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Diag. Chart No. 8502-1

Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

Superintendent.

State: *Alaska South Coast*

## DESCRIPTIVE REPORT.

*Hyd* Sheet No. *3322*

LOCALITY:

*Cook Inlet - West shore -  
West Foreland to Harriet Pt.*

1911

CHIEF OF PARTY:

*F. M. Hardy*

B

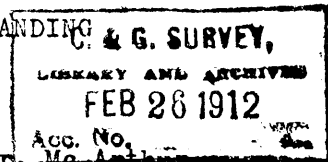
# 3322

# 3322

DESCRIPTIVE REPORT TO ACCOMPANY SHEET (A) 3322

WORK DONE BY THE PARTY ON LAUNCH YUKON? ASSISTANT HARDY COMMANDING

SUMMER OF 1911.



1. LIMITS Joining on the work done by the party on the Str.

Assistant Quillian Commanding, from South Kalgin to Harriet Point, north and east to the work done by the parties of Assistants Beck and Quillian on the Str. Mc Arthur and Launch Yukon during the summer of 1910. The inshore work is shown on another sheet scale 1/40,000.

2. SURVEYING METHODS The work ~~is~~ was done on the Yukon, the angles being taken forward in the vicinity of the pilot house, the hand lead being used from the starboard wing of the bridge, the machine and bassnet tube soundings being taken from the stern (about 50 ft. abaft the pilot house), the cosmos sounding machine being used. When soundings were taken using the sounding machine the vessel was stopped and the up and down depth read ~~from~~ the tell-tale or gudd pulley, in cases where the bassnet tubes were used the ship was run at full speed, and the comparative soundings between the tube and hand lead or machine soundings recorded at the beginning or ending of each days work.

3. ANCHORAGES None of the anchorages on the work give shelter from all directions the best ones being:-

North of Harriet Point described in the Coast Pilot on page 51, of the 1910 edition, which was used by the Yukon several times during the season, and found good for the weather recommended.

SOUTH WEST BIGHT OF KALGIN ISLAND this anchorage was used only once by the Yukon during the season, good shelter from the south east may be obtained here but the current is strong, the bottom is sand.

SOUTH EAST BIGHT OF KALGIN ISLAND the Yukon was anchored here during the season several times but the current is strong, and even in a north ~~south~~ west gale there was a big sea rolling in, this is not recommended for anything but fair weather, and then only for launches.

### 3. ANCHORAGES (Continued)

NORTH COAST OF KALGIN ISLAND During the progress of the work the Yukon was anchored almost every night N35 E (true) from signal Ben (a whitewashed boulder) where good shelter from the strong southerly gales of the summer, good holding bottom, and as slack a current as found any where on the work, was found. Rounding either the north-east or North-west point of Kalgin Island at a distance of three miles and then steering true east or west as the case might be until the center of the north end of the Island bears S18 W (true) head for it, and anchor in the desired depth, a gradual slopping sand bottom will be found on approaching the Island free from any known dangers.

Western Side Of THE NORTHERN END OF KALGIN ISLAND, described on page 51 of the 1910 edition of the coast pilot, this anchorage was found to be very poor the current runs very strong and with any wind at all there are very strong tide rips.

S. W. BY S. FROM WEST FORELANDS described on page 51 of the 1910 edition of the coast pilot should not be used except in case of necessity as the current especially the ebb runs very strong, and the holding bottom is very poor.

NIKISHKA although this is not included in the work it is the only safe anchorage in the vicinity, and was used several times during the season, it is described on page 46 of the 1910 edition of the coast pilot. This is used a great deal by the fishing and other steamers on the Inlet and all the captains familiar with the Inlet agree that in any kind of a blow a vessel is safe there, and they say that they have never seen a North west gale while anchored there as the wind seems to draw around towards the North-east even if it is blowing strong North-west off the Forelands. This anchorage is especially important as it is the only one from the southern part of the inlet <sup>that</sup> ~~where~~ vessels of large tonnage can use, and that smaller vessels do not have to wait for the tide, except the one off the North coast of Kalgin Island described above.

4. DANGERS For a distance of  $2\frac{3}{4}$  miles off the North-~~west~~<sup>east</sup> end of Kalgin Island it is foul and vessels are recommended to give this point a berth of at least  $3\frac{1}{2}$  miles. There are bad tide rips off the North-~~east~~<sup>west</sup> point of Kalgin Island for a distance of  $1\frac{1}{2}$  miles and vessels are recommended to give this a berth of at least two miles in passing it. With the exception of the northern shore, Kalgin Island is fringed by sunken rocks for a distance of about  $\frac{1}{2}$  a mile and vessels should give the Island a safe berth in passing it. The water on the whole of the work is very much discolored the only indication of sunken dangers being disturbances of the water with a reconized wake when the ~~tide~~<sup>current</sup> is running. These indications often upon examination have proven to be caused by a hole rather than a shoal, and in every case the cause of the disturbance whether a hole, or shoal, was found 15 to 50 meters in the direction the current is running from, ahead of the first surface indication. There was a carefull examination made for the sunken rocks indicated on Chart No. 8502 south of the sand shoal which bares, about mid way between West Foreland and Kalgin Island, at low water spring tides, but no indication of existing rocks were found with the lead and none were showing. Heavy tide swirls in this locality especially when the ebb current is running could easily be mistaken for indications of sunken dangers. It was hoped to be able to visit all the places on the work which showed indications of sunken dangers at extreme low tides, but this was prevented twice by bad weather conditions, and once by the Yukon being disabled by a leaky boiler. The north ~~west~~<sup>east</sup> shore of Kalgin Island was so examined, and I feel reasonably sure that all the rocks showing at extreme low waters in this locality were located. While Mr. Dailey was occupying  $\Delta$  South Kalgin, the Ships Writer who was in the launch maintains that he ~~say~~<sup>saw</sup> a rock awash at extreme low water, ~~mid way between  $\Delta$  Bar and  $\Delta$  Dailey,~~<sup>on a line with  $\Delta$  220W true dist about 1800m from  $\Delta$  S Kalgin</sup> the topographic work was planned so Mr. Dailey was in this locality on the spring tides of the following month and he was unable to find any rock there. It is the beleif of Mr. Dailey and myself that a floating snag was mistaken for a rock by Mr. Fryckman. The western shore from Harriet Point north is fringed by a mud flat bearing for a distance of from 1 to 2 miles beyond high water mark, ~~at~~<sup>at</sup> when the

## 4. DANGERS (Continued)

tide is about three quarters out, and with the exception of the vicinity of the mouth  
 of the Drift River, no rocks or boulders were to be seen on <sup>it</sup> ~~them~~. The outer edge  
 of these mud flats rise out of deep water, and in most cases the lead gives little  
 if any indication of the approach to the flats. The edge of these ~~mud~~ flats and  
 the sand shoals which bare are indicated by a line of tide rips when the current is  
 running, beyond which is to be seen the still water on the shoal or flat. Rocks  
 awash at extreme low water show for a distance of about 1,000 meters off Harriet <sup>Point</sup> ~~Point~~.  
 There was not as close a development around West Foreland as there should have been,  
 but the irregularity of the bottom on the sounding lines show that there must be  
 care shown <sup>by vessels</sup> in this locality. The development was not made because it was planned  
 to investigate this locality throughly on low water slack of the spring tides of  
 September, but the work was not thought <sup>worth</sup> the expence ~~of~~ and risk of waiting until  
 the 20th. as the launch Alpha's boiler was disabled, and the weather very threatening  
 and the party would not be able to have hauled the Yukon out and left on the Bertha  
 for Seattle.

5. TIDES It was hoped at the first of the season to establish at least three  
 tidal stations, one on the southern limits north of Harriet Point or in the south-  
 western bight of Kalgin Island, one on the north shore of Kalgin Island, and one  
 on the northern limit of the work in the vicinity of Kustatan villiage. It was  
 found to be impracticable to establish a staff or gauge at the first mentioned place  
 as the mud flats bear so far from high water mark. In the vicinity of Kustatan the  
 current runs so swiftly and on account of the numerous drift logs, a staff would not  
 stand there. A tidal station might have been established in the South-west bight of  
 Kalgin Island, but as there is not any fresh water to be procured there, and the  
 condition of the boiler of the Yukon was such that it might have left the vessel  
 helpless at any time, it was not thought worth the risk to leave a party there to  
 observe tides. One of the bench marks of the tidal station established by the party

## 5. TIDES (Continued)

of Assistant Rhoades in 1908, was recovered and a staff erected, which was carried away during the same night by drift logs and it was decided to establish a station in a more sheltered spot. on June 22, a tidal station was established on the north shore of Kalgin Island, near signal Ben, which is well sheltered from the heavy gales of the summer, and where the current is not very strong. As this station is located almost in the center of the work, and so located ~~as to be~~ that the tide is not influenced by any unnatural causes, it is thought that the soundings reduced from the tides read on this staff will be nearly correct for any part of the work.

The description of the staffs and bench marks are as usual given in the front of the tide records.

Comparitive readings were made , with the gauge at Seldovia established by the party of Assistant Quillian on the Mc. Arthur, from 6 A. M. June 23th. to 8 P. M . June 26th., also three tides on June 27th. The latter part of the season another set of comparitive readings were made with the same gauge as before from Sept.3rd. at noon to 6 P. M. Sept.7. during this period both staffs were carried away during a nort-west gale on the evening of sept. 4, others were established at the first oppertunity by tide observer Weber, which were .15 ft lower than the originals, as shown~~y~~ when connected with the B. M. , the readings on these new staffs were begun at 8 P. M. Sept. <sup>5</sup>th., and these staffs were used until the end of the season. The plain of reference on these staffs should be .15ft. greater than on the ori ginal staffs.

6. Physical Characteristics & LANDMARKS. REDOUBT VOLCANO, HARRIET POINT & WEST FORELAND are fully and well described on page 51, of the 1910 edition of the Coast Pilot.

A BUTTE on the top of which the signal of that name is located, wooded and about 475 ft. in height is a conspicuous and easilly reconized land mark.

## 6. PHYSICAL CHARACTERISTICS &amp; LANDMARKS (Continued)

A bare mountain with two ~~peaks~~ knobs on its top, the northern one of which is signal DOUBLE, is a landmark which can easily be picked up by officers of steamers going up <sup>down</sup> the inlet.

At a distance of from two or three miles back from high water mark, on the west coast from Harriet Point north to the Kustatan river, there are clumps of dead and growing spruce, which ~~from~~ a distance look like a continuous forest growing to the shore.

Rivers, All the rivers emptying into the inlet on the western shore between Harriet Point and West Forelands are shallow and do not afford shelter for anything but launches. The Katnu the deepest has only 2ft. at <sup>extreme</sup> low water in midchannel ~~at extreme~~ low waters. The mouths of the rivers are very hard to pick up ~~at~~ from a vessel.

From two to three miles back from high water mark <sup>the country</sup> rises to a high mountain range.

Kalgin Island <sup>is</sup> irregular in shape, about ten miles long, four miles wide at its widest part, the northern end, and  $\frac{3}{4}$  of a mile wide at its narrowest part, the neck just north of South Kalgin. It is 210 ft. high on its southern end, 240ft. high on its North-west point, and 185 ft. high on its north-east point. This latter point is the best and most easily recognized point for vessels going up or ~~down~~ down the Inlet. It is wooded, the growth of timber on its southern end being much heavier and taller than on the northern end.

7. COMMERCIAL IMPORTANCE There was a fish trap operated by the Alaska Packers Assosation in the northernmost bight on the west coast of Kalgin Island, and with this exception the country is of no commercial importance at present and I doubt if it ever will be. Good hunting for bears may be had on the western shore, from Harriet Point north to the Kustatan River, lots of trails being noticed around the mouths of the streams. As most of the streams are glacial, there are no salmon to be found in them, although there were a few noticed in the Katnu river. The ~~at~~ village of Kustatan is composed of about four native houses, and they are the only

houses on the whole work, and the three or four families living in them are the only people living in this section the year round.

The inlet is becoming more important, a new cannery was built in Seldovia last spring to put up a pack of 30,000 cases, and this year a new cannery is to be established at Port Graham to put up a pack of 60,000 cases, and the cannery at Kenai is to be increased in size, so I am told. The freight formerly transhipped to Seldovia, is to be taken direct to Ship Creek by the Steamers "Bertha" and Admiral Sampson during the coming summer, and the work done recently by the survey in the lower Inlet and from the Forelands north to Fire Island will be a great help to the masters and pilots of these vessels.

Respectfully submitted

*J. Sturdy*

Assistant C. & G. Survey.

Commanding Launch Yukon

Seattle, Washington,

January 23, 1912.



## STATISTICS SHEET No. A

3322

Date, 1911	Letter	Vol.	Posi- tions.	Sound- ings.	Miles Statute	Vessel
July 8	A	1	46	200	19.5	Yukon
July 20	B	1	42	328	21.0	Yukon
July 21	C	1	44	283	14.5	Yukon
July 22	D	1	17	74	7.2	Yukon
July 24	E	1	109	436	41.6	Yukon
July 27	F	2	39	145	14.6	Yukon
July 28	G	2	65	308	20.0	Yukon
July 30	H	2	108	395	38.0	Yukon
Aug. 9	J	2	91	340	33.0	Yukon
Aug. 10	K	3	30	106	16.5	Yukon
Aug. 11	L	3	168	751	56.4	Yukon
Aug. 12	M	3	129	513	40.0	Yukon
Aug. 14	N	4	141	584	35.7	Yukon
Aug. 15	P	4	100	231	43.0	Yukon
Aug. 16	Q	4	53	175	28.5	Yukon
Aug. 17	R	5	101	399	39.0	Yukon
Aug. 18	S	5	54	141	26.0	Yukon
Aug. 28	T	5	23	100	11.0	Yukon
Aug. 29	U	5	67	152	29.0	Yukon
Aug. 30	V	6	73	232	37.0	Yukon
Aug. 31	W	6	92	344	52.5	Yukon
Sept. 1	X	6	84	320	39.4	Yukon
Sept. 2	Y	6 & 7	96	557	32.5	Yukon
Sept. 11	Z	7	97	402	32.0	Yukon
Sept. 17	BB	7	49	268	17.8	Yukon
Total		7	1918	7684	745.7	

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C. & G. SURVEY  
LIBRARY AND ARCHIVES  
MAR 25 1912  
Acc. No.

STATISTICS SHEET No. 3322-2

Date 1911	Letter	Vol.	Positions	Soundings	Miles Statute	Vessel
Aug. 15	A	1	63	225	9.5	Launch Alpha
Aug. 16	B	1	124	547	20.5	Launch Alpha
Aug. 17	C	1	106	494	16.5	Launch Alpha
Aug. 18	D	1	65	308	10.0	Launch Alpha
Aug. 31	E	2	84	711	16.3	Launch Alpha
Sept. 2	F	2	87	503	13.5	Launch Alpha
Sept. 8	G	2	9	70	.6	Launch Alpha
Sept. 11	H	2	48	197	7.5	Launch Alpha
Sept. 12	I	2-3	70	508	15.3	Launch Alpha
Sept. 13	J	3	77	498	13.9	Launch Alpha
Sept. 14	K	3	30	236	6.2	Launch Alpha
Total		3	763	4297	129.8	

V. 5  
Accession No. of Computation: G. 1. 1. 1. 1.

Revised 6-6-48

**GEOGRAPHIC POSITIONS**

Anchorage  
Orange to Redoubt Bay

North American 1927 Datum, Second-Third - order Triangulation, State Alaska

STATION	LATITUDE AND LONGITUDE		SQUARES IN SQUARES	AZIMUTH	BACK AZIMUTH	TO STATION	DISTANCE		FEET
	Latitude	Longitude					Statute	Natural	
60 21 56.479	151 22 28.471	1748.0	332 11 08.20	327 29 21.88	Kustajon	46498667	14465465	1465045	
Kasilof, 1908. r. 1910	(d.m.)	436.4	327 29 21.88	327 29 21.88	East Foreland	45769788	19153479	12971669	
Elev. 2674 24 ft									
60 29 08.788	151 50 03.436	2720.189	43 04.33	9 47 26.97	Kustajon	44242127	2659406	8713358	
East Kalgin, 1908. r. 1911	(d.m.)	52.5	327 29 21.88	327 29 21.88	East Foreland	45454317	35110.07	115190.3	
Pl. 1944						44569760	7864020	93963.7	
Elev. 2754 24 ft									
60 23 27.453	151 13.1	3497.7	27 53 22.10	36 47.36	Kustajon	46662223	24411.57	152227.2	
Harriet, 1908. r. 1944	(d.m.)	131.1	327 29 21.88	327 29 21.88	East Foreland	47714066	59897.21	1965178	
Elev. 2624 24 ft						44177389	26166.10	85846.6	
60 152 16 08.558	152 16 08.558	245.59	39 19.93	39 16.97	East Kalgin	46939219	49422.18	162145.9	
Harriet, 1908. r. 1944	(d.m.)					43769159	73818.58	78144.8	
Elev. 2624 24 ft						46280001	424619.7	139310.6	
60 40 24.954	151 11.1	7724.257	05 19.89	17 27 35.18	Kustajon	47471987	55872.58	133308.6	
Butte, 1908. r. 1944	(d.m.)	591.1	327 29 21.88	327 29 21.88	East Foreland	44493583	28142.22	92329.9	
Elev. 1422 24 ft						450367	3471891.39	104630.3	
60 30 32.807	151 10 10.153	10153.53	39 16.97	23 22 24.19	Harriet	43451712	22139.62	72636.4	
North Kalgin, 1908. r. 1944	(d.m.)	676.8	327 29 21.88	327 29 21.88	Butte	43483284	22200.80	7316.52	
Elev. 2534 24 ft						44124092	25846.95	84799.5	
60 20 56.443	151 56 44.344	676.8	145 22 15.40	325 10 08.36	Kustajon	45771448	37769.81	129916.5	
North Kalgin, 1908. r. 1944	(d.m.)					38228385	6650.26	21818.4	
Elev. 2534 24 ft									
60 21 30.945	151 107 1.07	9571.107	58 39.65	287 48 05.97	Harriet	40696787	11738.66	38512.6	
Kalgin, 1944	(d.m.)	914.0	327 29 21.88	327 29 21.88	Butte	45517373	295623.56	116875.0	
Elev. 2534 24 ft						42563368	18044.17	59199.9	

Abbreviations used: d. = distance; s. = square; t. = tenths; p. = probability. (Complete: s. d. = tenths; p. = probability)

NDE  
March 30, 1912.

HYDROGRAPHIC SHEET NO. 3322./

Vicinity of Kalgin Island, Cook Inlet, Alaska,

by Asst. F. H. Hardy, in 1911.

T I D E S .

Kalgin Island.

	ft.
Mean lower low water, or plane of reference on staff	0.1
Lowest tide observed	-6.0
Highest " "	22.6
Mean range of tide	16.0

Coast and Geodetic Survey

MAR 30 1912

**TIDAL DIVISION**

MDH  
Apr. 9, 1912.

HYDROGRAPHIC SHEET NO. 3322a.

Vicinity of Kalgin Island, Cook Inlet, Alaska,  
by Asst. F. H. Hardy, in 1911.

T I D E S

	Kalgin Island. ft.
Mean lower low water, or plane of reference on staff	0.1
Lowest tide observed	-6.0
Highest " "	22.6
Mean range of tide	16.0

United States Coast and Geodetic Survey

APR 16 1912

TIDAL DIVISION.

Hyd Sheets No 3322 + 3322<sup>a</sup>

May 3, 1912.

The ground covered by this survey is well covered.

The records were kept in a satisfactory manner.

H. G. Simons

Verified by J. W. Torrey