

9218

Diag. 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-10-6-71
Office No. H-9218

LOCALITY

State ALASKA
General Locality SUMNER STRAIT
Locality TOTEM BAY AND APPROACHES

19 71

CHIEF OF PARTY
G. C. SALADIN

LIBRARY & ARCHIVES

DATE 4/17/74

9218

HYDROGRAPHIC TITLE SHEET

H-9218

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-10-6-71

State ALASKA

General locality Sumner Straits, Southeast Alaska

Locality Totem Bay and Approaches

Scale 1:10,000 Date of survey 1 July - 22 July 1971

Instructions dated 2 February 1971 Project No. OPR-1118-DA-71

Vessel NOAA Ship DAVIDSON CGS-31 Launches DA-1 and DA-2

Chief of party Cdr. Gerald C. Saladin

Surveyed by Ens. Stephen A. Young, Lt(jg) Howard Herz

Soundings taken by echo sounder, hand lead, ~~etc.~~ Raytheon DE-723 Fathometer

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Commissioned Officers

Positions verified John Lotshaw

Automated plot by FMC - ~~GRAPHIC PLOTTER~~ XYNETIC PLOTTER

Soundings ~~checked~~ ^{verified} by John Lotshaw

Soundings in fathoms ~~feet~~ at MLW MLLW

REMARKS:

REMARKS: _____

*Chap
82011*

KEL

DESCRIPTIVE REPORT

DA-10-6-71

H-9218

A. PROJECT

This survey was accomplished according to project instructions: OPR-448-DA-71, Keku Strait and Sumner Strait, S.E. Alaska, dated 2 February 1971.

B. AREA SURVEYED

The survey covers Totem Bay, Little Totem Bay, their entrances and an area approximately three miles wide and four miles long adjoining the bays. The survey is bounded by Lat.'s $56^{\circ}23'30''$ N., $56^{\circ}29'50''$ N., and Long.'s $133^{\circ}25'15''$ W., $133^{\circ}19'00''$ W. The survey junctions contemporary surveys ~~DA-10-5-71~~ on the east and ~~DA-20-1-71~~ on the south. Hydrographic surveying was conducted from 1 July 1971 thru 22 July 1971. H-9219(1971), 1:10,000 H-9223(1971), 1:20,000 ALSO JUNCTIONS H-9220(1971), 1:10,000 ON THE SOUTHEAST AND H-9217(1971), 1:10,000 ON THE WEST.

C. SOUNDING VESSELS

Both of the ship's Bertram survey launches were used on this survey. Work done from launch DA-1 is represented by blue position numbers on the boat sheet, that from launch DA-2 is in red. Bottom samples by the ship Davidson are in brown; those from WZ-3041 are in violet.

D. SOUNDING EQUIPMENT

Raytheon DE-723 fathometers, serial numbers 553 and 1276 were used in launches DA-1 and DA-2 respectively. Depths of operation ranged from 0.5fm. to 90fm.

Echo sounder corrections are found in a separate report, "CORRECTIONS TO ECHO SOUNDERS OPR-448, 1971", Table 1 of the appendix. FILED IN CAHIER.

E. SMOOTH SHEET

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

F. CONTROL

Visual and electronic control were used on this survey. Totem Bay and Little Totem Bay were surveyed using visual control. The remainder of the survey was electronically controlled.

Visual control supplemented the electronic control in inshore areas or where an intervening land mass distorted one of the Sea-Fix signals. In these areas positions were plotted using Sea-Fix data after appropriate corrections had been obtained using visual control data which was obtained simultaneously with the Sea-Fix data. Further information on the Sea-Fix correctors used is in the appendix, Table 2, "CORRECTIONS TO SEA-FIX, OPR-448, 1971." ✓

The two Sea-Fix shore stations used in this survey were located by second order methods over second order triangulation stations. The triangulation stations are DONNA 1971 Lat. $56^{\circ}23'33.712''$ Long. $133^{\circ}41'25.996''$ and CHERYL 1971 Lat. $56^{\circ}20'22.831''$ Long. $133^{\circ}21'22.150''$. ✓

Signals for visual control were located photogrammetrically using the radial plot method. A list of stations is contained in the appendix. ✓

G. SHORELINE

Shoreline ^{on boatsheets} was transferred directly from the incomplete manuscripts T-13339, T-13340, and T-13341 ^{and T-13342} to the boatsheet. Shoreline was verified by field edit, visual inspection; low water line determined by soundings obtained from this survey and the termination of sounding lines due to steep shores. Inaccuracies ^{ie} and corrections to the present manuscripts are found in the field edit report, Sumner Strait, Southeast Alaska OPR-448, 1971. ✓

PH 6909

H. CROSSLINES

12.35% crosslines were run. Soundings agree at crossings.

I. JUNCTIONS

Soundings at junctions with contemporary surveys ^{H-9219} DA-10-5-71 and ^{H-9223} DA-20-1-71 agree. ALSO JUNCTIONS WITH H-9217 AND H-9220.

J. COMPARISON WITH PRIOR SURVEYS SEE REVIEW, SEC. 5

Prior surveys of the area consist mainly of the wire drags accomplished in 1915^{H-3812} and 1916^{H-3812a}. The presurvey review listed several items which are answered herein:

Reported		Found	
Lat.	Long.	Lat.	Long.
Three Rocks (PRE-SURVEY REVIEW ITEM 1) Originate with CL-447/51 ^{SL}			
(1) 56° 28. ³ / ₁ '	133° 23. ⁴ / ₃₅ '	No rock found, least depth of 1.9 fm. at ¹⁵ LOCATED IN LAT. 36° 28.23', LONG. 129° 23.63'	
	⁵ fm. edg. located 230 meters N.W. of this 1.9 fm. edg.	56° 28.4'	133° 23.37'
(2) 56° 27.8'	133° 22. ⁷ / ₃₈ '	Rock bares 7 ft. at MLLW,	
		56° 27. ^{27.8} / _{48.11} '	133° 23. ^{23.05} / _{1.93} '
(3) 56° 27. ³ / ₄ '	133° 21. ⁷ / ₈₅ '	Rock bares 3 ft. at MLLW	
		56° 27. ³⁷ / ₄ '	133° 21.7'
(4) 3.25 fm. from H-1754	SEE VERIFIER'S REPORT, PART 1(a)	^{3 1/4} fm. disproved	
56° 27. ^{28.25} / ₄ '	133° 21. ⁹ / ₈₅ '	Least depth of 1.9 fm. at	
		56° 28.7'	133° 21.58'
(5) 4 fm. at		Least depth of ^{3.6} 3.0 fm. at	
56° 27.8'	133° 21.5'	56° 27.7'	133° 21.65'
(6) 6.0 fm. at	⁶ disproved SEE VERIFIER'S REPORT, PART 1(b)	See boatsheet for this area.	
56° 25.7'	133° 24.1'		
(7) 5.5 fm. at	NOT DISPROVED ON PRESENT SURVEY (Retain) ² Not investigated	Least depth of ^{5.1} 4.6 fm. at	
56° 24.8'	133° 24. ² / ₁₅ '	56° 24. ³ / ₈₅ '	133° 23.28'
(8) 1.5 fm. at		Least depth of ^{0.9} 1.1 fm. at	
56° 25.30'	133° 22.4 ⁸ / ₅ '	56° 25.26'	133° 22.47'

Present data supersedes positions from previous positions

(9) 6.0 fm. at (PRE-SURVEY REVIEW ITEM 2)
56° 24.3' 133° 19.2'

SEE REVIEW SEC. 6, PAR. A

(10) 6.0 fm. at

56° 25.25' 133° 21.55'

Least depth of ^{6.1}~~6.0~~ fm. at
56° 25.²²' 133° 21.⁷~~60~~'

K. COMPARISON WITH THE CHART

The largest scale chart of the area, 8201, is of such a scale (1:217,828) as to make an accurate comparison impossible. However, the position of shoals, shorelines, rocks and islands agree in general. Differences have been noted under J. COMPARISON WITH PRIOR SURVEYS.

A chart of 1:80,000 scale is needed for an adequate representation of the confused bottom topography in this area, however, lack of traffic in this area may not warrant such a chart.

L. ADEQUACY OF SURVEY

This survey is considered complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

There are no aids to navigation on this survey.

N. STATISTICS

VESSEL	POSITIONS	N.M. SOUNDING LINES	BOTTOM SAMPLES
DA-1	2657	355.1	
DA-2	<u>1107</u>	<u>127.6</u>	
DAVIDSON			10
WZ-3041	3764	482.7	<u>68</u> 78

This survey covered a total area of 29.9 sq. mi.

O. LOGGING

Logging was carried out in the launches while the survey was in progress. MIL-COM and CLIMATRONICS electronic loggers were used in the launches. These were coupled to FRIDEN FLEXO-WRITER units. A sample of the logging format used is contained in the appendix.

P. RECOMMENDATIONS

It is recommended that this survey supersede prior surveys for nautical charting.

Q. References

Corrections to Echo Sounders OPR-448-1971
Field Edit Report OPR-448-1971
Tide Gage Report OPR-448-1971
Geographic Names Report OPR-448-1971
Corrections to Sea-Fix OPR-448-1971

Submitted,

Stephen A. Young
Stephen A. Young
Ens. NOAA

APPROVAL SHEET

Hydrographic Survey

DA-10-6-71


H-9218

OPR-448

Totem Bay, Sumner Strait

Southeast Alaska

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

for 
Gerald C. Saladin
CDR, NOAA
Commanding Officer
NOAA Ship DAVIDSON

APPENDIX

COMPUTER PARAMETERS FOR ELECTRONICALLY CONTROLLED SURVEYS

(RANGE - RANGE)

- (1) Project No. OPR-448 (2) N. No. H-9218 (3) Field No. DA-10-6-71
- (4) Type of Control: SHORAN, RAYDIST, HI-FIX, RADAR
 Frequency (for conversion of RAYDIST or HI-FIX lanes to meters) _____
- (5) RANGE ONE (R1) (Red) Latitude 56° 23' 33.712"
 Station Name DONNA 1971 Longitude 133° 41' 25.996"
- (6) RANGE TWO (R2) (Green) Latitude 56° 20' 22.831"
 Station Name CHERYL 1971 Longitude 133° 21' 22.150"
- (7) Azimuth from R1 to R2 285° 48' 13.924"
- (8) Baseline Length in Meters 21494.645 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.

- (12) _____ 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 7-1-71 123100 To 7-22-71 170000

Position Number Limitations: From 0001 To 8015 with DA-1

This is Form #3 Sheet # / of / Sheets for this survey.

- (13) Other Remarks:

GEODETTIC INVERSE COMPUTATION

PROGRAM NO. 700-002

STATION A:

TO STATION B:

LATITUDE

LONGITUDE

AZIMUTH

DISTANCE

56 23 33.71200

133 41 25.99600

F 285 48 13.92407

21494.0451

56 20 22.83100

133 21 22.15000

B 106 4 56.24061

H
Field No. _____
Date _____

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

Parameter Card I

Master RI	Lat.	1	2	3	4	5	6	7	8	9	10
Hydro Name	Long.	11	12	13	14	15	16	17	18	19	20
Slave R2	Lat.	21	22	23	24	25	26	27	28	29	30
Hydro Name	Long.	31	32	33	34	35	36	37	38	39	40
Azimuth RI to R2	Lat.	41	42	43	44	45	46	47	48	49	50
Baseline Distance in Meters	Long.	51	52	53	54	55	56	57	58	59	60
Velocity Code	0 - No Vel. Table 3 - 2 Vel. - (N - S)	61	62	63	64	65	66	67	68	69	70
Conversion Factor for electronic distance to meters.	Stat. Meters = 1/1000 of	71	72	73	74	75	76	77	78	79	80
H-Identification Number	JN	81	82	83	84	85	86	87	88	89	90
Location of survey with respect to electronic baseline	AAA	91	92	93	94	95	96	97	98	99	100
Velocity Boundary	VLE	101	102	103	104	105	106	107	108	109	110
IF Shoran calibration correction is applied by equation (use Shoran card) punch 1 in column 80	YR	111	112	113	114	115	116	117	118	119	120

Shoran Card Format (when calibration correction is applied by a line K x + C)
(Key 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		

Computed _____ Punched _____ Checked _____ Date _____

H-9218 4-8-74

HYDRO-SIGNAL CARDS

EDP NO.	NO.	LATITUDE	LONGITUDE	HAML		
31051	601	Δ SHINGLE 1915	71 56261743	133232922	05670 06314	601
31051	602		71 56272755	133265751	07409 08993	602
31051	603		71 56272379	133262612	08549 08971	603
31051	604		71 56271322	133261442	08611 08128	604
31051	605		71 56270592	133260654	08498 07890	605
31051	606		71 56270799	133255161	08219 07957	606
31051	607		71 56272451	133254519	08104 08492	607
09218	608		71 56273420	133250911	07455 08808	608
31051	609		71 56273197	133243696	06877 08735	609
31051	610		71 56273944	133243194	06785 08978	610
31051	611		71 56275357	133244503	07021 09437	611
31051	612		71 56275241	133250905	07453 09399	612
31051	613		71 56275742	133255186	08223 09562	613
31051	614		71 56281125	133260467	08455 10012	614
31051	615		71 56282894	133260695	08493 10585	615
31051	616		71 56284407	133260602	08476 11077	616
31051	617		71 56283676	133255404	08261 10840	617
31051	618		71 56282978	133255672	08309 10613	618
31051	619		71 56282095	133253143	07855 10320	619
31051	620		71 56282195	133244574	07034 10358	620
09218	621		71 56283673	133250475	07319 10338	621
09218	622		71 56285376	133252270	07697 11392	622
31051	623		71 56285018	133253336	07889 11275	623
09218	624		71 56285407	133254607	08117 11402	624
09218	625		71 56290679	133255644	08302 11815	625
09218	626		71 56291697	133260636	08517 12146	626
09218	627		71 56292632	133261403	08619 12450	627
09218	628		71 56294225	133260789	08508 12967	628
09218	629		71 56294636	133253455	07729 13100	629
31051	630		71 56294141	133250818	07435 12929	630
31051	631		71 56294015	133244465	07013 12898	631
31051	632		71 56294222	133242870	06726 12965	632
31051	633		71 56294051	133241227	06431 12909	633
31051	634		71 56294985	133234121	05873 13212	634
31051	635		71 56293401	133270988	04232 12698	635
31051	636		71 56293075	133214892	03856 12592	636
31051	637		71 56292360	133212752	03472 12360	637
31051	638		71 56291465	133212729	03467 12069	638
31051	639		71 56285800	133213307	03571 11528	639
31051	640		71 56285137	133213611	03625 11313	640
31051	641		71 56283728	133212237	03379 10855	641
31051	642		71 56282425	133211974	03331 10432	642
31051	643		71 56281400	133204994	02795 10099	643
31051	644		71 56281681	133202459	02340 10191	644
31051	645		71 56281435	133200987	02075 10112	645
31051	646		71 56280630	133195064	01729 09850	646

31051 647
31051 648
31051 649
31051 650
31051 651
31051 652
31051 653
31051 654
31051 655
09218 656

71 56280385 133192803 01312 09771 647
71 56275958 133185659 00758 09633 648
71 56280074 133182313 00155 09671 649
71 56274216 133182583 00108 09067 650
71 56273291 133184149 00485 08767 651
71 56272583 133182893 00243 08937 652
71 56274811 133230193 05168 09258 653
71 56283660 133244444 07910 10820 654
71 56284804 133244125 06950 11206 655
71 56294652 133230403 05209 13104 656

SINGLE INDICATOR

ELECTRONIC CONTROL FORMAT-RANGE RANGE (SEA-FIX)

<u>TIME</u>	<u>IND</u>	<u>SNDG</u>	<u>POS#</u>	<u>DAY</u>	<u>R₁ (RED)</u>	<u>R₂ (GREEN)</u>
140000	3	0125	0001	220	100000	089580
140015	3	0140				
140030	3	0150				
140045	3	0155				
140100	3	1019	0002	220	100050	092500

TIME Hour, Min, Sec.
 IND Indicator: 3 FM Units and Tenths
 SNDG Depth in Feet or Fathoms
 POS# Position Number
 DAY Julian Day Number
 R₁ Range Station No. 1 (RED)
 R₂ Range Station No. 2 (GREEN)

Assume decimal point as follows:
 Sea-Fix = 000.000 Lanes

SINGLE INDICATOR
VISUAL FORMAT-SOUNDING TAPE

<u>TIME</u>	<u>IND</u>	<u>SNDG</u>	<u>POS#</u>	<u>DAY</u>	<u>LA</u>	<u>RA</u>	<u>LO</u>	<u>CO</u>	<u>RO</u>
140000	3	0232	0001	220	110310	090090	0600	601	603
140015	3	0140							
140030	3	1600							
140045	3	0999							
140100	3	1001	0002	220	100300	030300	0600	609	610

TIME	Hour, Min, Sec.
IND	Indicator: 3 FM. Units and Tenths
SNDG	Depth in feet or fathoms
POS#	Position Number
DAY	Julian Day Number
LA	Left Angle
RA	Right Angle
LO	Left Object
CO	Center Object
RO	Right Object

GEOGRAPHIC NAME LIST

Refer to special report - Geographic Names OPR-448-1971-DAVIDSON.
There are no further additions to that report.

TRIANGULATION STATIONS

<u>STATION</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
EYE OPENER LIGHT 1967	56°23'10.557"	133°16'30.218"
SHINGLE 1915	56°26'17.424"	133°23'29.834"
SID 1915	56°20'40.110"	133°29'20.853"
LOWELL 1971	56°20'10.919"	133°16'16.503"
WEST 1915	56°20'24.202"	133°21'22.209"
MITCHELL 2	56°26'39.927"	133°12'34.694"
GRO 1915	56°25'11.812"	133°30'57.540"
BARRIE 2 1915	56 25 35.640	133 38 01.268
SUMNER 2 1915 1927	56 21 33.952	133 36 58.884
GAL 1954	56 23 34.18	133 41 25.18

LIST OF MANUSCRIPTS

T-13339

T-13340

T-13341

T-13342

H-9218
-LIST OF STATIONS ON DA 10-6-71-

<u>SIGNAL NUMBER</u>	<u>ORIGIN OF STATION</u>
601	SHINGLE 1915
602	T-13340
603	T-13340
604	T-13340
605	T-13340
606	T-13340
607	T-13340
608	T-13339
609	T-13341
610	T-13341
611	T-13341
612	T-13339
613	T-13339
614	T-13339
615	T-13339
616	T-13339
617	T-13339
618	T-13339
619	T-13339
620	T-13341
621	T-13339
622	T-13339
623	T-13339
624	T-13339
625	T-13339
626	T-13339
627	T-13339
628	T-13339
629	T-13339
630	T-13339
631	T-13341
632	T-13341
633	T-13341
634	T-13341
635	T-13341
636	T-13341
637	T-13341
638	T-13341
639	T-13341
640	T-13341
641	T-13341
642	T-13341
643	T-13341
644	T-13341
645	T-13341

ABSTRACT OF POSITIONS

<u>DAY</u>	<u>LAUNCH 1</u>	<u>LAUNCH 2</u>	<u>WZ-3041</u>	<u>DAVIDSON</u>
182	1-107 (1)			
187	108-374 (2)			
188	376-739 (3)			
189	740-1084 (4)			
190	1085-1437 (5)			
191	1438-1732 (6)	3001-3226 (7)		
192	1733-1911 (8)	3227-3372 (9)		
193	1912-2009 (10)	3373-3558 (11)		
194	2010-2304 (12) 7001-7005	3539-3750 (13)		
195	2305-2501 (14)	3752-3937 (15)		
196	2502-2607 (16)			
202		3904-4089 (17)	7100-7168 (18)*	*
203			7100-7168 (18)*	8000-8015(19)*
236				8000-8015(19)

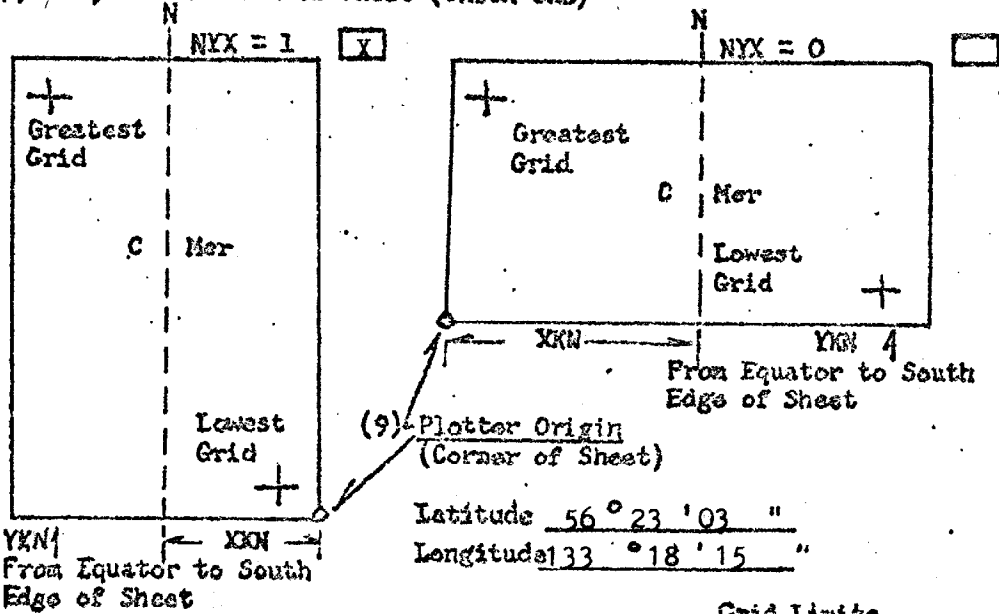
* Bottom Samples

() = Volume numbers are in parentheses

FORM # 1
 PARAMETERS FOR DIGITAL COMPUTING
 POLYCONIC PROJECTION

EDAT No. 31051

- (1) Project No. 448 (4) Requested by Cdr. R.E. Moses
 (2) H No. 9218 (5) Ship or Office DAVIDSON
 (3) Field No. DA-10-6-71 (6) Data Required **
 (7) Visual Ft.(0) or Fathoms (1) (8) Electronic (fill out form #2)
 (10) XKN (SP 5) Distance from CMER to East Edge (NYX = 1) or West Edge (NYX = 0). (Origin) 4,375.8 Meters
 (11) YKN (SP 241) Distance from Equator to South Edge of Sheet. (Origin) 6,251,124,702 Meters
 (12) Central Meridian 133 ° 22 ' 30"
 (13) Survey Scale 1:10,000
 (14) Size of Sheet (Check one) 36x60 42x60
 (15) NYX, Orientation of sheet (Check one)



Grid Limits	
(16) Greatest Latitude	<u>56 ° 30 ' 30 "</u> (Projection Line Interval Page 4 Hydro Manual)
(17) Lowest Latitude	<u>56 ° 23 ' 30 "</u>
(18) Difference	<u>7 ' 00 "</u>
(19)	<u>30 "</u>
(20)	<u>14 YKN</u>
(21) Greatest Longitude	<u>133 ° 27 ' 00 "</u>
(22) Lowest Longitude	<u>133 ° 18 ' 30 "</u>
(23) Difference	<u>8 ' 30 "</u>
(24)	<u>30 "</u>
(25)	<u>17 YKN</u>

COMPUTER PARAMETERS FOR ELECTRONICALLY CONTROLLED SURVEYS

(RANGE - RANGE)

(1) PROJECT No. 448 (2) H- No. 9218 (3) FIELD No. DA-10-6-71

(4) TYPE OF CONTROL: SHORAN, RAYDIST, Sea ~~FIX~~ FIX, RADAR
FREQUENCY (FOR CONVERSION OF RAYDIST OR HI-FIX LANES TO METERS) 1619.64

(5) RANGE ONE (R1) LATITUDE 56 ° 23 33.712 "
STATION NAME DONNA 1971 LONGITUDE 133 ° 41 25.996 "

(6) RANGE TWO (R2) LATITUDE 56 ° 20 22.831 "
STATION NAME CHERYL 1971 LONGITUDE 133 ° 21 22.150 "

(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, X ONE, MORE THAN ONE.

(2) _____ THIS FORM IS SUBMITTED ONLY AS AN AID IN PREPARING A BOAT
SHEET PROJECTION.

_____ THIS FORM APPLIES TO ALL DATA ON THIS SURVEY.

X _____ THIS FORM APPLIES TO PART OF THE DATA ON THIS SURVEY -
TIME AND DATE LIMITATIONS: FROM 7/1/71 123100 TO 7/22/71 170000

POSITION NUMBER LIMITATIONS: FROM 001 TO 8015

THIS IS FORM #3 SHEET # 1 OF 1 SHEETS FOR THIS SURVEY.

(13) OTHER REMARKS:

See boatsheet for intersections

APPROVAL SHEET

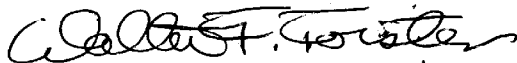
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report)

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

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): Totem Bay tide gage

Period: June 2, 1971 - July 29

HYDROGRAPHIC SHEET H9218

OPR 448

Locality: Sumner Strait, S.E. Alaska

Plane of reference (mean lower low water) = 4.6 ft.
which is 4.6 feet on tide staff.

Height of Mean High Water above Plane of Reference is 12.3 ft.

Remarks: Hourly heights have been revised in red and verified
as follows:

<u>Day</u>	<u>Hours</u>
187	0900-1600
188	0800-1700
190	0800-1700
191	0900-1100

Hourly heights which were computed from the Ketchikan observations
have been entered for day (236 1100-1400):

P. H. R. C. ...

Chief, Tides Branch



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

WAT

RECEIVED

GREEN

Date : February 11, 1975

FEB 18 1975

Reply to Attn. of: C323

To : Chief, Processing Division (CPM3)
THRU : Director, Pacific Marine Center by *ES*
From : Chief, Marine Chart Division *R.H. Houbert*

Subject: Replotting of Survey H-9218, Sumner Strait

The tide reducers applied to soundings of survey H-9218 are found to be about one fathom in error. It is requested that the tide reducers be corrected, the records reprocessed, and a new sounding plot be made. *Return for correctors was in error*

All the records and graphic plots pertaining to the survey are being returned under separate cover. Included are the original approved hourly heights printout and the Descriptive Report containing the tide note showing the plane of reference.

Separate cover

Sheet replotted in 1975 and returned to Rockville.

*J.G. IS THE TIDE NOTE A NEW VALUE FOR
REPLotted 1975.*

TIDE NOTE DA-10-6-71

The tide station used for this survey was at Totem Bay.

Location	Lat. $56^{\circ} 29.6'N$ Long. $133^{\circ} 24.5'W$
Plane of Reference	MLLW
Time Meridian	$105^{\circ}W$
Type of Gage	Portable Bubbler

Tide data was also obtained at Red Bay. This data can be used to zone the area surveyed.

Red Bay tide gage:

Location	Lat. $56^{\circ} 19' 31.4''N$ Long. $133^{\circ} 18' 09.2''W$
Plane of reference	MLLW
Time Meridian	$105^{\circ}W$
Type of Gage	Portable Bubbler

Hourly height tapes, printouts, copies of form 362 and a field tide note were forwarded to PMC.

Tide station reports, leveling records, marigrams and form 362 were transmitted to Chief, Tides Branch with a cover letter requesting the following be furnished to PMC.

1. Verified copies of Form 362's with values entered in original records gaps.
2. Datum: value of MLLW on the marigrams.
3. Form 712's for insertion in descriptive report.
4. Time and height relationships between gages operated in the area surveyed.
5. Recommended zoning for the tide correctors.

GEOGRAPHIC NAMES

Survey No. H-9218

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
✓ KUPREANOF ISLAND											1
✓ LITTLE TOTEM BAY											2
✓ SHINGLE ISLAND											3
✓ SUMNER STRAIT											4
✓ TOTEM BAY											5
TOTEM POINT											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
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											24
											25
											26
											27

Approved by
Chas. E. Harrington
 Staff Geographer
 13 Jan. 1975

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9218

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
ENVELOPES			1			
CAHIERS	1		1			
VOLUMES		6				
Books BUNDLES			1			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) TIDE 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				3842
POSITIONS CHECKED		3842	15	
POSITIONS REVISED		16	0	
DEPTH SOUNDINGS REVISED		243	55	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		154	0	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED			0	
		TIME (MANHOURS)		
Verification of Control		4	TOPO. DETAIL 10	
Verification of Positions		83	JUNCTIONS 40	
Verification of Soundings		191247	10	
Smooth Sheet Compilation		118177	WORK DONE BEFORE SHEET RETURNED TO SEATTLE 104	
ALL OTHER WORK		32	58	
TOTALS		428543	222	
PRE-VERIFICATION BY		BEGINNING DATE	ENDING DATE	
VERIFICATION BY		BEGINNING DATE	ENDING DATE	
REVIEW BY		BEGINNING DATE	ENDING DATE	

Time added because of replot

PRE-VERIFICATION BY: _____ BEGINNING DATE: _____ ENDING DATE: _____
 VERIFICATION BY: John E. Lotshaw BEGINNING DATE: 8 December 1972 ENDING DATE: 8 April 1974
 REVIEW BY: Charles David Mesador BEGINNING DATE: Jan. 13, 1975 ENDING DATE: Nov. 26, 1975
Car. Insp. D.J. Romerberg 10-12-75 41 hrs. - R.W. Williams - 8 hrs. RAC 7475

Reg. No. _____

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

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

CARDS CORRECTED

DATE _____ TIME 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-9218

Items for Future Presurvey Reviews

Minor differences were noted between the present survey and the prior surveys of 1886. These differences are attributed to the less accurate control and survey methods used on the prior surveys.

Verification of least depths on the shoals in this area by handlead, drift sounding, or divers would be desirable at some opportune time in the future.

<u>Position</u>	<u>Index</u>	<u>Bottom Change</u> <u>Index</u>	<u>Use</u> <u>Index</u>	<u>Resurvey</u> <u>Cycle</u>
<u>Lat.</u>	<u>Long.</u>			
562	1333	0	1	50 years
562	1332	0	1	50 years

OFFICE OF MARINE SURVEYS AND MAPS
MARINE CHART DIVISION
MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9218

FIELD NO. DA-10-6-71

Alaska, Sumner Strait, Totem Bay and Approaches

SURVEYED: July 1 through July 22, 1971

SCALE: 1:10,000

PROJECT NO.: OPR-448

SOUNDINGS: DE-723 Depth Recorder

CONTROL: Sea-Fix (Range-
Range), Visual
Fixes on Shore
Signals

Chief of Party G. C. Saladin
Surveyed by S. A. Young
..... H. W. Herz
Automated Plot by Xynetics Plotter (PMC)
Verified by J. E. Lotshaw
Reviewed by C. D. Meador
..... Date: November 26, 1975
Cursory inspection made--survey processing considered complete.
D. J. Romesburg Date: December 12, 1975

1. Control and Shoreline

The origin of the control is adequately discussed in paragraph F of the Descriptive Report.

The shoreline originates with Class I, unreviewed topographic manuscripts T-13339, T-13340, T-13341, and T-13342 of 1969-71.

Several foreshore characteristics shown as "rocky" or "rky" on T-13339 and T-13341 were more appropriately described as boulders on the present survey.

The mean high water line as shown on this survey is for guidance only and, except for revisions in red determined by the hydrographer, the true position of this line is shown on the topographic surveys previously mentioned.

2. Hydrography

A. Depths at crossings are in adequate agreement.

B. The usual depth curves are adequately delineated except in some inshore foul areas and where the foul nature of the off-lying islands, rocky reefs, and rocks awash restricted the development of hydrography. Dashed depth curves, brown depth curves, and the supplemental 6-fathom depth curve were added to emphasize important bottom features.

C. The development of the bottom configuration is adequate, except on several shoals which were not fully developed for least depth.

3. Condition of the Survey

The field work, sounding records, smooth plotting, 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 except as follows:

A. The hydrographer did not describe signals located offshore of the high water line.

B. Better development of the Presurvey Review Items would have been desirable.

C. Almost all least depths on shoals were determined by fathometer only on 45-meter line spacing. Few attempts were made to verify least depths by handlead, drift sounding, or divers.

D. No distortion points were plotted on the smooth sheet.

E. No fathogram exists for Julian Day 195 (July 14), Launch 2 (DA-2).

F. Bare rock elevations originating with the T-sheets were inked in black rather than red by the verifier.

G. The verifier obscured several of the control station positions by drawing shoreline through them.

H. The entire survey was replotted because of an error in the tide reducers.

I. Elevations of several rocks and reefs originate with boat sheet information. No substantiating data could be found elsewhere in the survey records.

4. Junctions

Adequate junctions were effected with H-9223 (1971) on the south and with H-9217 (1971) on the west. The junctions with H-9220 (1971) on the southeast and H-9219 (1971) on the east will be discussed in the reviews of those surveys.

5. Comparison with Prior Surveys

A.	H-1749	(1886)	1:80,000
	H-1753	(1886)	1:80,000
	H-1754	(1886)	1:80,000

These H-sheets constitute one complete survey and represent the only complete prior coverage of the present survey.

A comparison between the prior and present surveys indicates the bottom has remained unchanged since 1886. However, differences of up to 2 fathoms exist between a few sounding values. These differences can be attributed to the less accurate control and survey methods used on the prior survey.

A rock awash charted from H-1754 (1886) was brought forward in latitude $56^{\circ}25.64'$, longitude $133^{\circ}23.28'$ as a sunken rock to supplement the present survey. ✓

With the addition noted above, the present survey is adequate to supersede these prior surveys within the common area.

B.	H-3812WD	(1915)	1:20,000
	H-3812aWD	(1916)	1:20,000

Several detached soundings and swept areas on the above wire-drag surveys fall within the limits of the present survey. ✓ There are no conflicts between the present depths and the effective wire-drag depths.

Several soundings and the term "Rk" were brought forward in green to supplement the present survey.

6. Comparison with Chart 8201, 19th Ed., March 2, 1974

A. Hydrography

Most of 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 (Bp 82428) of the present survey.

Attention is directed to the following:

(1) A 6-fathom sounding (Presurvey Review Item 2 of February 18, 1971) charted in latitude $56^{\circ}24.28'$, longitude $133^{\circ}19.2'$ originates with H-3812WD (1915) as a 38-foot sounding. The position of this sounding is questionable in the records of H-3812WD (1915) since the area was subsequently cleared by a drag strip with an effective depth of 43 feet. Present survey development found no evidence of the 38-foot depth and this together with the results of the earlier wire drag is considered adequate to disprove its existence. ✓

(2) The 5.5-fathom sounding positioned in latitude $56^{\circ}24.78'$, longitude $133^{\circ}29.93'$ originates with H-3812aWD (1916) as a drag grounded at an effective depth of 33 feet. No sounding was obtained at the position of the grounding nor was this area subsequently dragged. No investigation of this sounding was made on the present survey. Although field records for the prior survey indicate that the plotting of the drag strip and the position of the grounding may be in error, the sounding should be retained until adequately disproved by a wire-drag investigation. *retained*

Additional information on Presurvey Review items is listed under paragraph J of the Descriptive Report.

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

B. Aids to Navigation

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

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. However, attention is directed to the 5.5-fathom

sounding charted in latitude 56°24.78', longitude ^{133° 24'} ~~153° 29.93'~~
from H-3812aWD (1916) which falls in present depths of 13
fathoms. Wire-drag investigation of this sounding would be
desirable when the capability is available.

Examined and Approved:

a J. Patrick
Chief
Marine Surveys Division

R. H. [Signature]
Associate Director
Office of Marine Surveys
and Maps

