9161

Dia. Cht. No. 8201-3.

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-10-7-70

Office No. H-9161

LOCALITY

State ALASKA

General Locality KEKU STRAIT

Locality SOUTH END OF ROCKY PASS

19 70

CHIEF OF PARTY

Cdr. Ray E. Moses

LIBRARY & ARCHIVES

DATE 9-11-73

☆U.S. GOVERNMENT PRINTING OFFICE: 1974-763-098

9161

FORM C&GS-537
(5-66)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9161

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-10-7-70

State ALASKA

General locality ~~Southeast Alaska~~ Keku Strait

Locality ~~Keku Strait~~ South End of Rocky Pass

Scale 1:5,000 Date of survey 24 Sept. - 5 Oct. 1970

Instructions dated 23 March 1970 Project No. OPR-448

Vessel DAVIDSON

Chief of party Cdr. Ray E. Moses

Surveyed by CST A. Luceno, Ens. R. C. Arnold, Ens. G. L. Miller

Soundings taken by echo sounder, hand lead, pole Raytheon DE-723 Nos. 919, 1276 and 1286

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Commissioned Officers

~~Positions~~ verified by Nicholas Lestenkof Automated plot by PMC, ~~Seattle~~ Gerber Digital Plotter

Soundings ~~protracted~~ verified by Nicholas Lestenkof

Soundings in fathoms ~~feet~~ at ~~MHW~~ MLLW

REMARKS:

CHC
8201

USCOMM-DC 37009-P66

Replace after Title Sheet

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-9161 DA-10-7-70

OPR-448

Keku Strait, Alaska

NOAA SHIP DAVIDSON

Ray E. Moses

CDR. NOAA

Chief of Party

1970

Applied to stds 11/7/73

DESCRIPTIVE REPORT

DA-10-7-70

H-9161

A. PROJECT

This survey was accomplished according to Project Instructions: OPR-448, KEKU STRAIT, SOUTHEAST ALASKA, dated 23 March 1970.

B. AREA SURVEYED

The survey covered the area of Keku Strait, Alaska between the latitudes 56°34'00" and 56°36'15" and longitudes 133°40'00" and 133°44'00". Work was accomplished between 24 Sept. and 5 Oct. 1970. The survey makes a juction with the following contemporary survey:

Field No.	Date	Scale	Registry No.
DA-10-6-70	1970	1:10,000	H-9160
DA-5-5-69	1969	1:5,000	H-9081

C. SOUNDING VESSELS

The following vessels were used to survey this area:

Vessel	Color used on sheet
Launch 2 (DA-2)	Red
17' Whaler	Red-Violet

Detached positions are shown in brown. Bottoms samples were taken by DA-2 and are shown in blue. A summary of each vessel's work by position numbers is attached in the appendix.

D. SOUNDING EQUIPMENT

Raytheon DE-723 fathometers were used:

Launch 2 (DA-2), #1276 and #1286

17' Whaler, #919

Echo sounder corrections were determined from bar checks taken daily by the launches. Launch and whaler fathometers were initialed at zero, requiring draft corrections for their soundings. These draft corrections are included along with velocity corrections in the Modified Velocity Correction tape. All soundings are in fathoms. Differences between actual and assumed initial values are compensated for with an Initial Corrections (TC/TI) tape. Since only the A scale was used, there are no phase comparisons.

E. SMOOTH SHEET

The smooth sheet will be constructed and plotted by the Processing Division, Pacific Marine Center, Seattle, Washington. It is suggested that a new parameter, shifting the sheet south a degree, be set for the smooth sheet.

F. CONTROL

Visual three-point fixes were used for control in this survey. There were three types of visual signals used;;triangulation, photogrammetric and hydrographic. Triangulation signals were plotted when the sheet was constructed. Photogrammetric signals were located by radial plots from office photographs and checked with sextant fixes. Hydrographic signals were cut in with a theodolite. An abstract of signals and manuscripts is included in the appendix.

G. SHORELINE

Shoreline and shoal area outlines were traced onto the boat sheet from the photo manuscript by the ship's commissioned officers in the manuscript field edit, covered by the "Field Edit Report - OPR 448, Keku Strait, Southeast Alaska, 1970". Features were checked in location by visual inspection, estimated distances from photo-identifiable objects, and sextant fixes. Compilation of the manuscripts was good. The low water line is defined by the soundings, except in isolated places where the beach is very steep or too foul to operate a boat safely.

H. CROSSLINES

The percentage of crosslines is 7% (6.3NM compared to 90.8NM). There is good agreement at crossings.

I. JUNCTIONS

Junctions were made with contempory survey DA-5-5-69 (H-9081) (1969) and DA-10-6-70 (H-9160). There is good agreement at the junctions.

J. COMPARISON WITH PRIOR SURVEYS

Listed below are the position, presurvey review and least depths. Pre-survey review items were taken from sheet 4 of 4 for OPR 448. All depths are in fathoms.

POSITION (Presurvey Review)	PRE-SURVEY DEPTH	LEAST DEPTH
56°34.89'N 133°42.13'W	1.3	~~Between 2.5 and 0.8~~ 1.9
56°34.84'N 133°42.22'W	1.3	Between 2.3 and ~~0.8~~ 1.0
56°34.96'N 133°42.50'W	1.3	0.~~9~~ 7
56°34.77'N 133°43.10'W	3.0	~~2.5~~ 3.2 and 2.8
56°35.76'N 133°40.95'W	3.0	Between ~~3.0~~ 3.4 and 4.4
56°35.25'N 133°41.27'W	3.0 carried forward from H-4764 (1927)	~~2.9~~ 3.0
56°35.57'N 133°41.27'W	3.21	3.23
56°35.02'N 133°41.76'W	0.2	0.~~2~~ 0
56°35.31'N 133°41.95'W	0.8 carried forward from H-4764b (1929)	~~0.9~~ 1.0
56°35.~~1~~0'7'N 133°42.45'W	2.2	2.4
56°35.08'N 133°42.18'W	1.3	1.~~4~~ 6

56°36.10'N 133°40.~~3~~4'0'W, Fishtrap, searched for and not found, on 29 Sept. 1970 at 0855. Disregard Fishtrap

56°36.03'N 133°~~48~~0 6.30'W, The Pile, searched for and not found, on 29 Sept. 1970 at 0855. Disregard Pile

56°35.37'N 133°40.44'W, The Pile, searched for and not found, on 29 Sept. 1970 at 0845. Disregard Pile

56°35.10'N 133°43.10'W, ~~Nine~~ Ten Piles, searched for and not found on 29 Sept. 1970 at 0830. Disregard Piles

K. COMPARISON WITH THE CHART

Comparison of this survey with C&GS chart 8272, 3rd Ed., Oct 17, 1966 is generally good. One exception, is the "9" feet sounding on the chart at Lat. 56° 35'41" and Long. 133° 40'37". It appears that the depthsshould be 19 feet, instead of 9 feet, since it is outside the 3 fathom curve, and would then agree with this survey. (9 ft depth no longer charted)

L. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys.

M. AIDS TO NAVIGATION

There are several daybeacons and one can buoy in the area covered by this survey. These aids serve a useful navigational purpose.

POSITION	CHARTING NAME	DESCRIPTION
56°34'~~21.7~~ 03.36" 133°43'~~30.1~~ 34.5"	Fl 4 sec. 12 Ft. 8m	Keku Strait Light
56°33'56.3" 133°43'18.2"	R"2"	Daybeacon #2 (Red)
56°35'03.7" 133°42'26.3"	R"4"	Daybeacon #4 (Red)
56°35'10.6" 133°42'01.3"	R"6"	Daybeacon #6 (Red)
56°35'39.8" 133°40'48.4"	R"8"	Daybeacon #8 (Red)
56°36'04" 3.5" 133°40'47"	C"9"	Can buoy #9 (Black ~~& White~~)

Due to restricted waters, high currents and floating debris the navigational aids are quite often destroyed. The aids are tended by the Coast Guard and are replaced close to but not in the very same spot. As a result the exact location of any one daybeacon could vary from one year to the next by a meter.

N. STATISTICS

Vessel	No. Pos.	Nautical Miles Sounding Lines	Bottom Samples	DP's
Launch 2	840	73.6	15	4
17' Whaler	279	17.2	0	1

The total area surveyed is approximately two square nautical miles. There are seven (7) volumes with this survey. The tide station used for this sheet is the Eagle Island, Keku Strait, Alaska, Tide Gage. All times are on 105 W meridian. The soundings on the boat sheet were reduced using predicted tides for Monte Carlo, Alaska.

O. LOGGING

The Climatroncis Logger and Friden Flexowriter logging system was

used with this survey. A "single indicator" format is used. An example and explanation of this format is included in the appendix.

P. RECOMMENDATIONS

The Keku Strait Day Beacon No. 8, a red triangle on a steel post, indicates the main channel to be west of this beacon. The soundings on this boat sheet indicate that the main channel is east of this beacon. With a 3.9 fathom sounding approximately half-way between Day Beacon No. 8 and the west shoreline, it is recommended that Day Beacon No. 8 be investigated.

Q. REFERENCES TO REPORTS

Corrections to Echo Sounders

"Correction to Echo Sounders OPR-448, 1970"

Field Edit Report

"Field Edit Report OPR-448, Keku Strait, Southeast Alaska, 1970"

Landmarks Report OPR-448, 1970

"Nonfloating Aids on Landmarks for Charts"

Respectfully submitted,

Gregory L. Miller

Gregory L. Miller
ENS, NOAA

APPENDIX

TRIANGULATION STATIONS

H-9161

Station	Latitude		Longitude	
	° ' "	meters	° ' "	meters
NAR, 1927	56 33 40.91	1265.4	133 42 55.06	940.5
ISA, 1927	56 34 03.36	104.0	133 43 34.50	589.2
LA, 1927	56 34 37.96	1174.2	133 42 10.41	177.8
DEL, 1927	56 35 15.89	491.6	133 42 27.64	471.7
LO, 1927	56 35 12.20	377.5	133 40 14.59	249.1
TAT, 1927	56 35 52.37	1620.0	133 39 33.98	579.8
WAN, 1927	56 36 13.15	406.6	133 41 20.45	348.9
TURN, 1927	56 36 33.24	1028.1	133 40 35.88	612.1
WES, 1927	56 36 38.33	1185.6	133 42 16.49	281.3
CEN, 1927	56 36 48.19	1490.6	133 41 51.88	884.9

LIST OF MANUSCRIPTS

T-12216

T-12820

FATHOMETER INITIAL CORRECTION (fathoms)

DA-2

Day	Time	Corr'n
267	1303	0.0
268	0831	0.0
271	0952	0.0
274	0946	0.0
278	0917	0.0
	1229	-0.1
	1238	0.0
	1451	-0.1
	1609	0.0

17' Whaler

Day	Time	Corr'n
273	0924	0.0

All times are 105° W Meridian.

VELOCITY TABLE 1

DEPTH FROM		TO	CORRN.
0.0 fm	-	4.0 fm	0.0 fm
4.1 fm	-	15.0 fm	0.1 fm
15.1 fm	-	27.0 fm	0.2 fm
27.1 fm	-	41.0 fm	0.3 fm
41.1 fm	-	55.0 fm	0.4 fm
55.1 fm	-	69.0 fm	0.5 fm
69.1 fm	-	84.0 fm	0.6 fm
84.1 fm	-	98.0 fm	0.7 fm
98.1 fm	-	114.0 fm	0.8 fm
114.1 fm	-	131.0 fm	0.9 fm
131.1 fm	-	147.0 fm	1.0 fm

MODIFIED BAR CHECK -TABLE 2 (Fathometer #214)

DEPTH FROM		TO	CORRN.
0.0 fm	-	5.4 fm	0.1 fm
5.5 fm	-	200.0 fm	0.2 fm

MODIFIED BAR CHECK - TABLE 3 (Fathometer #553)

DEPTH FROM		TO	CORRN.
0.0 fm	-	200.0 fm	0.1 fm

MODIFIED BAR CHECK - TABLE 4 (Fathometer #916)

DEPTH FROM		TO	CORRN.
0.0 fm	-	200.0 fm	0.2 fm

MODIFIED BAR CHECK - TABLE 5 (Fathometer #919)

DEPTH FROM		TO	CORRN.
0.0 fm	-	6.5 fm	0.1 fm
6.6 fm	-	13.4 fm	0.2 fm
13.5 fm	-	200.0 fm	0.3 fm

MODIFIED BAR CHECK - TABLE 6 (Fathometer #1276)

DEPTH FROM		TO	CORRN.
0.0 fm	-	5.2 fm	0.1 fm
5.3 fm	-	200.0 fm	0.2 fm

MODIFIED BAR CHECK - TABLE 7 (Fathometer #1286)

DEPTH FROM		TO	CORRN.
0.0 fm	-	5.2 fm	0.1 fm
5.3 fm	-	7.4 fm	0.2 fm
7.5 fm	-	200.0 fm	0.3 fm

LIST OF STATIONS ON DA-10-7-70

Signal No.	Origin of Signal
701	NAR, 1927
702	C&GS FORM 251, Vol. 1
703	ISA, 1927
704	C&GS FORM 251, Vol. 1
705	LA, 1927
706	C&GS FORM 251, Vol. 1
707	LO, 1927
708	C&GS FORM 251, Vol. 1
709	TAT, 1927
710	WAN, 1927
711	TURN, 1927
712	WES, 1927
713	CEN, 1927
714	DEL, 1927
715	T-12216
716	T-12216
717	T-12216
718	T-12216
719	T-12216
720	T-12216

OPR 448 AREA S.E. Alaska, Fehu Strait

VESSEL Davidson

DAY

POSITION TO

TYPE OF TAPE Hydro Signal

VOLUME

313 ~~000~~ 1970

	meters		meters	
701	56 33 1265	133 42 0940	XXX	
702	56 33 1742	133 43 0312	XXX	Approved 11-16-70
703	56 34 0104	133 43 0589	XXX	
704	56 35 0012	133 42 0448	XXX	
705	56 34 1174	133 42 0178	XXX	
706	56 35 0328	133 42 0022	XXX	
707	56 35 0378	133 40 0249	XXX	
708	56 35 1232	133 40 0826	XXX	
709	56 35 1620	133 39 0580	XXX	
710	56 36 0407	133 41 0349	XXX	
711	56 36 1028	133 40 0612	XXX	
712	56 36 1186	133 42 0281	XXX	
713	56 36 1491	133 41 0885	XXX	
714	56 35 0492	133 42 0472	XXX	
715	56 34 0478	133 42 0443	XXX	
716	56 33 1853	133 42 0342	XXX	
717	56 34 0094	133 42 0010	XXX	
718	56 34 0395	133 41 0925	XXX	
719	56 34 0771	133 41 0748	XXX	
720	56 34 1350	133 41 0416	XXX	

HYDRO-SIGNAL CARDS

EDP NO.	NO.	LATITUDE ° ′ ″	LONGITUDE ° ′ ″	NAME
09161	701	56334090	133425504	XXX
09161	702	56335632	133431827	XXX
09161	703	56340336	133433449	XXX
09161	704	56350039	133422624	XXX
09161	705	56343795	133421043	XXX
09161	706	56351060	133420129	XXX
09161	707	56351222	133401459	XXX
09161	708	56353983	133404840	XXX
09161	709	56355237	133393399	XXX
09161	710	56361316	133412046	XXX
09161	711	56363323	133403588	XXX
09161	712	56363834	133421647	XXX
09161	713	56364820	133415189	XXX
09161	714	56351591	133422765	XXX
09161	715	56341545	133422594	XXX
09161	716	56335991	133422003	XXX
09161	717	56340304	133420059	XXX
09161	718	56341277	133415417	XXX
09161	719	56342493	133414381	XXX
09161	720	56344364	133412437	XXX

000000

Proved 11-16-70

ABSTRACT OF POSITIONS

Day	DA-2	Bottom Samples	17' Whaler
267	1-34 (1)		
268	35-123 (2)		
271	130-395 (3)		
273			5001-5279 (4&5)
274	396-751 (6&7)		
278	752-840 (7)	8001-8015 (5)	

Note: Volume No. in parenthesis.

SINGLE INDICATION POSITION-SOUNDING TAPE

Time	Ind.	Sndg.	Pos.No.	Day	LA	RA	LO	CO	RO
080000	3	0123	0123	123	123450	123450	0123	128	129
080015	3	0124							
080030	3	0125							
080045	3	0126							
080100	3	0127	0124	123	089250	056210	0147	109	136

Time - Hours, minutes, seconds

Ind. - Indicator, (3 means sounding in fathoms and in units of tenths)

Sndg. - Depth in fathoms

Pos. No. - Position Number

Day - Julian day no.

LA - Left angle

RA - Right angle

LO - Left object

CO - Center object

RO - Right object

FORM 733M
(8-23-60)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VESSEL: DAVIDSON | CRUISE: LAUNCH DA-2 | Sheet DA-10-7-70 H-9161 | CHECKED BY: | DATE CHECKED:

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE	SAMPLE POSITION LONGITUDE	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENE-TRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, co-hesiveness, dented cutter, free fall, stat. no., trigger core no., date extruded, disposition, etc.)	OBS. INIT.
8001	9-26-70	56°36.07'	133°40.78'	6.8					Sh, dk P	✓	GLM
8002	10-5-70	56°35.13'	133°42.28'	5.5					~~rd~~ St	✓	GLM
8003	10-5-70	56°35.22'	133°41.99'	3.5					~~rd~~ St	✓	GLM
8004	10-5-70	56°35.10'	133°42.76'	2.8					fne S, P	✓	GLM
8005	10-5-70	56°34.74'	133°43.11'	3.8					Sh Spg	✓	GLM
8006	10-5-70	56°34.34'	133°43.11'	14.0					gn M St	✓	GLM
8007	10-5-70	56°34.09'	133°43.26'	4.7					gn M, Sh, P	✓	GLM
8008	10-5-70	56°34.03'	133°42.62'	6.4					gn M	✓	GLM
8009	10-5-70	56°34.04'	133°42.09'	2.4					gn M, P	✓	GLM
8010	10-5-70	56°36.14'	133°40.32'	2.6					gn M, ~~Rk~~ St	✓	GLM
8011	10-5-70	56°35.67'	133°40.46'	9.3					gn M, rd P	✓	GLM
8012	10-5-70	56°35.80'	133°41.04'	5.8					gn M, Sh, ~~rd~~ P	✓	GLM
8013	10-5-70	56°35.42'	133°41.40'	8.0					gn M, P	✓	GLM
8014	10-5-70	56°35.31'	133°40.97'	7.6					gn M, sml St	✓	GLM
8015	10-5-70	56°34.87'	133°41.15'	3.9					gn M, Grs sml St	✓	GLM

USCOMM-DC 25072-P60

Use more than one line per sample if necessary.

NOVEMBER 1972
PUBLISHED AND PRINTED BY:
U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

HORIZONTAL CONTROL DA

by the
Coast and Geodetic Survey

NORTH AMERICAN 1927 DATUM

LATITUDE 56° to 57°
LONGITUDE 133° to 134°
DIAGRAM 8152,8160,8170

Station Name / State Code / Zone Code	Latitude	Longitude	G.P. Vol. & Page / Description Page / X Coordinate (feet)	Y Coordinate (feet)	Elevation - meters --- feet / θ, Δα, or γ Angle
HOPE 1929 50 01	56 31 15.532	W133 02 2 484 30.280	133 2811 830.19	1712 785.27	0 31 21.8
HOW 1954 50 01	56 23 50.86	W133 41 3 937 56.62	134 2679 082	1667 088	- 0 01 31.9
HYDRO SIGNAL 1ST 1929 50 01	56 35 23.346	W133 03 2 488 21.907	2808 710.37 n.d.	1737 904.08	0 30 38.8
IKE 1929 50 01	56 35 47.287	W133 01 2 557 06.166	134 2816 287.02	1740 403.14	0 32 32.1
INDIAN 1959 50 01	56 45 02.249	W133 14 3 951 52.128	135 2769 707.40	1796 355.42	0 21 02.5
INGOT 1954 50 01	56 19 27.350	W133 36 3 935 24.736	135 2697 782.55	1640 354.40	0 03 06.5
INNER 1955 50 01	56 12 00.167	W133 30 3 943 58.604	136 2716 271.54	1595 008.37	0 07 40.9
IRE 1916 50 01	56 13 48.055	W133 03 1 155 14.012	136 2810 328.51	1606 481.75	0 30 46.9
IS 1927 50 01	56 2 27 29.815	W133 50 2 368 28.296	137 2650 344.03	1689 348.76	- 0 08 40.6
ISA 1927 50 01	56 34 03.361	W133 43 2 362 34.502	138 2673 626.67	1729 243.39	- 0 02 56.5
ISLE 1915 50 01	56 25 40.921	W133 32 1 211 46.145	2710 039.46 n.d.	1678 277.03	0 06 07.2
ISLE 1922 50 01	56 07 36.277	W133 31 1 317 22.761	138 2714 962.43	1568 229.20	0 07 22.4
ISLE 1929 50 01	56 30 53.441	W133 01 2 487 51.886	139 2814 004.43	1710 563.60	0 31 53.9
ISLE 1929 50 01	56 15 43.177	W133 51 2 538 16.866	139 2647 420.85	1617 652.81	- 0 09 16.6

ISA (Keku Strait,S.E.Alaska.,H.A.C.,1927)--Station is directly under the center of the white beacon on the W side of the entrance to the Narrows. This beacon is Lighthouse Service Beacon No.1.

Station mark is a standard bronze disk, set in cement in a drill hole in outcropping bedrock.

No reference mark was necessary, as beacon is easily identified.

Form 326
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: ISA
ESTABLISHED BY: H.A.C. YEAR: 1927 STATE: S. E. Alaska
RECOVERED BY:* E.W.R. YEAR: 1962 COUNTY: Keku Strait

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

Recovered in good condition. Original description is adequate.

Form 326
(11-8-55)

U.S. DEPARTMENT OF COMMERCE - COAST AND GEODETIC SURVEY

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: ISA
ESTABLISHED BY: H.A.C. YEAR: 1927 STATE: S.E. ALASKA
RECOVERED BY:* R.H.H. YEAR: 1964 COUNTY: KEKU STRAIT

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

Station recovered as described in good condition.

There are no reference marks at this station.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: ISA
ESTABLISHED BY: H.A.C. YEAR: 1927 STATE: Alaska BENCH MARK(S) ALSO ☐
RECOVERED BY: R.E.M. YEAR: 1969 COUNTY: Keku Strait
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN: 25.5 miles SSE of Kake

Detailed statement as to the fitness of the original description; including marks found, stampings, changes made, and other pertinent facts:

The station was recovered in good condition. A new description follow:

The station is on the EAst side of Kuiu Island, in Keku Strait, 1 mile NNE of Monte Carlo Island, 1 foot from the SE corner of the white shed(light) on the West side of the south entrance to the Narrows.

Station mark is a standard bronze disk set in cement in a drill hole in outcropping bedrock. The disk is unstamped.

There are no reference marks.

RECOVERY NOTE, TRIANGULATION STATION

R

NAME OF STATION: ISA
ESTABLISHED BY: H.A.C. YEAR: 1927 STATE: Alaska BENCH MARK(S) ALSO ☐
RECOVERED BY: R.E.M. YEAR: 1970 COUNTY: Keku Strait
AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN:

Detailed statement as to the fitness of the original description, including marks found, stampings, changes made, and other pertinent facts:

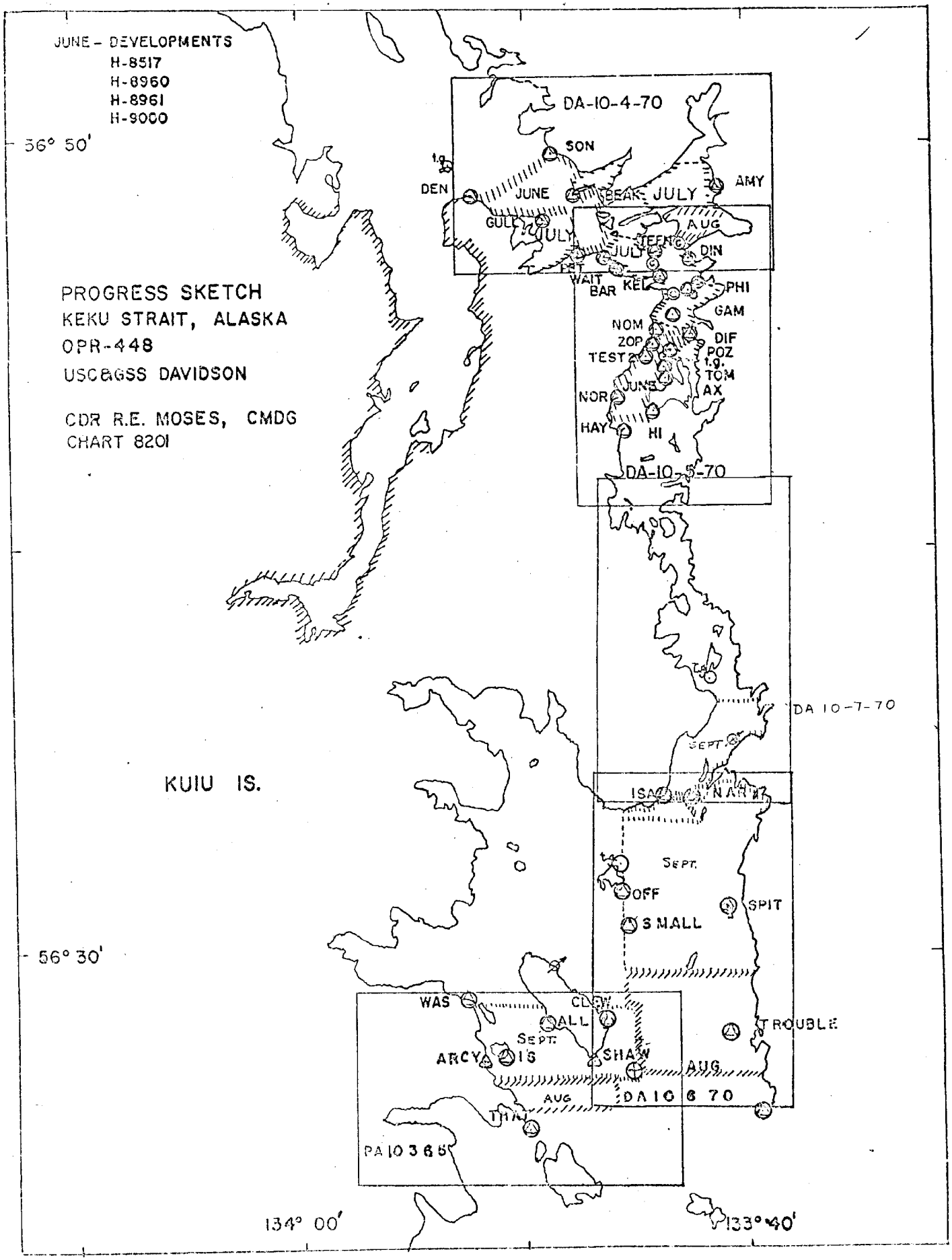
The station was recovered in good condition. The station is about one foot east of the Lighthouse Service Beacon, otherwise the original description is adequate.

ISLE (Shakan Straits,SE Alaska,T.J.M.,1922)--Station is on the outermost of two small islands about 249° (true) 2.2 miles (nautical) from Shakan village. Station is on the offshore edge of the island, 4 feet above high water, and about 1 foot back from the waters edge. Station is on a rounding ridge which runs from the highest point of island to the waters edge and is about 20 feet from the largest tree at the top of the island. Mark will be covered with moss in several years.

Station and reference marks are standard bronze disks set in concrete in depressions in outcropping bedrock.

OBJECT	DISTANCE	DIRECTION
BLACK	meters	0°00'00"0
R.M.	9.00	295 40 45

ISLE (Shakan Bay,SE Alaska,T.J.M.,1922;C.A.N.,1955)
-The reference mark was found in good condition. The remains of the former signal were found, but the center mark could not be found. This station is probably lost. Shakan village is now abandoned and only ruins remain.


JUNE - DEVELOPMENTS
H-8517
H-8960
H-8961
H-9000
56° 50'
PROGRESS SKETCH
KEKU STRAIT, ALASKA
OPR-448
USC&GSS DAVIDSON
CDR R.E. MOSES, CMDG
CHART 8201
DA-10-4-70
SON
DEN
JUNE
BEAK
JULY
AMY
GULL
JULY
AUG
STEPH
JULY
DIN
PET
WAIT
BAR
KEL
PHI
GAM
NOM
ZOP
DIF
TEST
POZ
TOM
AX
JUNE
NOR
HAY
HI
DA-10-5-70
DA 10-7-70
SEPT
KUIU IS.
ISA
NAN
SEPT.
OFF
SPIT
SMALL
56° 30'
WAS
CLEW
ALL
SEPT.
TROUBLE
ARCY
IS
SHAW
AUG
AUG
DA 10 6 70
THN
PA 10 3 6 5
134° 00'
133° 40'

Supersedes DAVIDSON Form #1 1/10,000 scale

FORM # 1 FIG. 15

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

(1) PROJECT NO. OPR-448
(2) H NO. 9161
(3) FIELD NO. DA-10-7-70
(4) REQUESTED BY
(5) SHIP OR OFFICE
(6) DATE REQUIRED
(7) VISUAL [X]
(8) ELECTRONIC [ ] (FILL OUT FORM #3)

(10) XKN (SP 5) DISTANCE FROM CMER TO EAST EDGE (NYX = 1) OR WEST EDGE (NYX = 0). 2307.2 METERS

(11) YKN (SP 241) DISTANCE FROM EQUATOR TO SOUTH EDGE OF SHEET. 6,270,054.520 METERS

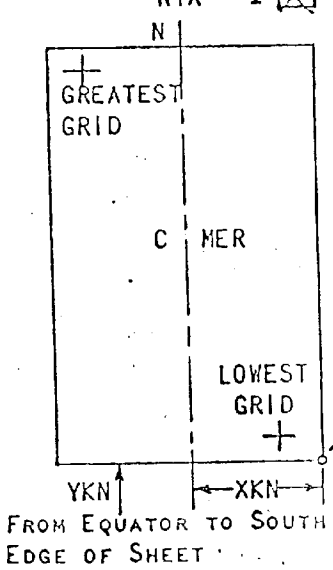
(12) CENTRAL MERIDIAN 133° 41' 45"

(13) SURVEY SCALE 1:5000

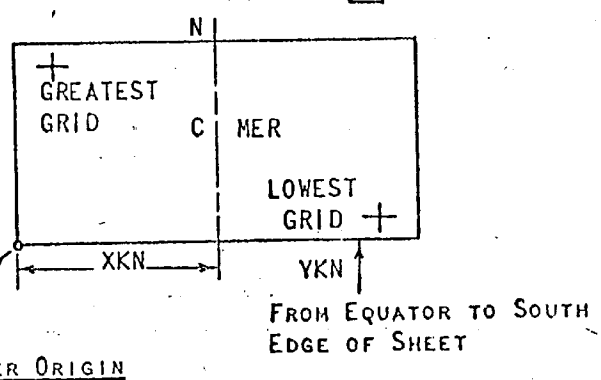
(14) SIZE OF SHEET (CHECK ONE) 36X54 [X] 42X60 [ ] OTHER ____ [ ]

(15) NYX, ORIENTATION OF SHEET (CHECK ONE)

NYX = 1 [X]



NYX = 0 [ ]



(9) PLOTTER ORIGIN (CORNER OF SHEET)

LATITUDE 56° 33' 15"
LONGITUDE 133° 39' 30"

GRID LIMITS

(16) GREATEST LATITUDE 56° 36' 45" (PROJECTION LINE INTERVAL, PAGE 4 HYDRO MANUAL)
(17) LOWEST LATITUDE 56° 33' 30"
(18) DIFFERENCE 0° 03' 15"
(19) ' 15 "
(20) 13 YSN

(21) GREATEST LONGITUDE 133° 43' 45"
(22) LOWEST LONGITUDE 133° 39' 45"
(23) DIFFERENCE 0° 04' 00"
(24) ' 15 "
(25) 16 XSN

wmm 2/10/71
2/10/71

H 9161
Field No. DA-10-7-70
Date 2-10-71

~~VERO II AND III PARAMETER CARD~~

Supersedes 1/10,000 scale

PARAMETER CARD II

			1	2	3	4	5	6	7	8	9	10
Semi major axis of the earth	6,378,206.4	RDA	6	3	7	8	2	0	6	4	0	7
			11	12	13	14	15	16	17	18	19	20
X Constant- Distance from central meridian to origin of plotter SP 5	2307.2 meters	XKN	2	3	0	7	2	0	0	0	0	4
			21	22	23	24	25	26	27	28	29	30
Y Constant - Distance from equator to origin of plotter SP 241	6,270,054.52 meters	YKN	6	2	7	0	0	5	4	5	0	7
			31	32	33	34	35	36	37	38	39	40
Central Meridian of Projection	133441450000	CMR	4	8	1	2	7	5	0	0	0	6
			41	42	43	44	45	46	47	48	49	50
Plotter Scale/Survey Scale	120498.6876 / 1: 5000	SCA	2	0	9	9	7	3	7	5	0	1
												51
North/south axis of sheet - to correspond to (Y axis - 0) (X axis - 1) of plotter		NYX										1
												52
Feet/Fathom indicator	0 - feet 1 - fathom	FOF										1
								53	54	55	56	57
H Identification No.		JN						9	1	6	1	4
											58	59
		YR									7	0

FOF - 1

PARAMETER CARD III

			1	2	3	4	5	6	7	8	9	10
Lowest Lat. Intersection	056330	YST	2	0	5	6	1	0				6
			11	12	13	14	15	16	17	18	19	20
Lowest Long. Intersection	133945	XST	4	8	1	1	8	5				6
			21	22	23	24	25	26	27	28	29	30
Difference between Grid		DXY	1	5								2
											31	32
Interval (Long)		XSN									1	6
											33	34
Interval (Lat)		YSN									1	3

Computed Wmm 2/10/71
Punched
Checked RDK 2/10/71
Date

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

Hand Ruled

(1) Project No. OPR-448

(2) H No. 9161

(3) Field No. DA-10 & 7-70

(4) Requested by CDR. R.C. Moses

(5) Ship or Office Davidson

(6) Date Required

(7) Visual [X] Pt.(0) or Fathoms (1) [ ] (8) Electronic [ ] (fill out form #3)

(10) XKN (SP 5) Distance from CMER to East Edge (NYX = 1) or West Edge (NYX = 0). (Origin) 4357.1 Meters

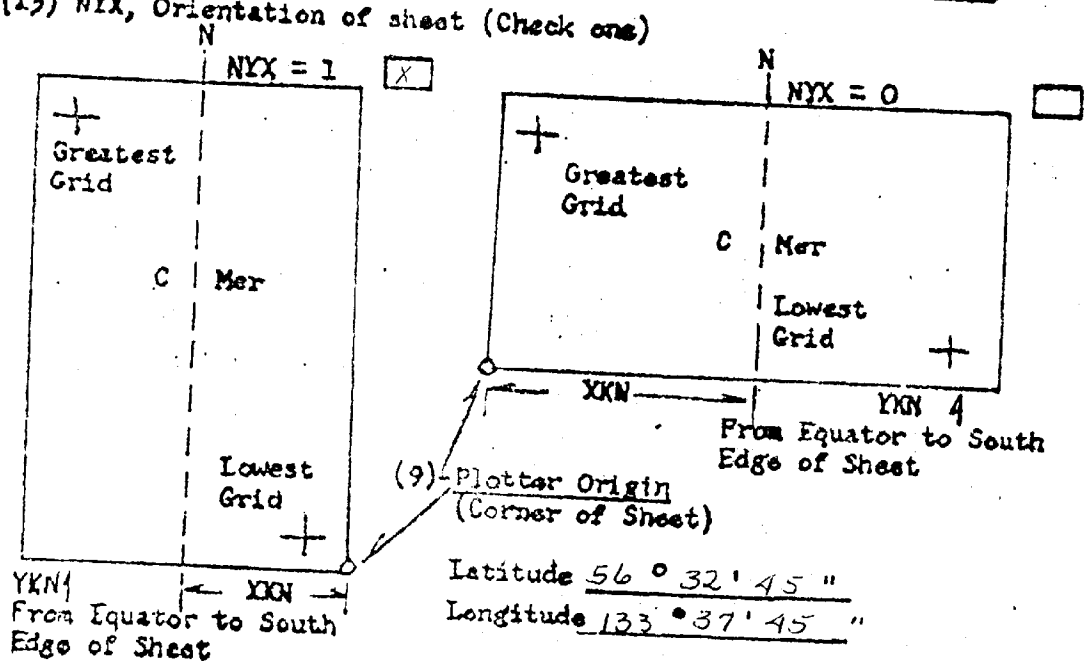
(11) YKN (SP 241) Distance from Equator to South Edge of Sheet. (Origin) 6,269,126.6 Meters

(12) Central Meridian 133°42'00"

(13) Survey Scale 1: 10,000

(14) Size of Sheet (Check one) 36x60 [X] 42x60 [ ]

(15) NYX, Orientation of sheet (Check one)



(9) Plotter Origin (Corner of Sheet)

Latitude 56° 32' 45"

Longitude 133° 37' 45"

Grid Limits

(16) Greatest Latitude 56° 40' 30" (Projection Line Interval Page 4 Hydro Manual)

(17) Lowest Latitude 56° 33' 00"

(18) Difference 7' 30"

(19) 6' 30"

(20) 15 YSN

(21) Greatest Longitude 133° 46' 00"

(22) Lowest Longitude 133° 38' 00"

(23) Difference 8' 00"

(24) 8' 00"

(25) 16 XSN

9161

H

Field No. DA-10-7-70

Date 16 NOV. 1970

~~VERO II AND III PARAMETER CARDS~~

PARAMETER CARD II

											1	2	3	4	5	6	7	8	9	10
Semi major axis of the earth	6,378,206.4	RDA	6	3	7	8	2	0	6	4	0	7
			11	12	13	14	15	16	17	18	19	20
X Constant- Distance from central meridian to origin of plotter SP 5	meters	XKN	4	3	5	7	1	0	0	0	0	4
			21	22	23	24	25	26	27	28	29	30
Y Constant - Distance from equator to origin of plotter SP 241	meters	YKN	6	2	6	9	1	2	6	6	0	7
			31	32	33	34	35	36	37	38	39	40
Central Meridian of Projection	1 3 3 4 2 0 0	CMR	4	8	1	3	2	0	0	0	0	6
			41	42	43	44	45	46	47	48	49	50
Plotter Scale/Survey Scale	*10498.6876 / 1:120,000	SCA	1	0	4	9	8	6	8	8	0	1
												51
North/south axis of sheet - to correspond to (Y axis - 0) (X axis - 1) of plotter		NYX										1
												52
Feet/Fathom indicator	0 - feet 1 - fathom	FOF										1
								53	54	55	56	57
H Identification No.		JN						0	9	1	6	1
											58	59
		YR									7	0

FOF - 1

PARAMETER CARD III

											1	2	3	4	5	6	7	8	9	10
Lowest Lat. Intersection	0 5 6 3 3 0 0	YST	2	0	3	5	8	0	0	0	0	6
			11	12	13	14	15	16	17	18	19	20
Lowest Long. Intersection	1 3 3 3 5 0 0	XST	4	8	1	0	8	0	0	0	0	6
			21	22	23	24	25	26	27	28	29	30
Difference between Grid	3 0	DXY	3	0	0	0	0	0	0	0	0	2
											31	32
Interval (Long)		XSN									1	6
											33	34
Interval (Lat)		YSN									1	5

Computed MORDOCK

Punched

Checkdd

Date

APPROVAL SHEET

Hydrographic Survey

H-9161 DA-10-7-70

OPR-448

Keku Strait, Alaska

The field work on this survey was accomplished under my supervision. Frequent inspections were made of the boat sheets and other records.

Ray E. Moses

Ray E. Moses
CDR, NOAA
Commanding Officer
NOAA Ship DAVIDSON

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY 8/26/72

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center

Hourly heights are approved for smooth tide tape printout

Tide Station Used (NOAA Form 77-12): Eagle Island, Alaska

Period: September 24 - October 9, 1970

HYDROGRAPHIC SHEET H9161

OPR 448

Locality: Keku Strait, S.E. Alaska

Plane of reference (mean lower low water)= on printout is 2.2 ft.
which is 2.2 feet on tide staff.

Height of Mean High Water above Plane of Reference is 11.6 ft.

Remarks: Hourly heights for September 28, 1970 have been revised in red and verified

Hourly heights tapes corrected. 9-5-72 RK

Robert A. Cummings
Chief, Tides Branch

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

Date: December 18, 1970

Reply to Attn of: C331W-288-CSS

Subject: Tidal Data - OPR 448, Keku Strait, Alaska

To: Commanding Officer
NOAA Ship DAVIDSON

Listed below are planes of reference time and height relationships for the four tide stations installed in 1970.

	H.W. Interval H	L.W. Interval H	Mean Range ft.	GT Range ft.	MLLW on Staff ft.
Monte Carlo I.	9.47	3.20	10.1	12.2	6.58
Eagle I.	9.41	3.40	10.3	12.5	2.25
High I.	9.64	3.38	12.5	14.9	6.13
Pup I.	9.58	3.39	12.0	14.4	2.41

The recommended zoning is acceptable. Additional zoning for Sheet DA-10-7-70 is listed below:

Northward to lat. 56°38'.5 use Eagle Island. Between lat. 56°38'.5 and 56°40'.5 the area should be divided into three zones using the following corrections on Eagle Island.

	Time of Tide		Height of Tide	
	H.W. h m	L.W. h m	H.W. ft.	L.W.
Zone 1	+0 05	+0 08	+0.6	0.0
Zone 2	+0 10	+0 17	+1.2	0.0
Zone 3	+0 15	+0 25	+1.8	0.0

L. C. Wharton
Tides & Currents Branch
Oceanography Division
National Ocean Survey

NOAA SHIP DAVIDSON
CFS 231 13 [illegible]
DEC 22 1970
By Name
Location

RBM

FWO

TIDE NOTE

OPR-448

H-9161

The tide station used for this survey was the Eagle Island tide gage.

Location:	Latitude	56° 41.55'N
	Longitude	133° 36.72'W
Plane of Reference		MLLW
Time Meridian		105° W
Type of Gage		Portable Bubbler

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9161

Name on Survey	A ON CHART NO.	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	K	
Keku Strait (TITLE BLOCK)										1
Kuiu Island										2
Kupreanof Island										3
Rocky Pass										4
Tumehean Creek	17372									5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					Approved by:					18
					Chas. E. Harrington					19
					Nov. 29, 1973					20
										21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

U.S. G.P.O. 1972-769-565/516 REG.#6

NOAA FORM 77-27
(9-72)
(PRESC. BY
HYDROGRAPHIC
MANUAL 20-2,
6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS

HYDROGRAPHIC SURVEY NO. 9161

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

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

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
~~Photostats~~	X					
CAHIERS	1					
VOLUMES	5					
~~Photostats~~ Boxes			1			

T-SHEET PRINTS *(List)*
T-12216 Scale 1:5,000

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				
POSITIONS CHECKED		1123		
POSITIONS REVISED		28	1	
DEPTH SOUNDINGS REVISED		356	79	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		----	8	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		----		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		64	10	
JUNCTIONS		2	20	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		125	20	
SPECIAL ADJUSTMENTS		18		
ALL OTHER WORK		8	60	
TOTALS		217	110+10=120	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY		
VERIFICATION BY Nicholas Lestenkof Nicholas Lestenkof	1/2/72	8/28/73
REVIEW BY S Baumgartner	April 3-75	May 1, 75

Insp. F. B. Paired 5-12-75 32 pts Carstens 7/22/75 1x 4r

Reg. No. 9161

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. _____

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 REQ'D._____ INITIALS_____

REMARKS:

H-9161
(1970)

Items for Future Presurvey Reviews

No significant changes have occurred since the prior surveys. The bottom is considered adequately developed.

Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
563	1335	2	1	50 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9161 FIELD NO. DA-10-7-70

Alaska, Keku Strait, South End of Rocky Pass

SURVEYED: September 24 thru October 5, 1970

SCALE: 1:5,000 PROJECT NO.: OPR-448

SOUNDINGS: Raytheon DE-723 Depth Recorders, leadline CONTROL: Sextant fixes on shore signals

Chief of Party ..... R. E. Moses
Surveyed by ..... A. Luceno
..... R. C. Arnold
..... G. L. Miller
Automated Plot by ..... Gerber Digital Plotter (PMC)
Verified and inked by ..... N. Lestenkof
Reviewed by ..... S. R. Baumgardner
..... Date: May 1, 1975
Inspected by ..... F. B. Powers

1. Control and Shoreline

The origin of control is adequately covered in part F of the Descriptive Report.

The shoreline originates with reviewed photogrammetric manuscripts T-12216 (1961-70) and T-12820 (1964-69). Several foreshore characteristics shown as Rocky on the above manuscripts were described more appropriately on the present survey smooth sheet as boulders.

The mean high water line is shown for guidance only; the true position is shown on the topographic surveys mentioned above.

2. Hydrography

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

3. Condition of the Survey

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

4. Junctions

Adequate junctions were effected with H-9081 (1969) on the north and H-9160 (1970) on the south.

5. Comparison with Prior Surveys

A. H-2150 (1892) 1:40,000

This early survey falls in the area of the present survey but is not discussed in the present review.

B. H-4764 (1927) 1:10,000
H-4764b (1929) 1:10,000

These surveys cover the area common to the present survey. A comparison between the present and prior survey depths indicate differences of one to six fathoms with the present depths generally being shoaler. These differences are attributed to the survey methods, lead line on the prior work versus depth recorder soundings on the present work.

Attention is directed to the following:

1. The rock awash on H-4764b charted in lat. 56°34.24', long. 133°42.87'originates with T-4331 (1927) where it is shown as a uncovering reef. However the reef shown on the present survey 100 M to the west is not shown on the planetable survey. It is considered that the position on T-4331 is in

error and the reef shown actually corresponds to the present reef falling westward 100 meters.

2. The following piles and fish stakes on H-4764 charted from T-4331 (1927) are probably non-existent at the present time, a span of 44 years, and should be disregarded:

			Latitude	Longitude
a.	Fish stake	PSR Item 7	56°36.10'	133°40.30'
b.	Pile	PSR Item 8	56°36.03'	133°40.59'
c.	Piles	PSR Item 9	56°35.10'	133°43.12'
d.	Piles	PSR Item 10	56°35.37'	133°40.44'

Several shoal soundings and rocks awash from the above prior surveys have been carried forward to supplement the present survey information.

With the additions noted the present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 8272 (latest print date Nov. 9, 1974)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration, supplemented by the partial application of depths from the boat sheet and verified smooth sheet of the present survey.

Presurvey Review items charted in the area of the present survey are discussed in paragraph J "Comparison with Prior Surveys" of the Descriptive Report and items 5B, 1-4 of this review.

1. The rock awash charted in lat. 56°35.08', long. 133°42.13' from erroneous boat sheet information should be deleted from the chart.

2. The rock awash charted in lat. 56°34.45', long. 133°43.41' from advanced photogrammetric manuscript

T-12216 does not appear on the reviewed manuscript and should be deleted from the chart.

3. The description Rk charted in lat. 56°34.78', long. 133°43.00' from the verified smooth sheet should be revised to rky.

4. Three rocks awash charted in the vicinity of lat. 56°35.85', long. 133°41.14' from the verified smooth sheet should be deleted from the chart. No recorded information justified plotting rocks at the recorded positions.

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

B. Aids to Navigation

The aids to navigation on the present survey are in substantial agreement with their charted positions and adequately mark the features intended.

7. Compliance with Instructions

This survey adequately complies with the project instructions.

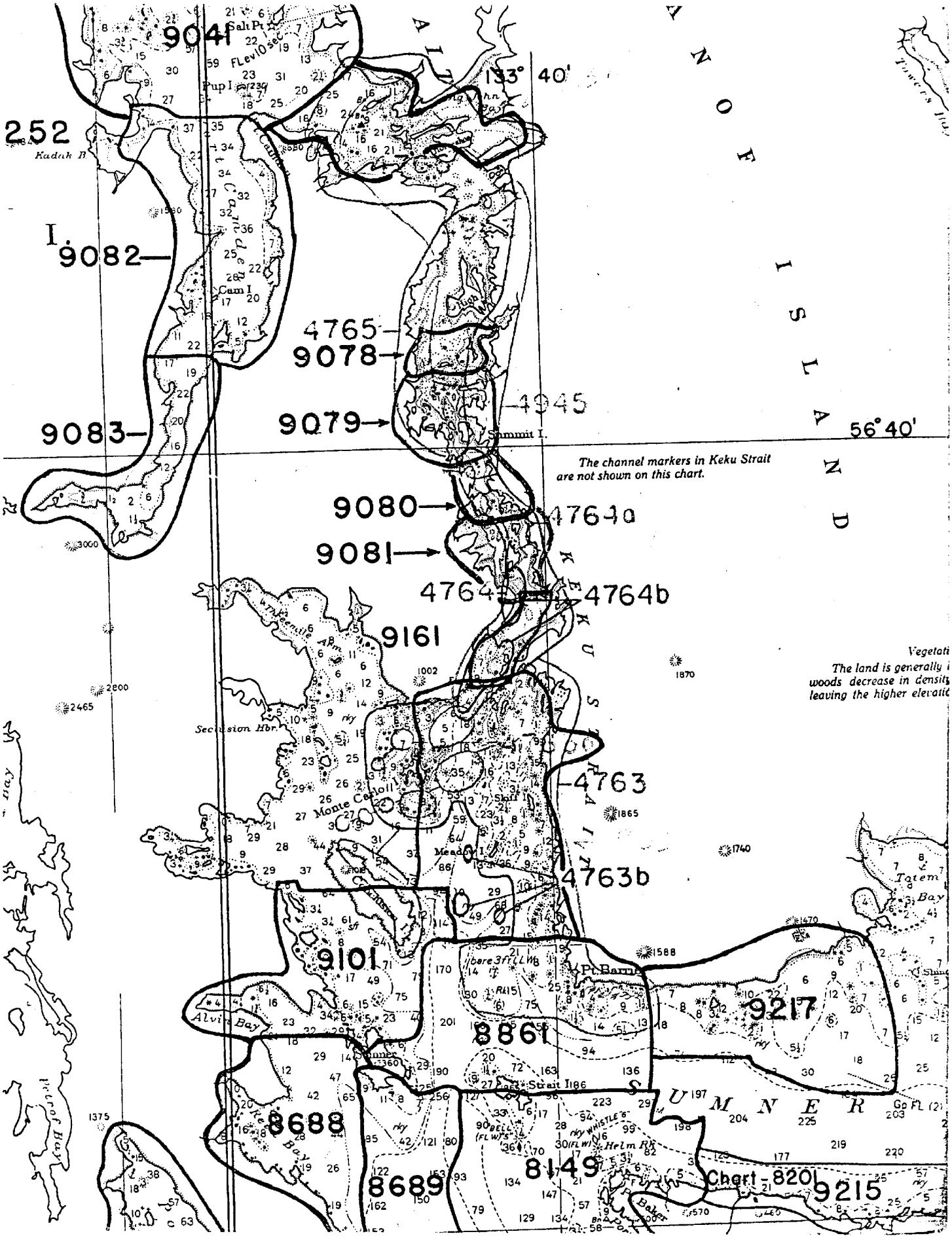
8. Additional Field Work

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

Examined and Approved:

R K Houlding
Chief
Marine Chart Division

Robert C. Munson
Associate Director
Office of Marine Surveys
and Maps


9041
252
I.
9082
9083
4765
9078
4945
9079
Summit I.
56°40'
133° 40'
The channel markers in Keku Strait are not shown on this chart.
9080
4764a
9081
4764
4764b
9161
4763
4763b
9101
8861
9217
8688
8689
8149
9215
Chart - 820
Pt. Baker
Alvin Bay
Sumner
Helm Rk
Monte Carlo
Meadow
Secession Hbr.
Totem Bay
Pt. Barnes
Cam I.
Pup I.
Kadak B.
Salt Pt.
Flevio Sec.
Keku Strait
Sumner Strait
Summer
Tenakee Bay
Victor Bay
Vegetati
The land is generally
woods decrease in density
leaving the higher elevatio

(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9161

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
8201	11-23-73	M. D. Kavis	~~Full~~ Part ~~Before~~ After Verification ~~Review Inspection Signed~~ Via
			Drawing No. 24
8272	6/7/74	M. D. Kavis	~~Full~~ Part ~~Before~~ After Verification ~~Review Inspection Signed Via~~
			Drawing No.
8201	11/14/75	Raitor	~~Full~~ Part ~~Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. Added one rock awash 56°34.3' 133°43'
8272	7/31/78	J. Bailey	~~Full~~ Part ~~Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. Applied corrs. thru exam. of
			Descriptive Report.
17372	8/17/89	Cordero	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. 11, 8th Ed.
17360	10-12-93	Sturwold	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. #34 Appl thru Chart 17382 #11
			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.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63