9101

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. PA-10-3-65

Office No. H-9101

LOCALITY

State ALASKA

General Locality KEKU STRAIT

Locality ALVIN BAY TO CONCLUSION

1965-70

CHIEF OF PARTY

JAMES K. RICHARDS, R. E. MOSES

LIBRARY & ARCHIVES

DATE 8-6-73

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

9101

FORM C&GS-537 (5-65)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-9101

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. PA-10-3-65

State: ALASKA

General locality: ~~South~~ Keku Strait

Locality: Alvin Bay to Conclusion Island

Scale: 1:10,000 — Date of survey: 26 Aug. to ~~23 Sept.,~~ 8 Oct., 1970

Instructions dated: 23 March 1970/4 May 1970 — Project No.: OPR-448

Vessel: Ship Davidson, Launch DA-2, 17', whaler WZ-3041

Chief of party: CDR Ray E. Moses

Surveyed by: ENS H.W. Herz, ENS G.L. Miller, ENS R.C. Arnold, LCDR F.T. Smith

Soundings taken by echo sounder, ~~hand lead, pole~~: 1276, 919

Graphic record scaled by: Ship's Officers and personnel

Graphic record checked by: Ship's Officers

Verified ~~Protracted~~ by: John E. Lotshaw — Automated plot by: PMC-Gerber Digital Plotter

Soundings verified ~~penciled~~ by: John E. Lotshaw

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

REMARKS:

wht. H₂O

8201

Applied to std 8/10/73 -
[initials]

Exam for NM 9/8/73 CW

USCOMM-DC 37009-P66

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. H9101

Field No. PA-10-3-65

see also title sheet by ship Davidson

State Southeast Alaska

General locality Keku Strait

Locality Alvin Bay to Conclusion Island Aug 26-Oct 8, 1970 12-17,

Scale 1:10,000 Date of survey September 1965

Instructions dated 9 December 1964

Vessel USC&GSS PATTON Launch 1191

Chief of party LCDR James K. Richards

Surveyed by J. K. Richards, N. A. Horst

Soundings taken by ~~echo sounder~~ graphic recorder, ~~hand lead~~

Fathograms scaled by J. J. Saladin

Fathograms checked by Ship's Officers

Protracted by Automated plot by PMC - Gerber Digital Plotter

Soundings penciled by -

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

REMARKS:

~~Hydrography on this sheet has not been completed.~~

U. S. GOVERNMENT PRINTING OFFICE 16—80020-1

DESCRIPTIVE REPORT
to accompany

HYDROGRAPHIC SURVEY PA-10-3-65

Scale 1:10,000

USC&GSS PATTON J.K. RICHARDS, COMDG.

1965

A. PROJECT

This survey is part of project OPR-448, Keku Strait, Southeast Alaska. The project INSTRUCTIONS were dated December 9, 1964.

B. AREA SURVEYED

The area of this sheet is in the southern approaches to Keku Strait, Southeast Alaska. The sheet, which extends along the east shore of Kuiu Island from lat. 56° 25.0' N. to lat. 56° 28.5' N, includes Alvin Bay, the north end of Sumner Island, and about half of the west shore of Conclusion Island.

The area surveyed in 1965 covers Alvin Bay and the north end of Sumner Island; this represents some 40% of the sheet. The northern part of the sheet remains to be surveyed. Completed 1970 Season

Hydrography commenced on September 12, 1965 and terminated on September 17, 1965, the end of the 1965 field season.

This sheet is covered primarily by prior survey H-2150, 1:40,000, 1892. Parts of the sheet are covered by prior surveys H-4763, 1:20,000, 1927 and H-1749, 1:80,000, 1886.

This survey junctions on the south (in the area between Sumner and Kuiu Islands) with the 1965 work on sheet H-8688, 1:10,000, 1962; junction is made on the east with contemporary survey H-8861 (PA-10-1-65). H 9160 (1970) on the northeast, H 9214 (1971) on the north.

C. SOUNDING VESSEL

All echo sounding was accomplished by launch CS-1191. Launch positions are indicated by violet lower-case letters on the boat sheet.

Numerous detached positions on rocks were obtained by a skiff party. These positions are shown in red lower-case letters on the sheet.

Three bottom samples, northeast of Sumner Island, were obtained from the Ship PATTON. These positions are shown in blue capital letters.

D. SOUNDING EQUIPMENT

A Raytheon DE-723B portable depth recorder, serial number 556, was used to obtain all echo soundings. The fathometer performed well throughout the duration of the survey. Soundings were recorded in fathoms.

Echo-sounding corrections were determined by bar checks to a depth of seven fathoms. Velocity corrections for greater depths were computed from temperature and salinity observations. Refer to the 1965 Fathometer Correction Report for details relating to the determination of echo-sounding corrections.

Rock heights were determined with the sounding pole.

E. SMOOTH SHEET

The smooth sheet has not yet been plotted.

F. CONTROL

Hydrography was controlled by visual three-point sextant fixes on shore signals. Most of the signals were built over triangulation stations and photo-hydro points. Seven signals were located by graphic control; three were located by sextant fixes.

Photo-hydro signals in the vicinity of Alvin Bay and Sumner Island were located on 1955 photographs and plotted on manuscripts T-10706, T-10707, and T-10708 (PH-5702). Photo-hydro location was done by the pass-point method, in accordance with Photogrammetry Instruction No. 45.

The signals located by graphic control are situated near the southern limits of the sheet, where the survey junctions with sheet H-8688, 1:10,000, 1962. These signals, located on planetable sheet PA-A-65, were originally located for the PATTON's surveys on H-8688 earlier in the season. The planetable sheet

and the accompaning descriptive report are included with the field records for sheet H-8688.

G. SHORELINE

Shoreline details were transferred to the boat sheet from the following incomplete manuscripts:

T-10706, T-10707, and T-10708 (PH-5702)
T-12222 and T-12223 (PH-6206)

The shoreline on this sheet covered by manuscripts T-10706, T-10707, and T-10708 was field inspected during the 1965 season.

All offshore rocks and other dangers were located and their heights determined by the hydrographic party. This work was done during periods of low water. The few discrepancies in the manuscripts were noted in the 1965 Field Edit Report. Many rocks that were not indicated on the manuscripts were discovered by the hydrographic party.

The low-water line was not defined by soundings in most areas, because of the steep, rocky shoreline and alongshore foul areas. The launch was navigated as close to shore as safety permitted.

H. CROSSLINES

Crosslines on this survey represent 8.6% of the hydrography. All crossings were satisfactory.

I. JUNCTIONS

The junctions with contemporary surveys on sheets H-8688 (HO-10-2-62) and H-8861 (PA-10-1-65) are satisfactory. Soundings and depth curves check well; no holidays exist.

J. COMPARISON WITH PRIOR SURVEYS

Most of the area surveyed on this sheet in 1965 is covered by prior survey H-2150, 1:40,000, 1892. Because of the small scale, sparse soundings, and the questionable datum of the old survey, a comprehensive comparison is difficult. However, the following items are noted:

Presurvey Review Item No. 14: The presurvey review requested an investigation of the sunken rock shown on H-2150 at Lat. 56° 26.20' N., Long. 133° 54.05' W. All topographic and hydrographic details in this area should be superseded by the new surveys. There is no single sunken rock in this vicinity, but instead there are several rocks awash, as well as ~~two~~ several high rocks that bare above MHW. These rocks are indicated on photogrammetric manuscript T-10707. Immediately south of this group of rocks is the main channel leading into the narrow, western part of Alvin Bay. This channel is approximately 100 meters wide. It is bounded on the south by a reef and two other high rocks (Lat. 56° 26.10' N., Long. 133° 54.20' N.) that bare above MHW. A foul area extends from these rocks to the southern shore of the bay. Positions and elevations of all significant rocks in this area were determined by the hydrographic party. concur

The depths in the western part of Alvin Bay are in general agreement with H-2150, with perhaps a small amount of shoaling indicated by the new survey. ✓

The soundings within the main part of Alvin Bay north of Lat. 56° 25.8' N. and east of Long. 133° 54.0' W. agree fairly well with H-2150. ✓

The 30-fm. sounding at Lat. 56° 25.32' N., Long. 133° 52.70' W. on H-2150 falls in depths about ten fathoms less on the new survey. Charted shoaling indicated

The 18½-fm. sounding at Lat. 56° 25.10' N., Long. 133° 52.10' W. on H-2150 falls in 25-fm. depths on the new survey, but would fall in comparable depths if displaced about 200 meters ~~south~~west. concur

The 8-fm. sounding at Lat. 56° 25.26' N., Long. 133° 51.05' W. on H-2150 falls about 200 meters west of comparable soundings on the new survey. ~~Returned from survey.~~ 8 fms falls in present 28 fms and is considered erroneous ✓

A depth of 8¼ fathoms is indicated on H-2150 at Lat. 56° 25.58' N., Long. 133° 51.25' W. This sounding falls in 25-fm. depth on the new survey; however, there are comparable depths 200 meters northwest of this position. Falls in present depths of 26 fms. concur
Present 7.6 fms falls about 200 meters east.

A significant 7⅝-fm. shoal was discovered by the new survey at Lat. 56° 25.60' N., Long. 133° 50.97' W. ✓

A ~~1.8~~ 1.9-fm. rocky shoal, located about 300 meters offshore at Lat. 56° 25.65' N., Long. 133° 53.14' W., was also found by the new survey. This shoal is marked by kelp. ✓

Label "foul" on smooth sheet.

There are many hydrographic and topographic features in the vicinity of the islands north of Sumner Island that are not indicated on H-2150.

Comparison with prior survey H-4763, 1:30,000, 1927 indicates fairly good agreement between the old and new surveys. There are some shifts in the depth curves in a few places. Survey H-4763 does not show the channel with depths over 10 fathoms at Lat. 56° 25.55' N., Long. 133° 48.60' W.

K. COMPARISON WITH THE CHART

The largest scale chart of this area is C&GS Chart 8201. The scale of this chart is too small to permit a detailed comparison. Important features found by the new survey are listed in section J of this report.

L. ADEQUACY OF SURVEY

The 1965 work on this sheet is considered complete and adequate to supersede prior surveys for charting.

M. AIDS TO NAVIGATION

There are no aids to navigation within the area of this survey.

N. STATISTICS

No. of Positions (Launch 1191)	1054
Nautical Miles of Sounding Lines	107.0
No. of Detached Positions (Skiff)	101
Total Area Surveyed (square naut. miles)	4.9
Number of Bottom Samples	16
Temperature and Salinity Observations	1

Q. REFERENCES TO REPORTS

Other reports and records related to this survey are:

Season's Report
Field Edit Report } - Submitted November 1965

Fathometer Correction Report - Submitted December 1965.

Graphic Control Sheet PA-A-65,
with Descriptive Report - Submitted to Pacific Marine Center, January 1966.

TIDE NOTE

to accompany

Hydrographic Survey PA-10-3-65

A Bristol pressure tide gage, located on the northeast side of Sumner Island, controlled the 1965 hydrography on this sheet.

Station:	Sumner Island Tide Gage.
Position:	Lat. 56° 24' 36" N. Long. 133° 47' 33" W.
Time Meridian:	120° W.
Value of MLLW on Staff:	3.5 ft. above staff Zero.

No corrections for time or height were applied to the observed tides.

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

LAUNCH 1191

RAYTHEON DE-723 FATHOMETER #556

These corrections to be used for "a" thru "f" days of launch hydro (September 12 - September 17, 1965) on hydrographic survey PA-10-3-65:

Correction (fms.)	To Depth (fms.)
+ 0.2	6.0
+ 0.3	15.8
+ 0.4	27.0
+ 0.5	39.5
+ 0.6	51.3
+ 0.7	63.0
+ 0.8	74.0
+ 0.9	85.0
+ 1.0	95.8
+ 1.1	Deepest Sounding

Refer to the 1965 Fathometer Correction Report for the derivation of these ~~soundings~~ Corrections.

LIST OF SIGNALS

on Sheet PA-10-3-65

Name Used in Hydrographic Survey	Station Number added during review	Origin of Station
Ago	401	T-10707
Arm	402	Vol. XVII pg. 15
Ask	403	T-10708
Axe	404	T-10708
Box	405	T-10708
But	406	T-10708
Cab	407	T-10708
Cal	408	PA-A-65 [2]
Cue	409	T-10707
Dal	410	DAL, 1929
Day	411	T-10708
Dub	412	T-10708
Ego	413	T-10708
Emo	414	T-10706
Fag	415	FAG, 1929
Fog	416	T-10707
Gal	417	PA-A-65 [1]
Her	418	T-10707
Hog	419	Vol. XVII pg. 15
Hug	420	T-10708
Ike	421	PA-A-65 [1]

LIST OF SIGNALS (Cont'd)

Name Used in Hydrographic Survey	Station Number added during reviews	Origin of Station
Is	316	IS, 1927
Joy	423	T-10707
Kid	424	T-10708
Lad	425	T-10708
Lip	426	T-10707
Liv	427	ALVIN, 1929
Net	428	PA-A-65 [1]
Orb	429	PA-A-65 [2]
Owl	430	T-10708
Par	431	PAR, 1929 [3]
Pat	432	PA-A-65 [2]
Pin	433	T-10708
Pit	434	T-10707
Ray	435	T-10707
Rip	436	T-10707
Rot	437	T-10707
Row	438	PA-A-65 [2]
Rum	439	T-10708
Rut	440	RUT, 1929
Sal	441	T-10707
Sam	442	T-10707
Sir	443	T-10708
Sky	444	T-10706
Sum	445	T-10708

LIST OF SIGNALS (Cont'd)

Name Used in Hydrographic Survey	Station Number added during review	Origin of Station
Tax	446	T-10708
That	304	THAT, 1927
Up	448	UP, R.M. NO. 2, 1929
Vat	449	Vol. ~~XXX~~ XVII pg. 15
Vin	450	VIN, 1929
War	451	T-10707
Wes	452	WES, 1929
Wet	453	T-10708
Who	454	T-10708
Zig	455	T-10708

1 Also plotted on manuscript T-10707

2 Also plotted on manuscript T-10708

3 No signal on this station; position required in order to plot rock at this point. See Vol. ~~XX~~ XIX, pg. 18, pos. 54b.

FORM C&GS-712
(3-9-64)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

November 10, 1966

[redacted] Pacific Marine Center

Plane of reference approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET PA 10-3-65 OPR 448

Locality: Keku Strait, Southeast Alaska

Chief of Party: J. K. Richards, 1965

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):
Sumner Island

Height of Mean High Water above Plane of Reference is as follows:

11.7 feet

Remarks

J. M. Symons
Chief, Tides and Currents Branch

USCOMM-DC 6660-P64

A. PROJECT

This survey was accomplished according to Project Instructions: OPR-448, KEKU STRAIT, SOUTHEAST ALASKA, dated 23 March 1970. The boat sheet was the continuation of work begun by the Ship PATTON in 1965.

B. AREA SURVEYED

The survey covered the area in south Keku Strait, Alaska between latitudes 56°25'48"N and 56°28'45"N and longitudes 133°52'40"W and 133°44'50"W. Work was accomplished between 26 August and 23 September 1970. The survey was the continuation of PA-10-3-65 (H-9101) and makes junctions with contemporary surveys:

PA-10-1-65	(H-8861)
HO-10-2-62	(H-8688)
DA-10-6-70	(H-9160)

The 1970 DAVIDSON work junctions with the PATTON's 1965 work at latitude 56°25.8'N. No work was done in the area surveyed by the PATTON.

C. SOUNDING VESSELS

The following vessels were used to survey this area:

Vessel	Position No. Color
Launch DA-2	Red
17' Whaler (WZ-3041)	Red Violet

Detached positions are shown with brown position numbers as are the bottom sample position numbers. Bottom samples are indicated by red-violet circles. A summary of each vessel's work by position number is attached.

D. SOUNDING EQUIPMENT

Raytheon DE-723 fathometers were used:

Launch DA-2	#1276
17' Whaler	#919

Echo sounder corrections were determined from bar checks taken at least once daily by the boats. All fathometers were initialed at 0.0. Other corrections were determined from phase comparisons taken in the area. Velocity corrections were determined by the results of a standard oceanographic station. Corrections have been listed in a separate report in the appendix. All soundings are in fathoms.

E. SMOOTH SHEET

The smooth sheet ~~will~~ was be constructed and plotted by the Processing Division of the Pacific Marine Center, Seattle, Washington.

F. CONTROL

Visual three-point fixes were used for control in this survey. There were three types of visual signals used: triangulation, signals established by T-2 cuts, and hydrographic signals established by sextant cuts. A list of signals and their origin is included in the appendix. Signals #314 and #342 were replotted after additional cuts were made to them. The hydrography in the area may shift slightly during smooth plotting as a result. Hydrography was found to be in good agreement.

G. SHORELINE

Shoreline and shoal areas were traced onto the boat sheet by officers of the Ship PATTON from the following incomplete manuscripts:

T-10706, T-10707, T-10708 (PH-5702)
T-12222 and T-12223 (PH-6206)

The shoreline on the boat sheet covered by manuscripts T-10706, T-10707 and T-10708 was field inspected during the 1965 season. The remainder of the shoreline will be inspected during the 1971 field season from the most recently compiled manuscripts of the area.

H. CROSSLINES

The percentage of crosslines to sounding lines is 7.14% (15.0NM). There is good agreement at the crossings. Several crosslines run into the area surveyed by the PATTON in 1965 were in good agreement with the sounding lines in the area.

I. JUNCTIONS

Junctions were made with contemporary surveys PA-10-1-65 and DA-10-6-70. H-8861 (1965) H-9160 (1970) There is good agreement at the junctions and no adjustments are necessary.

J. COMPARISON WITH PRIOR SURVEYS

The following presurvey review items were investigated:

(1) A sounding of 12 fathoms in Lat. 56°27.19'N, Long. 133°46.91'W was verified. The bottom in this area is very rough and a 12

fathom sounding was obtained within 20 meters of the spot.

(2) A sounding of 18 fathoms in Lat. 56°27.52'N, 133°46.58'W was verified.

(3) A sounding of 9¼ fathoms was verified in Lat. 56°26.52'N, Long. 133°49.86'W.

(4) A sounding of 8 fathoms in Lat. 56°27.48'N, Long. 133°49.85'W was verified.

(5) A sounding of 3¼ fathoms was verified in Lat. 56°27.86'N, Long. 133°50.47'W. As this item was transfered from a H-2150 1:40,000 sheet of 1892, the position may be questionable. Compatible soundings were found within 30 meters of the position. The sounding is considered verified. ~~Retained from prior survey~~

(6) A sounding of 3¼ fathoms was verified in Lat. 56°28.31'N, Long. 133°50.97'W. The ~~location~~ situation of this item is the same as noted in item No. 5 above.

(7) Presurvey review item No. 15 is a ~~reef~~ rock ~~awash~~ highest point of a reef uncovering 10-ft. at MLLW in Lat. 56°27.1[illegible]'N, Long. 133°49.28'W. The reef was used for the location of signal number 328. concur

(8) Presurvey review item No. 16 was disproved. The sunken rock symbols in Lat. 56°25.95'N, Long. 133°48.55'W have been removed from the boat sheet. Soundings in the area indicate depths of 57 to 64 fathoms and no surface indications of rocks or a foul area exist. Delete these rocks from the chart. concur

(9) A line indicating the existence of "breakers" extending from Lat. 56°28.1'N, Long. 133°50.8'W in a southeastern direction to Lat. 56°27.18'N, Long. 133°49.2'W, was disproved. Wind and tidal currents form tide rips in the area. Soundings in the area indicate that there is no shoal significant to cause breakers.

Comparison was made with the previous survey of the area, H-2150, 1:40,000, 1892. The small scale and the sparse soundings made comparison difficult, but soundings were comparable. Comparison with prior survey H-4763, 1:30,000, 1927 indicates good agreement between the old and the new surveys.

K. COMPARISON WITH THE CHART

The largest scale chart of the area is C&GS chart 8201. The scale of this chart is too small to permit detailed comparison. It is noted that the submerged rock symbol in Lat. 56°27.7'N, Long. 133°49.9'W is not justified. This item should be checked against soundings taken in the same area on the boat sheet.

L. ADEQUACY OF SURVEY

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

M. AIDS TO NAVIGATION

There are no aids to navigation within the area of this survey.

N. STATISTICS

VESSEL	NO. OF POSITIONS	NM SOUNDING LINES	BOTTOM SAMPLES
Launch DA-2	1,796	199.05	20
17' Whaler	565	26.15	0
Ship Davidson	0	0.0	17

The total area surveyed is 9.7 square nautical miles. There are 22 volumes with this survey. Volume XX contains the bottom samples and volume XXI contains detached positions. Volume XXII contains signal cuts used to position the T-2 established signals and hydrographic signals. There is one development overlay accompanying the boat sheet.

O. MISCELLANEOUS

Portions of the hydrography run by Launch DA-2 was logged and recorded while the launch was underway. A "Climatronics Logger", serial No. 6, was used with a Friden flexowriter. The flexowriter printouts constitute the original records for a days work and printouts and volumes have been numbered consecutively. Rough tapes from the logger are single indicator format. All tapes used for smooth plotting have been logged in the single indicator format mode. Data for that portion of the survey done in 1965 by the Ship PATTON has been logged and is included as volumes XVI, XVII, XVIII and XIX. Detached positions, minus soundings and zero soundings were all logged as 0000 in the sounding column of the data tapes. The verifier should therefore refer to the original sounding volumes/printouts for all 0000 soundings to determine what they represent.

The following items should be noted:

The soundings taken by the Ship PATTON were logged by the crew and officers of the DAVIDSON. All of the logging was done in the single indicator format mode. Signals used by the PATTON were assigned numbers in a 400 series. A list of signal numbers used for the PATTON work is attached.

It should also be noted that soundings in the PATTON sounding volumes have be n reduced for tide and corrections to echo sounders. As a result of this, the reduced soundings have been logged, and no further corrections should be necessary.

Signals common to work done by the PATTON and the DAVIDSON have been given one signal number and have not been duplicated.

Portions of the line of hydrography beginning with position 2778, Lat. 56°27.75'N, Long. 133°46.4'W, must be smooth plotted by hand. Because of limited control in the area, the hydro launch followed the shoreline and positions were determined by the hydrographer. The line as plotted on the boat sheet will control. During smooth plotting and verification, consult Vol. XV page 63.

P. RECOMENDATIONS

There are no recomendations for this boat sheet.

Q. REFERENCES TO REPORTS

Work done by the Ship PATTON in 1965 is summarized in a descriptive report dated 1965, James K. Richards - Chief of Party.

Correction to Echo Sounders OPR-448-1970
Field Edit Report OPR-448-1970
Landmarks Report OPR-448-1970

Respectfully submitted

Howard W. Herz

Howard W. Herz
LTJG NOAA

ATTACHMENTS:

Tide Note
Tidal Data
List of Signal Numbers/Origins for PATTON signals - added to list of Signals, 1965 work, during reviews.
List of Signals (Origins) for DAVIDSON signals
Abstract of Positions
Form #2
Overlay
Approval Sheet

TIDE NOTE

The tide guage used for this survey was located on Monte Carlo Island.

Location:	Monte Carlo Island
Plane of Reference:	MLLW (6.58 on tide staff)
Time Meridian:	105^{O} West
Type of Guage:	Portable Bubbler

LIST OF SIGNALS (1970)

NUMBER OF SIGNAL	ORIGIN OF SIGNAL
301	Vol. XXII Page 3
302	ALL, 1927
303	ARCY. 1970
304	THAT, 1927
305	Vol. XXII Page 3
306	Vol. XXII Page 3
307	Vol. XXII Page 3
308	Vol. XXII Page 3
309	SHAW, 1970
310	Vol. XXII Page 4
311	Vol. XXII Page 4
312	Vol. XXII Page 4
313	Vol. XXII Page 4
314	Vol. XXII Page 5
315	Vol. XXII Page 5
316	IS, 1927
317	Vol. XXII Page 5
318	Vol. XXII Page 5
319	Vol. XXII Page 6
320	WAS, 1929
321	Vol. XXII Page 6
322	Vol. XXII Page 6
323	Vol. XXII Page 6

LIST OF SIGNALS (1970)

NUMBER OF SIGNAL	ORIGIN OF SIGNAL
324	Vol. XXII Page 7
325	EX, 1927
326	Vol. XXII Page 7
327	CLEW, 1927
328	Vol. XXII Page 7
329	Vol. XXII Page 7
330	Vol. XXII Page 8
331	Vol. XXII Page 8
332	Vol. XXII Page 8
333	Vol. XXII Page 8
334	Vol. XXII Page 8
335	Vol. XXII Page 9
337	Vol. XXII Page 9
338	Vol. XXII Page 9
339	Vol. XXII Page 9
340	Vol. XXII Page 9, 10
341	Vol. XXII Page 10
342	Vol. XXII Page 10
343	Vol. XXII Page 10
344	Vol. XXII Page 11
345	Vol. XXII Page 11
346	Vol. XXII Page 11
347	Vol. XXII Page 12

ABSTRACT OF POSITIONS

DAY	LAUNCH DA-2	17' WHALER	BOTTOM SAMPLES/DP's
238		4001-4163 (I)	2
239	1001-1099 (II,III)		
243	1102-1215 (IV)		2
244	1219-1275 (V)		3
252		4164-4295 (I,VI)	
253		4296-4565 (VI,VII)	
254	1276-1465 (VIII)		
255	1466-1705 (IX)		
256	1706-1825 (X)		
257	1826-1990 (XI)		
258	1991-2140 (III)		3
259	2141-2224 (XII)		
260	2225-2361 (XIII)		7
264	2362-2487 (XIV)		
265	2488-2702 (XIV,XV)		
266	2703-2801 (XV)		17
281			12

APPROVAL SHEET

OPR-448

PA-10-3-65

Keku Strait

Southeast Alaska

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

Ray E. Moses

Ray E. Moses
CDR NOAA
Commanding Officer
NOAA Ship DAVIDSON

APPROVAL SHEET

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

Examined and approved,

James S. Green
Supervisory Cartographic Technician

Approved and forwarded,

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

NATIONAL OCEAN SURVEY 8/29/72

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center

Hourly heights are approved for hourly heights printout

Tide Station Used (NOAA Form 77-12): Monte Carlo Island

Period: August 20, 1970 to October 9, 1970

HYDROGRAPHIC SHEET ~~H9213~~ H9101, H9160 per telecon 9/12/72 RSW C331

PR 448

Locality: Keku Strait, S.E. Alaska

Plane of reference (mean lower low water)= 6.6
which is 6.6 feet on tide staff.

Height of Mean High Water above Plane of Reference is 11.4 ft.

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

8/20	1200 - 1500 hours
8/23	1500 - 1600 hours
9/3	0800 - 1300 hours
9/14	0800 - 1600 hours
9/22	1000 - 1700 hours

Chief, Tides Branch

010000 00 0087
020000 00 0085

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9101

GEOGRAPHIC NAMES

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	
Alvin Bay										1
Conclusion Island										2
Keku Strait										3
Kuiu Island										4
Sumnet Island										5
Sumner Strait										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
				PREPARED BY CARTOGRAPHER						20
				C. E. Harrington						21
				STAFF GEOGRAPHER (ACTING)						22
						Aug. 8, 1973.				23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

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

FORM C&GS-946
(REV. 11-65)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

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

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9101

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1	BOAT SHEETS	[illegible]
DESCRIPTIVE REPORT	1	OVERLAYS	4

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	X					
CAHIERS	1					
VOLUMES	13					
BOXES			1			

T-SHEET PRINTS *(List)*

~~[illegible]~~, ~~[illegible]~~7, ~~[illegible]~~8, ~~[illegible]~~, ~~[illegible]~~3

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	AMOUNTS: VERIFICATION	AMOUNTS: REVIEW	TOTALS
POSITIONS ON SHEET				2361
POSITIONS CHECKED		~~2361~~	63	
POSITIONS REVISED		148	9	
DEPTH SOUNDINGS REVISED or added		645	326	
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0	6	
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	0	
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		88	90	
JUNCTIONS		40	40	
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		196	50	
SPECIAL ADJUSTMENTS		0	66	
ALL OTHER WORK		266	125	
TOTALS		596	393	

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY		
VERIFICATION BY: LT A. VONDEROHE + J.E. LOTSHAW	Dec 27, 1972	July 27, 1973
REVIEW BY: Robert W. DerKazarian	Aug 23, 1974	Dec 10, 1974

[illegible] Insp. 53 hrs. 3/19/95 [illegible]

USCOMM-DC 36271-P65

Reg. No. H-9101

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:

Position Signal Fix

2780 456 - 2738
346
301 - 8340

2780A S 2610
8601

2781 S 2926
8532

2782 S 3102
8608

2783 456 - 3621
303
301 - 8152

2784 S 3647
8128

2784a S 4213
7925

4552 338 - 6920
301
316 - 10358

4553 S 6658
3940

2308 304 - 1536
328
316 - 3340

2311 304 - 1459
328
316 - 3326

The failure to annotate the printout or sounding volumes for graphic changes made at the time of review for updating purposes must depend on a comparison of the plot from the printout data and the registered sounding plot.

H-9101

Items for Future Presurvey Reviews

The bottom has basically remained unchanged since the prior surveys and is considered adequately developed on the present survey but future surveys should determine the least depths of the following features:

Depth	Latitude	Longitude
5 -fms.	56°27.06'	133°48.96'
5.5-fms.	56°27.67'	133°50.35'
6 -fms.	56°26.38'	133°49.62'
5.8-fms.	56°27.41	133°49.83'

Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
562	1335	2	1	50 years
562	1340	2	1	50 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9101 FIELD NO. PA-10-3-65

Alaska, Keku Strait, Alvin Bay to Conclusion Island

SURVEYED: September 12 thru September 17, 1965 and
August 26 thru October 8, 1970

SCALE: 1:10,000 PROJECT NO.: OPR-~~513~~ 448

SOUNDINGS: DE-723B Depth Recorder
DE-723 Depth Recorder

CONTROL: Sextant Fixes on
Shore Signals

Chief of Party	J. K. Richards
	R. E. Moses
Surveyed by	N. A. Horst
	H. W. Herz
	R. C. Arnold
	G. L. Miller
	F. T. Smith
	J. K. Richards
Automated Plot by	Gerber Digital Plotter (PMC)
Verified and Inked by	A. Vonderohe
	J. E. Lotshaw
Reviewed by	R. W. Derkazarian
	Date: Dec. 10, 1974
Inspected by	G. K. Myers

1. Description of the Area

This survey east of Kuiu Island covers the area from Conclusion Island to Sumner Island, including Alvin Bay. The bottom is generally rugged. Many off-lying rocky shoals and uncovering reefs exist in this area. The predominant bottom characteristics are mud and shells. Kelp is found in many areas of this survey. Rocky ledges extend intermittently with gravel strewn beaches along the foreshore.

2. Shoreline and Control

The origin of control is adequately discussed in paragraph F of the Descriptive Report for both field seasons of the survey.

The shoreline originates with final reviewed photogrammetric manuscripts T-10707, T-10708 of 1955-65, T-12222, T-12223 of 1961-71 and T-10706 of 1955-62. However, no field edit was done in Alvin Bay on T-10706.

Several islets from the boat sheet are shown in red on the present survey. The islets on T-10708 in lat. 56°25.49', long. 133°49.49' and lat. 56°25.67', long. 133°49.94' are shown as rocks awash uncovering 14 feet at MLLW, for proper symbolization.

Several foreshore characteristics shown as "Rky" on several of the above manuscripts are described by the more appropriate "Boulders" on the smooth sheet of the present survey.

3. Hydrography

A. Depths at crossings are in good agreement considering the nature of the bottom.

B. The usual depth curves are adequately delineated except in foul inshore areas or where ledge made passage dangerous. Several brown and dashed curves have been drawn by the reviewer to emphasize lesser depths in areas of deeper soundings.

C. The development of the bottom configuration and the investigation of least depths are considered adequate. However, additional development would have been desirable over the following features:

Depth	Latitude	Longitude
5 fms.	56°27.06'	133°48.96'
6 fms.	56°26.38'	133°49.62'
5.8 fms.	56°27.41'	133°49.83'

4. Condition of the Survey

The field work, sounding records, smooth plotting, sounding printout and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual - Automated Hydrographic Surveys except for the following:

A. Tide reducers were erroneously applied to detached positions during verification. Tide correctors for year 1970 were applied to 1965 observations.

B. Some curves were delineated unnaturally and distorted excessively. In some instances the wrong color was used or the curve was not broken for a sounding. Sections of curves often ended in a direction inconsistent with general depths.

C. Many soundings were excessed in error which detracted from the delineation of the bottom. These were manually plotted by the reviewer.

D. Position printouts and excess sounding overlays were not forwarded to the Washington Office.

E. Many sounding numbers were too dimly printed by the Gerber Plotter.

F. The ruling of projection lines was noticeably poor.

G. The plotting from notes regarding kelp was often omitted.

5. Junctions

Adequate junctions were effected with H-9214 (1971) on the north, H-9160 (1970) on the northeast, H-8861 (1965) on the southeast and H-8688 (1962-65) on the south.

6. Comparison with Prior Surveys

A. H-1749 (1886) 1:80,000
H-2150 (1892) 1:40,000

The sparse soundings on these smaller scale surveys provide only general information of this area. In general only unimportant differences are noted between prior and present depths. A few prior soundings appear erratic probably as a result of the methods of surveying. The present survey reveals the delineation of the bottom in much greater detail and is adequate to supersede the prior surveys in the common area.

B. H-4763 (1927) 1:20,000

This earlier survey covers only the inshore areas of Conclusion and Sumner Islands within the common area of the present survey. A comparison between prior and present depths reveals only minor differences with present soundings being less than 3 feet shoaler in some areas. These differences are attributed to methods of surveying.

Many soundings and rocks have been brought forward to supplement present hydrography. With these additions the present survey supersedes the prior survey in the common area.

7. Comparison with Chart 8201 (latest print date March 2, 1974)

A. Hydrography

The charted hydrography originates largely with the partial application of the boat sheets (Bp's. 68687, 80009) and the verified smooth sheet of the present survey. The remaining hydrography originates with the previously discussed surveys which require no further consideration.

The rock awash charted in lat.56°27.7', long. 133°49.7' from T-2116 (1893) falls in depths greater than 30-fms. This rock is discredited by present development and should be deleted from the chart.

The 2-fathom sounding on chart 8201 in lat. 56°28.1', long. 133°45.8' is charted from H-4763 (1927). Previously charted as 12, the sounding is displaced in position and should be disregarded.

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

B. Aids to Navigation

There are no aids to navigation within the limits of this survey.

8. Compliance with Project Instructions

This survey adequately complies with the project instructions.

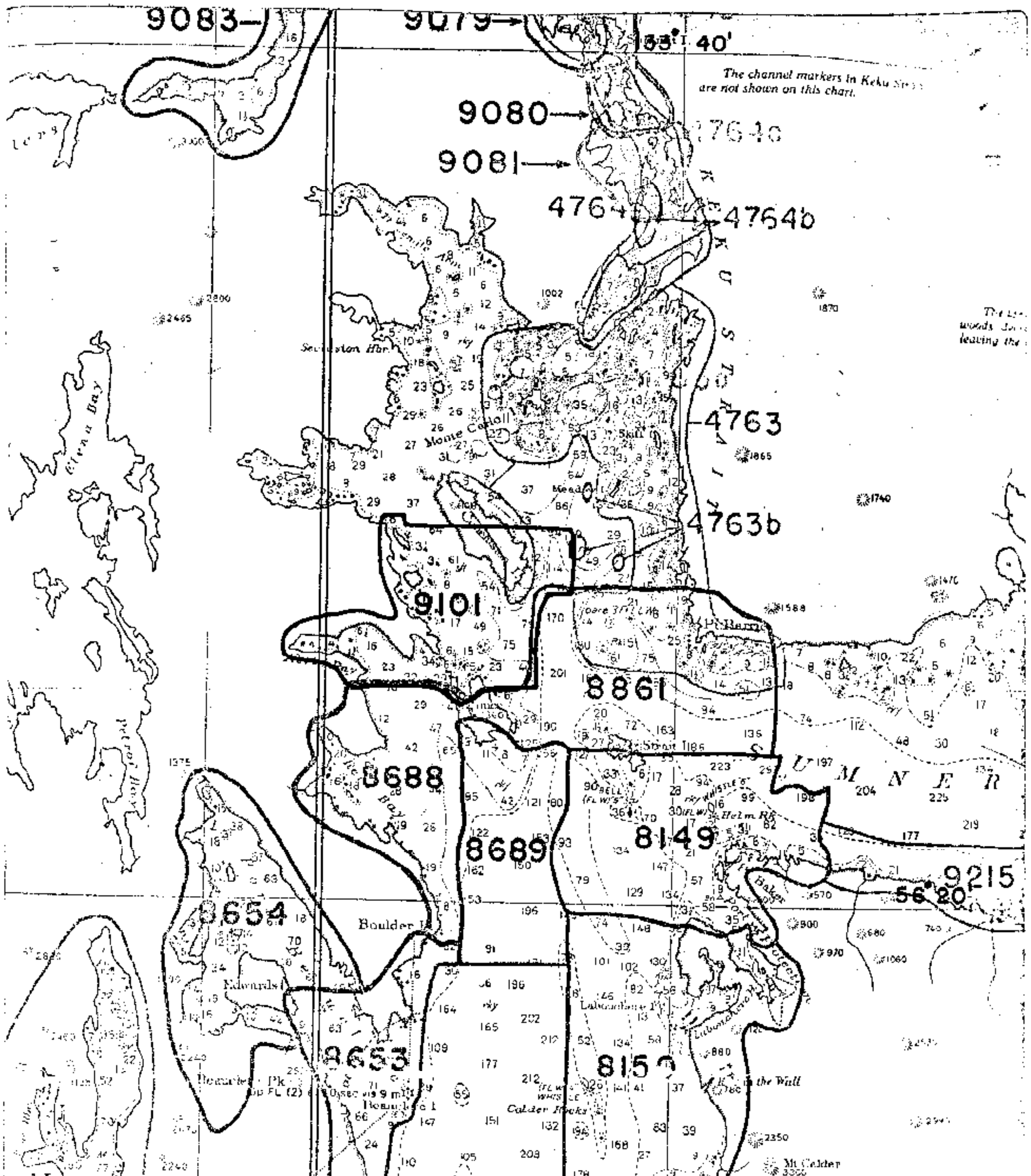
9. Additional Field Work

This survey is considered to be a very good basic survey and no additional field work is recommended.

Examined and Approved:

R K Hamilton
Chief
Marine Chart Division

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


9083
9079
133° 40'
The channel markers in Keku Strait are not shown on this chart.
9080
9081
4764
4764b
4763
4763b
9101
8861
8688
8689
8149
8654
8653
8150
8605
8151
9215
56° 20'
Chart 8201
Monte Carlo I
Boulder I
Edwards I
Beauclerc Pk
Calder Rocks
Barrier Is
Helm Rk
Mt Calder
the Wall

FORM C&GS-8352
(3-26-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9101

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 Before
8201	10/20/73	James [illegible]	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 24 Applied misc critical
			corrections only after verification
8201	12/10/75	Naiton	Full ~~Part~~ ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 25 Revised hydro. Considered fully appld.
			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.
			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.