

# 9393

Diag. Cht. Nos. 8201-3 & 8202-3.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey Hydrographic (NAS)  
(OPR-999)  
Field No. DA-10-6-73 Office No. H-9393

### LOCALITY

State Alaska  
General locality Stephens Passage  
Locality South Part of Holkham Bay and  
Approaches

1973

### CHIEF OF PARTY

M. H. Fleming

### LIBRARY & ARCHIVES

DATE 5-31-74

USCOMM-DC 87022-P66

# 9393

①

HYDROGRAPHIC TITLE SHEET

H-9393

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-10-6-73

State ALASKA

General locality STEPHENS PASSAGE  
~~SOUTHEAST ALASKA~~

Locality South part of HOLKHAM BAY - ~~INDICOTE ARM~~ and Approaches

Scale 1:10,000 Date of survey 17 Sept. to 16 Oct. 1973

Instructions dated 11 June 1973 Project No. OPR-999

Vessel NOAA Ship DAVIDSON, Launch DA-2, Launch DA-1

Chief of party CDR. Michael H. Fleming

Surveyed by ENS. Joseph J. Kapler

Soundings taken by echo sounder, hand lead, pole Ross 544 (S/N 1048)  
Raytheon DE-723 (S/N 1286, 926)

Graphic record scaled by DAVIDSON Personnel

Graphic record checked by DAVIDSON Personnel

Protracted by DAVIDSON Personnel Automated plot by PMS - Gerber

Digital Plotter

Soundings penciled by DAVIDSON Personnel

Soundings in fathoms feet at M&W MLLW

REMARKS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Applied to state 6/27/74  
CB

Cht  
8201  
8202

He

DESCRIPTIVE REPORT  
H-9393  
DA-10-6-73  
Holkham Bay, South

A. PROJECT

This survey was accomplished in accordance with Project Instructions OPR-999-DA-73, Navigable Area Survey, Tracy and Endicott Arms, Alaska, dated 11 June 1973.

B. AREA SURVEYED

The survey area is the southern half of Holkham Bay and the entrance to Endicott Arm. It encompasses the area east of Long. 133°41.0' West; south of contemporary survey H-9392(DA-10-5-73) (Limit Lat. 57°45.5'); the western shores of Mount Sumdum; and north of a line joining Lat. 57°44.5', Long. 133°30.0' and Lat. 57°43.0', Long. 133°34.0'.

C. SOUNDING VESSEL

The following vessels were used to obtain data for this survey:

VESSEL	POSITION COLOR	TYPE OF DATA
NOAA Ship DAVIDSON	Brown	Bottom Samples
DA-1	Red	Positions and Soundings
DA-2	Blue	Positions and Soundings

D. SOUNDING EQUIPMENT

Launch DA-1 used a Raytheon DE-723(S/N 926) fathometer. Phase errors were eliminated by use of a digital phase checker. Semi-automated Launch DA-2 used a Ross Fineline Model 5000 fathometer, Serial Number 1048, to obtain soundings for this survey. The digitized depth was accepted as the correct sounding for this survey, except where obvious digitizing errors occurred (kelp or missed soundings). There is a discrepancy between the digitized depths and analog trace (usually less than one fathom). This is inherent in the Ross system as the digitized depth is assumed to have no phase error, initial error, or analog error.

*variable differences may result from sensitivity of two modes*

TRA corrections for DA-1 and DA-2 were determined from daily bar checks, but not applied to soundings.

The velocity of sound was determined from Nansen casts. The correction to the velocity of sound was less than one half of one per cent of the depth, therefore, the velocity correction is zero. See "Correction to Echo Sounders OPR-999, September-October 1973".

All soundings are in fathoms reference to MLLW using predicted tides for Holkham Bay. Greenwich mean time was used for the entire survey.

See "Tide Note".

E. SMOOTH SHEET

The smooth sheet will be constructed by the Processing Division, Pacific Marine Center.

F. CONTROL

Position control for this survey was the Motorola Mini-Ranger (range-positioning system). Mini-Rangers were located by third order triangulation or placed over existing triangulation.

Mini-Ranger transponders were located at the following positions:

SIGNAL NO.	STATION NAME	LATITUDE	LONGITUDE
002	Astley LaPlace, 1923	57°42'59.817"	133°39'00.343"
032	Midway, 1920	57°44'00.147"	133°52'25.196"
034	Sand Rm-1, 1973	57°45'35.847"	133°33'25.947"
062	Woodspit Light, 1973	57°44'19.1075"	133°34'24.1247"
013	Harbor, 1921	57°45'24.884"	133°37'51.057"
025	Sum	57°44'37.429"	133°29'48.314"

The Mini-Ranger receivers and transponders were calibrated in Juneau, Alaska, on 24 September 1973; comparison measurements were made with a tellurometer. Channel "A" was adjusted 10 meter (negative correction); however, this did not affect daily calibration. The daily calibration checks were done by visual 3 point sextant fixes to triangulation points with values generated by the Wang range-range calibration program. There are no corrections to electronic control. See "Report Electronic Control OPR-999-DA-73" for September and October 1973.

G. SHORELINE

Shoreline was transferred from prior survey Register No. H-1999(1899, 1:40,000). Topographic manuscripts are not available for Holkham Bay and Endicott Arm. Shoreline was adjusted in places on the boat sheet to reflect the shoreline limits determined by hydrography(see Appendix for letter dated 30 September and 19 October 1973). However, in keeping with the concept of a Navigable Area Survey, the hydrographer only attempted to delineate the zero fathom curve and shoreline where critical to navigation.

See Verifier's Report

H. CROSSLINES

The percentage of crosslines to sounding lines was 14.6 per cent or 19.9nm compared to 295.3 miles. All crosslines are in good agreement with sounding lines.

I. JUNCTIONS

This survey junctions with contemporary survey H-9392(DA-10-5-73).

See Verifier's Report

J. COMPARISON WITH PRIOR SURVEY

There are no pre-survey review items on this sheet. Considering the date and scale of the prior survey(H-1999, 1:40,000, 1889), and the survey methods used during the prior survey, a one to one comparison with the prior survey was not made. This survey has a better sounding density and, therefore, a better delineation of shoals and depth curves.

K. COMPARISON WITH THE CHART

A comparison with C and GS Chart 8202-17th Edition, scale 1:209,789 with the present survey is satisfactory. However, the chart is based on the prior survey(see paragraph J).

L. ADEQUACY OF SURVEY

This survey is considered complete and adequate within the limits of the survey.

M. AIDS TO NAVIGATION

There is one fixed aid to navigation, Woodspit Light, on this sheet. It was located by third order triangulation at Lat. 57°44'19.1075" Long. 133°34'24.1247". Its characteristics are FL 2½ Sec. 5M.

See Appendix for Form 76-40.

N. STATISTICS

Sounding and position and detached position data are logged with respect to Mini-Ranger station pair rather than Julian day.

VESSEL	NO.OF POSITIONS	NM OF SOUNDING LINE	BS	DP
DA-1	751	123.9	0	2
DA-2	1521	191.3	0	4
DAVIDSON	0	0	18	0

2290

POSITIONS & SOUNDINGS

TAPE NO.	JULIAN DAY	VESSEL	POSITIONS	STATION PAIRS R <sub>1</sub> R <sub>2</sub>	R <sub>1</sub> RESPECTIVE TO R <sub>2</sub>
E-1	260	DA-1	1-133 (No position Nos.30-31,57-61)	AstleyLaPlace, Midway	+
E-1	261	"	134-405	AstleyLaPlace, Midway	+
E-1	262	"	406-431	" "	+
E-2	262	"	432-577	Sum, Sand Rm-1	-
E-2	263	"	578-751	" "	-
E-2	268	"	752-789	" "	-
E-3	268	"	790-855	AstleyLaPlace, Harbor	-
E-4	286	DA-2	3943-3971, 4081-4106	Sum, Woodspit Light	+
E-4	288	"	4312-4355 (No positions 4311 or 4424)	" "	+
E-4	289	"	4356-4389, 4472-4476	Sum, Woodspit Light	+
E-5	269	DA-2	3001-3081	AstleyLaPlace, Harbor	-
E-5	274	"	3082-3311	Harbor, AstleyLaPlace	-
E-6	276	"	3312-3537	AstleyLaPlace, Harbor	-
E-6	277	"	3538-3723	" "	+
E-7	284	"	3780-3942	WoodspitLight, Sand Rm-1	-

6

TAPE NO.	JULIAN DAY	VESSEL	POSITIONS	STATION PAIRS		R <sub>1</sub> RESPECTIVE	TO R <sub>2</sub>	✓
				R <sub>1</sub>	R <sub>2</sub>	R <sub>1</sub>		
E-8	284	DA-2	3724-3779	Sum, Sand	Rm-1	-		
E-9	286	"	3972-4080	SandRm-1,	WoodspitLight	-		
E-9	288	"	4107 4310	"	"	-		
E-9	289	"	4390-4471, 4477-4521	"	"	-		

BOTTOMS SAMPLES

E-10	300	DAVIDSON	7001-7011	Midway, AstleyLaPlace		-		
				(No BS position 7008)				
E-11	300	"	7008, 7012-7018	Sum, Sand	Rm-1	-		
E-12				Signal Tape				
E-13				TRA/TC/TI	DA-1			
E-14				TRA/TC/TII	DA-2			
E-15				Velocity Correction	DA-1			
E-16				Velocity Correction	DA-2			
E-16				Detached Position	DA-2			
				5003-5006	AstleyLaPlace, Harbor	-		
E-18				Detached Position	DA-1			

5001-5002(Sextant fixes)

O. LOGGINGS

All data for this survey was logged in ASCII Code Model 33 teletypes. Acquisition for DA-2 was on time, acquisition for DA-1 was manual.

P. MISCELLANEOUS

Abstract of conditions encountered while hydrography in progress:

260 Uneven course and speed - inability of coxswain to stay on lane encountered strong rip tides and current all day.

261 Weak currents.

- 262 A good day.
- 263 Uneven course and speed - strong currents, inability of coxswain to stay on lane.
- 268 Uneven course and speed caused by strong currents and rip tides.
- 269 Strong winds and 3 foot swell in afternoon.
- 274 Current through middle of channel caused changes in spacing on north end of lines.
- 276 2 foot rip tides and current account for changes in spacing while moving in contrary directions.
- 277 A good day.
- 284 2 foot rip tides and current account for changes in spacing while moving in contrary directions.
- 286 Different sounding interval in contrary directions due to strong currents and rip tides.
- 288 A good day.
- 289 Currents affecting course and sounding interval.

Q. RECOMMENDATION

It is recommended that the data obtained on this survey be applied to existing charts.

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APPROVAL SHEET

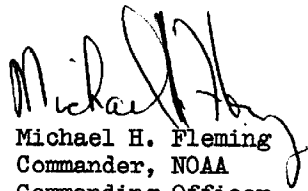
NAVIGABLE AREAS DA-10-6-73 SURVEY

H-9393

OPR-999

HOLKHAM BAY SOUTH

THE FIELD WORK ON THIS SURVEY WAS ACCOMPLISHED UNDER MY SUPERVISION.  
FREQUENT INSPECTIONS WERE MADE OF THE BOAT SHEET AND OTHER RECORDS..



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

TIDE NOTE

TRACY ARM - HOLKHAM BAY - ENDICOTT ARM

OPR-999 / 1973

Five portable tide gauges were installed for tidal datum control on this survey. Due to possible tidal changes from Holkham Bay to Tracy Arm and Endicott Arm, gauges were located on both sides of the entrance sills at each of the fiords. The time on all gauges was set on GMT. The controlling tide gauge for this project is the Juneau standard gauge. The following description of gauges is given (see sketch for locations).

	<u>LATITUDE</u>	<u>LONGITUDE</u>	<u>INSTALLED</u>	<u>REMOVED</u>
SANFORD COVE	57°41.2'	133°28.3'	12 Sept.	25 Oct.
HOLKHAM BAY	57°45.6'	133°36.2'	11 Sept.	12 Oct.
WOOD SPIT	57°43.1'	133°34.7'	27 Sept.	28 Oct.
TRACY ARM	57°48.6	133°37.6'	15 Sept.	28 Oct.
TRACY ARM HEAD	57°52.8'	133°11.1'	16 Sept.	24 Oct.

FURTHER COMMENTS:

SANFORD COVE: Initially a bubbler type gauge was installed but the gauge became erratic and ceased recording at 2100 GMT 25 September. This gauge was replaced with an ADR type at 2200 on 29 September, the same staff was used.

HOLKHAM BAY: A bubbler gauge was installed, the orifice was moved by ice on 13 September and the staff was destroyed by ice about 7 October. The gauge was removed on 12 October.

WOOD SPIT: This bubbler gauge was installed at the site of previous gauges, 1922 and 1960. Bench marks 1, 2, and 3 of 1922 were recovered as described and bench mark 4 and 5, 1973 were added.

TRACY ARM: Initially an ADR type gauge was installed but after routine servicing, the time was determined to be erratic, and on 12 October a bubbler gauge was also installed, utilizing the same staff, to supplement this gauge.

TRACY ARM HEAD: The bubbler gauge here is located on the Island at the head of Tracy Arm. Due to the extremely dense ice, from the two Sawyer glaciers, a staff was made of 1-1/2" galvanized pipe with 1/10 foot intervals painted. The orifice and tubing were placed inside the pipe staff to give protection from the ice. Large waves, up to 8' have periodically been recorded on this tide gauge due to ice caving from the face of the glaciers.

The following table indicates the tide gauge(s) used (hourly heights scanned) for each boat sheet:

<u>Boat sheet</u>	<u>Tide Gauge</u>
H-9392	Tracy Arm, Holkham Bay, Wood Spit
H-9393	Holkham Bay, Wood Spit
H-9394	Tracy Arm, Tracy Arm Head

1/25/74 (11)

TO WHOM IT MAY CONCERN :

RE: TIDE CORRECTORS FOR H-9392, H-9393, H-9394

TIDES DIVISION WILL BE SENDING WRITTEN CONFIRMATION OF THE FOLLOWING ; MEANWHILE IT IS SAFE FOR US TO TAKE THE FOLLOWING STEPS PER MARI-HUBBARD TEL-COM THIS DATE :

(1) USE HOLKHAM BAY GAGE MEANLY HEIGHTS FOR SMOOTH TIDES ON H-9394 FOR TIME PERIODS WHEN TRACY ARM HEAD GAGE WAS NOT OPERATING. TRACY ARM HEAD AND HOLKHAM BAY HAVE ZERO TIME DIFFERENCE AND ZERO RATIO DIFFERENCE - SO ZONING NOT REQUIRED -  
(HOLKHAM BAY MEAN RANGE 13.4' VS TRACY ARM HEAD MEAN 13.5' SO NEGLIGABLE DIFFERENCE)

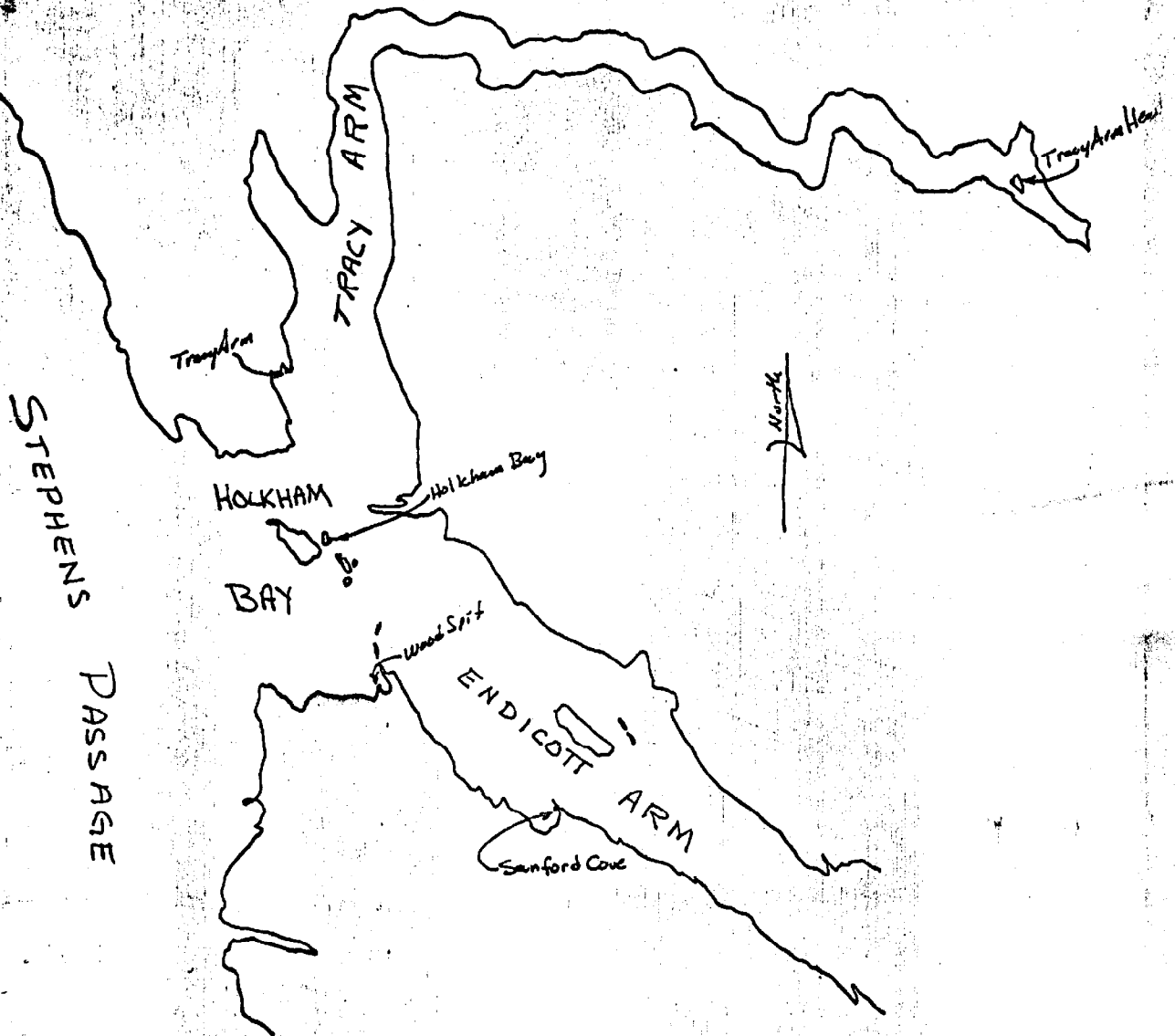
(2) CHECK TROP HAS MORE SMOOTH TIDE TAPES, VERIFICATION OF H-9394 SHOULD SPOT CHECK FOR DIFFERENCES BTWN THE TWO GAGES IN ITEM (1) BUT TIDES DIVISION IN OPINION NEGLIGABLE DIFFERENCES WILL EXIST.

(3) FOR H-9392 AND H-9393 WOODSPIT GAGE AND HOLKHAM BAY GAGE HAVE ZERO TIME AND ZERO RATIO DIFFERENCES - (THE MEAN RANGES OF THE TWO DIFFER BY ONLY 0.1') - SO THESE TWO GAGES CAN BE INTERCHANGED FREELY WITH NO SPECIAL ZONING REQ'D ON H-9392 AND H-9393.

(4) CHECKERS OF H-9392, AND H-9393 SHOULD SPOT CHECK FOR DIFFERENCES BTWN 3 GAGES IN (3) ABOVE BUT TIDES DIVISION IN OPINION NEGLIGABLE DIFFERENCES WILL EXIST.

(5) WRITTEN CONFIRMATION OF ABOVE (AND/OR REVISED FORMS IF NECESSARY ARE ON THEIR WAY)

TIDE STATIONS OPR-999 1973



13

H-9393 VEL CORRECTOR TAPE DA-1

31326073

000055 0 1001 0003 000 000000 000000  
001800 0 0000

H-9393 IA-1 ERA-TI CORRECTOR TAPE

31326073

173300 0 0003 0003 260 000000 000000  
163500 0 0003 0003 261 000000 000000  
175830 0 0002  
193100 0 0003  
213800 0 0004  
215400 0 0003  
003300 0 0003 0003 262 000000 000000  
164800 0 0003 0003 263 000000 000000  
173200 0 0001  
173500 0 0002  
200730 0 0003  
203200 0 0004  
214230 0 0003  
171000 0 0003 0003 268 000000 000000

VEL CORRECTOR TAPE H-9393 LAUNCH 1A-2

31326973

001800 0 0000 0002 000 000000 000000



31326973

H-9393 IA-2 TEAZII CORRECTOR TAPE

174200	0	0002	0002	269	000000	000000
172245	0	0002	0002	274	000000	000000
163415	0	0002	0002	276	000000	000000
174900	0	0002	0002	277	000000	000000
165430	0	0002	0002	234	000000	000000
181330	0	0002	0002	286	000000	000000
175345	0	0002	0002	288	000000	000000
000000	0	0002	0002	289	000000	000000

MINIRANGER CALIBRATION ABSTRACT  
TRANSPONDER

JULIAN DAY	AVERAGE CHANNEL A	CORRECTOR CHANNEL B	CHANNEL A	CHANNEL B	TRANSPONDER
256	-7.2* (4) +2.0** (6)	-8.8* (4) -2.7** (6)	ASTLEY - LAPLACE 1923	ASTLEY - LAPLACE 1923	MIDWAY, 1920
257	+6.7 (6)	+5.0 (6)	ASTLEY - LAPLACE 1923	ASTLEY - LAPLACE 1923	MIDWAY, 1920
258	+5.2 (6)	-1.0 (6)	ASTLEY - LAPLACE 1923	ASTLEY - LAPLACE 1923	MIDWAY, 1920
259	+6.5 (6)	0.0 (6)	ASTLEY - LAPLACE 1923	ASTLEY - LAPLACE 1923	MIDWAY, 1920
260	+5.8 (6)	+2.0 (6)	ASTLEY - LAPLACE 1923	ASTLEY - LAPLACE 1923	MIDWAY, 1920
261	+5.0*** (6)	-0.2*** (6)	ASTLEY - LAPLACE 1923	ASTLEY - LAPLACE 1923	MIDWAY, 1920
262	+5.8*** (6)	+3.0*** (6)	TRACY ARM DAYBEACON	TRACY ARM DAYBEACON	SAND, RMI
264	+2.8 (6)	+1.5 (6)	TRACY ARM DAYBEACON	TRACY ARM DAYBEACON	SAND, RMI
268	+6.3 (6)	+2.5 (6)	SAND, RMI	SAND, RMI	HOLKHAM BAY RANGE - FRONT DAYBEACON
271	+2.3 (6)	+2.0 (6)	TRACY ARM DAYBEACON	TRACY ARM DAYBEACON	WIL
272	+2.8 (5)	+1.5 (5)	TRACY ARM DAYBEACON	TRACY ARM DAYBEACON	WIL
272	+3.5 (6)	+1.8 (6)	WIL	WIL	MINI
273	-0.2*** (6)	+3.5*** (6)	WIL	WIL	MINI
273	-1.0*** (6)	-0.3*** (6)	TRACY ARM DAYBEACON	TRACY ARM DAYBEACON	WIL
285	+5.3 (3)	-7.3 (3)	WOOD SPIT LIGHT	WOOD SPIT LIGHT	SAND, RMI
Total Avg. +3.92					Avg. +0.55

MINIRANGER CALIBRATION ABSTRACT Cont.

- \* Before rate change
- \*\* After rate change (channel A decreased by 7m, channel b decreased by 8m
- \*\*\* Since GMT was used for this survey, date (Julian Day) changes have occurred.  
Average correctors apply to date (Julian Day) on which hydro was begun.

DATA IDENTIFICATION =====

OPR: 999 YR 1973 TIME MERIDIAN ZULU

REGISTRY NO(S) H-9393

FIELD NO(S) DA-10-6-73 TAPE # S-12

TYPE OF DATA SIGNAL

SOUNDING VESSEL DA-1 & DA-2

JULIAN DAY ALL FROM POS # ALL POS #

REMARKS:

31326973

002	57 42 5982	133 39 0034	AAA	Astley La Place, 1923
013	57 45 2488	133 37 5106	AAA	HARBOR, 1921
014	57 43 0105	133 38 3879	AAA	HOLK, 1925
023	57 45 3565	133 33 2387	AAA	SAND, 1927
025	57 44 3743	133 29 4831	AAA	SUMM
032	57 44 0015	133 52 2520	AAA	MIDWAY, 1920
034	57 45 3585	133 33 2595	AAA	SAND RIM-1
035	57 46 2169	133 35 0255	AAA	LUV
037	57 44 1911	133 34 2418	AAA	Woodspit LIGHT
063	57 45 0348	133 35 4834	AAA	Rolet



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

NOAA Ship DAVIDSON CSS-31

21

Date: 30 September 1973

Reply to Attn. of:  
CPM115

To: Director, Pacific Marine Center  
CPM

From: Commanding Officer

Subject: Shoreline, Tracy Arm and Endicott Arm

With luck we should finish the boat sheet for Tracy Arm. Being a navigable waters survey it will receive priority processing, and supposedly a revised chart will be published within nine months. Our survey is controlled horizontally of our triangulation marks but this is of little use to the mariner. He must have either Nav. Aids or accurate shoreline by which to pilot his vessel.

If no hazards are found, we have no problem, but when one is located then Nav. Aids or good shoreline will be necessary.

What plans are there for flying a photo mission of this area? I assume we will return to Endicott Arm for a period next year hence the DAVIDSON can premark.

Otherwise, I wish your thoughts on the best method of delineating the shoreline in the vicinity of hazards. We can continue to try to fit the 1889 shoreline, and can attempt a plane table survey or just forget about it. Please advise.

*Michael H. Fleming*  
Michael H. Fleming  
Commander, NOAA

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

22

Pacific Marine Center

19 October 1973

CPM1

Commanding Officer, NOAA Ship DAVIDSON

R. L. Speer  
Chief, Operations Division

Shoreline, Tracy and Endicott Arms

There are no plans for photographs of subject areas, and a planable survey is not considered feasible or necessary. It is suggested that the shoreline be delineated in the same manner as development of the low water line using visual or electronic control for launch positioning.

Considering the steep side slopes of these areas, it appears that it is possible to run very close to the shore with little difficulty.

RLSpeer/sr

FILE COPY

CODE	SURNAME	DATE	CODE	SURNAME	DATE
CPM1	Speer <i>R. L.</i>	10/19			





RESPONSIBLE PERSONNEL		TITLE
TYPE OF ACTION	NAME	
1. Objects inspected from seaward		<input type="checkbox"/> FIELD INSPECTOR <input type="checkbox"/> FIELD EDITOR
2. Positions determined and/or verified		FIELD INSPECTOR
		FIELD EDITOR
		COMPILER
3. 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 'METHOD AND DATE OF LOCATION' SECTION**

NOTE: 'Photogrammetric Positions' are dependent entirely, or in part, upon control established by photogrammetric methods. 'Field Positions' are determined by field observations based entirely upon ground control.

**COLUMN TITLE**

**TYPE OF ENTRIES**

**COMPLAINTION**

Applicable to office identified and located objects only. Enter the number and date of the photograph used to identify the object.

**FIELD INSPECTION**

1. New Position Determined—Enter the applicable data by symbols as indicated below:

**AND  
FIELD EDIT**

F - Field

1. Triangulation
2. Traverse
3. Intersection
4. Resection

- a. Theodolite
- b. Planetable
- c. Sextant

P - Photogrammetric

1. Field identified
2. Theodolite
3. Planetable
4. Sextant

EXAMPLES:

F. 3.c

P. 2

Immediately beneath the data described above, enter the following:

- a. For 'Field Positions' enter the date of location.
- b. For 'Photogrammetric Positions' enter the date of field work; and, if a photograph was used in locating the object or the object was identified on a photograph, enter the number of the photograph used.

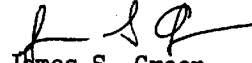
2. Triangulation Station Recovered - Enter 'Triang. Rec. mo/day/yr.'

3. Position Verified - Enter 'Verif. mo/day/yr.'

APPROVAL SHEET

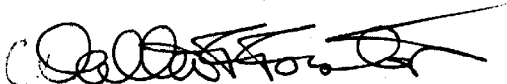
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

Examined and approved,



James S. Green  
Supervisory Cartographic Technician

Approved and forwarded,



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

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

1/11/74

✓ (25)

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Wood Spit  
Holkham Bay

Period: 11 Sept - 28 Oct 1973

HYDROGRAPHIC SHEET: H-9392  
H-9393

OPR: 999

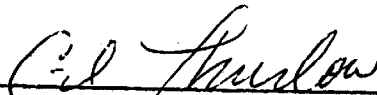
Locality: Tracy and Endicott Arms, Alaska

Plane of reference (mean lower low water): Wood Spit 9.7 ft.  
Holkham Bay 6.2 ft.

Height of Mean High Water above Plane of Reference is 15.0 ft.

Remarks: Holkham Bay: Subtract 5.7 ft. from hourly heights  
for times 1200 - 1600 on 13 September 1973.

The Tracy Arm gage malfunctioned, data is unreliable.  
Wood Spit tides should be applied direct for entire  
sheet.

  
Chief, Tides Division

GEOGRAPHIC NAMES

Survey No. H-9393

(26)

Name on Survey	Source										No.
	A	B	C	D	E	F	G	H	K		
✓ ENDICOTT ARM	8201		✓								1
✓ HARBOR ISLAND	"		✓								2
✓ HOLKHAM BAY	"		✓								3
✓ POINT ASTLEY	"		✓								4
✓ ROUND ISLET	"		✓								5
✓ STEPHENS PASSAGE	"		✓								6
✓ WOOD SPIT	"		✓								7
											8
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Approved by:  
 Chas. E. Harrington  
 Staff Geographer  
 16 July 1974

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**HYDROGRAPHIC SURVEY STATISTICS**  
**HYDROGRAPHIC SURVEY NO. H-9393**

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET & PNO		1	BOAT SHEETS		2	
DESCRIPTIVE REPORT		1	OVERLAYS		4	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1					
VOLUMES	1					
BOXES			1			

T-SHEET PRINTS (List)

Not Available

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	REVIEW	TOTALS
POSITIONS ON SHEET				22722290
POSITIONS CHECKED		22722290	/	
POSITIONS REVISED		7	/	
DEPTH SOUNDINGS REVISED		15	8	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		4	/	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	/	
	TIME (MANHOURS)			
Verification of Control		15	/	
Verification of Positions		16	/	
Verification of Soundings		89	15	
Smooth Sheet Compilation				
ALL OTHER WORK		123	42	
<b>TOTALS</b>		<b>243</b>	<b>5763+2=65</b>	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Felipe L. Rosario</i> Felipe L. Rosario	19 January 1974		9 May 1974	
REVIEW BY <i>Stephen R. Baumgardner</i> Inspected by Carstens	July 26, 1974		Aug 12, 1974	

Reg. No. 9393

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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:

H-9393

Items for Future Presurvey Review

Uplift of about 11 ft. has occurred since the prior survey. Except on shoal spits general depths are so great that this change poses no danger to navigation.

<u>Position</u>	<u>Index</u>	<u>Bottom Change</u>	<u>Use Change</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
574	1334	2	1	50 Years
574	1335	2	1	50 Years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9393

FIELD NO. DA-10-6-73

Alaska, Stephens Passage, South Part of Holkham Bay and Approaches

SURVEYED: September 17 - October 16, 1973

SCALE: 1:10,000

PROJECT NO.: OPR-999

SOUNDINGS: Ross 544 Depth Recorder  
DE-723 Depth Recorder

CONTROL: Electronic Range-Range  
Mini Ranger (Motorola)  
Sextant angles on Shore  
Signals

Chief of Party .....	M. H. Fleming
Surveyed by .....	J. J. Kapler
Automated Plot by .....	Gerber Digital Plotter (PMC)
Verified and inked by .....	F. L. Rosario
Reviewed by .....	S. Baumgardner
	Date: August 12, 1974
Inspected by .....	R. H. Carstens

1. Description of the Area

This is a navigable area survey covering a glaciated area in the southern portion of Holkham Bay, the approaches to Holkham Bay and the entrance to Endicott Arm.

A sill covered by depths of 20-fathoms lies at the entrance to Endicott Arm. Proceeding southeastward the bottom slopes steeply to include depths of about 160 fathoms.

To the west of Wood Spit the bottom slopes to depths as great as 150 fathoms. Several shoals and ridges are found in the approaches to Holkham Bay.

The predominant bottom characteristic is clay.

2. Shoreline and Control

The source of control is adequately described in Part F of the Descriptive Report.

No modern shoreline is available for this area.



3. Hydrography

Depths at crossings are in good agreement. The usual depth curves were adequately delineated. The development of the bottom configuration and investigation of least depths are considered adequate.

4. Condition of the Survey

The sounding records, smooth plotting, various sounding printouts and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual-Automated Surveys.

5. Junctions

An adequate junction was effected with H-9392 (1973) on the north.

No contemporary surveys junction with the present survey on the west or south. However, present depths are in general agreement with charted depths at those limits of the survey.

*Junctions  
with H-9481 (1974)  
on the southeast  
AKM 9/24/76*

6. Comparison with Prior Surveys

- A. H-1999 (1889), 1:40,000
- H-2001 (1889), 1:80,000
- H-4144 (1920), 1:40,000

The great depths in the area, the sparcity of soundings and the small scale of these prior surveys preclude a detailed comparison with the present survey. However, a general comparison reveals no significant differences in depths within the common area. However, uplift in the area in part as a result of melting glaciers is evident from a comparison of elevations on the reef in lat. 57°45.05', long. 133°34.35' where the present survey shows the elevation to be 12 feet above MLLW and survey H-1999 (1889) shows the elevation to be 1ft. above MLLW. Depths in shoal areas also appear to have decreased.

The rock awash charted from H-1999 in lat. 57°45.15', long. 133°34.93' was replotted in an adjusted position and falls on a reef on the present survey.

The present survey is adequate to supersede the prior surveys within the common area.

7. Comparison with Chart 8201 (latest print date 3-2-74)  
Chart 8202 (latest print date 4-3-73)

A. Hydrography

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

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

B. Aids to Navigation

The light located on the present survey is in substantial agreement with the chart and adequately marks the feature intended.

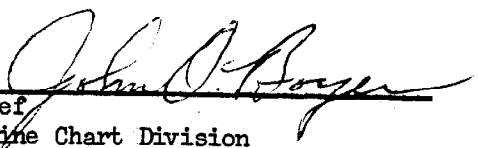
8. Compliance with Project Instructions

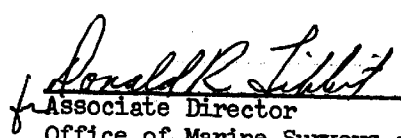
This survey adequately complies with the project instructions.

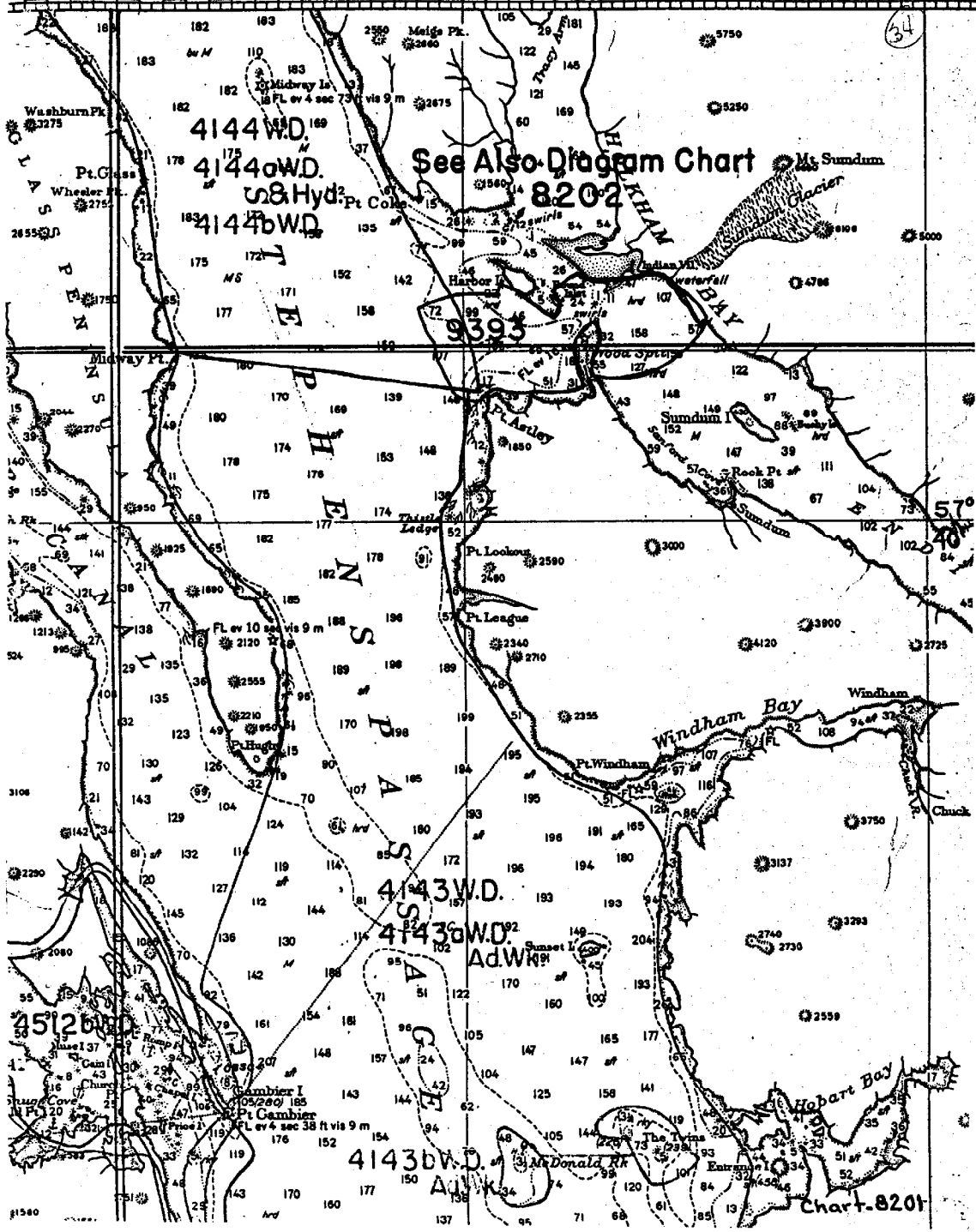
9. Additional Field Work

This is a very good basic survey and no additional hydrography is recommended.

Examined and Approved:

  
\_\_\_\_\_  
Chief  
Marine Chart Division

  
\_\_\_\_\_  
Associate Director  
Office of Marine Surveys and Maps



4144 W.D.  
4144a W.D.  
US & Hyd.  
4144b W.D.

See Also Diagram Chart  
8202

4143 W.D.  
4143a W.D.  
Ad. W.D.

4143b W.D.  
Ad. W.D.

Chart-8201

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