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Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: S. W. Alaska

11-5513

DESCRIPTIVE REPORT.

Topo. Sheet No. (2) 4072

LOCALITY:

Alaska Pen.

~~Chignik Bay (South shore Chignik~~

Chignik Bay — Castle Bay to

~~Bay and N. and E. W. shores of~~

Anchorage Bay.

~~Castle Bay.~~

1924

CHIEF OF PARTY:

Clem L. Garner

DESCRIPTIVE REPORT

To Accompany Topographic Sheet No. 2, Chignik Bay, S. W. Alaska
(South shore Chignik Bay, and North and Northwest shores of Castle Bay)

Clem L. Garner, Chief of Party

Instructions dated March 11, 1924.

TERRITORY COVERED. This sheet comprises (a) a topographic survey of the shoreline beginning two miles east of Chignik Light (Anchorage Bay), thence extending eastwards along the south shore of Chignik Bay to Jacks Point; thence around Jacks Point into Castle Bay, and along the shores of that bay as far as the point of the peninsula (marked by Δ CLIFF) in the western part of Castle Bay; (b) the principal topographic features of the area included between and adjacent to the said shoreline, with location and heights of hills, mountains, etc.; and (c) form-lines of the land area in question.

GENERAL DESCRIPTION OF COAST. The whole of the area covered by this sheet is dominated by the characteristic peaks of Snowy Mount and Chignik Mountain, which, together with Castle Cape, are the most conspicuous landmarks to be seen from vessels approaching the coast in this vicinity. Chignik Mountain, elevation 3400 feet, overlooks the Northwest Arm of Castle Bay and is about $4\frac{1}{2}$ miles inland from the coast of Chignik Bay; Snowy Mt., elevation 3360 feet, belonging to the same mountain group, is a mile and a half northwest of Chignik Mountain and is likewise about $4\frac{1}{2}$ miles from the coast.

That portion of the coast of Chignik Bay which is shown on this sheet is formed by a succession of alternating headlands and bays, which exhibit a marked regularity of spacing and uniformity of shape. The northernmost point of shoreline shown is near the east end of a long cliff at the foot of a slope leading down to the water's edge from Snowy Mount, and forms the first headland on the right as seen from vessels leaving Anchorage Bay; it is marked by Δ CHIGNIK, at the foot of the cliff, and by Δ CHIGNIK 2, at the top of the cliff. Between here and Jacks Point, which is five miles to the east and marks the western side of the entrance to Castle Bay, are three small bays, viz., Lumber Bay, Lake Bay, and Jacks Bay, which give rise to a total of four headlands, all of which lie almost exactly on the same straight line and are nearly equidistant from each other. At the face of these headlands are sheer cliffs, approximately 300, 380, 500, and 300 feet high, respectively; the tops being fairly flat and covered with grass during the summer months. From Lake Bay, a long valley extends to the foot of Snowy Mount and contains a brackish lake three miles long. A valley likewise extends inland from Jacks Bay and contains a small tidal lake.

From Jacks Point the shoreline extends into Castle Bay in a southwesterly direction for six miles, where the Bay divides into two main arms; thence into the Northwest Arm of Castle Bay to the foot of Chignik Mountain. Here the Northwest Arm of Castle Bay subdivides into two nearly equal bights, one extending west northwest, and the other south southwest, for distances of $1\frac{1}{4}$ and $1\frac{1}{2}$ miles, respectively. The shoreline, after following these two bights, returns eastward to the point of the peninsula which separates the western part of Castle Bay into two main arms. Here the limit of the shoreline covered by this sheet is marked by Δ CLIFF, about 40 meters back from the high-water line and at the top of a cliff approximately 200 feet in height.

The Castle Bay coastline consists of a large number of small, rocky points and rocky shores, surmounted in general by cliffs ranging from 50 to 200 feet high. The entrance to Castle Bay is $2\frac{1}{4}$ miles wide at the narrowest point, and the predominating landscape features within the bay are Chignik Mountain and, opposite (2 miles south), a flat-topped mountain (not named), 2900 feet high, between which lies the Northwest Arm of the Bay.

LANDMARKS. As stated above, the most conspicuous landmarks in the area covered by this sheet are Snowy Mount and, a mile and a half to the southeast, Chignik Mountain. The summit of Snowy Mount is capped with snow throughout the year, and here a small glacier bares itself at mid-summer. As seen from the sea, Snowy Mt. has the appearance of a broad, semi-circular sector of a cone, with the convex side toward Chignik Bay. To the west the mountain range extends back of Anchorage Bay and shows two minor peaks, 2840 and 2300 feet high, respectively, composed of a red, shaley material, the latter peak being called "Red Summit" on the map. Near the top of these two peaks are two huge, black, precipitous shoulders that are quite conspicuous from the entrance to Anchorage Bay.

Chignik Mountain resembles the frustum of a wedge-shaped pyramid, with well-defined, right-angular edges running down from the summit. The north end of the summit rises to a distinct point.

The whole mountain group is covered with snow until about July, after which time the snow lingers mainly on top of Snowy Mt. These summits are all wrapped in clouds during a large part of the time. The foothills are studded with patches of alders, but above 1500 feet elevation the mountains are practically devoid of vegetation.

INSHORE DANGERS, BARS AND CHANNELS, ANCHORAGES, ETC. (For information under this heading, see Descriptive Report covering Hydrographic Sheet No. 2, Chignik Bay, S. W. Alaska).

PERMANENCY OF COAST LINE. No tendency towards coast line changes are in evidence, except that there are occasional slides at the faces of the cliffs, particularly along Chignik Bay. For the most part, these cliffs are made up of horizontal beds of rock and present a sheer face.

SURVEY METHODS. Between Δ CHIGNIK and Jacks Point, a plane-table traverse was run, controlled by previously determined triangulation points at Δ CHIGNIK, Δ SQUARE, and Δ WHITE. Beginning at Δ CHIGNIK the table was oriented upon Δ ANG (to the north, not shown on sheet); a resection was then had upon Δ NIGGER (to the west, and likewise not shown on sheet). Traverse was then run to Δ WHITE and required no adjustment. To meet this traverse, another one was started near Jacks Point, using a three-point fix on \odot Note and two topographic signals on Castle Cape, transferred temporarily from Topographic Sheet No. 1. When this traverse was tied up to Δ WHITE, an adjustment of about 50 meters in distance was necessary, which was distributed equally along the line between Jacks Point and Δ WHITE.

Within Castle Bay, the work was started at Δ NEW and continued around the two bights of the Northwest Arm to a point directly beneath Δ CLIFF by a combination of plane-table traverse and graphic triangulation, signals having been previously built along the shores. Between Δ NEW and Jacks Point, signals CORN, Ner, Mof, FAT, and Pen were plotted from theodolite cuts taken from

At LAKE 2, PUDDING, and CLIFF. These stations were then occupied with the plane-table, which was oriented on CLIFF, LAKE 2, and previously located topographic signals on the opposite shore of Castle Bay, and the shore line between these plane-table stations was then rodded in. It was necessary to run a small traverse south from Jacks Point towards Pen.

Most of the contouring (form lines) was done subsequent to the determination of the shoreline. The position and elevation of points along the ridge back from the shore between CORN and Jacks Point were determined by sextant angles from the opposite shore of the Bay and later checked by plane-table. Form lines covering the rest of the topography were drawn from control points determined by plane-table cuts and angles.

The lake back of Lake Bay was determined for a distance of about a mile by rod readings and graphic triangulation. From here to the head of the lake the approximate location of the shore is designated by dotted lines. The extreme end of the lake was located from the mountain west thereof, by improvised plane-table, and checked by ranges on known objects.

BEACHES AND LANDING PLACES. For the most part, it was not possible for the topographic party to proceed far along the coast afoot, due to obstructions caused by projecting rock ledges. The shore is generally strewn with boulders and fragmentary rocks, ranging in size from mere pebbles to huge blocks measuring several meters. In Lumber Bay, Lake Bay, and Jacks Bay there are smooth sand beaches extending back to the storm-water line, and there is usually some surf. Each of these beaches is surmounted by a rough shingle beach at the storm-water line. No more sandy beaches are found along the shore covered by this survey, except for the small sand spit at Spit and a small point at Bite.

WATERING PLACES, BUILDINGS, ETC. There are no watering places in this region. There is a plentiful supply of water in the stream shown on the northern shore of the Northwest Arm of Castle Bay, west of the sand spit, which can be boated out in barrels.

There is a fox farm on the east shore of the lake back of Lake Bay, and a framed dwelling. At Jacks Bay is a trapper's house; also a small, untenanted shanty.

INDUSTRIES. Fishing, trapping, and fox-farming form the only industries of this region at present. A salmon trap is located in Lake Bay in the summer time and removed at the end of the season. The fox farm was started during the summer of 1924. The existence of valuable minerals was not in evidence at any place within this area. Some fishing and trapping is carried on by the natives, particularly in Castle Bay.

GAME AND FISH. According to information obtained locally, no bears have been seen in this vicinity for two years or more. There are apparently no wild animals except ground squirrels and marmots. Ptarmigan are to be found in the hills and valleys. There are some seals in Castle Bay and at times some water fowl. Salmon is plentiful along the Chignik Bay coast during the run, and there are trout in the two lakes shown.

The cliffs at Jacks Point harbor a large rookery of gulls, cormorants, puffins, loons, etc.

VEGETATION. The lowlands are generally covered with grass in the summer months and the foothills and ravines, with alders. At an elevation of approximately 1500 feet, practically all vegetation ceases. There are no trees in this region.

GEOLOGICAL FEATURES. Practically all of the mountains are composed of horizontal beds of rock, and erosion has resulted in a multitude of vertical cliffs along the mountain sides.

PLACE NAMES. The names of Lumber Bay, Lake Bay, Jacks Bay, Jacks Point, Castle Bay, and Chignik Mountain are well established by local usage. The name "Snowy Mount" was probably applied to the mountain in question by the party which executed the triangulation.

The village shown on Chart No. 8502, "Kaluiak," does not exist, although the name is still in use by some of the natives to designate the locality in question.

LAKES. The long lake back of Lake Bay drains a considerable territory and is about one or two fathoms deep towards the head. Nearer the coast, however, it is shoaled up, and no boat can proceed to the fox farm without being pushed over the shoals at places. The level of the lower reaches of this lake is affected by tide-water to the extent of approximately one foot. There is apparently no well-established name for this body of water, but it is sometimes designated "Lake Bay Lake."

The lake back of Jacks Bay is sometimes called "Jacks Lake." It is salt, having its entrance about on a level with the mean stage of the tide.

Respectfully submitted,

George H. Dell

George H. Dell
Jr. H. & G. Engineer.

Approved and Forwarded
Chas L. Garner
Chief of Party.

PLANE-TABLE POSITIONS.

Object and description	Latitude	D. M.	Longitude	D. P.	Height	Remarks
	o	'	Meters.	o	'	Feet
Sure _a	56	19	978	158 19	279	5
Luck _b	56	19	610	158 19	190	5
Grat _c	56	19	32	158 18	816	5
Note _d	56	19	136	158 17	574	12
Mast _e	56	18	1412	158 17	539	12
Shak _f	56	18	650	158 16	972	8
Band _g	56	18	807	158 16	217	5
Staf _h	56	17	1413	158 14	524	12
Point _i	56	17	1190	158 12	47	15
Jack _j	56	17	477	158 11	800	12
Pen _k	56	16	303	158 13	47	8
Mof _l	56	15	526	158 15	410	12
Ner _m	56	15	97	158 16	985	12
Wash _n	56	14	122	158 20	167	20
Sig _o	56	13	1348	158 22	734	8
Pit _p	56	12	953	158 23	826	8
Mad _q	56	13	498	158 21	419	6
Red _r	56	12	1768	158 19	431	6

Descriptions:

a. Rock near high-water line.	(Whitewashed and used as signal).
b. Point of projecting ledge.	" " " " "
c. End of projecting ledge.	" " " " "
d. Large, rectangular, flat-top rock.	" " " " "
e. Pole planted on top of beach.	" " " " "
f. Wooden shanty.	" " " " "
g. End of projecting ledge.	" " " " "
h. Pole planted on top of beach.	" " " " "
i. Sharp pyramidal rock on beach.	" " " " "
j. End of projecting ledge.	" " " " "
k. Off-lying pinnacle rock.	" " " " "
l. Conspicuous rock on point.	" " " " "
m. Conspicuous rock on point.	" " " " "
n. West end of cliff.	" " " " "
o. Top of projecting ledge.	" " " " "
p. Small point of ledge near waterfall.	" " " " "
q. Point of cliff.	" " " " "
r. Point of cliff.	" " " " "

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 4-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

January 23, 1926.

SECTION OF FIELD RECORDS

Report on Topographic Sheet No. 4072

Castle Bay to Anchorage Bay, Alaska Peninsula

Surveyed in 1924

Instructions dated March 11, 1924.

Chief of Party, C. L. Garner.

Surveyed and inked by G. H. Dell.

1. The records, as well as the plan and character of the work comply with the requirements of the General Instructions.
2. The plan and extent of the work satisfy the requirements of the specific instructions.
3. The usual field drafting was done by the field party.
4. The junctions with the adjoining sheets are satisfactory.
5. No further surveying is needed.
6. The character and scope of the surveying and field drafting are excellent.
7. Reviewed by E. P. Ellis, January, 1926.

TOPOGRAPHIC TITLE SHEET

The finished Topographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No (2) 4072

State S. W. Alaska
General locality Alaska Peninsula
Locality Chignik Bay — Castle Bay to Anchorage Bay
Chief of party Clem L. Garner
Surveyed by George H. Dell
Date of survey 1924
Scale 1:20000
Heights in feet above Mean high water
Contour interval 100 feet
Inked by . Geo. H. Dell . Lettered by . . Geo. H. Dell . . .
Records accompanying sheet (check those forwarded): Photographs,
Descriptive report, ~~Horizontal angle books, Field computations,~~
Data from other sources affecting sheet

Remarks: