

9382

Diag. Cht. No. 8551-3.

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-40-1-73
Office No. H-9382

LOCALITY

State Alaska
General Locality ... Prince William Sound
Locality Glacier I. to Hinchinbrook Entrance

1973

CHIEF OF PARTY
M. H. Fleming

LIBRARY & ARCHIVES

DATE 1-22-74

9382

HYDROGRAPHIC TITLE SHEET

H-9382

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-40-1-73

State ALASKA

General locality Prince William Sound

Locality Glacier I. to Hinchinbrook Entrance
~~Corridor~~

Scale 1:40,000

Date of survey May²⁹ - July³¹ 1973

Instructions dated 14 February 1973

Project No. OPR-999-DA-73

Vessel NOAA Ship DAVIDSON CSS-31

Chief of party Michael H. Fleming, Cdr., NOAA

Surveyed by Ens. R.H. West, Ens. K.X. Gores, Ens. J.J. Kapler, Lt. R.P. Hewitt, Lt. R.L. Crozier, Lt. E.R. Krisher, Ens. J.L. Oswald, Lt. Cdr. H.B. Milburn

Soundings taken by echo sounder ~~and other means~~ Raytheon DE-723 S/N 1286, S/N 926

Graphic record scaled by DAVIDSON Personnel

Graphic record checked by DAVIDSON Personnel

Positions verified James L. Stringham

Automated plot by Gerber Digital Plotter
PMC-EDP Branch

Soundings ~~checked~~ verified by James L. Stringham

Soundings in fathoms ~~xxxx~~ at ~~xxxx~~ MLLW

REMARKS:

Applied to stads 1-28-74

Chart
8551
8520
8519

R.W.W. 3/7/74

ADP

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-9382 (1973)

DA-40-1-73

PRINCE WILLIAM SOUND

CORRIDOR

ALASKA

NOAA Ship DAVIDSON CSS-31

Michael H. Fleming

CDR, NOAA

Chief of Party

1973

Survey was returned to PMC for replotting after discovery of erroneous tide correctors during review.

A. PROJECT

This survey was completed under Project Instructions: OPR-999-DA-73, Corridor Survey, Prince William Sound, Alaska, dated 14 February 1973; Change No. 1, Amendment to Instructions of 2 March 1973; Change No. 1, Supplement to Instructions of 26 April 1973 - *Cancelled*; Change No. 2, Supplement to Instructions of 11 May 1973

B. AREA SURVEYED

The area surveyed is a Corridor through the navigable area of Prince William Sound, Alaska, from ^{inside} Hinchinbrook Entrance to ^{Port of} Valdez. It extends from ^{North} Latitude N. 60°22' to N. 60°52'; Longitude 146°45' W. to 147°8' W. The survey was completed in the months of May and July, 1973. This survey ^{overlaps} junctions with prior surveys H-7766 and H-2612, the following color codes were used:

H-7766 ⁽¹⁹⁴⁸⁻⁴⁹⁾ ~~No date~~ 1:40,000 Carmine Red
H-2612 ⁽¹⁹⁰²⁾ 1902 1:40,000 Red

C. SOUNDING VESSEL

All Hydrography on this survey was accomplished by the NOAA Ship DAVIDSON CSS-31.

D. SOUNDING EQUIPMENT

The following fathometers were used to conduct this survey:

<u>TYPE</u>	<u>SERIAL NO.</u>	<u>DATES</u>	<u>POSITIONS</u>
Raytheon DE-723	1286	29 May - 5 June	⁸⁴² 1-1352
Raytheon DE-723	214		1258-1352
Raytheon DE-723	926	25 July - 31 July	1353-1720, ⁸⁴³⁻¹²⁵⁷

The northern part of this survey near Glacier Island required rapid shifting of scales (i.e. from "A" to "F" between #1325 and #1326), but for the major part of the survey, "E" and "F" scales were used. A minimum problem of the fathometer paper was encountered, occasionally stopping for 2 to 3 seconds. The fine arc mark not striking evenly
Ships draft 1.8 fathoms

D. SOUNDING EQUIPMENT (Cont.)

necessitated changing fathometers during the second half of this survey. ✓

See Reference: CORRECTIONS TO ECHO SOUNDER - OPR-999-1973 ✓

E. SMOOTH SHEET

The smooth sheet ~~will be~~ ^{was} constructed and plotted by Processing Division, Pacific Marine Center, Seattle, Washington. ✓

F. CONTROL ^{See Review.}
Lane 45.399 meters ✓

The D.M. Hastings Raydist system was used for electronic control. The system operating on 3300.4khz and two stations were set-up in the range-range mode. Since the average of daily corrections for Raydist calibrations was less than .1 lane there are no corrections for Raydist calibration for this survey. The following locations were utilized for Raydist sites:

May - June 1973

HOW LOCATED

Pattern I (Red) OUT 1901 r. 1972 ¹⁹⁷² ^{Second} Third Order Triangulation ✓

Pattern II (Green) RAKE 1973 Third Order Triangulation

July 1973

Pattern I ^{Purple} (Red) Raydist Site on Smith Island (Smith 1973) Third Order Triangulation ✓

Pattern II ^{Brown} (Green) ZAP RM 1 1973 Third Order Triangulation ✓

Calibration of receiving ^{sets} was accomplished by use of a calibration range and one angle for the May-June period. Three-point sextant fixes were used for the July period. In both cases the WANG RANGE-RANGE Program was used to calculate positions.

All signals were located using third order triangulation methods. ✓

SEE LIST OF SIGNALS, Raydist Report OPR-999-DA-73

G. SHORELINE (See Review Par.2)

No shoreline verification was undertaken as per Project Instructions. ✓
Shoreline is drawn from TP-00634, TP-00265

on the boatsheet

H. CROSSLINES

The percentage of crosslines run to sounding lines is 10.0%: ✓

120.0 Nm. of crosslines

1193.5 Nm. of sounding lines

There is good agreement between sounding lines and crosslines. ✓

I. JUNCTIONS

Junctions were made with ^{contemporary} prior surveys H-7766 and H-2612, both are ^{H-9385 (1973) on the south, and with H-9384} ~~1:40,000 scale sheets.~~ There is good agreement with these ^{junctional} ~~prior~~ surveys. ✓

J. COMPARISONS WITH PRIOR SURVEYS (See Review) ^{numbered}

There are no pre-survey review items for this survey ✓

K. COMPARISON WITH CHART ^{See Review.}

The comparison made with charts 8551, 8519, and 8520 was in good agreement with this survey. ✓

L. ADEQUACY OF SURVEY

This survey is considered complete and adequate to supercede ^s prior surveys. ✓

M. AIDS TO NAVIGATION

There are two floating aids to navigation in areas adjacent to this survey. ✓

Bligh Reef Lighted Bell Buoy, for Bligh Reef Buoy, see H-9384 (1973) (DA-10-3-73) for accurate position ✓

Smith Island Lighted Bell Buoy, no verification of this buoy was undertaken. ✓

N. STATISTICS

<u>VESSEL</u>	<u>NO. OF POSITIONS</u>	<u>N.M. OF SOUNDING LINES</u>	<u>BOTTOM SAMPLES</u>
DAVIDSON	1721	1313.5 Nm.	13

The total area covered by this survey is 220.4 square nautical miles. There is a total of 7 volumes with this survey.

1

O. LOGGING

All data for this survey was logged using a Climatronics Electronic logger coupled to a Model 33 Teletype. The Climatronics logger is believed to be a problem source for the occasional mixing of parity and non-parity on the logged tapes. Single indicator was used on all tapes.

P. MISCELLANEOUS

This survey was accomplished in a total of 11 days, operating on a rotating watch basis. No unusual bottom features were noted.

Q. RECOMMENDATIONS

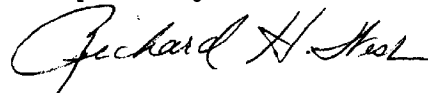
It is recommended that this survey supersede all prior surveys of the area contained in the "corridor". It is also recommended that the area south of Glacier Island be surveyed extensively, as the shallowest depth in this survey, a 28 fathoms, was obtained outside of the corridor at Bligh Reef and a 23 fathoms on the west edge of the corridor.

R. REFERENCES

"Corrections to Echo Sounder - OPR-999-1973"

"Raydist Report - OPR-999-1973"

Respectfully submitted

A handwritten signature in cursive script that reads "Richard H. West". The signature is written in dark ink and is positioned between the typed name above and the typed title below.

Richard H. West
ENS., NOAA

TIDE NOTE

OPR-999

CORRIDOR SURVEY
PRINCE WILLIAM SOUND
ALASKA

SHEETS B, R, & M

The reference tide gage for this project was the standard tide gage on the Cordova Municipal Dock in Cordova, Alaska. Field tide reductions of soundings were based on predicted tides for Ellamar, two miles north of the town of Tatitlek, Prince William Sound.

All gages operated on 135° W. time for the entirety of this project. A total of four (4) Bristol bubbler gages were installed in the project area. Location and dates of installation/operation were as follows:

<u>Name</u>	<u>Location</u>	<u>Time Period</u>	<u>Total Days of Operation</u>
CAPE HINCHINBROOK	N. 60° 14.3' 146° 38.9' W.	24 May-13 July	51
JOHNSTONE POINT	N. 60° 29.0' 146° 36.7' W.	19 May-14 August	93
ROCKY POINT	N. 60° 56.8' 146° 45.3' W.	12 July-17 August	37
SMITH ISLAND	N. 60° 31.9' 147° 20.5' W.	17 May-13 August	94

Tide marigrams were corrected for time and height variations wherever possible. However, the heavy surge and varying wave heights made verification of staff-gage relationships somewhat difficult at times. The high's and low's or mean values on the staff were recorded.

Cape Hinchinbrook S/N 62A91, 0-30 foot range; five benchmarks recovered and leveled on 24 May 1973. Gage replaced on 21 June by gage S/N 64A11028. Tide station was withdrawn on 1 August.

Orifice installation was very difficult and time consuming due to the very heavy surge (2-3 feet) in this area. The gage and tubing had to be replaced or repaired many times. Extreme caution is recommended in the surf zone. Marigram reading was set to read at various ranges above staff zero.

Johnstone Point S/N 68A9338, 0-30 foot range. Five benchmarks were established and connected on 19 May 1973. Marigram reading is 10.0 feet above staff zero. Orifice installation hampered by thick beds of kelp.

Rocky Point S/N 68A9337, 0-30 foot range; five benchmarks established and leveled on 12 July 1973. Marigram readings 12.3 feet above staff zero. This gage is located in a small bay which is relatively calm. Orifice is anchored to bottom with heavy rock.

Smith Island S/N 64A11021, 0-30 foot range; five benchmarks established and leveled on 17 May 1973. Marigram reading 5.0 feet above staff zero. A heavy rock was used to anchor the orifice in water. This appears to be the least troublesome of all gages in the project area.

Recommendations:

1. It is recommended that no tide station be established at Cape Hinchinbrook Light Station. An alternative is English Bay in Port Etches, Hinchinbrook Island.
2. Use as many weights as possible to securely anchor orifice tubing as surge may bring the tubing to the surface.
3. Extreme care should be used when landing in the surf zone of this area.

Zoning:

It is recommended that C331 determine which tide gage to use: Smith Island or Johnstone Point for survey H-9382. Both gages were reliable and continuous. (1973)

For survey H-9384⁽¹⁹⁷³⁾ and 9388⁽¹⁹⁷³⁾, it is recommended that Rocky Point Tide Station be used.

APPROVAL SHEET

HYDROGRAPHIC SURVEY

DA-40-1-73

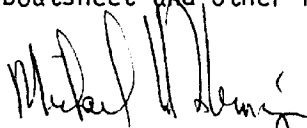
H-9382 (1973)

PRINCE WILLIAM SOUND

CORRIDOR

The field work on this survey was accomplished under my supervision.

Frequent inspections were made of the boatsheet and other records.



Michael H. Fleming
Commanding Officer
NOAA Ship DAVIDSON CSS-31
CDR, NOAA

VERIFIER'S REPORT

H-9382 (1973)

DA-40-1-73

This sheet was constructed and plotted at Pacific Marine Center, Seattle, Washington. Information relating to this sheet is identified by the number and letter as on the Verifier's Report, C&GS Form 946A.

PART II SHORELINE AND SIGNALS

4. No shoreline was transferred to the smooth sheet. Manuscripts listed in the Ship's Descriptive Report under item (G) Shoreline were not available during verification of Smooth Sheet (H-9382).

(1973)

PART III JUNCTIONS

Junctions with H-9388, 1973 and H-9384, 1973 to the North were accomplished with good agreement. Depth curves were left in pencil in the area of H-9384, 1973, because of the scale difference. *(Junction made during Review)*
Junction with H-9385, 1973 to the South was accomplished with good agreement.

PART VII CURVES

23. The depth curves were inspected by Mr. Arnold E. Eichelberger, Cartographic Technician.

CHART COMPARISON

See Ship's Report Item (K).

Comparison with C&GS Chart 8551, 14 edition and Smooth Sheet H-9382, 1973 during verification stage shows good agreement except a least sounding at approximate Lat. $60^{\circ} 45' 30''$ North and Long. $146^{\circ} 54' 00''$ West of 62 fathoms is revealed on H-9382, 1973. *(Final smooth sheet sdg is $64' 50''$ fathoms).*

Respectfully Submitted,

James L. Stringham
James L. Stringham
Cartographic Technician

ADDENDUM TO VERIFIER'S REPORT

H-9382 (1973)

DA-40-1-73

This sheet was constructed and plotted at Pacific Marine Center, Seattle, Washington. ✓

H-9382 (1973) smooth sheet soundings for Rocky Point tide gage zone were plotted with new datum corrector. See Marine Chart division letter May 20, 1974 and tide note dated May 3, 1974. *A revised smooth printout reflecting revised data was not made.* ✓

Tidal zoning junctions were checked during verification and found to have excellent agreement on H-9382 (1973) smooth sheet. ✓

The depth curves were checked by Mr. Clarence R. Lehman. ✓

Pen and ink corrections were made to NOAA Form 77-27. ✓

Contemporary survey junctions were rechecked with H-9384, 1973 and H-9388, 1973 with very good agreement. Depth curves were left in pencil in junction areas, because of scale difference. *Completed during review.* ✓

Respectfully submitted,


James L. Stringham
Cartographic Technician



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

Date: May 20, 1974

Reply to
Attn of: C323

Subject: Replotting Surveys H-9382, H-9384 and H-9388
Prince William Sound, Alaska

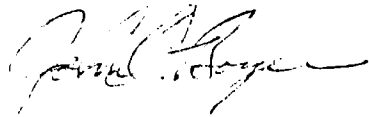
To: Chief, Processing Division, PMC

An error was made in the determination of the MLLW datum for the tide station Rocky Point used on the three surveys listed above. As a result all soundings corrected from this station are in error by about two fathoms.

It is requested that new smooth sheets be plotted for these surveys and the reprocessing of survey data as necessary be accomplished.

All material pertaining to these surveys is being returned under separate cover. This includes new tide notes to be inserted in the descriptive reports. *(Tides filed in Cahier)*

The replotting should retain the same priority as that established for the original survey plot.


John O. Boyer
Chief, Marine Chart Division

APPROVAL SHEET

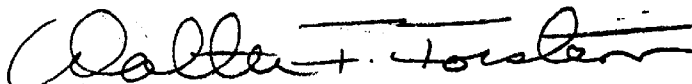
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,



James S. Green
Supervisory Cartographic Technician

Approved and forwarded,



Walter F. Forster, LCDR, NOAA
Chief, Processing Division
Pacific Marine Center

OK 2nd UTR
Plot

H-9382

Information for Future Presurvey Reviews

This area is noted for its adverse weather and sea conditions which may hinder survey operations.

Waterborne traffic should increase significantly in this area when the City of Valdez becomes the southern terminus of the Trans-Alaskan Oil Pipeline.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
602	1470	0	1	50 Years
602	1465	0	1	50 Years
603	1471	0	1	50 Years
603	1470	0	1	50 Years
603	1465	0	1	50 Years
604	1471	0	1	50 Years
604	1470	0	1	50 Years
605	1471	0	1	50 Years
605	1470	1	1	50 Years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9382

FIELD NO. DA-40-1-73

Alaska, Prince William Sound, Glacier Island to Hinchinbrook Entrance

SURVEYED: May 29 through July 31, 1973

PROJECT NO.: OPR-999

SCALE: 1:40,000

SOUNDINGS: Raytheon DE-723 Depth Recorder

CONTROL: Raydist (Range-Range)

Chief of Party M. H. Fleming
Surveyed by R. L. Crozier
 E. R. Krisher
 J. L. Oswald
 H. B. Milburn
 R. H. West
 K. X. Gores
 J. J. Kapler
 R. P. Hewitt
Protracted by Gerber Digital Plotter (PMC)
Verified by J. L. Stringham
Reviewed by D. J. Romesburg
 R. D. Sanocki
 Date: March 14, 1975
Inspected by F. B. Powers

1. Description of the Area

This survey covers an area of navigable water approximately 3½ miles wide within Prince William Sound. The survey extends from the inside of Hinchinbrook Entrance then north to Valdez Arm between Glacier Island and Bligh Reef. All survey depths are over 100 fathoms on a relatively smooth featureless bottom covered by grey mud, except for a few soundings in the vicinity of Glacier Island and Bligh Reef and three shoals centered in the vicinity of lat.60°46', long. 146°54'.

2. Control and Shoreline

The control is adequately described in the Descriptive Report. Raydist sites and calibration signals are based on unadjusted triangulation of 1972-73.

As this is a navigable area survey no shoreline is shown. Complete shoreline manuscripts will be acquired with the resumption of Project OPR-452 in this area.

3. Hydrography

A. Soundings at crossings are in excellent agreement.

B. The usual depth curves were adequately delineated. Supplemental brown depth curves have been added to define more clearly the configuration of the bottom.

C. The development of the bottom configuration is considered adequate.

4. Condition of Survey

The survey records, automated plotting, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual-Automated Hydrographic surveys except as follows:

A. Paragraph J, Comparison with Prior Surveys, was omitted from the Descriptive Report.

B. The smooth sheet was replotted after discovery of an error in the determination of tide correctors from the Rocky Point gage.

C. Two systems of electronic control were used on this survey; however, position number limitations for each control system were not indicated on the Form 3, Computer Parameters for Electronically Controlled Surveys, submitted with the Descriptive Report.

5. Junctions

An adequate junction was effected with H-9385 (1973) on the south and with H-9384 (1973) on the north. The junction with H-9388 (1973) on the north is discussed in the review of that survey.

No contemporary surveys join the present survey on the east and west but present survey depths are in harmony with those charted in these areas.

6. Comparison with Prior Surveys

H-2612 (1902) 1:40,000	H-2807a (1912) 1:200,000
H-2628 (1902) 1:20,000	H-3675 (1914) 1:80,000
H-2665 (1905) 1:600,000	H-7766 (1948-49) 1:40,000 unverified
H-2807 (1905) 1:100,000	

These surveys comprise the latest survey coverage of the present survey area. A comparison between these prior and the present survey reveals sounding discrepancies of 1-20 fathoms. Most of the sounding differences can be attributed to the outmoded methods of employing lead lines and sounding machines to obtain soundings in deep water, especially in an area noted for its adverse weather and sea conditions. Unverified prior survey H-7766 (1948-49) showed good agreement, within 1-5 fathoms, as soundings on this survey were obtained using a NMC fathometer that could be read only to the nearest 5 fathoms in depths between 200-225 fathoms. In addition, a minor contributing factor to the sounding differences is the general uplift of nearly 6 feet on this area as a result of the Prince William Sound, Alaskan Earthquake of 1964. The present survey is adequate to supersede the prior surveys within the common area.

7. Comparison with Chart 8519, 12th Ed., May 11, 1974 Chart 8520, 15th Ed., January 20, 1973

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys, which require no further consideration; reconnaissance surveys conducted in 1947 (Chart Letter 469 of 1947 and Bp-43214) and in

1964 (Bp-65972 and Bp-66415-16), which are substandard for hydrographic surveys; and by applications from the smooth sheet of the present survey before review. Soundings charted from the present survey before review north of lat. 60°40' were in error by 12.4 feet because of faulty tide corrections.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The aids to navigation presently charted adequately mark the features intended.

8. Compliance with Instructions

The survey adequately complies with the Project Instructions.

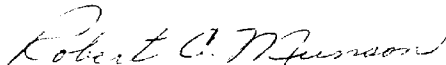
9. Additional Field Work

This is an excellent basic survey and no additional field work is recommended.

Examined and Approved:



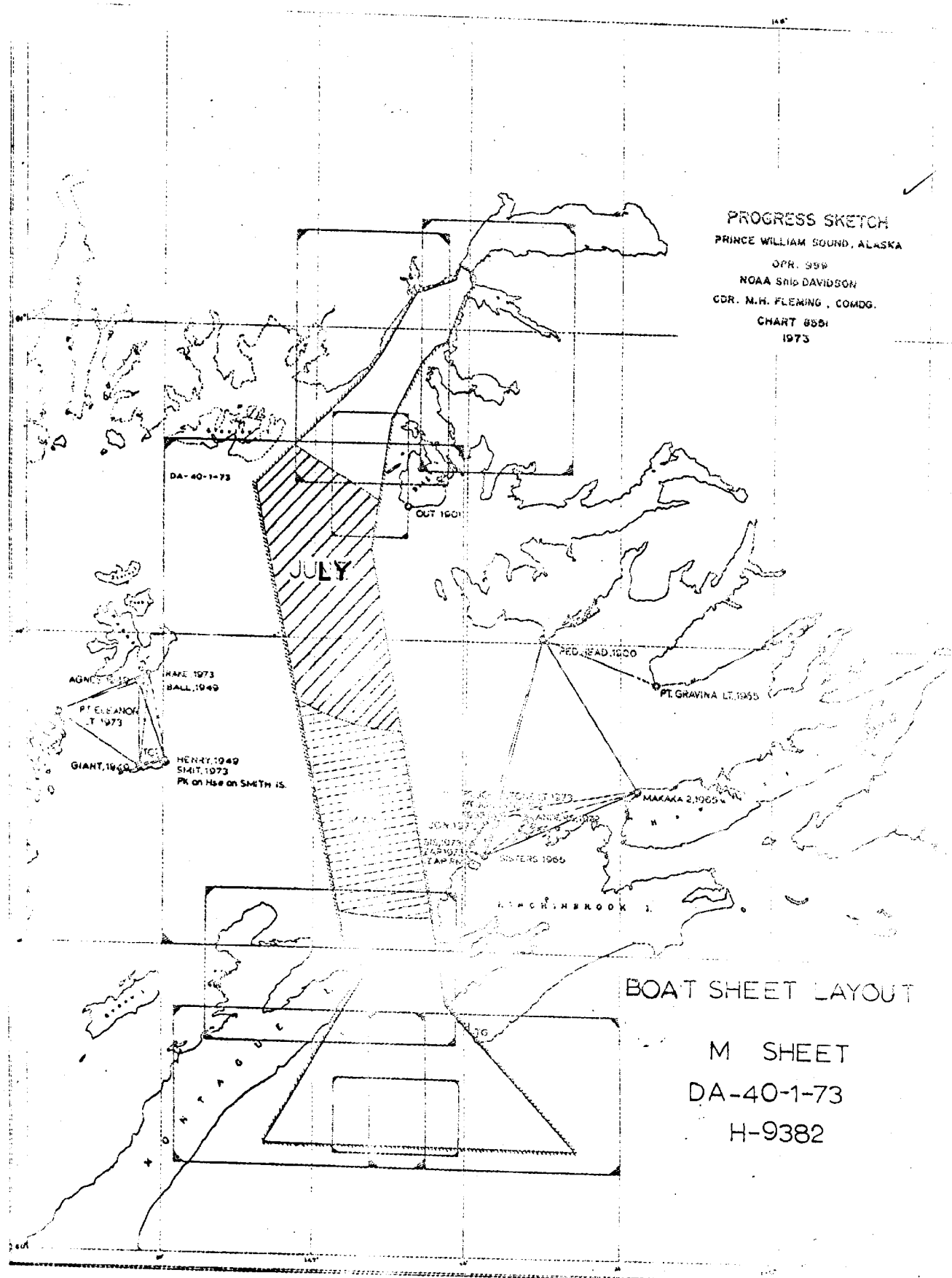
Chief
Marine Chart Division



Associate Director
Office of Marine Surveys and Maps

GEOGRAPHIC NAME LIST

No geographic names investigation was undertaken for this survey.
Shoreline investigation was not ordered under the Project Instructions.



✓
 PROGRESS SKETCH
 PRINCE WILLIAM SOUND, ALASKA
 OPR. 998
 NOAA SRID DAVIDSON
 CDR. N.H. FLEMING, COMDG.
 CHART 8551
 1973

DA-40-1-73

OUT 1901

JULY

AGNES IS.
 HAZE 1973
 BALL 1949

PT. ELEANOR LT. 1973

GIANT 1960

HENRY 1949
 SMITH 1973
 PK on Hse on SMITH IS.

RED BEAD 1900

PT. GRAVINA LT. 1955

MAKAKA 2 1965

JOHN 1973
 SUE 1973
 TAP KIN

WATERS 1965

FINCH BROOK I.

BOAT SHEET LAYOUT

M SHEET
 DA-40-1-73
 H-9382

APPENDIX

LIST OF SIGNALS

TIDE NOTE

ABSTRACT OF RAYDIST CALIBRATIONS

FORM 1

FORM 3

TRA/TC/TI TAPE PRINTOUT

VELOCITY TABLE TAPE PRINTOUT

GEOGRAPHIC NAMES LIST

APPROVAL SHEET

S I G N A L P L O T T E R C A R D S

See Reverse (Control)

NO.	H		LAT	ITUDE	LON	GITUDE	X	Y	X	
382	0	9	73	603	73340	147	215476	11519	08090	018
382	0	9	73	604	82273	146	474709	03357	13347	019
382	0	9	73	602	85971	146	364336	00677	03908	023
382	0	9	73	602	90243	146	361176	00550	03931	024
382	0	9	73	603	15138	147	202791	11190	05310	026
382	0	9	73	602	70734	146	391089	01264	02993	027
382	0	9	73	605	04384	146	503670	04032	14492	008
382	0	9	73	604	95114	146	484792	03600	14065	031
382	0	9	73	602	70820	146	391240	01270	03000	033
382	0	9	73	603	15708	147	194350	11012	05355	034
382	0	9	73	603	15197	147	202899	11194	05315	035
382	0	9	73	603	14202	147	230515	11820	05238	036

Names on list of signals

000000

0000

LIST OF SIGNALS
 H-9382 (1973)
 DA-40-1-73

SIGNAL NO	NAME	LAT	LONG	USE
018	RAKE, 1973	60°37'33.40"	147°21'54.76"	PATTERN II (GREEN)
019	OUT, 1901 * 1972 <i>second Order (mud)</i>	60°48'22.73"	146°47'47.09"	PATTERN I (RED) & CALIBRATION SIGNAL
023	West Daymark on Pt. Johnstone Light	60°28'59.71"	146°36'43.36"	CALIBRATION SIGNAL (FRONT RANGE)
024	Red Tree, 1973 (Temporary)	60°29'02.43"	146°36'11.76"	CALIBRATION SIGNAL (REAR RANGE)
026	RAYDIST SITE ON SMITH ISLAND (SMIT RM 1) 1973	60°31'51.38"	147°20'27.91"	PATTERN I (RED) <i>hole</i>
027	ZAP RMI, 1973	60°27'07.34"	146°39'10.89"	PATTERN II (GREEN) <i>Brown</i>
033	ZAP, 1973	60°27'08.20"	146°39'12.40"	CALIBRATION SIGNAL
008	REEF, 1942-72	60°50'43.84"	146°50'36.70"	CALIBRATION SIGNAL
031	JOKE, 1973	60°49'51.14"	146°48'47.92"	CALIBRATION SIGNAL
034	HENRY, 1949 r. 73 (recomputed)	60°31'57.0760	147°19'43.4956"	CALIBRATION SIGNAL
035	Peak of Roof of House on Smith Island, 1973	60°31'51.969"	147°20'28.990"	CALIBRATION SIGNAL
036	GIANT, 1949 r. 1973	60°31'42.01706"	147°23'05.15278"	CALIBRATION SIGNAL

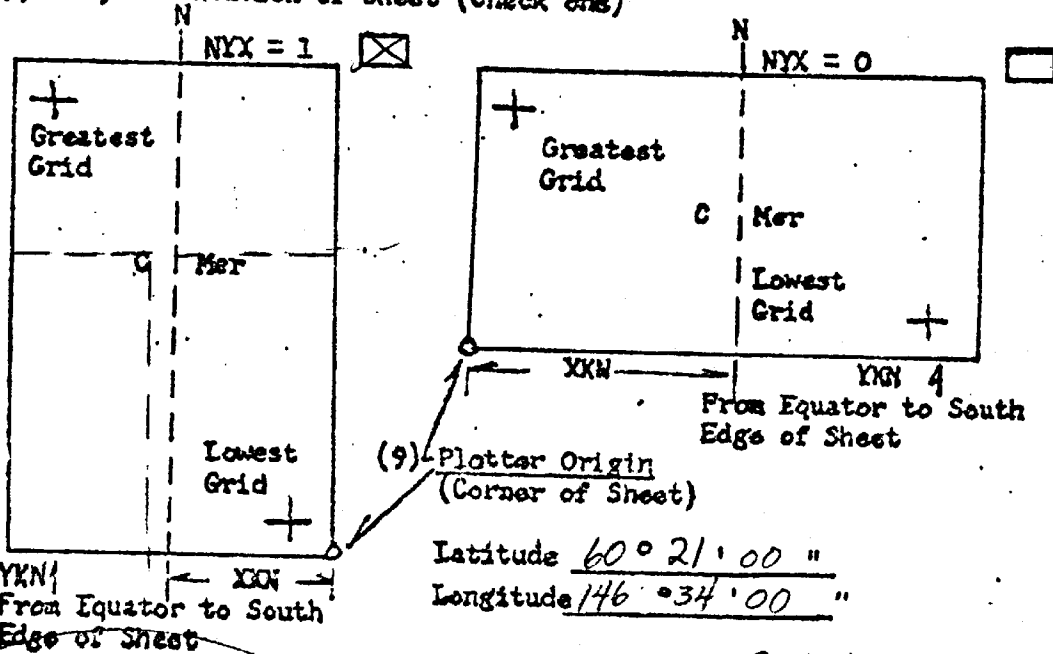
ABSTRACT OF RAYDIST CALIBRATIONS

H-9382 (1973)

DAY	TIME	RED CORRECTOR	GREEN CORRECTOR	POSITIONS	STATIONS	REMARKS
149	1145	-0.06	-0.03	1-112	OUT (RED) RAKE (GREEN)	
150	2200 1720	-0.09	-0.07	113-354	"	
151	2120	+0.26	+0.10	355-713	"	
156	0406 2054	-0.04	+0.04	714-774	"	
CHANGE RAYDIST STATIONS						
206	0800 1615	-0.02	-0.01	775-842	"	SMIT (Raydist Site on Smith Island) - RED ^{Purple} ZAP RMT (GREEN) ^{Brown}
207	2016 1935	-0.02	+0.05	843-1120	"	
208	2138	-0.04	0.00	1121-1128	"	
209	1124 1900	-0.03	+0.02	1129-1184	"	
210	0810 1400 1636 2147	-0.09 -0.03 -0.09 -0.02	-0.03 +0.02 -0.01 -2.00	1185-1342 1343-1352 1353-1375 1376-1427	" " " "	Change fathometers, new S/N 926, after 1352. Lost two GREEN Lanes after 1427, see strip chart. Immediately re-calibrated.
211	1636	+0.04	-0.05	1428-1474	"	
212	2150 0810 1510	+0.09 +0.03 +0.03	-0.02 -0.02	1475-1582 1583-1618	" " "	
213	0545	+0.15	-0.05	1619-1720	"	

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

- (1) Project No. PR-999 (4) Requested by _____
 (2) H No. H-9382 (5) Ship or Office Davidson
 (3) Field No. DA-40-1-73 (6) Data Required _____
 (7) Visual Ft.(0) or Fathoms (1) (8) Electronic (fill out form #3)
 (10) XKN (SP 5) Distance from MER to East Edge (NYX = 1) or West Edge (NYX = 0). (Origin) 20,244.84 Meters
 (11) YKN (SP 24) Distance from Equator to South Edge of Sheet. (Origin) 6,692,812.306 Meters
 (12) Central Meridian 146°56'00"
 (13) Survey Scale 1:40,000
 (14) Size of Sheet (Check one) 36x60 42x60
 (15) NYX, Orientation of sheet (Check one)



Copied for clarity

	Grid Limits	
(16) Greatest Latitude	<u>60° 52' 00 "</u>	(Projection Line Interval Page 4 Hydro Manual)
(17) Lowest Latitude	<u>60° 22' 00 "</u>	(19) <u>21° 00 "</u>
(18) Difference	<u>30' 06 "</u>	(20) <u>15 YSN</u>
(21) Greatest Longitude	<u>147° 18' 00 "</u>	(24) <u>21 00 "</u>
(22) Lowest Longitude	<u>146° 36' 00 "</u>	(25) <u>21 XSN</u>
(23) Difference	<u>42' 00 "</u>	

Form 7/2

Days 149-156

H S 9382
 Field No. DA 40-73
 Date

HYDRO I PARAMETER CARDS
 Computer G.P.'s from Electronic Controlled Baseline

Parameter Card I

		Deg. Min. Seconds										PROG. Codes					
Master M1	Lat.	60	48	22	73	0	RPD	1	2	3	4	5	6	7	8	9	0
Hydro Name	Long	46	47	47	09	1	RDD	2	1	2	3	4	5	6	7	8	9
SEAVE R2	Lat.	60	37	33	99			Not Used									
Hydro Name	Long	47	21	54	76	4		Not Used									
Asimuth R1 to R2		57	20	08	12	3	RAD	2	0	6	4	0	8	1	2	0	6
Baseline Distance in Meters							SNP	3	6	9	8	8	1	6	5	0	5
Velocity Code	0 - No Vel. Table 2 - 2 Vel. (E - W)						IVL										
CONVERSION FACTOR FOR ELECTRONIC	1 - 1 Vel. Table 3 - 2 Vel. (N - S)						CNV	4	5	3	9	9					
DISTANCE TO METER	SEAVE M1 300.4 OR						JH										
H-IDENTIFICATION NUMBER	INNER M 300.4 OR						AAA										
LOCATION OF SURVEY WITH RESPECT TO ELECTRONIC BASELINE	- < A = 1 1. < A = 0						VLF										
VELOCITY BOUNDARY	IVL M 2 LONG M 0						YR										
IF SHERAN CALIBRATION CORRECTION IS APPLIED BY EQUATION (USE SHERAN CARD) PUNCH 1 IN COLUMN 80							ZC	71	72	73	74	75	76	77	78	79	80

Shoran Card Format (when calibration correction is applied by a line K x + C)
 (LINE 5, 11, 17, OR 23 IF RESP. CONSTANT IS NEGATIVE)

1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

Form 2/2

Days 206-2/2

H S 9382
Field No. DA-40-1-73
Date

HYDRO I PARAMETER CARDS
Computer G.P.'s from Electronic Controlled Baseline

Parameter Card I

Parameter	Value	Units	Deg. Min. Seconds												Prog. Codes						
			1	2	3	4	5	6	7	8	9	10	11	12							
Hydro Name	SMITH Island	Lat.	69	31	51	38	85	RPD	1	2	3	4	5	6	7	8	9	10	11	12	
Slave R2		Long	147	20	27	14	RBD	2	1	7	9	1	1	3	9	0	6				
Hydro Name	ZAP	Lat.	60	27	07	34		5	3	0	4	2	7	9	0	0	6				
		Long	146	39	10	87															
Azimuth	RL to R2		28	2	4	7	5	4	RAD	1	0	1	8	0	2	6	8	0	7		
Baseline Distance	in Meters									Not Used											
Velocity Code	0 - No Vel. Table	2 - 2 Vel. (E-W)							IVL												
Conversion factor for electronic	1 - 1 Vel. Table	3 - 3 Vel. (N-S)							CHV	2	1	3	4	5	6	7	8	9	0	1	2
Change to meters		Scale M = 3300.4 KM							JII	4	5	3	9	9	0	4	1	0	2		
H-identification Number									AAA												
Location of survey with respect to electronic baseline		< A = 1							VLE												
Velocity Boundary		IVL = 2							YR												
		Long = 0																			
		Lat = 3																			
If Sheran calibration correction is applied by equation (use Sheran card) punch 1 in column 80																					

Shoran Card Format (when calibration correction is applied by a 11no K x + C)
(May 5, 11, 17, or 23 if resp. constant is negative)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

H-9382

GEODETIC INVERSE COMPUTATION

PROGRAM NO. 700-002

*unadjusted @ time
of review.*

STATION A: *SMITH Island, 1973*

TO STATION B: *Zap RML, 1973*

LATITUDE	LONGITUDE	AZIMUTH	DISTANCE
60 31 51.38500	147 20 27.91400	F 282 47 6.75370	38832.4900
60 27 7.34000	146 39 10.89000	B 103 23 2.47123	

GEODETIC INVERSE COMPUTATION

PROGRAM NO. 700-002

*unadjusted @ time of
review.*

STATION A: *OUT 1972 second order unadj.*
Bligh Island

TO STATION B: *RAKE, 1973*
Naked Island

LATITUDE	LONGITUDE	AZIMUTH	DISTANCE
60 48 22.73000	146 47 47.09100	F 57 20 8.12260	36988.1649
60 37 33.39900	147 21 54.76400	B 236 50 22.12216	

4-9382

Field No. 9-19-23
 Date _____

PARAMETER II AND III PARAMETER 25

PARAMETER CARD II

Semi major axis of the earth	6.378,206.4									
X Constant - Distance from central meridian to origin of platter SP 5	meters									
Y Constant - Distance from equator to origin of platter SP 2/3	meters									
Central Meridian of Projection	1	4	6	5	6	0	0			
Platter Scale/Survey Scale	30,993.6576 1:40,000									
North/south axis of sheet - to correspond to (Y axis - 0)										
Foot/Plathom Indicator	0 - foot 1 - fathom									
H Identification No.										
FOF - I	NRX									
	FOF									
	JR									
	YR									

PARAMETER CARD III

Lowest Lat. Intersection	60	22	00	YST	1	2	3	4	5	6	7	8	9	10
Lowest Long. Intersection	146	36	00	XST	11	12	13	14	15	16	17	18	19	20
Difference between Grid		2	00	DXI	21	22	23	24	25	26	27	28	29	30
Interval (Long)				XSN										
Interval (Lat)				YSN										

Computed _____
 Punched _____
 Checked _____
 Date _____

COMPUTER PARAMETERS FOR ELECTRONICALLY CONTROLLED SURVEYS

(RANGE - RANGE)

- (1) PROJECT No. OPR-999 (2) H- No. 9382 (3) FIELD No. DA-40-1-73
- (4) TYPE OF CONTROL: SHORAN, RAYDIST, HI-FIX, RADAR
 FREQUENCY (FOR CONVERSION OF RAYDIST OR HI-FIX LANES TO METERS) 3300.4 khz
- (5) RANGE ONE (R1) Raydist Site on LATITUDE 60 ° 31 ' 51.385 "
 STATION NAME Smith Island 1973 LONGITUDE 147 ° 20 ' 27.914 "
- (6) RANGE TWO (R2) ZAP RM1, 1973 LATITUDE 60 ° 27 ' 07.34 "
 STATION NAME ZAP RM1, 1973 LONGITUDE 146 ° 39 ' 10.89 "
- (7) AZIMUTH FROM R1 TO R2 _____ ° _____ ' _____ "
- (8) BASELINE LENGTH IN METERS _____ M.
- (9) LOCATION OF SURVEY WITH RESPECT TO ELECTRONIC BASELINE: CHECK ONE
 (TO DETERMINE: IMAGINE AN OBSERVER STANDING AT R1 AND LOOKING DIRECTLY
 AT R2 --- IF THE SURVEY AREA IS TO THE OBSERVER'S LEFT THEN A IS
NEGATIVE; IF THE SURVEY AREA IS TO THE OBSERVER'S RIGHT THEN A IS
POSITIVE.)

X -A (MINUS) _____ +A (PLUS)

- (10) IF SHORAN CORRECTIONS ARE APPLIED BY THE EQUATION, $K(X) + C = D$,
 WHERE X IS SHORAN DISTANCE AND D IS TRUE DISTANCE, ENTER THE CONSTANT
 COEFFICIENTS OF THE EQUATIONS HERE:

K(R1) _____, C(R1) _____, K(R2) _____, C(R2) _____

- (11) NUMBER OF VELOCITY TABLES TO BE USED:
 NONE, _____ ONE, _____ MORE THAN ONE.

? THIS FORM IS SUBMITTED ONLY AS AN AID IN PREPARING A BOAT
SHEET PROJECTION.

_____ THIS FORM APPLIES TO ALL DATA ON THIS SURVEY.

_____ THIS FORM APPLIES TO PART OF THE DATA ON THIS SURVEY -

TIME AND DATE LIMITATIONS: FROM 10:30 To 23:50
206 To 212

POSITION NUMBER LIMITATIONS: FROM 775 To 1720

THIS IS FORM #3 SHEET # _____ OF _____ SHEETS FOR THIS SURVEY.

- (13) OTHER REMARKS:

FORM # 3

FIG. 7

COMPUTER PARAMETERS FOR ELECTRONICALLY CONTROLLED SURVEYS

(RANGE - RANGE)

- (1) PROJECT No. OPR-999 (2) H- No. 9382 (3) FIELD No. DA-40-1-73
- (4) TYPE OF CONTROL: _____ SHORAN, _____ RAYDIST, XXX HI-FIX, _____ RADAR
FREQUENCY (FOR CONVERSION OF RAYDIST OR HI-FIX LANES TO METERS) 3300.4 KC
- (5) RANGE ONE (R1) OUT 1901 r. 1972 LATITUDE 60 ° 48 ' 22.730"
STATION NAME BLIGH ISLAND *R1* LONGITUDE 146 ° 47 ' 47.091"
- (6) RANGE TWO (R2) RAKE, 1973 LATITUDE 60 ° 37 ' 33.399"
STATION NAME NAKED ISLAND *R2* LONGITUDE 147 ° 21 ' 54.764"
- (7) AZIMUTH FROM R1 TO R2 _____ ° _____ ' _____ "
- (8) BASELINE LENGTH IN METERS _____ M.
- (9) LOCATION OF SURVEY WITH RESPECT TO ELECTRONIC BASELINE: CHECK ONE
(TO DETERMINE: IMAGINE AN OBSERVER STANDING AT R1 AND LOOKING DIRECTLY
AT R2 --- IF THE SURVEY AREA IS TO THE OBSERVER'S LEFT THEN A IS
NEGATIVE; IF THE SURVEY AREA IS TO THE OBSERVER'S RIGHT THEN A IS
POSITIVE.)
- XX -A (MINUS) _____ +A (PLUS)
- (10) IF SHORAN CORRECTIONS ARE APPLIED BY THE EQUATION, $K(X) + C = D$,
WHERE X IS SHORAN DISTANCE AND D IS TRUE DISTANCE, ENTER THE CONSTANT
COEFFICIENTS OF THE EQUATIONS HERE:
K(R1) _____, C(R1) _____, K(R2) _____, C(R2) _____
- (11) NUMBER OF VELOCITY TABLES TO BE USED:
X NONE, _____ ONE, _____ MORE THAN ONE.
- (12) X THIS FORM IS SUBMITTED ONLY AS AN AID IN PREPARING A BOAT
SHEET PROJECTION.
- _____ THIS FORM APPLIES TO ALL DATA ON THIS SURVEY.
- _____ THIS FORM APPLIES TO PART OF THE DATA ON THIS SURVEY -
TIME AND DATE LIMITATIONS: FROM 121415 TO 193600
149 TO 156
- POSITION NUMBER LIMITATIONS: FROM 1 TO 774
- THIS IS FORM #3 SHEET # 7 OF 7 SHEETS FOR THIS SURVEY.
- (13) OTHER REMARKS: Post 1964 earthquake data has been requested, but has
not arrived onboard. Station locations, azimuth and baseline length data
should be available from Mr. Melby.
2. Grid intersection information only is required. A paper overlay with arc
intersection ticks is requested.
3. EDAT # for this sheet is 31162

TRA/TC/TI CORRECTION

FROM	TO	VEL. TABLE	DAY
121415	235900	1	149
000000	235900	1	150
000000	201200	1	151
145600	193600	1	156
101300	154100	2	206
235200	240000	2	207
000000	231200	2	208
124500	235900	2	209
000000	203000	2	210
165900	235900	2	211
000700	231500	2	212

VELOCITY TABLE I

DAYS 149 to 156

DEPTH		
FROM	TO	CORRECTION
0.0 fm	250.0 fm	0.0 fm

VELOCITY TABLE 2

DEPTH		
FROM	TO	CORRECTION
0.0 fm	38.0 fm	+ 0.2 fm
38.1	260.0	0.0 fm

4/25/74

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

*correct
tide note*

Processing Division: Pacific Marine Center

Hourly heights are approved for Form 362

Tide Station Used (NOAA form 77-12): Smith Island, Rocky Point

Period: July 12 - August 17 1973

HYDROGRAPHIC SHEET: H9382

OPR: 999

Locality: Prince William Sound, SW Alaska

Plane of reference (mean lower low water): Smith Island 3.8 ft.
which is feet on tide staff. Rocky Point 13.7 ft.

Height of Mean High Water above Plane of Reference is
Smith Island 11.1 ft.
Rocky Point 10.9 ft.

Remarks:

Zone: North limits to 60°40'N Lat.
Use Rocky Point directly.
From 60°40'N Lat. South to
60°20'N Lat. Use two zones:

East of 147° use Johnstone Point
West of 147° use Smith Island

C. D. Howlow

Chief, Tides Branch

May 3, 1974

TIDE NOTE

(From Tides Branch)

Subject: Datum Correction

The MLLW datum for Rocky Point, Prince William Sound, included on the tide note dated November 19, 1973, was computed 1.3 feet on the tide staff instead of 13.7 feet on the marigram.

To correctly reduce soundings for hydrographic sheets H-9382, H-9384, and H-9388, apply constant +12.4 feet.

GEOGRAPHIC NAMES

Survey No. H-9382

Name on Survey	Source of Name										No.
	A	B	C	D	E	F	G	H	K		
BLIGH REEF	X										1
BLIGH ISLAND											2
HINCHINBROOK ENTRANCE											3
PRINCE WILLIAM SOUND											4
REEF ISLAND											5
VALDEZ ARM											6
Glacier Island											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Approved by
 Char. E. Harrington
 Staff Geographer
 Feb. 28, 1974

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9382

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1	BOAT SHEETS	82
DESCRIPTIVE REPORT	1	OVERLAYS	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
Records ENVELOPES			X 1			
CAHIERS	1					
VOLUMES	1 (275)	1 Bolder original printouts				
Bolder			2			

1 Smooth printouts (raw data), two base strip chart recording

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

Tides printout filed in cahier.

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				1734
POSITIONS CHECKED		1734	1	
POSITIONS REVISED		10	0	
DEPTH SOUNDINGS REVISED		250	6	
DEPTH SOUNDINGS ERRONEOUSLY SPACED			-	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED			-	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS		4	12+1=13	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		40	4+2=6	
SPECIAL ADJUSTMENTS			-	
ALL OTHER WORK		52 95	26+20	
TOTALS		96 139	42+23=65	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>James L. Stringham</i>	BEGINNING DATE		ENDING DATE	
REVIEW BY <i>Donnie J. Roesburg</i>	BEGINNING DATE		ENDING DATE	

Dr. F. B. Powell 3-15-75 8hr.

Reg. No. H-9382 (1973)

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 REQ'D _____ INITIALS _____

REMARKS:

Reg. No. H-9382 (1973)

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 9-30-82 TIME REQ'D. _____ INITIALS JHC

REMARKS:

A new sounding printout was requested and will have to be annotated to reflect the corrections made during review shown on the old printout. A new sounding printout was requested because of an erroneous tide correction applied to present printout.

147° 00'

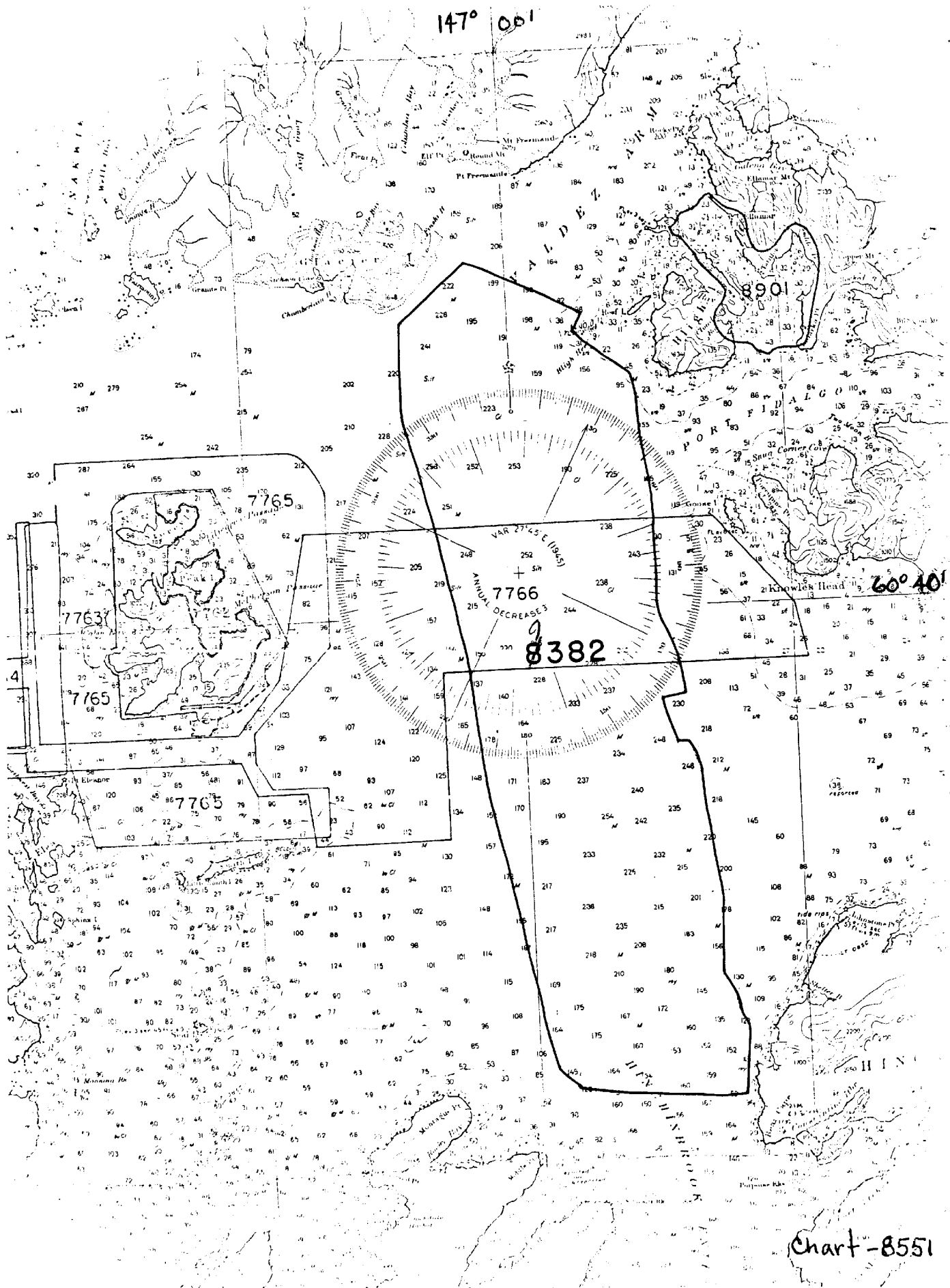


Chart - 8551

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. HL-9382

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
8520	2/6/78	Juanita Hernandez	Part Before ^{AFTER} Verification Review Inspection Signed Via Drawing No. ? Critical Corrections only
8519	2/6/78	Juanita Hernandez	Part After Verification Review Inspection Signed Via Drawing No. Critical Correction Only
8551	3/14/74	M.P. Kavis	Full Part Before After Verification Review Inspection Signed Via Drawing No. Applied thru charts 8519 & 8520
8519	9/7/77	H.J. Borowski	Full Part Before After Verification Review Inspection Signed Via Drawing No. Fully app'd Hydro in area covered by survey
8520	4/6/79	J. Bailey	Full Part Before After Verification Review Inspection Signed Via Drawing No. 14 Fully Applied hydro
			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.
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