

4313

Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
_____, Director	
<div>U. S. SURVEY L. & A.</div>	
State: Alaska	Sec. No.
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. 4313
LOCALITY	
Kenai Peninsula	
Southern part of Nuka Bay	
1927	
CHIEF OF PARTY	
R.R. Lukens	

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

11-5013

State: S. W. ALASKA

DESCRIPTIVE REPORT.

4313

Topographic Sheet No. "P"

LOCALITY:

NUKA BAY southern part

1927

CHIEF OF PARTY:

R. R. Lukens

Descriptive Report to Accompany Topo. Sheet No. 4313

This survey was executed by the party on the launch "Wildcat" under instructions issued to the Commanding Officer of the Str. SURVEYOR dated February 3rd, 1927.

General Description. This sheet covers the southern part of Nuka Bay and is bounded on the western side by the eastern coast of Nuka Island, and on the eastern side by the Pye Islands. Two other topographic sheets, completed this season, join this sheet to northward and cover the East and West Arms of Nuka Bay.

Pye Islands are three rugged, mountainous islands, densely wooded on the lower slopes. Pye Island, the outermost island, has a prominent peak, 1316 feet high, at its eastern end. This peak forms a ridge in an east and west direction, the top of which is covered with huge granite blocks. The top of this ridge is bare of trees, but the remainder of the island is thickly wooded. The eastern end of Pye Island was surveyed at high water, during a calm sea, and the breaker mentioned in the Coast Pilot was not seen. Pye Island reef is well described in the Coast Pilot.

Rabbit Island, the second island of the group, is densely wooded throughout. The eastern shore of the island is rugged and broken, and being exposed to the open sea, makes landing impossible, except in a very smooth sea.

Crooked Island, the innermost island of the group, is only shown in part on this sheet. The remainder of the island is shown on topographic sheet (field letter) "E". The highest mountain on this island, Δ Ked, is 1587 feet high and is quite prominent from the eastward.

Wildcat Pass is a good navigable pass lying between Crooked and Rabbit Islands. Kitten Pass, good only for small launches in a smooth sea, lies between Rabbit and Pye Islands. These passes are described in detail in the Descriptive Report of the hydrographic sheet of this area.

Nuka Island is 7-1/2 miles long and about 3-1/2 miles wide. The western shore of this island borders on Nuka Island Pass and is sketched on topographic sheet (field letter) "L". The eastern shore of Nuka Island is bold and rocky. The only important indentation in this shore is at Island Cove, which affords anchorage for small boats in fair weather only. The northern half of the island is thickly wooded in the valleys and on the lower slopes of the mountains. The southern half of the island is grass-covered and the eastern shore rises precipitately to the mountain tops and is of bare shale and talus formation.

South Point, the southern point of Nuka Island, is fairly prominent. This point is formed by a projection of land about one mile long and 5/8 miles wide with a peak 755 feet high near its center. This point is connected with the main part of the island by a fairly low, narrow neck of land so that, from a distance, the point resembles a large high

island, with a fairly regular slope to the water. The eastern and southern shores of this point rise in sheer rock cliffs, making a landing impossible.

Inshore Dangers. South Rock, lying nearly $1/2$ mile, 180° true from the southern tip of South Point, is the most outlying danger found off this point. The rock shows about 3 feet above high water, but breakers wash clear over it in a moderate swell at high water. Numerous other rocks lie all along the eastern shore of Nuka Island, extending from $1/8$ to $3/8$ miles off shore. Pinnacle Rock, 68 feet high, is the most prominent landmark along this shore. Reefs extend inshore from this rock, but deep water lies close off-shore. The rock is in the shape of a cone with the tip pointing off shore, and is so steep that it is impossible to climb it. Nuka Island Reef is formed by two large rocks, 25 and 30 feet high, and is very prominent. Deep water lies close outside these rocks.

Numerous rocks lie close inshore around the Pye Islands, all of them showing at all stages of the tide, or being well marked by kelp. Strong tide-rips were noticed to eastward of the eastern point of Pye Island, and since this area was not surveyed, by hydrography, it should be given a good berth.

Landmarks. Most of the locations listed on the List of Plane Table Positions, attached herewith, are of prominent objects which can be used by future hydrographic parties completing the surveys of this area to southward. It is believed that there are enough of these listed, so that no additional topographic work will be necessary. These are all natural objects of sufficient prominence, so that they will require no additional signals. The objects listed on Form #567 are only those objects of sufficient prominence for charting.

Survey Methods. Along the eastern coast of Nuka Island, there were frequent triangulation stations, which furnished excellent control. A plane table traverse was begun at Station TREE and carried southward along the coast. The triangulation stations were so close together, here, that the closing error was very small. This traverse was extended to O Sharp, inshore from Pinnacle Rock. Southward from here, it was impossible to land anywhere with a plane table and points and signals were cut in from a launch by sextant fixes and the shore between was sketched in. The most prominent rocks were also located by sextant cuts, but many of the inshore rocks were only spotted in their apparent position. This portion of the coast is so foul, that no vessel should attempt to approach it close-in and it is believed that all the important or outermost rocks are correctly located. The inshore hydrography was not done southward of Pinnacle Rock so there was no hydrographic check of this topography.

The locations and elevation of the peaks at the northern end of Nuka Island were determined by plane table methods, good checks being obtained in most cases. The mountains in the central and southern part of the island were obscured by clouds at all times while the topography was in progress. These locations and elevations were determined by sextant cuts

taken by the hydrographic party. All locations and elevations were approximately checked by photographs taken from the hydrographic launch at frequent intervals along the coast.

Since there were no shore triangulation stations on the Pye Islands, within the limits of this sheet, it was necessary to start this topography by a three-point fix. Since the Alidade would not reach to the stations on Nuka Island, the fixes were taken by sextant, and plotted with a steel protractor. Signals Hump, Rab and Gran were located by excellent fixes on triangulation stations Tree, Nuka Island Reef, and South Rock; the location of Gran being checked by cuts to Pye and Pye Island Reef, and the location of Hump being checked by a cut to Pye. From these points the topography was extended around the island by a combination of traverse and plane table triangulation, with check cuts to As Pye, Ked, Crook and Hoof. All locations and elevations of peaks on the Pye Islands were determined by usual plane-table methods. At Rex, where the survey ended, a standard disc topographic mark was cemented in the rock.

Pye Island and the southern shore of Rabbit Island was surveyed by H. O. Westby, Aid, and the remainder of the sheet was surveyed by Wm. D. Patterson, H & G Eng.

New Place Names. Of the Pye Islands, only ~~Pye~~ ^{outer} Island had previously been named. The field party named the other two islands, Rabbit Island and ~~Crooked~~ ^{Ragged} Island, on account of their shape. There are no local names in use for these islands.

Wildcat Pass and Kitten Pass have no local names and these names are suggested by the field party.

In the absence of a local name the field party suggests Island Cove as an appropriate name for the small bight on the northeastern side of Nuka Island.

The names Nuka Island Reef, Pinnacle Rock, South Rock and South Point are also suggested by the field party as appropriate names. There are no local names for these objects.

Respectfully submitted,

*approved
A. R. Lukens.*

Wm. D. Patterson.
Wm. D. Patterson
H & G Eng. C & G Survey

Inspected and found adequate

E. P. Ellis, Mar. 1928

PLANE TABLE POSITIONS

Objects & Descriptions	Lat.	D.M.	Long.	D.P.	Height	Remarks
	° '	meters	° '	meters	feet	
○ Rex d.m.	59 24	197	150 22	924	30	End of survey
Flat rock (○ Kin)	59 23	0	150 22	262	20	Highest rk. of reef
Clump of trees (○ Chow)	59 21	158	150 23	408	80	Highest part
Shaft of rock (○ Thumb)	59 20	939	150 23	55	125	" shaft
Granite rock (○ Ice)	59 20	706	150 23	412	70	" part
Granite rock (○ Gran)	59 20	824	150 26	192	82	" "
Black Pinnacle rock	59 19	532	150 40	28	20	○ Sharp
Largest of two grassy pinnacle rocks	59 18	1742	150 40	322	35	○ Two
High brown point	59 18	874	150 40	743	75	○ Brown
High dark point	59 18	225	150 41	214	80	○ High
Grassy hump	59 17	1819	150 42	227	100	○ Nar
Outermost of two bare points on reef	59 17	773	150 42	133	3	○ Gull
Flat bare rock	59 17	684	150 42	800	2	○ Flat
High square rock with perpendicular sides	59 17	387	150 43	456	80	○ South

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. "2"

REGISTER NO. **4313**

C. & G. SURVEY
L. & A.
JAN 26 1928
Acc. No.

State ~~S. W.~~ Alaska

General locality ~~Nuka Bay~~ Kenai Peninsula

Locality Southern part of Nuka Bay

Scale 1:20,000 Date of survey July. - Sept., 1927

Vessel Str. SURVEYOR

Chief of Party R. R. Lukens

Surveyed by W. D. Patterson and H. O. Westby

Inked by W. D. Patterson

Heights in feet above H. W. to ground ~~to tops of trees~~

~~Contour, Approximate contour~~, Form line interval 100 feet

Instructions dated February 3rd, 1927

Remarks: _____