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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

W. Pittmann,
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Top. Sheet No. *3432*

LOCALITY:

Jachany Bay
Alaska.

1913

CHIEF OF PARTY:

James B. Miller

11-4045

7-25-13
C. & G. S.

Applied to ch# 8704 (extension of limits) S.M.A. Mar. 6, 1943

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey

O. H. Tittmann, Supt.

ALASKA

Shumagin Islands

ORIGINAL TOPOGRAPHIC SHEET 3432

ZACHARY BAY

Surveyed in July by the party on the C. & G. S. Str. PATTERSON
1913.

James B. Miller, Assistant, C. & G. S., Chief of Party.

William V. Hagar, Aid, C. & G. S. in charge of top-
ographic party.

SCALE 1:20,000

AREA 42 SQ. STAT. MILES

Inked by William V. Hagar

STATION		LATITUDE			LONGITUDE			REMARKS
			Seconds in M's before after adjusting			Seconds in M's before after adjusting		
Ben	55 - 23	946 910	946 910	160 - 33	839 217	854 202	W.W. ✓	
Pan	23	633 1223	633 1223	34	214 842	228 828	W.W. ✓	
Kit	23	1049 807	1049 807	34	353 703	366 690	W.W. ✓	
Cot	23	1144 712	1143.6 711.9	34	800 256	811.2 245.0	W.W. Cairn ✓	
Get	23	824 1032	824 1032	34	1007 49	1016 40	W.W. ✓	
Up	23	467 1389	467 1389	35	20 1036	28 1028	W.W. ✓	
To	23	340 1516	340 1516	34	709 347	716 340	W.W. ✓	
Tin	23	15 1841	15 1841	34	941 115	947 109	W.W. ✓	
So	22	1712 144	1712 144	35	309 747	313 743	W.W. ✓	
Mut	22	1461 395	1461 395	35	565 492	567 490	W.W. ✓	
Pa	22	1327 529	1327 529	35	886 171	887 170	W.W. ✓	
Fox	22	1053 803	1053 803	35	867 190	867 190	W.W. ✓	
Of	22	964 892	964 892	36	58 999	58 999	W.W. ✓	
No	22	607 1249	607 1249	36	83 974	83 974	W.W. ✓	
Me	22	351 1505	351 1505	36	284 773	284 773	W.W. ✓	
Mar	22	74 1782	74 1782	36	344 713	344 713	Drift wood signal. ✓	

STATION		LATITUDE			LONGITUDE				REMARKS	
		Seconds in M's before after adjusting			Seconds in M's before after adjusting					
	La	55 - 22	22 1834	22 1834	160 - 36	838 219	838 219		W.W.	✓
	If	21	1670	1670	36	902	902		W.W.	✓
			186	186		155	155			
	Rin	21	1437 419	1437 419	36	908 149	908 149		W.W.	✓
	Ha	21	1240 616	1240 616	37	80 977	80 977		W.W.	✓
	Go	21	1087 769	1087 769	37	159 898	159 898		W.W.	✓
	Fa	21	863 993	863 993	37	308 749	308 749		W.W.	✓
	Bad	21	699	699	37	345	345		W.W.	✓
			1157	1157		712	712			
	Ed	21	520 1336	520 1336	37	551 506	551 506		W.W.	✓
	Da	21	403 1453	403 1453	37	685 372	685 372		W.W.	✓
	Be	21	264 1592	264 1592	37	679 378	679 378		W.W.	✓
	Al	20	1794 62	1794 62	37	539 518	539 518		W.W.	✓
	Ah	20	1461	1461	37	222	222		W.W.	✓
			395	395		835	835			
	Job	20	1036 820	1036 820	36	631 426	631 426		Tent	✓
	Bah	20	825 1031	825 1031	36	580 478	580 478		W.W.	✓
	Pro	19	1823 33	1823 33	36	421 637	421 637		W.W.	✓
	Hat	19	1645 211	1645 211	36	395 663	395 663		W.W.	✓

STATION		LATITUDE			LONGITUDE			REMARKS
			Seconds in M's before after adjusting			Seconds in M's before after adjusting		
●	Dan	55 - 19	1351 505	1351 505	160 - 36	443 615	443 615	W.W. ✓
	Bal	19	847 1009	847 1009	37	164 894	164 894	W.W. ✓
	Pay	19	1591 265	1591 265	37	238 820	238 820	W.W. ✓
	Hag	19	1799 57	1799 57	37	229 829	229 829	W.W. ✓
	Col	20	102 1754	102 1754	37	292 766	292 766	W.W. ✓
	Nel	20	88 1768	88 1768	37	360 698	360 698	W.W. ✓
	On	20	25 1831	25 1831	37	611 447	611 447	W.W. ✓
●	As	20	331 1525	331 1525	37	681 377	681 377	W.W. ✓
	Bo	20	318 1538	318 1538	37	755 303	755 303	W.W. ✓
	He	19	1745 111	1745 111	37	1009 49	1009 49	W.W. ✓
	Pin	19	1104 752	1104 752	38	68 990	68 990	W.W. ✓
	Slow	19	817 1039	817 1039	38	620 438	620 438	W.W. ✓
	Jar	19	547 1309	547 1309	39	111 947	111 947	W.W. ✓
●	Nu	18	1524 332	1524 332	39	166 892	166 892	W.W. ✓
	Wad	18	845 1011	845 1011	40	95 963	95 963	W.W. ✓
	Ten	18	637 1219	637 1219	41	750 308	750 308	Tent ✓

STATION		LATITUDE			LONGITUDE			REMARKS
			Seconds in M's before after adjusting			Seconds in M's before after adjusting		
	Ray	55 - 19	690 1166	690 1166	160 - 40	665 393	665 393	W.W.cairn ✓
	Goo	19	1645 211	1645 211	40	710 348	710 348	W.W.cairn ✓
	Den	20	227 1629	227 1629	40	534 524	534 524	W.W.cairn ✓
	Flag	20	1067 789	1067 789	40	147 910	147 910	Flag pole ✓
	Bun	20	1846 10	1846 10	39	695 362	695 362	Gable of Coal bunkers ✓
	Cob	21	782 1074	782 1074	39	619 438	619 438	W.W. ✓
	Bob	21	1272 584	1272 584	39	374 683	374 683	W.W. ✓
	Put	22	162 1694	162 1694	39	752 305	752 305	W.W. ✓
	Abe	22	851 1005	851 1005	39	706 351	706 351	W.W. ✓
	We	22	1637 219	1640 216	39	510 547	506 551	W.W. ✓
	Ham	23	665 1191	670 1186	39	571 485	564 492	W.W. ✓
	Dip	23	1068 788	1075 781	39	965 91	954 102	W.W. ✓
	Hod	24	30 1826	39 1817	40	543 513	529 527	W.W. ✓
	Vex	23	1828 28	1838 18	40	829 227	814 242	W.W. ✓
	Cloth	23	1830 26	1841 15	41	33 1023	17 1039	Cloth sig- nal ✓
	Cud	24	378 1478	392 1464	41	920 136	900 156	W.W. ✓

[illegible]

DEPARTMENT OF COMMERCE
Coast and Geodetic Survey

O. H. Tittmann, Supt.

SOUTHWEST ALASKA

Shumagin Islands

DESCRIPTIVE REPORT TO ACCOMPANY TOPOGRAPHIC SHEET **3432**

Surveyed by the Steamer PATTERSON, July 1913.

1. REPORT. LIMITS. SCALE. METHODS. OBSERVER.

I have the honor to report as follows upon topographic sheet C, which shows the topography of Zachary Bay and the northern part of Unga Island, Shumagin Islands, Southwest Alaska, as done in July 1913 by a party from the Steamer PATTERSON. On the east the sheet connects with sheet A and at the west terminates at a point about $5\frac{1}{2}$ miles north and east of Δ Trap (on Nigger Head). The scale used was 1:20000 and the plane table was used exclusively in the work. The work was done by a party in charge of William V. Hagar, Aid, C. & G. Survey.

2. CONTROL; TRAVERSES. CONTOURS; HEIGHTS.

The traverses were all closed upon triangulation stations with one exception and a proportional linear adjustment made. The greatest error of closure was 60 meters at *O Doc*. No other error was greater than 12 meters. The amount of adjustment for error of closure for each hydrographic signal is shown in the list of positions of plane table ^{signals} positions. The traverse west of Zachary Bay was not closed upon a triangulation point at its termination but at a point $2\frac{1}{4}$ miles from the end and the proportional adjustment was carried along to the end of the traverse. In plotting distances in the field allowance was made for expansion or contraction of the sheet. Especial attention was given to contouring. Several inland stations were occupied for contouring purposes and every effort made to insure accuracy in the sketching. All heights and elevations are above high water level. All heights were obtained by the plane table. The greatest discrepancy between independent values of the same mountain was twenty five feet and in most cases the discrepancy was not over ten feet. The contour interval is fifty feet.

3. GENERAL REMARKS: FORM OF LAND; MOUNTAINS; GENERAL CHARACTER OF SHORE LINE; VEGETATION; ANIMAL LIFE.

In general form Unga Island is approximately rectangular with the greatest length in the north and south direction. On the northern side Zachary Bay forms a conspicuous indentation as do Delarof Harbor and Baralof Harbor (locally called Squaw Harbor) on the eastern side. With these exceptions the shore line is fairly regular. It is the largest island of the group. The island is quite mountainous, especially the eastern half. The western part of the island is comparatively low, while the portion to the north of the

southern limits of Zachary Bay has a somewhat rolling topography. The highest mountains are just south of Zachary Bay where the maximum height of 2270 feet is found. South of these highest mountains, which extend south about to Baralof ^{Bay}Harber, the mountains are not so sharp and the valleys are wider. On the highest mountains, and especially where there were shaded ravines near the tops, patches of snow remained until about the first of August. In the fall the first snow to be seen on the mountains came the first week in October. In general the shore line of Unga is rocky and precipitous. Near the western extremity of the northern shore there is a sand beach about three miles in length with sand dunes immediately inland. From Baralof ^{Bay}Harber north and west as far as the topography was done there is a beach, generally rocky, that one can walk except in one or two places where one can pass the bluffs only at extremely low tides. South of Baralof ^{Har-Bay}Harber the shore line is much bolder and there are long stretches where the cliffs come down perpendicularly into the water. North of Baralof ^{Harber Bay}Harber in Popof Strait there is no surf at all and a landing can easily be made anywhere. On the north coast of the island there is no surf except with a strong north wind. South of Baralof ^{Bay}Harber there is considerable surf in all places which increases quickly with breezes from the south or east. The southern and eastern shores of the island are said to be still more difficult to make a landing on because of the surf and the open nature of the coast line. Except on the mountain tops the island is covered with grass which in some of the valleys grows to be waist high. A kind of moss is also found especially on the hill tops. There are no trees except alders. These are scattered in patches quite generally over the entire island. They grow usually to a height of six to eight feet, although sometimes found considerably larger. On the steeper slopes and at the higher altitudes the alders are generally somewhat stunted and attain a height of from one to four feet. Above an elevation of about one thousand feet the mountains are practically bare. A considerable variety of flowering plants are to be found throughout the island. Salmon berries are quite abundant in the valleys. They begin to ripen about the first of August and last into September. There is a considerable number of small birds and animals on Unga but no large ones. Ptarmigen are numerous and afford good hunting in season. There are two kinds of ptarmigen one of which is called rock ptarmigen and is found in the lower mountains during the summer but comes down into the valleys during the winter. The other variety remains in the lowland throughout the year. A few fresh water ducks nest in the small ponds and the natives say that sometimes fresh water ducks are quite numerous for a few weeks in the late fall. Eagles, hawks, and owls are quite numerous, as well as a few varieties of small birds. Around the water are found gulls, sea parrots, and several varieties of salt water ducks. The only animals on the island are foxes and mice. The island is in most places over run with a species of mouse which makes little trails criss-crossing through the grass. The inhabitants call these gophers but they resemble the mole in appearance at least rather than the gopher. The animals prove a nuisance in the few places where people have tried raising gardens and are quite destructive. The inhabitants say that occasionally a caribou swims across to the island from the peninsula but it is doubtful if this happens. No one claimed to have seen a caribou themselves on the island. There are numerous small streams throughout the island and in most of these trout are plentiful. Salmon run in a few of the streams. The varieties of salmon, however, are the dog, hump-back, and a few silver salmon. A few hair seals are found around the island and on the southern shore sea lions are numerous especially during the breeding season.

4. DETAILED DESCRIPTION OF SHORE; PROMINENT POINTS.

Round Island is an island about a quarter of a mile in diameter and four hundred feet in height located in the southeastern part of Zachary Bay. The sides of the island are almost perpendicular except at the ^{southern} north-eastern part where there is a sand spit which makes out from the island and affords the only place there is to make a landing. From this sand spit there is a steep slope up which one can climb without any great difficulty and thus reach the top of the island. Near the top the cliffs round off and give to the island a dome like effect. The top is covered with grass. North Head is a low rocky head on the east side of Zachary Bay and about half a mile north of Round Island. Next the water is a low bluff back of which the land slopes upward to a small knoll. North of North Head the shore line is quite regular for a distance of about two miles. Through this distance there is a succession of short projecting points with open bights between. The shore is rocky with low bluffs of from ten to twenty feet in height on the points. A mile and a half from North Head is a bluff fifty feet high of a peculiar reddish yellow color. In general on this side of the bay the land is nearly level and recedes from the shore line with a rather gentle slope. At the eastern entrance of Zachary Bay are two projecting points with high rocky bluffs along the shore line. South of the inner point is a deep bight with sandy beach. The water in this bight is quite shallow. Between the two points is another narrower bight 1/4 of a mile deep with a sandy beach. These two bights almost meet back of the inner point and leave a very narrow neck of land. Just outside this second bight and about 260 meters from the shore is a small rocky island about fifteen feet above high water level. At neither of the two points is there a beach but the bluff extends straight into the water. Sixty meters off the northeastern corner of the eastern point is an offlying rock connected to the shore by a reef which is bare at low water. To the east of the second point about half a mile is a high black bluff 160 feet high. Between is a bight with a high bluff at its head. In the bight and 140 meters from the eastern shore is a large offlying rock 40 feet high. There is a reef projecting 60 meters from the western end of the black bluff with a small offlying rock at its end. The beach beneath the bluff can be passed only at low tide. South of North Head the shore line bears away to the southeast and forms a large bight with a gravelly beach. Back of the beach is a steep grass covered bank. To the south of this first bight the shore is rocky with a few bluffs but for the most steep grassy bank. Quartz Point is a wide rocky point directly south of Round Island. The bluffs are low averaging about forty feet in height and at several places on the face of the bluffs are to be found small veins of quartz. East of Quartz Point is a large bight extending south a distance of one half a mile. At the head of the bight is a large lagoon nearly cut off from the bay by a narrow spit. Back of the lagoon is a low valley leading up to southeast. The water at the head of this bight is very shallow and at low tide the lagoon and upper end of the bight are bare for a considerable distance from shore. Mandarin Rock is a large offlying pillar of rock about thirty feet high and located half a mile west of Quartz Point. West of Mandarin Rock about 150 meters is a small point ending in an arched rock. Range Island is a small low island south of Round Island and about two thirds of the way from Round Island to Quartz Point. It is a little to the west of the range between Quartz Point and Round Island. Range Island is approximately circular in form with a diameter of about 110 meters and a height of about 28 feet. The top is nearly flat and is covered with grass. West of Mandarin Rock the shore line bears away to the southwest and for a distance of 2 1/2 miles

is fairly regular. Along this stretch there are frequent sand beaches and few rocky bluffs. The shore line then turns to the west and north and extends in these two general directions for a distance of about four miles in length. The shore then extends east for about half a mile. From this point (which is almost directly west of Round Island) a sand spit extends south for a distance of nearly a mile and a half, thus forming a large lagoon-like bay. On the west shore of this bay opposite the end of the sand spit is a large sandy bight. At the head of the bight is a wide valley leading to the west with a gradual slope. Opposite the middle of the sand spit is another bight. Back of this second bight the land is very low and marshy. The sand spit is very narrow being in places only about ten meters wide. The water on either side of it is very shallow and there are two sandy shoals off the end of the spit which bare at low tide. From the base of the sand spit the shore bears nearly due north and is fairly straight up to a point opposite Gull Island. The southern half of this stretch has a pebbly beach while at the northern half it is more rocky. Back of the shore line varying in distance from a quarter to half a mile in most places is a high bluff attaining a maximum height of 780 feet. From the bluff is a slope of talus leading down to the beach. Commencing near the base of the sand spit the bluff recedes somewhat from the shore line and then curves east slightly so as to meet the shore line at a point about a mile and a half from the sand spit. At this place the bluff is of a white sandy color and is 480 feet high. About midway between the sand spit and this point of the bluff is a coal bunker built up on piles near the low water line. To the north the bluff again curves back from the shore, to a distance of about half a mile then gradually approaches the shore again meeting it at a point nearly opposite Gull Island. From here there is a rocky reef extending out toward the northwest. Gull Island is a small flat topped island located near the western entrance of Zachary Bay and a mile off shore. The island is about 70 meters long, 15 meters wide and 37 feet above high water level. The top is grass covered while the sides which are of solid rock rise perpendicularly from the water. At the western end, however, the sides shelves down sufficient so that one can land and climb up the rock easily. From a point opposite Gull Island the shore bears nearly due west and is very rocky with bluffs, 140 feet high. About a mile to the west the bluffs begin to decrease in height until at a point a mile further west they disappear entirely. From here the beach is low and sandy with sand dunes about thirty feet in height inland. A mile from where the sand beach begins is a wide point beyond which the shore line bears to the southwest. A mile and a half from the point the sand beach ends and the shore is again rocky with steep bluffs. A quarter of a mile from where the sand beach ends the traverse terminates at a rocky point.

5. SETTLEMENTS: WHITE; NATIVE. RESOURCES: MINING; FISHING; FARMING. COMMERCE.

There are no native settlements within the limits of the sheet and but one white settlement. This settlement which is located on the west shore of Zachary Bay a little way north of the sand spit, consists of but three houses only two of which were occupied. It is not visible until one gets well within the bay. Besides this settlement there was no other house within the limits of the sheet except a barabara near the eastern end of the sand beach west of Zachary Bay. At the time when the coal mine was running there was a post office at the settlement and the mail boat made regular stops there but the post office was discontinued after the mine closed. At present there is no mining within the limits

of the sheet. The bluff west of Zachary Bay has coal in it but is of an inferior grade. Several years ago an attempt was made to mine this coal but did not prove profitable. The tunnels have caved in since the work was abandoned and the machinery has all been taken away. At present all that remains of the undertaking is a large coal bunker down by the shore and one small building. A small amount of coal is now dug from the outcrop along the cliff and sold locally. Considerable prospecting for gold is being done to the south of Zachary Bay. There are no fish stations in this section. The people at the settlement in Zachary Bay sometimes send out a few barrels of herring but there is no fishing on a large scale. Salmon run in one of the streams at the extreme head of the bay and the people dry enough for their own consumption. At the settlement in Zachary Bay a little farming is done. They have twelve or fifteen head of cattle, cultivate quite a large garden, and have raised a little grain. On the east coast of Zachary Bay a fox farm has been started. They had built no house this summer but had only a tent. Practically all the commerce is a small local trade in coal and shipping a few herring. Sand Point is the nearest place at which boats from the outside stop. The coal trade is carried on with small gasoline schooners locally owned.

6. GEOGRAPHIC NAMES. AUTHORITIES. LIST.

Below is given a list of geographic names of the most prominent points. The authorities taken were the old chart. As on the old charts the name Coal Harbor was applied to the portion of the bay behind Round Island while Zachary Bay was applied to the portion outside of Round Island. Locally however the name Zachary Bay is not used but the whole bay is called Coal Harbor. Inquiry was made as to the local names for points and bights which had no names on the old chart but without success.

North Head	Zachary Bay
Round Island	Coal Harbor
Range Island	Unga Strait
Quartz Point	Mandarin Rock
Gull Island	

7. MAGNETIC DECLINATION.

The magnetic declination was carefully determined with the table in orientation at Δ Zachary and the determination was found to be $19^{\circ}23'$ East.

Respectfully submitted,

William V. Hagar

Aid, C. & G. Survey.

APPROVED:

James B. Miller
Assistant, C. & G. Survey,
Chief of Party.

To the Superintendent,
Coast and Geodetic Survey,
Washington, D. C.

At Sea, November 10, 1913.