

# 3934

Diag. Cht. No. 8152-1

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. .... Office No. H-3934

### LOCALITY

State ALASKA

General locality WEST COAST OF PRINCE OF WALES  
ISLAND

Locality APPROACHES TO MEARES ISLAND

19/15 -17

CHIEF OF PARTY

F. H. Hardy & T. J. Maher

LIBRARY & ARCHIVES

DATE MAY 15, 1917  
FEB. 16, 1918

B-1870-1 (1)

# 3934

Coast and Geodetic Survey,  
E. Lester Jones, Superintendent.

A Descriptive Report to Accompany Hydrographic Sheet #6  
Approaches to Meares Passage,  
West Coast of Prince of Wales Island,  
S. E. Alaska.

September 1915.  
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By Party on Steamer "GEDNEY"

F. H. Hardy, Assistant,  
Chief of Party.  
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This sheet was constructed with the intention of joining the hydrography of Bucareli Bay, with that of Meares Passage. All the work on this sheet was done by the COSMOS. Mr. A. M. Sobieralski, in charge, Mr. H. B. Campbell, assisting; later Mr. L. H. Zeman, replaced Mr. Campbell, The work was done while waiting for an opportunity to occupy  $\Delta$  Lookout, and as soon as this station was occupied, the work on this sheet was discontinued owing to the distance from the main party, which was located in Port Real Marina at the time. The scale is 1:20,000.

Control:

Several topographic stations located in 1914 were recovered, and used in conjunction with triangulation stations located in 1915.

Positions taken with the triangulation stations of 1915, did not agree with positions taken with topographic stations of 1914. Sextant cuts were taken to the topographic signals and the new positions of these signals were used in plotting the work. In addition, the shore line of the bay on the southern side of Suez Island as seen from above from  $\Delta$  Hill does not appear as shown on the topographic sheet, there being several indentations of considerable size not shown on the sheet.

Dangers:

One breaker about 4 miles N. W. (true) of  $\Delta$  Lookout was well located. There are several others in this vicinity which can be located only by a hydrographic development, as they break only in rough weather, or at extreme low water.

There is a rock ( $\odot$  Wash) awash at high water about 1 mile west (true) of Lookout Island. There is a good deep channel between this rock and the breakers previously described. As these rocks rise abruptly out of deep water, these channels cannot be considered safe without a wire drag survey.

Lookout Island is about 40 feet high, covered with grass. It is at the entrance to what is called, locally, Sea Otter Harbor. There is a rock awash at low water about 1 mile east (true) of Lookout Island.

Shore Line from C. Lookout to Reef Point.

Cape Lookout is bold and steep, about 2500 ft. high and divided into several peaks, one of which (Pk. 7) is sharp and conical about 1800 ft. high, and wooded. The highest point, (Pk. 8) is co-

vered with grass and is conspicuous in spring by the bright green color, distinguishing it from the other peaks which are either wooded or bare and rocky.

A bay indents the shore south of  $\Delta$  Lookout which is locally known as Sakie Bay but does not correspond in position to the bay of that name shown on chart 8150.

On the north side of the entrance to this bay is a bare flat rock (  $\odot$  Flat) about 12 feet high. Off the southern point of the entrance are several rocks which bare at low water and break at all times. The entrance to the bay is between the flat rock and the breakers. About a mile from the entrance to the bay are two wooded islets, with a dangerous rock which bares at extreme low water between them, constricting the channel to about 200 meters. Favor the north island in entering as the rock off this island is visible except at extreme high water. Near the head of the bay are a number of wooded islets, and there is excellent anchorage in the S. E. part of the bay in 5 to 10 fathoms stky. bottom. The COSMOS anchored here in Wily and N.W.'ly weather and there was no swell in the bay.

Reef Point extends about 1-1/4 miles from the shore in a succession of low rocks, about 12 feet high. There is deep water close to the outer rock, which is about 20 feet high.

Respectfully Submitted,

*A. M. Sobieralski*  
Assistant, C. & G. Survey,

Approved and Forwarded,

*J. H. Stacey*  
Assistant, C. & G. Survey,  
Chief of Party.

VEC  
May 28, 1917

P.S.  
RFL  
HCL

HYDROGRAPHIC SHEET 3934.

Outside Meares Pass, Dall Island, Alaska, by party  
of Assistant F. H. Hardy in 1915.

TIDES.

	Craig Ft.
Mean lower low water, or plane of reference on staff	8.3
Mean range of tide	7.9

3934

U.S. COAST AND GEODETIC SURVEY  
ADD. No.

Form 504  
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

State: \_\_\_\_\_

11-5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. 3934 (Season of 1917)

LOCALITY:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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CHIEF OF PARTY:

3934

DEPARTMENT OF COMMERCE.

Coast and Geodetic Survey.

Dr. E. Lester Jones, Sup't.

Descriptive Report.

Hydrographic Sheet of

SOUTH END OF MEARES PASSAGE ALASKA.

Steamer Explorer.

July, 1917.

T. J. Maher,  
Chief of Party.

MEARES PASSAGE, DALL ISLAND, ALASKA.

S.W. ENTRANCE.

DESCRIPTIVE REPORT TO ACCOMPANY SMOOTH HYDROGRAPHIC SHEET OF WORK DONE IN 1917.

Scale 1:20,000. Limits - lat. 55 03' - 55 14' - Long. 133 10' - 133 28'.

Work done by party on Str. Cosmos. - W. S. F. Keyes, Mate, in charge.  
H. R. Grummann, Aid, assisting.

Steam sounding machine used.

Control: - Triangulation stations located prior to 1917.

" " " in 1917 by W. S. Hinkley, Aid.

Topographic stations located in 1917 by R. A. Wheeler, Aid.

Data, Records, &c. accompanying smooth sheet, which are to be consulted in connect-  
with this work.

Plane table sheet showing the location of signals in the vicinity of  
Foul Bay. Boat sheet. List (attached to report) showing location of shoal  
soundings, and others which indicate areas requiring close development.

Tide station - - Craig, Alaska.

The hydrography shown on the sheet is a continuation of that done in preceding years by other parties. The northern limit of new work extends from Divers Rocks, in a W.N.W. direction to the small islets and rocks off the S.E. point of Suemez Id. The southern limit of the work is about 1 1/2 miles south of this, has the same general direction, and extends from Foul Bay, (the small rocky bay north of Sakie Bay on Dall Id. to Suemez Id. No work was done in two small areas of this section. One, in the vicinity of Foul Bay, Dall Id.; the other in the bight in the S.E. side of Suemez Id. Errors were found in the locations of signals in these sections; the field season closed before these could be corrected.

Sounding lines are spaced from 125 to 150 meters apart; soundings are spaced the same distance. Each sounding is located by sextant angles to objects located by triangulation, or by topography controlled by triangulation.

The hydrographic party was furnished with a boat sheet which had been used for work in this locality, by other parties. The officer in charge reported that something was wrong, as various angles which were taken plotted in positions which he knew were incorrect. The distortion of the sheet was insufficient to cause this. Two Officers were detailed to the party to locate signals. Mr. Hinkley was instructed to locate signals on Suemez Id., by triangulation. Mr. Wheeler was instructed to locate signals, by planetable on the Dall Id. shore. A sufficient number of signals were to be located to enable the hydrographic party to develop a channel in Meares Passage which would connect with the ship sheet of off-shore hydrography, so as to obtain sufficient data to enable ships to use that passage enroute to or from the Ocean.

The triangulation shows that the shore line of Suemez Id. is not shown in its proper location. The hydrographic party states that it is <sup>not</sup> shown in its proper form. The shoreline, between Divers Rocks and Juel Point, on the Dall Id. side was found to be similarly in error.

The errors found in this work, could easily have been made by an inexperienced topographer. A mistake in reading a stadia rod; a mistake by the rodman in marking a wrong point for a set-up when readings were taken to several points or through his failure to point out the proper location to the topographer, or by a resection on a wrong signal, would cause the errors which were found. The

error is approximately in the direction of the meridian, which therefore if used for orientation, would not show that a mistake had been made. If the topography preceded the triangulation, the Chief of Party had no means of detecting the inaccuracies of the work. An adjustment will be difficult to make; this was tried, but the results were unsatisfactory. The dotted shore line was drawn from information furnished by the hydrographic party. The general shape, as seen from a couple of stations is shown. It was not practicable to run along the shore, in the Cosmos, for the purpose of sketching the shore line. The seas are frequently heavy; the waters foul; such action would unnecessarily expose the Cosmos to danger. The topography can be re-run in short time. Errors in plotting due to inaccurately located signals, which may show soundings in areas where no work has been done, will then be avoided. The waters are too foul and the bottom too irregular to permit this.

Some rocks are shown on the boat sheet. I do not know how, or by whom they were located. While a thorough search was not made for these, nearby soundings, in some instances, show no indications. The records of former work are in the Office. It is suggested that an examination of these records be made, and that the positions of the rocks be replotted. If the locations depend on angles to topographic signals, the positions will depend change in accordance with corrections made in the shore line.

Such dangers as are known are treated in detail in an attached list. Soundings which might indicate shoaler water are also listed. Various remarks are made on the boat sheet; these should be noted.

The work covers about twelve square nautical miles; it extends across the Passage for a distance of about eight miles, with a width of about one and one-half miles. Directions for sailing over the clearest part of the waters which were surveyed, might lead into dangerous waters in the unsurveyed area to the southward. Courses followed by the ship in entering and leaving Meares Passage will be found in the report on the off-shore hydrography done by the ship in 1917.

The tidal station at Craig, to which soundings are referred for correction, is somewhat remote from the working grounds. Desertions of men to canneries and local industries, where higher wages were paid, left a shortage in the crew, and men were not available for a detail as tide observers. Tide stations have been established at Waterfall Cannery, Ulloa Channel, and in Sakie Bay. The former is referred to Ukwan Narrows as a base station; the latter to Craig. Both are near the working grounds. The observations at Craig may be referred to Sakie Bay, correcting for time and range if considered desirable. The average depths, except in a few instances, are such as to make this unnecessary.

All Officers engaged on this work were detached from the party while in the field. No reports were written, nor descriptions furnished. The attached descriptions were furnished from memory, by officers who had been at the signals; some may be inaccurate.

The work was closed in the midst of the field season and is not complete. Soundings are closely spaced, but there are some small sections where further development is desirable. Red lines have been drawn on the boat sheet which show where these areas are located.

On the smooth sheet some shore line is shown in blue pencil. It is not to be used. It was transferred from a bromide. There is another smooth sheet of this section in the Office on which work done prior to 1917 is plotted.

See report headed, "A Descriptive Report to Accompany Hydrographic Sheet 46

Approaches to Meares Passage,

West Coast of Prince of Wales Island.

September, 1915.

The courses have not been noted in the report referred to, but E. H. Hardy, Chief of Party, on which the courses are laid off will be forwarded with the boat sheets.

LIST OF SHOAL SOUNDINGS ON HYDROGRAPHIC SHEET OF SOUTH END OF  
MEARES PASSAGE, ALASKA.  
STR. EXPLORER 1917.

Letter	Sounding	Lat.	Long.	Sec. in meters.	Sec. in meters.	Remarks.
A. 15.14	21fm.	55	11	60	133 18 520	
A. 40	30		10	1795	18 560	Continuation 15 ...
A. 50	35		10	880	17 220	
A. 83	31		10	800	17 200	
B. 7	27					Continuation-15 ... day.
B. 15	17		11	600	20 50	
B. 22	14		11	680	20 590	
B. 25	-9-		11	400	20	
B. 47	15		10		16 230	
B. 66	13		09	1710	16 430	
B. 77	37		10	970	18 110	
B. 91	13		11	300	20 100	
B. 115	27		10	850	18 320	
B. 125	17		09	1780	16 310	
C. 257	19					See 125 B.
C. 25	24					See 115 B.
C. 36	12		10	1700	20	
C. 72	19					See 36 C.
C. 82	20					See 115 B.--25 C.
C. 91	22		09	1470	16 620	
D. 11	37					See 115 B.--25 C.
D. 23	-9-		10	1260	20 210	
D. 42	-7-		10	1150	20 100	
D. 49	-6-		10	1020	19 1010	
D. 89	22		11	260	21 210	
D. 136	-5-		10	1240	20 20	
D. 154	31		09	1250	17 20	
E. 8	32		09	1100	17 40	
E. 102	20		11	1160	23 560	
E. 110	19		11	200	22	
E. 141	26		09	800	16 940	
E. 164	-8		08	500	13 1030	
F. 18	25		09	1280	17 1040	
G. 42	14					See 110 F.
G. 55	22					See 102 F.
G. 62	-9		11	1650	24 630	
G. 66	10		11	1500	24 580	
G. 66	Breaker		11	1470	24 580	
G. 81	-7		10	1700	21 1020	
G. 83	Breaker		10	1450	21 880	Cut from pos. 83. Only one cut. Position may be in error in E. & W. direction.
H. 142	Rock.		07	1800	13 --30-	Hydrographer having trouble with signals. Position may be slight- ly in error.
I. 161	-7		08	920	13 690	Heavy kelp.
-----	Rock		11	1190	23 140	Not found.*
-----	Rock		11	500	23 170	Not found.*
-----	Rock.		10	1730	19 430	Not found.*

\* See remarks in report. Not to be construed as a statement that the rocks do not exist.

Extensive kelp patch- $1\frac{1}{2}$  miles S.S.E. of signal Nut.

Kelp patch -2200 meters S.W.x S. signal Nut.

Kelp patch- $1\frac{1}{2}$  miles S.S.E. of signal Last.

Statistics sheet No.6

Meares Passage, Dall Island, Alaska.

Date. 1917.	Letter.	Volume.	Positions.	Soundings.	Miles statute.	Vessel.
June 28	A.	1	85	88	17.0	Cosmos.
29	B.	1	130	131	15.0	"
July 12	C.	1	117	120	14.6	"
13	D.	1	175	241	21.7	"
14	E.	1	41	41	4.3	"
17	F.	1	64	71	8.0	"
17	F.	2	118	125	13.0	"
19	G.	2	176	195	20.6	"
			906	1012	114.2	

Plane of reference, M.L.L.W., on staff at Craig, Alaska, 8.122 feet.

Signals used for control of hydrography at south end of  
Meares passage, Alaska.  
Str. Explorer, 1917.

Triangulation Signals.

Name	Latitude	Longitude	Remarks.
Ile	55-06-30.57	133-14-35.96	Est. by FHH, 1916.
Mt	11-49.71	20-47.29	" "
Last	09-53.71	14-36.37	2 " ?
Lookout	05-01.62	14-09.52	" "
C	12-25.97	24-40.44	Est. 1917.
Bak.	12-10.66	20-08.58	" "
Use	12-51.16	23-45.07	" "
km.	13-11.73	22-45.90	" "
Mez.	13-28.18	21-35.81	" "
Rock	12-07.34	20-56.28	" "
Land	12-45.59	20-54.50	" "
Is	13-00.41	21-12.69	" "
Juel	07-25.79	13-48.49	" 1916. Located 1917.
White	12-24.38	24-53.66	" 1916. Entered in record books as white /
First	12-43.93	17-10.94	2 prior to 1917. /spot.
Diver.	11-49.69	15-43.91	" " " "
Veg.	10-28.59	15-55.18	" " " "
Cone	05-36.88	13-23.06	" 1916.
Lone	10-25.59	15-12.06	" prior to 1917.
Outer	11-43.02	14-06.70	" 1914.

Topographic Signals.

	meters.	meters.	
Red	55-09-994	133-13-633	whitewash
Bo.	09-529	13-502	whitewash.
Sue.	08-1465	13-482	whitewash. Do not confuse with signal of same
Mag.	08-1160	12-948	whitewash. /name on ship sheet.
Peg.	08-567	12-106	whitewash on rock. Marked by bolt in cement.
Ned	08-30	11-550	whitewash.
Hal.	08-40	12-162	whitewash.
Dick	07-1762	12-579	whitewash.
Joe	07-1460	13-27	whitewash on cliff. Marked by bolt in cement.
Jim	07-1084	13-660	whitewash.
John	07-1120	13-845	whitewash.
Top	-----		Established by hydrographic party. Scaled from boat sheet.

The topographic signals were transferred from the plane table sheet by means of a vellum tracing. Two triangulation stations were used for orientation. The projection on the plane table sheet is not very good.

*J.S.S.Y.*

ADDRESS  
U. S. COAST AND GEODETIC SURVEY  
WASHINGTON, D. C.

REFER TO No.  
5-EMK

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY LIBRARY

WASHINGTON

September 1899, with descriptive report  
of hydrographic sheet No. 3934

Drawing Section: *F*

Division of Hydrography and Topography: *HCS*

Division of Charts:

Tidal reductions have been approved in  
2 volumes of soundings for

HYDROGRAPHIC SHEET 3934

Mears Passage, Alaska.  
T. J. Maher in 1917.

Plane of reference is  
Mean lower low water, reading

8.1 ft. on tide staff at Craig.  
0.9 ft. on tide staff at Sakie Bay.

*L. P. Shidy*

Acting Chief, Section of  
Tides and Currents.

Hyd. Sheet 3934.  
Additional Work.

This work should have been protracted & plotted on the sheet showing the previous season's survey, but as it had been put on an "A" sheet by the field party, it was verified as an "A" sheet & then transferred to the main sheet in green.

There was considerable difficulty with the topography & some of it was found to be wrong, as explained in the report of the Chief of Party. The topographic signals which were used in 1916, with the exception of  $\odot$  Jet (called Dog on the top. sheet), though, appear to have been checked & corrected by hydrographic cuts and therefore will not affect the hydrography.

It is recommended that when the topography is revised an effort be made to re-locate  $\odot$  Jet (Dog) and if found in error, the following work of 1916 will be wrong & require re-protracting: C day,  $\text{L}^{\circ}$  26 to 32 - E day,  $\text{L}^{\circ}$  50 to 72.  
D day,  $\text{L}^{\circ}$  20 to 40.

S. L. Rowberry,  
May 27, 1919.