

4161

Diag. Cht. No. 8103-2



U. S. G. SURVEY
L. & A.

APR 4 1920

Map No.

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: *S. E. Alaska*

11-5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. *4161*

LOCALITY:

Clarence Strait

Stone Rock Bay,

Mallard Bay,

Gardner Bay

1920

CHIEF OF PARTY:

T. J. Maher

4161

DEPARTMENT OF COMMERCE
U.S. Coast and Geodetic Survey

HYDROGRAPHIC SURVEY
CALENDAR
GEODASY

E. Lester Jones, Director. APR 4 11 23 AM '21

SOUTHEASTERN ALASKA

OFFICE OF THE DIRECTOR
U.S. COAST AND GEODETIC SURVEY
WASHINGTON, D.C.

Descriptive Report
to accompany
Inshore Hydrographic Sheet of Stone Rock Bay
and Vicinity,
Prince of Wales Island.

Hydrography Executed During October
1920

by

Fred. L. Peacock, H. & G. E.
Steamer WENONAH

T. J. MAHER, H. & G. E.
Chief of Party.

DEPARTMENT OF COMMERCE
U.S. Coast and Geodetic Survey

E. Lester Jones, Director.

Steamer Wenonah

T. J. Maher, H. & G. E.,
Chief of Party.

Season: 1920

DESCRIPTIVE REPORT TO ACCOMPANY INSHORE HYDROGRAPHIC
SHEET OF STONE ROCK BAY AND VICINITY,
PRINCE OF WALES ID. S. E. ALASKA

Extent:

Stone Rock Bay and the area eastward bounded on the south by latitude $54^{\circ} 45'$ N., on the east by the 100-fathom curve and on the north by latitude $54^{\circ} 46' 20''$ N. Also a partial development of Gardner Bay.

Method and Control:

The steam launches "#117" and "Delta" were used. All soundings are up and down. The launch #117 was equipped with a Ballauf hand sounding machine, the "Delta" with a Cosmos sounding machine operated by a small three-cylinder steam engine. 16-lb leads were used with the hand machine and 20-lb leads in connection with the Cosmos steam machine. Regulation stranded wire was used in all cases. The hand-lead was used only in searching for the least depth on shoals.

Positions were determined by the usual three-point method. All of the signals used were located by a topographic party from triangulation control. Most of them were whitewashes on rocks. The proposed general system was 200 meter-lines but it was found necessary to execute a large amount of close development on account of the irregularity of the bottom.

Characteristics:

The bottom is, in general, rocky and irregular. Stone Rock Bay is sometimes used by small fishing craft as a fair weather anchorage but is so foul that it should not be approached by any but small vessels. Shoal indications were thoroughly investigated and it is considered that the least soundings in suspicious areas were determined. However, in areas of this character, the wiredrag would be the only sure method of determination.

Anchorage:

Protected anchorage with moderate swinging room for vessels up to 200 tons is to be had in Gardner Bay in 15

fathoms of water, mud bottom. This anchorage is the center of the inner bight. The entrance is very narrow and has a sharp turn. The sailing line is shown in pencil on the smooth sheet.

Traffic:

Fishing craft and tugs, barges, pile drivers, etc. employed in building fish traps.

Statistics Sheet "B"

Date 1920	letter	Vol.	Positions	Soundings	Miles Statute	Vessel
Sept 30	a	1	10	32	1.0	Launch #117
Oct 8	a	1	36	80	6.5	" Delta
Oct 27	b	2	111	213	8.6	" #117
Oct 18	b	1	113	232	19.2	" Delta
Oct 28	c	2	115	240	10.4	" #117
Oct 19	c	1	51	119	6.5	" Delta
Oct 29	d	2	84	163	10.0	" #117
Oct 29	d	3	31	79	1.0	" "
Oct 20	d	1	72	170	5.7	" Delta
Oct 21	e	1	13	29	1.6	" "
Oct 21	e	2	99	214	12.0	" "
Oct 23	f	2	62	159	5.7	" "
Oct 27	f	2	44	118	5.6	" "
Oct 28	h	2	77	194	6.7	" "
Oct 28	h	3	58	154	5.3	" "
Oct 29	j	3	119	294	10.7	" "
Total			1095	2490	116.5	

AREA: 6.3 sq. stat. miles.

Above statistics include the work in Hallard Bay executed by Geo. L. Bean, H. & G.E.

Respectfully submitted,

Fred. L. Peacock
FRED. L. PEACOCK,
H. & G. E.

Approved.

T. J. MAHER, H. & G. E.
Chief of Party.

DIRECTOR
HYDROGRAPHY
SALES
GEODESY

DEPARTMENT OF COMMERCE
U.S. Coast and Geodetic Survey
Col. E. Lester Jones, Director

APR 4 11 24 AM '21

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S. E. ALASKA

Descriptive Report of Hydrography done by the
Str. Launch Delta
to accompany
Hydrographic Sheet of Stone Rock Bay and Vicinity
Prince of Wales Id.

Hydrography covered by this report done during
October, 1920.

By. GEO. L. BEAN,
Jr. H. & G. Engr.
Steamer WERONAH.

T. J. MAHER,
H. & G. Engineer,
Chief of Party.

DESCRIPTIVE REPORT

HYDROGRAPHY

Mallard Bay, Prince of Wales Id. S.E. Alaska.

LIMITS. - The area covered by this report is Mallard Bay and as far east at $131^{\circ} 58'$ W. Long. on the north and to $54^{\circ} 46'$ N. Lat. on the south.

METHOD AND CONTROL. - The steam launch Delta was used with a Cosmos sounding machine driven by a three cylinder steam engine. A stranded steel wire with a 20-lb. lead was used. Up and down soundings with the launch stopped were obtained.

The usual three point method with sextant angles was used to determine the positions. The signals used were located by a topographic party with triangulation control. Some of the triangulation signals were used. The signals were whitewashes and a few natural objects. The entire area was closely developed.

PHYSICAL CHARACTERISTICS. - The shore line is very irregular and bold, and in most cases rises sharply from the waters edge. At the western extremity of Mallard Bay it is low and flat for a short distance where a small stream empties. Solid ledges and cliffs make up the shoreline; these being of extremely rough and broken character. High heavily timbered hills with steep slopes rise on all sides.

At the western extremity of Mallard Bay is a deserted mine. There is no dock. In most places deep water is found close to shore but many rocks are found on the south side of the entrance to Mallard Bay, 225 meters offshore. Kelp grows plentifully along the shore and on the rocks.

In Mallard Bay the bottom is fairly regular, but on the south side of the entrance a shoal makes out for about 700 meters and to the east of the entrance it is rather irregular. It is of a hard rocky character. At the western extremity of Mallard Bay it is sandy for a short distance from shore.

CURRENTS. - There are no marked tidal currents in this area. The tide flows west on the flood and east on the ebb. During a storm small tide rips are encountered at the entrance to Mallard Bay.

DANGERS. - S.E. (true) from the southern extremity of the entrance to Mallard Bay and distant 350 meters is a rock awash at low water. It is marked by kelp.

On the southern side of the entrance to Mallard Bay

a shoal extends to the eastward for about 800 meters and a sounding of 5 feet was obtained 450 meters offshore. This shoal is marked by kelp and inshore are several rocks awash at half tide.

On the southern side of Mallard Bay are a few rocks close to shore and on the northern side are several rocks about 100 meters offshore and 800 meters west of the entrance. They are marked by kelp. East of the entrance to Mallard Bay, on the north, the shore is dotted with rocks and kelp extending 200 to 300 meters offshore.

1200 meters due east (true) of the north side of the entrance to Mallard Bay and 400 meters offshore is a water logged pile in about 75 feet of water with one end projecting about 10 feet out of water. This pile will probably be removed by the winter storms.

ANCHORAGES. - Vessels may anchor in about 15 fathoms of water, sandy bottom, at the western extremity of Mallard Bay but there is only about 200 meters of swinging room. This anchorage is only good in calm weather.

TRAFFIC. - Vessels of deep draft may enter Mallard Bay in calm weather. The best water will be found by making a course of $N.80^{\circ} W.$ (true) passing about 150 to 170 meters off the north side of the entrance. The larger shoal on the south side of the entrance must be avoided.

LIST OF ROCKS AND SHOALS:

Rock awash at low water 350 meters S.E.(true) from southern side of entrance to Mallard Bay.	Lat. $54^{\circ} 46'$ 291 m N. Long. $131^{\circ} 59'$ 638 m W.
5 ft. sounding on shoal 450 meters offshore at the southern side of entrance to Mallard Bay, marked by kelp.	Lat. $54^{\circ} 46'$ 916 m N. Long. $131^{\circ} 59'$ 732 " W.
Water logged pile 400 meters East (true) from north side of entrance to Mallard Bay in 75 ft. of water.	Lat. $54^{\circ} 46'$ 1300 m N. of-Long. $131^{\circ} 58'$ 555 " W.

HYDROGRAPHIC STATISTICS

Launch Delta.

Date	:Letter: : day :	No. of : miles :	No. of : sdgs. :	No. of : Positions :	No. of : angles :
1920	:	:	:	:	:
Oct. 27	: g :	5.6 :	118 :	44 :	88 :
" 28	: h :	12. :	348 :	135 :	270 :
" 29	: j :	10.7 :	294 :	119 :	238 :
Totals	:	728.3 :	760 :	298 :	596 :

AREA: 1.5 sq. miles (Statute)

TO THE DIRECTOR, Coast and Geodetic Survey,
Washington, D.C.

Respectfully submitted,



GEO. L. BEAN,
H. & C. E., Str. WENONAH.

Approved.

T. J. MAHER,
H. & C. E. Chief of Party.

DIRECTOR
ADDRESS THE SUPERINTENDANT
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 41/VFB

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON April 21, 1921.

Division of Hydrography and Topography: *J.H.H.*

Division of Charts: ✓

Tidal reductions are approved in
6 volumes of sounding records for


HYDROGRAPHIC SHEET 4161

Clarence Strait, off Prince of Wales Island, S.E. Alaska
T. J. Maher in 1920.

Plane of reference is
Mean lower low water, reading

4.7 ft. on tide staff at Gardner Bay.

Condition of records: Satisfactory.



Chief, Division of Tides and Currents.

Report on 4161 - Hyd.

Surveyed in - 1920

Chief of party T. J. Meeker

Surveyed by - F. L. Raebck and Geo L. Bean

Projected by - G. L. B. & C. E. C.

Soundings plotted by - F. M. Albert

Verified & checked - H. MacEwan

1. The records conform to the requirements of the general instructions except that the direction of the boat head was omitted on all but a few days work.
2. The plan and character of the development fulfil the requirements of the general instructions.
3. The sounding in crossings on shoal development are adequate. On open development there are few cross lines.
4. The usual depth curves can be sufficiently well drawn to clearly indicate the character of the bottom.
5. Soundings in pencil were completed by the office.
6. The ground was well developed and all important areas within its limits of the sheet satisfactorily covered by Field Party. Additional work might be suggested along the north shoreline of Gardner Bay.
Character and scope of surveying - Excellent
Field Drafting - Excellent.

May - 14 1921

the WENONAH, is a poor grade of roll paper. This paper is
 unfit for smooth sheets and should never be used for that purpose
 if it can be avoided. *

10. The character and scope of the surveying as well as the protracting
 are excellent.
11. Reviewed by E. P. Ellis, September, 1921.

** This was the grade of paper supplied
 for this purpose by the Washington office
 L. P. Archer*

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS.

Report on Hydrographic Sheet No. 4161 (Additional work)	Surveyed in 1921.
Chief of Party, J. H. Hawley.	Surveyed by G. L. Bean.
Protracted and soundings plotted by field party.	Verified and inked by R. L. Johnston.

1. The records conform to the requirements of the General Instruction.
2. The plan and character of development fulfill the requirements of the General Instructions and satisfy the specific instructions.
3. The sounding line crossings are adequate and the development is sufficient to enable the depth curves to be drawn.
4. The junctions with adjacent work are satisfactory.
5. No further surveying is required in the locality.
6. The surveying is good except in one report - there are 9 revolvers in the 83 positions which made their plotting difficult and in several cases impossible. The field drafting is excellent.
7. Reviewed by E. P. Ellis, July 1922.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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. 2 4161

State . . . Alaska, S. E.

General locality Clarence Strait

Locality . . . Stone Rock Bay, Gardner Bay

Chief of party T. J. Maher, H. & C. E.

Surveyed by F. L. Peacock, Geo. L. Bean

Date of survey October, 1920

Scale 1:10,000 - 1:20,000

Soundings in fathoms reduced to feet

Plane of reference M. L. L. W., Staff Gardner Bay

Protracted by G. L. B. - C. E. C. Soundings in pencil by -

Inked by G. L. B. - C. E. C. Verified by F. L. P.

Records accompanying sheet (check those forwarded):

2 Des. report, 1 Tide books, _____ Marigrams, 2 Boat sheets,

6 Sounding books, _____ Wire-drag books, _____ Photographs.

Data from other sources affecting sheet _____

Remarks:

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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U. S. Coast and Geodetic Survey.

Register No. 4161 - (Additional work)

State . S. E. Alaska.

General locality . Clarence Strait.

Locality . Gardner Bay

Chief of party . J. H. Hawley. - H. G. E.

Surveyed by . . Geo. L. Bean, - H. G. E.

Date of survey 1921

Scale 1 : 10,000.

Soundings in . . fathoms

Plane of reference . M. L. W.

Protracted by . W. G. F. . Soundings in pencil by W. G. F.

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, _____ Tide books, _____ Marigrams, _____ Boat sheets,

1 Sounding books, _____ Wire-drag books, _____ Photographs.

Data from other sources affecting sheet

Remarks: Title sheet prepared from office records. - HEM.