

3803

Diag. Cht. No. 8554-1

C. & G. SURVEY  
L. & A.  
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
Acc. No.

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: ALASKA

11-5613

DESCRIPTIVE REPORT.

Hyd Sheet No. 3803

LOCALITY:

Kenai Peninsula

Elizabeth Island

to

Port Graham

1915

CHIEF OF PARTY:

RSPatton

3803

Descriptive Report  
Hydrographic Sheet 3803  
Kenai Peninsula, Alaska

Str. Explorer

R.S. Patton, Asst. Chief of Pa

1915

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet **3803**

Elizabeth Island to East Chugach

surveyed

under the direction of

R.S. Patton Ass't

by

H.T. Kelsh Ass't

Steamer Explorer

1915

## GENERAL DESCRIPTION OF COAST.

This sheet embraces the southeast end of Elizabeth Island, the inside coast of Pearl Island, and Dora Reef, the northern shore of the passage, the northwest corner of East Chugach Island and Chugach Bay.

The shore of Elizabeth Island is very rocky and precipitous, with many offlying rocks and ledges. It forms a dangerous coast to approach closely.

The shore of the mainland is not so precipitous, but there are two dangerous ledges off shore. At the point of the shore rounding into Chugach Bay, there is a steep cliff. Off this is a large ledge.

Chugach Bay makes an excellent anchorage. It is clear and entered on a straight course. It offers a muddy bottom with 12 - 15 fathoms of water. East Chugach Island runs off into a sand spit on the northwest corner, with deep water directly off the point.

East of the point is a projecting ledge but it does not extend very far off shore.

The inner shore of Pearl Island is a high cliff with deep water at its base. Farther to the west is a small strip of sand beach and then the shore is again rocky and precipitous, with offlying ledges and thick kelp.

Stretching for three miles to the southwest of Pearl Island are scattered rocks awash at various stages of the tide, Nagahut Rocks, and Dora Reef, forming a dangerous line reaching out from the shore which should be avoided by all boats.

The currents, strong in all parts of this passage, run like a mill race past the Nagahut Rocks, makes heavy tide rips stretching out to beyond Dora Reef. The rocks are hard to see in the swift current, making it, dangerous work for a launch of low horse power.

The tidal currents in this vicinity are very irregular, due to the formation or configuration of the shoreline, but in general the flood tide runs

through the passage between East Chugach and Pearl Island, striking strongly against the shore of Pearl Island in the bight on the northeast side, deflecting across the passage and forming eddies. It floods past the point of Elizabeth Island on both sides of the point, so that it is probable that the bulk of the water running through the passage between Elizabeth Island and the mainland comes from the channel between Pearl Island and the main shore, and the flood that runs on the outside of Pearl Island continues for the most part directly up the outside coast. The ebb runs in a general reversed direction.

#### OFF SHORE DANGERS

#### AND GENERAL BOTTOM AND DANGERS ALONG THE COAST.

The point of Elizabeth Island is thickly dotted with boulders and ledges making a dangerous coast, close inshore.

There is a narrow lane of deep water just off shore, but there stretches across nearly the whole channel an area of 10 - 12 fathoms reaching out from the north shore, and shoaling up to 6 fathoms outside the deeper water near the Elizabeth Island shore. This area practically closing the channel with over 50 fathoms at the Port Chatham end of the passage is the cause of the heavy tide rips through this place. It was often necessary to anchor the launch in the bight in the southeast side of Elizabeth Island, which afforded quiet water during the strength of the tide. A mile off shore and about 2800 meters from signal Gable (direction W by S true) between Pearl and Elizabeth Islands there is a small 4 fathom shoal surrounded by deep water.

Nagahut Rocks are part of a chain of dangers extending in a general S by W (true) direction from Pearl Island; Dora Reef marking the limit.

There was only sufficient work done here to locate Dora Reef and to close this place entirely to navigation. 30 feet was the least depth obtained on Dora Reef, so that it is possible that further work would show less water.

but there was no time for this work. *2.2 fm obtained on H 8619 WD (1961)*

The northeast shore of Pearl Island was found to drop off quickly into 15 fathoms.

On the north side of the passage there is a dangerous ledge 500 meters off shore where the land bends around to enter the passage formed with Elizabeth Island. The ledge is three quarters of a mile in length with rocks projecting from the water at either end. There is a small rock 250 meters outside of signal Ledge. This marks the outer limit of the dangers, for outside this the bottom drops off quickly into 15 fathoms. There is a shoal rocky area to the west and inside the ledge, so that vessels should pass at the least three quarters of a mile off the main shore in rounding this point.

East of the long ledge the north shore, although rocky and with a few rocks lying two to three hundred meters off shore, has clear water outside a quarter of a mile.

There is a dangerous ledge off the point of land forming the south side of Chugach Bay. Signal Rock is located on the largest rock which is about 25 feet high. The current is strong past this point and heavy tide rips occur outside the ledge. There is quite a shoal area surrounding the ledge but the 20 fathom curve passes in a circle about 600 meters outside signal Rock and beyond this the water is clear.

Two lines were run in Chugach Bay to develop a clear channel. These showed a gradually shoaling bottom towards the head of the bay with good anchorage.

Off the north shore of East Chugach there is clear water except just east of the sand spit where a ledge projects as a long narrow point dropping into 6 fathoms about a half mile off shore. Outside this there are no dangers.

*Respectfully*  
*A. T. Kersh*

SUPPLEMENTARY REPORT FOR SHIP WORK DONE ON THE ACCOMPANYING SHEET.

An 11 fm. spot was found  $3/4$  mi. N (mag.) from the bight on the north shore of Pearl Id. It was thoroughly covered with the marine sentry set at an effective depth of 10 fms.

The remainder of the channel area between ~~the~~ Pearl Id. and the mainland is clear and the bottom is very even; sloping from 20 fms. at the Eastern end to 15 fms. at the Western end.

The small area covered by the ship between Elizabeth Id. and Nagahut Rocks is deep and regular.

G. C. Jones  
Aid, C. & G. S.

STATISTICS SHEET NO. 3803

Date, 1915	Letter	Vol.	Pos.	Soundings	Miles statute	Angles	Vessel
September 3	A	1	176	287	41	352	Ship
" 4	B	1	91	164	21	185	"
" 7	C	1	169	179	29	338	"
" 10	D	1	37	38	5 1/2	74	"
" 21	E	2	107	84	17	214	"
Ship Total			580	752	113 1/2	1163	
Launch Total			1452	2946	198	2903	
TOTAL			2032	3698	311 1/2	40666	

STATISTICS SHEET NO. 8803

Date, 1915	Letter	Vol.	Posi- tions	Soundings	Miles statute	Angles	Vessel
August 25	a	1	69	175	9 1/4	138	Launch
" 28	b	1	57	115	8 1/4	115	"
Sept. 3	c	1	124	196	17	249	"
" 4	d	1	43	149	3 1/2	86	"
" 4	d	2	60	145	8	119	"
" 8	e	2	109	186	15 1/2	219	"
" 9	f	2	134	234	17	267	"
" 9	f	3	52	84	5	104	"
" 10	g	3	147	282	18 1/2	292	"
" 15	h	3	107	175	14 1/2	214	"
" 15	h	4	41	80	6	82	"
" 16	j	4	148	334	21 1/2	295	"
" 20	k	4	133	302	18	265	"
" 20	k	5	43	105	6 1/2	86	"
" 21	l	5	185	384	29 1/2	372	"
Total . . . . .			1452	2946	198	2903	

DEPARTMENT OF COMMERCE

Hydrographic Sheet No. 3803.

Kenai Peninsula, Alaska.

Positions, protracted by field party and taken to be correct being verified only where necessary to locate indefinite positions or where conditions would indicate possible errors; when verified no errors were found therefore the protracting can be considered good.

Soundings, pencil plotted by field party and were found to be generally accurate except the fraction plotting, in this it would appear that the party doing this work had not familiarized himself with the regulations governing such work.

Field work, good for a general development but appears rather open for especially accurate work.

Records, good

Remarks. It would appear quite necessary to have "iron drag work" done in these inside routes to locate any possible rocks or shoals which do not now appear.

John D. Torrey  
2/30/17.