

4202

Diag. Cht. No. 8202-Z

4202

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

State: *E. Alaska*

11-5613

DESCRIPTIVE REPORT.

*W. D.* Sheet No. *4202*

LOCALITY:

*Lynn Canal -*  
*Vanderbilt Reef to*  
*Seduction Point*

*1929*

CHIEF OF PARTY:

*N. H. Heck*

DESCRIPTIVE REPORT SHEET E.

The area of this sheet was very thoroughly dragged or swept from the limit of the work of Mr. L. O. Colbert in 1917, to Chilkat Island, except for Wm. Henry Bay, and the area west of Sullivan Island. Soundings were taken along the shore at places where the shoal shelf extended offshore, but time did not permit soundings elsewhere. The region is characterized in many places by ~~the~~<sup>an</sup> inshore shelf of varying widths, which bares or nearly bares at low tide, out side of this the drop is very sudden. In this class of work the guiding launch passed close to the rocks ~~and~~<sup>was necessary</sup> a lookout to prevent striking them with the launch; accordingly in all such places the inshore line is as close to the shore as it can be carried.

Note the application of a new system of work on this sheet. The wide, open area was covered by a long sweep, the inshore deep area by a short sweep and the inshore shoal area by the drag.

While the position of the 5-1/4 ft. shoal northwest of ~~Elweed~~<sup>Eldred</sup> rock is apparently in the exact path of the Explorer, and doubt might arise as to how she passed in safety, <sup>with shoal at this point</sup> it is stated that she did so pass. The finding of the 83 foot shore southwest of station Sed proves the efficiency of the sweep for this purpose. This shore is not on the main ridge and is apparently isolated.

Soundings are given in feet in order to preserve the same unit throughout on the chart.

In the records no attempt is made to show the height of tide for sweep work but the maximum height during the working period is entered. The following rules give a margin of safety at the up-right at height of tide  $H$   $(110-H) - 85$  is margin of safety.

SHEET E

Date	Letter	Length of Drag	No. of Angles		Miles	Soundings		Miles	Remarks
			GL	EL		No. angles			
7/27	A	15000	196	180	51	---	---	---	
<del>7/28</del>	B	17500	178	174	24.5	---	---	---	
7/29	C	17500	98	120	12	---	---	---	
8/2	D	15000	84	87.7	11.7	2	6	---	
8/5	E	15000	60	72.2	7.00	---	---	---	
8/11	F	7500	72	66	8.8	---	---	---	
8/15	F'	---	---	---	---	73	1466	---	
8/16	G	7500	108	111	12.5	1	2	---	
8/20	H	7000	54	51	7.2	1	2	---	
8/22	J	7000	111	108.8	14.5	---	---	---	
8/23	J'	---	---	---	---	677	154	---	
8/24	K	4500	60	51	3.5	10	20	---	
8/25	L	4500	114	105	9	---	---	---	
8/26	M	7000	84	88.4	8.4	2	4	---	
9/8	N	7000	108	117	14	2	2	---	
9/9	P	10000	123	113	16	---	---	---	
9/10	P'	---	---	---	---	35	70	---	
9/12	Q	4500	102	99	8.2	2	4	---	
9/13	R	4500	69	57.7	4.55	2	4	---	
9/20	R'	---	---	---	---	1	4	---	
9/27	S	5000	336	333	2.8	---	---	---	

Summary

No. angles, G.L. ---1657  
 " " E.L. ---1628  
 " linear miles --- 195.6  
 " sdgs. --- 199  
 " sdg. angles --- 398

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Seattle, Wn.

Feb. 8, 19 22

SUPERINTENDENT, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

Chief of Party.

DESCRIPTION.	POSITION.						Method of determination.	Charts affected.	
	Latitude.			Longitude.					Datum.
	'	"	D. M. meters.	'	"	D. P. meters.			
Vanderbilt Reef L.H.	58	35	662	135	01	49	Triangulation	8302 8300	
Sherman L.H.	58	51	149	135	09	21	"	8302 8303 8300	
I. Beacon on N. Chilkat	59	04	1111	135	16	337	"	8303 8300	
Prominent scar S. of Pt. Bridget.	58	39	702	134	58	455	"	8302 8300	
Battery Pt. L.H.	59	12	872	135	21	784	"		

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance. The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaves and like objects are not sufficiently permanent to chart.

COPY TO FIELD RECORDS.

March 21, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in

1 volume of sounding records ~~five~~ and 6 vols. of wire-drag records for

HYDROGRAPHIC SHEET 4292

Locality: Lynn Canal, S. E. Alaska.

Chief of Party: N. E. Heck in 1921

Plane of reference is mean lower low water, reading

5.2 ft. on tide staff at William Henry Bay

4.8 " " " " " Skagway, Lynn Canal

4.4 " " " " " Haines, Portage Bay; 8.6 ft. on t.s. at Sullivan

Condition of records satisfactory except as checked below: Island, Lynn Canal

For reduction of soundings.

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.

# Verification Report of Wire Drag 4 20 22.

The records throughout were well kept. The drag records had angle notes and well sketched depth diagrams.

The plotting of the supplemental hydrography and of the drag was done without error.

The whole area was well dragged save ~~with~~ for the exception of two small spots, the one near Eldred Pt. of no real consequence.

In areas where the drag grounded and no sounding was obtained, or <sup>when</sup> a sounding did not prove definitely the least depth, the figure to the charted was given as the depth at which a subsequent drag cleared the shoal spot. This is noted on the A & D sheet. To show that this spot was cleared by such a depth, the trace of the drag carrying the lesser effective depth was carried in a broken line over the shoal area into the greater effective depth area. This is clarified by consulting the A & D sheet which in this particular does not conform to previous practice.

Respectfully submitted  
Alois Baer  
Draftsman.

May 4, 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. 4202 Sheet E.

State S.E. Alaska

General locality Lynn Canal

Locality Vanderbilt Reef to Seduction Pt.

Chief of party N.H.Heck

Surveyed by Field Party  
~~Various officers, N.H.Heck chiefly.~~

Date of survey July-September, 1921.

Scale 1:40000

Soundings in Fath

Plane of reference M.L.L.W.

Protracted by W.J.C.-A.J.H. Soundings in pencil by A.M.W.

Inked by A.J.H.-W.J.C. Verified by A. Bacon

Records accompanying sheet (check those forwarded):

Des. report, 2 Tide books, \_\_\_\_\_ Marigrams, 2 Boat sheets,

1 Sounding books, 6 Wire-drag books, \_\_\_\_\_ Photographs.

Data from other sources affecting sheet \_\_\_\_\_

Remarks: To be inspected by N.H.Heck

(Additional work)

4202

(Additional work)

4202

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

State: *S. E. Alaska*

11-5613

**DESCRIPTIVE REPORT.**  
*(Additional work)*  
W. D. Sheet No. *4202*

LOCALITY:

*Lynn Canal -*

*Vanderbilt Reef to*

*Reduction Point &*

*William Henry Bay*

1922

CHIEF OF PARTY:

*J. A. Hawley*



DESCRIPTIVE REPORT  
to accompany Wire Drag sheet No. 4202.

The work covered in this report is that done on this sheet in the season of 1922, and is as follows:

William Henry Bay and about one mile of the shore immediately south.

The area West and North of Sullivan Island, including the mainland shore from a point about one mile south of Sullivan Island to Glacier Point.

The inshore areas around the northernmost Chilkat Islands and Seduction Point.

Along the east shore of Lynn Canal from nearly opposite Eldred Rock to opposite Seduction Point.

The anchorage in William Henry Bay was covered to an effective depth of 39 feet (29 feet along the north shore). On account of shallow water at the head of the bay and limited space making the setting out and maneuvering of the drag difficult, the shores were not covered quite as closely as may be desired but that portion used by vessels as an anchorage was covered and proven clear.

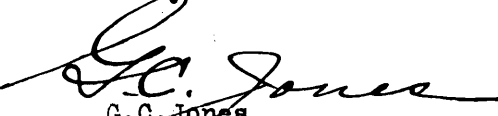
The balance of the area outlined above was dragged with special attention to a close cleanup along the shore except where shallow spits thrown up by glacier or other action made such dragging impracticable, as was the case along the main shore from opposite the west end of Sullivan Island to Glacier Point.

Wherever practicable the area was covered to the full depth of 85 feet, or over, by means of a sweep line reasonably close to shore (about to the charted 50 fathom curve.) Drag lines were then run along the shore, the inner one or two sections set to an effective depth of 30 to 40 feet, the depth increased as fast as allowable until overlapping the sweep lines. These lines were dragged within an average distance of about 250 Meters from the shore. An exception to both distance off and effective depth was the shore referred to above - south of Glacier Point. The inshore section on this line averaged 14 feet effective depth and the average distance off shore was about 1/3 mile.

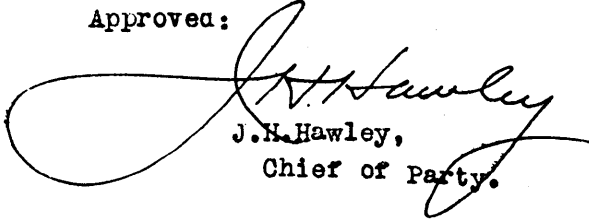
The shoal off the west coast of Sullivan Island charted "P.D." was located and outlined. The least water found was 4 feet.

No other danger to present day navigation was found. A bank extending 1/2 mile east from the east shore of the north Chilkat Island was located and examined. It was cleared with the drag set at an effective depth of 39 feet.

Submitted by

  
G.C. Jones,  
H. & G. Engineer.

Approved:

  
J.N. Hawley,  
Chief of Party.

Statistics for Sheet No. 4202

Date	Letter	Vol.	Positions	Miles	Sndgs. Shoal.
May 11	A ✓	1	27	4.6	
May 12	B ✓	1	18	5.3	
May 22	C ✓	1	22	9.0	
May 24	D ✓	1	38	7.8	7
May 25	E ✓	1	29	7.1	9
May 26	F ✓	1	22	4.6	4
June 1	G ✓	1	26	8.6	
June 3	H ✓	1	37	10.0	
June 6	J ✓	1	21	3.2	
June 7	K ✓	2	19	3.0	3
June 8	L ✓	2	23	8.1	
<hr/>					
April 26	A' ✓	1A	282	71.3	23
		Supplemental	19	3.8	
			Soundings	75.1	
May 9	F ✓	1	15		15
May 22	A ✓	1	45		45
			<u>60</u>		<u>60</u>

Note: "F" day soundings transferred from "B" day of "F" sheet.

## TIDAL DATA

Hydrographic(W.D.) Sheet No. 4202

Three tide staffs were used for the reduction of work on this sheet as indicated at the beginning of each days work.

Sullivan Island - This gauge is in the same location as the one used in 1921 and was connected with the old bench marks.

Plane of reference (M.L.L.W.) reads 8.8 feet of staff.  
Highest tide observed during season reads 23.3 feet on staff,  
Lowest tide observed during season reads 6.8 feet on staff.

Pyramid Harbor - This gauge was established in Pyramid Harbor, Chilkat Inlet. The plane of reference was established by connection with Bench Mark No. 1 established in 1890.

Plane of reference (M.L.L.W.) reads 6.9 feet on staff.  
Highest tide observed during season reads 20.9 feet on staff.  
Lowest tide observed reads 1.4 feet on staff.

Portage Cove - An automatic gauge was operated in Portage Cove and the reducers were scaled from the marigrams for the periods during which work was done. The data relative to highest and lowest tides observed can best be supplied by the office as the marigrams were not reduced by the party.

Plane of Reference (M.L.L.W.) reads 6.3 feet on staff.

440  
Jan. 10, 1923.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in  
1 volumes of sounding records ~~for and~~  
3 " " wire drag " for  
HYDROGRAPHIC SHEET 4282a

Locality: Lynn Canal, S.E. Alaska

Chief of Party: J. H. Hawley in 1922

Plane of reference is mean lower low water, reading  
6.5 ft. on tide staff at Portage Cove - 7.2 ft. on tide staff at William Henry Bay  
8.2 " " " " " Sullivan Island 4.1 " " " " " Pyramid Harbor

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.

Report on Inking and Verifying H. 4202 W.D. (Addl. Work)

The field work of 1922 was inked on the wire drag sheet of the previous year.

The change of the tide reducers in the office caused some of the field drafting to be changed. As this was due in part to an incorrect plane of reference it is suggested that the field parties make a greater effort in obtaining a correct plane of reference for their field reducers. This is of importance, since Wire Drag sheets are inked in the field.

Places where the drag grounded are either indicated on a shoal sounding plotted on the A.S.D. sheet.

The split in the 1921 work, about  $3\frac{1}{2}$  miles S.E. of the entrance to William Henry Bay, was covered.

With the exception of several cases where no soundings were taken when the drag grounded, the work was complete; the records were clear and well kept. The field drafting was excellent and in this connection the plotting by G. E. Christopherson is worthy of special mention.

Frank M. Albert  
Draftsman, Field Record Section.

Jan. 30, 1923.

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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

March 20, 1923.

SECTION OF FIELD RECORDS

Report on Wire Drag Sheet No. 4202.

Surveyed in 1921, 1922.

Chief of Party, N. H. Heck; J. H. Hawley (Additional Work)

Surveyed by N. H. Heck; J. H. Hawley, G. C. Jones (Additional Work)

Protracted and Inked by W. J. Chovan, A. J. Hoskinson and C. E. Christopherson.

Verified and Area and Depth Sheet by A. Baer and F. M. Albert (Additional Work)

1. The records are good and conform to the requirements of the General Instructions.
2. The depth and extent of dragging satisfy the specific instructions with the single exception that in the additional work executed by Hawley, it appears from an inspection of the chart that the drag should have been carried closer to shore on the east side of Lynn Canal from opposite Seduction Island northward. The instructions call for the "drag work to be extended as close to the beach as feasible".
3. A clearance depth was obtained over all shoals discovered sufficient to meet the needs of navigation in the particular locations, with the following exceptions: The 18-foot spot about 3 miles north of Pt. Sherman was not dragged over to determine the least water.
4. The supplemental hydrography is suitable for correcting the charts.
5. The overlaps are sufficient.
6. There is but one small split to the northwest of Eldred Rock. As a 5-foot sounding was obtained close by it is hardly necessary to drag over this area again. When work is done in this vicinity again the 18-foot spot mentioned in paragraph 3 and the area adjacent to it should be dragged, as well as the east shoreline as mentioned in paragraph 2.

7. Attention is called to the fact that the sunken rock marked P. D. on Chart No. 8300 off the west side of Sullivan Island should be changed to a 4-foot sounding. Also the sunken rock symbol northwest of Eldred Rock should be replaced by a 5-foot sounding.

The  $2\frac{1}{2}$ -fathom sounding shown on Chart No. 8300 midway between Pt. St. Mary and Pt. Sherman is taken from Hydrographic Sheet No. 2057. It lies about 216 meters off shore and about 40 meters inshore of the inner edge of the drag. The sounding should therefore remain as the drag did not pass over it.

8. The field plotting was complete, but on the additional work the office draftsman had to change some of the drag strips owing to the changed tide reducers.

9. Rating of work ( Character and scope of drag operations, excellent.  
( Field drafting, excellent.

10. Reviewed by A. L. Shalowitz, March, 1923.

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. 4202 (Additional work)

State . . . S.E. Alaska . . . . .

General locality . . Lynn Canal . . . . .

Locality . . Vanderbilt Reef to Seduction Point . . . . .

Chief of party . . J.H. Hawley . . . . .

Surveyed by . . J.H. Hawley and G.C. Jones . . . . .

Date of survey . . May 11 to June 8, 1922 . . . . .

Scale . . . 1:40,000 . . . . .

Soundings in . Feet . . . . .

Plane of reference . Mean lower low water . . . . .

Protracted by C.E.C. . . Soundings in pencil by C.E.C. . .

Inked by . . C.E.C. . . . . . Verified by . . . . .

Records accompanying sheet (check those forwarded):

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

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

Data from other sources affecting sheet . . . . .

Remarks:

This title applies to work done on this sheet in 1922.