

9897

Diagram No. 8556-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey ... Hydrographic
Field No. DA-10-5-80
Office No. H-9897

LOCALITY

State Alaska
General Locality ... Shelikof Strait
Locality East Portion of Katmai Bay

1980

CHIEF OF PARTY
CDR N.C. Austin

LIBRARY & ARCHIVES

DATE February 5, 1982

9897

AREA 6
CATS
16580 ✓
531 ✓ to sign off see
500 ✓ Record of Application
16013 ✓

HYDROGRAPHIC TITLE SHEET

H-9897

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-10-5-80

State Alaska

General locality Shelikof Strait

Locality Portion of East Katmai Bay

Scale 1:10,000

Date of survey Aug. 10, 1980-Sept. 2, 1980

Instructions dated March 10, 1980

Changed No. 1 April 8, 1980

Project No. OPR-P146-DA-80

Vessel DAVIDSON(3130), Launch DA-1(3131), Launch DA-2(3132)

Chief of party CDR Ned C. Austin, Comdg.

Surveyed by LCDR D. Seidel, LT C. Cavin, LT S. Iwamoto, LT(jg) D. Actor, LT(jg) S. Konrad, LT(jg) N. Bogue and Ship's personnel.

Soundings taken by echo sounder, ~~and lead, pole~~ Ross Finline, Model 5000

Graphic record ~~skipped~~ by Ship's personnel

Graphic record checked by Ship's personnel

Positions verified by

~~Documented by~~ Russ Davies

Automated plot by (PMC) Xynetics Plotter

Sounding

Verification by Russ Davies

Soundings in and tenths fathoms 1 ~~feet~~ at ~~MLLW~~ MLLW

REMARKS: Survey Time Zone: GMT

Survey is complete

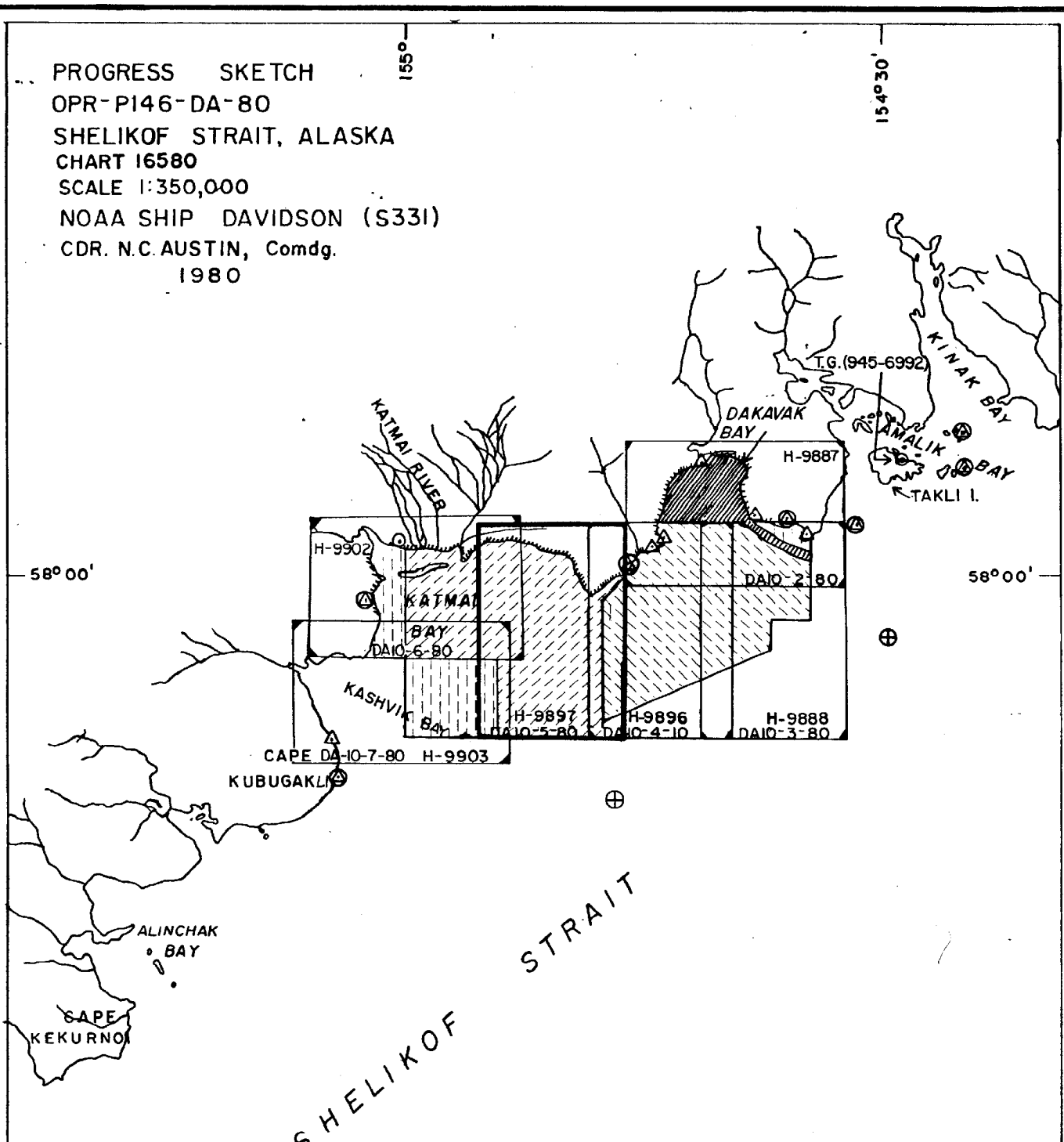
Data culled from the D.R. are filed with the survey records

STANDARDS CK'D 1-23-84

C. Loy

AWOIS 9/15/83 [Signature]

PROGRESS SKETCH
 OPR-P146-DA-80
 SHELIKOF STRAIT, ALASKA
 CHART 16580
 SCALE 1:350,000
 NOAA SHIP DAVIDSON (S331)
 CDR. N.C. AUSTIN, Comdg.
 1980



	MAY	JUNE	JULY	AUG	SEPT	STATISTICS:
0	110.4	492.6	743.1	191.7		L. N. M. SOUNDING LINE
0	5.3	14.5	40.4	12.5		SQ. N. M. SOUNDING
5	2	2	0	0		TRIANGULATION STA. RECOVERED
5	0	0	2	0		TRIANGULATION STA. ESTABLISHED
1	0	0	0	0		TIDE GAGE
0	0	30	75	0		BOTTOM SAMPLES
%	%	%	1	0		MARTEK/SALINITY CAST
5%	0	0	0	0		BENCH MARKS RECOVERED/ESTAB.
0	7.8	3.5	7.6	0		SHORELINE OF FIELD EDIT



DESCRIPTIVE REPORT
To Accompany Hydrographic Survey
H-9897 (Field No. DA-10-5-80)
1980 1:10,000

NOAA Ship DAVIDSON S331

N. C. Austin, CDR, NOAA, Commanding

A. PROJECT

This survey was conducted in accordance with Project Instructions OPR-PI46-DA-80, dated March 10, 1980, as amended by Change No. 1, dated April 8, 1980. ✓

At the recommendation of the Commanding Officer, the scale of the survey was changed from 1:20,000 to 1:10,000 to more accurately depict all bottom features. ✓

B. AREA SURVEYED

The area surveyed is on the western side of Shelikof Strait, in the eastern half of Katmai Bay. It is bounded on the north by the shoreline of Katmai National Monument, on the south by latitude $57^{\circ}54'30''N$, on the west by longitude $154^{\circ}54'45''W$ and on the east by longitude $154^{\circ}47'30''W$. The offshore limit of hydrography crossed the 100 fathom curve shown on nautical chart No. 16580. The area inshore of the charted 100 fathom curve was given highest priority throughout this field season as directed by project instructions. ✓

The survey was accomplished in an area of generally soft, gradually sloping bottom with occasional rocks and sharply defined features..

Survey operations began August 10, 1980 (JD 223), and were completed September 2, 1980 (JD 246). ✓

C. SOUNDING VESSEL

All soundings on this survey were obtained by DAVIDSON launches as listed below: ✓

<u>Vessel</u>	<u>EDP No.</u>	<u>JD's</u>	<u>Position Numbers</u>
DA-1	3131	223 - 246	2001 - 3898
DA-2	3132	223 - 244	4001 - 5116

Data recording and preliminary plotting was color coded by vessel. All work by DA-1 was done in red and all work by DA-2 was done in blue.

Standard NOS sounding vessel configurations were used.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Both survey launches used Ross Finline Fathometers, Model 5000, to obtain soundings. The serial numbers of the echo-sounding equipment used by each launch are listed below. ✓

<u>Vessel</u>	<u>Recorder S/N</u>	<u>Transceiver S/N</u>	<u>Digitizer S/N</u>
DA-1	1077	1036	1081
DA-2	1080	1077	1077

The Ross fathometers were operated satisfactorily in the fathom mode in depths from 1 fathom to 125 fathoms. Phase calibrations were made at 10 fathom intervals, from 0 to 150 fathoms, at the beginning of each day's hydrography. The fathogram initial was maintained at zero as required during operations. Fathograms were scanned and depths compared to digitized depths. Missed depths, peaks, and deeps were either added to the final field sheets using corrector tapes or edited onto the master tapes.

No velocity corrections have been applied to the soundings on the final field sheets. The DAVIDSON conducted two Nansen casts during the project, on July 25, 1980 (JD 207), in the vicinity of latitude $57^{\circ}58'12''\text{N}$ and longitude $154^{\circ}26'12''\text{W}$, and on August 26, 1980 (JD 239), in the vicinity of latitude $57^{\circ}52'25''\text{N}$ and longitude $154^{\circ}46'45''\text{W}$. Details are given in the Corrections to Echo Soundings Report.

Soundings on the final field sheets have been corrected for transducer draft. Bar checks were made daily, conditions permitting, and a TRA corrections of +0.3 fathoms was determined. This correction was used throughout the survey.

Soundings on the final field sheets have also been corrected for predicted tides. Predicted tides were computed from daily predicted tides for Seldovia, Alaska, corrected to Katmai Bay, Alaska, station 1823 in the 1980 Tide Tables. All times were converted to Greenwich Mean Time and the predicted tides were computed at 0.2 fathom intervals.

Two bubbler tide gages were installed by the DAVIDSON at Takli Island. These gages remained in operation for the duration of the project. Tidal zoning was not required for this survey. Details may be found in the Field Tide Note.

No corrections for settlement and squat were applied to the soundings on the final field sheets. However, corrections for settlement and squat have been included on the TC/TI tapes submitted to PMC. Details are given in the Corrections to Echo Soundings Report.

E. HYDROGRAPHIC SHEETS

Field sheets were prepared with the HYDROPLOT system on the DAVIDSON, using a PDP 8/e computer (S/N 10756) and a Houston Instrument model DP-3-5 plotter (S/N 6166-2).

The survey consists of two 1:10,000 scale computer sheets, the eastern half DA-10-5A-80, and the western half DA-10-5B-80. A 1:10,000 overlay is provided for DA-10-5B-80 to eliminate sounding congestion in areas of substantial development bounded on the north by latitude $58^{\circ}00'15''\text{N}$, on the south by latitude $57^{\circ}55'00''\text{N}$, on the east by longitude $154^{\circ}50'15''\text{W}$, and on the west by longitude $154^{\circ}52'45''\text{W}$. Listings of projection and electronic control parameters are appended to this report. All field records will be sent to the Pacific Marine Center for verification and smooth plotting.

F. CONTROL STATIONS

Five triangulation stations were recovered and five triangulation stations were established, two of them temporarily, to control positioning during this survey. All stations meet at least third order, class I standards and are referred to the North America 1927 datum. Two of the stations recovered, PEDMAR 1967 and PEDMAR AZ 1967, appear on DA-10-5A-80. The stations, their signal number and usage are given in the following table.

<u>Station</u>	<u>Signal No.</u>	<u>Use</u>
ILKTUGITAK 1908	003	Calibration
VARDEN 1980	004	Calibration
ENSIGN 1980	006	Calibration
FLEECE 1980	008	Calibration
PEDMAR 1967	010	
PEDMAR AZ 1967	011	
MALIBU 1980 (TEMP)	017	Mini Ranger Site ✓
ATMO 1976	019	
EAGLE 1980	020	
EAGLE 1980 RM2	021	Mini Ranger Site
KUBUGAKLI 1908	022	Mini Ranger Site

For further information, consult the appended signal list, Electronic Control Report, and Horizontal Control Report. ✓

G. HYDROGRAPHIC POSITION CONTROL

Sounding line position control was obtained using the Motorola Mini Ranger III system in the range-range mode at ranges from 8 to 20 kilometers. The serial numbers of Mini Ranger III equipment used in the launches during this survey are given in the table below. ✓

<u>Vessel</u>	<u>Console S/N</u>	<u>R/T S/N</u>	<u>Julian Days</u>
3131	710	721	223 - 245
3131	707	719	246 ✓
3132	707	719	223 - 238
3132	716	709	239 - 246

Mini Ranger III shore stations were selected to maintain line-of-sight with the launches and to achieve an arc intersection of at least 30°. ✓

The Mini Ranger III transponder codes, serial numbers, and days of operation of shore stations are listed below. ✓

<u>Station</u>	<u>Code (S/N)</u>	<u>Days</u>
EAGLE 1980 RM2 (020)	2 (772)	223 - 228
		240 - 246
MALIBU 1980 (017)	4 (771)	223 - 228
		240 - 246
KUBUGAKLI 1908 (022)	3 (773)	224 - 228
EAGLE 1980 RM2 (020)	1 (723)	240 - 241
MALIBU 1980 (017)	3 (773)	240 - 246
KUBUGAKLI 1908 (022)	1 (723)	242 - 246

A systems check for each Mini Ranger III unit was conducted twice daily, before and after hydrography, if visibility and sea conditions permitted. This was by sextant fix or by placing the launch at the intersection of two fixed ranges. Launch DA-2 (3132) used sextant fixes to calibrate on JD 223, utilizing the PDP 8/e on board and program RK 561, Hyperbolic and Range-Range Geodetic Calibration. ✓

Sextant fixes were obtained, with check fixes, and compared with the position obtained from the Mini Ranger III ranges. Observations were rejected if the fix to check fix inverse distance exceeded 5 meters or if the daily correctors ✓

differed from the baseline correctors by more than 5 meters, the standard for a 1:10,000 scale survey. Three acceptable observations were required for a successful system check. ✓

Due to visibility and signal strength limitations, all other system checks during this survey were obtained by crossing fixed ranges in Katmai Bay. The launch coxswain would steer in on one range while the launch OIC noted the Mini Ranger III readings as the launch crossed the other range. The launch had been previously located at the crossing of the ranges by T2 intersection from EAGLE 1980 and ATMO 1976, providing a G.P. for the intersection point. Distances to the Mini Ranger sites from the computed G.P. were compared with the observed range values. Observations were rejected if the daily correctors obtained differed by more than 5 meters from the baseline, the standard for a 1:10,000 scale survey. Three acceptable observations were required for a successful system check. ✓

Baseline correctors were determined from observations over a known range conducted on July 13, 1980 (JD 195), August 25, 1980 (JD 238), and September 26, 1980 (JD 270). Correctors applied to the final field sheets for hydrography run prior to JD 238 are the means of the baseline correctors obtained on JD 195 and JD 238. Hydrography run after JD 238 was plotted using correctors obtained on JD 238. Final correctors will be the means of the baseline correctors which bracket the time of hydrography most closely. These correctors will be on the tapes submitted to PMC. ✓

The Mini Ranger III stations on EAGLE 1980 RM2 and MALIBU 1980 were mounted on 30' and 50' Raydist towers, respectively, to increase their offshore coverage. These towers and KUBUGAKLI 1908's elevated location maintained Mini Ranger III signal strengths above the minimum acceptable levels. ✓

For details on Mini Ranger III operation and calibration procedures consult the Electronic Control Report. ✓

H. SHORELINE

The shoreline details shown on the final field sheets were obtained from the 1:20,000 scale class III topographic sheet TP-00621, enlarged to 1:10,000 scale. All areas of shoreline shown on the final field sheet were field edited and details may be found in the Field Edit Report for Manuscript TP-00621. ✓

The shoreline on the northern boundary of the survey area in the vicinity of latitude $58^{\circ}01'30''N$ between longitudes $154^{\circ}52'21''W$ and $154^{\circ}54'30''W$ is a sand and pumice beach. The mean high water line in that area is subject to frequent change and should be charted with a note to that effect. *Noted on smooth sheet* ✓

The ledge limit shown on the final field sheets between latitude $57^{\circ}59'47''N$, longitude $154^{\circ}48'24''W$ and latitude $58^{\circ}00'51''N$, longitude $154^{\circ}49'48''W$, was defined by hydrography and follows the zero fathom curve. ✓

The ledge limit shown on the final field sheets between latitude $58^{\circ}01'04''N$, longitude $154^{\circ}49'48''W$ and latitude $58^{\circ}01'26''N$, longitude $154^{\circ}51'48''W$ was defined by the field editor by obtaining fixes on prominent or high points forming the maximum seaward extension of the ledge. Hydrography was done inside the ledge limit in areas where the ledge was lower than at its offshore limit. This resulted in positive soundings inside the indicated ledge limit. However, it is recommended that the ledge limit be charted as defined by the field editor and shown on the final field sheets. *Do not concur. A subm ledge line is shown on the smooth sheet. These areas should be charted as shown on the smooth sheet.* ✓
- 4 - See also item 3 in the Q.C. Report.

I. CROSSLINES

Crosslines totaled 8.9% of the principal sounding lines. Agreement with the main scheme sounding lines was excellent. Four hundred forty-five comparisons were made; 83% agreed exactly, 16% were within 1 fathom, and 1% agreed within 2 fathoms. No discrepancies of more than two fathoms were found. The two-fathom discrepancies occurred in areas of steeply sloping bottom. *concur*

J. JUNCTIONS

This survey junctions on the east with contemporary survey DA-10-4-80 (H-9896) and on the west with contemporary surveys DA-10-6-80 (H-9902) and DA-10-7-80 (H-9903).

On the east, agreement with adjacent sounding lines is excellent. There are no overlapping soundings. The junctions of the contour lines are smooth and neither soundings nor contour lines require adjustment.

On the west, agreement with adjacent sounding lines is also excellent. Where sounding lines overlapped with DA-10-6-80 (H-9903), 46 comparisons were made; 36 soundings (78%) agreed exactly and the remaining 10 soundings (22%) agreed within one fathom. Where sounding lines overlapped with DA-10-7-80 (H-9903), 86 comparisons were made; 73 soundings (85%) agreed exactly and the remaining 13 soundings (15%) differed by one fathom. Junctions of contour lines are smooth and neither soundings nor contour lines require adjustment.

K. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys of the survey area available for comparison.

L. COMPARISON WITH THE CHART

The latest edition of the largest scale chart of the survey area is chart No. 16580 (Kodiak Island), 7th Ed., March 11, 1978, at 1:350,000 scale. Two soundings on the chart lie within the area of this survey. They are tabulated below.

<u>CHARTED POSITION</u>	<u>CHARTED DEPTH</u>	<u>SURVEY DEPTH</u>
Lat. $57^{\circ}58'48''$ N Lon. $154^{\circ}54'30''$ W	30 fm	26 23 fm
Lat. $57^{\circ}57'55''$ N Lon. $154^{\circ}50'30''$ W	15 fm	27 24 fm

Difference between charted soundings and surveyed depths is attributed to the accurate position control and sounding methods employed in this survey.

The charted 100 fathom curve from latitude $57^{\circ}56'30''$ N, longitude $154^{\circ}46'06''$ W to latitude $57^{\circ}54'24''$ N, longitude $154^{\circ}54'18''$ W was found to be significantly in error and should be moved further offshore to conform with the results of this survey. The charted shoreline in the vicinity of latitude $57^{\circ}59'12''$ N, longitude $154^{\circ}48'12''$ W was also found to be in error. In addition, submerged rocks shown near the charted shoreline in the vicinity of latitude $58^{\circ}00'36''$ N between longitude $154^{\circ}50'00''$ W and longitude $154^{\circ}54'45''$ W were not found. It is recommended that these areas be recharted to conform with this survey. *concur*

A rock awash, posing a significant danger to navigation, was discovered as tabulated below.

<u>Position No.</u>	<u>Position</u>	<u>Description</u>
(FIELD EDIT POSITION) 6055	Lat. 58°00'20.969"N Lon. 154°57'03.723"W 51	Rock covered 3 ft at MLLW Rock awash at 1840 GMT on JD 241

The U.S. Coast Guard was notified of this hazard by letter dated 24 August 1980, for incorporation into the Local Notice to Mariners. The hazard was described as a 1.1 fathom shoal, however, a later examination discovered the rock awash as described above. A copy of the letter is attached to this report.

M. ADEQUACY OF SURVEY

The survey is sufficiently complete and adequate to warrant its use for charting.

N. AIDS TO NAVIGATION

There are no fixed or floating aids to navigation in the area of the survey.

O. STATISTICS

A summary of statistics is given below.

<u>Vessel (#)</u>	<u>No. of Positions</u>	<u>N. Miles Sdg. Lines</u>	<u>Sq. Miles of Hydrography</u>	<u>No. of Bottom Samples</u>
DAVIDSON (3130)	3			3
DA-1 (3131)	1898	295.8	13.8	6
DA-2 (3132)	1116	195.1	10.6	12

P. MISCELLANEOUS

N/A

Q. RECOMMENDATIONS

The scale of the existing chart (1:350,000) is inadequate for this section of the Alaska coastline. Larger scale charts are needed by users. A higher priority for producing larger scale charts of the area is recommended.

New offshore surveys are recommended to correct the errors found in the charted 100 fathom curve.

If use of Katmai Bay increases significantly, the hazard described in Section L should be marked with a floating aid to navigation. *concur*

R. AUTOMATED DATA PROCESSING

Programs used during field data acquisition and field processing of this survey are indicated as follows: (See next page)

<u>Program</u>	<u>Description</u>	<u>Version Date</u>
RK 111	Range-Range Real Time Hydroplot	1/30/76
RK 201	Grid, Signal, and Lattice Plot	4/18/75
RK 211	Range-Range Non Real Time Plot	1/15/76 ✓
RK 300	Utility Computations	2/10/76
RK 330	Reformat and Data Check	5/04/76
AM 500	Predicted Tide Generator	11/10/72
RK 561	Hyperbolic and Range-Range Geodetic Cali- bration	2/19/75
AM 602	ELINORE	5/20/75

S. REFERENCE TO REPORTS

Horizontal Control Report
 Field Edit Report for Manuscript TP 00621
 Electronic Control Report
 Corrections to Echo Soundings Report
 Field Tide Note
 Coast Pilot Report

Prepared and submitted by:

Neil M. Bogue
 Neil M. Bogue
 Ens, NOAA

Approved and forwarded:

N. C. Austin
 N. C. Austin,
 Cdr, NOAA
 Commanding Officer
 NOAA Ship DAVIDSON

10-5

*INFO COPY
LT. COMIN*



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

NOAA Ship DAVIDSON S331
FPO Seattle, Washington 98799

Ref: CPM331/101-3M
Ser 8-4

24 August 1980

Commander, 17th Coast Guard District
P.O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

In the course of conducting a hydrographic survey in Shelikof Strait, two significant hazards to navigation were discovered.

- 1) A foul area, which bares at MLLW, was discovered in Dakavak Bay, 1.4 nautical miles NE of the western point. The area is bounded by the following positions:

H-9887 North - 58°02'06"N, 154°41'35"W
 East - 58°02'05"N, 154°41'34"W
 South - 58°02'04"N, 154°41'35"W
 West - 58°02'05"N, 154°41'37"W

The area is covered at high tide, and is a hazard to all vessels.

- 2) A shoal which is covered by 1.1 fathom at MLLW was also discovered at 58°00'21"N, 154 51'03"W.

Rock covered 3 feet MLLW after flood tides.

Please include this information in your next Local Notice to Mariners.

Sincerely,

N. C. Austin

N. C. Austin
CDR, NOAA
Commanding Officer
NOAA Ship DAVIDSON

NCA:jaf





IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Katmai National Monument
P.O. Box 7
King Salmon, Alaska 99613

October 27, 1980

H.C. Austin, CDR, NOAA
Commanding Officer
NOAA Ship Davidson S331
FPO Seattle, Washington 98799

Dear Commander Austin:

There are no apparent discrepancies between the names shown on your nautical charts and those of local usage. At this time, we do not have any suggested names for nameless features.

Sincerely yours,

David K. Morris
Superintendent

 Year of
the
Visitor

CORRECTIONS TO ECHO SOUNDINGS REPORT
OPR-PI46-DA-80
SHELIKOF STRAIT, ALASKA

INTRODUCTION

An offshore limit for hydrography was not stated in the project instructions, so it was decided that hydrography be run out to the 100 fathom curve. This was generally held to, though soundings went as deep as 146 fathoms on one of the sheets. All hydrography was done by the DAVIDSON's two launches; DA-1 (#3131) and DA-2 (#3132); the ship being used for bottom samples and Nansen casts only. Velocity correctors were obtained from two Nansen casts, though they were not applied to the final field sheet plots. TRA correctors were obtained from daily bar checks and were applied to all preliminary and final field sheet plots. Settlement and squat tests were done on both launches in Lake Union, Seattle (fresh water). Correctors from these tests are included in the TC/TI tapes, but were not used in any of the final field sheet plots. Nansen cast, bar check, and settlement and squat test results are all appended to this report.

EQUIPMENT

The following is a table of sounding equipment used for this survey:

<u>Launch</u>	<u>Fathometer S/N</u>	<u>Digitizer S/N</u>	<u>Transceiver S/N</u>
DA-1	1077	1081	1036
DA-2	1080	1077	1077

Fathometers were tuned to achieve the best possible trace in deep water. Phase calibration checks were done each morning for the fathometers. In most cases, the errors were minimized at shoal depths where accuracy is most important.

Both Ross sounding systems were checked by Pacific Marine Center personnel prior to commencing the project. This was done in anticipation of the sounding requirements in fairly deep water. The systems were tuned to the resonant frequency of their transducers, and then finely tuned while in the water for optimum bottom return. On JD 204, a weak trace on DA-1's fathometer suggested maintenance. A faulty transducer was suspected, but on retuning the transceiver, the problem was solved. On JD 199, a noisy return trace was evident on DA-2. This was artificially created, and found to be a faulty audio connector on the back of the recorder. In all cases, the analog records retained for subsequent charting are satisfactory.

VELOCITY CORRECTORS

Two Nansen casts were taken by the DAVIDSON S-331 (#3130) near the working area to determine sound velocity correctors for OPR-PI46-DA-80 hydrography. The first Nansen cast was taken on 25 July 1980 (JD 207) in approximately 150 fathoms of water in the vicinity of latitude 57/58/12 N and longitude 154/26/12 W. The second Nansen cast was taken on 26 August 1980 (JD 239) in approximately 150 fathoms of water in the vicinity of latitude 57/52/25 N and longitude 154/46/45 W.

For each Nansen cast, each reversing thermometer was read twice; calibration correctors for the thermometers, supplied by Northwest Regional Calibration Center from their December 1979 calibration, were applied to the readings (copies of the calibration reports are appended). Correction factors were determined with the Cul Bertson slide rule. Salinities of each water sample were determined using a Bisset Berman Model 6230 Laboratory Salinometer (S/N 4989) and conversion tables in the instrument manual. For each Nansen cast, the resulting temperature and salinity values were used in RK 530, Velocity Correction Computations (Version 5/10/76) to determine correctors as a function of depth. These were plotted separately on NOAA Form 75-21 for each cast.

A comparison of the two Nansen casts shows excellent agreement. At shoaler depths, up to 50 fathoms, there is no difference in correctors. In deeper water, the maximum difference does not exceed 0.07% of the depth.

OTHER SOUNDING CORRECTORS

To determine the TRA of the survey launches, bar checks were performed daily in the working area, weather permitting. TRA values for 1, 2, 3, 4, 5, 6, 7, and 8 fathoms were individually meaned and plotted against the depth. The resultant TRA was taken as the displacement from the velocity curve. Vessel DA-1 (#3131) has a TRA of +0.25 fathom. Vessel DA-2 (#3132) has a TRA of +0.27 fathom. Settlement and squat tests were done on both survey launches in Lake Union, Seattle (fresh water) on February 12-13, 1980. Results are as follows:


<u>Vessel</u>	<u>Speed (RPM)</u>	<u>Settlement and Squat Corrector</u>
DA-1	2600	- 0.07 fm
DA-2	2600	- 0.12 fm

The values corresponding to a speed of 2600 rpm were chosen because that was a representative speed for all hydrography run. Settlement and squat correctors were not applied to any final field sheet plots. However, they were edited into the TC/TL tapes.

Respectfully submitted,


Steven Konrad
ENS, NOAA

Approved and forwarded,


N. C. Austin
CDR, NOAA
Commanding Officer
NOAA Ship DAVIDSON

- A. Amount and degree of personal supervision of field work and frequency of record and sheet inspection:

Field work was supervised through Executive Officer and Field Operations Officer. The XO or FOO inspected records and sheets daily. The Commanding Officer inspected records periodically and inspected sheets daily.

- B. State whether the survey is complete and adequate or if additional field work is recommended.

Survey is complete and adequate. No additional field work is recommended.

- C. Cite additional information or references that may be of assistance for verifying and reviewing the survey:

Refer to references in Descriptive Report

- D. Signed statement of approval of the field sheet and all accompanying records:

Date: 10/31/80

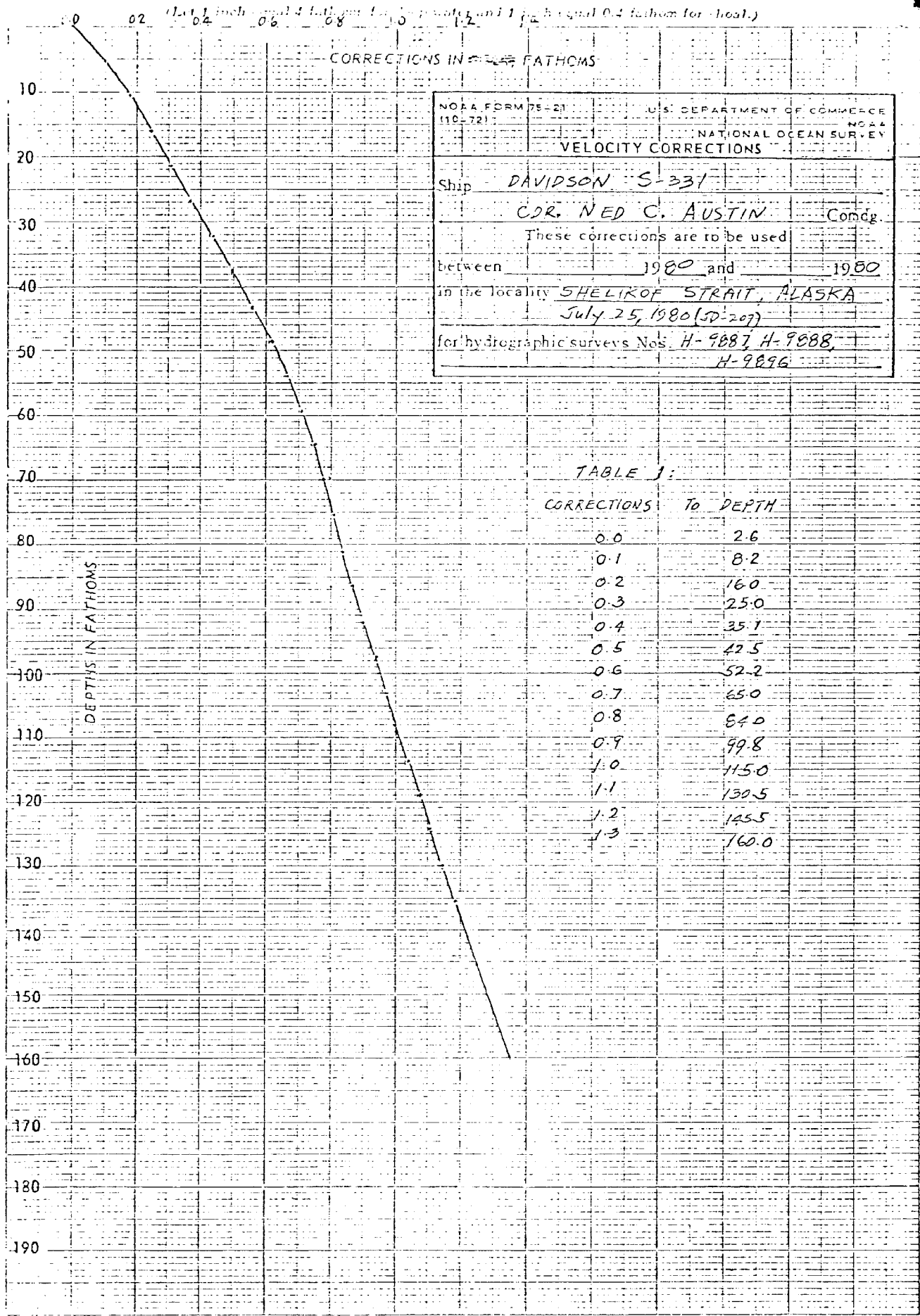
Approved and forwarded by:



N. C. Austin
CDR, NOAA
Commanding Officer

46 1240

U.S. GOVERNMENT PRINTING OFFICE: 1975



NOAA FORM 75-21 (10-72) U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEAN SURVEY
VELOCITY CORRECTIONS

Ship DAVIDSON S-331

CDR. NED C. AUSTIN Comdg.

These corrections are to be used
 between 1980 and 1980
 in the locality SHELIKOF STRAIT, ALASKA
July 25, 1980 (50-207)
 for hydrographic surveys Nos. H-9887 H-9888,
H-9896

TABLE 1:

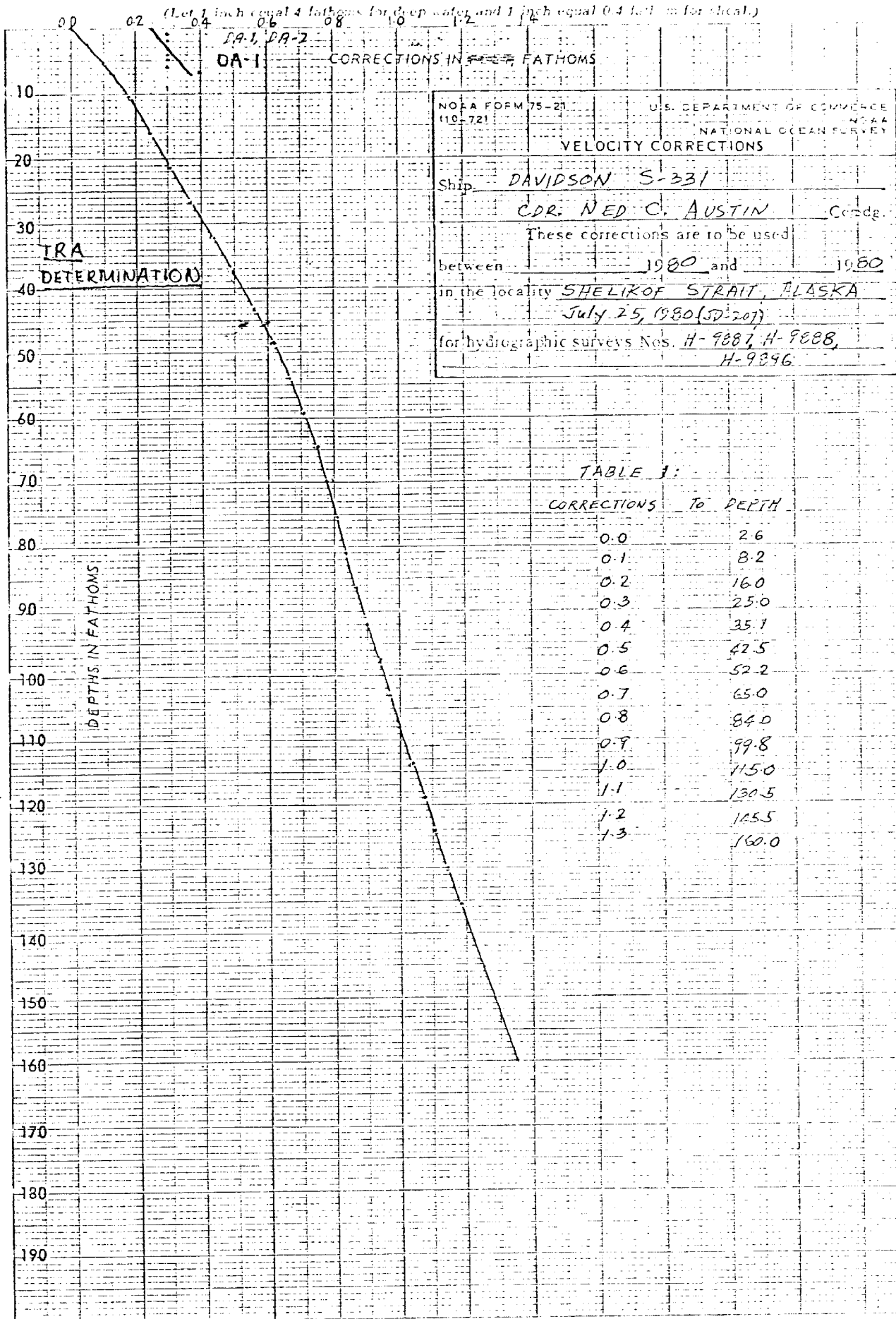
CORRECTIONS	To DEPTH
0.0	2.6
0.1	8.2
0.2	16.0
0.3	25.0
0.4	35.1
0.5	47.5
0.6	52.2
0.7	65.0
0.8	84.0
0.9	99.8
1.0	115.0
1.1	130.5
1.2	145.5
1.3	160.0

(For deep water add a 0 to these figures)

46 1240

26 X 20 TO TILE INCHES 7 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

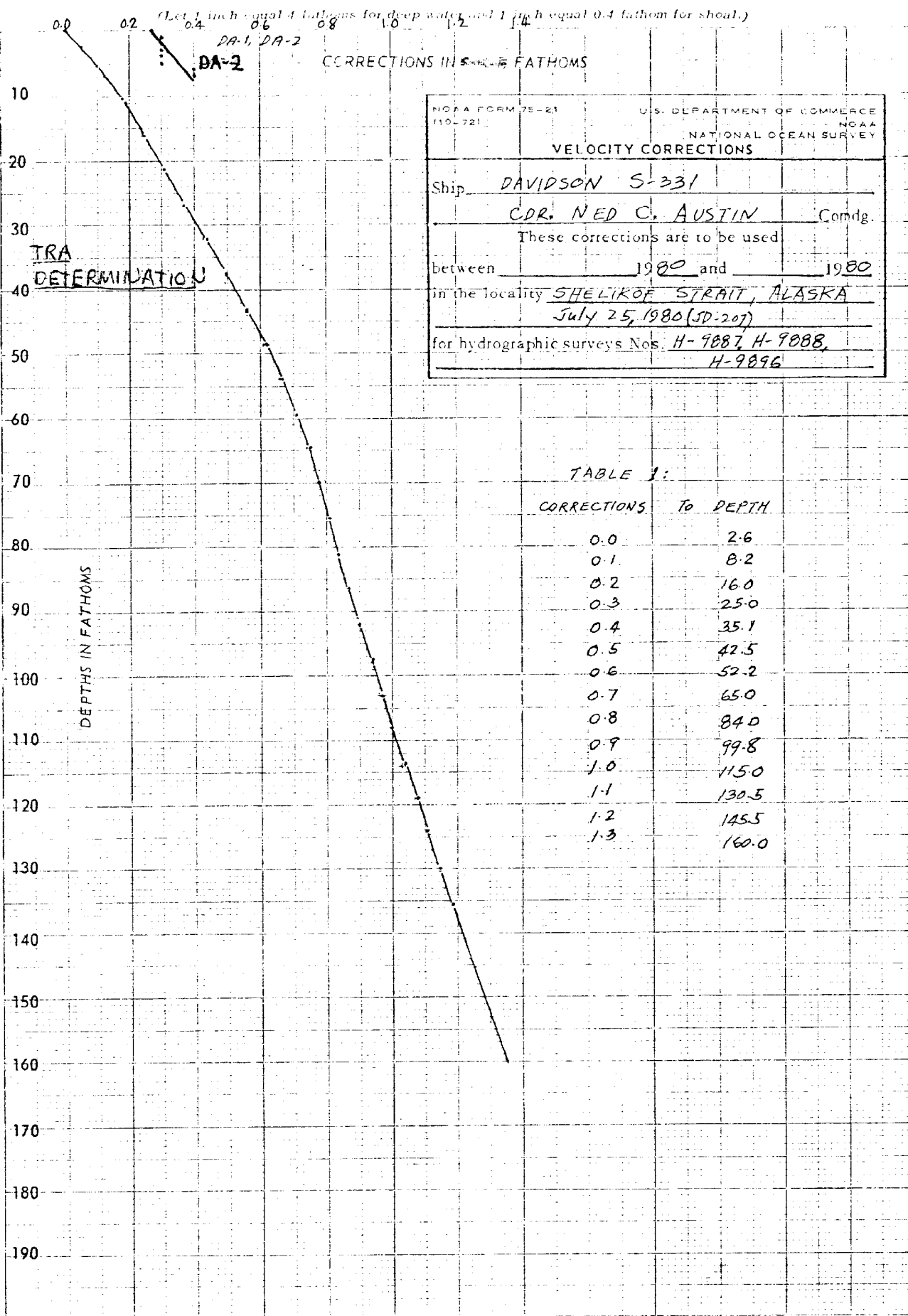
(For deep water add a 0 to these figures)



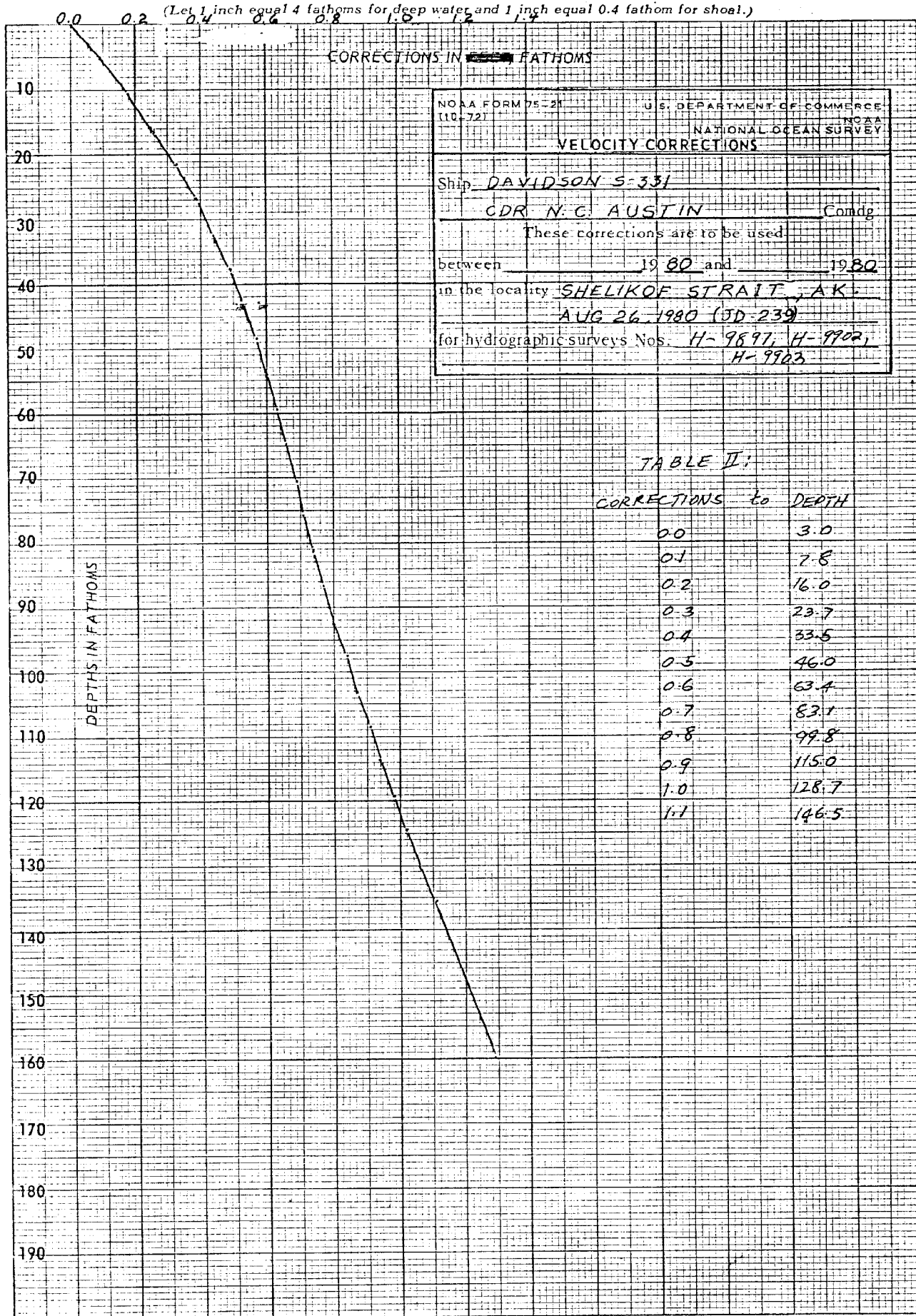
46 1240

20 X 20 TO THE INCH • 5 16 30 LBS
KEUFFEL & ESSER CO. MADE IN U.S.A.

(For deep water add a 0 to these figures)



(For deep water add a 0 to these figures)



AUG. 26, 1980 (JD 239) NANJEN CAST

3RD LAUNCHES FULLY FUELED,
3 PEOPLE ABOARD

SETTLEMENT/SQUAT TESTS LAKE UNION 12+13 FEB 1980

(draft measured in
fresh water - Lake Union)
measured draft =
21"

DA-1 (3131)

<u>SPEED</u>	<u>LEVEL READING</u>	<u>AFT from DIW</u>	<u>TRA (w/21" draft)</u>
0 RPM (DIW)	1.05 ft	0.0 ft.	1.75 = 1.8
Idle (600)	1.05	0.00	1.75 = 1.8
900	1.09	+ 0.04	1.79 = 1.8
1200	1.20	+ 0.15	1.90 = 1.9
1500	1.24	+ 0.19	1.94 = 1.9
1800	1.26	+ 0.11	1.86 = 1.9
2100	1.08	+ 0.03	1.78 = 1.8
2400	0.85	- 0.20	1.55 = 1.6
2700	0.50	- 0.55	1.20 = 1.2
full (2825 2750)	0.40	- 0.65	1.10 = 1.1

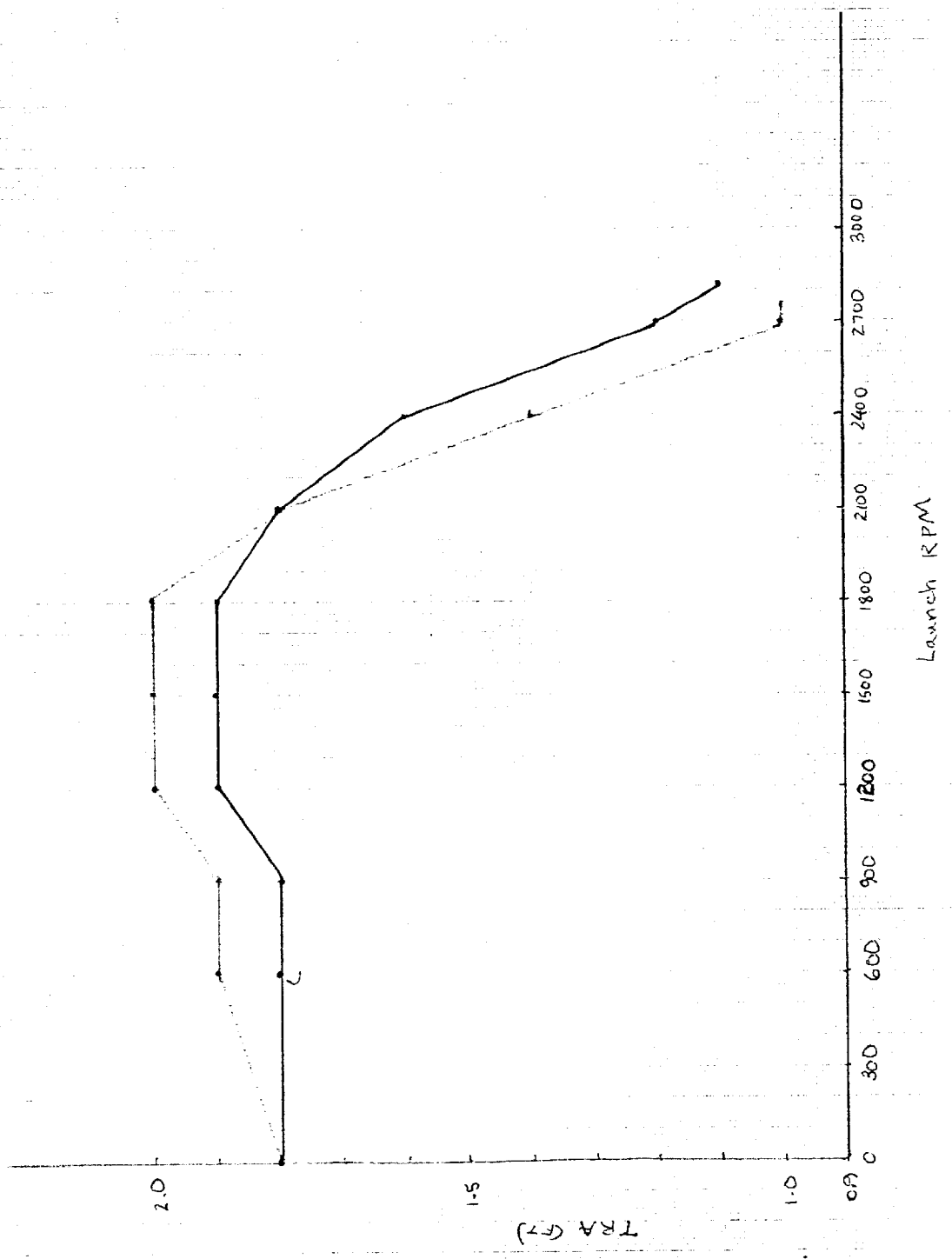
DA-2 (3132) Blue Launch

measured (fresh water)
(draft = 22" = 1.83')

0 RPM (DIW)	0.58	0.0	1.83 = 1.8
idle (650)	0.61	+ 0.03	1.86 = 1.9
900	0.65	+ 0.07	1.90 = 1.9
1200	0.70	+ 0.12	1.95 = 2.0
1500	0.75	+ 0.17	2.00 = 2.0
1800	0.75 0.50	+ 0.17	2.00 = 2.0
2100	0.50	- 0.08 + 0.08	1.75 1.85 = 1.8
2400	0.15	- 0.43	1.40 = 1.4
2700	- 0.25	(2 runs at 2700 to confirm) - 0.83	1.00 = 1.0
full (2750)	- 0.25	- 0.83	1.00 = 1.0

SETTLEMENT - SQUAT TESTS LAKE UNION 12-13 FEB 1980

DA-1 = RED
DA-2 = BLUE



ELECTRONIC CONTROL REPORT
TO ACCOMPANY
QPR-PI46-DA-80
HYDROGRAPHIC SURVEY OF SHELIKOF STRAIT, ALASKA

NOAA SHIP DAVIDSON
CDR. N.C. AUSTIN
COMMANDING OFFICER

ELECTRONIC CONTROL REPORT
OPR-PI46-DA-80
SHELIKOF STRAIT, ALASKA

TYPE OF CONTROL

Navigational control of hydrography on 1:10,000 Scale sheets H-9887, H-9888, H-9896, H-9897, H-9902 and H-9903 was accomplished using the Motorola Mini-Ranger III System used in the range-range and range-azimuth (with T-2 or TMIA) modes.

EQUIPMENT

The DAVIDSON's 28-foot launches were utilized for this survey. Console and R/T unit serial numbers were as follows:

<u>Vessel</u>	<u>JD</u>	<u>Console and R/T Unit S/N</u>
3131	180-202	710/721
	203-205	707/719
	206-245	710/721
	246-259	707/719
3132	180-205	716/709
	206-238	707/719
	239-259	716/709
3133 (17' Monark Skiff, used for Field edit only)	197	707/719
	224	716/709
	240-241	707/719

Shore Transponder serial numbers include:

<u>Code</u>	<u>S/N</u>
1	723
2	772
3	773
4	771

Although the DAVIDSON had the 16-code option (for the first time) during the 1980 field season, only codes 1 - 4 were used on this project and the code number of individual transponders was not changed.

SHORE STATIONS

Shore stations were selected to maintain line-of-sight and 30°-150° arc intersections for the range-range mode. All shore stations were on third-order Class 1 or better geodetic positions. Shore stations were located as follows:

<u>Transponder Code</u> <u>S/N</u>	<u>Station</u>	<u>Elevation</u> <u>Above MSL (m)</u>	<u>JD on Site</u>
1 (723)	FLEECE 1980	11	180-185, 190-194, 218, 221, 222, 257
	URSUS 1980	40	196-199, 203-208, 254
	EAGLE 1980 RM2*	25	240-241
	KUBUGAKLI 1908	43	242-247
2 (772)	DOLLY 1980	5	180-185, 190-194, 196-199, 203-205, 255, 257
	EAGLE 1980 RM2*	25	223-228, 240-247
3 (773)	ENSIGN 1980	9	182-185, 190-194, 196-199, 218, 221, 255, 257
	KUBUGAKLI 1908	43	224-228
	MALIBU 1980*	20	240-247, 254
4 (771)	VARDEN 1980	35	181-185, 190-191, 193-194, 196-199, 203-208, 254
	MALIBU 1980*	20	223-228, 240-247

* Mini-Rangers at EAGLE 1980 RM2 and MALIBU 1980 were set on Raydist tower sections to increase the off shore range to 18 km. EAGLE's tower was 30 feet, MALIBU's 50 feet. Elevations above mean sea level included the tower heights.

On JD 240 and 241, Codes 1 and 2 were placed on EAGLE 1980 RM2 and Codes 3 and 4 on MALIBU 1980 to assist in field edit by providing a check on range-range detached positions. At all other times, only one transponder was on any station at a time.

ELECTRONIC PROBLEMS

No major problems with "null" zones or multipath returns were encountered during the course of this project.

Interference problems between launches DA-1 (3131) and DA-2 (3132) were first experienced on JD 192. When the launches shared a shore station, rates became very erratic. The problem was at first believed to be with the mini-ranger system on Launch DA-1, so a substitution was made of the console and R/T unit in DA-1. When interference problems continued, Launch DA-2's console and R/T were changed. The problem continued, and was finally traced to the range averaging option. Both launches had been using the option in the "75" position. In this mode, the mobile unit will "monopolize" the shore station until it has received a sufficient number of consistent values to update the console display. A second party cannot interrogate the shore station until the first party has received enough values to update and "releases" the shore station. Using the range averaging option in the "40" position eliminated the interference problem.

On JD 193, the magnetron in R/T unit S/N 721 on DA-1 failed during hydrography. The magnetron was replaced and the system recalibrated.

BASELINE CALIBRATIONS

Baseline calibrations were performed in accordance with the PMC Order on June 6 (JD 158), July 13 (JD 195), August 26 (JD 239) and September 26 (JD 270). The results showed a maximum drift of 4 meters, which is within minimum standards for a 1:10,000 scale survey. Copies of all data relating to the baseline calibrations are appended to this report. The following table summarizes the results:

Baseline Calibration Corrector Abstract

<u>Console/R-T Unit</u>	<u>Code</u>	<u>June 6</u>	<u>July 13</u>	<u>Aug 26</u>	<u>Sept 26</u>
710/721	1	0	-3	+1	-2
	2	-1	-5	-3	-5
	3	+5	+2	+2	+2
	4	+1	-1	-1	-3
716/709	1	-2	-2	-1	-4
	2	+2	-2	-1	-2
	3	-1	-3	-3	-4
	4	-2	-2	-3	-4
707/719	1	-1	0	+2	-1
	2	0	-1	0	-1
	3	+2	+1	0	0
	4	+1	+1	0	-2

DAILY SYSTEMS CHECKS

A daily systems check of the mini-ranger system was accomplished at least twice daily, weather permitting, by 3-point sextant fix (with a check angle) or by intersecting ranges. For ease in calibration, and to eliminate the need to provide more control for sextant calibrations two sets of intersecting ranges were established, one set in Dakavak Bay and one in Katmai Bay. The ranges were set for maximum sensitivity. The launch would steer one range, then "freeze" the values in the console when it crossed the other range. The positions of the individual range signals themselves were not determined. The position where the two ranges crossed was determined by T-2 intersection, from ENSIGN 1980 RMI and FLEECE 1980 for the Dakavak Bay ranges, and from EAGLE 1980 and ATMO 1976 for the Katmai Bay ranges. The launch's R/T unit was wrapped with orange signal cloth and it was intersected as it crossed the two ranges. Computations for the two ranges are attached to this report. The mini-ranger values computed from the T-2 intersections for the ranges in Dakavak Bay were:

FLEECE 1980 - 4891.7 meters
DOLLY 1980 - 1320.0 meters
ENSIGN 1980 - 3012.5 meters


The values computed for the Katmai Bay ranges were:

MALIBU 1980 - 11308.5 meters
EAGLE 1980 RM2 - 18058.3 meters
KUBUGAKLI 1908 - 20788.7 meters


The results of the daily systems check were compared with the baseline correctors to ensure compliance with standards for a 1:10,000 scale were met. However, only baseline correctors were applied to the semi-smooth and final field sheets. Correctors applied to the final field plot are the mean of the calibrations bracketing the hydrography run between those Julian Dates. Two exceptions should be noted in this scheme. Console S/N 710 and R/T S/N 721 were inoperative at the time of the July 13 calibration until the magnetron was changed in the R/T unit. In effect, a new R/T unit was calibrated, so for hydrography run prior to July 13 using ~~that~~ console and R/T unit, the correctors applied are from the June 6 calibration only. Also, the last baseline calibration was done after work had begun on the final field plots, so the correctors for the August 26 calibration were used to plot hydrography run after that calibration. The corrector tape submitted to PMC has been changed to reflect the mean of the August 26 and September 26 calibrations for hydrography run after August 26, 1980. In any case, the maximum "drift" experienced between the two calibrations is three meters.

Daily systems checks in general agreed well with baseline correctors. A few differences in excess of 5 meters were noted. These differences can be attributed to a combination of any or all of the following: weather, poor technique on the part of the personnel involved and the limiting random error inherent in the mini-ranger control system. The good agreement shown between successive baseline calibrations indicates the mini-ranger system was stable throughout this project. Baseline correctors were used by the DAVIDSON during data processing, and it is recommended that the baseline correctors be applied in subsequent smooth plots.

Respectfully submitted,


Cheryl Cavin
LT, NOAA

Approved and forwarded,


N. C. Austin
CDR, NOAA
Commanding Officer
NOAA Ship DAVIDSON

OPR-P146-DA-80

DA-10-2-80(H-9887), DA-10-3-80(H-9888), DA-10-4-80(H-9896),
DA-10-5-80(H-9897), DA-10-6-80(H-9902), DA-10-7-80(H-9903).

MASTER SIGNAL TAPE PRINTOUT

001	1	58	03	35510	154	24	54143	139	0000	000000	ACTOR 1975
002	1	58	04	59819	154	18	53056	139	0012	000000	ATUSHAGVIK 2 1967
003	1	58	01	40129	154	31	34766	139	0015	000000	ILKTUGITAK 1908
004	2	58	01	14000	154	34	59170	250	0035	000000	VARDEN 1980
005	2	58	01	44295	154	35	53186	139	0146	000000	DAKAVAK 1967
006	2	58	01	56118	154	38	24764	250	0009	000000	ENSIGN 1980
007	2	58	03	44101	154	41	11441	250	0005	000000	DOLLY 1980
008	1	58	01	03755	154	43	33335	250	0011	000000	FLEECE 1980
009	1	58	00	47975	154	44	07642	250	0040	000000	URSUS 1980
010	1	58	00	16690	154	46	02149	139	0068	000000	PEDMAR 1967
011	1	58	00	10268	154	46	16807	139	0059	000000	PEDMAR AZ. MARK 1967 ✓
012	1	58	01	56409	154	38	24576	139	0009	000000	ENSIGN RM 1 1980
013	4	58	02	54908	154	38	52353	243	0000	000000	MOOSE 1980 (TEMP. PT)
014	3	58	02	14100	154	43	42378	243	0000	000000	WATERFALL 1980(TEMP. PT)
015	5	58	00	47840	154	44	08154	139	0040	000000	URSUS RM 1 1980
016	5	58	00	16517	154	46	02180	139	0068	000000	PEDMAR RM 2 1967
017	1	57	59	48250	155	00	31319	254	0020	000000	MALIBU 1980 (TEMP. PT)
018	5	57	59	47773	155	00	31367	254	0005	000000	MALIBU "A" 1980(TEMP. PT)
019	3	57	58	08548	155	01	47779	139	0011	000000	ATMO 1976
020	1	57	53	53690	155	03	36304	139	0025	000000	EAGLE 1980
021	5	57	53	54949	155	03	36359	250	0016	000000	EAGLE RM 2 1980
022	2	57	52	27565	155	04	56160	250	0043	000000	KUBUGAKLI 1908 ✓
023	3	57	52	28651	155	04	58048	139	0043	000000	KUBUGAKLI 2 1967 ✓
024	7	57	53	54292	155	03	34026	139	0016	000000	EAGLE RM 1 1980

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

TO BE CHARTED
 TO BE REVISED
 TO BE DELETED

REPORTING UNIT
(Field Party, Ship or Office)
NOAA Ship
DAVIDSON

STATE
ALASKA

LOCALITY
SHELIKOF STRAIT

DATE
10/25/80

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

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

OPR PROJECT NO. P146-DA-80

DATUM

MLLW

(See instructions on reverse side)

JOB NUMBER

SURVEY NUMBER

H-9897
DA-10-5-80

CHARTING NAME

POSITION

DESCRIPTION
(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)

NONE

LATITUDE

LONGITUDE

OFFICE

LATITUDE

FIELD

CHARTS AFFECTED

LATITUDE

LONGITUDE

OFFICE

LATITUDE

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RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	<input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETTIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	<input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' <i>(Consult Photogrammetric Instructions No. 64,</i>	
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 (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
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field identified 6 - Theodolite 7 - Planetable 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.	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.

FIELD TIDE NOTE
OPR-PI46-DA-80
CAPE ILKTUGITAK TO KATMAI BAY, ALASKA

INTRODUCTION

Field Tide reduction of soundings was based on predicted tides for Seldovia, Alaska corrected to Katmai Bay in Shelkof Strait, Alaska. Predicted tides were converted to Greenwich Mean Time tide correctors by DAVIDSON's on board PDP8/e computer system using AM500, Predicted Tide Generator Program. The field data (crosslines and depth contours) illustrated good predicted tides with no zoning applied throughout the survey area.

Only one tide station was established, using two tide gages, in support of this survey. A second gage was used as a backup to insure that no tidal data would be lost due to any gage malfunctions.

<u>Station Name and Number</u>	<u>Position</u>	<u>Type of Gage</u>	<u>Period of Operation</u>
TAKLI ISLAND	58° 03.8'N	"A" 0-30 ft. Bristol Bubbler	116 Days
945-6992 (Historic Site)	154° 28.6'W	"B" 0-30 ft. Bristol Bubbler	21 May - 14 Sept '80

TAKLI ISLAND GAGE SITE

Two 0-30 ft. Bristol Bubbler tide gages and a 25 ft. staff were installed at this historic site on 20 May 1980. The gages were designated as "A" (SN 73A231) and "B" (SN 67A16209). The orifice for gage "A" was secured to a concrete weight and anchored in water deep enough so as not to be exposed during any stage of the tide; the orifice for gage "B" was secured to the zero feet mark on the tide staff. The staff was bolted to a vertical rock face and braced by 2X4's and guy wires to nearby rocks (see sketch). Both gages were checked simultaneously during each observation.

During the periods 12 - 24 June and 15 - 26 August, no observations were made and the gages ran down due to the DAVIDSON's participation in OCSEAP project research cruises.

TIDE GAGE "A"

Since installation this gage has been consistently slow, so it was replaced on 5 June with 0-30 ft. Bristol Bubbler SN 64A11033.

On 11 July at 1812Z a possible orifice shift occurred which indicated the orifice raised 0.6 feet. Subsequent diver investigation revealed that the orifice had not appeared to move. The upward shift of the orifice indicates the possibility of a gage malfunction. No other changes in gage observation were noted.

TIDE GAGE "B"

On 4 June the orifice of gage "B" was removed from the foot of the tide staff, secured to a cement weight and anchored in water sufficiently deep to cover it at all stages of the tide. The tide gage was restarted on 5 June. No other changes or problems with this gage were observed.

On 14 September, both gages "A" and "B" were removed.

STAFF/GAGE RELATIONSHIPS

Tide Gage "A":

On the basis of 19 staff/gage relationship, gage SN 73A231 reads 2.1 feet higher than the staff. After swapping gages on 5 June, based on 36 staff/gage relationships, gage SN 64A11033 reads 2.8 feet higher than the staff, preceding the "orifice shift". Following the shift on 11 July, based on 28 staff/gage relationships, gage SN 64A11033 reads 2.2 feet higher than the staff. A slight downward trend in staff/gage differences was noted from the time the "orifice shift" occurred to gage removal.

Tide Gage "B":

On the basis of 17 staff/gage relationships gage SN 67A16209 reads 0.3 feet lower than the staff. After the orifice was moved to deeper water on 4 - 5 June, based on 68 staff/gage relationships, the gage reads 5.5 feet higher than the staff.

LEVELS

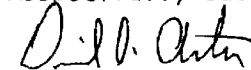
The tide staff at Takli Island was initially leveled to 5 historic bench marks on 21 May and upon removal on 14 September. No staff movement was noted.

The controlling gage at Seldovia, Alaska was leveled upon completion of the project on 13 September. An apparent downward movement of .004 meters from previous levels was noted. Prior to the DAVIDSON's arrival in Shelkof Strait, the RAINIER conducted 2nd Order levels on this gage (May 1980).

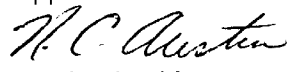
RECOMMENDATIONS

The orifice movement on gage "A" that occurred 11 July may possibly be a gage malfunction, indicated by the upward "shift" of the orifice. Smooth tidal data processing may resolve this problem which could not be adequately handled in the "field". Staff/gage comparisons were stable after this shift occurred, but, the most consistent data is that produced by gage "B", which is recommended for reducing field edit and sounding data collected during the project. No zoning was required for hydrography and none is recommended.

Respectfully submitted:


David I. Actor
ENS, NOAA

Approved and forwarded by:


N. C. Austin
CDR, NOAA
Commanding Officer

DIA:jaf

May 5, 1981

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): 945-6992 Takli Island, Alaska

Period: June 29 - September 13, 1980

HYDROGRAPHIC SHEET: H-9887, H-9888, H-9897, H-9902, H-9903, H-9896

OPR: P-146

Locality: Shelikof Straits, Alaska

Plane of reference (mean lower low water): (See Remarks)

Height of Mean High Water above Plane of Reference is 12.57 ft.

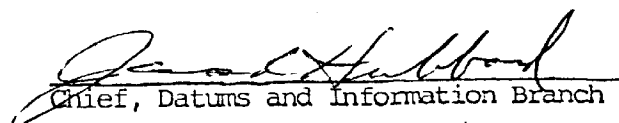
REMARKS: Plane of Reference (MLLW):

5/21/80 @ 1900 hours to 6/5/80 @ 1800 hours = 4.68 ft.

6/5/80 @ 1900 hours to 7/8/80 @ 2300 hours = 5.38 ft.

7/9/80 @ 0000 hours to 8/15/80 @ 1800 hours = 4.68 ft.

8/15/80 @ 1900 hours to 9/14/80 @ 2100 hours = 4.58 ft.


Chief, Datums and Information Branch

APPROVAL SHEET

FOR

SURVEY H-9897

- 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: 12/3/81



Chief, Verification Branch

GEOGRAPHIC NAMES

H-9897

Name on Survey	A ON CHART NO. 76580 B ON PREVIOUS SURVEY NO. C ON U.S. QUADRANGLE MAPS D FROM LOCAL INFORMATION E ON LOCAL MAPS F P.O. GUIDE OR MAP G RAND MCNALLY ATLAS H U.S. LIGHT LIST MANUSCRIPT										
	A	B	C	D	E	F	G	H			
Katmai Bay ✓	X									TP-00621	1
Shelikof Strait ✓	X									TP-00621	2
Katmai Rock ✓											3
											4
											5
											6
											7
											8
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											24
											25

Approved:

Chas. E. Hamilton
Chief Geographer - C3x5

5 May 1982

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	7
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	5

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS			1 Roll			
VOLUMES						
BOXES					1 - Smooth Plot	

T-SHEET PRINTS (List) TP-00621 Class I (Paper copy)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			2974
POSITIONS CHECKED		2974	
POSITIONS REVISED		82	
SOUNDINGS REVISED		236	
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			

PROCESSING ACTIVITY	TIME - HOURS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	3		
VERIFICATION OF CONTROL		7	
VERIFICATION OF POSITIONS		33	
VERIFICATION OF SOUNDINGS		122	
COMPILATION OF SMOOTH SHEET		32	
APPLICATION OF TOPOGRAPHY		2	
APPLICATION OF PHOTOBATHYMETRY		N.A.	
JUNCTIONS		5	
COMPARISON WITH PRIOR SURVEYS & CHARTS		2	
VERIFIER'S REPORT		15	
OTHER			
TOTALS	3	218	221

Verification by James S. Green	Beginning Date 12/3/80	Ending Date 12/3/80
Verification by Russ Davies	Beginning Date 2/3/81	Ending Date 10/16/81
Verification Check by James S. Green and James L. Stringham	Time (Hours) 25	Date 12/2/81
Marine Center Inspection by H.I.T.	Time (Hours) 5	Date 1/7/82
Quality Control Inspection by F.P. Sautsbury	Time (Hours) 11	Date 5/3/82
Requirements Evaluation by M.J. Fries	Time (Hours) 2	Date 9/15/83

Review - 5/28/82 3 hrs

REGISTRY NO. H-9897

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

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

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO: H-9897

FIELD NO: DA-10-5-80

Alaska, Shelikof Strait, ^{East Portion of} Katmai Bay

SURVEYED: August 10, 1980 - September 2, 1980

SCALE: 1:10,000

PROJECT NO: OPR-P146-DA-80

SOUNDINGS: Ross Fineline
Model 5000 Fathometer

CONTROL: Mini-Ranger,
Range/Range

Chief of Party CDR N. C. Austin

Surveyed by LCDR D. Seidel
LT C. Cavin
LT S. Iwamoto
LT (jg) D. Actor
ENS S. Konrad
ENS N. Bogue

Automated Plot by PMC Xynetics Plotter

Verified by Russ Davies

1. INTRODUCTION

H-9897 (DA-10-5-80) is a basic hydrographic survey of the easternmost portion of Katmai Bay in Shelikof Strait, Alaska conducted according to Project Instruction OPR-P146-DA-80 dated March 10, 1980, with Change No. 1 dated April 8, 1980. This project is a continuation of work to modernize hydrographic surveys in Shelikof Strait which was terminated in 1975. See Section Q of the Descriptive Report for further information. ✓

The hydrographic survey sheet size for this survey exceeds the standard smooth sheet length of 137cm specified in Hydrographic Survey Guideline No. 6 of May 23, 1980. However, the actual length is less than the 147cm maximum smooth sheet length authorized at PMC, and was needed to completely delineate the shoal on the south of the sheet. ✓

Projection parameters used to prepare the boatsheet have been revised to center the hydrography on the smooth sheet. Parameters used by the Pacific Marine Center are appended in the smooth printout. ✓

Predicted tides from Seldovia, Alaska corrected to Katmai Bay, Shelikof Strait, Alaska were used to reduce smooth field sheet soundings by a PDP 8/e computer utilizing program AM500. Approved tides from Takli Island gage were used for final reduction of the smooth soundings. ✓

2. CONTROL AND SHORELINE

Section F of the ship's descriptive report and Horizontal Control Report describes the horizontal control adequately. Calibration procedures and electronic control systems are explained in Section G of the ship's report. ✓

Shoreline was transferred from an enlargement of TP-00621 (1:20,000), Class I ✓
unreviewed; Date of Photography, June 1976; Date of Field Edit, August 1980. ✓

The red shoreline on the approximate latitude 58°01'00"N and longitude 154°49'30"W displayed on the smooth field sheet differs slightly from the shore-^{Do not concur.} Red S.L. line displayed on TP-00621 Class I manuscript. Although the source of both on S.S. was transferred from the field sheet scale difference between T-sheet and field sheet, and is not important since during Q.C.I. the shoreline from TP-00621 was transferred to the smooth sheet.

Due to the incompleteness of the location and delineation of the ledge symbol ^{See Q.C. Report Item 3} on the eastern portion of the T-sheet, the smooth sheet differs from the T-sheet. The ledge symbol was adjusted to conform to the limit of hydrography.

The red rock awash symbol at 57°59'⁵¹46"N and 154°48'58"W, field edit position 6038, was not transferred to the smooth sheet because the reduced height of this ^{See also Q.C. Report Item 1} position agrees with hydro soundings in the area and the description in the field edit volume states it is a submerged rock ledge. ^{The rock covers 2 ft. at MLLW & was transferred to the smooth sheet from the field sheet during Q.C.I.}

3. HYDROGRAPHY

Crossline soundings were found to be in good agreement. The development of the bottom configuration, determination of least depth and depth curves are adequate. Standard depth curves were adequately shown. ^{with the exceptions noted in the Q.C. Report, Item 3.}

4. CONDITION OF SURVEY

The smooth sheet and accompanying overlays, hydrographic records and reports are adequate and conform to the requirements as stated in the Hydrographic Manual. ✓

5. JUNCTION

a. H-9897 (1980) is bordered to the east by H-9896 (1980), to the west by H-9902 and H-9903 (1980-1981) and to the south by H-9965 (1981) and H-9947 (1981). ^{H-9965 (1981) does not junction H-9897 (40" east of H-9897)}
Soundings and depth curves between H-9896, H-9947, ~~H-9965~~, H-9902 and H-9897 are in good agreement and junction note is inked accordingly. ^{concur}

The junction with H-9903 (1980-1981) could not be accomplished because of having been just received by the Pacific Marine Center. ✓

b. Soundings transferred from H-9902 (1980), 1:10,000 to H-9897 are listed below:

<u>Sounding</u>	<u>Latitude</u>	<u>Longitude</u>
10	58°00'34"N	154°54'33"W ✓
19 ¹	57°59'06"N	154°54'30"W ✓
20	57°57'35"N	154°54'32"W

6. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys or pre-survey review items for H-9897 (1980). ✓

7. COMPARISON WITH THE CHART

a. A chart comparison was made with Chart 16580, 7th Edition, March 11, 1978, 1:350,000 scale. Because of no prior surveys in the area, source of the original charted hydrography is unknown. *Two charted sdgs (from a misc. source) ch'd 15 fm. sdg falls in 25-26 fm depths on the pres. survey, ch'd 30 fm. sdg falls in 24-28 fm depths on the pres. survey. Chart depths as shown on the pres. survey.*

All the submerged rock symbols within the chart limits should be deleted on the next chart edition. *Chart near shore rky area as shown on the present survey (subm. ledge)*

H-9897(1980) is adequate to supersede all charted soundings and features within H-9897 limits. For further information see Section L of the ship's report. *concur*

b. There are no controlling depths in the survey area. *concur*

c. There are no Aids to Navigation in the survey area. *concur*

8. COMPLIANCE WITH INSTRUCTIONS

H-9897 complies with the Project Instruction OPR-P146-DA-80 dated March 10, 1980, and with Change No. 1 dated April 8, 1980. *concur*

9. ADDITIONAL FIELD WORK

The survey (H-9897) (1980) is adequate and no additional field work is necessary. *concur*

Respectfully submitted,



Russ Davies
Cartographic Technician

Examined and Approved,



James S. Green
Chief, Verification Branch



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

January 11, 1982

OA/CPM3/JWC

TO: OA/CPM - Charles K. Townsend *[Signature]*

FROM: OA/CPM3 - John W. Carpenter *[Signature]*

SUBJECT: PMC Hydrographic Inspection Team Report for Survey H-9897

This survey is a basic hydrographic survey of East ^{Portion of} Katmai Bay, Shelikof Strait, Alaska. This survey was conducted by NOAA Ship DAVIDSON in 1980 in accordance with Project Instructions OPR-P146-DA-80 dated March 10, 1980 and Change No. 1, dated April 8, 1980. ✓

The inspection team finds H-9897 to be a basic survey adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended. ✓

[Signature]
John W. Carpenter

[Signature]
James W. Wintermyre

[Signature]
James W. Steensland

[Signature]
Stanley H. Otsubo



10TH ANNIVERSARY 1970-1980


National Oceanic and Atmospheric Administration

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

ADMINISTRATIVE APPROVAL

Portion of H-9897
East, Katmai, ^{Bay} Shelikof Strait, Alaska

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



Charles K. Townsend
Director
Pacific Marine Center

1/19/32

Date



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

C352:FPS

May 3, 1982

TO: Glen R. Schaefer *DRS for*
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch *gpm*

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

SUBJECT: Quality Control Report for Survey H-9897 (1980), Alaska, Shelikof Strait, East Portion of Katmai Bay

A quality control inspection of survey H-9897 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, smooth plotting, shoreline transfer, decisions made and actions taken by the verifier, and the cartographic presentation of data. Revisions and additions to the smooth sheet, plus helpful comments made to the verifier, are identified on a one-half scale copy of the survey to be furnished the verifier. In general, the survey was found to conform to National Ocean Survey standards and requirements except as stated in the Verifier's Report, the HIT Report, and as follows:

1. The rock covered 2 feet at MLLW in latitude $57^{\circ}59.85'N$, longitude $154^{\circ}48.96'W$ was transferred to the smooth sheet from the field sheet during quality control inspection. Its depth was computed using approved tides. *sl'*
2. The submerged rock covered 3 feet at MLLW in latitude $58^{\circ}00.35'N$, longitude $154^{\circ}51.08'W$ was located by the field editor. Its covered depth is considered accurate rather than estimated. Scale permitting, the submerged rock should be charted as a 0.5-fathom sounding and labeled "Rk." *sl'*

This rock, a newly discovered hazard to navigation, should be marked with a navigational aid as recommended by the hydrographer. Also, because of the rock's navigational significance, a geographic name "Katmai Rock" has been submitted to the Board of Geographic Names for approval.

3. The delineation of ledge shown on unreviewed Class I map TP-00621 (1976-80) is in conflict with the delineation of ledge shown on the smooth sheet. The ledge and submerged ledge shown on the smooth sheet is the quality control evaluator's compilation of photogrammetric, field edit, and hydrographic information and is recommended for charting.



4. Inadequate hydrographic development compromised the acquisition of least depths and the delineation of bottom configuration in the vicinity of the following shoal depths:

<u>Latitude (N)</u>	<u>Longitude (W)</u>	<u>Depth in fathoms</u>
58°01.03'	154°50.74'	3.8
58°00.11'	154°50.03'	2.1
57°59.68'	154°49.15'	3.2
57°59.60'	154°49.05'	4.9
57°59.58'	154°48.44'	1.8
57°59.56'	154°48.16'	3.0
57°59.64'	154°47.70'	1.1

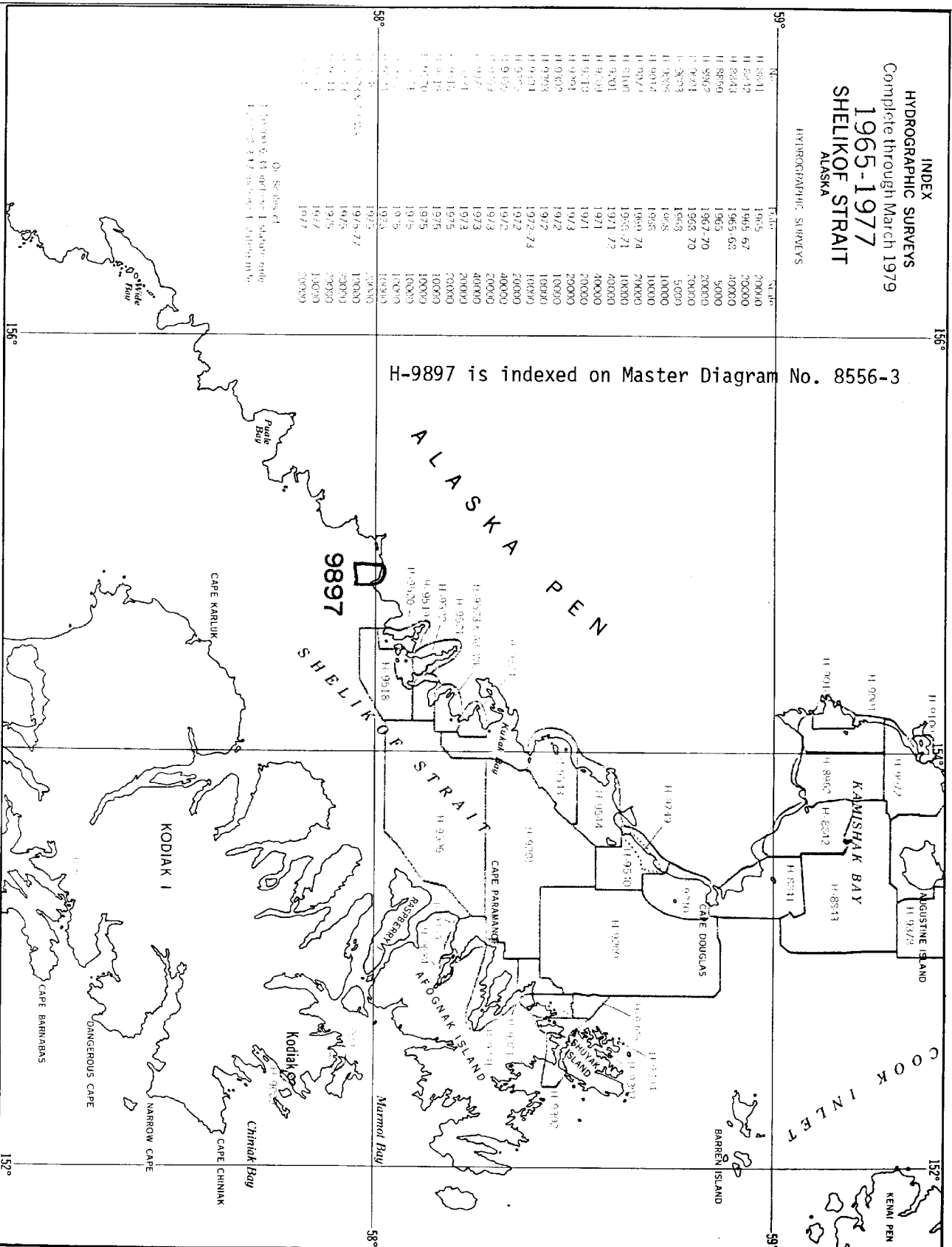
cc:
C351

INDEX
HYDROGRAPHIC SURVEYS
Complete through March 1979
1965-1977
SHELIKOF STRAIT
ALASKA

HYDROGRAPHIC SURVEYS

No.	Date	Area
H 9861	1965	20000
H 9872	1965-67	20000
H 9873	1965-68	40000
H 9850	1965	5000
H 9862	1967-70	20000
H 9861	1968-70	20000
H 9873	1968	5000
H 9876	1968	10000
H 9874	1968	10000
H 9877	1968-74	20000
H 9878	1968-71	10000
H 9870	1971-72	40000
H 9871	1971	40000
H 9813	1971	20000
H 9891	1973	20000
H 9892	1972	10000
H 9893	1972	10000
H 9894	1972-73	10000
H 9895	1972	20000
H 9896	1972	40000
H 9897	1972	20000
H 9898	1973	40000
H 9899	1973	20000
H 9900	1975	20000
H 9901	1975	10000
H 9902	1975	10000
H 9903	1975	10000
H 9904	1975	10000
H 9905	1975	10000
H 9906	1975	10000
H 9907	1975	10000
H 9908	1975	10000
H 9909	1975	10000
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H 9912	1975	10000
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H 9992	1975	10000
H 9993	1975	10000
H 9994	1975	10000
H 9995	1975	10000
H 9996	1975	10000
H 9997	1975	10000
H 9998	1975	10000
H 9999	1975	10000
H 9900	1975	10000

H-9897 is indexed on Master Diagram No. 8556-3



Scale: 1 inch = 10 statute miles
1 inch = 16.093 kilometers



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

JAN 9 1984

N/CG241:MJF

TO: N/MOP - Charles K. Townsend

FROM: *for* N/CG2 - C. William Hayes *John D. Peters*

SUBJECT: Report of Compliance for Survey H-9897

The smooth sheet and Descriptive Report for survey H-9897 (1980), Alaska, Shelikof Strait, East Portion of Katmai Bay, have been reviewed. This survey, except as noted in the Quality Control Report, dated May 3, 1982 (copy attached), and the Hydrographic Survey Inspection Team Report, dated January 11, 1982, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-P146-DA-80, dated March 10, 1980.

Attachment

CC:
N/CG242 w/o att.



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9897

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
16013	6/11/84	J. Bailey	Full Part Before After Verification Review Inspection Signed Via Drawing No. 27 Exam. for critical corrs. Added sndg. "72"
16580	8/7/84	K Van Ness	Full Part Before After Verification Review Inspection Signed Via Drawing No. 20 fully applied. revised shoreline, sndgs, depth corres, added rocks
500	5/24/85	R. J. House	Full Part Before After Verification Review Inspection Signed Via Drawing No. 5
16013	3/25/91	ARMACEN	Full Part Before After Verification Review Inspection Signed Via Drawing No. No corrections applied.
531	4-8-91	ARMACEN	Full Part Before After Verification Review Inspection Signed Via H Drawing No. No corrections and sndgs. applied.
531	7-14-95	L. Elliott S. Higgins	Ⓟ Full Part Before After Verification Review Inspection Signed Via Drawing No. 21 NO CORRS THRU 16013 #30 Full Part Before After Verification Review Inspection Signed Via Drawing No. Full Part Before After Verification Review Inspection Signed Via Drawing No. Full Part Before After Verification Review Inspection Signed Via Drawing No. Full Part Before After Verification Review Inspection Signed Via Drawing No.