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JAN 26 1911

Department of Commerce and Labor

COAST AND GEODETIC SURVEY

Superintendent.

State: Alaska

DESCRIPTIVE REPORT.

Topo. *Sheet No.* 3110 3111 3112

LOCALITY:

Urangell Straits

1900

CHIEF OF PARTY:

T. J. Maher

3112 3111 3110

3110, 3111 & 3112.

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Description Report to accompany topographic sheets ~~A B & C~~ 3110, 3111, 3112.

of

Wrangell Straits
S.E. Alaska

Topography during ~~Sept~~ & Sept. 1910.

Descriptive Report to accompany Topographic Sheets 1-2-3 of Wrangell Narrows Alaska.

Topographic Survey was made with the plane table and was controlled by numerous triangulation points. Triangulation through the straits by the U.S.C.&G.S. and at each end by the U.S.C.&G.S.

On the east side of the northern entrance to the straits the ground is high and irregular, consisting of a series of valleys and peaks, the highest of the latter having an elevation of 3200 feet. It is not shown on the P.T. sheets. From Pt. Alexander eastward the shore line is marked by low rocky ledges, with either a shingle or boulder beach. Northward from the point the shore is low, the tree line extending to the high water line.

About 1/2 mile in an easterly direction from Pt Alexander are several rocks, about 1/8 mile off shore. The largest of these is not seen,

Rocky ledges extend off St Alexander for less than 1/8 mile covering at H.W.

The shore on the West side of the Strait, at the southern end is similar to that on the east side. The land is lower, consisting of a series of heavily timbered knobs; the highest elevation does not exceed 800 feet.

S.W.ly from the entrance, about 2/3 of a mile off shore are several rocks, the most easterly one having an elevation of about 14 feet above the plane of M.L.L.W. West, 1/8 mile from this rock is another with an elevation of about 6 feet above the plane. These elevations were obtained by leveling from the water edge to the highest point of each rock, computing the elevations at the given times using Sitka predictions in 1910 tide tables. Tide observations were not in progress at this time, and elevations obtained in the manner described are subject to a probable error of a couple of feet.

Level records will be found in book marked Sextant triangulation in Wrangell Straits. West from this rock is another bare at 3/4 tide. West from this is another bare at all times. About 1/6 mile off shore near long 133.02 is a small rocky islet covered with a few scattered trees. 1/6 of a mile West from this islet is a small rock probably awash at high tide.

About 1 1/5 miles N.E.Ly from Pt. Alexander and about 1/5 mile west from the east shore of the Straits is Midway Rock; this rock is bare about 5 ft at M.H.H. Waters. The rock is steep to.

West from Midway Rock, the west shore curves in forming a bight. Ships, waiting for high tide to pass through the Straits anchor at the mouth of this bight. A neck of land projects from the S.W. side of this bight which is connected with a small high water island by a reef

A grassy area extends across the little island, giving it, from some directions the appearance of a double island. N W 3/4 N, about 900 feet from the island in the middle of the entrance to the sound lights a large sand and boulder shoal bared at 3/4 tides. This shoal is connected with the S.W. shore by a grass neck. Deception Pt. forms the northern extremity of the bight.

Northward from this point, for about 1 mile to Pt. Lockwood, the shore is rocky, with a broken stone and boulder beach. N E x E from Deception Pt. in the eastern shore is a small bight, free from current, and used as an anchorage by the boats. Soft bottom; good holding ground.

The northern end of the bight terminates in what appears to be an island, but which is connected with the shore by a narrow grassy neck. It is called Drumlin Pt. In the immediate vicinity of this Pt. a rocky beach of

considerable extent bares at L.W. From the Pt. for about 1/8 mile the shore bends north forming a small bight which was used by the Gedney and has been used by light house tenders as an anchorage. Considerable current, on ebb tides will be found there however. A mountain stream empties into this bight. The greater part of the stream disappears through a gravel patch, 1/3 mile inshore. From December Pt. for 3/4 of a mile, the east shore is steep to terminating in a large sand flat, which bares for about 1/8 of a mile off shore at L.W. The limits of the shoal were determined from rod readings taken at L.W. A man named Mason is establishing a homestead there. A mountain stream runs near his home. About 1/4 mile inshore at an elevation of about 250 feet this stream has a drop of approximately 40 feet. About 1/3 of a mile S.E. from his home he commenced to construct a wharf some years ago. It will be necessary

to extend it a couple of bents before it will be of any use.

The West shore northward from Pt Lockwood turns westward for a distance of about 1/4 mile then N.N.W.ly for about the same distance. At this place a rocky point projects on which is situated Pt Lockwood Bn. From this Bn. the shore turns W x N. About 1/4 mile from the Bn., on the West shore a light is to be established with a red sector showing N.E. over can buoy #0 distant about 1/6 of a mile in a N.E. direction. This light will form a range with the proposed light on the rock detached from the West side of N. Battery Islet, 2/3 of a mile N.W. from Pt Lockwood Bn. The direction of this range is N.W. x N. and it clears Spike Rock.

About 1/2 mile from Pt Lockwood Bn. on the S.W.ly edge of the L.W. line of Sr. Battery I. it is proposed to establish a light which in range with the N. Battery I light will clear Blaik buoy #0.

At high water the Battery Islets form

a group of three small islets. The southern one has a scattered growth of bushes and small trees on it; the middle one is grassy, and almost awash at H.W. The northern islet is well timbered and has an elevation of about 40 feet. A small house has been erected on both the northern & southern islets for the storage of oil &c.

Continuing along the West shore from Pt. Lockwood Bn. for about ½ mile a tree with white washed boards on it will be found; it is S.E. from the mouth of a small stream. This is probably an old range. 100 meters N.W. ¼ N, about 600 feet from this range will be found an unoccupied prospectors' shack. 330 feet N×E from the shack. 225 feet off shore is a large rock bare at L.W. About 100 feet off the East shore of the Straits N.N.E. from the north end of N. Battery Id. is a rock covering at half tides. The channel to the Westward of these islands is used almost exclusively, though the

eastern channel is occasionally used by one of the larger steamers, when approaching another steamer head on. Those not familiar with the eastern channel are not advised to attempt its passage.

From the Battery Islet the channel runs in a NW x N direction for about 1 1/3 miles where Beecher Pass enters from the Westward. No Thorofare Pt is on the West shore about 1 mile from Battery I. The shore turns in a W 1/8 N direction for 1/3 of a mile, then southerly forming a bight 1/4 mile deep and of about the same width. This bares at L.W. to the limits shown. West from this bight is another dry also at L.W., with a small L.H.W. islet in the center. This islet is composed of gravel and sand. There are a few large, and numerous small boulders in the bight. The shore follows a SWly direction beyond this bight. There are numerous islands in the Pass. Keene I. lies at its juncture with the Strait.

About 1/4 mile E.S.E. from Keene I. is a small wooded I. covered with some scattered trees and underbrush. It has a wide gravel beach. A large shoal surrounds this island, and it is possible at L.W. to pass from it to Keene Id. From the southern extremity of Keene Id. a large reef bares to the limits shown. These reefs were rodded in, at a stage of the tide, given under Sitka predictions as minus one foot. Ex N. from the southern end of Keene I. is Spike Rock distant 650 feet from the H.W. line of the eastern shore. This rock bears about one foot at L.L.W. A large kelp patch surrounds it. It may be passed on either side, the danger buoy, red, and black buoys are shown on the chart. It is proposed to erect a spindle, to be lighted, on this rock, but until this is done the range indicated on the chart, in red, will serve to locate the rock if the buoys become misplaced. This range was obtained while standing on Spike Rock

S.E. ly from Keene I. are several H.W. Ids. the greater part of the largest being shown. These Ids are separated from the north shore by channels which bare at L.W. A rock is shown about 325 feet off the southerly shore of the largest Id. This covers at 3/4 tide. Keene Id. is about 1/2 mile long and is timbered. The water line on the S.E. side is marked by a low rocky ledge. The West side is partly grassy and marshy. The channel on the N.W. side of Keene Id. is foul; the rocks and reefs shown, having been located by rod readings at L.W. They cover.

About 1/3 of a mile N & W 1/2 W from Spike rock, a white Bn. marks the edge of a rocky point extending from the east shore. This is designated as East Beacon in notes compiled by Pilot Creek for the U.S. I. Gedney. This point covers at H.W. N.W. x N 1/2 N, distant 1/2 mile from Spike Rock, is Burnt Id. Bn. A line to the Bn. bearing N 27° W will pass over the rock. Burnt Id. is about

450 feet north from the Bn. A small house for the storage of oil and an Indian grave are located on it. The grave is a prominent mark. The Island has a few bushes and stunted trees growing on it. It is low, with a hard beach and some projecting ledges.

From Battery Islets N W x N ¼, the eastern shore of the Straits is almost straight, with a low beach covered with small boulders and broken stones.

1/4 mile, N x E from Burnt Id. Bn. is Burnt Id. Reef. The rocks shown were located by rod readings at low water, Mr. Elder rodding for this work. This reef covers and is marked by Red buoy #2. From this point the shore turns in a N x E direction until Spruce Pt. distant about 1 2/3 miles, is reached. N x E from Burnt Id. to Spruce Pt. the channel averages in width about 2/3 mile. About 7/8 of a mile from Burnt Id. Bn. a large flat extends off the East shore, which bares at L W. This flat is covered with sand gravel and small boulders forming a hard beach.

About 1/8 miles from the Bn on the same shore is a ledge, rocky and covered with small boulders. This ledge is marked by N buoy #4 and also by a dolphin which it is proposed to light. On the west shore SW 3/4 W from the dolphin is a small house used for the storage of oil lamps &c. When northbound, this dolphin and buoy are left on the starboard. N x W ~~1/2 W~~ from the dolphin distant 1/4 mile, projecting off a low grassy point on the west shore, is a point consisting of rocks and boulders. This point is marked by black buoy 1/2. The channel in this vicinity is not very wide.

About 1/2 mile N x E from this dolphin near the east shore is north ledge marked by a white beacon. From Burnt Ia Reef the east shore follows a northerly direction until North Ledge beacon is abeam, then turns in a NE direction for a distance of about 1/2 mile forming a high water bight. This bight at its entrance is less than 1/8 mile wide.

Its northern shore forms a false island about 1/4 mile long in a NE & SW direction. This island is connected to the east shore by a narrow gravel neck three meters wide at HW. It is known as Spruce Pt. On each side of the neck is a grassy area, easily picked up during the day from points to the northward. East of the neck is a small unoccupied house. NW x N 1/2 N from North Ledge Bn, distant 440 feet is N buoy #6. NW x N 5/8 N from North Ledge Bn on a small high water islet or patch is Bush Top Islet Bn, near the southern extremity of a shoal surrounding Bush Top Id. This Bn is inshore about 150 feet from the edge of the shoal. Bush Top I. is about 400 feet NW x W from the Bn. It is covered with grass. Near its northern end a few bushes grow, and a small house for the storage of oil has been built upon it. From its southern end a raised gravel patch extends terminating in a small mound which is almost awash at HW.

From Spruce Pt the shore turns NE 3/4 E. for about 1/2 mile, then NNW by for about 1/3 of a mile terminating at Anchor Pt. This bight forms an anchorage very slightly affected by currents.

A small house easily seen from points to the west is located in the bight and is occupied by a trapper. Anchor Pt is marked by a White Bn. SW x W 1/4 W from Anchor Pt Bn is Colorado Reef bare at L.W. and marked by the wreck of the Colorado, a hulk formerly used for carrying ore. The wreck is shown in its true position and size. SW x W 1/4 W from this reef is another rocky reef distant 340 feet, the eastern terminal of a sand and shingle shoal.

The Western shore is low, grass covered, slightly irregular, with several small bights. West from the Colorado Wreck an extensive shoal projects from the West shore. About 2/5 of a mile WNW from the Colorado wreck is a small high water islet, consisting of gravel and boulders, with a sparse covering of grass.

Detached from the shoal, and north from the Colorado wreck about 1/2 mile is another large sandy shoal, extending in a northerly direction about 1/3 of a mile. The limits of this shoal are not accurately defined, due to the rapid change in tide.

From Anchor Pt. the shore line follows an easterly direction, is cut up by numerous lights, and forms a large inlet dry at L.W. with the exception of narrow channel, known as Blind Slough, navigable only for small boats for a short distance. This channel is only sketched no rod readings having been taken along it. Beyond the point where the light narrows, the channel is only navigable for row boats at high tides and freshets. The Slough is said to divide into two parts, one going in the direction of Ideal Cove. E.N.E. from Anchor Pt. about 1/4 mile is a low wooded H.W. island called Blind I. - 2/3 of a mile, N 3/4 E. distant 2/3 of a mile is Blind Pt. A patch of very

small boulders is indicated on the Western edge of Blind Slough Flats midway between Anchor Pt and Blind Pt. These boulders are too small to cause any damage. On the edge of the shoal about 350 feet from Blind Pt a hard boulder covered point bares at L.W. About 900 feet N.W.x N. from the point are the vacant buildings and old wharf, needing repairs, of an old saltery. S.W.x W. 5/8 W. from the saltery wharf, a dolphin has been driven, which it is proposed to light. S.E.E. from this dolphin, about 350 feet is can buoy #3. Both are to be left on the port side in going north. W.N.W. from this dolphin, 1/3 of a mile, is the beacon marking the eastern extremity of the shoal extending north from Woody I. The outer extremity of this shoal is rocky with a hard boulder covered L.W. beach connecting with Woody I. The L.W. beach surrounding Woody I. is sand and shingle. The ledge extends about 150 feet N.E.x E. from the beacon

Can buoy #5 marks the channel. From the South point of Woody I. a shingle saddle connects with a small patch bare at ordinary H.W. The shoal West from Colorado Reef extends around Woody I. to Island Pt. Woody I. is separated from the West shore by a channel which is dry at L.W.

VW x W¼ from Vexation Pt. Bn. a dolphin has been driven. This dolphin was to have been lighted, but the person in charge of the installation of these dolphins considered this one unfavorably located, and some change might be made. About 2/5 of a mile, in the same direction, from Vexation Pt. Bn. is False Id. Bn., on the northern extremity of a large H.W. bight formed by Woody I. & the West shore. Extending from the southern end of False Id. Pt., bearing SSE from the beacon a shingle saddle extends for about 1/4 mile. On its southern end are some boulders visible at all tides except the larger springs. From False I. Bn.

the shore bends W x N for about 1/4 mile then E x S forming a small bight about 1/8 mile wide. From the head of the bight, midway, a grassy tongue of land projects in an E x S direction for 300 feet. From Vexation Pt. Br. to Island Pt. the low water line curves gently inshore almost to False Id. On exposing a sand and mud bottom with some gravel patches. The West shore to Island Point is low and wooded. Inshore about 1 1/2 miles a prominent ridge rises, part of whose contours are shown. Between the shore and this ridge are some scattered hills whose elevations and contours are given. East from Anchor and Blind Points where no contours are shown on the sheet, the area shown is low, and wooded. The East shore from the saltery follows a N x W 1/2 W direction for about 1/2 mile then turns S W x W for about 1/4 mile forming a high water bight. It then turns in a N. W ly direction forming Danger Pt. S.S.W. from this point, about

300 feet is a small grassy islet. Surrounding this islet within a radius of 900 feet are numerous rocks. Those shown on the chart bare at low water, and have been located by rod readings. They are marked by spar buoy #8 and are abeam Vexation Pt. Bn. The channel at this point is very narrow. 1/3 of a mile from Danger Pt. the shore runs E.N.E. ly for about 1/2 mile forming a narrow bight. SW 3/8 W. from the Point on the southern end of this bight and distant from it 1/6 of a mile, is a boulder patch. From Anchor Pt. the low water line, bends eastward in a gentle curve, across the bight containing Blind Slough, is tangent to the inner edge of the Saltery wharf, extends about 350 feet west of the small grassy islet off Danger Pt. and passes with some irregularity around the boulder patch.

The northern shore of the bight north of Danger Pt. for a distance of 2/3 of a mile from its mouth follows a West direction, to the Rocky Point. South from

this point, the low water beach, terminates in a boulder covered, rocky point, about 600 feet off shore; it is marked by red spar buoy #10. S.E. from this Point, 1040 feet distant is another rocky boulder patch, on the edge of the L.W. line; it is marked by N. buoy 8 1/2.

About 650 feet N.N.W.ly from Island St. the Green Rocks commence. They extend in a N.W. x W. 3/8 W. direction for about 1/4 mile. They consist of two prominent rocks connected by a series of sunken rocks. The south rock is bare at all stages of the tide, is grass covered and is marked by a beacon. It is proposed to mark the eastern edge of this rock by a stake light, the hole for which has been drilled. East from the light the rock appears to be steep to. A small house for the storage of oil &c has been erected on So. Green Rks. It is close to and N.W.ly from the beacon. North Green Rock is covered at high water and is marked by a bn.

From Island Pt. the shore extends N.W. 1/2 W. for one mile to Finger Pt. The beach is shingle S.W. x W. from N.O. Green Rk. a rocky ledge outcrops. From Finger Pt. the shore is low, irregular, is cut by numerous high water lights and follows a N.W. 1/2 W. direction to Green Point, distant about 1 1/3 miles.

From Island Pt. to Finger Pt. the low water beach narrows, then widens to an average width of about 300 feet. From Finger Pt. to Green Pt. the L.W. beach averages 800 feet in width. 1/4 mile N.W. from Finger Pt. the shoal is marked by a dolphin which is to be lighted. N.E. x N.E. x N. from this dolphin, 400 feet distant is spar buoy #12 marking the eastern side of this channel. Ships could safely pass on either side of this buoy, as it was located, at the time of the survey.

The East shore from Rock Pt.

follows a N.N.W. ly direction for about 2/3 of a mile where it is cut by a stream of considerable volume. The L.W. beach along the strip of shore narrows, and excellent anchorage may be had here, a little to the S.W. of the house on the beach. The holding ground is good and current observations at irregular intervals showed very little current. This is perhaps, one of the best places in the Straits for a wharf site, and some power could be obtained from the falls, indicated on the sheet. N.W. ly from this anchorage a large flat extends off the east shore. The channel between the shoals from the east and West shores is less than 450 feet in width and follows a N.W. 1/2 W direction for a distance of 2/3 of a mile. The East side within that distance is marked by Spar buoy 12 Spar buoy 12 1/2, a dolphin 2/3 of a mile from Finger Pt. dolphin and

bearing N.W. from it, 600 feet from the dolphin is spar buoy #14. From spar buoy #14 the shoal curves inshore, gradually narrowing, following a N x W direction. N x W from spar buoy #14 is another red spar buoy, distant about 3/8 of a mile. Beyond this buoy the channel widens.

On the West shore, Green Pt is marked by a white beacon N E x N 3/8 N. From this beacon, distant 650 feet, near the edge of the L.W. beach is a low rocky ledge visible at L.W. The shoal extends for about 850 feet in a N x W 3/8 W direction, then turns inshore. The point thus formed is marked by black buoy #7. From Green Pt. Bn. the general trend of the shore is N.W. ~~N~~ N. to Tonka distant 1½ miles. Beyond Green Pt, northward, the shore is low for 2/3 of a mile, then rocky to Tonka. The tree line extends to the H.W. line. The Eastern shore

follows the same general direction as the Western, has a low shore line, partly sand and partly shingle. The two large shoals consist of mud and sand, with some small boulders on the East shoal, close to the H.W. line.

On the East shore E.S.E. from Tonka, a few piles are standing marking the site of an old wharf near which is situated the ruin of an old shack. A large bight is formed in the East shore about ½ of a mile N.N.W.ly from this wharf from which an extensive shoal projects. The southern edge of the shoal is shingle, the northern part sand and mud. A few small streams run through it.

Currents. - The currents in the straits have about the velocities indicated on the present charts. There is very little drift in the straits.

Tides. The tides do not appear to meet off Finger Pt., but somewhere between Green Pt. and Tonka, depending

upon the size of the tide.

Contours. Countours are given for 50 ft intervals, the elevations of numerous points along the sides and tops of the hills, were obtained; contours sketched through these points to conform with sketches obtained from top of highest peak N.E. from December Pt. The timber line extends to within a short distance of the top of the peaks N.E. from December Pt. and to within a short distance from the top of the peak E.N.E. from Green Pt. All the others, shown, are heavily timbered. Elevations are those of the most prominent trees.

Water. May be obtained at Tonka, Scow Bay or at Petersburg.

Variation. Magnetic meridians are shown at frequent intervals along the sheet. They are drawn in red; and the points through which they pass are indicated by a red dot. They are shown for positions intermediate between

triangulation stations, so as not to duplicate declinometer observations 25 sets of which were taken through the straits. One set was taken on the rocks S.W. from the southern entrance.

There was considerable shrinkage in the sheets and while allowance was made for this while carrying on the topography and later when scaling off D.M. & D.P. it would be advisable to check positions plotted for hydrographic sheets by the sextant angles, given in book marked Sextant Triangulation.

All the dolphins shown have been driven but lights had not been established. Lights indicated in red had not been established, but the locations were decided upon. The location of So Battery Lt was obtained from a stake projecting above the water and it would be advisable to verify this. I gave to Mr Dorah, in charge of the work a tracing showing all the triangulation stations throughout the straits and ass all of the points on sheets 1-2 &c

were, recovered, and signals erected he should have no difficulty in furnishing transit or sextant angles.

The oil houses are about 5 ft sq. but as they are painted white they can readily be picked up at night by passenger steamers which pass through frequently at that time. The headlands have no distinctive features.

T. J. Maher
Asst.

Wrangell Strait Alaska

Plane Table Positions

Object	φ	DM	λ	DM	
Lockwood Bn.	56 33	1257+13 548+7	132 58	47	Correction
L.F. So Battery I	56 34	229+3 1607+16	132 58	213+3 503+	for shrinkage
Rangel Harbor	56 33	1554+17 250+3	132 58	372+3 645+5	
Whitewashed Boards	56 34	126	132 58	612+5 405+3	
L.F. No Battery I	56 34	739+8 1047+11	132 58	413+3 604+5	
Spike Rk. Spindle	56 35	1581+15 257+3	132 58	566+6 448+4	
East Bn.	56 36	267+2 1574+12	132 58	441+4 574+4	
Burnt Id. Bn.	56 36	656+5 1183+4	132 58	495+4 520+4	
So Ledge Dolphin	56 37	724+7 1114+11	132 57	409+2 608+4	
No Ledge Bn.	56 37	1360+13 478+5	132 56	867+6 149+1	
Bush Top I. Bn	56 37	130+1 1709+15	132 56	845+6 170+2	
Anchor Pt. Bn.	56 38	407+3 1431+14	132 55	618+5 396+4	
Dolphin N.W. of Blind Pt.	56 38	1231+15 108+1	132 55	247+2 768+6	
Battery Flag Pole	56 38	1695+14 145+1	132 54	944+7 72	
Vixation Pt. Bn.	56 39	438+4 1400+14	132 55	619+4 397+2	
Dolphin	56 39	653+6 1155+12	132 55	769+5 247+1	
Tabec I. Bn	56 39	1074+11 764+7	132 56	08	
No. Green Rks. Bn.	56 39	1616+16 222+2	132 55	920+4 98	

Wrangell Strait Alaska.

Plane Table Positions

Object	φ	DM	λ	DM	
Stake Lt	56 39	1626+16 212+2	132 55	903+4 114+1	
No Green Rk Bn	56 40	31	132 56	36	
Dolphin	56 40	1667+16 171+2	132 56	709+3 305+2	
Gable House	56 40	1296+12 542+6	132 55	919+5 97+1	
Fog or Red	56 40	1645+16 193+2	132 55	878+5 135+1	
Dolphin	56 41	1035+10 503+8	132 56	1003+7 12	
Red or Fog	56 41	757+5 1050+11	132 57	395+2 620+4	
Green Pt Bn	56 41 54.7	1691.6 164.2	132 57 17.42	296.4 724.6	Computed position
House	56 42 49.6	1533 322	132 56 21.7	369.5 651	"
Darkey	56 43	787	132 57	342+2 772+4	