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JAN 26 1911

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Pop. &

Sheet No.

*3110
3111
3112*

LOCALITY:

Wrangell Straits

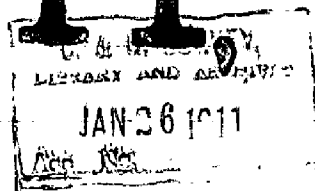
1900

CHIEF OF PARTY:

T. J. Maher

3112, 3111, 3110

3110. 3111.
& 3112.



Description Report to
accompany topographic
sheet ~~43~~ 3110, 3111, 3112.

Uradgill, Straits
S.E. Alaska

Topography during July & Sept. 1910.

Descriptive Report to accompany
Topographic Sheets 1-2-3 of Grangell
Harbour Alaska.

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

On the east side of the ^{entrance} southern
to the straits the ground is high
and irregular, consisting of 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. Bar and an 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 extends
up to the high water line.

About 1/2 mile in an easterly
direction from Pt. Bar and an several
rocks, about 1/8 mile off shore.
The largest of these does not even,

Rocky ledge extended off Pt Alexander for less than $\frac{1}{8}$ mile, covering at 14.20.

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

P.W. Ly. from the entrance, about $\frac{2}{3}$ of a mile offshore are several rocks, the most easterly one having an elevation of about 14 feet above the plane of M. L. & W. West, $\frac{1}{8}$ mile from the rock is another with an elevation of about 6 feet above the plane. These elevations were

obtained by leveling from the water's edge to the highest point of each rock, computing the elevations at the given time, using Pithe's predictions for 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 as rock
marked. Extant triangulation in
Umanull Straits. West from
this rock is another bar at $\frac{3}{4}$ tide.
West from this is another bar at all
times. About $\frac{1}{6}$ mile off shore near
long 133.02. is a small rocky islet
covered with a few scattered trees.
 $\frac{1}{6}$ of a mile West from this islet is
a small rock probably awash at
high tide.

About $\frac{1}{5}$ mile to the W. from
Pt. Ali and about $\frac{1}{5}$ mile west
from the east shore of the straits
is Midway Rock; the rock is
bare about 5 ft at M. H. H. Water.
The rock is steep to.

West from Midway Rock, the
west shore curves in forming a
light. Ships, waiting for high tide,
to pass through the straits anchor
at the mouth of this light. A neck
of land projects from the S. W. side of
this light 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. NW $\frac{3}{4}$ N., about 790 feet
 from the island in the middle of the
 entrance to the inner light a large
 sand and boulder shoal bar at $\frac{3}{4}$
 tides. This shoal is connected with
 the S.W. shore by a gravel neck.
 Deception Pt. forms the northern
 extremity of the light.

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. on the eastern shore is a small
 light, free from current, and used
 as an anchorage by the Commerce
 Dept. bottom; good holding ground.
 The northern end of the light terminates
 in what appears to be an island, but
 which is connected with the shore by a
 narrow grassy neck. It is called
 Deception Pt. In the immediate
 vicinity of the Pt. a rocky beach of

considerable extent have at L.V.
 From the Pt. for about $\frac{1}{2}$ mile the
 shore trends north forming a small
 light which was used by the gummy
 and has been used by light house
 tenders as an anchorage. Considerable
 current, on ebb tide will be found there.
 However, a mountain stream empties
 into the light. The greater part of the
 stream disappears through a gravel
 patch, $\frac{1}{3}$ mile in shore. From

Dresser Pt. for $\frac{3}{4}$ of a mile, the coast
 shows no points terminating in a
 large sand flat, which takes for about
 $\frac{1}{8}$ of a mile off shore at L.V. The
 limits of the shore were determined from
 rod readings taken at L.V. A man
 named Mason is establishing a home-
 stead there. A mountain stream runs
 near his home. About $\frac{1}{4}$ mile in shore
 at an elevation of about 250 feet this
 stream has a drop of approximately 40 feet.
 About $\frac{1}{3}$ 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 fathoms before it
will be of any use.

The West shore northward from
Pt. Lockwood turns westward for a
distance of about $\frac{1}{4}$ mile then N. N. W. for
for about the same distance. At the
place a rocky point projects on which
is situated Ft. Lockwood Bn. From
this Bn. the shore turns W. x N.
About $\frac{1}{4}$ mile from the Bn., on the west
shore a light is to be established with
a red sector showing N. E. over can buoy⁴⁰
distance about $\frac{1}{6}$ 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, $\frac{2}{3}$ of a mile N. W. from Pt. Lockwood
Bn. The direction of the range is
N. 20 x N. and it clears Spike Rock.

About $\frac{1}{2}$ mile from Pt. Lockwood Bn.
on the S. W. by edge of the L. W. line of S. Bn.
Battery. It is proposed to establish
a light which in range with the N. Battery
light will clear Black buoy⁴⁰.

At high water the Battery Islets form

a group of three small islets. The southern one has a scattering growth of bushes and small trees on it, the middle one is grassy, and almost unadorned. 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 Br. for about 1/2 mile a tree with white washed boards on it will be found, NNE from the mouth of a small stream. This is probably an old ranger 100 meters.

NNE 1/4 N, about 600 feet from the range will be found an unoccupied prospectors' shack. 330 feet N x E from the shack 125 feet off shore is a large rock bare at low tide. About 100 feet off the east shore of the straits NNE from the north end of N. Battery Id. is a rock covering at half tide. 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 Jetty the channel runs in a NW x N direction for about 1 1/2 miles where Becker Pass enters from the Westward to Phoenix Pass on the West shore about 1 mile from Battery I. The shore turns in a W by N direction for 1/2 of a mile, then south, only forming a light 1/4 mil. deep and of about the same width. The bar at L.W. to the limits shown West from the light is another dry also at L.W., with a small S.W. islet in the center. The water is composed of gravel and sand. There are a few large, and numerous small boulders in the light. The shore follows a S.W. by direction beyond the light. There are numerous islands in the Pass. Keen I. lies at its junction with the Strait.

About 1/4 mile S.W. from Kerm. I.
 is a small wooded I. covered with
 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
 Kerm. Id. From the southern extremity
 of Kerm. Id. a large reef runs to the
 limits shown. Three reefs were added
 in, at a stage of the tide, given under
 other predictions as minor on foot.
 Ex N. From the southern end of Kerm. I.
 is Spike Rock distant 650 feet from
 the N.W. corner of the eastern shore.
 This rock bears about one foot at L.W.
 A large kelp patch surrounds it. It
 may be passed on either side, the
 danger being, 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, as red,
 will serve to locate the rock if the buoys
 become misplaced. This range was
 obtained while standing on Spike Rock.

S. E. by from Kerm. I. are several NW
 Ids. the greater part of the largest being
 shown. These Ids. are separated
 from the north shore by channels which
 have at L.W. a rock is shown about
 325 feet off the southerly shore of the
 largest Id. This occurs at $7\frac{3}{4}$ fathoms.
 Kerm. Id. is about $\frac{1}{2}$ mile long and
 is textured. 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 NW
 side of Kerm. Id. is foul; the rocks
 and reefs shown, having been located
 by sound, readings at L.W. They occur
 about $\frac{1}{2}$ of a mile N. & W. $\frac{1}{2}$ W. from
 Spike rock, a white Br. marks the
 edge of a rocky point extending from the
 East shore. This is designated as East
 Beacon in notes compiled by J. L. Cook
 for the U. S. Geod. Survey. This point occurs
 at NW 1/4. N. & W. $\frac{1}{2}$ N, distant $\frac{1}{2}$ mile
 from Spike Rock, is Burnt Is. Br.
 A line to the Br. bearing N 27° W will
 pass over the rocks. Burnt Is. is about

450 feet north from the Br. 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 Pt. NW 1/4 N. the eastern shore of the Straits is almost straight, with a low beach covered with small boulders and broken stones.

1/4 mile ^{NW} from Burnt Id. Br. is Burnt Id. Reef. The rocks shown were located by rod readings at low water, Mr. Elder leading for this work. The reef corner 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 1/2 miles, is reached. N x E from Burnt Id. to Spruce Pt. the channel averages in width about 1/2 mile. About 7/8 of a mile from Burnt Id. Br. a large flat extends off the east shore, which bars at L.W. The flat is covered with sand gravel and small boulders forming a hard beach.

About 1/8 mile from the Br on the
sawwhor is a ledge, rocky and
covered with small boulders. This ledge
is marked by Navy #4 and also
by a dolphin which it is proposed to
light. On the west shore S $W \frac{3}{4} W$ from
the dolphin is a small house used for
the storage of oil lamps etc. When
north bound, this dolphin and buoy
are kept on the starboard. N $W \frac{1}{2} W$
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. The channel
in the vicinity is not very wide.

About 1/2 mile N E from this dolphin
near the east shore is north ledge
marked by a white beacon. From Burnt
Is. Reef the west shore follows a northerly
direction until North Ledge beacon
is abeam, then turns in a N E direction
for a distance of about 1/2 mile forming
a high water light. The light at its
entrance is less than 1/5 mile wide.

Its northern shore forms a false island about $\frac{1}{4}$ mile long in a NE & SW direction. The island is connected to the east shore by a narrow gravel neck. This neck runs at 45° . It is known as Spruce Pt. On each side of the neck is a grassy area, easily picked up during the day from point to point, the northward. East of the neck is a small unoccupied house. NW x N 45° N from

North Ledge Bn, distance 440 feet is N buoy #6. NW x N 45° 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 marked about 150 feet from the edge of the shoal. Bush Top Id. 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 washed at 45° .

From Spruce Pt. the shore turns $NE\frac{3}{4}E$
 for about $\frac{1}{2}$ mile, then $VNW\frac{1}{2}W$
 for about $\frac{1}{3}$ of a mile, terminating at
 Anchor Pt. The light from an anchorage
 very slightly affected by currents.
 A small house, suitably placed from
 points to the west is located on the light
 and is occupied by a trapper. Anchor
 Pt. is marked by a white Bn. $SW\frac{1}{2}W$
 from Anchor Pt. Bn. is Colorado Reef
 low at L. W. and marked by the wreck
 of the Colorado, a hulk formerly used
 for carrying on the wreck is shown
 in its true position and a sign $SW\frac{1}{2}W$
 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 lights. West from the Colorado
 Wreck an extensive shoal projects from
 the West shore. About $\frac{1}{5}$ 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.

Attached from the shoal, and north from the Cedarack wreck about $\frac{1}{2}$ mile is another large sandy shoal, extending in a northerly direction about $\frac{1}{3}$ of a mile. The limits of the 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 a narrow channel, known as Blind Plough, navigable only for small boats for a short distance. This channel is only sketched on our maps having been taken along it. Beyond the point where the light narrows, the channel is only navigable for row boats at high tide and freshets. The Plough is said to divide into two parts, one going in the direction of Ideal Cove. E. & E. From Anchor Pt. about $\frac{1}{4}$ mile is a low wooded N.W. island called Blind I. - $\frac{2}{3}$ of a mile, N. $\frac{3}{4}$ E. distant $\frac{2}{3}$ of a mile is Blind Pt. a patch of very

small boulders is indicated on the
 Western edge of Blund. Along the
 midway between Anshov. Pt and
 Blund Pt. These boulders are too
 small to cause any damage on
 the edge of the shoal about 350 feet from
 Blund Pt. A hard, boulder covered point
 lies at L.V. About 900 feet NW x N.
 From the point are the vacant buildings
 and old wharf, needing repairs, of an
 old saltery. SW x W 50 ft. W. from the
 saltery wharf, a dolphin has been
 driven, which also projected to light
 S. E. from this dolphin, about 350 feet
 we can buoy #3. Both are to be left on
 the point side in going north. WNW
 from this dolphin, 1/2 of a mile, is the
 Beacon marking the eastern extremity
 of the shoal extending north from
 Woodyd. The outer extremity of the
 shoal is rocky with a hard boulder
 covered track connecting with Woodyd.
 The L.V. track surrounding Woodyd I.
 is sand and shingle. The ledge extends
 about 130 feet NE x E from the beacon

San Diego marks the channel.
 From the South point of Woody I. a
 single sand connects with a small
 patch of sand at ordinary H.W. The
 great 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.

N.W. & W. from Vexation Pt. Br. a
 lighthouse has been driven. The depth
 was to have been lighted, but the person
 in charge of the installation of these
 dolphins considered this an unfavorable
 location, and some change might be
 made. About 2 1/2 miles, in the
 same direction, from Vexation Pt. Br.
 is False Id. Br., on the northern
 extremity of a large H.W. light formed
 by Woody I. & the West shore.
 Extending from the northern end of
 False Id. Br. bearing S.E. from the
 beacon a long, narrow spit extends for about
 1/4 mile. On its northern end are some
 boulders visible at all tides except
 the larger springs. From False I. Br.

the shore runs W x N. for about $\frac{1}{4}$
 mile. then E x S. forming a small light
 about 15 miles long. From the head of
 the light, ^{of land} measuring, a grassy tongue
 projects in an E x S. direction for 500 feet.
 From Vegetation Pt. Br. to Island Pt. the
 low water line curves gently inshore
 almost to Falcid Id. In leaving a pass
 and mud bottom with some gravel
 patches. The West shore to Island
 Point is low and wooded. (shore
 about 1 1/2 miles a prominent ridge
 rises out of whose contours are shown.
 Between the shore and this ridge
 are some scattered hills whose elevations
 and contours are given. From
 Archer and Blind Points where the
 contours are a however on this sheet, the
 area shown is low, and wooded.
 The East shore from the battery follows
 a N x W x W direction for about $\frac{1}{2}$ mile
 then turns S W x W for about $\frac{1}{4}$ mile
 forming a high water light. It then
 turns in a N. W. by 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 have at low water, and have been located by rod reading. They are marked by spar buoy "5" and are abeam Vexation Pt. Bar.

The channel at this point is very narrow. $\frac{1}{3}$ of a mile from Danger Pt. the channel runs E. N. E. by for about $\frac{1}{2}$ mile forming a narrow light. S. W. $\frac{3}{4}$ W. from the point on the southern end of this light and distant from it $\frac{1}{6}$ of a mile, is a boulder patch. From Anchor Pt. the low water line, trends eastward in a gentle curve, across the light containing Blind Bluff, is tangent to the inner edge of the salting 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 light north of Danger Pt. for a distance of $\frac{2}{3}$ of a mile from its mouth follows a west direction, to Rock 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 U. S. shore; it is marked by N. buoy 5 1/2.

About 600 feet N. N. W. by from Island. At the Green Rocks commences. They extend in a N. W. x W. 3/4 W. direction for about 1/4 mile. They consist of two prominent rocks connected by a series of smaller rocks. The south rock is bare at all stages of the tide, is grass covered and is marked by a beacon. I have 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 rise up to a small house for the storage of oil &c. has been erected on So. Green Rock. It is close to and N. W. by from the beacon. North Green Rock is covered at high water and is marked by a br.

From Island Pt. the shore extends
 N.W. $\frac{1}{2}$ W for one mile to Finger
 Pt. The beach, is a single S.W. x W.
 from N. a green Rk. a rocky ledge
 outcrops. From Finger Pt. the
 shore is low, irregular, is cut by
 numerous high water bights - and
 follows a N.W. $\frac{1}{2}$ W direction to Green
 Point, distant about $1\frac{1}{3}$ 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. $\frac{1}{4}$ mile W. from Finger
 Pt. the shoal is marked by a
 dolphin which is to be lighted.
 S.W. x W. $\frac{1}{2}$ S.W. 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 eastern shore from Rock Pt.

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

bearing N. 20° W. from it, 600 feet from the Dolphin is spar buoy #14.

From spar buoy #14, the shoal curve inward, gradually narrowing, following a N. x E. direction. N. x W. From spar buoy #14, is another red spar buoy, distant about $7\frac{3}{8}$ 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. $3\frac{1}{8}$ ° N. from the beacon, distant 450 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. $3\frac{1}{8}$ ° W. direction, then turns inward. The point thus formed is marked by black buoy #7. From Green Pt. Br. the general trend of the shore is N. W. $1\frac{1}{2}$ ° N. to Tenka distant 14 miles. Beyond Green Pt., northward, the shore is low for $2\frac{1}{3}$ of a mile, then rocky to Tenka. The true low extends to the N. 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 gravel, with some small boulders on the West shoal, close to the H.V. 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 dock. A large light is formed on the east shore about 1/2 of a mile N. N. W. from the 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 Tiger Pt., but somewhere between Green Pt. and Tonka, depending

upon the side of the table.

Contours. Contours are given for 50 ft. intervals, the elevations of numerous points along the sides and tops of the hills; ^{are obtained} contours sketched through these points to conform with sketches obtained from top of higher peaks N.E. from Decatur Pt.

The ~~contour~~ line extends to within a short distance of the top of the peak N.E. from Decatur 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 tinted. Elevations are those of the most prominent ^{points}.

Water. May be obtained at Tonka, Crow 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 pts. of which were taken through the straits. One pt. was taken on the rocks SW from the southern entrance.

There was considerable shrinkage in the sheets and when allowance was made for this when carrying on the topography and later when peeling off the D.R. it would be advisable to check position 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 it was obtained from a stake projecting above the water and it would be advisable to verify this. I gave to Mr. Dorak, in charge of the work a tracing showing all the triangulation stations throughout the straits and also all of the points on sheets 1-203.

were, recovered, and signal erected he
should have no difficulty in furnishing
harvest or extent 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 headland has no
distinctive features.

T. J. Maher
H. 2. 50.

Wrangell Strait Alaska.

Flare Table Positions

Object	ϕ	DM	λ	DM	
Whockwood Bn.	56 33	1257+13 545+7	132 58	47	Correction
Lt. So Battery I	56 34	229+3 1607+16	132 58	213+2 503+3	For Strenuous position red.
Rangitluehor	56 33	1554+17 250+3	132 58	372+3 675+5	
Whiterashed					
Boards	56 34	126	132 58	612+5 405+3	
Lt. No Battery I	56 34	739 739+6 1097+11	132 58	413+3 604+5	
Spoke Rk. Spindle	56 35	1581+15 257+3	132 58	566+6 445+4	
East Bn.	56 36	267+2 1574+12	132 58	441+4 574+4	
Burnt Id. Bn.	56 36	656+5 1183+9	132 58	495+4 520+4	
So. Edge Dolphin	56 37	724+7 1114+11	132 57	409+2 605+4	
No. Edge Bn.	56 37	1360+13 478+5	132 56	867+6 149+1	
Bush Top I Bn.	56 37	130+1 1709+13	132 56	845+6 170+2	
Anchor Pt Bn.	56 38	407+3 1431+14	132 55	618+5 396+4	
Dolphin N.W.	56 38	1231+15 185+1	132 55	247+2 768+6	
of Blend Pt.					
Saturday Flag Pole	56 38	1695+14 745+1	132 54	944+7 72	
Vexation Pt. Bn.	56 39	435+4 1400+14	132 55	619+4 397+2	
Dolphin	56 39	683+6 1155+12	132 55	769+5 247+1	
Galac I. Bn.	56 39	1074+11 764+7	132 56	0.5	
So. Green Rks.	56 39	1616+16 222+2	132 55	920+4 98	
Bn.					

Wrangell Strait Alaska.

Range Table Positions

2.

Object	ϕ	D M	λ	Z.M.	
Stake Lt	56 39	1626+16 212+2	132 55	903+4 114+1	
No Green Rk Br.	56 40	51	132 56	36	
Dolphin	56 40	1667+16 171+2	132 56	709+3 505+2	
Gale 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+5 138+1	
Dolphin?	56 41	1035+10 803+8	132 56	1003+7 12	
Red or Fog	56 41	757+5 1080+11	132 57	395+2 620+4	
Green Ph. Br.	56 41.547	1691.6 164.2	132 57.1742	296.4 724.6	Computed position
House	56 42 496	1533 322	132 56 217	369.5 651	"
Turkey	56 43	787	132 57	542+2 772+4	