruins found (PSR #24). Ruins should be eliminated on future charts. *CONCUR*
57° 21' ~~54"~~ 54.09" N 156° 24' ~~07"~~ 07.129" W	Pipe on Chart 16570	Charted adequately.
West of 156° 28' 00"W *NORTH OF 57°20'30"N*	Tidal Flats	Generally shoaler depths than those charted were found. Depths collected as a result of this survey should be used on future charts. ✓
57° 17' 24"N 156° 30' 03"W	Ledge	Charted feature above MLLW. Not identified by Field Edit or photo compilation. Remove from chart. *CONCUR*
57° 18' 06"N 156° 28' 09"W	Ledge	Charted feature is area foul with detailed submerged rocks. Chart as shown on H-10019. *CONCUR*

✓

(Table VIII Cont.)

Position	Feature	Comment
57° 19' 12"N 156° 23' 21"W	Ledge	Charted ledge is area foul with rocks and boulders. Chart as shown on H-10019. Concur ✓
57° 19' 08"N 156° 22' 13"W	Rock AWASH * (7)	Above MLLW but is within a fouled with detached rocks and boulders area and should be charted as such. ✓
57° 19' 06"N 156° 22' 20"W to 57° 19' 30"N 156° 21' 00"W	Ledge	No ledge. Rock or boulder fouled area. Chart as shown on survey H-10019. SEE EVALUATION REPORT SECTION L

TABLE IX

Representative Depth Discrepancies

Southwest end beyond 0° fm curve.

Position	Charted Depth	Survey Depth Reduced
57° 17.91'N 156° 30.47'W	1/4	- TIDAL FLAT
57° 17.66'N 156° 30.20'W	1/4	- TIDAL FLAT
57° 18.42'N 156° 30.91'W	~~1/4~~ 0²	~~00~~ 0³

West end behind spit.

Position	Charted Depth	Survey Depth
57° 19.17'N 156° 30.48'W	1	~~00~~ 0⁸
57° 19.35'N 156° 30.96'W	~~1/4~~ 0²	~~0~~ 0²
57° 19.64'N 156° 30.36'W	~~1/4~~ 0²	~~00~~ 0³

EM

(Table IX Cont.)

West end behind spit.

Position	Charted Depth	Survey Depth Reduced
57° 19.68'N 156° 30.73'W	~~1/4~~ 0²	~~00~~ 0²

At beginning of tidal flat area.

Position	Charted Depth	Survey Depth Reduced
57° 19.20'N 156° 29.35'W	2 3/4	~~2²~~ -0'
57° 18.76'N 156° 29.01'W	3 1/4	~~27~~ 2⁹
57° 19.00'N 156° 28.85'W	3	~~26~~ 3°
57° 19.50'N 156° 28.78'W	3 1/4	~~30~~ 1'²
57° 18.37'N 156° 27.65'W	1 ~~3/4~~ 1⁸	~~12~~ 1³

Northwest shoreline. 1⁸ ON ORIGINAL DOCUMENT

Position	Charted Depth	Survey Depth Reduced
57° 20.12'N 156° 28.49'W	1/4 0²	~~06~~ 0⁸
57° 20.60'N 156° 27.57'W	~~3/4~~ 0⁸	~~00~~ -0³
57° 20.93'N 156° 26.84'W	~~1/2~~ 0⁵	~~09~~ 1°
57° 21.15'N 156° 26.39'W	1 ~~1/2~~ 1⁵	1²
57° 21.36'N 156° 25.92'W	~~1/4~~ 1²	~~08~~ 0⁹

ELH

(Table IX Cont.)

Center of survey.

Position	Charted Depth	Survey Depth Reduced
57° 19.27'N 156° 26.89'W	7 1/2	~~62~~ 6 ← 6⁰
57° 20.26'N 156° 26.58'W	15	13
57° 19.51'N 156° 25.00'W	18	~~18~~ 16
57° 19.60'N 156° 24.38'W	18	~~15~~ 16
57° 21.36'N 156° 23.89'W	40	~~38~~ 31

ON ORIGINAL DOCUMENT

NOTE: These discrepancies exist because of real changes during the past 60 years. Depths from survey H-10019 should be used on future charts.
changes due to quality of prior and present data acquisition.

M. Adequacy of Survey

Spacing between soundings at latitude 57° 19' 23"N, longitude 156° 28' 55"W exceeds maximum allowed by 20 meters. The significance of the gap, the bottom characteristics, and the sounding depths do not warrent the additional work required to specifically comply. ✓

This survey is adequate to supersede all prior surveys. No further work is required.

ELM

ON ORIGINAL DOCUMENT

N. Aids to Navigation

There are no fixed or floating aids to navigation within the limits of this survey and none are recommended. One landmark is reported for the abandoned drill pipe. ✓

O. Statistics

Vessel	Positions	Lineal N. Miles	Square Miles
2023	~~1350~~ 1312	147.3	6.64
2024	~~1025~~ 1014	134.8	6.07
2025	~~32~~ 41	-	-
TOTAL	2367	282.1	12.71

N. Miles M/S Crosslines - 21.4 (8.2%)
Bottom Samples - 36
Tide Stations - 1
Nansen Casts - 3
MarTek Casts - 0
Magnetic Stations - 0
Current Stations - 0

Q. Recommendations

This survey should be used to update existing charts of Wide Bay and along with other contemporary surveys be used to produce new 1:50,000 scale charts of the area.

R. Automated Data Processing

The following is a list of the Hydroplot programs used for data acquisition and processing during this survey.

Number	Version Date	Program Name
RK 112	09/11/80	R/R Real Time Plot
RK 201	04/18/75	Grid, Signal and Lattice Plot
RK 407	09/25/78	Geodetic Inverse/Direct Computations
RK 409	09/20/78	Geodetic Utility Program
RK 300	10/21/81	Utility Package
RK 330	05/04/76	Data Reformated and Checked
RK 360	02/02/76	Electronic Corrector Abstract
AM 500	11/10/72	Predicted Tides
RK 530	05/10/76	Velocity Correctors
RK 561	02/19/75	Geodetic Calibration
AM 602	05/20/75	Elinore

S. Referral to Reports

The following separate reports covering the 1982 season in Wide Bay can be referred to for further detail on specific items.

OPR-P146-FA-82
- Horizontal Control Report
- Electronic Control Report
- Field Edit Report
- Corrections to Echo Soundings Report
- Geographic Names Report
- Coast Pilot Report
- Field Tide Note

J. APPROVAL SHEET

The Commanding Officer inspected all field sheets and field data on a daily basis. All survey sheets, reports, and records are complete. This survey is adequate for charting purposes and no additional field work is deemed necessary.

Submitted by:

Paul T. Steele
Ensign, NOAA
NOAA Ship FAIRWEATHER S220

Approved by:

Walter F. Forster, II
Commander, NOAA
Commanding Officer
NOAA Ship FAIRWEATHER S220

No hydrographic data was lost as a result of skipping or double punching by the ADR gage. Interpolation may be used to provide a tidal data record for the periods of gage malfunction.

MISCELLANEOUS

Overall, gage site (945-8461) proved to be a very convenient, useful location for a tide station. The ADR float well, and the tide staff, were both left at the station site to expedite gage installation for future work in the Wide Bay area.

TABLE I

Gage Malfunctions

Date	Time	Comments
29 June	183000	Restarted
30 June	183450	Guide roller was causing right edge of tape to fray. Adjusted and restarted at 184800.
01 July	230600-233600	Skipped punches.
02 July	004200-004800	Skipped punches.
03 July	003000	Double or more punches.
	003600-013000	Skipped punches.
	013600	Double or more punches.
	014200-023000	Skipped punches.
	045400-053000	Skipped punches.
	121800	Jammed and tore punch holes.
	150600-171200	Appears good.
	171900	Double punches.
	191200	Skipped.
	2012-2030	Skipped.
04 July	0024-0030	Skipped.
	0324-0348	Skipped.
	0400	Skipped.
	0454	Double punched and tore tape.
	0554	Good.
	0806	Double punched and tore tape.
	0830-0854	Good.
	0900	Skipped.
	1006	Double punched, then skipped.
	1100-1624	Good.
	1630-1654	Skipped.
	1730	Skipped.
	1754-1836	Skipped.
	1948	Double punched and skipped.

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10019

Name on Survey	A ON CHART NO. 16570	B ON PREVIOUS SURVEY NO. 4295	C ON U.S. QUADRANGLE MAPS UGASHIK B-2	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
Alai Creek			X							1
Alaska (Title)										2
Alaska Peninsula		X								3
Kialaguik Creek			X							4
Mt. Alai			X							5
Shart Point			X							6
Shelikof Strait (Title)	X		X							7
Short Creek	X		X							8
Titcliff Island	X	X	X							9
Wide Bay	X		X							10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25

SHELIKOF SIGNAL LISTING
OPR-P146-FA-82

LIV 1976 571562 MELBY
200 7 57 17 59545 156 28 15104 250 0034 000000

ENDEN 1976 571563 MELBY
202 3 57 19 02084 156 32 47114 250 0015 000000

SPIT USE 1976 571562 MELBY
204 0 57 20 08481 156 29 58669 250 0025 000000

CREEK 1923 571562 1004
206 2 57 22 34852 156 24 41655 250 0039 000000

PIPE ~~1982~~ 571562 FAIRWEATHER
208 2 57 21 54098 156 24 07127 250 0005 000000

SHANNON 1923 571562 1020
230 0 57 25 02399 156 21 37601 250 0169 000000

TITCLIFF 1923 571562 1023
301 7 57 19 50910 156 20 21839 250 0034 000000

TERRACE 1923 571562 1022
310 3 57 22 48321 156 16 12267 250 0092 000000

FIELD TIDE NOTE

OPR-P146-FA-82

Wide Bay, Alaska

Tide Gage (945-5500) Seldovia, Alaska served as reference station for predicted tides for the entire Wide Bay project as stated in Project Instructions OPR-P146-FA-82. Because leveling was required at the beginning and end of project OPR-P114-RA-82, which was run concurrently with OPR-P146-FA-82, leveling of station (945-5500) Seldovia, Alaska was not conducted by FAIRWEATHER personnel. See Field Tide Note for P114-RA-82 for level data applicable to OPR-P146-FA-82.

Predicted tide correctors were interpolated by the hydroplot system using program AM 500. All times of both predicted and recorded tides were based on Universal Coordinated Time. All predicted tides were acceptable for hydrography with no discrepancies in data attributable to tides errors.

Tide station (945-8461) Wide Bay, Alaska (Mouth of Short Creek) located at latitude 57° 21' 54"N, longitude 156° 24' 07"W was the primary gage during this project. Opening levels were run to four existing Temporary Bench Marks (TBM's) on 04 June 1982 (J.D. 155). Two additional Bench Marks stamped 8461E and 8461F were established and included in leveling observations. A closure of 7.14mm was obtained for the entire run of 0.6km. Closing levels were run on 20 August 1982 (J.D. 232) to the above-mentioned marks resulting in a 27.10mm closure. This closure is 6.1mm above the acceptable limits set forth by the Hydrographic Manual, Fourth Edition, Section A.8.4. A comparison of opening to closing levels shows no sign of any vertical movement in the marks or tide staff. This error is presumed to be located at set-up number one between the staff stop and TBM #1. This area is a sand bar which covers at high water and is very soft sand, making stable set-ups difficult.

OPERATIONAL PROBLEMS

ADR Gage 6402A4596M2 operated well until 4 July 1982 (J.D. 185) when it was discovered that the gage was skip and double punching. On 15 July 1982 (J.D. 196) the gage was removed and replaced with ADR Gage 7404A0407M3 at 165400 (GMT +9). A new staff to gage comparison was taken and the new gage functioned well until projects end on 20 August 1982 (J.D. 232). Gage 6402A4596M2 was found to have bad punch block pins, which were replaced in the field. The gage was tested for three days without malfunction, and then stored aboard. Table I, Gage Malfunctions, is a listing of skip and double punches found on tidal records for the period of time. ADR Gage 6402A4596M2 was operating.

Table I, Gage Malfunctions, Cont.

Date	Time	Comments
05 July	0106	Good.
	0112	Double punched, skipped.
	0130-0342	Good.
	0348	Double punched, skipped.
	0436-0512	Good.
	0518	Double punched, skipped.
06 July	2142	Good.
	2148	Double punched, skipped.
	2224	Good.
07 July	0624	Good
	0630	Double punched, jammed.
08 July	031800	Restarted.
09 July	1700	Double punched, skipped.
	1718-2142	Good.
	2148	Skipped.
	2154	Good.
	2312-18	Skipped.
	2324	Good
10 July	0442-54	Skipped.
	0500	Good.
	2342	Skipped.
	2354	Skipped.
11 July	0518-30	Skipped.
	0542-54	Skipped.
	1000	Skipped.
	1706-12	Skipped.
	1824-36	Skipped.
	2242	Skipped.

Submitted by:

Arthur E. Francis
Ensign, NOAA

Approved by:

Walter F. Forster
Commander, NOAA
Commanding Officer

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's FAIRWEATHER	Alaska	Shelikof Strait Wide Bay	1982

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-P146-FA-82		H-10019	NA 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Pier	Pier in ruins. Photogrammetrically located on TP-00629, is of landmark value.	57 22	10.40 321.7	156 24	20.11 336.1		VIS-V 6-82	16570
Pipe	Drill casing approx. 3" in diameter 15' above MHW. Geodetically located is of landmark value.	57 21	54.09 1673.3	156 24	07.13 119.2		F-2-6-L	16570
	See L-276(85)							

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Robert H. Pingry	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	NOAA Ship FAIRWEATHER	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64.)

OFFICE

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

FIELD

I. NEW POSITION DETERMINED OR VERIFIED
Enter the applicable data by symbols as follows:

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

A. Field positions* require entry of method of location and date of field work.
EXAMPLE: F-2-6-L
8-12-75

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

FIELD (Cont'd)

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

II. TRIANGULATION STATION RECOVERED
When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.
EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH
Enter 'V-Vis.' and date.
EXAMPLE: V-Vis.
8-12-75

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

DATE: August 29, 1983

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): 945-8461 Wide Bay, Alaska

Period: June 6 - July 13, 1982

HYDROGRAPHIC SHEET: H-10019

OPR: P-146

Locality: Wide Bay, Shelikof Straits, Alaska

Plane of reference (mean lower low water): 0.54 ft.

Height of Mean High Water above Plane of Reference is 11.0 ft.

REMARKS: Recommended Zoning:

1. Zone Direct
2. For J-Day 192-194 no smooth tides available.

Chief, Tidal Datums Section, Tides & Water Levels Branch

U.S. DEPARTMENT OF COMMERCE | REGISTRY NUMBER H-10019

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ~~XRD~~, EXCESS	5
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	2

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDIAN FILES	2					
ENVELOPES						
VOLUMES	2					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS(List):

PHOTOBATHYMETRIC MAPS(List):

NOTES TO THE HYDROGRAPHER(List):

SPECIAL REPORTS(List):

NAUTICAL CHARTS(List): Enlargement of Chart 16570 8th Ed. 1:10,000

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS VERIFICATION	AMOUNTS EVALUATION	AMOUNTS TOTALS
POSITIONS ON SHEET			2367
POSITIONS REVISED	6485		1485
SOUNDINGS REVISED	19		19
CONTROL STATIONS REVISED			
	TIME-HOURS VERIFICATION	TIME-HOURS EVALUATION	TIME-HOURS TOTALS
PRE-PROCESSING EXAMINATION	5		5
VERIFICATION OF CONTROL	3		3
VERIFICATION OF POSITIONS	105.5		105.5
VERIFICATION OF SOUNDINGS	190.5		190.5
VERIFICATION OF JUNCTIONS	1.0		1.0
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE ~~APPLICATION~~/VERIFICATION	3.0		3
COMPILATION OF SMOOTH SHEET	77.0		93
COMPARISON WITH PRIOR SURVEYS AND CHARTS		16.0	
EVALUATION OF SIDESCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT	3.0	18.5	21.50
OTHER (Review)	2.0	13	15.0
Rework + Digitization	5.0		5.0
TOTALS	395	47.5	442.5

Pre-processing Examination by: J.S. Green	Beginning Date: 9/7/82	Ending Date: 9/7/82
Verification of Field Data by: A.A. Lucero	~~Reviewed~~ Begin: 10/18/82	Ending Date: 2/5/85
Verification Check by: S. Otsubo, B.A. Olmstead, J.S. Green	Time(Hours): 41.5	Ending Date: 2/28/85
Evaluation and Analysis by: G.E. Kay	~~XXXXXXX~~ Begin: 2/19/85	Ending Date: 3/1/85
Inspection by: D.J. Hill	Time(Hours): 2.0	Ending Date: 3/5/85

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10019 FIELD NO: FA-10-3-82

Alaska, Shelikof Strait, Southwest Portion of Wide Bay

SURVEYED: June 6 - July 13, 1982

SCALE: 1:10,000 PROJECT NO:OPR-P146-FA-82

SOUNDINGS: Ross Fineline 5000 Fathometer CONTROL: Mini-Ranger III Range/Range Mode

Chief of Party.....CDR W. F. Forster

Surveyed By.....ENS Steele
ENS Pingry
ENS Migaiolo
ENS Francis

Automated Plot By.....PMC Xynetics Plotter

Verified By.....A. A. Luceno

Evaluated By.....G. E. Kay

1. INTRODUCTION

H-10019 is a basic hydrographic survey conducted by NOAA Ship FAIRWEATHER (S-220) in accordance with the following:

Project instructions OPR-P146-FA-82, dated February 23, 1982
Change Number 1, dated May 25, 1982.

The survey H-10019 is situated in the southwest portion of Wide Bay located off Shelikof Strait, Alaska.

The following changes were made during office processing.

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

b. Tide level reducers are from observed tides, see attached Form 712.

c. Velocity correctors were changed after the velocity curves were re-drawn and scaled.

d. Electronic control correctors (Mini-Ranger III) were meaned for the entire survey and applied to each corresponding transmitter/receiver.

2. CONTROL AND SHORELINE

Horizontal control and hydrographic positioning are adequately discussed in Descriptive Report paragraphs F and G, and in the Horizontal and Electronic Control Report for OPR-P146-FA-82.

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

Applicable registered shoreline manuscripts and dates are as follows:

	TP-00717 Class III, Final Map	TP-00629 Class III, Final Map
Date of Photography	June 1976	June 1976
Date of Field Edit	None	None
Date of Final Review	December 1982	November 1982

Although the registered Class III manuscripts indicate that field edit was not done, in fact field edit was accomplished. However, field edit was not applied to the registered manuscripts. Instead, partial field edit was applied to "Hydrographic Maintenance Prints" which were used as a source of positions for topographic features. Elevations were obtained from the original Field Edit Masters and were applied to rocks during hydrographic survey office processing.

Shoreline is not shown on H-10019 in accordance with N/CG memorandum, "Reduction of Marine Center Hydrographic Processing Backlog", dated February 16, 1982.

3. HYDROGRAPHY

Soundings at crosslines are in good agreement. The hydrography contained within this survey is adequate to determine the bottom configuration and least depths. Depth curves could be adequately and completely drawn with the exception of the zero fathom curve, refer to section 4.

4. CONDITION OF SURVEY

Except as noted in the Preprocessing Examination Report, dated September 7, 1982 and below, the hydrographic records and final report adequately conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3.

In some areas sounding lines were not extended far enough in shore to adequately define the zero-fathom curve.

5. JUNCTIONS

H-10019 junctions the following:

Survey	Year	Scale	Note	Color	Junctions
H-10025	1982	1:10,000	Joins	Violet	Northeast
H-10026	1982	1:10,000	Joins	Red	East

The junctions have been adequately effected.

6. COMPARISON WITH PRIOR SURVEYS

H-4295 (1923) 1:20,000 Present survey data compares well with this prior survey. The only major change is the elongation of a sand spit located at approximately latitude 57°19'15" North, longitude 156°29'30" West, where it has naturally extended southwestward 500 meters. Present survey contains more information of better quality (due to changes in survey technology) than the prior, and is adequate to supersede H-4295 over the areas of common coverage. Ledges extending from the southern shoreline are not specifically verified on the present survey; however, numerous rocks confirm the rocky nature of these near shore areas.

7. COMPARISON WITH CHART

Chart 16570, 8th Ed., Feb. 18, 1978

a). Hydrography - Charted soundings and other information originate with the before mentioned prior survey. For an adequate item comparison see Descriptive Report paragraph L.

There is one Pre Survey Review, item #24 (Automated Wreck and Obstruction System - Number 50182) which is located within the limits of H-10019. For an adequate description and disposition refer to Descriptive Report paragraph K and AWOIS listing dated April 13, 1983. All charted rocks and reef can be accounted for on H-10019.

b). Controlling Depths - There are no controlling depths located within the limits of H-10019.

c). Aids to Navigation - There are no fixed or floating aids within the limits of H-10019.

There have been no dangers to navigation identified or reports submitted either by the NOAA Ship FAIRWEATHER or the Pacific Marine Center.

Geographic names appearing on the smooth sheet originate with the chart.

H-10019 is adequate to supersede the charted information over its common area.

8. COMPLIANCE WITH INSTRUCTIONS

H-10019 adequately complies with the instructions and changes listed in section 1 of this report.

9. ADDITIONAL FIELD WORK

H-10019 is a good basic hydrographic survey. Additional field work is not recommended at this time.

Respectfully submitted,

Gordon E. Kay
Cartographer
February 27, 1985

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

Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10019

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.

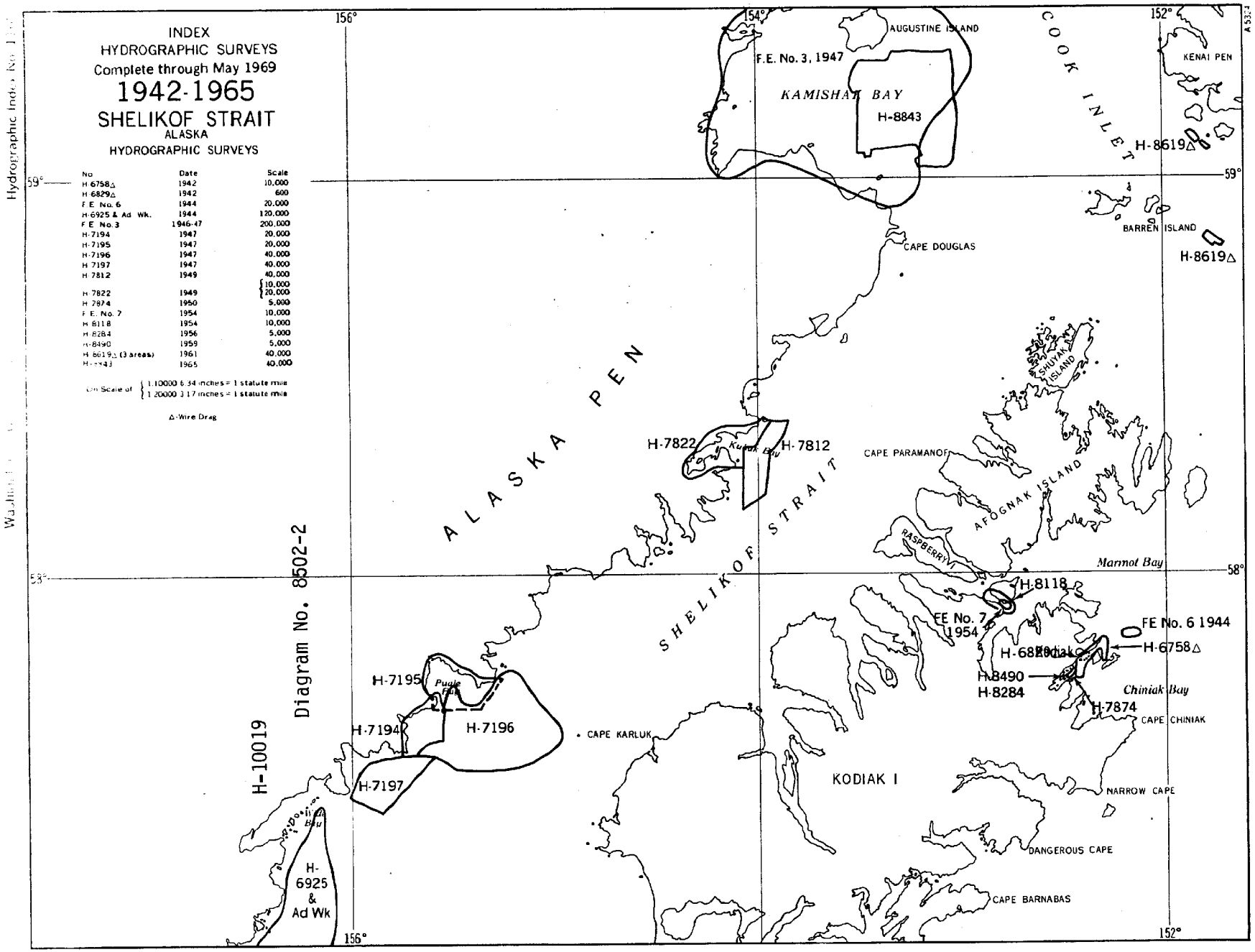
3/8/85
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock 3/12/85

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.

3-15-85
Director, Pacific Marine Center (Date)


INDEX
HYDROGRAPHIC SURVEYS
Complete through May 1969
1942-1965
SHELIKOF STRAIT
ALASKA
HYDROGRAPHIC SURVEYS
No Date Scale
H 6758△ 1942 10,000
H 6829△ 1942 600
F E. No. 6 1944 20,000
H-6925 & Ad Wk. 1944 120,000
F E. No. 3 1946-47 200,000
H-7194 1947 20,000
H-7195 1947 20,000
H-7196 1947 40,000
H 7197 1947 40,000
H 7812 1949 40,000
H 7822 1949 10,000 20,000
H 7874 1950 5,000
F E. No. 7 1954 10,000
H 8118 1954 10,000
H 8284 1956 5,000
H-8490 1959 5,000
H 8619△ (3 areas) 1961 40,000
H-8843 1965 40,000
On Scale of 1:10000 6.34 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile
△-Wire Drag
Diagram No. 8502-2
H-10019
156°
154°
152°
59°
58°
AUGUSTINE ISLAND
F.E. No. 3, 1947
KAMISHAK BAY
H-8843
COOK INLET
KENAI PEN
H-8619△
BARREN ISLAND
H-8619△
CAPE DOUGLAS
ALASKA PEN
SHELIKOF STRAIT
H-7822
Kukak Bay
H-7812
CAPE PARAMANOF
ST. SHUYAK ISLAND
AFOGNAK ISLAND
RASPBERRY
Marmot Bay
H-8118
FE No. 7 1954
FE No. 6 1944
H-6758△
H-8490
H-8284
Chiniak Bay
H-7874
CAPE CHINIAK
H-7195
Puale Bay
H-7194
H-7196
CAPE KARLUK
H-7197
KODIAK I
NARROW CAPE
DANGEROUS CAPE
CAPE BARNABAS
H-6925 & Ad Wk

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10019

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
16570	3-4-87	Ralph B. Rose	(Full) Part Before (After) Marine Center Approval Signed Via
			Drawing No. 10 Applied in full
16568	3-11-87	Joseph Pierce	(Full) Part Before (After) Marine Center Approval Signed Via
			Drawing No. 7 Applied in full
16013	2-21-89	Ed Martin	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 28 No corr's, Exam
16006	3-14-90	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 26 No corrections
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			STANDARDS CK'D 4-3-85 C. Loy

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.