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Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

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DESCRIPTIVE REPORT.

*Top.* \_\_\_\_\_ Sheet No. *3420*

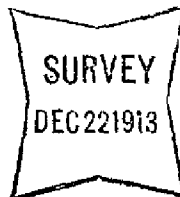
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TOPOGRAPHIC SHEET ~~2~~ 3420

FROM CHINITRA BAY TO TURF POINT, BRUIN BAY

KAMISHAN BAY, COOK INLET, SW ALASKA

(Not including Iniskin and Iliamna Bays)

Party Steamer McArthur ,

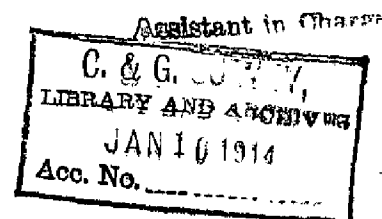
C. G. Quillian, Assistant, Commanding,

August 6 , 1913 to September 23 , 1913.

Harry Leyboldt, Aid

Topographer

Scale 1 to 40 000



Descriptive Report to accompany Topographic Sheet #

This sheet is a survey of the coast line from O Slant(1911) 2 miles south of Chinitna Bay, to Turf Point, the southern entrance to Rocky Cove, with the exception of Lliamna and Iniskin Bays which were done on other sheets. The control is tertiary triangulation .

The shore line throughout with the exception of the heads of the bays and coves, is rocky bluff in formation. From oSlant to southward for  $\frac{1}{4}$  mile the shore is rocky, the hillside being a mass of loose rocks of varying sizes, many of them having slid off and formed a collection of covering and uncovering rocks off the point. From this point, for  $\frac{1}{2}$  mile to the southward is a shingle beach, covering at the highest tides; the shoreline proper is a perpendicular cliff for a height of 30 feet after which it slopes gradually. There is a conspicuous waterfall in about the center of this stretch. It is 3 meters wide and has a large flow.

From the end of this beach to A Bluff, the shoreline is steep and rocky, the slope varying from perpendicular to about 1--2. The two protuberances from the general direction of the shoreline are arches, the southern one being conspicuous close inshore but from offshore both resembled entrances to caves.

About 100 meters north of o Run there is a break in the cliffs giving a view of a valley in the interior; a stream makes out from this cut. The coast from Oil Bay to the eastward had to be plane tabled at low water due to the cliff formation, it being practically impossible to advantageously set up the table at more than  $\frac{1}{4}$  tide. At low low waters many places that were vertical cliffs at  $\frac{1}{4}$  tide or more had bared so that the planetable could be set up on the points <sup>in order</sup> so that the traverse could be carried ahead. The mountain

tops were invisible from the shore due to the cliff formation, so that all cuts and vertical angles at the peaks had to be taken from the set ups in the bays and coves, and where this was not possible, cuts and vertical angles from the ship.

To the westward of ΔBluff is a small bight that has a sand beach for about 100 meters at extreme low low waters. The beach is boulder strewn as shown on sheet. From here to Dry Bay the shore is cliff. At e Cent is a small rock strewn beach and a 50ft. high pinnacle. At the head of Dry Bay, the shore at highwater is a shingle beach but it is sandy at low water. It bares about 75 meters and has no boulders on it. The stream making in at the northern end is tidal, a strong current prevailing at half tide. The <sup>N.</sup> shore of the creek is a bluff which decreases in height to the bend, where the survey ends. At high water there is a lagoon as shown on sheet but at low water this dries and leaves the stream as two smaller ones. The western side of Dry Bay is cliff and in some places rocks have slid off and formed a beach composed of very large rocks. The stretch for  $\frac{1}{2}$  mile N.E. of ΔDry is very similar to the beach  <sup>$\frac{1}{4}$  mile</sup> south of e Slant, described before. At ΔDry the hillside has crumbled down and the point is a mass of large brownstone rocks. From ΔDry to the S.W. the cliff formation is again met with, there being a break about  $\frac{1}{4}$  mile from ΔDry where a stream makes out. There is a valley extending in from here. To the eastward of ΔOil is a small bight that has a shingle beach.

The eastern shore of Oil Bay is cliff, attaining a height of 350 feet just north of the signal. The sand beach at the head is similar to that in Dry Bay. The beach extends to e Vim. From here, the shore is composed of large rocks, these having slid from the hills directly behind them. The danger from falling rock is ever

present, numerous slides being observed while making the survey. From o Lone to the westward the cliff formation is again met with the height varying between 50 and 150 feet. From oTom to Iniskin Bay was taken up in descriptive report of Iniskin Bay.

Turtle Reef was rodded in at a very low water; the section marked breakers was breaking heavily at this low water but did not bare. The shore from South Head to oSun is large mass of loose rocks which slid from the steep mountainside. To the southward of o Sun is a long straightaway beach of shingle, boulder strewn. It is only beach at  $\frac{1}{2}$  tide or less, the high tide reaching to the base of the cliffs. The cliff was fairly even in height throughout this stretch. In the vicinity of oUrsus, the cliff was crumbling at all times and care had to be taken not to get too close under the cliff, the shore line being rodded in 20 meters from the highwater line (estimated) and correction made. The cliff is of a gray rock stratified, the strata running in various directions, being the result of upheaval. This formation continues to o Blue, from whence a sand beach runs to 200 meters east of o Spot. This signal is on a large landslide and there is another 50 meters east of it. The slide formed a mass of large rocks at the water line. From the slide to o Bale the shore line is perpendicular cliff to height of 60 feet; oBale is on a rock slide similar to o Spot. To the westward of this slide is a rocky beach which merges into a sand beach which continues to the mouth of the creek; here the cliffs start and continue to the sand beach at the head of the cove. The beach is sandy below the  $\frac{1}{2}$  tide, above which it is shingle. This beach, together with the ones at the head of Dry and Oil Bays, <sup>has</sup> ~~have~~ a large amount of driftwood piled above the high water line.

At the southern end of the beach is the mouth of a stream which is the outlet of a lagoon about  $\frac{1}{2}$  mile back. There are very strong currents in this stream at  $\frac{1}{2}$  tide. The stream is very shallow, the cutter being grounded on a rising tide less than half way to the lagoon. The bars formed by this stream are as shown on the sheet. The beach on the banks of the stream is sand and shingle but becomes steep and rocky on the southern shore when past the valley. The point at e Bend and the next 3 points are rocky and steep and between these points there is a strip of shingle beach., piled with driftwood. From e Out to a point abreast of the end of the small lake is a sand beach, piled deep with driftwood. The strip between the shore and the lake is low and grass covered, although there is driftwood nearly at the lake shore. The water is perfectly fresh.

From the above mentioned point to the point with the offshore rocks near e Uno the shore is composed of large rocks and shingle the mountain side being very crumbling. The points are cliff, as is shoreline for a short distance to both sides. Across the mouth of the small valley the shore is shingle beach.

From here to a point about 50 meters north of eCreek in Rocky Cove the formation is cliff throughout, the height being from 30 to 60 feet and being practically up and down. In the turn near eGor is a shingle beach at low water, in fact at all stages of tide except the highest tides. Throughout this stretch there is a sort of beach at low water that enables one to walk the beach except at the points. There is a reef off this stretch which bares only at the lowest waters but the extent is indicated but not determined by topographer as this reef did not bare at time of working there <sup>although</sup> but shoal water was noticed over a  $\frac{1}{4}$  mile off shore.

At the head of Rocky Cove is a sand and shingle beach which is piled deep with driftwood. There is a stream that enters the cove near o Creek which has an extensive sand spit at its mouth. The shoreline from the end of the beach and ~~far~~ into Bruin Bay is cliff varying in height from 40 feet to 1450 feet. the approximate height of the peak beyond  $\Delta$  Step. The height at the end of the beach in Rocky Cove is about 60 feet and varies to 40 feet at  $\Delta$  Turf, and from there increases to the 1450 ft,. There was no beach at the low water south of  $\Delta$  Turf and the shoreline shown was run in from the top of the bluff, a slow and tedious method of doing topography.

The mountain formation east of Iniskin Bay is upheaval, the slopes being fairly even and ~~not~~ the peaks are not jagged. Their appearance is very similar to that of Mt. Pomeroy, described in the report for Iniskin Bay. The peak back of  $\Delta$  Ursus is probably the result of upheaval, as the scarred face of it is stratified. The sides of the peak that face the shore are crumbling away and a continuous rattle of small stones is heard when in the vicinity. At times large slides occur. These faces are bare of vegetation but the other sides are alder and grass covered, the line where the growth ceases is very marked.

The other peaks on the north shore of Ursus Cove are all conical in appearance and very little vegetation exists on them, alder being more prevalent than any other growth. The peak at the head of the cove (height 2780) has a marked conical appearance from all points in the cove. The group of peaks in about the center of the south shore are jagged in appearance, uneven, scarred slopes and color varying from a gray to brown. The peak back of o Bols, Brown Peak has a brownish appearance in the upper half, the lower part being gray cliff for about 60 feet and alder covered the remainder.

The hills back of Rocky Cove are low and round topped. The peaks at  $\Delta$ Step appear as three similar peaks in step arrangement, according to height and are very prominent from any point from which <sup>they</sup> ~~it~~ are visible.

To the westward of  $\Delta$ Surf is a high cliff with an appearance similar to one back of  $\Delta$ Ursus. The formation is a stratified, gray rock, the strata being irregular in trend.

Chinitna Point is prominent when approaching it from either the west or north but when near it, it blends in with the rest of the shore line and is hard to pick out. It has a steep shore, the height being about 60 feet. The top is fir covered and is flat for a  $\frac{1}{2}$  mile back.

Oil Point, the eastern entrance to Oil Bay, is 30 feet high, flat and fir covered. Ursus Point is cliff of crumbling rock, is very prominent and has a reef extending off about  $\frac{1}{4}$  mile.

Turf Point is similar in outline to Chinitna Point. The steps in back of it make it unmistakable. The top is covered with grass but the layer of volcanic ash has kept the grass small.

The vegetation in the region covered by this survey is alder, grass, spruce and fir, and cottonwood. The cottonwood is found on the flat at the heads of Dry and Oil Bays. It is very distinctive during the late summer and early fall by the color of the leaves, they taking on a yellow or reddish tinge. The location of the alder, grass, fir and spruce is shown by the topographic symbols for the same.

Volcanic ash is still plentiful in the places where it fell to any considerable depth, i.e., in the open places. The beaches at Ursus Cove had plenty of rounded pieces of pumice stone on them. Whether they are from Katmai or Augustine Volcano was not determined.



In Oil Bay there were a number of oil wells from which an inflammable gas was issuing, probably methane. There <sup>ere</sup> was no signs of oil apparent on the surface. A number of buildings were still standing and in fairly good condition, tools of various descriptions were abandoned, together with wagons, harness and household utensils.

Landing places on this coast are practically impossible in any kind of a sea; in smooth weather, unless the tide is low, there are no places worthy of mentioning as landing places on the outside stretch, but landing can be made on the beaches at the heads of the various coves and bays through the surf. These beaches are the only places where the high tides do not come to the level of the base of the cliffs. Iniskin Bay provides the only good shelter in this vicinity in case of bad weather, although Augustine <sup>Is.</sup> affords a passable anchorage for S.E. and N.E. weather.

On the north shore of Ursus Cove are two streams which practically parallel the shore line for  $\frac{1}{2}$  mile before emptying into the cove and at no time are they over 30 meters from the H.W. line. Salmon were plentiful in these streams, also in the one that enters Rocky Cove. No salmon were noticed in the streams in Oil and Dry Bays. Mosquitos, gnats and sand flies were plentiful at various times during the summer.

The short section of shore line of Augustine Island was run in the last day of plane tabling in this vicinity. Around Burr and for about 1 mile to the eastward, the formation is series of small islands composed of various sized lava rock, piled together loosely. Many boulders occur between these islands. The remainder of survey was beach, composed of sand formed by action of weather on the lava.

Respectfully submitted  
Harry Leopoldt  
and, Capt.

- G E O G R A P H I C P O S I T I O N S -

As Scaled from Planetable Sheet, Survey of 1913.

U. S. S. McARTHUR

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<u>STATION</u>	<u>LATITUDE</u>	<u>D. M.</u>	<u>LONGITUDE</u>	<u>D. P.</u>	<u>HEIGHT</u>	<u>REMARKS</u>
Al	59 - 39	1796 -61	153 - 09	221 -718	4	W. W. Unmarked
Augustine	59 - 21	524 -1333	153 - 24	30 -918		Triang.
Back	59 - 40	884 -972	153 - 08	790 -148	5	Banner Unmarked
Bat	59 - 38	40 -1817	153 - 13	543 -397	10	W. W. Unmarked
Bar	59 - 38	1566 -291	153 - 10	918 -22	6	W. W. Unmarked
Beach	59 - 32	1706 -150	153 - 43	594 -346	11	W. W. Unmarked
Bean	59 - 40	1748 -108	153 - 05	738 -200	6	W. W. Unmarked
Bend	59 - 31	400 -1456	153 - 46	624 -316	5	W. W. Unmarked
Big	59 - 36	1150 -706	153 - 20	625 -316	10	Rock Unmarked
Bill	59 - 38	800 -1056	153 - 16	344 -594	6	W. W. Unmarked
Blue	59 - 33	56 -1800	153 - 37	633 -307	5	W. W. Unmarked
Bluff	59 - 41	762 -1094	153 - 03	556 -383		Triang.
Bole	59 - 32	1586 -270	153 - 41	532 -410	15	W. W. Unmarked
Brite	59 - 45	736 -1120	153 - 02	--- -662		Waterfall

<u>STATION</u>	<u>LATITUDE</u>	<u>D. M.</u>	<u>LONGITUDE</u>	<u>D. P.</u>	<u>HEIGHT</u>	<u>REMARKS</u>
Can	59 - 39	150 -1706	153 - 10	314 -624		Mouth of Canyon
Burr	59 - 24	1737 -119	153 - 25	602 -344		Triang.
Cat	59 - 39	743 -1114	153 - 16	750 -189	5	W. W. Unmarked
Cascade	59 - 46	116	153 - 01	30		Waterfall
Chinitna	59 - 41	<del>1577</del> 278	153 - 04	<del>460</del> 479		Triang.
Chit	59 - 41	1092 -764	153 - 03	229 -710		Triang.
Cent	59 - 40	1252 -605	153 - 06	900 -40	6	W. W. Unmarked
Cliff	59 - 30	756 -1100	153 - 45	340 -600	4	W. W. Unmarked
Coal	59 - 28	976 -880	153 - 42	902 -40	4	W. W. Unmarked
Cot	59 - 34	736 -1120	153 - 34	516 -423	6	W. W. Unmarked
Creek	59 - 26	<sup>5</sup> 1247 -599	153 - 44	789 -157	4	Banner Unmarked
Den	59 - 39	286 -1570	153 - 42	607 -333		Mountain Peak
Drop	59 - 33	96 -1760	153 - 40	742 -199		Waterfall
Dry	59 - 39	406 -1450	153 - 09	658 -282		Triang.
End	59 - 40	145 -1712	153 - 18	636 -303	5	Banner Unmarked
Face	59 - 32	1776 -80	153 - 41	296 -648	3	W. W. Unmarked
Flag	59 - 40	241 -1616	153 - 17	360 -578	4	Flag Unmarked
Fox	59 - 42	824 -1032	153 - 02	784 -154	8	W. W. Unmarked

<u>STATION</u>	<u>LATITUDE</u>	<u>D. M.</u>	<u>LONGITUDE</u>	<u>D. P.</u>	<u>HEIGHT</u>	<u>REMARKS</u>
Gor	59 - 27	504 -1352	153 - 43	722 -223	6	W. W. Unmarked
Gull	59 - 38	462 -1395	153 - 16	20 -919		Boulder Unmarked
Hen	59 - 40	428 -1429	153 - 09	221 718	6	W. W. Unmarked
Hunt	59 - 44	280	153 - 01	800 -138	8	W. W. Unmarked
Iniskin	59 - 37	644 -1213	153 - 25	792 -148		Triang.
Key	59 - 40	1405 -452	153 - 08	122 -817	3	W. W. Unmarked
Led	59 - 38	741 -1116	153 - 12	45 -895	4	W. W. Unmarked
Left	59 - 40	1522 -334	153 - 06	256 -684	4	W. W. Unmarked
Less	59 - 38	1737 -120	153 - 18	620 -319	4	W. W. Unmarked
Lone	59 - 37	1677 -180	153 - 18	480 -459	5	W. W. Unmarked
Maid	59 - 44	-1360	153 - 01	582 -356		Waterfall
Mat	59 - 37	315 -1542	153 - 20	748 -192	6	W. W. Unmarked
Mel	59 - 37	1778 -78	153 - 14	516 -423	5	W. W. Unmarked
Mound	59 - 22	188 -1668	153 - 21	563 -384		Triang.
Mule	59 - 39	1593 -264	153 - 19	592 -347	5	Flag Unmarked
Near	59 - 38	220 -1637	153 - 18	478 -461	4	W. W. Unmarked
Nort	59 - 39	1637 -221	153 - 17	59 -880		Waterfall
N. Head	59 - 37	555 -1301	153 - 33			Triang.

<u>STATION</u>	<u>LATITUDE</u>	<u>D. M.</u>	<u>LONGITUDE</u>	<u>D. P.</u>	<u>HEIGHT</u>	<u>REMARKS</u>
Oat	59 - 39	68 -1788	153 - 16	500 -438	5	W. W. Unmarked
Oil	59 - 37	1547 -283	153 - 15	190 -750		Triang.
Out	59 - 30	1772 -84	153 - 45	858 -82	7	W. W. Unmarked
Roy	59 - 36	1656 -200	153 - 22	608 -333		Triang.
Rub	59 - 33	1002 -854	153 - 35	398 -540	6	W. W. Unmarked
Rube	59 - 41	830 -1026	153 - 04	618 -330	5	W. W. Unmarked
Run	59 - 42	240 -1616	153 - 03	58 -880	14	W. W. Unmarked
S. Augustine	59 - 19	467 -1389	153 - 31	661 -288		Triang.
Sak	59 - 39	1187 -670	153 - 09	105 -835	5	W. W. Unmarked
Sara	59 - 35	1262 -594	153 - 33	595 -354		Pinnacle
Slope	59 - 32	494	153 - 46	280 -177	2	W. W. on rk. unmarked
Sat	59 - 27	1192 -664	153 - 42	480 -460	3	W. W. Unmarked
Spot	59 - 33	316 -1541	153 - 39	232 -711		
Sun	59 - 35	246 -1610	153 - 33	782 -156		
Slush	59 - 38	448 -1408	153 - 09	618 -320	2	W. W. Unmarked
Swat	59 - 41	404 -1452	153 - 05	70 -868		
Sl <sup>90</sup> eat	59 - 46	1356	153 - 01	--- -522	3	W. W. Marked 1911.

<u>STATION</u>	<u>LATITUDE</u>	<u>D. M.</u>	<u>LONGITUDE</u>	<u>D. P.</u>	<u>HEIGHT</u>	<u>REMARKS</u>
S. Head	59 - 36	#13 -1443	153 - 33	907 -34		Triang.
Small	59 - 32	960 -896	153 - 44	592 -348	1	W. W. Unmarked
Step	59 - 25	1706 -150	153 - 46	169 -777		Triang.
Tom	59 - 37	674 -1183	153 - 19	497 -442	4	W. W. Unmarked
Turf	59 - 26	6 -1851	153 - 43	927 -19		Banner Pole sig. Triang.
Uno	59 - 29	456 -1400	153 - 43	507 -432	6	W. W. Unmarked
Ursus	59 - 33	155 -1702	153 - 35	268 -674		Triang.
Vim	59 - 39	727 -1130	153 - 18	886 -53	4	W. W. Unmarked
Wash	59 - 30	460 -1396	153 - 44	640 -300	7	W. W. Unmarked
W. Aug.	59 - 22	1717 -139	153 - 32	844 -104		Triang.
White	59 - 29	1672 -184	153 - 44	162 -777	5	W. W. Unmarked
Pin	59 - 32	882 -974	153 - 45	242 -698	6	W. W. Unmarked

Sealed by: Harry Leypoldt,

Aid, C. & G. Survey.

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