

S.B.  
S.A.  
3686

# 3686

Diag. Ch. No. 8102-2

Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

*O. S. Totten*  
Superintendent.

State: *Alaska*

## DESCRIPTIVE REPORT.

Hydrographic <sup>Sydney</sup> Sheet No. **3686**

LOCALITY:

*Ruivillagiedo*  
*channels*

*1914*

CHIEF OF PARTY:

*J. A. Danville*

11-1645

# 3686

WIRE DRAG SURVEY

3686

Revillagigedo Channel,

S. E. ALASKA.

Cutter Rocks to Twin Islands

Aug. 20-Oct. 10.

1914.

Scale  $\frac{1}{20,000}$ .

John A. Daniels, Aid,--Chief of Party.

Officers:

R. V. Miller, Aid, Incharge Launch Arnold, observing  $\text{L}^{\text{R}}$   
and plotting; in charge of triangulation.  
Thos. Jamieson, Mate, Observing  $\text{L}^{\text{R}}$  and plotting on G. L. CHEHALIS.  
L. C. Dyke, D. O. In charge of E. L. VIKING.  
W. H. Kearns, B. O. Observing  $\text{L}^{\text{R}}$  on G. L.  
G. C. Jones, D. O. Observing  $\text{L}^{\text{R}}$  and assisting in triangulation.  
Lindley Davis, Mate, Assistant observer and coxswain CHEHALIS.  
-----  
J. A. Talbot, Jr. }  
J. C. Johnson, }     Recorders.

The area dragged on this sheet extends from Twin Islands to the spindle on the Cutter Rocks; and includes examinations on both sides of Bold Island, in Thorne Arm, and in the approaches to Hassler Harbor, besides a complete sweep of the more open area between the Twin Islands and Bold Island.

There is a clear deep channel across this area by way of the passage south of Bold Island. The principle shoals found are briefly described below, beginning at the N. W. extremity of the area.

North of Spire Island:

- ✓ 13½' shoal 537m. 302° true from Spire Island Light where 3½fm. is charted.
- ✓ 52' shoal 228m. 346° true from Spire Island Light, outside of 16fm. curve.
- ✓ 5' shoal 162m. 336° true from Spire Island Light, on the 10fm. curve. There is 41ft. 50m. nearer the light. A group of rocks off the point South of Reef Point on Annette Island, upon which is located  $\Delta$  Station Slant.
- ✓ 21½' rock 200m. 96° true from  $\Delta$  Station Slant, on 10fm. curve.
- ✓ A rock 2½' showing at low water lies 150m. 111° true from Station Slant, plotting just inside the 10fm. curve.

Evidently the 4.1 ft. found at  $\Delta$  reported on H.S. J.P.S.

Shoals in the vicinity of Hassler Harbor.

- ✓ A small group of rocks well off shore North of Pow Island on which the least depth is 26', 1000m. 28° true from Signal Rock, on Annette Island. 22fm. is charted.

Several rocks near the West entrance to the harbor.

Least sounding is 15', which is 510m. 351° true from  
signal Rock  $\leftarrow$  9 $\frac{1}{2}$ fm. formerly charted. This rock lies

near the middle of the fairway between the charted 1 $\frac{3}{4}$ fm.  
spot and the shore. A 12' sounding was obtained on this  
1 $\frac{3}{4}$ fm. shown on the chart N. ~~X~~<sup>W</sup> of Pow Island.

A sounding of 0.2' was obtained on Channel Rock in the  
N. E. entrance to the Harbor, 665m. 249° true from <sup>A</sup>sta.  
Harbor (on Annette Island).

2  
Revised 2.0  
J.B.S.

There is 35' 340m. 225° true from station Seal (on Bold  
Island Shoreline). This shows between the 10 and 50fm.  
curves on chart. There is deep water inside this sand-  
ing, and it was not verified by having the drag passed  
over it.

Position of  
35' based  
on  $\odot$  skin  
which was  
plotted in  
error. New  
position of  
 $\odot$  skin moved  
35' to inshore  
shoal  
ENC 3/5/67

Shoal Spot in Deep Water off Cone Island.

A sounding of 17' was obtained 1035m. 263° true from  
station Cone (on outer point of Cone Island) where 109fm.  
is charted. The shoal area is about 50m. in diameter,  
and was dragged over with an effective depth of 16 $\frac{1}{2}$ '.  
The rock is directly in the path of steamers going to  
the Sea Level Mine in Thorne Arm.

The dotted shoreline shown on this sheet is the rev-  
ised line obtained by means of sextant cuts to points  
and tangents. The full lines represent the small port-  
ion that was run in with the plane table in the very  
short time available at the end of the season.

Shoals in the Passage North of Bold Island.

There is 28' 850m.  $31^{\circ}$  true from signal Quick (on small outlying Island north of Bold Island) showing on the 10fm. curve.

A sounding of 34' was obtained 300m.  $175^{\circ}$  true from signal *on shoreline N. of Bold I.* Wash, where 11fm. is charted.

$17\frac{1}{2}'$  was found in the middle of the channel 1220m.  $114^{\circ}$  true from station Wash. where 18fm. is charted. The shoreline on the chart is badly out here, and Mastic Rock is evidently farther east than shown, because of this distortion.

The area between signal Wash and Round Island is probably shoal. This patch was examined late in the season and was not completely developed.

Off Hog Rocks a sounding of  $26\frac{1}{2}'$  was obtained, 560m.  $116^{\circ}$  true from the light beacon. This plots on the 10fm. curve on the chart. The area about Hog Rocks was not completely developed.

Thorne Arm was dragged to examine the shoal represented on the chart. A clear sweep was obtained with a least effective depth of 47'. The Arm was examined for a distance of  $2\frac{1}{2}$  nautical miles.

STATISTICS

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Revillagigedo Channel, Alaska.

Hydrographic Sheet #3

Wire Drag Party, 1914.  
John A. Daniels, Chief of Party.

Date	Day	Miles of drag line	Angles	Soundings
Aug. 20	A	5.75	210	
Sept. 8	B	1.00	60	
" 10	C	1.00	60	3
" 11	D	2.50	102	8
" 14	E	2.00	174	3
" 15	F	5.50	240	11
" 16	G	9.00	270	3
" 17	H	4.75	120	7
" 22	J	0.00		1
" 23	K	4.25	114	
" 25	L	7.50	180	1
" 26	M	9.50	266	
" 29	N	2.25	95	
" 30	O	2.00	91	
Oct. 2	P	6.25	280	
" 3	Q	5.00	172	3
" 10	R	4.75	168	3
		<u>73.00</u>	<u>2,602</u>	<u>43</u>

## LIST OF PLANE TABLE POSITIONS

3686

## REVILLAGIGEDO CHANNEL, ALASKA.

HYD. SHEET 3.

WIRE DRAG PARTY, 1914.

Object	Latitude	D. M. Meters	Longitude	D. E. Meters
SHIN				
Prominent rock on small island N. of Pow Id.	55 13	90.2 (1765.3)	131 26	366.9 (693.9)
PATCH				
Prominent patch of bare rock near shore line.	55 15	1399.8 (455.7)	131 21	783.5 (278.5)
TREE				
Tree on Cone Island. Whitewash at base.	55 14	1393.3 (462.2)	131 19	530.7 (529.7)
CASCADE				
Prominent waterfall on S. E. side Thorne Arm	55 16	144.2 (1711.3)	131 15	939.7 (119.8)
PUN				
Hyd. signal. on ledge.	55 11	996.2 (859.3)	131 21	878.4 (183.3)
BUSH				
Tree on outlying rock, N. of Alava Point	55 11	826.7 (1028.8)	131 12	906.9 (154.8)
LAVA				
Tree on outlying rock at Alava Point	55 11	602.7 (1252.8)	131 12	265.4 (796.3)

VEC  
Feb. 5, 1915  
P. S. S.

HYDROGRAPHIC SHEET 3686.

Revillagigedo Channel, Alaska, by Assistant  
J. A. Daniels in 1914.

TIDES.

	Hassler Harbor ft.	Ketchikan ft.
Mean lower low water, or plane of reference on staff	1.9	1.3
Lowest tide observed " "	-1.8	-2.9
Highest " " " "	21.3	21.5
Mean range of tide	13.4	13.1



LAC  
March 24, 1916.

RFL

HYDROGRAPHIC SHEET 3686.

Vicinity of Hassler Harbor, Revillagigedo Channel, Alaska,  
by Assistant John A. Daniels in 1915.

TIDES.

	Hassler Harbor ft.
Mean lower low water, or plane of reference on staff	1.9
Lowest tide observed " "	-1.8
Highest " " " "	21.3
Mean range of tide	13.4

EXAMINATION OF HYDROGRAPHIC SHEETS  
*Sections* by the  
DIVISIONS OF FIELD WORK AND FIELD RECORDS.

Sheet No. 3686 *WD*

1. + Are numbers of hydrographic sheets adjoining limits of work shown? *No. Junction is stated*
2. Are transferred soundings of adjacent hydrographic sheets made to show that ground has been covered? .....
3. + Is sheet of proper size? *yes*
4. + Is sheet well laid out, no additions required? *yes*
5. Are limits of hydrography regular? .....
6. + Are positions of signals accentuated by light dot of black ink to assist plotting? *No.*
7. + Are tidal stations plotted on sheet? *No. Location is stated*
8. Is area of work completely covered? .....
9. Are critical soundings and dangers shown distinctly? .....
10. + Is the control good? *yes*
11. + Are positions of signals clearly shown? *yes*
12. Are soundings well distributed? .....
13. Are shoals carefully and sufficiently developed? .....
14. Do soundings cross satisfactorily? .....

- 15. Is existence or non-existence of a reported shoal determined?  
.....
- 16. Is least sounding over bar probably determined by check soundings or diagonal sounding lines crossing same? .....
- 17.+ Are projection and plotting checked? *yes* .....
- 18. Is the scale of this sheet sufficient to show the necessary details in the navigable channels? .....
- 19. +Is the shoreline shown? *yes* .....
- 20.+ Is there an accompanying list of plane table or sextant positions of signals? *no* .....
- 21. Has sufficient attention been given to the development of channel? .....
- 22. Are sufficient bottom characteristics shown? .....
- 23. Are sounding lines normal to coast? .....
- 24. Have suspicious soundings been investigated? .....
- 25. Are ranges or bearings given for important shoals? .....
- 26.. Are sailing directions given? .....

27. Is the general hydrography in the entire area properly developed? .....
28. Are shallow channels for motor boats sounded? .....
29. Is there a note as to coloration of water in or near mouths of rivers and bays? .....
30. Is there any information given as to obtaining fresh water? .....
31. Are there proper intervals between soundings? .....
32. Are projecting points of land and reefs determined by sufficient lines with soundings at close intervals run at right angle to direction of points? .....
33. Is there sufficient data to draw depth curves? .....
34. Are shoal areas remote from shore properly developed by independent system of buoy signals placed in the vicinity of shoal? .....
35. Are soundings obtained at docks in harbor? .....
36. \* Is there a full list of data effecting sheet given? .....
37. Are description of hydrographic signals and marking of same recorded? .....
38. Is there a list of land marks given? .....

- 39.+ Does descriptive report give date of instructions? *no!*.....  
.....
- 40. Are small islets and rocks distinctly shown? .....
- 41. Is information relative to anchorage given? .....
- 42.\*Are survey methods explained sufficiently? *yes*.....
- 43. Are geographical names given on sheet? .....
- 44. Are coast pilot notes given? .....
- 45. Is the unit of soundings given in title? .....
- 46. Are sufficient depth curves shown? .....
- 47. Are aids to navigation shown? .....
- 48. Are grass or kelp indications shown? .....
- 49. Are sailing courses shown on sheet? .....
- 50. Is descriptive note given as to visibility of shoals? .....
- .....
- 51. Are dangers fully described in descriptive report? .....
- .....
- 52. Is the character of reefs described on sheet? .....
- .....
- 53. Are beaches indicated where vessels in distress could be safely beached? .....
- 54. Are standard symbols used in drafting? .....
- 55. Is information relative to currents given? .....
- 56. Is there a statement as to certainty or probability of least depth over dangers given? .....
- 57. Is the existence of certain shoals doubtful? .....
- 58. Is a general description of coast given? .....

59. Is information relative to commercial importance given? .....
60. Does the descriptive report cover one or a moderate number of sheets? .....
61. Are descriptions of headlands given? .....
62. Is the nature of shoals whether coral rock or sand shown on sheet? .....
- 63.+ Is the position of the tide gauge well selected? Is the tidal data sufficient for the reduction of soundings over the area of the sheet? *yes* .....
- 64.+ Have projection lines been numbered around all the edges? ... *yes* .....
- 65.+ Has the geographic position of one of the triangulation points on the sheet been inked near the bottom edge of the sheet? .....
66. Was the speed of the sounding boat such as to allow vertical readings of the leadline? .....
67. Were lines of soundings run along the axis of narrow channels? .....
68. Have rocks or shoals seen from the sounding boat in passing been definitely located? .....
69. Have charted shoals reefs, or rocks been investigated? .....
- 70.+ Have sounding records been kept in approved form? *yes* .....

71. Are Wire drag surveys required? .....

72. Is the area between the soundings taken and the shore indicated or described as being covered by reefs, etc. as the case may be? .....

Other Remarks .....

The forgoing points marked by a cross (+) and the following additional points are to be considered for wire drag hydrographic sheets.

73. What additional areas, if any, in the locality covered by the sheet should be dragged? *Connections made behind Boed. 5* .....

74. Number of small areas inside limits of work missed by drag (few, moderate number, numerous) *few* .....

75. Are shoals discovered with drag clearly shown? *yes* .....

76. Were shoals later covered by drag set at suitable depth? *In so far as practicable* .....

77. Are all areas missed by drag clearly shown? *yes* .....

78. Are overlaps ample? *yes* .....

79. Do effective depths conform to instructions under which the work was done? .....

80. If work was done before present practice as regards effective depths was adopted, should the area be re-dragged to conform to the present practice? *no* .....

81. Are all shoals discovered shown on current issue of chart? *yes* .....

*J. H. Hawley*

Hyd = 3686.

The area dragged extends from Twin Islands, to the Spindle on the Cutter Rocks.

The entire area was practically covered by the drag, although a few spots were left undragged and are indicated by arrows on the tracing.

The work was plotted in the field, verified and a tracing compiled in the office. A number of inaccuracies in plotting were discovered and corrected. On this connection a few might be mentioned.

At day "H" (page 19 of Sdg. Rec) a Rock was located by cuts, but not plotted.

In several cases single cuts were taken to locate Rocks, and on account of the insufficiency of the number of cuts cannot be plotted.

A number of positions plotted in the wrong places, e.g.  $\sqrt{E}$ ,  $\sqrt{P}$ ,  $\sqrt{P}^{20}$ ,  $\sqrt{P}^{40}$ ,  $\sqrt{Q}$ ,  $\sqrt{Q}^{21}$ ,  $\sqrt{Q}$  &  $\sqrt{Q}^{12}$ .

At  $\sqrt{F}^{23}$  drag set at 49<sup>th</sup> struck. A sounding of 51 ft. was obtained. This, evidently, is not the least water, that could have been obtained in this locality.

At day "K" a RK. awash located by cuts, but not plotted.

Areas covered by the light of the drag at the beginning of the line might be considered as doubtful and it was decided not to show them on the tracing,

Shoals and dangers to navigation are fully



described in the report of the chief of the party and in the letters #389 of 1914 & #37 of 1915.

The work in general was very carefully executed and records kept in good shape.

J. P. ShKlein

### Work of 1915.

At 1:00 P.m. Day B. a change in uprights made. On plotting this change was overlooked and the entire drag depth shown as 45 ft. The correct depth  $N=25'$  &  $F=40'$  is shown on the tracing.

(5/22-1916)

April-29-1915