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U. S. COAST AND GEODETIC SURVEY,
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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. S. Tittmann
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Sheet No. *3*

LOCALITY:

Portland Canal

1914

CHIEF OF PARTY:

C. J. Quillian

11-4645



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DESCRIPTIVE REPORT
OF
WIRE DRAG SURVEY OF
PORTLAND CANAL
IN THE VICINITY OF RIVER POINT, ALASKA.
BY
STEAMER "MC ARTHUR"
C. G. QUILLIAN Asst. COMMDG.
November 1-November 6, 1914

Copy to.
Inspector C. G. Quillian, U.S. Fish Commission,
204 Burke Building,
Seattle, Washington.

DESCRIPTIVE REPORT

of the

Wire Drag Sheet of Portland Canal in the vicinity of
River Point, Alaska

The Steamer McArthur, with the full complement of Officers and men under C. G. Quillian Asst. Comdg. was ordered to search for a reported rock in Portland Canal, in the vicinity of River Point, Alaska. This rock was reported by a native Indian fisherman to be a danger to navigation and to lie off River Point in the fairway of Portland Canal.

The investigation was made by wire-dragging the waters of Portland Canal in the Reported locality.

The standard C.&G.S. Wire Drag equipment was used and had been obtained from Wire Drag Party No. 3 which was working in Southeastern Alaska. The equipment consisted of 1800 feet of wire, two large buoys, three small buoys and a complete set of tow-lines toggles and weights.

The ship "McArthur" was used as the Guiding Launch and the motor cutter which is one of the ship's boats was used as the guiding subsidiary boat and launch. One ship's dinghy propelled by an Evinrude motor was used to tend the drag and another dinghy with an Evinrude motor was used at different times to assist the cutter tow its end of the drag. An officer and 3 men handled the cutter, an officer and 2 men were in the dinghy tending the drag, and all other officers and men were on board the ship.

Triangulation The signals were located by plane table triangulation using as a base the monuments of the US and Canada Boundary Survey which were along the shoreline in the vicinity.

Tide Gauge A tide gauge was erected at Ferds Cove B. C. where tides were observed during the time the party was working in Portland Canal.

The area of Portland Canal over which the drag went consisted of approximately the width of the channel from a point one mile north of River Point to a point three miles south. The depth the drag was at, remained at sixty six feet all the time thus having an effective depth ~~six~~ ranging from forty eight to sixty six feet.

The number of linear ~~six~~ statute miles dragged each day were as follows; on November 4, four and one half miles, on Nov. 5 seven and three quarter miles, and on November 6 five and one quarter miles. The total area dragged was 4.6 square statute miles.

On November 5, while dragging, eighteen soundings were taken from the ship with the Cosmes Hand Sounding Machine and the Passnet Tube and were found to be of depths varying from 117 to 139 fathoms.

On November 6, the last day of work in Portland Canal, the drag at the far buoy went aground at a distance of about 30 meters from shore. It was not believed that this was the ~~drag~~ reported

sheal spot as the drag had worked very close in shore at
the time.

The drag was immediately picked up and ship proceeded
to Seattle.

It was believed from this investigation that reper-
ted sheal did not exist.

Respectfully

William H. Farns
Deck Officer

POST-OFFICE ADDRESS: U S S "McARTHUR," 204 Burke Building, Seattle, Wash.

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Steamer "McARTHUR"

Seattle, Wash.,
Jan., 8, 1915.

The Superintendent,
Coast and Geodetic Survey,
Washington D. C.

Sir:

The following notes are made regarding hydrographic sheet of investigation of danger reported off River Point, Portland Canal. Investigation of this reported danger was made by the Steamer "McARTHUR" under Command of C. G. Quillian, Assistant, between November 1st and 6th, 1914.

In the fall of 1913, the Master of the Cannery Tender "HIDDEN INLET," reported to me that some years before while fishing off River Point, Portland Canal, about midchannel, that a fish line grounded at about 4 fathoms and that he considered the place to be very near the 112 fathom sounding shown on the chart between River Point and White Point.

The investigation of this danger was as follows:

The "McARTHUR" arrived at Halibut Bay the evening of October 31st, and a tide staff was erected at low water the same evening; but the old Bench Mark was not recovered. A more satisfactory anchorage was afterward found at Fords Cove and another tide staff was erected and maintained at Fords Cove. The staff erected at Halibut Bay was not used.

On November 1st the vessel proceeded to the vicinity of River Point, and the day was spent Signal building. Boundary marks U. S. 20, and Canadian 20, were recovered, the monuments being intact. Signals were placed over each monument; but not in contact with the monuments. Monuments U. S. 21, and C. 21, were also recovered, and signals erected. One-half of monument C. 21 was broken off when recovered. Other signals as needed were built. These signals consisted of white banners nailed onto the trees or a slight structure erected to carry them.

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Investigation
of River Pt.
Portland Canal

The night of November 1st the vessel anchored at Fords Cove. A careful and extended search was made on the morning of November 2d for the old Bench Mark; but it was not recovered. A tide staff was erected at Fords Cove, and 2 C. & G. S. Bench Marks established and connected with staff by levels. Tides were observed hourly during the day, and all highs and lows observed from November 2d to noon of November 6th. The low water staff settled decidedly after being erected, and a check level was made to same on the morning of the 6th and the amount of settling ~~was~~ proportionately to the time, as noted in the tide books.

The signals were ^{located} marked by plane table cuts from U. S. 21, and C. 21, and occupying and making resections from other signals. In the meantime a party was landed at U. S. 20, and C. 21, and theodolite cuts taken on all signals visible. Then several other signals were occupied with sextant and plotted directly on the sheet as resections. The various positions check up on the sheet.

There was continuous rain during time of locating signals, excepting 2 hours, and required the entire day for locating stations.

I thought the surest way of proving there was no danger was to drag the channel with a long wire drag. A section of 1,800 feet of drag, with 2 large end buoys and 165 pound weights, and 4 small buoys with 20 pound weights, together with necessary uprights, towing bridles, etc., was obtained from Aid Daniels.

This drag was set at the maximum depth, nearly 63 feet, and was towed through the channel for a distance of 1 mile on either side of the reported danger without encountering any obstacles. The greatest range of tide was 18 feet, and the drag proved there was no danger at a depth of 40 feet below the lowest water. One end of the drag was towed by the "McARTHUR," the other end by the Motor Cutter. The ship approached within 100 yards of Steep Point and River Point, and the near end of the drag at this time was about 100 meters outside of the ship, so that the drag passed within 200 meters of River Point. On the Canadian side the Cutter towed the drag within less than 100 yards of the beach between Raw Point and White Cliff. I had intended to also sweep nearer to River Point and in the bight southward of River Point with

the Cutter towing the inshore end of the drag. Shortly after passing River Point the Cutter lost control and grounded the Cutter's end of the drag close inshore, and the work was discontinued owing to unfavorable weather.

On one line soundings were taken with Cosmos machine, with a Bassnett Tube attached, while going ahead slow towing drag. Some of the soundings were up and down when bottom was reached while others were inclined at considerable angle, as noted in record; but in no case was there less than 100 fathoms, and the tube in each case showed a depth of over 100 fathoms.

There were two small splits not covered by the drag; but soundings taken were near these splits and prove that a danger could not exist within the space of the splits.

Luckily during the two days dragging there was no wind and very slight tidal current. With wind the "McARTHUR" drifts too fast to tow drag, and the Cutter's motor was not giving the best of service, frequently stopping for short intervals.

Some trouble was experienced with carboreter freezing. This was overcome by attaching a tube from the exhaust to warm the carboreter.

Work was closed on November 6th, and the vessel proceeded directly to Seattle.

A Description by Deck Officer W. H. Kearns, is attached. The smooth sheet was also plotted by Mr. Kearns.

Respectfully submitted,



Assistant, C. & G. Survey,
Commanding.

CGQ/MDG.

Fords Cove, Portland Canal, Alaska, by
Assistant C. G. Quillian in 1914.

TIDES.

	Fords Cove ft.
Mean lower low water, or plane of reference on staff	3.2
Lowest tide observed " "	0.2
Highest " " " "	21.7
Mean range of tide	13.7

Hyd = 3699.

The drag work on this sheet consists of a survey in Portland Canal, in the vicinity of River Point, Alaska.

The work was plotted in the field, verified in the office, and finally, a tracing made which shows by a color scheme the max. eff. depths to which the area has been dragged.

In verifying the sheet the following inaccuracies in plotting were observed:

Signals were located by Plane Table survey and later a few cuts were taken as shown ~~on~~ on pages 2 & 3 of the Drag Record. The cuts on O Lap (on the sheet called O Pal) and on O Dome (on sheet - O Mode) do not check.

Day A. $\sqrt[8]{A}$ Distance to "F" computed wrong.

$\sqrt[2]{A}$ End "F" plotted wrong.

$\sqrt[4]{A}$ Position plotted wrong. Used for $\angle 99^\circ 18'$ instead of $109^\circ 18'$

Day B. $\sqrt[14]{B} + \sqrt[15]{B}$ For R used O Mode instead of O Lin. Left as plotted by the party.

$\sqrt[27]{B}$ End "F" plotted wrong. Instead of Win-F plotted F-Win.

$\sqrt[35]{B}$ " " " " Plotted Win-F = 38° instead of Win-F = 58° .

$\sqrt[45]{B}$ " " " " Instead of Mode-F used F-Mode

Day C. $\sqrt[12]{C}$, $\sqrt[23]{C}$, $\sqrt[31]{C}$ End "N" plotted wrong.

$\sqrt[29]{C}$ End "F" plotted wrong. Instead of Mode-F plotted F-Mode

J. B. Shklevin

May-29-15

Applied to new chart № 8054, Sept 1935. S.B. Maize.