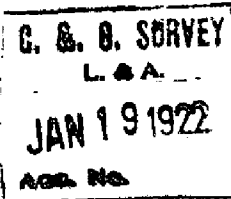


3858



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

State: S. E. Alaska

11-5613

DESCRIPTIVE REPORT.

Topographic Sheet No. File 3858

LOCALITY:

Gravina and Revillagigedo Is.  
~~Triangulation station Gravina~~  
~~(Gravina Island)~~  
~~to~~  
~~Bear Reef (Pongash Narrows)~~  
Lat 55° 18'  
to  
Survey Pt. (Revillagigedo I.)

Original

1921

CHIEF OF PARTY:

J. H. Hawley

DESCRIPTIVE REPORT TO ACCOMPANY

TOPOGRAPHIC SHEET NO. Field #3

The topography on this sheet was executed under orders dated Feb. 11, 1921. A scale of 1:20,000 was used. Bearings are shown as true and distances in nautical miles and meters.

LIMITS: The southern limit of the topography is triangulation station Gravina on the west coast of Gravina Island, joining topographic sheet No. 2 here. From this point the topography is continuous to the northward including all bays and islands on Gravina Island to Vallenar Pt., thence along the N.E. shore of the island to Rosa Reef. It commences again at a point Lat.  $55^{\circ} 25'$  Long.  $131^{\circ} 46'$ , on the opposite side of Tongass Narrows from Rosa Reef. From this point the topography is continuous along the west coast of Revillagigedo Island, including all bays as far as Survey Pt. Guard Islands are also shown on this sheet. The country in back of the shore is covered by form lines for a mile or more in most places.

CONTROL: The control on this sheet is furnished by triangulation stations Gravina, So. Vallenar, Nig and Guard Island Light. The shore line was located by traverse and re-sections. Guard Island Light made an ideal signal for re-section in many cases.

METHOD: The shoreline from triangulation station Gravina to triangulation station So. Vallenar was located by traverse entirely. A traverse was started at triangulation station So. Vallenar and cuts taken to hydrographic stations Cat and Nav, previously built. These stations were rigidly located by these cuts and re-sections on Guard Island. This traverse was closed at Rosa Reef. The old beacon at Rosa Reef (Triangulation station Rosa Reef) has been replaced by a light. According to information from the Lighthouse service the light is in the the same approximate location as the beacon. This traverse had a ten-meter closing error using Rosa Reef light as triangulation station Rosa. The work on Revillagigedo Island was started at triangulation station Nig and carried to the southward. It was impossible to recover triangulation station Blue altho its approximate location was obtained by intersecting the reference distances and a rough check was obtained on the topography. The work was again started at triangulation station Nig and carried to Survey Pt.

The present light on Guard Island is not the same one located by triangulation in 1912, having been changed about 4 years ago in order to show around the entire horizon. The base of the old light is still standing. The plane table was set up over this old light base (Triangulation station Guard Id. L.H.) and the new light was located and the shores of the islands run in.

The following table gives the closing errors and lengths of the traverse.

Traverse	Closing error	Length of traverse
Tri.Sta.Gravina -		
Tri.Sta. So.Vallenar	8 meters	4.5 Naut.Mi.
Tri.Sta.So.Vallenar - hyd.sta.		
Nav - Tri.Sta.Rosa Reef	10 "	7 do

Cuts to all prominent hills and mountains were taken and elevations obtained by four vertical angles and form lines drawn in. Elevations are to tops of trees, unless mountain is shown as bare. (Average heights of trees about 70 feet) Elevations are referred to Mean Sea Level.

Numerous whitewash signals and a few natural objects were located for the hydrographic party, except in Tongass Narrows and on Revillagigedo Island.

GENERAL DESCRIPTION: As a whole the area covered by this sheet is mountainous, rising quickly from the beach. However, there are a few low points, Vallenar Pt. and Survey Pt. and a valley makes back from Vallenar Bay. The entire area is thickly wooded and in most places a thick undergrowth. The shoreline is rugged and rocky except for gravel and sand flats in the head of the bays. There are numerous streams along the shore, mostly small ones.

DETAILED DESCRIPTION:

Grant Cove is the local name for a small bay 1/4 mi. deep about 1-1/2 miles 160°(true) from South Vallenar Point. The outlying islands to the southward give some protection in S.E.'ly weather, but a heavy swell would work in the bay. It is fairly protected from northerly winds. There is a sand-gravel beach in the head of the bay and barges often load sand and gravel here for commercial use in Ketchikan.

There are several small bays between Grant Cove and So. Vallenar Pt. They are foul at the entrance and bare at L.W. for a long distance from shore.

South Vallenar Pt., on the N.W. end of Gravina Island is a low point (less than 100 feet high) and thickly wooded. The point is recognizable by three rocky islets 15 - 25 feet high lying on the north side about 300 meters offshore. There are numerous rocks for 100 meters or so offshore all along the point.

Vallenar Bay, lies <sup>W.</sup> between Vallenar and South Vallenar Points on the N.E. end of Gravina Island. It is about 1-1/2 miles long and 1/2 mile wide extending in a S.E. direction. The bay affords a ship anchorage for large vessels and gives protection in S.E.'ly weather only. A light swell makes around So. Vallenar Pt. in a southeaster and the wind draws thru the valley at the head of the bay. The bay is open to NW. In Vallenar Bay and about 300 meters from So. Vallenar Pt. are three bare rocks. Small boats pass between these rocks at any tide but the passage between So. Vallenar Pt. and the nearest rock dries at L.W. Unless possessing local knowledge one should give the rocks a wide berth even with a small boat. The south shore of the bay is foul for 125 meters or more offshore. In the head of the bay there is a sand-gravel flat, covered at high water but bares 550 meters at L.W. Two large streams meander down the valley at the head of the bay and empty in the bay. The N.E. shore of the bay is steep, and precipitous in some places. Deep water is found close to the N.E. shore. There are two houses in good condition in the head of the bay (the westerly gable of the smaller and W'ly house is topographic station Gab).

Vallenar Pt. lies between Vallenar Bay and Tongass Narrows. It is a long wooded round point rising in gradual slopes to an elevation of 2500 feet (High mt.), 4-1/3 miles from the N.W.'ly tangent of the point. Out lying 160 meters from the N.W. end of Vallenar Pt. are two low wooded islets. The islets are connected at low water. There is a small boat passage 150 meters wide between Vallenar Pt. and the nearest islet. If making this passage from Clarence Strait favor Vallenar point to avoid a ledge bare at 3/4 tide making off the S.W. end of the nearest islet. Then mid-channel and pass about 70 meters to northward of the bare rock 150 meters East of Vallenar Pt., so as to clear the ledge, bare at 3/4 tide making off this bare rock and a rock on the north side of the passage bare at 1/4 tide. These dangers are marked by kelp during the summer months. During a S.E. storm a heavy breaking swell makes this passage difficult to navigate.

With the exception of this passage close to the point, Vallenar Pt. is foul for 1/2 mile offshore. The outer rock, called Vallenar Rk. is always bare 3 feet or more,

but is very deceiving when a big swell makes in at high water, as it gives the rock the appearance of being awash, and it may be mistaken for some of the other rocks. The passage between Vallenar Pt. and Guard Islands is called the Inside Passage. There are several rocks bare at 1/4 tide 220 meters  $95^{\circ}$  (true) from the offlying islands off Vallenar Pt. 630 meters  $57^{\circ}$  (true) from Vallenar Pt. there is a Black Can Buoy #7, marking an under water danger.

The shoreline in Tongass Narrows from Vallenar Point to Rosa Reef is very irregular with ledges baring 50 m. or so offshore. Occassionally there is a small stretch of sand beach.

Rosa Reef 1-7/8 miles  $117^{\circ}$  (true) from Vallenar Point consists of a rock covered at highest tides 50 meters long and 10 meters wide, about 1/6 mile offshore. There is an unwatched light on the outer (east) end of the rock. The water between the reef and shore appears to be foul.

Pond Reef lies about 1/5 mile from the N.E. shore at the N.West end of Tongass Narrows. The rocks bare at about 1/2 tide and are marked by kelp during the summer months. The south end of the reef is marked by a Red Buoy #10.

Point Higgins, on the west shore of Revillagigedo Island, 1-3/4 miles,  $70^{\circ}$  (true) from Guard Island, is nothing more than a slight change in direction of the shoreline. It is not a distinguishable point.

Survey Point, on Revillagigedo Island, is 3/4 mile,  $8^{\circ}$  (true) from Pt. Higgins. It is a rounded point marking the junction of Clarence Strait and Clover Passage. There is a small rocky point protruding about 100 meters and 50 meters wide, with a rock about 30 feet high on the S.W. side of the point. There is a rock awash close to N.E. of this small point.

Guard Islands, consist of two islets, <sup>partially</sup> ~~particularly~~ wooded, 1-1/2 miles,  $320^{\circ}$  (true) from Vallenar Pt. On the most N.W.'ly island there is a tended light and fog signal. The lighthouse service has built several houses on the island, concrete launch ways and a white launch mooring buoy off the N. end of the largest island. The shore line of the islands are rocky, on the S.W. end of the N.W.'ly island the shore line is abrupt and rocky about 40 feet high. The two islands are connected at L.W.

### DANGERS TO NAVIGATION:

The above water dangers to navigation noticed by the topographer are as follows:

There is a reef 100 meters offshore of the westerly islet of two islets on the south side of Grant Cove.

The bare rocks on the south side of Vallenar Bay, previously described.

The foul area around Vallenar Pt, Rosa Reef, Pond Reef.

There is an abundant growth of kelp, indicating a reef, 5/8 mile,  $213^{\circ}$  (true) from So. Vallenar Pt.

Kelp grows abundantly during the summer months on all under water dangers.

Moderate to heavy tide rips occur off Vallenar Pt. during ebb tide and S.E.'ly wind.

### AIDS TO NAVIGATION:

Name	D.M.	D.P.
Guard Isl. Temporary Light.	$131^{\circ} 52'$ 905 m.	$55^{\circ} 26'$ 1288 m.
Rosa Reef Light	$130^{\circ} 48'$ 157 m.	$55^{\circ} 24'$ 1388 m.
Pond Reef Buoy #10 (Tongass Narrows)	$130^{\circ} 48'$ 859 m.	$55^{\circ} 26'$ 117 m.
Black Buoy #7 do	$131^{\circ} 50'$ 623 m.	$55^{\circ} 25'$ 1300 m.

### LANDMARKS:

High Mt. 4-1/3 miles,  $155^{\circ}$  (true) from the tangent of Vallenar Pt. is the highest mountain on the N.W. end of Gravina Island. The slope from the tangent of Vallenar Pt. to the top of the mountain appears as steps on approach from the S.W. Looking at the mountain from the N.W. the Vallenar Bay side is abrupt. The top of the mountain is bare and grassy in the summer. The summit is often clouded. Lat.  $55^{\circ} 21'$  1100 m. Long.  $130^{\circ} 47'$  700 m.

Vallenar Rock, previously described, is a good landmark since at ~~times~~ the outermost danger off Vallenar Pt. Lat.  $55^{\circ} 25'$  1492 m. Long.  $131^{\circ} 51'$  806 m.

### LOCAL NAMES:

Grant Cove is the local name for the bay 1-1/2 miles,  $160^{\circ}$  (true) from So. Vallenar Pt. According to local in-

O.K.  
J.W.M.


formation it was so named in honor of one of the early prospectors on Gravina Island.

REMARKS: Traffic along the W. coast of Gravina Island is confined solely to fishing craft and cannery tenders. There are numerous fish trap locations on this sheet (shown in pencil) The two just South of So. Vallenar Pt. were the only two in operation in 1921. Tongass Narrows is used by the passenger and freight boats passing to and from Ketchikan.


The topography done on Revillagigedo Island was not called for in the instructions for 1921. It was done while waiting for the hydrographic party to furnish the survey of Guard Island vicinity. The nearest available work under the instructions was across Clarence Strait - too long a run for the steam launch.

The entire work of this sheet was done from a combined camp with the hydrographic party located in Vallenar Bay.

Approved.

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

Respectfully submitted,

  
E. F. LEWIS,  
Jr. H. & G. E.

EFL/mb

ADDRESS THE DIRECTOR  
U.S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 4-DRM

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

SECTION OF FIELD RECORDS

Report on Topographic Sheet No. 3858.

Surveyed in 1921.

Instructions dated Feb. 11, 1921.

Chief of Party, J. H. Hawley.

Surveyed by E. F. Lewis.

Inked by E. F. Lewis.

1. The records conform to the requirements of the General Instructions, the descriptive report being unusually comprehensive.
2. The plan and character of the survey fulfill the requirements of the General Instructions except that there are only one-half as many determined elevations as directed.
3. The plan and extent of the work satisfy the specific instructions.
4. The junctions with adjacent sheets are satisfactory.
5. The field drafting was completed to the extent prescribed in the General Instructions.
6. No further surveying is required within the limits of the sheet.
7. The character of the survey of the shoreline details is good. That of the relief and interior details may be considered a reconnaissance sufficient for present needs.

The field drafting is good.

8. Reviewed by E. P. Ellis, November, 1922.



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The finished Topographic 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. Field 3858

State . . . S.E. Alaska.  
General locality Gravina and Revillagigedo Islands  
Gravina Island, Tongass Harbor  
Lat. 55° 18'  
Locality Tri. Sta. Gravina to Ross Reef to Survey Point.  
Chief of party . J.H. Hawley . . . . .  
Surveyed by . E.F. Lewis . . . . .  
Date of survey August and September 1921. . . . .  
Scale . 1:20,000 . . . . .  
Heights in feet above Mean sea Level . . . . .  
Contour interval . 100. feet.  
Inked by E.F. Lewis . . Lettered by E.F. Lewis . . . . .  
Records accompanying sheet (check those forwarded): Photographs,  
Descriptive report, Horizontal angle books, Field computations,  
1 description of station  
Data from other sources affecting sheet . . . . .  
Triangulation 1912 and 1921.

Remarks: