

4144

4144 b

~~4144~~

4144a

4144a

~~4144~~

4144b

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

*State:* .....

11-5813

DESCRIPTIVE REPORT.

*Sheet No.* .....

LOCALITY:

-----  
 191  
 -----

CHIEF OF PARTY:

4144b  
4144  
~~4144~~  
4144a

4144b  
~~4144~~  
4144a

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

State: .....

11-5613

DESCRIPTIVE REPORT.

Sheet No. ....

LOCALITY:

.....

.....

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.....

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191

CHIEF OF PARTY:

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT TO ACCOMPANY SHEETS B & C.

Season

----

1920.

N.H.Heck, H.& G.E., Chief of Party,  
Commanding Str. EXPLORER.

POST-OFFICE ADDRESS:

Sheets B & C.

TELEGRAPH ADDRESS:

PRESS OFFICE:

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

Limits of the Sheets.

Sheet B. extends from Point Astley, the northern limit of sheet A, to Grave Point, the southern limit of sheet C.

Sheet C. embraces all the area outlined for the seasons work from Point Grave to the work done by the wire drag party of 1917. No dragging was done on sheet C west of Marmion Island and Point Arden.

Plotting.

All dragging done on these two sheets reached an effective depth of at least 85 feet and is shown in orange. The greater part of the area was dragged to considerable excess depth, 95 to 140 feet. The shore line was transferred from the topographic sheets with a pantograph made on board ship and is quite accurate.

Boat sheet is on the datum used by the primary triangulation party to the southward (E.W. Eickelberg, 1917). No location of Point Arden light (Arden). Marmion Island light ( $\Delta$  Mar) Juneau Isle ( $\Delta$  June) was available and an approximation was made from the best information available and this location was used for plotting the smooth sheet. A location for these points was requested from the Office but not received. In dragging the north arm of Port Snettisham the shore line was followed and the charted position of tangents was used for control. The chart was used as a boat sheet.

No dangers to navigation were found on either of these sheets. The drag grounded on Twin Point and soundings taken at the time indicate less than the charted depth but weather conditions prevented a closer development and owing to the lateness of the season no further opportunity for dragging offered.

Currents.

In general the currents are fair with the channel. Eddy currents and heavy undertows are the rule rather than the exception and as a result data secured while dragging is not sufficient for a basis of positive statements as to strength and direction.

In the vicinity of Pt. Arden the currents are strong and very confused. Stronger undercurrents were encountered here than elsewhere on the working grounds.

see 1421 A to  
position marked  
1421 B

### Survey methods and Apparatus.

Owing to the defective gear with which the seasons work was started and the time required to develop a substitute drag the work on these sheets was not completed.

The unfinished areas are outlined below:

#### Sheet B.

Along the shore from Pt. Astley to Point Styleman including a special examination close inshore around Point Styleman as the drag was once aground at this point although it is believed that the depth is greater than that to which examination is being made. An area of about 2.5 square miles north and northwest of Midway Island along the shore from Twin Point to signal Stone.

A short stretch of the shoreline from two miles south of Grave Point. Total area about twelve square miles.

#### Sheet C.

The shoreline on both sides of the channel from Grave Point to Point Arden and the shoreline around Grand Island. All of the area from Point Arden west to that dragged by the party of 1917.

#### Hydrography.

The hydrography called for by the instructions is incomplete. Little information useful to navigation would be secured by doing so, however, as in general the drag was taken very close to shore.

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

Statistic Sheet for Hydrographic Sheet B

Date 1920	Letter	Volumes	Positions	Soundings	Miles, statute	Miles, square	Vessels
June 24	A	1	5		1.7	1.4	Helianthus & Scandinavia
25	B		43		16.5	14.5	
July 16	C	2	27		8.9	10.8	Helianthus, Scandinavia, & M Tender
17	D		22		9.9	12.5	Helianthus & Scandinavia
Aug. 14	E		12		4.7	7.0	
16	F		22		6.0	5.0	
17	G		17		5.5	8.6	
18	H		28		10.4	11.6	
19	J		15		5.1	3.7	
24	K		18		7.4	6.0	Explorer & Helianthus
25	L		18		6.5	5.6	
28	M		7		2.0	3.0	Helianthus & Scandinavia
30	N		42		14.3	21.5	
Sept. 2	O		32		12.2	13.5	
Oct. 1	P		34		16.2	9.0	
2	Q		20	2	9.6	3.0	
			362	2	136.9	136.7	

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Statistic Sheet for Hydrographic Sheet C

Date 1920	Let- ter	Vol- ume	Posi- tions	Soundings	Miles, statute	Miles,sq.	Vessels
June 5	A	1	17		7.4	7.0	Explorer & Scandinavia
28	B		21		9.7	4.0	Helianthus & Scandinavia
29	C		3		1.1	0.2	
30	D		13		3.6	2.5	
July 30	E		3		1.0	0.4	
Aug. 16	F		10		3.3	4.3	
			-----		-----	-----	
			67		26.1	18.4	

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Statistic Sheet Totals

	Positions	Soundings	Miles, statute	Miles, square
Sheet A	1320	79	436.8	269.0
Sheet B	362	2	136.9	136.7
Sheet C	67	0	26.1	18.4
	-----	-----	-----	-----
Grand Total	1749	81	579.8	424.1



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

*Duplicate*

~~Str. Explorer, Seattle, Washington~~

~~Dec. 11, 1930~~, 19

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:

*N. A. Smith*  
Chief of Party.

DESCRIPTION.	POSITION.				Method of determination.	Charts affected.	
	Latitude.		Longitude.				Datum.
		D. M. meters.		D. P. meters.			
<b>Lt. Brothers Islands</b>	57 17	1253.8	133 47	403.6	<b>A. Joashins 1917 Triang.</b>	8200	
<b>Cascade Water falls</b>	57 55	1624.2	133 52	427.4	" "	8200	
<b>Lt. Glass Peninsula</b>	57 37	145.1	133 48	383.2	" "	8200	
<b>Lt. Duck Pt.</b>	57 13	1095.7	133 30	937.4	" "	8200, 8215	
<b>Lt., Midway Is.</b>	57 50	128.4	133 48	805.8	" "	8300	
<b>Scar</b>	57 24	1264.0	133 26	834.7	" "	8200, 8215	
<b>Scar (Ven.)</b>	57 21	892	133 52	821	" Topog.	8200	

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.

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

FIELD RECORDS (C)

AND REFER TO NO.

41/VFB

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON February 25, 1921.

Division of Hydrography and Topography: ✓

Division of Charts:

Tidal reductions are approved in  
1 volume of sounding records for

HYDROGRAPHIC SHEET 4144

Stephens Passage, S. E. Alaska.  
N. H. Heck in 1920

Plane of reference is  
Mean lower low water, reading

6.6 ft. on tide staff at Taku Harbor.

Condition of records: Satisfactory.



Chief, Division of Tides and Currents.

*Field Records.*

COPY FOR ~~USE~~.

41/VFB

February 25, 1921.

Division of Hydrography and Topography:

Division of Charts:

Tidal reductions are approved in  
1 volume of sounding records for

HYDROGRAPHIC SHEET 4144

Stephens Passage, S. E. Alaska.  
N. H. Heck in 1920

Plane of reference is  
Mean lower low water, reading

6.6 ft. on tide staff at Taku Harbor

Condition of records: Satisfactory.

Chief, Division of Tides and Currents.

## Report on Verification of Hyd. 4144 (Wire Drag)

The area was dragged to a minimum depth of 85 feet at mean lower low water and to obviate the necessity for tidal reductions or lift corrections the drag was hooked up to 110 feet. The area and depth tracing therefore shows the swept area as 85+; the minimum depth obtained.

The area in Port Annettscham is not shown on the area and depth tracing for the reason that the signals are not plotted nor could they be found. The boat sheet may have these signals plotted but it is at present in the field for use in conjunction with further drag surveys. Therefore this part of the survey must be verified at a later date.

The field drafting was excellent and the condition of the record was, generally, very good.

There were several places where the overlap was considered insufficient and appropriate notes made on the area and depth tracing.

The area and depth tracing of this sheet is the same as for Hyd. Sheet 41442 of the same locality, so that it summarizes the work of both sheets. The place where the drag grounded near O ASH should receive further investigation.

Frank M. Albert  
Draftsman  
Sec. Field Records.

April 26, 1922.

E.P.S.

ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 9-DRM

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

SECTION OF FIELD RECORDS

Report on Wire Drag Sheet No. 4144, 4144<sup>a</sup> and 4144<sup>b</sup>.

Surveyed in 1920, 1921, and 1922.

Chiefs of Party: N. H. Heck and J. H. Hawley

Surveyed by: N. H. Heck, J. H. Hawley and B. C. Jones.  
Instructions dated March 2, 1920.

Protracted and Inked by: 4144-B. Friedenber; 4144<sup>a</sup>-W. S. Chovan,  
4144<sup>b</sup>-A. J. Hoskinson.

Verified and Area and Depth Sheet by; F. M. Albert.

1. The records conform to the requirements of the General Instructions.
2. The methods and character of operations fulfill the requirements of the General Instructions.
3. The depth and extent of dragging satisfy the specific instructions.
4. The two shoals at the outer limits of the drag work, north and south of Twin Point were not dragged over to determine the least water.
5. The supplemental Hydrography is suitable for correcting the charts.
6. The overlaps are ample except as shown on the Area and Depth sheet.
7. There are a few splits on this sheet all of which are shown on the Area and Depth sheet. These are of very small extent and would hardly warrant any special operations on that account. However, if work is ever done in this vicinity again it would be well to cover these together with the two shoals mentioned in paragraph 4. From the chart as well as from an inspection

of the soundings on the smooth sheet, it would appear that the drag could have been carried closer inshore south of South Island. Otherwise this area is complete.

8. The field plotting was complete and none of the work had to be done over by the office draftsman.
9. Rating of the work (a.Character and scope of drag operations:  
( excellent.  
(b.Field drafting: excellent.
10. Reviewed by; A. L. Shalowitz, September, 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 *(WIRE DRAG)*

Register No. 4144 and ~~4147~~

State ~~Alaska~~ S. E.

General locality Stephen's Passage

Locality Holkham Bay Entrance to Fakin Harbor  
~~Point Astley to Point Grave and Point Grave to Marnion Island.~~

Chief of party N.H. Heck

Surveyed by N.H. Heck and G.C. Jones

Date of survey June 24 to October 2, 1920

Scale 1-40,000

Soundings in Feet

Plane of reference M. L. L. W.

Protracted by B. Friedenborg Soundings in pencil by B.F.

Inked by B. Friedenborg Verified by J.M. Albert

Records accompanying sheet (check those forwarded):

Des. report,  Tide books,  Marigrams,  Boat sheets,  
 Sounding books,  Wire-drag books,  Photographs.

Data from other sources affecting sheet

Remarks: Field Nos. B and C.

4144<sup>a</sup>

C. & G. SURVEY  
L. O. A.  
FEB 6 1922  
ADD No.

4144<sup>a</sup>

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

State: *S. E. Alaska*

11-5013

DESCRIPTIVE REPORT.

*Hydrog. W. D.* Sheet No. *4144<sup>a</sup>*

LOCALITY:

*Stephens Passage*  
*Pt. Astley to*  
*Grand Island*

*1921*

CHIEF OF PARTY:  
*W. H. Heck*



Sheet B - - - - page 2.

requirement that the same unit be used throughout the sheet,  
seemed to have greater weight. It is recommended that a suitable provision covering this point be made for wire drag work.

SHEET B, DESCRIPTIVE REPORT.

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This sheet is in continuation of the work of the sheet covering the same area in the 1920 season. Especial effort was made to finish it, even attempting the work in a southeasterly gale, but a small amount remains.

The unfinished areas include a small area west of Midway Island, revealed in the final plotting as not covered. Inshore area north and south of South Island. This area was sounded with the intention of dragging it, but weather and other conditions interfered at the time assigned for the work, and at the end of the season.

A small area off Port Snettisham.

Otherwise the survey is very complete. Soundings have been compared with the drag and sweep work and no discrepancy is noted.

It is recommended that a tracing or bromide of the unfinished area showing the limits of the previous work and soundings be furnished to the commanding officer of the Steamer EXPLORER, so that the work can be finished and plotted at the office on this sheet.

Owing to the necessity of showing drag depth in feet, it was necessary to plot the soundings in feet, though contrary to the requirements of a recent circular on the subject, as the

Date Letter Length of Drag GL EL Miles No. Angles Miles Remarks

Date	Letter	Length of Drag	GL	EL Miles	No. Angles	Miles	Remarks
5/17	A	7500	48	33	6.5		
5/27	B	8000	75	51	12.5		
6/2	C	10000	30	15	1.0		
6/20	D	6000	57	72	8.2	1	2
6/21	E	10000	114	93	11.7	121	242 15.0 a day SR
6/22	F	4500	46	10	6.5	22	44 2.0 b day SR
6/23	G	6000	36	39	4.8		
7/19	H	7000	75	57	12.0		
7/20	J	4000	20	4	1.2		
Summary							
		No. of angles.....		1163			
		" " miles dragged.		64.4			
		" " " sdgs...		17.0			
		" " soundings....		144			
		" " sq. miles....		21.5			

COPY TO FIELD RECORDS.

March 3, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in

1 volumes of sounding records for and 2 vols. of wire-drag records for

HYDROGRAPHIC SHEET 4144g.

Locality: Stephens Passage, S.E. Alaska.

Chief of Party: W. H. Heck in 1921.

Plane of reference is mean lower low water, reading 6.6 ft. on tide staff at Taku 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 Verification of Hyd. Sheet 4144<sup>2</sup> (Wire Drag.)

This sheet is a continuation of the work begun in 1920. It carries the drag area closer to shore.

The splits have been indicated on the area and depth tracing by appropriate symbol. Insufficient overlap is likewise indicated.

This work, like the work of the preceding season, is done by the wire sweepset at 110 feet so as to give a minimum effective depth of 85+ without corrections for tide and lift.

The field drafting was good and with a few exceptions the records were also legible and good.

In dragging the vicinity of Midway Islands the drag grounded several times but no soundings were taken as should have been done.

A 2 feet sounding app. Lat.  $57^{\circ}59'$ , app. Long.  $134^{\circ}05'$  is shown, because of its importance, on the area and depth sheet, although it was not obtained in conjunction with the wire drag, but by supplemental hydrography which is not shown on the area and depth sheet. A five and a seven feet sounding were obtained near  $\Delta$  T45 in Lat.  $57^{\circ}56'$  and Long.  $134^{\circ}01'$ .

The supplemental hydrography, while conveying valuable information, was done without the necessary signals so that weak fires caused the first fire soundings of A day being omitted entirely. It must be remembered however that one man took both angles and recorded and but two other men were in the party to do the rest of the necessary work. The area and depth sheet shows in addition the work accomplished in 1920.

April 26, 1922

Frank M. Albert  
Draftsman, Sec. Field Records.

Location of Rock, Stephens Passage,  
off Station Point

Fixes

Δ South ✓	87-20 ✓
S. tangent Limestone Inlet ✓	
Pt. tangent Grand Id. ✓	60-42 ✓
Twin Point ✓	47-00 ✓
Pt. Styleman ✓	
Right tangent <del>Grand</del> Id. ✓ Grand	107-06 ✓

At 12:30 P.M., May 31, 1929 (about low water) rock bared about 5 feet. Rock in the form of a circular mass about 30 meters in diameter. Fixes taken at center of mass. Rock covered at high water.

Rock is ~~evidently~~ in about position of southernmost of two small islets plotted off Station Point on Chart 8300. Southernmost Islet was evidently intended for the rock.

Plotted rock on Hyd. Sheet 4144a

Submitted by W. M. Scaife,  
Dec. 21, 1929.

Plotting checked  
By E. P. Ellis  
Jan. 9, 1930

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. 4144<sup>a</sup> Hyd. & W. D.

State S.E. Alaska . . . . .

General locality Stephens Passage . . . . .

Locality Pt. Astley to Grand I. . . . . .

Chief of party N.H.Heck . . . . .

Surveyed by Various officers, G.C. Jones chiefly. . . . . .

Date of survey May - July 1921. . . . . .

Scale 1:40000 . . . . .

Soundings in feet . . . . .

Plane of reference mean lower low water . . . . .

Protracted by W.J.Chovan . Soundings in pencil by A.J.Hoskinson

Inked by . . . . . Verified by J.M.albert

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: To be inspected by N.H.Heck at office.

4144

b

11 1902

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

State *S. E. Alaska*

11-5613

DESCRIPTIVE REPORT.

*W.D.* Sheet No. *4144*

LOCALITY:

*Stephens Passage*  
*Vicinity of Tabu*  
*Harbor*

*(Additional work)*

*92*  
 18*92*

CHIEF OF PARTY:

*J. A. Hawley*

4144



## DESCRIPTIVE REPORT

Relative to work done in 1922 on Hydrographic Sheet 4144a.

The work on this sheet was executed in accordance with paragraph 14 of instructions dated February 13, 1922.

The splits in former work off Midway Islands and Port Snettisham were covered with the wire sweep using the ship and launch Scandanavia.

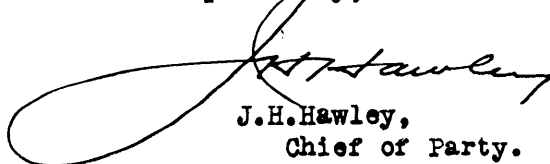
Additional work in the vicinity of South Island was done with the wire drag.

No shoals were found during the course of this work.

Tidal observations for the reduction of drag work were obtained in Taku Harbor on the staff established in 1921 which was still in place. This staff was re-leveled to the bench marks to guard against any change in it's position during the winter.

When the drag was towed by the Scandanavia and tender, it was controlled from the guide launch. When the drag or sweep was towed by the ship and launch, position angles were taken on both vessels and corresponding positions are entered opposite each other in the record.

Respectrully,



J.H. Hawley,  
Chief of Party.

Date 1922	Letter	Length of drag	No. of angles		Miles	Remarks
			G.L.	E.L.		
4/11	A	5000	24	15	2.7	No sdgs. on this sheet.
4/12	B	5000 3500	177	117	11.6	
4/13	C	3000 2000	105	20	5.9	

-----

Totals ----- 306      152      20.2

May 18, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in

1 volume of ~~sounding records for wire-drag records for~~

HYDROGRAPHIC SHEET <sup>b</sup> 4144~~x~~

Locality: **Stephens Passage, S. E. Alaska**

Chief of Party: **J. H. Hawley in 1922**

Plane of reference is **mean lower low water, reading  
6.6 ft. on tide staff at Takn 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 Verification & Making of H4144<sup>b</sup> Wire Drag.

Hydrographic sheet 4144<sup>b</sup> is additional work on the limits of 4144 and 4144<sup>a</sup>. The area surrounding South Id. was dragged and some splits covered near Port Snettisham and Midway Ids. However, all the unswept areas of 1920 & 21 seasons, were not covered in 1922. The above areas, as shown on the area and depth tracing should be swept in the future.

The records and drafting in the field were excellent.

The area dragged is shown on area and depth tracing of Hyd. sheet 4144 and 4144<sup>a</sup>

No descriptive report was received.

July 3, 1922.

Frank M. Albert,  
Draftsman,  
Sec. of Field Records.

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. <sup>b</sup> ~~4144~~ ~~X~~ .....

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

General locality **Stephens Passage** .....

Locality **Vicinity of Taku Hbr.** .....

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

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

Date of survey **April 1922** .....

Scale **1/40000** .....

Soundings in **Feet** .....

Plane of reference **M.L.L.W.** .....

Protracted by **A.J.Hoskinson** Soundings in pencil by **-----** .....

Inked by **A.J.Hoskinson** . . . Verified by . . . . .

Records accompanying sheet (check those forwarded):

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

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

Data from other sources affecting sheet . . . . .

Remarks:

*For 1922 work only.*