4592

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., *Director*

State: Washington

DESCRIPTIVE REPORT

~~*Topographic*~~
Hydrographic } *Sheet No.* A 4592

LOCALITY

Strait of Juan de Fuca

S. Coast of Lopez Island

1926

CHIEF OF PARTY

O. S. Reading

D E S C R I P T I V E R E P O R T

H Y D R O G R A P H I C S H E E T N O _ _ _ _ _ _

STRAIT OF JUAN DE FUCA

SOUTH SHORE OF LOPEZ ISLAND

MOTOR VESSEL NATOMA

O. S. READING, TEMPORARILY COMMANDING

Scale - 1:10,000

AUTHORITY

The Hydrography on this sheet was executed in accordance with the Directors Instructions to the Commanding Officer of the Motor Vessel NATOMA, dated August 10th, 1926.

LIMITS

The work on this sheet includes the inshore hydrography of the south coast of Lopez Island from Iceberg Point to Boulder Islandm and extends one mile off shore.

CONTROL

The topography of this area was done by J. J. Gilbert in 1889 and 1897 and the shores being rocky it was not necessary to do it over. Signals were located by a plane table traverse by Carl I. Aslakson, using triangulation stations Iceberg Point Monument, Southeast Island and Boulder for control; the traverse fron Iceberg Point Monument to South east Island, length three and three tenths miles closed within two meters, and from Southeast Island to Boulder one and five tenths miles within two meters. Two other old triangulation stations, Dumb bell and Rix were recovered; positions of these stations were not furnished so thsy were relocated by topography and so shown on the sheet. △ KELLET was recoverdd and used as a hydrographic signal. a number of other permanent marks were located and described as topographic stations.

After the plane table work was completed it was found that the sheet had not distorted so it was decided to use the same sheet for the smooth hydrographic sheet. The shore line was transferred from the bromide of toppographic sheet No. 2302 and photostat of topographic sheet No. 1953. The old topography was found to be excellent.

GENERAL DESCRIPTION OF COAST

The south coast of Lopez Island is rocky and very irregular. There are three Bays, Aleck Bay, Hughes Bay and McArdle Bay, and several small islands , the most prominent of which is Colville Island a small bare rocky island forty feet high one half mile southwest true from Colville Point, and Castle Island a high rocky, and precipitous island close inshore and one fourth mile west of Colville Point, it is prominent from east and west. There are three small islands just to westward of the entrance to Aleck Bay. The outermost is one fourth mile offshore; a reef extends one hundred meters beyond its eastern end and several rocks with heavy kelp extend for two hundred meters to the eastward of the island.

The water is generally deep, the prevailing depths along the south coast being forty to fifty fathoms offshore and five to ten fathoms in Aleck and Hughes Bays. The bank with thirteen to twenty fathoms extending one mile to the southeast of Colville Point is apparently a continuation of the crescent shaped bank which extends eastward to Lawson Reef.

The passage inside Colville Island is clear except for the shoals to the westward of Colville Island described below, and which may be easily avoided. This passage is generally used by small craft.

ANCHORAGES

The best anchorage is in Aleck Bay, one fourth mile from the head of the bay in five fathoms, muddy bottom. This anchorage is partially protected from southeast and well protected from all other directions.

Anchorage may be had near the head of Hughes Bay in five fathoms, muddy bottom but it is not as well protected from southeast as Aleck Bay.

McArdle Bay is shallow and is open to the southwest.

DANGERS

The most important danger is Davidson rock, one fourth mile east of Colville Island, with three fourths fathom at mean lower low water. It is surrounded by heavy kelp. It is marked by a black buoy fifty meters southeast of the rock. In accordance with instructions no attempt was made to obtain the least depth on the rock. Vessels may safely pass close to the buoy as twelve fathoms was found fifteen meters from the buoy and thirty seven fathoms one hundred and fifty meters to the southeast of the buoy. The Coast Pilot on page 268, 1926 edition states that heavy kelp extends westward to Colville Island. No kelp was observed by this party except the comparatively small patch immediately surrounding the rock.

A rock with least depth of twenty six feet was found six hundred fifty meters 275° true from the western end of Colville Island. It lies close to the track of ships entering Aleck Bay from east or southeast, or passing inside Colville Island. This rock is marked by heavy kelp. The shoal area is of small estent.

A seven fathom spot was found one half mile northwest of the western end of Colville Island. This spot was carefully sounded for least depth; it is not marked by kelp. Two hunderd meters north of the above is a five fathom sopt (loose boulders); it is marked by a small kelp patch.

The reef and rocks referred to above, which extends for two hundred meters to the eastward of the small island at the entrance to Aleck Bay.

All other rocks are close inshore and of no menace to navigation.

CURRENTS

The flood current sets east along the south coast to Colville Point where it meets the current which sets northerly through Rosario Strait. Tide rips occur here at times especially over the bank which extends southeast of Colville Point. No current observations were made but the velocity is estimated to be about three knots at strength in the entrance to Rosario Strait, and some what less along the south coast of the Island.

SURVEY METHODS

A twenty four foot Navy Motor Sailor was used. Soundings up to twelve to fifteen fathoms were taken by hand lead with the launch underway. For greater depths the launch was stopped and soundings taken with a hand sounding machine. Care was taken to get soundings vertical by bringing the launch to a complete stop for each sounding and by heaving the lead clear in between soundings.

SURVEY METHODS Cont.

Phosphor bronze wire center tiller rope No. 8 was used in making lead lines; twelve pound leads were used.

Natural ranges were used almost altogether in directing the course of the launch.

BEACH FOR EMERGENCIES

During the spring and summer when there is little danger of southeasterly gales or in an emergency the southern side of the head of Alsek Bay affords a good place for beaching vessels. There is a sand beach with gradually sloping bottom free from rocks.

Respectfully Submitted

M. O. Witherbee

M. O. WITHERBEE, H. & G. E.

Approved and Forwarded

O. S. Reading

O. S. READING, H. & G. E.
Temporarily Commanding NATOMA.

TABLE OF STATISTICS

DATE	LETTER	VOL.	STATUTE MILES	POSITIONS	SOUNDINGS
Oct. 5, 1926	a	1	13.0	110	157
Oct. 6, 1926	b	1	5.8	42	135
Oct. 7, 1926	c	1	11.0	143	237
Oct.12,1926	d	1	22.4	200	314
Oct.19, 1926	e	2	5.0	72	149
Oct.25, 1926	f	2	0.7	8	8
Oct.28, 1926	g	2	3.0	36	37
		TOTALS	60.9	611	1037

AREA 8.0 Square Miles.

TIDES

Tidal reductions from auto-portable tide guage in Aleck Bay (⊙GAGE) Plane of Reference, Four and three tenths feet on staff from one month continuous observations. (Mean lower low Water)

Lowest tide observed two and six tenths feet on staff, Oct.25th, 1926
Highest tide observed twelve and two tenths feet on staff, October 16th, 1926.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

February 3, 1927.

REPORT ON VERIFICATION OF HYDROGRAPHIC SHEET No. 4592.

This sheet was well protracted and the time intervals were carefully adhered to in the plotting of the soundings.

The sounding records are complete except for the boat's headings.

Kelp was inked as shown in pencil by the field party.

H. R. Edmonston.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON February 25, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4592

South Coast of Lopez Island, Strait of Juan de Fuca.

Surveyed in 1926

Instructions dated August 10, 1926

Chief of Party, O. S. Reading.

Surveyed by C. I. Aslakson and M. O. Witherbee.

Protracted and soundings plotted by C. I. A.

Verified and inked by H. R. Edmonston.

1. The records conform to the requirements of the General Instructions except for the omission of boats' courses.

2. The plan and character of the survey conform to the requirements of the General Instructions.

3. The plan and extent of the survey satisfy the specific instructions.

4. The sounding line crossings are adequate.

5. Although the spacing of sounding lines complies with the instructions, the inshore development is not sufficient to enable the curves inside of the 10-fathom curve to be drawn. Also there are numerous blank areas in which shoal depths may exist.

6. The usual field plotting was done by the field party and it was well done.

7. It is recommended that the instructions for additional work in this locality call for closer inshore development.

8. On account of the uneven, rocky character of the bottom, together with the numerous shoals discovered, it is evident that only the drag will give assurance that all dangers have been revealed in the area covered by this survey.

9. The character of the surveying is excellent and its scope fair. The field drafting is excellent.

10. Reviewed by E. P. Ellis, February, 1927.

Approved:

_____

Chief, Section of Field Records (Charts)

_____

Chief, Section of Field Work (H. & T.)

January 29, 1927.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
volumes of sounding records for

HYDROGRAPHIC SHEET 4502

Locality: STRAIT OF JUAN DE FUCA.

Chief of Party: H. A. Cotton

Plane of reference is M L L W
4.0 ft. on tide staff at Alook Bay, Lopez Island, Washington.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G Harrison

Chief, Division of Tides and Currents.

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

4592

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4592A

State Washington

General locality Strait of Juan de Fuca

Locality South Coast of Lopez Island

Chief of party O. S. READING, H. & G. E.

Surveyed by Signal location by Carl I. Aslakson
Hydrography by M. O. Witharbee

Date of survey October, 1926

Scale 1 : 10,000

Soundings in feet

Plane of reference Mean Lower low water

Protracted by C. I. A. Soundings in pencil by C. I. A.

Inked by ..... Verified by .....

Records accompanying sheet (check those forwarded):

Des. report, ✓ Tide books, ... Marigrams, 1 Boat sheets,

2 Sounding books, ... Wire-drag books, ... Photographs.

Data from other sources affecting sheet .....

Remarks: Signals located directly on smooth sheet by plane table