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Department of Commerce and Labor
COAST AND GEODETIC SURVEY.

O. H. Tittmann
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Topographic Sheet No. *2953*

LOCALITY:

Cordova Bay, Alaska
Inlet to Nathwa Inlet.
Scale 20,000

1909.

CHIEF OF PARTY:

R. B. Derickson

2953

January 25, 1919.

NOTE:

The topography on this sheet is controlled by the main scheme of triangulation in Cordova Bay. The triangulation stations are at intervals of approximately two miles.

2. The shoreline of the entrance to Kassa Inlet is entirely from plane table determinations extending between the triangulation stations "Ship" and "Ledge". The entrance points and shoreline as far in as the narrows should be considered accurate as to azimuth and distance.

3. The outside coast up to the entrance to Hassiah Inlet is controlled by the main scheme with triangulation stations approximately two miles apart. It is considered accurate in azimuth and distance.

4. The shoreline of Hassiah Inlet is considered good altho dependent entirely upon plane table positions, it agrees closely with the sextant survey made by Capt. Dicken's party in 1905.

5. From the north entrance point to Hassiah Inlet to the limits of the work in Nutkwa Inlet the position of the shoreline was determined by plane table traverse.

6. As shown in the season's report this work was done under exceedingly adverse weather conditions. It is, therefore, recommended that the work in Kassa Inlet and the shoreline extending into Nutkwa Inlet be considered as a reconnaissance. The contour lines are generalized and in charting should be used in shading the area to indicate slopes and the general trend of the highlands.

R. B. Anderson

Chief of Party.

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DESCRIPTIVE REPORT

to accompany
Plane Table Sheet of Cordova Bay, Alaska
from
Kassa Inlet to Lime Point.

2953

Report to accompany the Plane Table Sheet of the
East shore of Cordova Bay from The Ship Islands to Lime
Point, Southeastern Alaska.

The accompanying sheet is a topographic survey of the eastern shore line of that part of Cordova Bay, Alaska between The Ship Islands and Lime Point.

The sheet was constructed on a polygonic projection of 1:20000 . The triangulation points determined during the season of 1908 were plotted and checked on the sheet before the field work was started. With this control, additional signals were put up and cut in by planetable triangulation. The telemeter rods were used for additional signals and in plotting in the shore line.

Angles of elevation were taken to the tops of the trees on the ridges which were cut in on the sheet. The elevations were then computed by use of the tables in the Plane Table Manual. Contours were put in for every 100 feet of difference of elevation, the 500 foot contour being heavy.

Appearance of the shore and Headlands.

On entering Cordova Bay from Dixon's Entrance, the summits of the mountain ranges around Kassa and Hessiah Inlets show over and past the Barrier Islands. The ridges run in an apparently East and West direction but after approaching nearer the individual ridges can be distinguished.

After passing the Arm that runs up to Hunter Bay, the Ship

hand.

Islands lie to the starboard. These islands as described in the other report, are a group of three small islands with a larger one to the north. They are low and wooded and form an inside passage to Kassa Inlet from the Arm of Cordova Bay. Past these Islands and Inlet makes in for three or four miles, running in an N.E. - S.W. direction.

North of this Inlet the shore line is fairly even for about four miles where another large Inlet makes in with three arms. Past this point to the limit of the sheet the shoreline is rocky with no bights or inlets.

The mountains rise to a mean level of 1200 feet with peaks rising to 1400 to 1800 feet. They are thickly wooded from the water to the 1000 ft. contour. Above this they are bare in places with considerable area covered by Alaskan Parks. They slope off rapidly to the water except East of Point Webster. Here there is a mean elevation of 150-200 feet for 1200 meters East of the shore line from which point they rise rapidly to the summit.

The shore is very abrupt and rocky with an occasional shingle beach. The North shore at the entrance to Kassa is very steep, rising almost sheer in places for 30-40 feet to the tree line.

Description of the Shore Line from the Ship
Islands to Lime Point.

SHIP ISLANDS. Starting in at Δ Ship and working north along the high water line, the coast is rocky and broken. The shore is abrupt with small shingle beaches at a few places. Past the Ship Islands is a large Island which with the Ship Islands forms an inside passage to Kassa Inlet. Several small islands are scattered along the coast line here .

KASSA INLET. On rounding the point leading into Kassa Inlet there are three small islands connected at low water. 600 Meters East of this point is a cove with a shingle beach at the head. An Indian cabin and a good stream of water in the S.E. end of the cove is shown on the sheet. The passage between these Islands and the North point of this cove is foul and full of kelp. Numerous rocks and ledges lie to the East of these Islands. Here the Inlet is divided at the first impression into two arms. A number of islands lie so situated that they seem to form a continuous strip of land, separating the bay into two arms. The south shore is fairly even, running for 4000 meters in an East X North direction, then turning and running 5000 meters in a North X East direction. At the point where it turns a large mud flat dries for 200 meters from the High water mark. The beach is made of shale mud and clam shells, the clams being plentiful at low water. This cove is locally known As Clam Cove. From here on the shore is rather abrupt, the trees growing to the tops of the ledges

of rock along the shore with small patches of shingle beach in the small coves. At the heads of the bay are good shingle beaches running into more or less swampy ground which slopes away to the hills. The beaches of the Islands in this inlet are rocky and abrupt.

The north shore of the Inlet from the head toward the mouth is fairly even. The large Island shown dotted on the sheet, is connected to the mainland except at very high water when there is a very shallow passage of 50 meters.

A large arm makes to the westward from this point and has good beaches at the head and in the small arm that makes in on the southern shore near the point where the shore line turns to the south.

Water can be easily had at the water fall marked on the sheet on the north shore of this large arm.

All of the islands are thickly wooded. The hills are wooded also in most cases but those due East of the point on which is Δ Ledge, are bare in large spots with underbrush and moss. The land rises rapidly from the beach to the summit of the ridges which follow the general direction of the shore line.

From this arm of the Inlet just described, South to the entrance, are numerous sunken rocks and ledges. The shore is abrupt rising to 300-600 feet. Two rocks that are reported as showing at low tides and one sunken rock lie off this point and in the main channel proper. Rounding this point to the Westward is a large bight full of small islands and fowl

KASSA INLET to POINT WEBSTER.

Past this bight the beach rises almost sheer out of the water for 30-40 feet to the tree line., the rocks lying at an angle of 60- 70 degrees to the horizontal. This steepness moderates some at Δ Ledge. This is so named for the long ledge of rock that makes out here. The ledge is very narrow, some 10-12 meters across and extending for about 40-50 meters from the general shoreline in an N.E.- S.W direction. The top is rather flat and irregular, rising about 10-12 ft. above high water. From here to the small island on which is Δ Clump, the coast is bluff and irregular, numerous small rocky islets lying close inshore with very little beach at low water.

CLUMP lies about 600 meters west of the shore line. It is a small wooded island about 80 meters E-W and 160 N-S. Due south of it are several rocks and ledges and 700 meters S x E is another rock ledge 700 meters off shore. These rocks show at low water and break heavily at all times. A little North of East of Clump is an island connected to the land at half tide by sandy beaches. At the north end of this island is a bay with long shingle beaches. A large cabin is at the head of this bight.

From this point the shore continues to the north to Point Webster with the same general characteristics. The ground along here is low, 200 feet being the general average ^{height}. The shore

rises 6-8 feet above the high water mark and then slopes away gradually to the hills. 900 meters south of Point Webster & of A New is a very narrow opening. This runs in perpendicular to the shore line for a distance of 450 meters, widening out at the head to about 100 meters each way. The channel in to this small bay is very narrow, at low tide not more than a few feet across and very shallow. South of this opening is a very rock point. Long ledges of broken rocks extend for 60-120 meters at low water. 1400 meters from the point at Mable Bay is a clump of small rocky islets, 250 meters off shore with numerous rocks to the south and west for 300-400 meters; also 600 meters north of this clump of rocks is another reef showing at half tide. 100 meters northeast of the point at Mable Bay is another reef with a rock reported further north of it. The reef shows at low water and is 50 by 10 meters.

Hassiah Inlet. To the south of this point is Hassiah Inlet. The south and east arms, known as Mable Bay, run in for 2200 meters and 4500 meters respectively; and the other arms makes to the northeast for 5000 meters from the point. Just north of the point and in the mouth of the bay is Mable Island, is 1100 meters north by south and 500-600 meters east by west. It is wooded with a low place in the center giving the impression of two islands. 1000 meters southeast of this island is Helen Island. This is a small island 200 by 400 meters, with steep rocky beaches on the north and west shore but sandy beach on the south and east shores.

A long spit makes out on the south shore of boulders and 200 meters due south of the eastern point is a reef showing at low tides. The reef is flat and about 100 meters by 20-30 meters.

600 meters southwest is a small wooded round island 60 meters across. From this island this arm of the bay runs south 1400 meters, with rocky shore on either side; the east-shore rising very rapidly to the summit of the ridge, the western shore sloping away gently. At the head of the bay is a small beach with a stream and an Indian cabin, shown in the sheet.

The point due south of Helen Island is very rocky but east of this point the shore is composed of shale and small boulders and broken rock, sloping off gently at low tide to the water. The head of the bay is 2600 meters east of this point. Here the land is very flat large grassy swamps extending in for several hundred meters and at low water large mud flats bare, connecting a number of small islands and rocks. The north shore of this arm continues 1300 meters turning at this point to the northward. It is similar to the south shore in regards to beach but rises more rapidly to hills behind. A land slide is conspicuous on the south shore, about half way from head to point. The ridge drops off very rapidly in places forming a basin and valley at an elevation of 500 feet. From the 500 feet level the drop is not so great, sloping off gradually to beach.

800 meters north of Helen Island are numerous rocks and in-shore kelp patches mark a sunken rock in the summer. From here to a rocky point the beach is smooth, a large stream emptying about midway between these two points. 600 meters northeast of this last point is a large island or ledge of small boulders. It is crescent shaped 400 meters east by west and about 100 north by south. The very top is all that shows at high water, and is covered in summer with green grass. The shore line along here is smooth and even with shingle beach. 600 meters northeast of island is a rocky point rising 8-10 feet above high water. From here to head of bay the shore line is scalloped with little bights. A large grassy swamp with mud flats connecting numerous rocks and islands, as in *the* other arm, are at the head of this bay. The north shore is rocky with only short strips of beach. This is characteristic of shore to limits of sheet.

Several islands closely connected lie in mouth of bay about 800 meters north of this boulder ledge. A well defined point marks the opening here. The shoreline runs from here for 1200 meters in a general westerly direction, then north for 2600 meters turning there to the eastward into Nutqua Inlet. The ridge of the hills here follows the general direction of the shore line, the average height being 1000 feet, with peaks from 1500 to 1800 in places. They are thickly wooded to the 1000 contour; about this in places they are bare. The peninsula between Hessiah Inlet and Nutqua Inlet has a large flat with a mean elevation of 1000 feet. These flats are open country

with numerous Alaskan Parks.

Past this point the shoreline is practically straight; the shore is rocky rising 6-10 feet to tree line, then rising rapidly to summit of hills.

A small island lies about 1600 meters west of point at entrance to Keete Inlet and 400 meters north of shore line. This point is the limit of the sheet. The shoreline runs in a southeasterly direction from here up Keete Inlet.

ANCHORAGES.

Fairly good anchorage can be found off the clam beach in Kassa Inlet. With local knowledge of rocks in Inlet good anchorage can be had in the west arm across from the waterfalls mentioned above. The only other anchorage is at the head of the east arm of Mable Bay, in 7-20 fathoms of water, in good holding ground.

The weather is very unreliable, raining during the entire season, S.E. and S.W. winds prevail in the summer months, S.E. bringing rain. With a northerly wind the weather clears as a rule.

Plane Table Positions.

Station	Latitude	Dis.in Meters	Longitude	Dist.in Meters
Rocky Islet at south entrance to Kassa Inlet	54 ⁰ 55'	1165	132 ⁰ 31'	200
N.tangent Mable Id.	55 00	272	132 36	49
Highest rock Lime Rocks	55 02	1597	132 37	545
Flat Rock N.E.of Helen Id.	54 59	1509	132 34	792
MellinRks.	55 01	970	132 39	984
S.rock of rocks S.E. of Clump	55 56	1500	132 35	793

STATISTICS.

High water shore line	44.3 miles.
Square miles of topography	20.4
Number of triangulation stations	13

Respectfully submitted,

A. C. Kinman

Aid, C. & G. Survey,

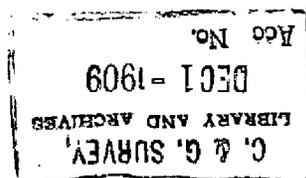
Topographer,

Approved,

R. B. Anderson

Asst., Comdg. Chief of Party.

2953



Title.

Plane Table Sheet Showing
Shoreline and Adjacent Contours
of the
East Coast of Cordova Bay, Alaska,
from
Shipwreck Point to Lime Point.

Scale 1:20 000

U.S.C. & G.S.S. Gedney,

1909.

R.B. Derickson,

Asst. Comdg.

E.C. Kinnear, Aid,

Topographer.