

4199

U. S. COAST AND GEODETIC SURVEY
FEB 8 1922
WASH DC

Diag. Chart No. 8102-Z

4199

Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
E. Lester Jones, Director.	
State: S. E. Alaska.	
11-5013	
DESCRIPTIVE REPORT.	
Hyd.	Sheet No. 6 4199
LOCALITY:	
Clarence Strait	
N.W. Coast of Gravina Island	
to	
Guard Island	
1921	
CHIEF OF PARTY:	
J. H. HAWLEY, H. & G. E.	

DESCRIPTIVE REPORT

Launch Hydrographic Sheet #6

N.W.Coast of Gravina Isl. Clarence Strait
S. E. Alaska.

This report covering a hydrographic survey of the N.W. coast of Gravina Island, made in accordance with instructions dated Feb. 11, 1921, is respectfully submitted.

All depths given refer to M.L.L.W. and all distances to nautical miles. Bearings are given in a clockwise direction with North as zero.

LIMITS:

From a point in Clarence Strait $55^{\circ}27'45''$ N or about 1 mile north of Guard Island. The sheet extends southward to $55^{\circ}18'30''$. It extends southward to Guard Island, thence to Vallenar Pt. and then follows the west coast of Gravina Island. It includes Vallenar Bay and all irregularities of the shoreline and extends offshore to the 100-fathom curve or far enough to connect with the ship hydrography. On the north it joins the wire drag work and launch hydrography at the north end of Tongass Narrows and on the south it joins launch hydrographic sheet #5.

ORGANIZATION:

In charge, right angle and plotting; G.L.Bean, H.&G.E.
Left angle and recording; C.E.Christopherson, Draftsman;
W.G.Fielder, D.O.; M.C.Bonaobra, Ch.Writer.
Coxswain: Fred Peterson, Sea.
Engineer: S. N. Davis, A.to E. 2c
Leadsman; B. C. Felton, Sea.
Sounding Machine Operator; Clyde Buster, Sea.
Tide Observer: T. J. Stocking, W.O.2c

EQUIPMENT:

Boat used, steam launch "Delta"
Machine; Cosmos sounding machine driven by a 3-cyl. steam engine.
Wire; Regular 7-strand steel sounding wire.
Lead; 20 to 25 lbs.
Tide Gauge; Plain staff.
Camp at Vallenar Bay.

METHOD:

Up and down soundings were obtained by stopping and backing for each sounding. Three hundred meters lines were run except where closer lines were necessary for adequate development. The leadline was used only to get the least water on a rock. It was endeavored to get an adequate development of the ten-fathom curve. It is on a 1:20000 scale. Many rocks and patches of kelp are shown close inshore which could not be mentioned in the record book. This survey was made from a camp at Vallenar Bay and from the ship while anchored in Vallenar Bay.

CONTROL:

Control was established by the following triangulation stations, Gravina, South Vallenar, Guard Id., Caamano and Gin. From these the topographic party located numerous whitewashes and occasionally natural objects. No trouble was experienced in getting good fixes except at the extreme northern end of the sheet and close inshore.

DANGERS:

Close inshore the kelp grows plentifully. About 2 miles south of South Vallenar Pt. is a small sandy bay. Just south of this bay are two small islands. Between the southernmost island and the mainland it dries at about half tide. Between these islands and the mainland are several rocks marked by kelp. About 3/4 mile SSW of South Vallenar Pt. is a large shoal marked by kelp. It lies about 1000 meters offshore. It is about 450 meters long and about 100 meters wide. Kelp grows so plentifully that the launch could not run through it. The least water that could be obtained was 2 fathoms. However, according to local information this shoal bares about 2 feet on the lowest tides.

It bears about 289° dist. 1150 m. from hydrographic station Van.

It bears about 167° dist. 1270 m. from triangulation station S.Vallenar.

It bears about 253° dist. 900 m. from hydrographic station Fig.

About a mile south of S.Vallenar Pt. is a rock about 200 meters offshore. It is marked by kelp. Although it was carefully searched with a lead line, 1-4/6 fathoms was the least water found. According to local information, bares 3 feet on the lowest tide.

It bears	xxx	about	313°	dist.	810 m.	from	Hyd. Sta.	Dip.
"	"	"	234°	"	170 m.	"	"	Van.
"	"	"	202°	"	380 m.	"	"	Ct .

A quarter of a mile south of S. Vallenar Pt. the 10-fathom curve extends about 350 meters offshore. Inside the 10-fathom curve are several rocks marked by kelp. The 10-fathom curve extends about 1350 meters offshore, in a N'ly direction from S. Vallenar Pt.

270 meters north of the point is an offlying rock bare about 25 feet at M.L.L.W.

1020 meters north of the point is a rocky shoal marked by kelp which tows under with a strong tide. The least water obtained was 1-5/6 fathoms.

It bears about 346° dist. 1230 m. from T. Sta. S. Vallenar.

" " " 318° " 1410 m. " Hyd. " Hen

" " " 301° " 2370 m. " " " Toy

1530 meters north of So. Vallenar Pt. is a rocky shoal with a least depth of 10-1/2 fathoms.

It bears about 347° dist. 1740 m. from T. Sta. S. Vallenar.

" " " 325° " 1860 m. " Hyd. " Hen

" " " 307° " 2730 m. " " " Toy

About 200 meters north of this shoal a sounding 6-7/2 fathoms was obtained by this sounding was probably erroneous, because the place was carefully examined later and not less than 30 fathoms could be found. *2 1/2 days*

N.E. of S. Vallenar Pt. is a small islet. About 50 meters due east of this islet is a rock which bares about 1/4 tide. It is marked by kelp.

Between this islet and shore is a smaller islet surrounded by rocks and kelp. These rocks bare about 1/2 tide.

Between S. Vallenar Pt. and the small islet about 200 meters to the north are several rocks marked by kelp. They bare about 1/2 tide. The head of Vallenar Bay is a tide flat of sand and mud which bares about 600 meters offshore.

From Vallenar Bay to Vallenar Pt. the 10-fathom curve follows the shore line about 100 meters off. Kelp grows abundantly close to shore. N.W. from Vallenar Pt. are two small islands and a reef extending about 1000 meters offshore.

Vallenar rock at the extreme outer edge of this reef is awash at high water. It is surrounded by kelp.

It bears about 305° 480 m. dist. from Hyd. Sta. Nav.

" " " 334° 117* m. " " " " Tom

" " " 311° 875 m. " " " " End.

About 200 meters south of Vallenar Rock are several rocks marked by kelp. These rocks bare about 1/4 tide. Between Vallenar Rock and the small islands are several rocks marked by kelp. They bare about half tide. N.E. of Vallenar Pt. are three rocky shoals. The southernmost bares about 3/4 tide, and the two northern ones about 1/4 tide. The southern end of these shoals is 110 meters offshore and the northern end about 160 meters. Between the southern shoal and middle one is a small boat passage. It

* Should be 117° E.P.E.

† Vallenar rock is bare 3 ft at L.W. (See dump. rep. of T. 3858, Chart 8094 and Coast Pilot).

has about 7 fathoms between the shoals. On the west side of Vallenar Pt. is a rock which bares about 1/4 tide. It is about 180 meters off Vallenar Pt. and 80 meters off the southern small island.

It bears about	157 ^o	, 270m.	dist. from	Hyd. Sta.	Nav.				
"	"	"	355 ^o	550m.	"	"	"	"	Tom.
"	"	"	292 ^o	200m.	"	"	"	"	End.

Nearly on a line between Vallenar Pt. and Guard Island is a rocky shoal marked by kelp. It is about 500 meters from Guard Island. The least water obtained with the lead line was 1-5/6 fathoms.

It bears about	315 ^o	, 1760 m.	dist. from	Hyd. Sta.	Nav.				
"	"	"	326 ^o	2400 m.	"	"	"	"	Tom
"	"	"	155 ^o	690 m.	"	"	"	"	End.

On the west side of Guard Island the 10-fathom curve lies about 50 meters offshore, and on the N.E. and south it lies from 100 to 200 meters offshore. Kelp grows plentifully around the island.

ANCHORAGES AND PASSAGES:

The only ship anchorage on this sheet is in Vallenar Bay. The anchorage is open to the N. and N.W. and on the ebb tide a very choppy sea is set up. With a heavy southeaster considerable swell makes into Vallenar Bay especially on the flood tide. The bottom is sandy with a thin layer of mud on top and about 15 fathoms is the least water that it is advisable to anchor in.

Fishing crafts and pile drivers sometimes anchor back of the reef just east of Vallenar Pt. but this is only a fair weather anchorage and sudden storms have caused the loss of a number of boats. According to local information ~~the~~ boats dragged ashore here in the Winter of 1920-21.

During N'ly winds fishing craft and pile drivers sometimes make use of the two rocky bays south of S. Vallenar Pt. ^{but} and only those having local knowledge should make use of them.

The passage between Vallenar Rock and Guard Island known as the Inside Passage is used by vessels passing around Vallenar Pt. Vessels using this passage should pass not more than 400 meters off Vallenar Rock to avoid the shoal on the north side of the passage.

Small boats passing around Vallenar Pt. often go back of the small islands and close to Vallenar Pt. This passage is clear with a least water of about 2-1/2 fathoms if the middle of the passage is kept. It is necessary to pass between the two shoals N.E. of Vallenar Pt. These can usually be identified by being awash or by the kelp growing on them.

TIDES:

The tidal currents are strong in this vicinity. Around S. Vallenar Pt. an estimated velocity of 2-1/2 knots is reached on the flood tide and 1-1/2 knots on the ebb. With wind and tide opposed moderate tide rips are set up. West of Vallenar Pt. an estimated velocity of 3 knots is ~~reached~~ reached on the flood tide and 1-1/2 knots on the ebb, with very strong tide rips during the ebb tide in a S.E.'ly storm.

BOTTOM: South of S. Vallenar Pt. the bottom is rocky and drops rather sharply to 200 fathoms. North of S. Vallenar Pt. is a wide sandy area with rocky bottom at intervals. This area has a comparatively level ^{floor} or sloping gradually to the 100-fathom curve. From Vallenar Pt. north, the bottom is rocky and irregular.

TRAFFIC:

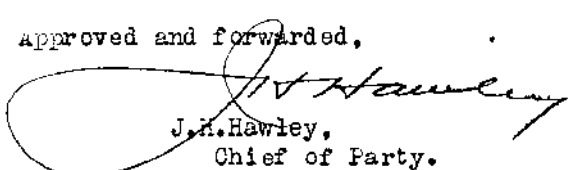
A great many fishing vessels pass around Vallenar Pt. and the Inside Passage is usually used by larger vessels passing from Tongass Narrows into Clarence Strait going south and vice-versa. The regular steamer route of the Inside Passage passes east of Guard Island. Fish traps are located along the west coast of Gravina Island from S. Vallenar Pt. southward, and many pile drivers and trap tenders pass along here.

TOPOGRAPHIC CHARACTERISTICS:

The shore line is rocky and strewn with boulders and detached rocks close to shore. South of S. Vallenar Pt. it is often bold and abrupt. Kelp grows abundantly close to shore and on the various shoals. The head of Vallenar Bay is a tide flat with a low valley behind it. A large creek empties into Vallenar Bay. The country is thickly wooded with fir, hemlock and cedar, with a thick undergrowth of deciduous growth.

Prepared and submitted by G.L.Bean, H.& G.S.

approved and forwarded,


J.H. Hawley,
Chief of Party.

LIST OF SIGNALS

HYDROGRAPHIC SHEET NO. 6

Hydrographic name.	Location	Est.
Vina	Triangulation Sta. Gravina	1912
Vall	" " S. Vallonar,	1912
Cam	" " Caamano	1912

All other signals are from topographic sheet No. 3

Note: This is a duplicate copy.

Original is pasted in front of Vol.1 sounding record.

TIDAL DATA

HYDROGRAPHIC SHEET No. 6

Plain staff located in Vallonar Bay, connected with bench marks established in 1921, used for entire sheet.

Plane of reference	Mean Lower Low Water
" " "	8.8 feet on staff
Highest tide observed (during this work)	27.1 feet on staff.
Lowest tide observed (during this work)	6.8 feet on staff.

STATISTICS SHEET No. 6

Date	Letter	Volume	Positions	Soundings	Miles Statute	Vessel
1921						
Aug. 20	a	1	66	180	10.0	Delta
" 23	b	2	32	77	6.5	"
" 24	c	2	111	292	19.7	"
" 25	d	2	95	200	18.0	"
" 26	e	2	43	93	5.3	"
" 27	f	3	66	177	13.9	"
" 31	g	3	102	245	17.1	"
Sept. 1	h	3	85	210	15.5	"
" 2	j	4	125	293	19.6	"
" 7	k	4	104	276	17.3	"
" 8	l	4	42	80	6.5	"
" 8	l	5	99	176	14.3	"
" 9	m	5	24	53	1.2	"
Totals			994	2352	164.9	

by M. Leff
Report of progress of work on
Chart 4193 - Inking & Verifying

Vols 1, 2, 3, completed in entirety

Vol 4; "f" day completed.

Protraction of portions excellent. Spacing of soundings in deep water could be improved upon. Consistent error of in plotting soundings noted in the dropping of five feet in ~~the~~ water deeper than nine fathoms instead of regarding as next higher fathoms.

Work uncorrected: - Vol 4 - "h" & "l" days
Vol 5 in entirety

M. Leff

Report on Verifying & Inking Hydro. Sheet No. 4199.

This sheet was inked and verified by M. Leff, whose report immediately precedes this one, and F. M. Albert. That work which was incomplete as mentioned in the previous report, was completed and the sheet scanned for rocks etc. to guard against omission, as far as possible. The sheet was well protracted and plotted and the descriptive report is unusually complete and explicit and worthy of mention. From it, the notes as inked on the sheet, were taken.

The 6 1/2 fathom sounding ^{at 23 W day} mentioned in the descriptive report and expressed as of doubtful existence, is marked OK in the sounding record. It lies about 1900 meters N x W of Δ Val.

Frank M. Albert.
Draftsman
Sec. of Tull Records.

Feb. 29, 1922.

February 15, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 4199

Locality: N.W. Coast of Gravina Island to Guard Island, S.E. Alaska.

Chief of Party: J. H. Hawley in 1921.
Plane of reference is mean lower low water, reading
8.8 ft. on tide staff at Vallenar Bay.

For reduction of soundings,

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.



Chief, Division of Tides and Currents.

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

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4199.

Surveyed in 1921.

Instructions dated Feb. 11, 1921.

1. The records conform to the requirements of the General Instructions except that the boat's courses were omitted throughout.
2. The plan and character of development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. The sounding line crossings are adequate considering the uneven bottom.
5. The information is sufficient for drawing the curves outside of the 5 fathom curve. Further development is needed to completely show the inshore curves.
6. The field plotting was completed to the extent prescribed in the General Instructions. The protracting was excellent but the spacing of soundings in deep water was not good and in depths greater than nine fathoms 5 feet was always dropped instead of using the next higher fathom. Also more care should have been used in transferring rocks and islets from the topographic and boat sheets.
7. The junctions with adjacent sheets are satisfactory.
8. No further lead line surveying is needed in the area covered by this sheet except close inshore, which should be done when the development of the region requires it. There are numerous indications of shoals that should be dragged.
9. The character and scope of the surveying are good and the field drafting is fair.
10. Reviewed by D. P. Ellis, November, 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. 6 (field number) **4199**

State S. E. Alaska

General locality Clarence Strait

Locality W. Coast, Gravina Island to Guard Id.

Chief of party J. H. HAWLEY, H. & G. E.

Surveyed by GEO. L. BEAN, H. & G. E.

Date of survey AUG. 20, to Sept. 9, 1921.

Scale 1:20,000

Soundings in Fathoms

Plane of reference Mean Lower Low Water.

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

Geographic names lettered by E.F.Lewis.

Inked by Verified by

Records accompanying sheet (check those forwarded):

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

5 Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks: