

# 8151

Diag . Cht. Nos. 8201-3 & 8152-2.

<b>Form 504</b>	
U. S. DEPARTMENT OF COMMERCE	
COAST AND GEODETIC SURVEY	
<b>DESCRIPTIVE REPORT</b>	
Type of Survey	Hydrographic
Field No.	LJ-1354
Office No.	H-8151
<b>LOCALITY</b>	
State	S. E. Alaska
General locality	Sumner Strait
Locality	Shakan Bay
<b>1954-55</b>	
<b>CHIEF OF PARTY</b>	
George A. Nelson	
<b>LIBRARY &amp; ARCHIVES</b>	
DATE	May 6, 1959

USCOMM-DC 5087

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. H-8151

Field No. LJ-1354

State S. E. ALASKA

General locality Sumner Strait

Locality Shakan Bay

Scale 1:10,000 Date of survey Aug. 1954 - Aug. 1955

Instructions dated 6/3/53, 12/28/53, 12/23/54, 1/25/55

Vessel Ship LESTER JONES

Chief of party George A. Nelson

Surveyed by George A. Nelson, Charles W. Clark, P. A. Stark

Soundings taken by ~~fathometer~~ graphic recorder, hand lead, wire

Fathograms scaled by Ship personnel

Fathograms checked by Ship personnel

Protracted by C. A. J. Pauw

Soundings penciled by C. A. J. Pauw

Soundings in fathoms ~~feet~~ at ~~MLLW~~ MLLW and are based on a velocity of sound of 800+ms/sec.

REMARKS: Project 1347

MR

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8151 (FIELD) NO. LJ-1354

SUMNER STRAIT AND SHAKAN BAY, S. E. ALASKA

SCALE 1:10,000

AUGUST 1954 TO AUGUST 1955

SHIP LESTER JONES, CURTIS LE FEVER, COMDG. 1954  
GEORGE A. NELSON, COMDG. 1955

SURVEYED BY C. A. SCHOENE, CDR., USC&GS, 1954  
G. A. NELSON, CDR., USC&GS, 1955  
C. W. CLARK, CDR., USC&GS 1955

A. PROJECT:-

This survey is a part of Project 1347 and was executed under Instructions for Project CS-347 as follows:

Supplemental Instructions dated 3 June 1953  
Supplemental Instructions dated 28 December 1953  
Supplemental Instructions dated 23 December 1954  
Supplemental Instructions dated 25 January 1955

B. SURVEY LIMITS AND DATES:-

General locality: East side of Sumner Strait, S. E. Alaska, west coast of Prince of Wales and Kosciusko Islands, including outer portion of Shakan Bay.

The survey covers the outer portion of Shakan Bay west of Long. 133° 35' and extends west into Sumner Strait to Long. 133° 44' and includes the inshore areas of the west coast of Prince of Wales and Kosciusko Islands from Lat. 56° 07' to Lat. 56° 13'.

The 1954 portion of the survey completed the area between Lat. 56° 11.8' and 56° 13' and between Long. 133° 37.5' and 133° 41'. Field work began on 19 August 1954 and ended on 7 October 1954. The remainder of the survey was completed in 1955. Field work began on 28 April 1955 and ended on 22 August 1955.

There are no junctions with prior surveys. ✓ *see 1155 Review*

Junctions with contemporary surveys: H-8150 (LJ-1254), Scale 1:10,000 - at the northerly limit of the sheet. H-8243 (LJ-1155), Scale 1:10,000 - at the east limit of the sheet. H-8244 (LJ-1255), Scale 1:10,000 - at the south limit of sheet west of Long. 133° 42'. H-8245 (LJ-1355), Scale 1:10,000 - at the south limit of sheet east of Long. 133° 42'. There is no adjoining survey to the west.

Field work progressed normally during each season except for periods when work was discontinued to work on other sheets and minor delays caused by weather. Between 6 May and 21 June 1955 hydrography on this survey was discontinued to complete H-8243 (LJ-1155). (1955)

Between 7 July and 25 July 1955 current surveys were in progress and no work on this sheet was accomplished.

C. VESSELS AND EQUIPMENT:-

The 1954 portion of this survey, as defined above was accomplished with Launch 92 operating from the Ship LESTER JONES.

The 1955 portion of the survey was accomplished with the Ship LESTER JONES and with Launch 98 operating from the Ship LESTER JONES. There is no definite line of demarcation between the areas surveyed by the two units in 1955 but it is approximately as follows:

From Lat.  $56^{\circ} 13'$ , Long.  $133^{\circ} 42'$  south to Lat.  $56^{\circ} 11.5'$ , east to Long.  $133^{\circ} 40'$ , south to south edge of sheet.

808 Fathometers Nos. 75, 102-S and S-107 were used for all hydrography in 1954 except for detached lead-line soundings on rocks and shoals.

808 fathometer No. 102-S was used for all hydrography by Launch 98 in 1955 except for detached lead-line soundings on rocks and shoals.

808 fathometer No. 75 was used by all hydrography by Ship LESTER JONES in 1955 except for detached wire soundings on shoals and while obtaining bottom samples. Electric sounding machine No. 144 and sheave No. 390 were used for wire soundings. A fifth or E scale on fathometer No. 75 permitted soundings to a depth of 195 fathoms.

D. TIDE AND CURRENT STATIONS:-

Portable automatic tide gages were operated at Hole-in-Wall, Lat.  $56^{\circ} 15.6'$ , Long.  $133^{\circ} 38.4'$  in 1954 and at Outer Shakan Bay, Lat.  $56^{\circ} 08.4'$ , Long.  $133^{\circ} 36.6'$  in 1955. *off sheet*

Hole-in-Wall tides were used for reduction of soundings in the area completed in 1954 defined in Paragraph B above.

Outer Shakan Bay tides were used for reduction of soundings in the entire area completed in 1955 and extended into the 1954 area slightly.

No time or range corrections were made on observed tides for either gage in their respective areas.

On 25 July 1955, 19 August and 22 August 1955 to 1115 Outer Shakan Bay gage was not in operation. On these days Sitka tides were used for reduction of soundings using a time difference of -15 minutes and a range ratio of 1.2. After 1115 hrs. 22 August 1955, Shipley Bay tides were used without time or range corrections.

One current station was occupied 1/2 mile north of Station Island.

E. SMOOTH SHEET:-

Not plotted by field party. (By Seattle Proc Office)

F. CONTROL STATIONS:-

The source of control is triangulation executed by J.M.H. in 1886, T.J.M. in 1922, G.C.J. in 1937 and Curtis Le Fever in 1954.

Topographic stations used in 1954 are photo-hydro stations located on T-9623 and T-9624.

Topographic stations in the northerly part of the sheet used in 1955 are mostly photo-hydro stations located in 1954 on T-9623 and T-9624.

Topographic stations south of Shakan Bay are mostly photo-hydro stations located on T-9624, T-9626 and T-9627 (1955).

Geographic positions were computed from fourth-order theodolite observations for topographic stations BOB, BUM, COD, ERV (See T-9623) FOX, HIP, (See T-9624) NOY (See H-8245), ORA, PET, PIG, PRU, and ROS (See T-9624). Numerous fourth-order theodolite directions were observed on other stations for which no positions were computed. (See Lists of Fourth-order Directions).

Topographic stations WOL and SAW were located by traverse from stations WOLF, 1954 and WAS, 1954, respectively.

Topographic stations COO, COT, DIP (fix and traverse), HAD, NIG, and TUF were located by a sextant fix at the station and/or sextant cuts from other shore stations.

No positions of stations are known to be of sub-standard accuracy.

G. SHORELINE AND TOPOGRAPHY:-

DESC. REPORT H-8151

Shoreline and topographic details are from manuscripts T-9623, T-9624, T-9626 and T-9627 compiled by photogrammetric methods based on 1954 and 1955 field inspection data. Location of some offshore rocks was duplicated by the hydrographer and others are located which are not on the manuscripts. Kelp areas defined by the hydrography should be given preference over those indicated on the manuscripts.

Steep foreshore and heavy kelp prevented sounding in to the low-water line.

All stations outside the high-water line are on rocks or islets.

H. SOUNDINGS:-

All soundings on sounding lines were measured in fathoms with 808 fathometers. Soundings on some rocks and shoals were measured with a hand-lead. Wire soundings were measured with sounding machine while obtaining bottom samples with the ship.

All sounding was routine. No unusual methods were used and no unusual corrections were applied.

In 1954 2 fm. bar checks were taken daily. In 1955 bar checks were taken by the launch when weather conditions permitted to a depth of 10 fathoms. No bar checks were taken by the ship. Bar checks to 10 fathoms were in agreement with the 2 fm. bar checks. In 1954 and 1955 launch hydrography the 2 fm. bar check only was used for correction of soundings and is entered in the sounding record as part of a combined phase-draft correction. A similar correction was obtained for the ship using the depth of the transducer units below the surface. This correction is also entered in the sounding records as part of a combined phase-draft correction.

On the launches the fathometer initial was set at zero and on the ship at 1.0 fm. Any variation from these settings was entered in the sounding records as an index correction.

Fathometer phase corrections were determined by comparisons on adjacent scales on readings made in air. The comparisons made in air were done in Seattle before the beginning of the field season and phasing heads were not changed throughout the season. Phase corrections are entered in sounding records as part of a combined phase-draft correction.

In 1954 0.1 fm. corrections were used in depths from 0 to 11 fms. and 0.2 fm. corrections in greater depths. In 1955 0.1 fm. corrections were used in all depths.

I. CONTROL OF HYDROGRAPHY:-

All launch and ship hydrography was controlled by visual sextant fixes on shore stations. No unusual methods were used.

J. ADEQUACY OF SURVEY:-

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

All parts of the survey are equally reliable and comply with the Project Instructions and Hydrographic Manual.

Soundings of adjoining sheets transferred to the boat sheet indicate that junctions are satisfactory and depth curves can be adequately drawn.

There are no holidays.

K. CROSSLINES:-

Crosslines comprise about 4% of the regular system of sounding lines, including splits.

Soundings on the boat sheet indicate excellent agreement at crossing with maximum differences generally not exceeding 2 fms.

L. COMPARISON WITH PRIOR SURVEYS:- *see P 5 of Review*  
Prior surveys of the area; H-1749 (1886) - Scale 1:80,000; H-1754

(1886) - Scale 1:80,000 and a small amount of H-1757 (1886) - Scale 1:20,000; are very sketchy and without positive horizontal control. Both horizontal and sounding datums are doubtful. No detailed comparison was made. See Paragraph M.

It is recommended that this survey supersede all soundings on all prior surveys in the common area.

M. COMPARISON WITH CHART:-

Comparison was made with chart 8172, print date 6/16/52. Most of the soundings and features on chart 8172 in the area of this survey are from H-1754 (1886). Because of datum differences soundings were transferred from chart 8172 to the boat sheet and comparison was made with the chart. Inasmuch as the chart is based on reconnaissance and incomplete surveys a detailed comparison was not made.

See  
TP 6 of  
REVIEW

Shoreline and topographic details are changed considerably from charted topography. Charted topography in the area of this survey is entirely superseded by T-9623, T-9624, T-9626 and T-9627 (1954-1955).

Many of the shoaler soundings were essentially verified as charted but are changed in detail and some shifted slightly in position.

At Lat. ~~56° 12.6'~~<sup>28.8</sup>, Long. ~~133° 41.8'~~<sup>OK</sup> the shoalest sounding obtained on this survey was ~~3~~ fm. as compared with ~~28~~ fms. on chart 8172. Soundings on fathograms indicate possible shoaler depths but these could not be verified with a hand lead. There are strong currents in the area and kelp is towed under by the current. While underway at standard speed soundings do not go through the kelp. While drifting, soundings sometimes go through the kelp and both kelp and bottom are visible on the fathogram. At other times kelp is so close to the bottom that bottom soundings are obscured by the kelp. Considerable time was spent sounding around the shoal area with a hand lead and the shoalest depth obtained was ~~3~~ fms.

~~28~~ fms pos. 13 la day  
Shoals and foul areas around the Barrier Islands and southeast thereof are essentially verified but surveyed with considerably more detail. A rock awash at Lat. 56° 11.8', Long. 133° 40.4' on chart 8172 is in depths of 6 - 8 fms. on this survey. ✓

deleted  
\*  
See P 5A B  
REVIEW

There is no indication of charted ~~2 1/2~~ and 3 fm. soundings at Lat. 56° 11.1', Long 133° 38.7'. Depths on this survey are 10 to 15 fms. Other charted shoal soundings in this vicinity and to the southward are in close agreement with this survey. ✓

See P 5A 304  
REVIEW

Charted sunken rocks at Lat. 56° 10.7', Long. 133° 36.6' are in depths of ~~11~~<sup>12-13</sup> to ~~13~~<sup>18</sup> fms. on this survey.

Disregard.  
Foul area  
symbolized  
displaced.  
See S/S.

There are sunken rocks and rocks awash northwestward from Shakan Island but the outer charted rocks are in depths exceeding 19 fms. on this survey.

Disregard.  
See P 6A 3  
OF REVIEW  
and S/S.

The charted shoal at Lat.  $56^{\circ} 08.8'$ , Long.  $133^{\circ} 39.5'$  is essentially verified but changed considerably in detail.

It is recommended that all charted soundings and features be superseded by this survey in the common area.

See 1526  
Review

N. DANGERS AND SHOALS:-

<u>Depth - fms.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Position No.</u>
(2) 2 1/2	56 - 12.6	133 - 41.8	83ga 13 la
* 2 to 2 1/2 (large shoal area)	56 - 12.0	133 - 40.8	154 to 161j
* Rock awash	56 - 11.6	133 - 37.7	35-37t
* Rock awash	56 - 11.5	133 - 37.4	5a (skiff vol.)
* Rocks awash	56 - 12.0	133 - 37.2	38-44t
* Rock awash	56 - 12.1	133 - 37.0	21-23l
✓ 2 1/2	56 - 11.9	133 - 36.8	9ly
* Rock awash	56 - 11.9	133 - 36.4	45-47t, T-9623
✓ 2 1/2	56 - 11.75	133 - 36.7	92 & 93y
✓ 1 1/2	56 - 10.8	133 - 35.2	113t
✓ 1 1/2 0 1/2	56 - 10.7	133 - 35.1	115t
* Rocks awash	56 - 10.9	133 - 36.9	8 & 9a (skiff vol.)
* Rock awash	56 - 10.85	133 - 36.5	49-51w
2 1/2	56 - 11.1	133 - 38.0	38da
3 1/2 3 1/2	56 - 11.0	133 - 38.1	39 & 40 da
✓ 1 1/2 (large shoal area)	56 - 10.7	133 - 37.5	55-57w
✓ Rocks awash	56 - 10.5	133 - 37.0	7-9s
✓ 3 2 1/2	56 - 10.4	133 - 36.8	6 & 7a (skiff vol.)
✓ 5 1/2	56 - 10.2	133 - 37.1	67 & 68 32-33w
✓ 5 1/2	56 - 10.3	133 - 37.4	9 to 10w 66-67ba
✓ 4 1/2	56 - 10.6	133 - 38.3	28-29y
✓ 6 5/2	56 - 10.8	133 - 38.7	89ha
✓ 7 1/2	56 - 10.6	133 - 39.2	60ha 5 <sup>5</sup> on H-3791 WD (1915/6)
✓ 8 1/2	56 - 10.5	133 - 40.1	30a, 103-104la
6 1/2	56 - 10.2	133 - 39.9	52-53K
✓ 7 1/2	56 - 09.7	133 - 38.6	52-53ma
✓ Rocks awash sunken	56 - 09.1	133 - 38.1	11ha
* Rock awash	56 - 09.05	133 - 37.7	1-3e (skiff vol.)*
✓ 1 1/2	56 - 08.9	133 - 38.2	4-6s
* Rock awash (6e)	56 - 08.9	133 - 38.5	1ga
* Rock awash	56 - 08.6	133 - 36.8	6e (skiff vol.) 4 & 5e
✓ 1 1/2	56 - 08.505	133 - 35.35	1-3t
* Rock awash	56 - 08.0	133 - 35.35	33u
✓ 5 1/2	56 - 08.3	133 - 39.1	2-3q, T-9624
* 3	56 - 08.2	133 - 39.7	41pa
✓ 3 1/2 3 1/2	56 - 08.15	133 - 39.4	62ma
✓ 2 1/2	56 - 08.0	133 - 39.1	61ma
✓ 3 1/2 3 1/2	56 - 07.8	133 - 38.9	97 & 98x
* 1	56 - 07.8	133 - 38.0	19pa
* 1.5	56 - 07.4	133 - 39.0	54x
			14 & 15na

✓ \* These rocks submerged at time of observation at a minus 3.5 ft. tide.



The area around the Barrier Islands is generally foul and dangers are not listed individually.

There are large foul areas extending from Lat.  $56^{\circ} 10.6'$ , Long.  $133^{\circ} 35.7'$  northwestward to Lat.  $56^{\circ} 11.5'$ , Long.  $133^{\circ} 37.5'$  and from Lat.  $56^{\circ} 10.5'$ , Long.  $133^{\circ} 37.0'$  northwesterly for  $1/2$  mile.

All charted dangers are superseded by this survey and no comparison is made.

see  
P5  
Review

All shoals are marked by heavy kelp. ✓

O. COAST PILOT INFORMATION:-

See "COAST PILOT NOTES - SHIP LESTER JONES - PROJECT 1347 - SEASON 1955".

There are no recommended anchorages within the area of this survey.

During the course of the survey the only ship anchorage was at Lat.  $56^{\circ} 08.2'$ , Long.  $133^{\circ} 35.6'$  which is considered a suitable emergency anchorage in southerly weather. The launch was anchored over one week-end in the small inlet at Lat.  $56^{\circ} 08.2'$ , Long.  $133^{\circ} 37.2'$ . This is a well protected small craft anchorage but it is shoal and the entrance is restricted at minus tides. The launch also anchored several times in the bight at Lat.  $56^{\circ} 07.8'$ , Long.  $133^{\circ} 37.8'$ . This is a good small craft anchorage in southerly weather in depths of 1 to 3 fathoms and sand bottom.

P. AIDS TO NAVIGATION:-

One floating and one non-floating aid to navigation exist within the area of this survey.

Lat  $56^{\circ} 08.98'$ , Long  $133^{\circ} 37.45'$   
Station Island Light was located by triangulation in 1954 and 1955 and was reported on Form 567.

Barrier Islands Lighted Bell Buoy 2 was located by 3 - point sextant fix at the buoy, Pos. 79ga, depth 15 fms., at Lat.  $56^{\circ} 12.63'$ , Long.  $133^{\circ} 41.93'$ , date of location 2 August 1955.

There are no bridges, overhead or submerged cables or ferry routes within the area of this survey. ✓

Q. LANDMARKS FOR CHARTS:-

There are no landmarks for charts in the area of this survey except natural topographic features.

R. GEOGRAPHIC NAMES:-

No new geographic names are recommended. ✓

Z. TABULATION OF APPLICABLE DATA:-

Forwarded to the Seattle Processing Office with this report:

Boat Sheet LJ-1354

26 Sounding Volumes, Vol. 1 - 26 inclusive

49 Fathograms - a day to pa day inclusive, A day to L day incl. ✓

\* Fourth-order geographic positions for topographic stations

BOB, BUM, COD, FOX, ORA, PET, PIG and PRU

\* *Filed with phase comparisons*

Hourly heights, tide curves and list of tide reducers for Outer  
Shakan Bay tide station. ✓

Additional applicable data:

1886 triangulation data by J.M.H. ✓

1922 triangulation data by T.J.M.

1937 triangulation data by G.C.J.

1954 triangulation data Curtis LeFever

Outer Shakan Bay tide marigrams and tide level records forwarded  
to Washington Office 22 September 1955. ✓

1955 magnetic data forwarded to Washington Office 28 September 1955. ✓

Shoreline manuscripts T-9623, T-9624, T-9626, and T-9627 compiled  
from 1954 and 1955 field inspection data. ✓

Copies of lists of fourth-order theodolite directions on topographic  
stations - 1954 and 1955 forwarded to Seattle Processing Office with H-8243.

"COAST PILOT NOTES - SHIP LESTER JONES - PROJECT 1347 - SEASON 1955"  
forwarded to Washington Office 15 November 1955. ✓

Form 567, non-floating aids for charts forwarded to Washington Office ✓  
1 October 1955.

Respectfully submitted

*Charles W. Clark*  
CHARLES W. CLARK  
COMMANDER, C&GS

# PHASE-DRAFT CORRECTIONS

Fathometer No. 102-S (Launch)

	A Scale	A-B	B Scale	B-C	C Scale	C-D	D Scale	D-E	E Scale
3/29/55, Vol. 7, LJ-1354		-2.01		-2.00		-0.00		+3.00	
9/7/55, Vol. 10, LJ-1355		-2.01							
		-2.01 (mean)		-2.00		-0.00		+3.00	
Phase Correction			-2.01		-4.01		-4.01		-1.01
Draft Correction*	+0.2		+0.2		+0.2		+0.2		+0.2
Total Correction	+0.2		-1.8		-3.8		-3.8		-0.8

\*Draft Correction From Bar Checks on A Scale

Fathometer No. 75 (Ship)

	A Scale	A-B	B Scale	B-C	C Scale	C-D	D Scale	D-E	E Scale
3/29/55, Vol. 7, LJ-1354		+0.02		+0.18		+0.86		+4.25	
9/10/55, Vol. 11, LJ-1355		+0.09		+0.26					
9/19/55, Vol. 7, LJ-1255		-0.06 (mean)		+0.22		+0.26		+4.04	
			+0.06		+0.28		+0.84		+4.98
Phase Correction			+0.33		+0.33		+0.33		+0.33
Draft Correction*	+0.3		+0.4		+0.6		+1.2		+5.3

\*From Descriptive Reports, 1954 (H-8150)

Draft Corrections  
Draft Initial Diff.  
 1.33 fms 1.0 +0.33

STATISTICS FOR  
HYDROGRAPHIC SURVEY H-8151 (1954-1955)

SHIP LESTER JONES

PROJECT 1347

Date	Vols.	Day Letter	No. H.L. or Wire Sdgs.	No. of Positions	Stat. Miles Sdg. Lines
			<u>Skiff</u>		
9/15/54	1	a	8	34	--
9/16/54	1	b	--	9	--
10/1/54	1	c	4	35	--
10/6/54	1	d	7	31	--
6/21/55	1	e	3	6	--
		Total skiff	22	115	--
			<u>Launch 92</u>		
9/22/54	2	a	--	113	11.3
9/23/54	2	b	--	72	6.9
9/28/54	2 & 3	c	--	100	8.5
9/29/54	3	d	--	129	8.2
9/30/54	3 & 4	e	3	229	20.2
10/1/54	4	f	1	205	16.1
10/4/54	4 & 5	g	--	178	19.0
10/5/54	5 & 6	h	--	188	13.1
10/6/54	6	j	19	180	12.7
10/7/54	6 & 7	k	30	167	11.7
		Total Launch 92	53	1561	127.7
			<u>Launch 98</u>		
4/28/55	7	l	--	115	24.7
4/29/55	7 & 8	m	--	145	32.5
5/3/55	8 & 9	n	--	133	26.0
5/4/55	9	p	--	141	27.2
5/5/55	9 & 10	q	--	61	12.1
5/6/55	10	r	--	41	6.2
5/24/55	10	s	--	12	--
6/21/55	10 & 11	t	5	137	14.7
6/22/55	11	u	2	128	14.3
6/23/55	11 & 12	v	4	128	14.3
6/24/55	12	w	7	127	17.1
6/25/55	12	x	6	103	10.2
6/27/55	12 & 13	y	4	140	17.6
6/28/55	13	z	--	93	13.2
7/25/55	13	aa	--	116	13.1
7/26/55	13 & 14	ba	2	173	22.7
7/27/55	14 & 15	ca	--	162	22.7
7/28/55	15	da	3	129	20.2

Date	Vols.	Day Letter	No. H.L. or Wire Sdgs.	No of Positions	Stat. Miles Sdg. Lines
7/29/55	15	ea	- -	95	14.4
8/1/55	16	fa	- -	162	24.9
8/2/55	16 & 17	ga	1	175	25.3
8/3/55	17	ha	2	167	21.4
8/4/55	17 & 18	ja	- -	111	15.2
8/5/55	18	ka	- -	158	22.0
8/8/55	18 & 19	la	2	122	13.8
8/10/55	19	ma	3	63	6.9
8/12/55	19	na	5	85	10.2
8/22/55	19	pa	4	57	6.1

Total Launch 98 50 3279 469.0

SHIP LESTER JONES

7/7/55	20	A	- -	206	51.5
7/26/55	21	B	- -	87	25.3
7/27/55	21	C	- -	116	35.4
8/1/55	21 & 22	D	9	144	43.2
8/2/55	22 & 23	E	7	228	55.8
8/3/55	23	F	17	175	31.6
8/4/55	23 & 24	G	4	150	29.1
8/5/55	24	H	30	84	15.0
8/15/55	24 & 25	J	- -	201	32.1
8/17/55	25	K	- -	178	26.2
8/19/55	26	L	- -	62	8.6

Total Ship 67 1631 353.8

TOTAL FOR SHEET 192 6586 950.5  
Area 34.2 sq. stat. miles

TIDE NOTE  
TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-8151 (FIELD NO. LJ-1354)

Tide reducers on this survey were obtained from tide data from two portable automatic tide gages maintained by the Ship LESTER JONES at the following locations:

1954 - Hole-in-Wall - Lat.  $56^{\circ} 15.6'$ , Long.  $133^{\circ} 38.4'$  *not on sheet*  
1955 - Outer Shakan Bay - Lat.  $56^{\circ} 08.4'$ , Long.  $133^{\circ} 36.6'$

Hole-in-Wall tides were used for reduction of soundings on all hydrography completed in 1954, north of Lat.  $56^{\circ} 11.8'$  and between Long.  $133^{\circ} 37.5'$  and  $133^{\circ} 41'$ .

Outer Shakan Bay tides were used for reduction of soundings for hydrography completed in 1955.

No time or range corrections were made on observed tides for either gage in their respective areas.

On 25 July, 19 August and 22 August 1955 to 1115 Outer Shakan Bay gage was not in operation. On these days Sitka tides were used for reduction of soundings using a time difference of -15 minutes and a range ratio of 1.2. On 22 August 1955 after 1115 Shipley Bay tides were used without time or range correction.

Plane of MLLW on tide staffs:

Hole-in-Wall - 1954 equals 10.1 feet  
Outer Shakan Bay equals 7.6 feet

Hourly heights for Sitka on the days required were furnished by the Washington Office.

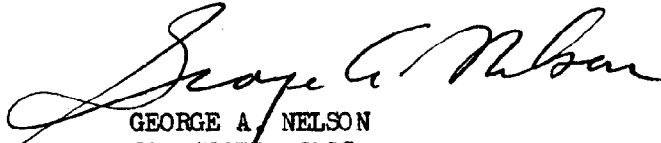
APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8151 (FIELD NO. LJ-1354)

Field work was accomplished by or under the supervision of the Chief of Party. All ship hydrography was done by the Chief of Party. Launch hydrography was examined daily.

The survey is complete and adequate and all records, exclusive of the smooth sheet are approved.

No further field work is recommended.



GEORGE A. NELSON  
COMMANDER, C&GS  
Chief of Party

## PROCESSING OFFICE NOTES H-8151

### SMOOTH SHEET

The smooth sheet was hand constructed by the Seattle Hydrographic Processing Unit using standard methods of construction and checking. Shoreline and topography were transferred from blue line tracings of the photo - manuscripts covering the area.

### CONTROL STATIONS

All topographic stations shown in red circles were transferred from the photo - manuscripts covering the area. Signals COO, COT, HAD, NIG, RUT and TUF were located by sextant angles measured from other stations or at the point located. Signals DIP and WOL were located by one sextant angle and a taped distance. GIF and NON are hydro locations.

### SHORELINE AND TOPOGRAPHY

The shoreline and topography were transferred from Advanced Manuscripts T-9623, T-9624, T-9626 and T-9627.

### ADEQUACY OF SURVEY

This survey is considered complete and adequate for charting.

The junctions with adjoining surveys H-8150, H-8243, H-8244 and H-8245 have been compared and, except for a small area in the northwest corner of this survey at the junction with H-8150, are satisfactory. The above mentioned discrepancy is in soundings on the "E" scale, on both sheets, and appears to be in the phase correction. The soundings on this are 2 to 3 fathoms deeper than on H-8150 in depths of 155 to 165 fathoms.

The usual charted depth curves can be adequately drawn at the junctions.

### CROSSLINES

Except for the above mentioned discrepancy, the crossings are in agreement.

### COMPARISON WITH CHART

Comparison has been made with Chart 8172 3rd Ed. Revised 9/1/58. See section of chart attached to this report for comparison between the chart and the smooth sheet.

See P 4  
Review

adjustment  
made on  
H-8150

See P 5 & 6  
Review

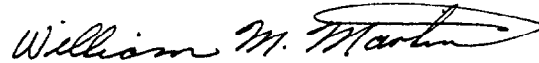


(2)

DANGERS AND SHOALS

Items under this heading have been checked or corrected ✓  
to smooth sheet values in the hydrographers report.

Respectfully submitted



WILLIAM M. MARTIN  
Supervisory Cartographer

Approved and forwarded



G. C. MAST  
CAPTAIN C&GS  
SEATTLE DISTRICT OFFICER

GEOGRAPHIC NAMES PENCILED ON H-8151

BARRIER ISLANDS

BLUFF ISLAND

KOSCIUSKO ISLAND

PRINCE OF WALES ISLAND

SKAKAN BAY

SHAKAN I.

STATION I.

SUMNER STRAIT

27 C

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

3 June 1959

Plane of reference approved in  
26 volumes of sounding records for

HYDROGRAPHIC SHEET 8151

Locality Sumner Strait, Alaska

Chief of Party: G. A. Nelson in 1954-55

Plane of reference is mean lower low water, reading

10.1 ft. on tide staff at Hole in the Wall

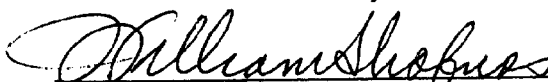
15.5 ft. below B.M. 2 (1954)

4.1 ft. on tide staff at Shakan Bay Entrance  
17.6 ft. below B.M. 1 (1955)

Height of mean high water above plane of reference is:

Hole in the Wall	11.2 feet
Shakan Bay Ent.	10.9 feet

Condition of records satisfactory except as noted below:

  
Signature

Chief, Tides Branch

Comm-DC 34330

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8151

FIELD NO. LJ-1354

S. E. Alaska, Sumner Strait, Shakan Bay

SURVEYED: Aug. 1954 - Aug. 1955

SCALE: 1:10,000

PROJECT NO. 1347

SOUNDINGS: Leadline  
808 Depth Recorders  
Wire Soundings

CONTROL: Sextant fixes  
on shore signals

Chief of Party ----- G. A. Nelson; Curtis LeFever  
Surveyed by ----- G. A. Nelson; C. W. Clark; C. A. Schoene  
Protracted by ----- C. A. J. Pauw  
Soundings plotted by ----- C. A. J. Pauw  
Verified and inked by ----- J. H. Eaton  
Reviewed by ----- I. M. Zeskind  
Inspected by ----- R. H. Carstens

DATE 2-14-61

1. Shoreline and Control

The shoreline originates with photogrammetric surveys T-9623, T-9624, T-9626 and T-9627 of 1953-54-55. These surveys have not been reviewed.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depth at crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated, except close inshore where the foul character of the bottom sometimes prevented development to the low-water line.

The bottom is very irregular. Submarine features such as ledges, reefs, shoals, pinnacles, ridges, and deeps contribute to the bottom irregularity.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-8244 (1955) and H-8245 (1955) on the south, and with H-8150 (1955) on the north. The junction with H-8243 (1955) on the east will be considered in the review of that survey. Project surveys on the west have not as yet been received in the Washington Office.

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 early small-scale reconnaissance surveys cover the area of the present survey. A comparison of the bottom configuration on the prior surveys with that on the present survey is of little cartographic value. Attention is specifically directed to the following prior soundings which are in disagreement with present depths and which have been charted:

1. The 30-ft. sounding charted in Lat.  $56^{\circ}12.96'$ , Long.  $133^{\circ}42.80'$ , from H-1754 (1886) falls in present depths of 158 fms. The 30-ft. sounding falls at the end of a dead reckoning line of soundings which was run during a heavy rainstorm. The sounding is considered plotted out of position on the prior survey and should actually fall about  $\frac{1}{2}$  mile southeastward where comparable depths are found on the present survey. The 30-fm. sounding should be deleted from the chart.
2. The 8-fm. sounding charted in Lat.  $56^{\circ}08.85'$ , Long.  $133^{\circ}38.76'$  from H-1754 (1886), falls in present depths of 13 fms. The charted 8-fm. sounding is considered discredited by present depths and it should be deleted from the chart.
3. The 3-fm. sounding charted in Lat.  $56^{\circ}11.18'$ , Long.  $133^{\circ}38.7'$  from H-1754 (1886) should be deleted from the chart. A 13-ft. sounding on the prior survey was erroneously charted as 3 fms. (18 ft.). A notation made on Standard No.1 of Chart 8172, dated 3-18-25, to revise the 3-fm. sounding to  $2\frac{1}{4}$  fms. was misinterpreted. The charted 3 fms. was retained and a  $2\frac{1}{4}$  fm. sounding was also added to subsequent charts.

4. The  $2\frac{1}{4}$  fm. sounding charted in Lat.  $56^{\circ}11.10'$ , Long.  $133^{\circ}38.73'$  from H-1754 (1886) (see preceeding paragraph) is plotted out of position and should actually fall about 250 meters south southwestward where depths of 5.9-9.0 fms. are found on the present survey. The  $2\frac{1}{4}$  (2.2) fathoms has been carried forward as the least depth on the shoal.

Several sunken rocks charted from the prior surveys symbolize foul areas and are adequately superseded by the present survey delineation. The following additional discrepancies between rock delineations on the prior and present surveys were noted:

5. The sunken rock charted in Lat.  $56^{\circ}11.42'$ , Long.  $133^{\circ}37.30'$ , from H-1754 (1886) where it symbolizes a foul area. The charted symbol falls in depths of 6 fms. on the present survey. The sunken rock symbol should be deleted from the chart because the area on the present survey is considered adequately developed to portray the character of the bottom.

6. The rock awash charted in Lat.  $56^{\circ}11.79'$ , Long.  $133^{\circ}40.38'$ , originates with a sunken rock on H-1754 (1886) where it symbolizes a foul area. The charted feature falls in depths of 8.5 fms. on the present survey about 140 meters east of a shoal whose least depth is 4.4 fms. The rock awash should be deleted from the chart because the area on the present survey is considered adequately developed to portray the bottom and to discredit the existence of the sunken rock in its charted position. A slight error in the position of the sunken rock on the prior 1:80,000 scale survey would account for the rock falling in deeper present depths.

B. Topographic Surveys

T-3536 (1915), 1:20,000 - T-3551 (1915), 1:20,000

1. The bare rock charted in Lat.  $56^{\circ}12.58'$ , Long.  $133^{\circ}37.54'$  from T-3536 (1915), falls in present depths of 2.5 fms. The area is adequately developed on the present survey to discredit the existence of the charted rock and it should be deleted from the chart.

2. The rock baring 2 ft. at MHW charted in Lat.  $56^{\circ}10.94'$  Long.  $133^{\circ}36.57'$ , from T-3536 (1915) was transferred to the present survey from photogrammetric survey T-9624(1953-54-55) as a rock awash at MHW (11 ft.). The charted bare rock should be revised to a rock awash.

3. The rock awash charted in the vicinity of Lat.  $56^{\circ}12.49'$ , Long.  $133^{\circ}37.94'$ , from T-3536 (1915) falls on the present survey in depths of 2.9 fms. The charted rock awash should be deleted from the chart as the area on the present survey is considered adequately developed to discredit the existence of the charted rock awash. Present rocks awash fall 100 meters east and south of the charted rock awash.

4. In several instances the charted inshore features such as rocks, reefs and islets which lie approximately south of Lat.  $56^{\circ}12.5'$ , Long.  $133^{\circ}37.3'$ , and which originate with the prior topographic surveys, are in disagreement with these features shown on the present survey. The charted features should be revised to agree with those shown on the present survey.

Several rocks have been carried forward from topographic surveys T-3536 (1915) and T-3551 (1915) to the present survey to supplement present information.

#### C. Wire Drag Surveys

H-3791 WD (1915-16), 1:20,000  
H-3791aWD (1915-16), 1:20,000  
H-3916 WD (1915), 1:20,000

There are no conflicts between the present survey soundings and the effective wire drag depths. Several soundings and bottom characteristics have been carried forward from the wire drag surveys to the present survey. Several detached soundings on the wire drag surveys were found to have been misplotted and the plotting was revised on the surveys.

With the addition of the rocks carried forward from the topographic surveys (see par. 5B above) and the soundings and bottom characteristics carried forward from the wire drag surveys (See par. 5C above), the present survey is adequate to supersede the prior hydrographic surveys within the common area (See par. 5A above).

6. Comparison with the Drawing of the 4th Edition of Chart 8172, dated Nov. 14, 1960

A. Hydrography

The charted information originates principally with the boat sheets of the present survey (Bps. 52797-98), and several soundings and rocks from the prior surveys previously discussed which need no further consideration. A comparison between the charted and present survey depths reveals only minor differences of 0.2 fms. to 2 fms. The following discrepancies between the charted rocks and those shown on the present survey were noted:

1. The rock awash charted in Lat.  $56^{\circ}11.48'$ , Long.  $133^{\circ}35.72'$  from the boat sheet (Bp. 52797) of the present survey where it is shown in pencil. The charted feature is believed to really be the bare rock which falls on the smooth sheet about 30 meters to the northwestward. The rock awash should be deleted from the chart.
2. Depths on the boat sheet (Bps. 52797-98) of the present survey were plotted in whole fathoms and as a result many soundings ranging in depths between 0.2 fms. and 0.8 fms. were plotted as zero soundings. These zero soundings were charted as rocks awash. These rocks awash should be deleted from the chart in accordance with the depths shown on the smooth sheet.
3. The 3 rocks awash charted on the reef in the vicinity of Lat.  $56^{\circ}09.05'$ , Long.  $133^{\circ}38.1'$  from the boat sheet (Bp. 52798) of the present survey should be deleted from the chart. These features were revised to depths of 0.7 fm., 0.9 fm. and 0.9 fm. during verification and review of the present survey.

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

B. Aids to Navigation

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



7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done.

8. Compliance with Project Instructions


The survey adequately complies with the Project Instructions.


9. Additional Field Work Recommended

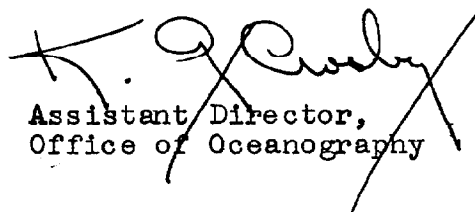
The survey is considered basic and no additional field work is recommended.

Examined and Approved:

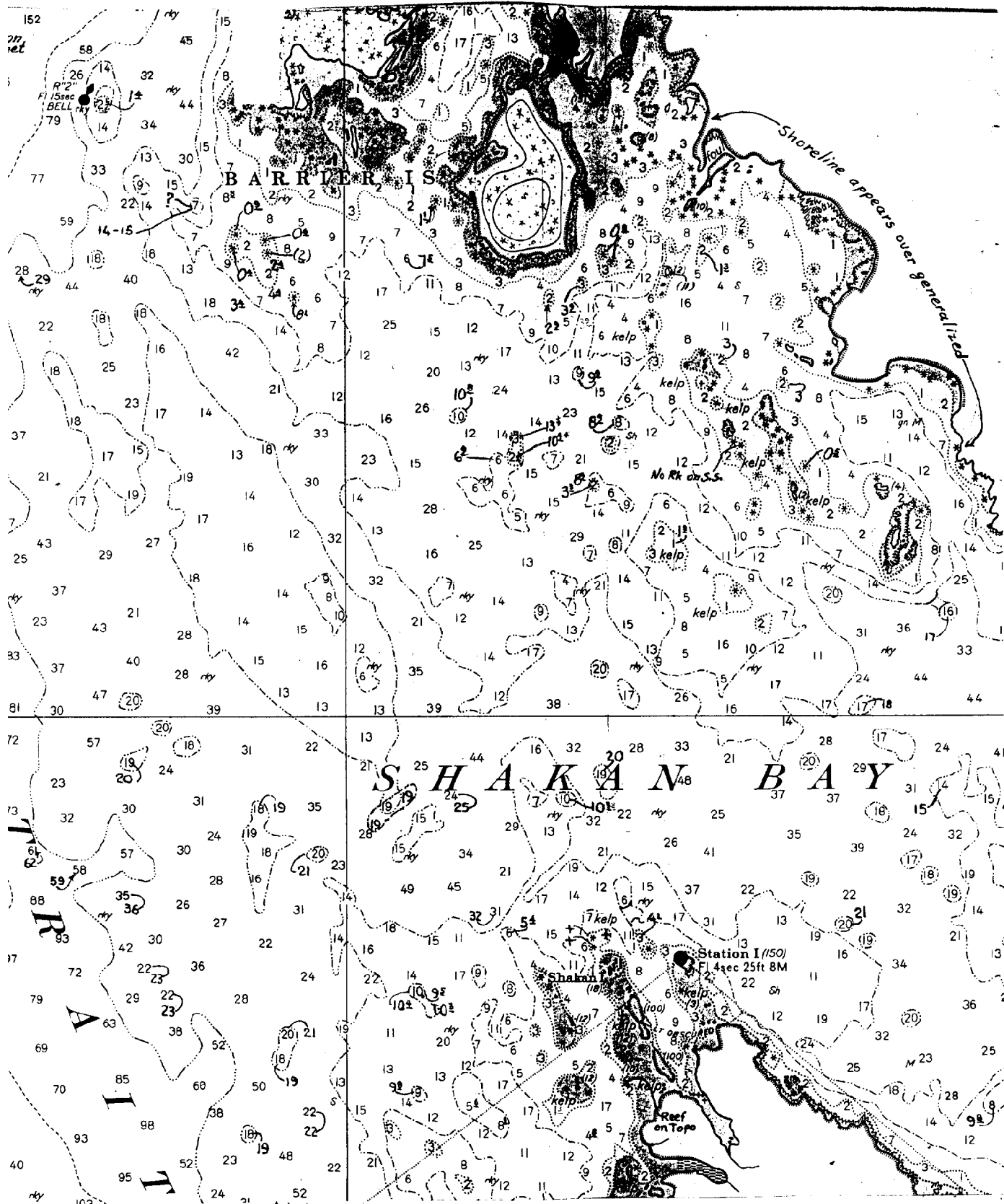
  
Chief,  
Nautical Chart Division

  
Projects Officer,  
Operations Division

  
Assistant Director,  
Office of Cartography

  
Assistant Director,  
Office of Oceanography

Reef  
on Topo



## GEOGRAPHIC NAMES

Survey No. H - 8151

[illegible]

# Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8151....

## Records accompanying survey:

Boat sheets .1...; sounding vols. .26...; wire drag vols. ....;  
bomb vols. ....; graphic recorder rolls 12-Envelopes  
special reports, etc. 1-Smooth sheet and 1-Descriptive report..  
.....

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

Number of positions on sheet		<u>6586</u> ..
Number of positions checked		<u>752</u> ..
Number of positions revised		<u>12</u> ..
Number of soundings revised (refers to depth only)		<u>74</u> ..
Number of soundings erroneously spaced		<u>124</u> ..
Number of signals erroneously plotted or transferred		<u>—</u> ..
Topographic details	Time	<u>36</u> ..
Junctions	Time	<u>4</u> ..
Verification of soundings from graphic record	Time	<u>20</u> <del>20</del> ..

Verification by Jesse H. Eaton.....Total time 293.. Date 4/27/60 to 7/12/60  
Reviewed by W. J. Beskind.....Time 156.. Date 2-15-61

## NAUTICAL CHARTS BRANCH

SURVEY NO. H-8151

### Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
5/14/59	8201	M. Rogers	<del>Examined</del> Before <del>After</del> Verification and Review <i>partially applied</i>
5/19/59	8172	M. Rogers	<del>Examined</del> Before <del>After</del> Verification and Review <i>partially applied.</i>
10-24-60	8152	R.E. Elkins	Before <del>After</del> Verification and Review <i>Partly applied</i> <i>then chit 8172 dig #6. No revisions.</i>
3/15/61	8201	J. H. Eaton	<del>Part Comp. App'd.</del> Before insps of Review. 7. Before After Verification and Review <i>This chit changed to part applied in history by revision of chit 8201 because it hasn't been applied to the large scale chart 8172.</i>
16 Mar 61	8002	E. M. Grayje	<del>Before</del> After Verification and Review <i>Comp app'd the drawing of chit 8201</i>
6/17/64	8172	G.R. Johnson	<del>Before</del> After Verification and Review <i>Fully Applied</i>
4/17/79	<sup>new chart</sup> 17386	D. Stempel	<del>Before</del> After Verification and Review <i>Fully applied</i>
8/22/80	17386(8172)	Kawis	<del>Full App.</del> Before After Verification and Review <i>Re applied then 17386</i>
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

**A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.**

