

9695

Diag. Cht. No. 8002-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT  
(HYDROGRAPHIC)

Type of Survey ... HYDROGRAPHIC  
Field No. .... DA-20-4-77  
Office No..... H-9695

LOCALITY

State ..... Alaska  
General Locality .. Yakutat Bay  
Locality ..... Schooner Beach to Blizhni Pt.

1977

CHIEF OF PARTY  
Christian Andreasen

LIBRARY & ARCHIVES

DATE ..... March 5, 1979

9695

Area 6  
Cht  
16761  
16760

**HYDROGRAPHIC TITLE SHEET**

H-9695

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.

DA-20-4-77

State Alaska

General locality Yakutat Bay

Locality Schooner Beach to Blizhni Pt.

Scale 1:20,000 Date of survey 12 June - 20 September 1977

Instructions dated 23 February 1977 Project No. OPR-525-DA-77

Vessel NOAA Ship DAVIDSON & Launches DA-1 & DA-2

Chief of party CDR Christian Andreasen

Surveyed by LCDR R. Arnold, LCDR D. MacFarland, LTJG G. Wheaton, ENS S. Snyder, ENS C.B. Greenawalt, ENS E. McDougal, ENS L. Haas

Soundings taken by echo sounder, hand lead, pole Echo Sounder

Graphic record scaled by Ross digitizing fathometer and Raytheon DE-723 (used for bottom samples)

Graphic record checked by Ship's Personnel

Positions verified

~~XXXXXXXX~~ by Leonardo Deodato Automated plot by PMC Xynetics Plotter

Soundings

Verification by Leonardo Deodato

Soundings in and tenths fathoms ~~XXXX~~ at ~~XXXX~~ MLLW

REMARKS: Survey completed.

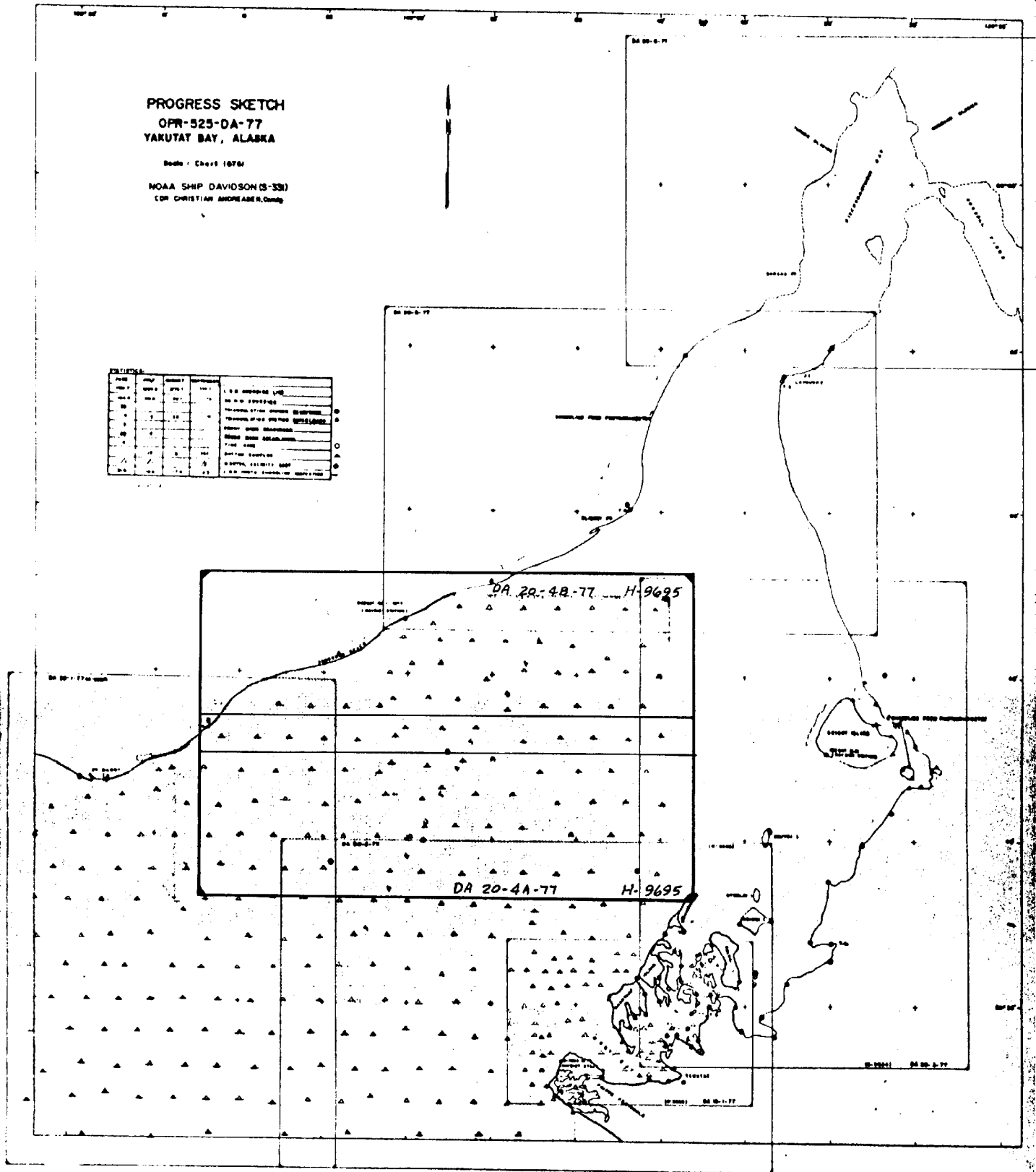
*Applied to stbd 6/12/79*  
*[Signature]*

**PROGRESS SKETCH**  
**OPR-525-DA-77**  
**YAKUTAT BAY, ALASKA**

Scale: Chart 10751

NOAA SHIP DAVIDSON (S-33)  
CDR CHRISTIAN ANDREASEN, Comd

OBSERVATIONS				
TIME	WIND	WAVE	SEA	REMARKS
0100	040	2-3	S	SEA STATE 2
0200	040	2-3	S	SEA STATE 2
0300	040	2-3	S	SEA STATE 2
0400	040	2-3	S	SEA STATE 2
0500	040	2-3	S	SEA STATE 2
0600	040	2-3	S	SEA STATE 2
0700	040	2-3	S	SEA STATE 2
0800	040	2-3	S	SEA STATE 2
0900	040	2-3	S	SEA STATE 2
1000	040	2-3	S	SEA STATE 2
1100	040	2-3	S	SEA STATE 2
1200	040	2-3	S	SEA STATE 2
1300	040	2-3	S	SEA STATE 2
1400	040	2-3	S	SEA STATE 2
1500	040	2-3	S	SEA STATE 2
1600	040	2-3	S	SEA STATE 2
1700	040	2-3	S	SEA STATE 2
1800	040	2-3	S	SEA STATE 2
1900	040	2-3	S	SEA STATE 2
2000	040	2-3	S	SEA STATE 2
2100	040	2-3	S	SEA STATE 2
2200	040	2-3	S	SEA STATE 2
2300	040	2-3	S	SEA STATE 2
2400	040	2-3	S	SEA STATE 2



A. PROJECT

Basic hydrographic survey H-9695, DA-20-4-77, was accomplished in accordance with Project Instructions OPR-525-DA-77, Yakutat Bay, Alaska, dated 23 February 1977; Change number 1 dated 25 March 1977; Change number 2, dated 4 May 1977; Change number 3, dated 13 June 1977; Change number 4, dated 20 June 1977 and change to section 3.4, dated 15 April 1977. ✓

B. AREA SURVEYED

The area surveyed lies within Yakutat Bay, Alaska, northwest of Khantaak Island and east of Schooner Beach. It is bounded on the north by latitude 59°47.3'N, the east by longitude 139°44.3'W, on the south by latitude 59°39.0'N to the western boundary at longitude 140°06.2'W, and then on the south by latitude 59°43.9'N to the western boundary at Schooner Beach. ✓

The survey began on 12 June and was completed on 20 September 1977.

C. SOUNDING VESSELS

Two vessels were used as sounding platforms for this survey. They are listed below with corresponding colors which were used in data recording and preliminary computer plots. ✓

<u>Vessel</u>	<u>Vessel #</u>	<u>Color</u>
DA-1	3131	Red
DA-2	3132	Blue

The ship DAVIDSON was used for bottom sampling in the deeper waters offshore of Schooner Beach.

D. SOUNDING EQUIPMENT

Both launches were equipped with Ross Fineline model 5000 fathometers. The serial numbers are as follows: ✓

<u>Vessel</u>	<u>Vessel #</u>	<u>Recorder</u>	<u>Digitizer</u>	<u>Echo Sounder</u>
DA-1	3131	1048	1081	1036
DA-2	3132	1077	1077	1077
DA-2	3132	1080*	1077	1081

\*Changed JD 173

This equipment was used in water depths ranging from 0.4 to 94 fathoms.

Phase calibrations were conducted on a daily basis from 0 to 200 fathoms at 10 fathom intervals.

Soundings have been corrected for transducer depth (TRA) and predicted tides. Hourly predicted heights of tides were supplied by Oceanographic Division, Tides and Water Levels Branch. Six tide gages were installed by DAVIDSON during this survey. They were located at Point Manby 1, Point Manby 2, North Blizhni Point, Point Latouche, Redfield Cove and Johnstone Passage (see the Field Tide Note for details). ✓

Soundings have not been corrected for velocity (refer to Velocity Corrections\* Table). Two Nansen casts and two CTD casts were taken during the project. The casts were taken on the following dates: 10 June (CTD), 27 July (Nansen), 1 September (Nansen) and 15 September 1977 (CTD). The CTD casts were supplied by the NOAA Ships MILLER FREEMAN and SURVEYOR respectively. Both ships provided the data from their routine Outer Continental Shelf Environmental Assessment Project (OCSEAP) investigations of Yakutat Bay. Bar checks were attempted twice daily to determine TRA correctors for the launches. Occasionally the attempts were unsuccessful due to poor weather and/or swell conditions (see Corrections to Echo Sounders Report). All fathograms were scanned and compared to digitized depths. Additions (peaks and deeps) and corrections were edited onto the electronic corrector tape. The fathometer initials were maintained at zero, on Launch 3131. See Q.C. Report. ✓  
\*Velocity Corrections graphs filed in "Correction to Echo Sounders Report."

#### E. HYDROGRAPHIC SHEETS

All field sheets for this survey were prepared using the HYDROPLOT system on DAVIDSON. A PDP 8/e computer (S/N 09492) was linked with a COMLOT DP3 plotter (S/N 5445-5) for computations and plotting. ✓

Two 1:20,000 scale computer sheets comprise this survey. These sheets are referred to, from south to north, as DA-20-4A-77 and DA-20-4B-77. Two 1:20,000 scale overlays were generated for 45 meter splits and small developments to eliminate the problem of congested soundings on the Final Field Sheet.

F. CONTROL STATIONS

Six triangulation stations were recovered.

Stations Recovered

\*KNIGHT 1941 ✓  
KNIGHT 1941 RM3 1975 (Signal)  
AREST 1941 (Signal built at AREST RMI 1941)  
BLIZ 1974  
LUFF 1974  
MALASPINA SOUTHWEST BASE 1892

*The 1892 and 1941 stations were adjusted from a traverse of 1959 and new NA 1927 values were determined*  
During the course of the survey third-order, class I geodetic positions were determined for seven monumented and two temporary (unmonumented) triangulation stations.

New Stations

SEATTLE 1977 (Signal) ✓  
NEAR 2 1977 (Signal)  
COORS 1977 (Signal)  
\*DONNA 1977 (Signal built at DONNA RMI 1977)  
BOBCAT 1977 (\*RAYDIST site at BOBCAT RMI 1977)  
COYOTE 1977  
SCHOONER 1977  
TEMP PT #1  
TEMP PT #2

\*RAYDIST stations were located at the stations marked with asterisks.

The new stations were determined by triangulation in the area of Monti Bay and in the islands north of Monti Bay, and by traverse down the western shore of Yakutat Bay from triangulation station BLIZ 1974 south to triangulation station MALASPINA SOUTHWEST BASE 1892. The only stations that fall within the area of this survey are those at the southern end of the traverse leading to MALASPINA SOUTHWEST BASE 1892. ✓

Refer to the Signal List for geodetic positions of all stations. Computations are based on the North American 1927 Datum (see the Horizontal Control Note).

G. HYDROGRAPHIC POSITION CONTROL

Navigational control of hydrography for this survey was accomplished with a HASTINGS-RAYDIST DR-S medium range

radio positioning system, that was operated in the range-range mode. The mean frequency used in the computer programs for the RAYDIST work is 3306.45 kHz (lane width 45.316 meters). Positioning equipment was installed as follows:

DA-1 (Vessel #3131)

Transmitter.....Model #TA-96B.....S/N 172 ✓  
 Navigator.....Model #ZA-67A.....S/N 54 ✓  
 Strip Chart Recorder..Model #RB-15.....S/N 14  
 Hazlow computer-Navigation Interface.....S/N 34  
 28 foot whip antenna

DA-2 (Vessel #3132)

Transmitters.....Model #TA-96.....S/N 20  
                           Model #TA-96B.....S/N 171 ✓  
 Navigators.....Model #ZA-67A.....S/N 47  
                           Model #ZA-67A.....S/N 26  
 Strip Chart Recorders.Model #RB-15.....S/N 16  
                           Model #RB-15.....S/N 15  
 Hazlow Computer-Navigation Interface.....S/N 4  
 28 foot whip antenna

NOAA Ship DAVIDSON (Vessel #3130)

Transmitters.....Model #TA-96.....S/N 20  
                           Model #TA-96B.....S/N 171 ✓  
 Navigators.....Model #ZA-67A.....S/N 47  
                           Model #ZA-67A.....S/N 26 ✓  
 Strip Chart Recorders.Model #RB-15.....S/N 16  
                           Model #RB-15.....S/N 15  
 Hazlow Computer-Navigation Interface.....S/N 33  
 28 foot whip antenna

Knight Island

Transmitter.....Model #AA-60A.....S/N 234  
 42 foot antenna ✓  
 Red shore station: located at triangulation station  
 KNIGHT 1941. Additional 2 feet of antenna was added on  
 July 7 in an effort to improve the red RAYDIST signal.

Schooner Beach

Transmitter.....Model #AA-60A.....S/N 234 ✓  
 60 foot antenna  
 Red shore station: relocated to traverse station BOBCAT  
 RML 1977 from KNIGHT 1941 on 10 August 1977.

Point Carrew

Transmitter.....Model #AA-60.....S/N 15 ✓  
 42 foot antenna  
 Green shore station: located at triangulation station  
 DONNA 1977.

Due to the lack of recoverable control stations along the western shore of Yakutat Bay, visual calibrations were made on the east side of the bay, generally in the area off Monti Bay. The traverse that was run down the west side of the bay was not done until late in the season, and was run primarily for the purpose of obtaining a RAYDIST site near a river such that boats could support the site from the back side of the beach away from the surf. The control was not available during hydrography on this sheet. ✓

Calibrations were performed daily using a series of three-point visual sextant fixes. During the initial calibration each day, the lane count was slewed to within one lane of the true value. Normally, the ending calibration consisted of a second series of three-point visual sextant fixes. In addition to the sextant calibrations, the whole lane count for each rate was verified periodically during the day by checking in with buoys that were anchored by the launch in shoal water in or near the working area. This was done so the launch could verify suspected lane jumps while still in the working area rather than having to run a long distance to calibrate visually. The position of each buoy installed depended on the launch "carrying over" the whole lane count to the buoy position and then returning for a valid visual closing calibration, and repeatedly carrying the lane count to the same buoy on successive days. When lane count was found to have changed and the lane jump could not be located on the strip chart, then the hydrography was rerun. On those days where inclement weather precluded an ending visual calibration, a whole lane count check was made at a buoy, and the data was plotted using the "partial corrector" calculated based on the morning visual calibration. ✓

On the morning of 12 June 1977 (JD 163) a section of the launch antenna on vessel 3132 dropped causing the received signal to deteriorate. The launch returned to the calibration area at midday and successfully end-calibrated. The red rate was then slewed one lane to reduce the corrector. The launch then recalibrated and continued to run. The data obtained in the morning was originally rejected in the field because a lane jump was thought to have occurred. After rescanning the strip chart and raw data printout it was found that no lane loss had occurred during this time and the data was subsequently retained. During the afternoon an antenna section again dropped and in the process of raising it a loss of one lane was experienced. This lane loss was verified by the day's final calibration but was mistakenly not accounted for in processing the data. ✓



until after completion of the hydrographic survey. The Final Field Sheet was plotted using an incorrect electronic corrector affecting the sounding positions from fix number 4136 through fix number 4199. The electronic corrector tape has been changed to reflect the proper values.

On 22 June 1977 (JD 173) vessel 3132 experienced a loss of 28 lanes in the red rate and a gain of 62 lanes in the green rate at the end of the day. Early in the afternoon, the strip chart pen for the green rate became inoperative. Following this, the audio for both rates was monitored frequently for any indication of signal deterioration. During the latter part of that afternoon, near the end of a line, the incoming audio signal on both rates simultaneously became erratic and the officer-in-charge began continuously monitoring the phase indicators on the RAYDIST Navigator while the launch returned to the calibration area. During the early part of the return trip, the audio signal on both rates continued to be erratic and the phase indicators indicated lane jumps. Later during the return trip, both rates abruptly returned to strong incoming signals prior to the ending calibration. That evening the raw data printout and strip chart were rescanned and it was determined that the lane loss in the red rate occurred when the incoming signal deteriorated. Although the green rate lane gain could not be recovered, since the green pen on the strip chart was inoperative, the data was retained based on the assumption that all lanes were gained after the time of hydrography simultaneously with failure of the red rate. Even though this is a somewhat dangerous assumption in that absolute resolution of the green rate gain could not be made, the hydrography run was developmental in nature in an area of rugged topography, and the lines fit extremely well with the hydrography run on other days. This hydrography is on the eastern side of DA-20-4A-77. ✓

On 27 June 1977 (JD 178), a buoy was installed by vessel 3132 at the beginning of the day, and during the day there was no indication of a lane jump. At the closing visual calibration, it was found that a loss of two lanes had been experienced. The buoy had been stopped at several times during the day and the lane count agreed each time with the installation rates. It was concluded from this that the two lane loss occurred either in the run to the installation point at the beginning of the day, or on the dead head run back to the calibration area at the completion of the day. It was found on the next trip to the buoy that the whole lane count of the buoy was incorrect by two lanes. This indicated that the lane loss occurred ✓

before the buoy's placement and that the day's data, which was plotted using the ending corrector, had been plotted with the proper corrector. The hydrography from this data was retained.

On 12 July 1977 (JD 193), while launch 3132 was running hydrography on this sheet, the green RAYDIST station was mysteriously shut down by a spurious signal on the frequency used to remotely key the shore station on and off. Remote control units were used throughout the season to key both RAYDIST shore stations off when not in use so that the batteries could be conserved. Keying was done from the ship DAVIDSON. On this same date, launch 3131 was also running hydrography and lost signal from the green RAYDIST station simultaneously with launch 3132. The ship was contacted, and the ship confirmed that the green shore station had shut down. The ship then keyed the station on, but the station was again mysteriously shut down. After several quick repetitions of this, the station was successfully brought on the air and continued to operate uninterrupted for the remainder of the day. The launch, which apparently had not drifted a whole lane during the incident, returned to the calibration area upon restoration of the green signal, and successfully recalibrated prior to running any additional hydrography. The strip chart and raw data printout were rescanned, and it was found that no lane loss or gain had occurred. All hydrography from this data was retained. ✓

#### H. SHORELINE

The shoreline for this survey was derived from manuscripts TP-00616 and TP-00617. It should be noted that the shoreline determined photogrammetrically for this survey differs significantly from the shoreline as presently charted. (See Change No. 1 to the project instructions.) Field edit of the shoreline and foreshore features along the area of hydrography was accomplished in the field using the photographs. Field edit was particularly difficult because of the continuous surf along the beach, and the lack of horizontal control. (See Field Edit Reports TP-00616 and TP-00617.) ✓

The significant feature of this shoreline is its migratory nature. Although the photography was fairly recent, summer 1975, the hydrography crosses the compiled shoreline in some areas and does not approach close enough in others. This is not the fault of the photogrammetrist or the hydrographer, but is solely attributable to the forces of nature.

A number of streams transport sediment to the western shore of Yakutat Bay from Malaspina Glacier, a glacier approximately the size of the state of Rhode Island. Although these streams approach Yakutat Bay perpendicular to the beach, none of them enter directly into the bay. Each of them has developed an alongshore bar that causes the stream to flow northeast before entering the bay, which is an indication of the alongshore sediment transport. Also, see section P. MISCELLANEOUS of this report.

Conversations with local fishermen, familiar with the western shore of the bay because of gillnetting for salmon inside the streams, indicate that there is considerable change in the shoreline and stream entrances from year to year particularly after the winter storms. They indicate that changes in elevation of five to ten feet per year are common along the shore.

Thus, it is evident that the shoreline from Pt. Manby to Blizhni Pt. will be subject to change from year to year. (See section Q. RECOMMENDATIONS.)

I. CROSSLINES

Crosslines comprised 6.4% of the total hydrography.

Crossline soundings were in excellent agreement with the main scheme hydrography. Soundings agreed within one fathom in waters deeper than eleven fathoms, and generally agreed within one-half fathom in waters less than eleven fathoms.

J. JUNCTIONS

This survey, DA-20-4-77 (H-9695), <sup>2-2-84</sup> junctioned with contemporary surveys DA-20-1-77 and DA-20-2-77 <sup>4-2-84</sup> at the southwestern and the southern ends of the survey area, respectively. No soundings from these surveys were inked on the Final Field Sheet as they were run concurrently with this survey. The soundings in the overlap area are in excellent agreement with this survey.

K. COMPARISON WITH PRIOR SURVEYS AND PRESURVEY REVIEW

Selected soundings from several prior surveys were inked on the field sheet as indicated below.

<u>Survey</u>	<u>Scale</u>	<u>Year</u>	<u>Color</u>
H-2157	1:40,000	1892	Blue
H-2158	1:40,000	1892	Red

<u>Survey</u>	<u>Scale</u>	<u>Year</u>	<u>Color</u>
H-2159	1:40,000	1892	Green
H-6719	1:20,000	1941	Brown
H-6720	1:20,000	1941	Orange

This survey compares very well with H-2157. The area of overlap, the southeast corner of this survey, is small and only two representative soundings were transferred. ✓

This survey is in poor agreement with H-2158. Many of the representative soundings agree within four fathoms. Six transferred soundings were shoaler than the present survey. In all of these cases similar depths were found within two-tenths of a mile of the prior survey soundings. ✓

<u>Latitude</u>	<u>Longitude</u>	<u>Difference (fms)</u>
59°39'33"N	139°45'32"W	20 <sup>33</sup>
59°43'18"N	140°00'53"W	3
59°42'50"N	139°48'18"W	3 <sup>4</sup>
59°41'10"N	139°48'50"W	2 <sup>3</sup>
59°39'25"N	139°48'00"W	13 <sup>5</sup>
59°39'25"N	140°01'45"W	3 <sup>4</sup>

(to boat sheet)  
Seventeen transferred soundings were found to be more than four fathoms deeper than the present survey. ✓

<u>Latitude</u>	<u>Longitude</u>	<u>Difference (fms)</u>
59°39'00"N	139°52'48"W	6 <sup>4</sup>
59°39'17"N	139°46'41"W	7 <sup>6</sup>
59°40'25"N	139°55'39"W	6 <sup>5</sup>
59°39'10"N	139°59'37"W	16
59°41'10"N	139°59'28"W	5 <sup>4</sup>
59°42'20"N	140°00'19"W	5 <sup>4</sup>
59°40'40"N	140°02'39"W	6 <sup>5</sup>
59°39'54"N	140°03'40"W	8 <sup>7</sup>
59°39'08"N	140°04'40"W	8 <sup>4</sup>
59°46'00"N	139°51'39"W	5
59°44'42"N	139°54'15"W	5 <sup>6</sup>
59°46'12"N	139°55'30"W	7
59°42'55"N	139°56'45"W	5 <sup>4</sup>
59°44'35"N	139°57'35"W	6
59°43'08"N	139°59'05"W	7 <sup>6</sup>
59°43'10"N	140°03'02"W	7
59°43'15"N	140°04'09"W	50 <sup>4</sup>

As H-2158 is quite old, the differences listed above may be attributed to modern surveying methods and equipment. ✓

This survey is in fair agreement with H-2159. All representative soundings were within 3 fathoms, except for the

37 fathom sounding at latitude 59°46'30"N, longitude 139°49'40"W and the 31 fathom sounding at latitude 59°47'05"N, longitude 139°50'15"W, which depths were deeper than the present survey, by six and seven fathoms respectively. depths

This survey is in very good agreement with H-6719. Most of the representative soundings are within one fathom and all but one are within two fathoms. That one sounding, at latitude 59°43'10"N, longitude 140°05'30"W, differs by approximately ~~six~~ <sup>two</sup> fathoms, but lies within 0.1 mile of similar soundings.

In less than fifty fathoms, the representative soundings from H-6720 agree very well with the present survey. Agreement in this range of depth was one fathom. The difference increased as the depth increased over fifty fathoms. All present soundings were shoaler than the prior survey in the greater than fifty fathom depths. These differences may be the result of using modern depth sounding equipment.

<u>Latitude</u>	<u>Longitude</u>	<u>Difference (fms)</u>
59°39'08"N	139°55'18"W	3 <sup>2</sup>
59°42'56"N	139°45'22"W	3 <sup>2</sup>
59°40'38"N	139°46'00"W	13 <sup>1</sup>
59°39'32"N	139°45'50"W	13 <sup>5</sup>

Two dashed unnumbered areas on the Presurvey Review fall within the area of this survey. The 6.5 fathom feature located at approximately latitude 59°40.0'N, longitude 139°48.0'W was developed at 22 meter line spacing. The depth of 6.5 fathoms was verified at latitude 59°40.1'N, longitude 139°48.0'W. See Verifier's Report, para VI

The ridge located at approximately latitude 59°42.5'N, longitude 139°50.5'W was developed at 45 meter line spacing. This development verified the existence of the fourteen <sup>14.6</sup> fathom sounding at latitude 59°42.95'N, longitude 139°50.3'W. Least depths of 12<sup>3.4</sup> fathoms at latitude 59°42.4'N, longitude 139°50.8'W and 13<sup>0</sup> fathoms at latitude 59°41.75'N, longitude 139°51.5'W were found instead of the presently charted 14 fathom depths at these two positions. See Verifier's Report, para VI

L. COMPARISON WITH CHART

The largest scale chart of the survey area is chart no. 16761, Yakutat Bay (scale 1:80,000, 11th edition, 28

August 1976). Representative soundings from this chart were inked on the Final Field Sheet in violet. These soundings were in very good agreement with this survey except for a 107 fathom sounding located at latitude 59°40'40"N, longitude 139°46'00"W, which apparently originates with H-6720. The present survey had a maximum depth in that area of 94 fathoms. ✓

M. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede all prior surveys common with this area. No additional field work is recommended. ✓

N. AIDS TO NAVIGATION

There are presently no fixed or floating aids to navigation within the survey area. It is recommended that the schooner located at latitude 59°45'07.610"N, longitude 140°06'18.528"W be added to the chart as a landmark. This schooner is fast in the sand on the beach with the three masts visible. These masts form a good landmark from seaward. The position given is for triangulation station TAT 1941 which lies next to the center mast of three masts. See attached Form 76-40. ✓

O. STATISTICS

Hydrographic positions: 3938  
Nautical miles of sounding line:  
Vessel 3132 (DA-2): 1183.5  
Vessel 3131 (DA-1): 238.6  
Total: 1422.1 ✓

Area surveyed: 89.7 square nautical miles  
Number of bottom samples: 45  
Number of Nansen casts: 2  
Number of CTD casts: 2

P. MISCELLANEOUS

During the hydrography along Schooner Beach, sand bars approximately 100 meters offshore were noted along portions of the beach. These appear to be examples of the migratory sand bars common to a summer type beach (accreting). Additionally, it was noted by shore parties on the west side of the bay that a significant littoral current was present in the area. Changes in the shoreline, as verified by hydrography, since the photogrammetry was conducted, also indicate a large amount of sediment transport. ✓

Q. RECOMMENDATIONS

A cautionary note should be added to the chart to warn mariners of the potential hazards along the beach from Pt. Manby to Blizhni Pt. The note should state that the western shore of Yakutat Bay from Pt. Manby to Blizhni Pt. is subjected to heavy surf conditions and longshore currents which make beach landings hazardous, and cause migration of the shoreline and nearshore sand bars. Boat landings at stream entrances should only be made with local knowledge and near times of high tide. ✓

R. DATA PROCESSING TECHNIQUES

All field sheets were produced with a PDP 8/e computer (S/N 09492) and COMLOT plotter (S/N 5445-5). The computer programs used to process this survey were:

#	Program Name	Version Date
RK-111	Range-Range Real Time Hydroplot	1/10/76
RK-201	Grid, Signal and Lattice Plot	4/18/75
RK-211	Range/Range Plot	1/15/76
RK-300	Utility Computations	2/10/76
RK-407	Geodetic Inverse/Direct Computation	10/23/75
RK-409	Geodetic Utility Package	9/05/73
AM-602	Elinore--Line Oriented Editor	5/21/75

 ✓

S. REFERENCES TO REPORTS

Field Tide Note OPR-525-DA-77  
Corrections to Echo Sounders Report DA-20-4-77 ✓  
Horizontal Control Note OPR-525-DA-77  
Electronic Control Note DA-20-4-77  
Field Edit Report TP-00616  
Field Edit Report TP-00617  
Coast Pilot, OPR-525-DA-77

Submitted by,

*Steven S Snyder*

Steven S. Snyder  
ENS, NOAA

Approved and Forwarded by,

*Christian Andreasen*

Christian Andreasen  
CDR, NOAA  
Commanding Officer

SIGNAL LIST  
 OPR-525-DA-77

<sup>1892 and</sup>  
 The 1941 stations have been adjusted  
 to a 1959 traverse.

001	4	59	42	39307	139	35	16704	250	0003	330645
KNIGHT, 1941										
002	6	59	33	29037	139	50	19581	250	0011	330645 *
DONNA, 1977										
003	5	59	33	03127	139	48	22668	250	0000	000000
COORS, 1977										
004	4	59	35	08332	139	48	04624	250	0000	000000
NEAR 2, 1977										
005	2	59	37	09880	139	44	41604	250	0003	000000
AREST, 1941										
006	1	59	41	42487	140	19	22657	139	0006	000000
BEACH 7, 1959										
007	5	59	33	28983	139	50	20039	250	0000	000000 *
DONNA RM1, 1977										
008	2	59	42	38582	139	35	15177	139	0000	000000
KNIGHT 1941 RM3, 1975										
009	4	59	33	35600	139	46	56916	250	0000	000000
KHANTAAN ISLAND LIGHT 1974, 1977										
010	4	59	33	53672	139	47	18809	139	0000	000000
FAITH, 1977										
011	4	59	34	19028	139	47	45276	139	0000	000000
CAROL, 1977										
012	5	59	37	10153	139	44	41296	250	0000	000000
AREST RM1, 1941										
013	1	59	32	39089	139	43	40811	139	0000	000000
YAKUTAT RADIO TOWER 1974										
014	1	59	43	27625	140	11	45592	139	0000	000000
MALASPINA SOUTHWEST BASE RM2, 1892 <sup>4</sup>										
015	2	59	46	40644	140	00	02060	250	0008	330645 *
BOBCAT RM1, 1977										
016	6	59	32	40486	139	44	31565	139	0000	000000
BOLD, 1941										
017	6	59	32	41507	139	45	36802	250	0002	000000
BLOOD, 1941										
018	0	59	34	13658	139	46	42978	250	0001	000000
DATU, 1941										
019	1	59	34	37199	139	46	27491	250	0002	000000
BLEND, 1941										
020	0	59	34	38471	139	45	47045	250	0001	000000
DEER, 1941										
021	3	59	35	18376	139	45	56450	250	0002	000000
CRATER, 1941										
022	1	59	35	05984	139	45	10796	250	0001	000000
ABLE, 1941										
023	7	59	34	04812	139	44	42467	250	0002	000000
CROW, 1941										
024	6	59	34	08167	139	44	02834	139	0001	000000
BEAR, 1941										
025	5	59	33	45685	139	43	13049	139	0001	000000
CAMP, 1941										

\* 1977 work pending final adjustment by NGS,  
 shown as "Field pos." on the present smooth sheet.



SIGNAL LIST CONT.  
OPR-525-DA-77

026	7	59	33	58283	139	42	43995	139	0006	000000
CASTRO,1941										
027	3	59	34	17276	139	43	22268	139	0002	000000
BOAT,1941										
028	2	59	34	41652	139	43	13341	139	0001	000000
CATCH,1941										
029	3	59	35	51710	139	43	02784	250	0000	000000
COCKEL,1941										
030	2	59	35	28832	139	44	32456	139	0002	000000
BALOD,1941										
031	5	59	35	04154	139	42	45343	139	0000	000000
DISK,1941										
032	6	59	34	54467	139	42	08077	139	0001	000000
CURLEW,1941										
033	4	59	35	17971	139	42	06004	139	0003	000000
DOVE,1941										
034	1	59	35	19879	139	42	56665	139	0002	000000
BLACK,1941										
035	0	59	35	39140	139	43	46335	139	0001	000000
DOLE,1941										
036	3	59	36	08421	139	43	49157	250	0001	000000
ALDER,1941										
037	3	59	36	39476	139	44	07608	139	0001	000000
CAIN,1941										
038	0	59	37	11135	139	43	30010	139	0012	000000
BOHAN,1941										
039	7	59	36	31464	139	42	50464	139	0001	000000
CANOE,1941										
040	4	59	36	10976	139	43	12044	250	0002	000000
AKRON,1941										
041	3	59	34	59364	139	40	32627	139	0006	000000
ELBOW,1941										
042	5	59	34	11761	139	40	11193	139	0001	000000
HEEL,1941										
043	6	59	34	05060	139	38	17314	139	0006	000000
FINGER,1941										
044	4	59	34	39155	139	39	01403	139	0006	000000
HEAVY,1941										
045	3	59	35	44964	139	40	19908	139	0002	000000
FIRST,1941										
046	6	59	35	59587	139	39	25142	139	0015	000000
FITZ,1941										
047	4	59	35	41464	139	37	35911	139	0030	000000
GROW,1941										
048	4	59	36	22924	139	34	58348	139	0015	000000
HERRING,1941										
049	4	59	36	58519	139	36	09507	139	0004	000000
ERMINE,1941										
050	4	59	37	29507	139	40	22355	139	0000	000000
KRUTOIRMI,1941										

SIGNAL LIST CONT.  
 OPR-525-DA-77

051	2	59	37	32453	139	38	24015	139	0003	000000
GRASS,1941										
052	5	59	37	32398	139	38	23536	139	0000	000000
GRASS RM2,1941										
053	1	59	39	49598	139	38	43763	139	0002	000000
FOXY,1941										
054	3	59	40	16654	139	38	29885	139	0002	000000
KRUTOI,1941										
055	4	59	39	50717	139	33	09274	139	0015	000000
GOON,1941										
056	4	59	40	51868	139	31	27030	139	0023	000000
ELEANOR,1941										
057	6	59	42	13438	139	30	29884	139	0000	000000
LEAN,1974										
058	2	59	33	06783	139	44	14066	139	0000	000000
YAKUTAT WATER TANK,1974										
059	6	59	32	44271	139	48	27223	139	0000	000000
ANK,1974										
060	1	59	32	11009	139	51	15115	139	0010	000000
ANKAU 2,1941										
061	6	59	43	27098	140	11	46277	139	0013	000000
MALASPINA SOUTHWEST BASE,1892										
062	6	59	50	13083	139	47	01978	139	0000	000000
BLIZ,1974										
063	3	59	54	49122	139	43	34880	139	0000	000000
ESKER,1974										
064	4	59	55	06887	139	34	48888	139	0000	000000
DOLCE,1974										
065	7	59	54	10707	139	37	39253	139	0000	000000
LUFF,1974										
066	1	59	35	44393	139	46	22905	250	0000	000000
SEATTLE,1977										
067	5	59	46	40122	140	00	02573	139	0008	000000 *
BOBCAT,1977										
068	1	59	34	14600	139	43	01335	250	0000	000000
CALDWELL,1977										
069	7	59	33	17924	139	50	49544	250	0000	000000
GUN,1977										
070	4	59	32	30854	139	51	42239	250	0000	000000
ARCO,1977										
071	6	59	32	07902	139	51	17167	250	0000	000000
PHIPPS,1977										
072	4	59	31	43487	139	50	10486	250	0000	000000
KARDY,1977										
073	4	59	32	20020	139	50	51194	139	0000	000000
DIVER,1977										
074	5	59	32	19761	139	51	02530	139	0000	000000
SCUBA,1977										

SIGNAL LIST CONT  
 OPR-525-DA-77

075	4	59	32	10287	139	51	07040	139	0000	000000
ELLEN,1977										
076	1	59	32	16481	139	49	36829	139	0000	000000
SKIPPER,1977										
077	6	59	32	04502	139	49	28786	139	0000	000000
LINDA,1977										
078	1	59	32	29611	139	50	00870	139	0000	000000
ISLAND,1977										
079	3	59	33	55245	139	43	19031	139	0000	000000
FOUND,1977										
080	3	59	34	12998	139	47	21491	250	0000	000000
DORN,1977										
081	6	59	36	32335	139	42	43689	139	0000	000000
CATHY,1977										
082	1	59	36	26988	139	42	25438	250	0000	000000
WARDROOM,1977										
083	1	59	36	11249	139	42	22169	250	0000	000000
QUACK,1977										
084	1	59	36	10073	139	41	39359	250	0000	000000
TEXAS, 1977										
085	2	59	36	44573	139	41	56385	250	0000	000000
BOJO,1977										
086	3	59	35	37695	139	44	59315	139	0000	000000
ZEAG,1977										
087	4	59	36	05312	139	44	41956	139	0000	000000
MAINE,1977										
088	3	59	36	23776	139	45	11580	139	0000	000000
GLENN,1977										
089	2	59	36	44008	139	45	11089	139	0000	000000
EVAN,1977										
090	6	59	36	31340	139	44	32840	139	0000	000000
GENE,1977										
091	6	59	36	33162	139	44	15288	139	0000	000000
KAREN,1977										
092	0	59	32	05874	139	51	02666	250	0000	000000
TEMP.PT.5										
093	0	59	32	30818	139	51	41480	250	0000	000000
ARCO RM1,1977										
094	0	59	34	45052	139	43	59047	139	0000	000000
BOAR RM1,1977										
095	0	59	34	45292	139	43	57023	250	0000	000000
BOAR RM2,1977										
096	1	59	47	53524	139	55	02085	139	0000	000000 *
COYOTE,1977										
097	1	59	45	32080	140	04	04718	139	0000	000000 *
SCHOONER,1977										

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

Replaces C&GS Form 567.

TO BE CHARTED  
 TO BE REVISED  
 TO BE DELETED

REPORTING UNIT:  (If field party, ship or official) NOAA Ship DAVIDSON STATE: Alaska LOCALITY: Yakutat Bay DATE: 9/14/77

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

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	POSITION		METHOD AND DATE OF LOCATION (See instructions on reverse side)	FIELD	CHARTS AFFECTED
		LATITUDE	LONGITUDE			
		° / ' D.M. Meters	° / ' D.P. Meters			
CENTER MAST OF THREE MASTS	Schooner fast in sand. Only the three masts now uncovered. G.P. THREE MASTS is TAP 1941, which is 4 feet east of the center mast.	59 45 07.610	140 06 18.528	1-1-77	V-1-Vis.	16761

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

OPR-525-DA-77  
 VELOCITY CORRECTOR TAPE PRINTOUT  
 TABLE 1

Depth	Corr. (Fms + tenths)
000036	0 0000 0001 001 232000 000000
000100	0 0001
000168	0 0002
000230	0 0003
000281	0 0004
000332	0 0005
000383	0 0006
000436	0 0007
000489	0 0008
000539	0 0009
000590	0 0010
000641	0 0011
000692	0 0012
000744	0 0013
000795	0 0014
000847	0 0015
000898	0 0016
000949	0 0017
001000	0 0018
001051	0 0019
001102	0 0020
001154	0 0021
001205	0 0022
001257	0 0023
001308	0 0024
001359	0 0025
001410	0 0026
001460	0 0027
001512	0 0028
001563	0 0029
999999	0 0029

*Table 1 was tabulated by the Ship Miller Freeman*

OPR-525-DA-77

VELOCITY CORRECTOR TAPE PRINTOUT  
TABLE 2

<i>Depth</i>	<i>Corr</i> <i>(Fms + tenths)</i>					
000036	0	0000	0002	001	313000	000000
000109	0	0001				
000162	0	0002				
000218	0	0003				
000297	0	0004				
000389	0	0005				
000482	0	0006				
000575	0	0007				
000666	0	0008				
000757	0	0009				
000850	0	0010				
000943	0	0011				
001035	0	0012				
001129	0	0013				
001220	0	0014				
001312	0	0015				
001406	0	0016				
001498	0	0017				
001591	0	0018				
999999	0	0018				

OPR-525-DA-77  
 VELOCITY CORRECTOR TAPE PRINTOUT  
 TABLE 3

Depth	Corr (Fms. + tenths)	3
000024	0 0000	000 001 313000 000000
000068	0 0001	
000120	0 0002	
000177	0 0003	
000232	0 0004	
000290	0 0005	
000346	0 0006	
000403	0 0007	
000461	0 0008	
000518	0 0009	
000573	0 0010	
000631	0 0011	
000689	0 0012	
000746	0 0013	
000802	0 0014	
000858	0 0015	
000914	0 0016	
000973	0 0017	
001030	0 0018	
001088	0 0019	
001146	0 0020	
001202	0 0021	
001259	0 0022	
001318	0 0023	
001372	0 0024	
001431	0 0025	
001489	0 0026	
001545	0 0027	
999999	0 0027	

OPR-525-DA-77  
VELOCITY CORRECTOR TAPE PRINTOUT  
TABLE 4

Depth	Corr	(Fms + tenths)
000031	0	0000 0004 001 321000 000000
000101	0	0001
000169	0	0002
000222	0	0003
000277	0	0004
000329	0	0005
000389	0	0006
000451	0	0007
000520	0	0008
000582	0	0009
000649	0	0010
000711	0	0011
000778	0	0012
000841	0	0013
000908	0	0014
000972	0	0015
001037	0	0016
001101	0	0017
001168	0	0018
001231	0	0019
001296	0	0020
001360	0	0021
001425	0	0022
001491	0	0023
001555	0	0024
999999	0	0024

Table 4 was tabulated by the Ship Surveyor.



U.S. DEPARTMENT OF COMMERCE  
April 20, 1978 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): 945-3215 Johnstone Passage, Ak.  
945-3289 Point Manby, Ak.

Period: June 12-September 20, 1977

HYDROGRAPHIC SHEET: H-9695

OPR: 525

Locality: Yakutat Bay, Alaska

Plane of reference (mean lower low water) 4.4 ft. - Johnstone Passage  
3.6 ft. - Point Manby

Height of Mean High Water above Plane of Reference is  
9.1 ft. - Johnstone Passage; 8.9 ft. - Point Manby

Remarks: Zone direct on Point Manby.

NOTE: For June hydro (Point Manby gage inoperative) zone on  
Johnstone Passage and apply range ratio x0.97.

*James E. Hubbard*  
for Chief, Tides Branch

Lengthy field tide note filed with field records.

GEOGRAPHIC NAMES

H-9695

Name on Survey	Source of Name										Sheet	
	A	B	C	D	E	F	G	H	I	J		
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	RAND McNALLY ATLAS	U.S. LIGHT LIST				
KAME STREAM	✓ 16761										00617	1
SCHOONER BEACH	✓ 16761										00617	2
SUDDEN STREAM	✓										00617	3
YAKUTAT BAY	✓ 16761										00616 00617	4
BLIZHNI POINT (TITLE)												5
												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25

Approved:

*Chas. E. Harrington* - C345  
Chief Geographer

5 APRIL 1979

APPROVAL SHEET  
FOR  
SURVEY H- 9695

- 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: 24 Jan 79

Signed: \_\_\_\_\_

Title: Chief, Verification Branch

HYDROGRAPHIC SURVEY STATISTICS

H-9695

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	54&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 with	printouts				
VOLUMES	1					
BOXES			1-smooth(2 parts)& tides			1-sawtooth

T-SHEET PRINTS (List) 1 ea. copies of TP-00616 & 17

SPECIAL REPORTS (List) 1-tide 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			3863
POSITIONS CHECKED		3863	
POSITIONS REVISED		283	
SOUNDINGS REVISED		323	
SOUNDINGS ERRONEOUSLY SPACED		35	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		-	

PROCESSING ACTIVITY	TIME - HOURS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	4		
VERIFICATION OF CONTROL		16	
VERIFICATION OF POSITIONS		39	
VERIFICATION OF SOUNDINGS		253	
COMPILATION OF SMOOTH SHEET		47	
APPLICATION OF TOPOGRAPHY		6	
APPLICATION OF PHOTOBATHYMETRY			
JUNCTIONS		24	
COMPARISON WITH PRIOR SURVEYS & CHARTS		69	
VERIFIER'S REPORT		24	
OTHER		3	
<b>TOTALS</b>	<b>4</b>	<b>478</b>	

Pre-Verification by James Green	Beginning Date 2/12/78	Ending Date 2/12/78
Verification by Leonardo T. Deodato	Beginning Date 6/21/78	Ending Date 12/11/78
Verification Check by Otsubo and Green	Time (Hours) 96	Date 1/19/79
Marine Center Inspection by HIT	Time (Hours) 18	Date 2/6/79
Quality Control Inspection by R.W. Derkazanian	Time (Hours) 52	Date 3/23/79
Requirements Evaluation by J. Bauerjohann	Time (Hours) 2	Date 5/7/79

*G. Myers 10 hrs 4/19/79*

REGISTRY NO. \_\_\_\_\_

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

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

REMARKS:

REGISTRY NO. H-9695

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:

The following soundings were deleted from the smooth sheet; i.e., excessed; to effect a junction between the present survey and H-9688 (1977):

- 10.3 vicinity of latitude 59°38.85', longitude 139°50.75'
- 11.3 vicinity of latitude 59°38.82', longitude 139°50.75'

During update the referenced soundings should be placed in the excess data bank. It is noted, however, that the final printout has not been annotated.

*N.W. 6-27-79*

PACIFIC MARINE CENTER  
VERIFIER'S REPORT

REGISTRY NO: H-9695

FIELD NO: DA-20-4-77

Alaska, Yakutat Bay, Schooner Beach to Blizhni Pt.

SURVEYED: 12 June - 20 September 1977

SCALE: 1:20,000

PROJECT NO: OPR-525

SOUNDINGS: Ross Finline Fathometer  
Raytheon DE-723

CONTROL: Raydist

Chief of Party.....CDR Christian Andreasen  
Surveyed by.....ENS S. Snyder, LCDR D. MacFarland,  
ENS E. McDougal, ENS L. Hass,  
LCDR R. Arnold, LTJB G. Wheaton,  
and ENS C. Greenawalt  
Automated plot by.....PMC Xynetics Plotter  
Verified by.....Leonardo T. Deodato  
12/11/78

I. INTRODUCTION

This is a basic hydrographic survey of the northern portion of Yakutat Bay, covering the area defined by the shoreline on the northwest, northern limit by Lat. 59°47.3'N, eastern limit by Long. 139°44.3'W, southern limit by Lat. 59°39.0'N to western limit at Long. 140°06.2'W and the intersection of Lat. 59°43.9'N and the shoreline.

Hydrography was accomplished by NOAA Ship DAVIDSON commencing 12 June 1977 thru 20 September 1977.

Teledyne Hastings Raydist operating in range-range mode was used to control hydrography on this survey.

II. CONTROL AND SHORELINE

Horizontal control used on this survey consisted of existing triangulation stations and new stations established by third order triangulation and traverse. Stations SCHOONER 1977, BOBCAT 1977 and COYOTE 1977, submitted by the hydrographer in the Descriptive Report and Horizontal Control Note have been symbolized as triangulation stations (code 139) on the smooth sheet. *See Q.C. Report.*

No photogrammetrically located stations were used in this survey.

Shoreline detail information was obtained from unreviewed class I shoreline manuscript TP-00616 and class I ~~II~~ manuscript TP-00617. ~~with partial field edit applied within the area of hydrography on the smooth sheet.~~ The shoreline was inked in the portion where field edit was applied. Photography was accomplished in August 1975 and field edit on July and September 1977. Shoreline was revised to indicate additional field edit information of Aug 1978 on TP 00617

12/79  
RWD

### III. HYDROGRAPHY

Crossline soundings were in good agreement throughout the survey.

The construction of depth curves on the smooth sheet is complete. The construction of depth curves close to the shore could have been better if the lines were run perpendicular to the shoreline up to the ten (10) fathom curve.

Development of the bottom configuration and the determination of least depths are adequate.

### IV. CONDITION OF SURVEY

The automated plotting of smooth sheet, accompanying overlays, hydrographic records, reports and field procedures are adequate and conform to the requirements stated in the hydrographic manual. The exceptions are:

1. There is no check angle on all three-point fix raydist calibrations as required by the Hydrographic Manual.
2. The velocity correction table as computed by the ship did not consider the draft of the survey vessels. Since the draft of the survey vessels was 0.3 fathom, the error in the sounding velocity computations is deemed negligible.

### V. JUNCTIONS

H-9687 (1977), 1:20,000

Junction with this survey is satisfactory. Curves and note on this junction were inked.

H-9688 (1977), 1:20,000 *not available during quality evaluation*

This survey was in the PSS stage when the junction was made. The junction is satisfactory. Curves and note on this junction were inked.

H-9694 and H-9778 (1978), 1:20,000 *Not available during quality evaluation*

These two (2) junction surveys are still in the preliminary verification stage and; therefore, no junctions have been accomplished.

### VI. COMPARISON WITH PRIOR SURVEYS

Comparison was made with 1941 surveys H-6719 (1:20,000) and H-6720 (1:20,000) with the consideration that all soundings have moved in the same direction and amount caused by the readjustment in horizontal control made in 1960,

*From a 1959 traverse.*

*NEW NA 1927 datum ticks based on the 1960 adjustment were applied to the 1941 and earlier surveys in this area.*

1. Most of the soundings are in very good agreement to the present survey. ✓
  2. The 50 fms. at Lat. 59°39'17.5"N, Long. 140°02'15.0"W is now deeper by two (2) fathoms. ✓
  3. It is now deeper by 1 to 3 fms. in the vicinity of Lat. 59°42'45"N, Long. 139°53'45"W. ✓
  4. It is now shoaler by 5 to 10 fms. in the vicinity of Lat. 59°40'00"N, Long. 139°46'00"W. ✓ ✓
  5. The shoreline has moved inshore by 200 to 300 meters, in the vicinity of Lat. 59°44.30', Long. 140°10'. ✓
  6. Four soundings and one bottom characteristic has been carried forward. ✓
- Comparison was also made with the following 1892 surveys:

1. H-2157 (1:20,000) 1892

This survey covers a part of the SE corner of the present survey. It is now shoaler or deeper by 2 to 6 fms. Three bottom characteristics have been carried forward.

2. H-2158 (1:40,000) 1892

- a. The constant movement of the shoreline throughout these years show that the shoreline has moved offshore by about 100 to ~~400~~<sup>900</sup> meters due to accretion, in the vicinity of Lat. 59°46.80', Long. 140°00.50'. ✓
- b. ~~Soundings close to the shore are now shoaler by 1 to 5 fms., while offshore soundings are now shoaler by 2 to 20 fms. One bottom characteristic has been carried forward.~~

3. H-2159 (1:40,000) 1892

The present survey is now shoaler by 2 to 7 fms.

The following are dashed unnumbered Pre-Survey Review items covered on this survey, which were properly developed and the least depths determined:

Charted	Least Depth
1. 14 fms. Lat. 59°43'00"N Origin H-6720 (1941) Long. 139°50'22"W	14.6 fms. Lat. 59°42'56.03"N Long. 139°50'56.70"W
2. 14 fms. Lat. 59°42'26"N Origin H-6720 (1941) Long. 139°50'56"W	13.6 fms. Lat. 59°42'25.3"N Long. 139°50'56.7"W

Prior work in whole fathoms



3. 14 fms. <sup>Origin H-6720 (1941)</sup> Lat. 59°41'47"N 13.8 fms. Lat. 59°41'44.7"N <sup>Chart present depths</sup>  
Long. 139°51'27"W Long. 139°51'29.2"W
4. \* 6.5 fms. <sup>Origin H-6720 (1941)</sup> Lat. 59°40'05"N 6.5<sup>6</sup> fms. Lat. 59°40'04.2"N " "  
Long. 139°47'53"W Long. 139°47'56.4"W " "

<sup>prior survey 6.6 fms</sup>  
With the addition of the soundings and bottom characteristics carried forward the present survey is adequate to supersede the prior surveys of 1892 and 1941 for areas of common coverage.

VII. COMPARISON WITH CHARTS

- Hydrography See Q.C. Report
- A. The smooth sheet was compared with Chart #16761 (C&GS 8455), 11th Ed., August 28, 1976 (1:80,000). Except for the areas previously mentioned where changes have been noted, the survey is in satisfactory agreement with the chart. The shoreline has moved offshore by about 20 to 400 meters due to accretion.
- B. Aids to Navigation - the only landmark that is an aid to navigation is MAST (center of three) at Lat. 59°45'07.610"N, Long. 140°06'18.528"W.

This survey is adequate to supersede charted hydrography for areas of common coverage.

VIII. COMPLIANCE WITH PROJECT INSTRUCTIONS

This survey complies with the Project Instructions.


IX. ADDITIONAL FIELD WORK

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

X. NOTES TO COMPILER

On JD 263, Vessel 3131 worked on both sides of the raydist baseline and on different boat sheets and the raydist strip chart was lost for this day. Position Nos. 4136 thru 4199, JD 163 Vessel 3132, on the smooth field sheet does not agree with the smooth sheet because a loss of one (1) lane on Pattern I was not applied on the field sheet.

Respectfully submitted,

  
Leonardo T. Deodato  
Cartographic Technician  
Dec. 11, 1978

Examined and approved,

  
James S. Green  
Chief, Verification Branch



**U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration**

Pacific Marine Center  
1801 Fairview Ave. E.  
Seattle, WA 98102

DATE : 12 February 1979  
TO : OA/CPM - Eugene A. Taylor  
FROM : OA/CPM3 - *Glen R. Schaefer*  
SUBJECT: PMC Hydrographic Inspection Team Report for Survey H-9695

This survey is a basic hydrographic survey of the area off Schooner Beach to Blizhni Point, Yakutat Bay, Alaska. This survey was conducted by NOAA Ship DAVIDSON in 1977 in accordance with Project Instructions OPR-525-DA-77 dated 23 February 1977, and Change Nos. 1-4, dated 25 March 1977, 4 May 1977, 13 June 1977, and 20 June 1977, respectively.

Four casts were made for determining the velocity of sound. Additional casts should have been taken to satisfactory eliminate major discontinuities between velocity corrector tables.

The inspection team finds H-9695 to be a very good basic survey adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended.

*Glen R. Schaefer*  
Glen R. Schaefer

*Patrick D. Harman*  
Patrick D. Harman

*James W. Steensland*  
James W. Steensland

*Arnold E. Eichelberger*  
Arnold E. Eichelberger



ADMINISTRATIVE APPROVAL  
H-9695

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



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Eugene A. Taylor, RADM  
Director  
Pacific Marine Center

12 Feb 79

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Date



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SURVEY  
Rockville, Md. 20852

OA/C352:RWD

March 23, 1979

TO: *A. J. Patrick*  
A. J. Patrick  
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch

FROM: R. W. DerKazarian *RW. DerKazarian*  
Quality Evaluator

SUBJECT: Quality Control Report for H-9695 (1977), Alaska, Yakutat Bay,  
Schooner Beach to Blizhni Point

A quality control inspection of H-9695 was accomplished to monitor the survey for obvious deficiencies with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data.

Section II of the Verifier's Report is supplemented by the following:

The final processing and acceptance of the control stations (triangulation stations) have not been completed by the National Geodetic Survey (NGS) as of the date of quality control inspection. It is expected that the triangulation station status of the control stations will be validated. Accordingly, the control stations (unadjusted) are symbolized as triangulation stations, pending formal processing and acceptance as such by the NGS. The stations are described as "(Field Pos.)" on the smooth sheet.

In general, the survey was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report, the HIT Report, and as follows:

1. Section IV of the Verifier's Report is supplemented by the following:

3. The initial setting on the fathograms was not maintained on a good portion of the work performed by Launch 3132; in many instances adjustments for errors of  $\pm .2$  to  $.4$  of a fathom were not made. These differences did not affect digital soundings; however, a few odd interval peaks check scanned from the survey record should have taken into consideration these errors. Appropriate corrections were made to soundings examined during quality control.



2. Section VII A of the Verifier's Report is supplemented by the following:

The charted hydrography originates with the previously discussed prior surveys which require no further consideration.

3. Inasmuch as H-6720 (1941) is the most recent prior basic survey in the area common to both H-2157 (1892) and the present survey, a comparison with the latter prior survey should not have been discussed in the Verifier's Report. However, some bottom characteristics from H-2157 were carried forward to the present survey during quality control. These descriptions adequately supplement present survey information regarding the character of the bottom in this area.

4. The detailed statements pertaining to sounding comparisons between H-2158 (1892) and the present survey are misleading. The portion of this prior survey in areas beyond the 20-fathom depth curve delineated on the western slope of the bay is not required to be discussed. Here, the area is covered by more recent basic surveys. The remaining portion of this early survey with only a few sounding lines falling in the common area of the present survey is of limited value for comparative purposes between the prior and present depths.

5. The differences between H-2159 (1892) and the present survey indicated in the Verifier's Report should not be considered a statement based on a detailed comparison between the aforementioned surveys. Only a few prior soundings fall in the common area of the present survey which provide insufficient information for comparison.

6. The changes in the bottom noted in the Verifier's Report from a comparison between the prior surveys of 1941 and present survey are probably due to the accumulation of sediments from melting glaciers and a shifting of material as a result of earthquakes in the area.

7. Minor revisions and additions to survey items made to the smooth sheet, plus helpful comments made to the verifier, are identified on a one-half scale copy of the survey to be furnished the verifier.

cc:  
OA/C35  
OA/C351

ALASKA  
CANADA

