

# 8243

Dist. Cat. Nos. 8112-2 & 8201-1.

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. LJ-1155 Office No. H-8243

### LOCALITY

State S. E. Alaska

General locality Sumner Strait

Locality Shakan Bay

1945

CHIEF OF PARTY

George A. Nelson

LIBRARY & ARCHIVES

DATE MAY 20 1959

B-1870-1 (1)

8243

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-8243

Field No. LJ-1155

State S. E. ALASKA

General locality Summer Strait

Locality Shakan Bay

Scale 1:10,000 Date of survey May - June 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 Charles W. Clark and Pentti A. Stark

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

Fathograms scaled by D. T. Wilson & C. E. Strom

Fathograms checked by D. T. Wilson & C. E. Strom

Protracted by C. R. Lehman

Soundings penciled by C. R. Lehman

Soundings in fathoms ~~rank~~ at ~~MLLW~~ MLLW

REMARKS: Project 1347

MR

DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-8243 (FIELD NO. LJ-1155)

SHAKAN BAY, S. E. ALASKA

SCALE 1:10,000      MAY & JUNE 1955

SHIP LESTER JONES, GEORGE A. NELSON, COMDG.

SURVEYED BY CHARLES W. CLARK, CDR. USC&GS  
PENTTI A. STARK, LT., USC&GS

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, between Prince of Wales and Kosciuská Islands.

The survey covers the entire inner part of Shakan Bay east of longitude  $133^{\circ} 35'$ , including Calder Bay, Shakan Strait and all passes between smaller islands.

Field work began on 10 May 1955 and ended on 20 June 1955.

Junctions with prior surveys: H-4263 (1922), scale 1:5,000, at east limit of sheet at entrance to El Capitan Pass.

Junctions with contemporary surveys: H-8151, (LJ-1354), scale 1:10,000 at west limit of sheet.

Field work progressed normally from start to finish with only minor delays caused by weather.

C. VESSELS AND EQUIPMENT:-

This entire survey was accomplished with Launch 98 operating from the Ship LESTER JONES.

808 fathometer No. 102-S was used for all soundings except for detached lead line soundings on rocks and shoals.

D. TIDE AND CURRENT STATIONS:-

Portable automatic tide gages were operated at Outer Shakan Bay, Lat.  $56^{\circ} 08.4'$ , Long.  $133^{\circ} 36.6'$  and Inner Shakan Bay, Lat.  $56^{\circ} 08.8'$ , Long.  $133^{\circ} 27.7'$ .

Outer Shakan Bay tides were used for reduction of soundings in the outer part of the bay and Inner Shakan Bay tides were used for reduction of soundings in the inner part of the bay. The lines separating the two

Pass  
Report  
11-52-43

areas are as follows:

- In the pass between Prince of Wales Island and Middle Island - the line between stations FAD and RYE.
  - In the pass between Middle Island and Divide Island - the line between stations HOG and CAM.
  - In the pass between Divide Island and Hamilton Island - a north-south line along longitude  $133^{\circ} 31.1'$ .
  - In Shakan Strait - the line between stations CON and MIL.
- These lines are indicated on the boat sheet.

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

On 21, 23, 24 and 25 May Inner Shakan Bay gage was not in operation. During this period Outer Shakan Bay tides were used in the inner bay with a time difference of plus 15 minutes and a range ratio of 1.0. These values were obtained from the Washington Office (Ltr., ref. 36-161-9821, dated 14 October 1955.).

There are no current stations within the limits of this survey.

E. SMOOTH SHEET:-

Not plotted by field party.

F. CONTROL STATIONS:-

The source of control is triangulation executed by T.J.M. in 1922 supplemented in the northern part of the survey by triangulation executed by Curtis Le Fever in 1954 and by this party in 1955.

Topographic station GRY is a photo-hydro station located in 1954 on T-9624. Other topographic stations in this vicinity west of longitude  $135^{\circ} 34'$  were also located in 1954 on T-9624 and were relocated in 1955 by other means. Geographic positions were computed for stations COD and BUM from fourth-order theodolite observations. Others were located by planetable on LJ-A-55. Note that station BUM used in 1955 is not the same as photo-hydro station BUM located in 1954 on preliminary manuscript T-9624.

Geographic positions for topographic stations ROS, BOB, PRU, UNA, VAL and WEB were computed from fourth-order theodolite observations.

Topographic stations in Shakan Strait were located by sextant fixes at the station and/or by sextant cuts from other shore stations. These should be shown on the smooth sheet as topographic stations.

Station SAW was located by a short traverse from WAS, 1915-1954. See H-8151. See also LJ-A-55.

All other topographic stations were located by plane-table on graphic control sheet LJ-A-55 (Registry No. ).

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

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G. SHORELINE AND TOPOGRAPHY:-

Shoreline and topographic details are from manuscripts T-9623, T-9624, T-9625 and T-9627 compiled by photogrammetric methods based on 1954 and 1955 field inspection data. There is a small amount of shoreline and topographic details on graphic control sheet LJ-A-55. Location of some offshore rocks were duplicated by the hydrographer and others were located which are not on the manuscripts. Kelp areas defined by the hydrographer should be given preference over those indicated on the manuscripts. Shoreline indicated by dashed line on the manuscripts is partially obscured by trees and shadows on the photographs. However it is essentially correct for charting as shown.

The low water line was not defined by soundings except in limited areas of flat bottom such as in Calder Bay. Steep foreshore prevented sounding in to the low-water line along most of the shoreline.

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

Shoreline on the boat sheet is from preliminary manuscripts T-9623, T-9624, T-9625 and T-9627 compiled without projections. Shoreline was transferred to the boat sheet to fit established control.

H. SOUNDINGS:-

All soundings on sounding lines were measured in fathoms with 808 fathometer No. 102-S. Soundings on some rocks and shoals were measured with a hand lead.

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

Bar checks were taken when weather conditions permitted to a depth of 10 fathoms. Bar checks to 10 fathoms were in agreement with the 2 fm. bar checks, and the correction is entered in the sounding records as part of a combined phase-draft correction. All fathometer soundings are on A scale for which the phase correction is zero.

The fathometer initial was set on zero and any variation from this setting was entered in the sounding records as an index correction.

I. CONTROL OF HYDROGRAPHY:-

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

J. ADEQUACY OF SURVEY:-

The 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 the 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 10% of the regular system of sounding lines.

Soundings on boat sheet indicate that crossings are generally in good agreement with only minor differences of 1 to 2 fathoms.

L. COMPARISON WITH PRIOR SURVEYS:-

The only prior survey of the area is H-1757 (1886), Scale 1:20,000. This survey appears to be 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 the current survey supersede all soundings on H-1757.

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-1757 (1886). Because of datum differences soundings were transferred from chart 8172 to the boat sheet and comparison was made with the chart. Since the chart is based on reconnaissance and incomplete surveys a detailed comparison was not made.

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-9625 and T-9627 (1954-1955).

A reported rock awash at  $56^{\circ} 10.9$ ,  $133^{\circ} 33.9$  was verified but moved in position.

A reported submerged rock at  $56^{\circ} 10.3$ ,  $133^{\circ} 31.0$  was verified but moved in position.

A charted obstruction on the south side of Fontaine I. has been removed.

Several representative charted features are listed below for comparison purposes:

<u>Feature</u>	<u>Position on Chart</u>	<u>Depth of this Survey</u>
7-1/2 fm. sounding	56-09.2, 133-34.7	10 fms.
5-1/2 fm. sounding	56-08.4, 133-34.3	16-20 fms.
2-3/4 fm. sounding	56-08.6, 133-33.6	23-25 fms.
Rock awash	56-09.3, 133-33.8	20 fms.
Two small islets	56-11.0, 133-33.2	non-existent
4-1/2 fm. sounding	56-07.3, 133-32.4	23 fms.

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

The villages of Calder and Shakan are non-existent.

N. DANGERS AND SHOALS:-

<u>Depth - fms.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Position No.</u>
✓ Rock awash	56 - 10.6	133 - 34.7	47-49b
✓ Rock awash	56 - 10.55	133 - 34.0	T-9624, LJ-A-55
✓ Det. rock at MID	56 - 10.3	133 - 34.3	T-9624, LJ-A-55
1.8 2 <sup>1</sup>	56 - 10.6	133 - 33.6	127g
✓ Rocks awash	56 - 10.65	133 - 33.5	T-9624, 90-92b
✓ Rock awash	56 - 10.95	133 - 33.3	T-9624, 92-94k #69k
✓ Rock awash	56 - 10.4	133 - 33.35	T-9624, 87-89b
Rock awash	56 - 10.0	133 - 34.3	58-60k, T-9624
0	56 - 09.85	133 - 33.65	76c
2 (large shoal area)	56 - 09.6	133 - 33.6	1-5 <sup>a</sup>
✓ Rock awash	56 - 10.1	133 - 33.8	49-51k
✓ Rock awash	56 - 09.7	133 - 34.2	LJ-A-55, T-9624, 47f
✓ 4.4	56 - 09.35	133 - 34.9	18h
5 <sup>2</sup>	56 - 09.2	133 - 34.9	21h
5.0 <sup>a</sup>	56 - 09.1	133 - 34.9	24h 77-78e
3.5 4.3	56 - 08.95	133 - 34.45	44g 36-37h
2.8 3.1	56 - 08.9	133 - 33.7	55h & 58h 112-113b
2.0 1.9	56 - 09.0	133 - 33.5	48h 157-158f
✓ Rock awash	56 - 09.25	133 - 33.65	153-155f, T-9624
✓ Rock awash	56 - 09.2	133 - 33.55	19-21k
✓ Rock awash	56 - 09.2	133 - 33.2	LJ-A-55, T-9624
✓ Rock awash	56 - 09.2	133 - 33.45	LJ-A-55, T-9624 156-157b 22k
✓ Rock awash	56 - 09.35	133 - 33.1	23-25k
✓ Group of det. rocks at PIP	56 - 09.4	133 - 33.55	T-9624
3.4 <sup>6</sup>	56 - 09.2	133 - 32.8	98m
✓ Rock awash	56 - 09.5	133 - 32.5	26-28k
✓ Rock awash	56 - 09.45	133 - 32.3	29-31k, T-9624
1.4 <sup>5</sup>	56 - 09.3	133 - 32.1	48z
1.3 <sup>4</sup>	56 - 09.2	133 - 32.05	52z
3.1	56 - 08.85	133 - 33.15	46h
✓ Point of ledge	56 - 07.9	133 - 34.2	19, 13, 14j
✓ Point of ledge	56 - 07.85	133 - 34.8	5-7j
✓ Point of spit	56 - 07.4	133 - 33.7 (67p)	(T-9627
✓ Rock awash	56 - 07.2	133 - 32.5	(2c (skiff vol.)
5.4 <sup>5</sup>	56 - 07.75	133 - 29.9	70q
✓ Rock awash	56 - 07.9	133 - 30.0	10s
✓ Rock awash	56 - 08.85	133 - 29.1	31-33s
✓ Rock awash	56 - 09.05	133 - 27.5	LJ-A-55, T-9624
✓ Rocks awash	56 - 09.2	133 - 27.6	1f (skiff vol.)
			8-10t
4.2	56 - 09.25	133 - 28.7	50 & 51w
1.6 <sup>5</sup>	56 - 09.35	133 - 28.4	25 & 30w
✓ 0.8	56 - 09.4	133 - 28.2	38w
✓ 1.2	56 - 09.3	133 - 28.15	46v & 44w
✓ 2.4	56 - 09.7	133 - 28.4	57w
0.7	56 - 09.95	133 - 28.8	40x
1.6 <sup>5</sup>	56 - 09.95	133 - 28.9	101 & 102x
3.4	56 - 08.75	133 - 34.2	24g

<u>Depth - fms.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Position No.</u>
✓ 0.4 & 0.6	56 - 10.3	133 - 29.9	18u & 20u
✓ 0.4	56 - 10.1	133 - 30.0	44u
✓ Rock awash	56 - 09.6	133 - 30.2	T-9624
✓ Rock awash	56 - 09.5	133 - 30.5	T-9624, 3f (skiff vol.)
✓ Rock awash 0 in	56 - 09.4	144 - 30.5	T-9624, 34-36t
✓ general shoal area	56 - 09.1	133 - 31.15	12-13ba 74-75aa
✓ Rock awash	56 - 09.4	133 - 31.7	LJ-A-55, T-9624
✓ Rock awash	56 - 10.2	133 - 31.5	LJ-A-55, T-9624
0.6 <sup>7</sup>	56 - 10.25	133 - 31.4	10ca
2.8 <sup>9</sup>	56 - 10.2	133 - 31.3	102ba
✓ 1.6	56 - 10.3	133 - 31.2	9ca
✓ Rocks awash	56 - 10.35	133 - 31.0	LJ-A-55, T-9624
✓ Rock awash	56 - 10.6	133 - 31.05	LJ-A-55, 1g (skiff vol.)
✓ 0.8	56 - 09.8	133 - 30.6	101aa
✓ Rocks awash	56 - 11.05	133 - 32.7	LJ-A-55, T-9624

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

In the outer part of the bay all rocks and shoals are marked by heavy kelp. Very little kelp was noted in the inner part of the bay.

O. COAST PILOT INFORMATION:-

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

The open area at the southeastern part of Shakan Bay south of Fontaine Island is considered a good anchorage for ships of any size. Depths range from 6 to 10 fathoms with mud bottom.

The open area in the northeastern part of Shakan Bay probably affords a good anchorage for any vessels that can enter the area in depths of 5 to 15 fathoms and soft mud bottom.

The small bay at Lat. 58 - 11, Long. 133 - 33.5 appears to be a good anchorage for smaller vessels in almost any weather. This anchorage was not used by this party except while stopped for lunch.

During the course of the survey the ship anchored at Lat. 56 - 07.5, Long. 133 - 33.9 and at Lat. 56 - 08.7, Long. 133 - 27.7. The launch was anchored on some week ends in the small inlet at Lat. 56 - 09.5, Long. 133 - 27.7. This is considered a good small craft anchorage at about the center of the inner part in depths of 1 to 2 fms., sand and mud bottom. There are numerous places in the area where small craft can anchor safely but generally are not recommended without some local knowledge of the area.

There is no source of fresh water in the bay except in the many streams emptying into the bay.

Shakan Bay is seldom used by any vessels except local fishermen with local knowledge of the area. Ketchikan Transportation Co. mail and freight boat passes through the area regularly through Shakan Strait into El-Capitan Pass.

The best channel for entering Shakan Bay and the only one suitable for larger vessels is Shakan Strait. Enter the strait at the west end at mid channel and steer mid-channel courses to the east end. Moderate sized vessels can enter the northeastern part of the bay to Calder Bay by steering a course 150 to 200 yards off the eastern shore of the bay to avoid the shoal area north of Fontaine Island. After the range between the south tangent of the east side of Calder Bay and the north tangent of Hamilton Island begins to open steer mid-channel courses to destination. This range is sometimes difficult to distinguish and should not be relied upon entirely. Moderate sized vessels can also use the pass between Middle Island and Divide Island but this pass is more difficult to navigate and is not recommended.

The passes between Prince of Wales Island and Middle Island and between Divide Island and Hamilton Island are not recommended for any boat larger than a skiff.

There is a temporary log boom in the bight south of Station DEAD 2, 1955. The northwest end of the boom is secured to and marked by a class A black can buoy located on Pos. 82x. The southeast end is secured to shore.

P. AIDS TO NAVIGATION:-

Two nonfloating aids to navigation exist within the area of this survey and were reported on Form 567.

✓ Hamilton Island Daybeacon was located by triangulation in 1954 and 1955.

✓ Shakan Strait Daybeacon was located by a short traverse from station TRIPLE, 1922. See Vol. 1.

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

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.

S. SILTED AREAS:-

Extensive silted areas were noted in the entire northeasterly part of the bay and in the area south of Fontaine Island.

Z. TABULATION OF APPLICABLE DATA:-

Forwarded to the Seattle Processing Office with this report:

Boat Sheet LJ-1155  
14 Sounding Volumes, Vols. 1 - 14 inclusive  
27 Fathograms, a day to ca day, inclusive  
Hourly heights tide curves and list of tide reducers for Inner Shakan Bay tide station  
Fourth-order geographic positions for topographic stations UNA, VAL and WEB  
Copies of lists of fourth-order theodolite directions on topographic stations - 1954 & 1955.

Additional applicable data:

1922 triangulation data by T. J. M.  
1954 triangulation data by Curtis Le Fever  
1955 triangulation data by G. A. Nelson - forwarded to Washington office 31 July 1955  
1955 Magnetic data forwarded to Washington office 28 Sept. 1955  
Hourly heights, tide curves and list of tide reducers for Outer Shakan Bay tide station forwarded to Seattle Processing Office with H-8151.  
Inner Shakan Bay and Outer Shakan Bay tide marigrams and tide level records forwarded to Washington office 22 September 1955  
Fourth-order geographic positions of topographic stations BOB, BUM, COD and PRU forwarded to Seattle Processing Office with H-8151.  
Graphic control sheet LJ-A-55 forwarded to Seattle Processing Office with H-8245  
Shoreline manuscripts T-9623, T-9624, T-9625 and T-9627 compiled from 1954 and 1955 field inspection data.  
"COAST PILOT NOTES - SHIP LESTER JONES - PROJECT 1347 - SEASON 1955" forwarded to Washington Office 15 November 1955.  
Form 567, nonfloating aids for charts forwarded to Washington Office 1 October 1955

Respectfully submitted

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

STATISTICS FOR  
HYDROGRAPHIC SURVEY H-8243 (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>					
5/10/55	1	a	- -	3	- -
5/11/55	1	b	- -	11	- -
5/12/55	1	c	- -	10	- -
5/13/55	1	d	- -	8	- -
5/23/55	1	e	- -	1	- -
5/27/55	1	f	- -	4	- -
6/6/55	1	g	- -	3	- -
Total - Skiff				40	- -
<u>Launch 98</u>					
5/10/55	2	a	2	72	12.9
5/11/55	2 & 3	b	- -	160	31.2
5/12/55	3	c	- -	162	32.1
5/13/55	3 & 4	d	- -	130	21.9
5/17/55	4	e	- -	114	16.4
5/18/55	4 & 5	f	- -	161	20.3
5/19/55	5	g	- 2-	151	18.4
5/20/55	5 & 6	h	15	89	6.5
5/21/55	6	j	5	86	10.1
5/23/55	6 & 7	k	5	154	17.9
5/24/55	7	l	- -	22	4.3
5/25/55	7	m	1	143	16.9
5/26/55	7 & 8	n	- -	199	26.0
5/27/55	8	p	- -	151	18.4
6/2/55	8 & 9	q	1	154	19.2
6/4/55	9	r	- -	165	19.3
6/6/55	9 & 10	s	1	185	26.8
6/7/55	10 & 11	t	- -	194	29.3
6/8/55	11	u	7	140	16.9
6/9/55	11 & 12	v	6	119	13.4
6/10/55	12	w	25	92	8.0
6/13/55	12	x	3	145	16.3
6/14/55	12 & 13	y	- -	162	17.0
6/15/55	13	z	5	52	3.5
6/16/55	13	aa	4	112	9.7
6/17/55	14	ba	4	114	9.5
6/20/55	14	ca	7	133	11.7
Total - Launch			93	3561	453.9
Total - Sheet			93	3601	453.9
Area 13.0 sq. stat. miles					

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		-2.00		-0.00		+3.00	
		-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		+0.26		+4.04	
9/19/55, Vol. 7, LJ-1255		+0.06 (mean)		+0.22		+0.56		+0.714	
Phase Correction			+0.06		+0.28		+0.84		+4.98
Draft Correction*	+0.33		+0.33		+0.33		+0.33		+0.33
Total Correction	+0.3		+0.4		+0.6		+1.2		+5.3

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

<u>Draft Corrections</u>		
<u>Draft</u>	<u>Initial</u>	<u>Diff.</u>
1.33 fms	1.0	+0.33

TIDE NOTE  
TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-8243 (FIELD NO. LJ-1155)

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.

Outer Shakan Bay - Lat.  $56^{\circ} 08.4'$ , Long.  $133^{\circ} 36.6'$   
Inner Shakan Bay - Lat.  $56^{\circ} 08.8'$ , Long.  $133^{\circ} 27.7'$

Outer Shakan Bay tides were used for reduction of soundings in the outer part of Shakan Bay and Inner Shakan Bay tides were used in the inner part of the bay. The line separating the two areas is defined as follows:

In the pass between Prince of Wales Island and Middle Island - the line between stations FAD and RYE.

In the pass between Middle Island and Divide Island - the line between stations HOG and CAM.

In the pass between Divide Island and Hamilton Island - a north-south line along longitude  $133^{\circ} 31.1'$ .

In Shakan Strait - the line between stations CON and MIL.

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

On 21, 23, 24 and 25 May to 0925 Inner Shakan Bay gage was not in operation. During this period Outer Shakan Bay tides were used for reduction of soundings in the inner area with a time difference of plus 15 minutes and a range ratio of 1.0. These values were obtained from the Washington Office (Ltr., ref. 36-161-9821, dated 14 October 1955).

Plane of MLLW on tide staffs:

Outer Shakan Bay equals 4.1 feet  
Inner Shakan Bay equals 7.6 feet

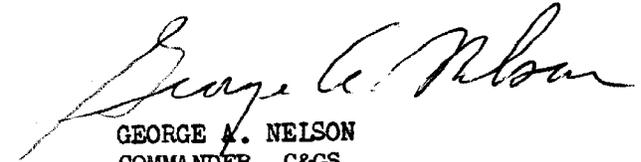
APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8243 (FIELD NO. LJ-1155)

Field work was accomplished under the personal supervision of the Chief of Party. The boat sheet 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

	Name	Origin	Name	Origin	Name	Origin
002	ABE	LJ-A-55	EAR=207	Vol. 1	ICE-312	LJ-A-55
010	ADA	Vol. 1	EAST-078	EAST A, 1922	IDA-310	LJ-A-55
032	AGE	Vol. 1	EBB=200	LJ-A-55	IKE-342	LJ-A-55
042	ALE	LJ-A-55	EGO-236	LJ-A-55	ILK-344	LJ-A-55
046	ALP	Vol. 1	ENT-253	CENTER, 1955	IMP-356	LJ-A-55
059	AMY	LJ-A-55	EVA-280	LJ-A-55	INN-355	INNER, 1955
073	ASH	LJ-A-55	EVE-282	LJ-A-55	IRK-374	LJ-A-55
			EYE-292	Vol. 1	* ISLE-375	ISLE, 1922
008	BAT	LJ-A-55	EZE-768	SQUEEZE, 1955	390 IVY-307	LJ-A-55 390-
022	BEE	LJ-A-55			JAG-403	LJ-A-55
023	BEG	LJ-A-55	PAD-201	LJ-A-55	JAM-405	LJ-A-55
025	BEND	BEND, 1922	FAN-205	LJ-A-55	JAR-407	LJ-A-55
033	BIG	BIGHT, 1922	FAT-203	Vol. 1	* JAW-409	LJ-A-55
338	BIGHT	BIGHT, 1922	FED-221	LJ-A-55	* JAY-410	LJ-A-55
038	BIT	LJ-A-55	FIN-235	LJ-A-55	JOB-460	Vol. 1
040	BLACK	BLACK, 1922	FOB-260	Vol. 1	JOT-468	LJ-A-55
060	BOB	T-9624 H-8151 *	POP-266	LJ-A-55	JUT-488	LJ-A-55
085	BUM	LJ-A-55 H-8151 *	FUR-287	Vol. 1		
087	BUSH	BUSH, 1922			KAP-406	LJ-A-55
088	BUT	Vol. 1	GAB-300	Vol. 1	KED-421	LJ-A-55
			GAG-303	LJ-A-55	KEN-425	LJ-A-55
100	CAB	Vol. 1	GAR-307	LJ-A-55	KEY-429	LJ-A-55
104	CAL	LJ-A-55	GAY-309	LJ-A-55 *	KIM-435	LJ-A-55
041	CALD *	CALDER, 1955	GHM-325	LJ-A-55	KIN-436	LJ-A-55
105	CAM	LJ-A-55	GIG-343	LJ-A-55	KIT-438	LJ-A-55
160	COB	LJ-A-55	GOL-364	Vol. 1	* KOA-466	Vol. 1
161	COD	T-9624 H-8151 *	GUS-387	LJ-A-55		
165	CON	Shakan Strait Day-beacon, 1955	GUT-388	LJ-A-55		
169	COY	LJ-A-55	GUY-389	LJ-A-55 T-9624	LAC-014	BLACK, 1922 *
172	CHE	CREEK, 1922			LAD-401	LJ-A-55 *
179	CRY	T-9624	HAR-304	SHAKE, 1955	LAG-483	LJ-A-55
			HAM-305	HAM, 1922	LED-423	LEDGE, 1922
107	DAR	LJ-A-55	HAP-306	LJ-A-55	LEE-422	LJ-A-55
109	DAY	Hamilton Island Daybeacon, 1954-55	HAW-308	LJ-A-55 *	LID-431	Vol. 1
			HAY-311	LJ-A-55 *	LIM-437	LJ-A-55
120	DEAD	DEAD 2, 1955	HBM-352	LJ-A-55 *	LOG-463	LOG A, 1922
132	DIP	LJ-A-55	HEX-329	LJ-A-55	LOME-465	LOME, 1922
136	DIP	LJ-A-55	HID-331	LJ-A-55 T-9624	LOW-469	LJ-A-55
138	DIV	DIVIDE, 1955	HOG-363	LJ-A-55	* LOWER-470	LOWER, 1955
165	DON /66	LJ-A-55	HOD-361	LJ-A-55	LUG-483	LJ-A-55
180	DUB	Vol. 1	HUM-385	LJ-A-55		

LIST OF SIGNALS ON H-8243 (LJ-1155)

	Name	Origin	Name	Origin	Name	Origin
501	MAC	LJ-A-55	QUA 680	QUARRY, 1955	WEB 920	T-9624 H-8243 *
507	MAR	MARBLE, 1955	QUO 636	LJ-A-55	WEST 928	WEST, 1922
509	MAX	LJ-A-55			WHO 936	LJ-A-55
- 527	MET	Vol. 1	RAM 705	LJ-A-55	WIS 937	TWIST, 1955
531	MID	LJ-A-55	RAZ 709	GRAZE, 1955	WOE 962	LJ-A-55
142	MIDD	MIDDLE, 1955	REEF 722	REEF, 1922		
534	MIL	Vol. 1	REM 725	LJ-A-55	YAW 909	LJ-A-55
535	MIN	MINK, 1954	RIG 733	Vol. 1	YEL 924	Vol. 1
560	MOB	LJ-A-55	ROS 767	T-9624 H-8151 *	YES 927	LJ-A-55
583	MUG	LJ-A-55	RUG 783	LJ-A-55		
			RYE 792	LJ-A-55	ZIG 933	LJ-A-55
500	NAB	LJ-A-55			ZIP 938	LJ-A-55
- 528	NET	LJ-A-55	SAD 701	LJ-A-55		
529	NEW	NEW, 1922	SAF 706	Vol. 1		
539	NIX	LJ-A-55	SAW 710	LJ-A-55 H-8151		
561	NOD	Vol. 1	SET 728	LJ-A-55		
567	NOR	NOR, 1922	SHY 739	Vol. 1		
568	NOT	LJ-A-55	SID 731	LJ-A-55		
569	NOW	LJ-A-55	743 SLIDE	SLIDE, 1922		
588	NUT	LJ-A-55	788 STUMP	STUMP, 1922		
589	NUX	LJ-A-55	SUE 782	T-9624 LJ-A-55		
607	OAR	Vol. 1	803 TAINÉ	TAINÉ, 1922		
611	OOD	LJ-A-55	TAP 806	LJ-A-55		
612	ODE	LJ-A-55	TAT 808	Vol. 1		
634	OIL	LJ-A-55	TOG 863	LJ-A-55		
641	OLD	LJ-A-55	TON 865	MILTON, 1955		
642	OLE	LJ-A-55	TOY 869	LJ-A-55		
662	OPE	LJ-A-55	873 TRIPLE	TRIPLE, 1922		
634	OWL	LJ-A-55	TUM 885	STUMP, 1922		
			887 TURN	TURN, 1955		
604	PAL	LJ-A-55				
605	PAM	LJ-A-55	UNA 850	T-9624 H-8243 *		
077	PASS	PASS, 1922	UPP 866	UPPER, 1955		
609	PAW	LJ-A-55	627 UPPER	UPPER, 1955		
636	PIP	LJ-A-55	875 URN	LJ-A-55		
661	POD	LJ-A-55				
666	POP	Vol. 1	VAL 804	T-9624 H-8243 *		
669	POX	LJ-A-55	VIA 830	LJ-A-55		
678	PRU	T-9624 H-8151 *	VIC 831	LJ-A-55		
683	PUG	LJ-A-55	VIM 835	Vol. 1		

\* Geographic positions for these signals have been computed from fourth-order theodolite observations. Positions are furnished with the records for the hydrographic sheet indicated. Theodolite observations were also made on other signals for which no GP's were computed. See Lists of Directions. BUM is not the same as BUM, 1954 on preliminary manuscript T-9624.

1<sup>st</sup> W.W.S. of MILTON  
FOURTH-ORDER.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
Form 26  
Ed. Jan., 1929

COMPUTATION OF TRIANGLES

State: S. E. Alaska

11-0121

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3						3.645 347 ✓
	1 UNA ww	(68 06 16) ✓					0.032 515 ✓
	2 STATE, 1922	63 43 20 ✓					9.872 253 ✓
	3 MINK, 1954	48 10 24 ✓					3.550 115 ✓
	1-3						
	1-2						
		180-00-00 ✓					
	2-3						3.633 312 ✓
	1 UNA ww	(80 52 07) ✓					0.005 539 ✓
	2 STATE, 1922	44 31 27 ✓					9.845 848 ✓
	3 CENTER, 1955	54 36 26 ✓					9.911 265 ✓
	1-3						3.484 699 ✓
	1-2						3.550 116 ✓
		180-00-00 ✓					
	2-3						3.770 499 ✓
	1 UNA ww	(85 22 37) ✓					0.001 415 ✓
	2 STATE, 1922	57 44 55 ✓					9.778 197 ✓
	3 TWIST, 1955	36 52 28 ✓					3.550 111 ✓
	1-3						
	1-2						
		180-00-00 ✓					
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						

Do not write in this margin

GP

✓ 1008

observed in tree - 2nd signal S of MILTON

# FOURTH-ORDER

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
Form 25  
Ed. Jan., 1929

## COMPUTATION OF TRIANGLES

State: S. E. Alaska

11-9121

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3						3.654 770 ✓
	1 VAL	(100 31 18) ✓					0.007 364 ✓
68.	2 STATE, 1922	32 36 06 ✓					9.731 424 ✓
	3 SHAKE, 1955	46 52 36 ✓					9.863 254 ✓
	1-3						3.393 558 ✓
	1-2						3.525 388 ✓
		180-00-00 ✓					
	2-3						3.633 312 ✓
	1 VAL	(81 59 58) ✓					0.004 248 ✓
	2 STATE, 1922	47 25 52 ✓					
	3 CENTER, 1955	50 34 10 ✓					9.887 839 ✓
	1-3						
	1-2						3.525 399 ✓
		180-00-00 ✓					
Do not write in this margin	2-3						
	1						
	2						
	3						
	1-3						
	1-2						
	2-3						
	1						
	2						
	3						
	1-3						
	1-2						

✓ MB

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

$\alpha$	2	to 3	233	43	20	$\alpha$	3	to 2	53	46	07
$2dZ$		&	+ 44	31	27	$8dZ$		&	- 54	36	26
$\alpha$	2	to 1	298	12	57	$\alpha$	3	to 1	354	09	41
$\Delta\alpha$						$\Delta\alpha$					
$\alpha'$	1	to 2	180	00	00.0	$\Delta\alpha$			180	00	00.0

FIRST ANGLE OF TRIANGLE																			
$\phi$	56	08	29.073	2	37.478	$\lambda$	133	56	59.547	$\phi$	56	10	05.500	38.027	10.729	$\lambda$	133	53	39.047
$\Delta\phi$	-		16.505			$\Delta\lambda$	-	3	23.388	$\Delta\phi$	-	1	38.642			$\Delta\lambda$	-		02.587
$\phi'$	56	58	22.568	1	011.2	$\phi'$	56	08	36.459	$\phi'$	56	08	22.568	1	011.2	$\lambda'$	133	33	36.460

VALUES IN SECONDS												
$s$	3.590112	642.0	1157.7	1855.7	1st term	+16.4583	2d term	+6.6451	3d term	+1.8668	$-\Delta\phi$	+12.8668
$\cos\alpha$	9.156641											
B	8.509628											
h	1.216385											
$s^2$	7.1002											
$\sin^2\alpha$	9.1710											
C	1.5702											
$h^2$	8.6674											
D	2.357											

VALUES IN SECONDS												
$s$	3.450699	629.6	1406.5	1036.1	1st term	+98.6915	2d term	+1.357	3d term	+1.8668	$-\Delta\phi$	+12.8668
$\sin\alpha$	8.165422											
A'	2.508711											
Sec $\phi'$	0.754011											
$\Delta\lambda$	1.212842											
$\sin\frac{1}{2}(\phi+\phi')$												
$-\Delta\alpha$												

FOURTH ORDER  
H-8243

FOURTH-ORDER

COMPUTATION OF TRIANGLES

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
FORM 25  
Ed. Jan., 1929

State: S. E. Alaska

11-0121

	NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
GP	2-3							3.654770 ✓
	1	WEB ww	(98 22 49) ✓					0.004662 ✓
	2	STATE, 1922	38 59 12 ✓					9.798747 ✓
	3	SHAKE, 1955	42 37 59 ✓					2.530781 ✓
	1-3							3.458179 ✓
	1-2							3.490213 ✓
			180-00-00 ✓					
} Do not write in this margin	2-3							3.645347 ✓
	1	WEB ww	(66 55 26) ✓					0.036219 ✓
	2	STATE, 1922	73 00 51 ✓					2.505620 ✓
	3	MINK, 1954	40 03 43 ✓					3.490192 ✓
	1-3							
	1-2							
			180-00-00 ✓					
} Do not write in this margin	2-3							3.633312 ✓
	1	WEB ww	(80 55 29) ✓					0.005471 ✓
	2	STATE, 1922	53 48 58 ✓					9.651441 ✓
	3	CENTER, 1955	45 15 33 ✓					3.490224 ✓
	1-3							
	1-2							
			180-00-00 ✓					
} Do not write in this margin	2-3							
	1							
	2							
	3							
	1-3							
	1-2							

V PAS





PROCESSING OFFICE NOTES H-8243

SMOOTH SHEET

The smooth sheet was hand constructed by the Seattle Hydrographic Processing Unit, using standard methods of construction and checking.

CONTROL STATIONS

Control comes from the same source as for the boat sheet.

ADEQUACY OF SURVEY

The survey is complete and adequate for charting.

The junction with H-8151 was compared and found satisfactory. The depth curves can be adequately drawn at the junction.

Junction soundings in El Capitan Passage are not available in the processing office.

COMPARISON WITH CHART

A comparison was made with Chart 8172 3rd Ed. Revised 9/1/58, which was made up from the boat sheet.

See the section of Chart 8172 attached to this report, for discrepancies between the chart and the smooth sheet.

DANGERS AND SHOALS

Items under this heading in the Field Report have been checked or corrected to the smooth sheet values.

Respectfully submitted

WILLIAM M. MARTIN  
Supervisory Cartographer

Approved and forwarded

*G. C. Mast*  
G. C. MAST  
Captain C&GS  
Seattle District Officer

GEOGRAPHIC NAMES PENCILED ON H-8243

CALDER BAY //

DIVIDE ISLAND //

EL CAPITAN PASSAGE \* //

FONTAINE ISLAND //

HAMILTON ISLAND //

KOSCIUSKO ISLAND //

MARBLE CREEK //

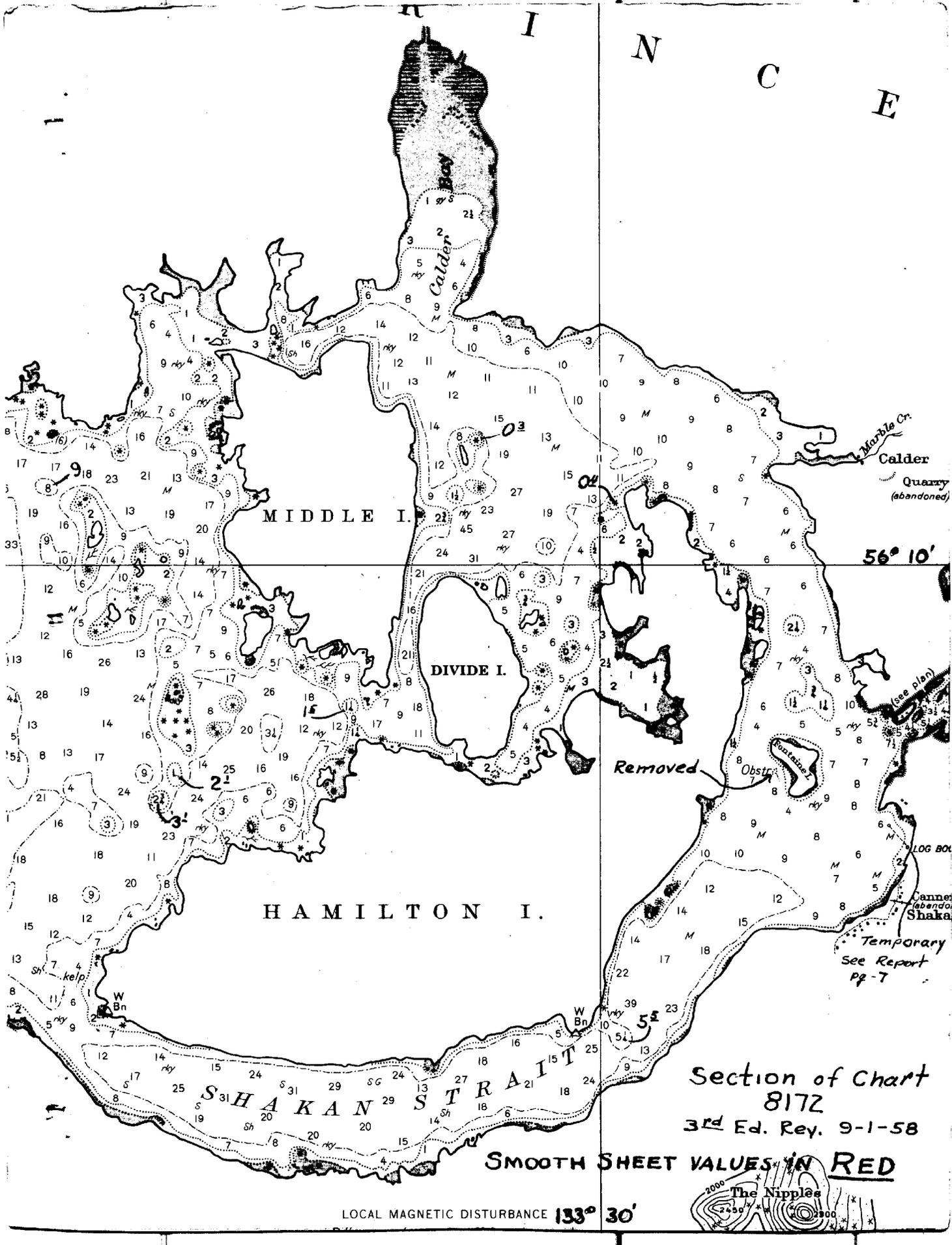
MIDDLE ISLAND //

PRINCE OF WALES ISLAND //

SHAKAN BAY //

SHAKAN STRAIT /

I  
N  
C  
E



MIDDLE I.

DIVIDE I.

HAMILTON I.

SHAKAM STRAIT

56° 10'

Section of Chart  
8172  
3rd Ed. Rev. 9-1-58

SMOOTH SHEET VALUES IN RED

LOCAL MAGNETIC DISTURBANCE 133° 30'



GEOGRAPHIC NAMES

Survey No. H-8243

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
Calder Bay											1
Divide Island											2
El Capitan Passage						*BCN Decision					3
Fontaine Island											4
Hamilton Island											5
Kosciusko Island											6
Marble Creek											7
Middle Island											8
Prince of Wales Island											9
Shakan Bay											10
Shakan Strait											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

(see chart 8172 for name placement)

*George M. Bass*  
Geographic Names  
28 May 1959

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens:

22 June 1959

Plane of reference approved in  
14 volumes of sounding records for

HYDROGRAPHIC SHEET 8243

Locality Shakan Bay, Alaska

Chief of Party: G. A. Nelson in 1955

Plane of reference is mean lower low water, reading  
4.1 ft. on tide staff at Shakan Bay Entrance  
17.6 ft. below B.M. 1 (1955)  
7.6 ft. on tide staff at Shakan Strait (N.E. End)  
14.5 ft. below B.M. 1 (1955)

Height of mean high water above plane of reference is 10.9 feet.

Condition of records satisfactory except as noted below:

A handwritten signature in cursive script, appearing to read 'William H. ...', is written over a horizontal line.

Signature

Chief, Tides Branch

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8243...

Records accompanying survey:

Boat sheets 1....; sounding vols. 14...; wire drag vols. ....;  
bomb vols. ....; graphic recorder rolls 7-Envelopes  
special reports, etc. 1-Smooth sheet, 1-Descriptive report.....  
and 1-Graphic Control Sheet LJ-A-55.....

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

Number of positions on sheet	.....
Number of positions checked	.....
Number of positions revised	.....
Number of soundings revised (refers to depth only)	.....
Number of soundings erroneously spaced	.....
Number of signals erroneously plotted or transferred	.....
Topographic details	Time .....
Junctions	Time .....
Verification of soundings from graphic record	Time .....
Verification by.....	Total time ..... Date .....
Reviewed by.....	Time ..... Date .....

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8243

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.
  2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.
  3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.
  4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.
  5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.
  6. All positions verified instrumentally were check marked in the sounding records.
  7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.
  8. The metal protractor has been checked within the last three months.
  9. The protracting and plotting of all bad crossings were verified.
  10. All detached positions locating critical soundings, rocks or buoys were verified.
  11. The boat sheet was compared with the smooth sheet.
-

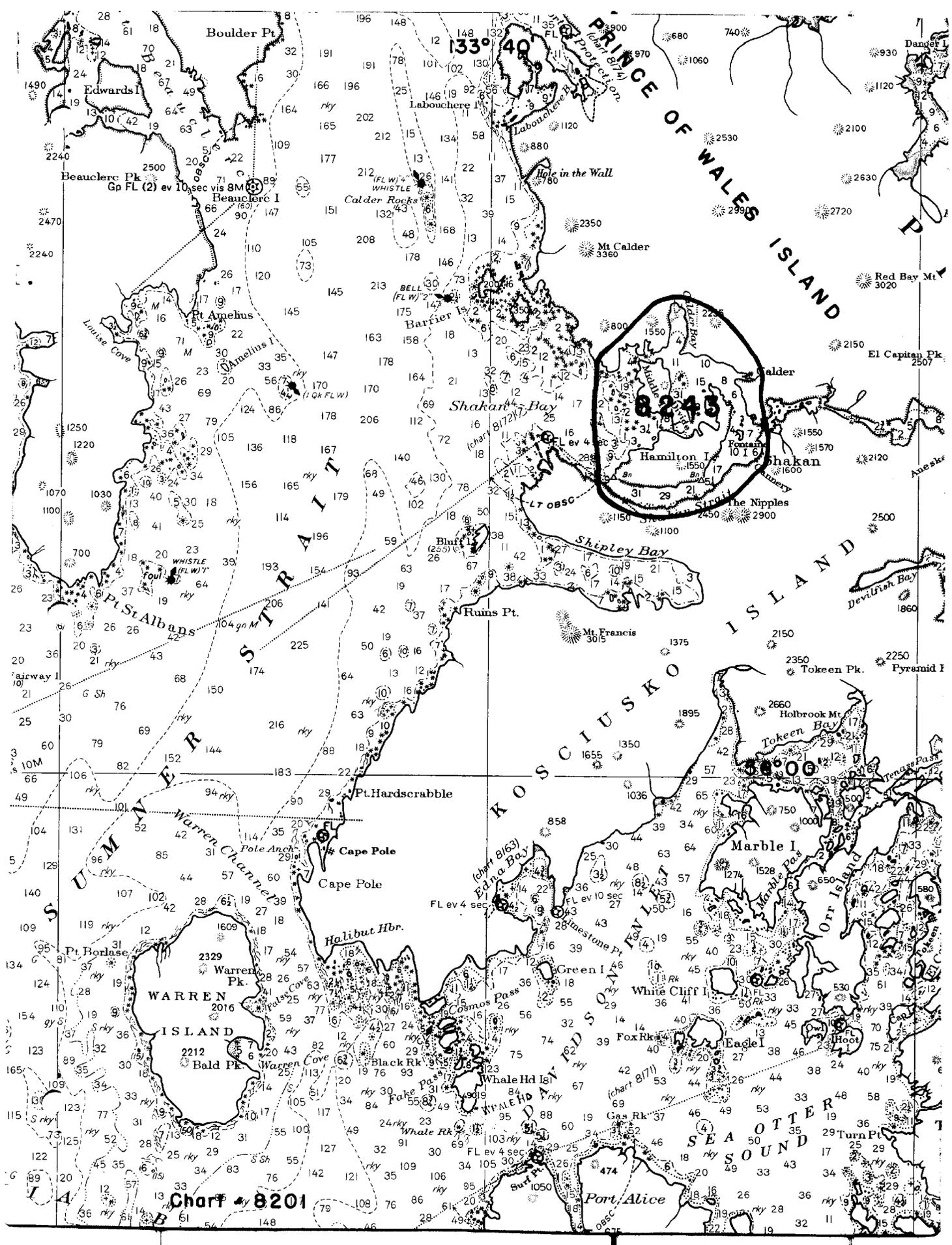
12. The spacing of soundings as recorded in the records was closely followed.
  13. The bottom characteristics were shown on outstanding shoals.
  14. The reduction and plotting of doubtful soundings were checked.
  15. The transfer of contemporary topographic information was carefully examined.
  16. All junctions were transferred and overlapping curves made identical.
  17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
  18. The depth curves have been inspected before inking.
  19. All triangulation stations and transfer of topographic and hydrographic signals were checked.
  20. Heights of rocks were checked against range of tide.
  21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
  22. Unnecessary pencil notes have been removed.
  23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.
  24. The low water line and delineation of shoal areas have been properly shown.
  25. Degree and minutes values and symbols have been checked.
  26. Questionable soundings have been checked on the fathograms.
-

27. Source of shoreline and signals (when not given in report).
28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.
29. All aids located, with those on contemporary topographic sheets, have been shown on survey.
30. Depth curves were satisfactory except as follows:
31. Sounding line crossings were satisfactory except as follows:
32. Junctions with contemporary surveys were satisfactory except as follows:
33. Condition of sounding records was satisfactory except as follows:
34. The protracting was satisfactory except as follows:
35. The field plotting of soundings was satisfactory except as follows:
36. Notes to reviewer:

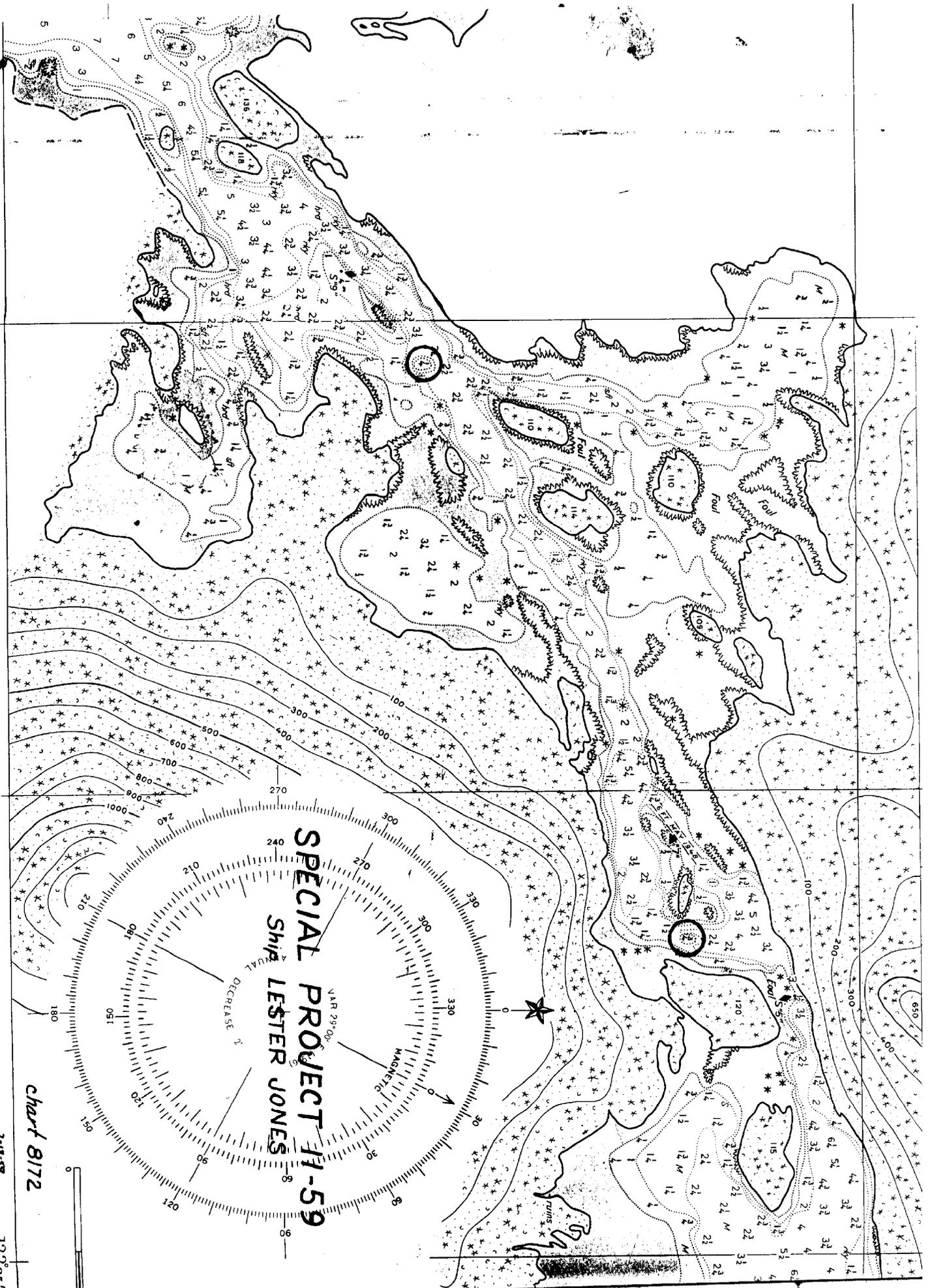
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Verified by

Date







**SPECIAL PROJECT 11-59**  
**SHIP LESTER JONES**

Chart 8172

7-18-59  
 MEM.

133° 25'

27'

26'