3636

3931

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State:

11—5613

DESCRIPTIVE REPORT.

York *Sheet No.* 3636 +

Hyd. " " 3931.

LOCALITY:

191

CHIEF OF PARTY:

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic 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(s) 3931

State . . . S. E. Alaska

General locality . . Outside Coast

Locality . . . . . Forrester Island

Chief of party . . . . . J.S.Stanley

Surveyed by . . . . . H.B. Campbell

Date of survey . . . . . July to Sept. 1940

Scale . . . . . 1 to 40,000

Soundings in Fathoms.

Plane of reference

Protracted by L.C.W. Elder Soundings in pencil by W.D. Sutcliffe

Inked by . . . . . Verified by

Records accompanying sheet (check those forwarded):

Des. report, * Tide books, ____ Marigrams, ____ Boat sheets,

4 Sounding books, ____ Wire-drag books, ____ Photographs.

Data from other sources affecting sheet

Statistical Report.

Remarks: * Descriptive Report of topographic sheet Forrester Island covers this hydrography.

Coast and Geodetic Survey,

E. Lester Jones, Superintendent,

A Descriptive Report to Accompany Topographic Sheet (No.2") 3636.

Forrester Island,

West Coast of Pr. of Wales Id.,

S. E. Alaska.

June - Sept. 1916.

By Party on Steamer "EXPLORER"

F. H. Hardy, Assistant,
Chief of Party.

Limits:-

This sheet includes Forrester Island and adjacent islands and rocks which are located between latitudes 54° - 44' and 54° - 53' north and between longitudes 133° - 30' and 133° - 34' west, and is on a scale of 1/40,000.

General Description:-

The coasts of Forrester Island are very bold and rocky. In practically all of the shore-line, the high water line is formed by the bare rock which extends to the tree line. In most places the trees come down to within fifty to one hundred feet of the H. W. M. In many places the cliff rises from the high water line and the most prominent of these cliffs are shown on the topographic sheet. In the heads of several of the bights the beach is of large boulders. Owing to the scale of the sheet these could not be shown and are of no importance except in Eagle Harbor where the beach is of boulders at the landing. All around the island except at Eagle Harbor the land rises sharply a hundred or so feet inside the high water line to an elevation of from three to four hundred feet forming a sort of plateau on which the peaks are located.

From the west-ward the appearance of Forrester Island is very distinctive from any distance at which it might be seen. From a distance, if the island were clear, the form of the peaks would identify it. The most southern and highest, elevation 1408 feet, is a rounding ridge running north and south and would appear relatively flat with a ragged tree line at its high point. The next peak to the north is the next to the highest, elevation 1128 feet, and comes to a sharp point. The third to the north and third highest, elevation 992 feet, is very rounding and is shaped like a beehive at the top. The North or twin peaks would show as one with a flat top and its elevation, 827 to 800 feet, is lower than that of the others.

3 / 2

A Descriptive Report to Accompany Topographic Sheet "No.2"

The low places between these peaks have a range of elevations varying relatively with those of the peaks being from south to north, 889, 675 and 440 feet respectively.

Very often these peaks are clouded and frequently the island is surrounded by a low bank of fog from one to four hundred feet above the water.

As the island is approached more closely, Petrel and Lowrie Islands would come above the horizon and when closer yet Cape Horn and Sea-Lion Rocks would be seen. The cliffs on the west side, especially those at the north end, 700 feet high, and those just to the south of the high point of the island, about 600 feet high, should be prominent in fair weather.

The south end of the island is a wooded flat from four to five hundred feet in elevation, with only two irregularities. First, the knob on the east side with an elevation of 553 feet which is fairly prominent from the east and west. Also, the deep pass ~~are~~ which cut across the southern extremity ~~and~~ makes it appear as a detached island from the east and ~~west~~ when seen at a distance of a few ~~a few~~ miles. The elevation of the southern end is 375 feet.

Petrel Island is divided in two parts by a deep cut across the island. The north end of this island is 308 feet and the south end is 304 feet high. From about five miles the island appears as two islands.

South Rock, elevation 168 feet ~~are~~ is not very prominent. At the north end Lowrie Island, elevation 291 feet, slopes away from its high point at the north-west end, fairly uniformly.

Cape Horn Rocks, elevation 148 feet have grassy tops but are other-wise bare and in the glare of the sun show up prominently because of their light color. They are cut by three deep crevices in a N. W. and S. E. (true) direction and are very steep on the sides with flat tops, being very hard to climb.

Sea-Lion Rocks, 117 feet high, is about half low and half high. The sides of the high part are very steepand its top is flat and grassy.

From the east, the appearance of the island is about the same as from the west except for the meadow on the 675 foot flat between the very sharp and the beehive peaks, this meadow is nearly bare and shows up well from a distance.

From the north or south the adjacent islands are not easily distinguished and the main island would appear very narrow and steep, especially steep on the west side.

The detached rocks in this locality, chiefly at the south end, along the west side, and west and north of Lowrie Island are bare. Their elevations are marked on those which are prominent or of any importance.

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Breakers:-

The breakers are located chiefly on the west side and north end. There are only two on the east side of Forrester and they are close in shore and since they bare at low water are well known. The breakers off Petrel Island are all close in shore. Those off ⊙ Bul break in ordinary weather.

A small breaker is shown, 200 meters east (mag.) of ⊙ Cor in heavy kelp, on the boat sheet. While this breaker could not be located exactly, its location as given is very close.

The dangerous breakers are those on the west side off ⊙ Top. The point on which ⊙ Top and ⊙ Sis are located is made up of three pinnacles on the outer and inner of which of which respectively these signals are located. These two breakers are very nearby in line with these pinnacles and they afford an excellent example of the way in which a pinnacle formation of this kind is continued under the water. According to the reports of the fishermen there is deep water very close to them.

The breaker just north of Butler Rock on the topographic sheet was located with sextant angles. It does not break in ordinary summer weather. This with the breaker shown on the boat sheet just inside Butler Rock, close up this pass to any except those gas boat men who have accurate knowledge of their location, as many have.

The breaker shown between Sea Lion Rocks and Lowrie Island is reported to break on the low water springs with a moderate swell, but the party saw it break but one day this summer and then the swell was heavy and the tide less than half in. How ever, I have it on excellent authority that there has been no kelp there in the last three years before this summer. On account of there being no heavy storms for several months this season, kelp was much heavier than usual in this locality, so it is probably true that there is no kelp on this breaker ordinarily, and so none should be shown on the chart.

The reef and kelp just S. W. of Lowrie Island close up that pass.

The breakers in the locality of the North Rocks are with their notes self explanatory.

There are many breakers in the bays on the west side of Forrester Island except for the most northern one. All that were seen were located, but shoal water was picked up on several occasions from the skiff and there are numerous light kelp patches close in. These bays are generally considered foul.

Tide Rips:-

Under certain conditions tide rips may be found nearly anywhere around Forrester Island.

On several occasions it was necessary to run with the COSMOS from Forrester to Dall Island for shelter in easterly and south-easterly

weather. At these times the sea would be noticeable worse in the locality of Forrester Island, from the place where the full force of the wind and sea was first felt until about three or four miles off Forrester Island. This must be due to the effect of the current on the sea.

Close to the island the tide rips are very bad at times. The pass between Cape Horn Rocks and Sea Lion Rock and the north end of Forrester is where they are most common, there being rips then nearly every day. With an ebb tide in heavy westerly weather they become dangerous to small boats. Bad rips have been noticed at this place at the change of the tide when the currents were changing their directions through the different channels.

Tide rips extend north of Lowrie Island and the North Rocks for a considerable distance. On one occation on low water spring tides with a light westerly breeze, heavy rips looking like breakers were observed about two or three miles north of North Rocks. They approached the rocks rapidly and were too heavy to permit sounding with the COSMOS.

Mr. Willet, the Warden, reported that frequently the rips off the point on the east side on which ⊙ Bath is located, were too heavy for a row boat.

Rips are common in the pass at the south end of the island between Forrester and the rock on which △ South is located, especially on the west side. With a fresh westerly breeze blowing the COSMOS has been through this pass going from the east to the west side and found heavy dangerous rips on that side. In the pass the seas were piling up. It is reported that in heavy westerly weather the sea breaks across this pass, probably due to its narrowness and the current.

On the west side of the island there are rips to be found especially off the prominent points and in the locality of Butler Rock and the two breakers.

Currents:-

For most of the information on this subject we are indebted to Mr. Willet, the Warden at the island. For the last three years he has spent the summer months there and in connection with his investigations of Marine life has done extensive dredging around the island. He informed me that during his first season he kept notes on the current and tried to form some rule as to their direction at different stages of the tide. The result was that he decided he could depend on no rule.

The tide usually floods to the north all along the island but at different times it has flowed in from the direction of Dall Island splitting at the point on which ⊙ Bath is located and flooding in both directions. The tides in the channels are very strong and flow among the ~~the~~ islands in different directions. Mr. Willet, reported the time of slack water as about one and one half hours after high or low water.

A Descriptive Report to Accompany Topographic Sheet "No.2"

Owing to the nature of the work no time could be spared for currents and so, little was noted except where they were strongest. They are strongest in the pass at the north end of Forrester where the water is shoaler and where they probably reach a strength of three or four knots. In the pass between Forrester and Petrel Island the current is strong and varying and liable to eddies. In general the current close to the island is strong. On one occation the COSMOS drifted 3-1/2 miles during the lunch hour on the west side but a moderate breeze and sea rendered this source of information unreliable. Running between Forrester and Dall Islands with the same tide all the way and little wind, nearly a half point of lee way was required for current.

The currents off the North Rocks and South Rocks are very strong.

Channels:-

The Channel between the North Rocks and Lowrie Island is clear. The locality of the North Rocks is supposed to be foul for I was advised to stay a mile off. The hydrography is fairly close there, but no attempt was made to sound between the rocks.

The channel around the north end of Forrester Island and south of Sea Lion and Cape Horn Rocks is clear and much used.

A line was run north of and close to Sea Lion Rock but shoal water was found and, as it was of no importance, no developement was attempted.

There is a channel between Sea Lion and Cape Horn Rocks, close to the latter and passing well west of ⊙ Mik and the reef off it, which is used a very little. It was not considered worth sounding out and should not be used except by those who have seen it in heavy weather and have local knowledge.

On the west side there is good water inside of the two breakers off ⊙ Top.

The channel inside and east of Butler Rock is foul but fishing boats frequently use it.

The pass between Forrester and Petrel Islands is much used. Seven fathoms was the shoalest water found there but no very close sounding was attempted. The currents have to be watched carefullyand it is dangerous in heavy weather. The South side should be favored.

There are row boat passes between Petrel Island and the rock on which △ South is located and between Petrel Island and the South Rock.

Anchorages:-

There are no secure anchoragesat Forrester Island. The bottom is in general rocky and boulders and the anchorages are exposed.

A Descriptive Report to Accompany Topographic Sheet "No.2"

The larger halibut fishing boats sometimes in clear or westerly weather anchor off Eagle Harbor in 30 or 40 or more fathoms of water, sandy bottom. In case of heavy weather this would not be much good.

I was unable to obtain detailed information, but heard on good authority that a large fishing schooner rode out a heavy winter S. E. blow by anchoring in the lee of the island at the north end. Also of others that have anchored off the west side, well off the beach in heavy easterly weather. In these cases the swell and tide rips must have been serious.

The positions of anchorages for small fishing boats, such as the 40 and 50 foot launches used in this locality are indicated by the proper symbol. There are four of these commonly used, Wood Cove, Eagle Harbor, the North end and the first bay South of the North end on the west side . In all these places the anchorage is very close to the beach either in the kelp or at the edge of it.

In Eagle Harbor which is most used it is claimed that one or two small boats can be moored where the anchor is shown and ride out any weather that comes during the summer months. Anchor inside kelp in ten to twelve fathoms of water, rocky bottom, very close to beach and get out lines to the rocks. Off the landing, anchorage may be had in the kelp in ten fathoms and up, rocky and boulder bottom. During the summer months this cove is filled with launches some anchoring out in twenty or more fathoms of water. This anchorage is good in westerly weather if one can get close to the beach and get holding ground. There is no shelter here except for two or three boats in easterly or south-easterly weather.

In heavy westerly weather Wood Cove May be used, anchoring in the kelp in ten fathoms of water, rocky and boulder bottom, where the anchor is shown. With the COSMOS, this place was used when we dragged in Eagle Harbor. In Wood Cove the wind came over the hill with such force that we dragged three times and finally ran across to Dall Island. This anchorage is of use only in light or westerly weather.

In S. E. weather the anchorage at the north end is used, anchoring close to the beach at edge of kelp in ten fathoms with rocky and boulder bottom. There is room and shelter for one small launch to anchor in S. E. weather 100 meters west (mag.) from △ Forrester.

In easterly or S. E. weather one may anchor in the first cove South of the North end on the West side, where anchor is shown and where ⊙ Brown is located. It is customary to anchor in head of bight just keeping out of wash. The shoalest sounding taken here was 16 fathoms, but 10 fathoms is reported close to kelp. This anchorage is not much used and because the sea was piling in when the hydrography was done it was not sounded out very closely.

In these anchorages for S. E. weather the chief danger is in a sudden shift of the wind and sea to S. W. which frequently happens. In

this event which takes place Before one has time to get an anchor up, the wind and sea, with a heavy tide-rip make the situation very dangerous. At some times it has been necessary for boats to get out of this locality with out their anchors.

The other bays on the west side are generally foul and not used for anchorage.

In all of these anchorages, anchors are very frequently fouled and lost, because of the nature of the bottom.

During the summer months a small boat could stay at the island with but little danger, but in the winter there is no certain protection from the severe North-East gales which are reported.

Water:-

Some of the water on the island cannot be used on account of the guano. There is a good stream at the camp in Eagle Harbor, another in the small cove where ⊙ Cove is located. Water for small boats is usually taken at the camp.

Survey Methods:-

The control for this survey consisted of three triangulation stations, Forrester, North and South, of which Forresteris a main scheme station and North and South are intersection stations. △ Wolf Rock was the only other station on the sheet which could be seen. An azimuth was plotted from △ South to △ Bazan which could be seen in clear weather.

Starting at △ Forrester traverse was run down the east side of the island to △ South, a distance of about five and one half statute miles.

On account of its convenience in landing a mountain plane-table was used at first. Because of the short shots which were necessary with this instrument, when this traverse was about three quarters finished, the regulation size instrument was substituted and the work finished with it.

At △ South the line was found to be out 220 meters, 100 meters in azimuth and 140 meters in North and South distance. In checking up the line every other station was occupied, all distanceswere checked and the azimuth in all way possible. An error of 100 meters was found which left the plane table position of △ South 55 meters south and 100 meters east of its true position. The sheet shrunk 36 meters between Forrester and South leaving the error in distance 19 meters.

In adjusting this traverse, the plane table was set up at △ South and oriented on Bazan, and cuts were taken to ⊙ Both and all stations south of it. Using the cut from △ South to ⊙ Both the table was set up at the latter station and oriented on △ South, resected on

A Descriptive Report to Accompany Topographic Sheet "No.2"

⊙East which is just east of Lowrie Island and well located by cuts and rod reading . ⊙ East was occupied and cuts taken to such stations north of ⊙ Both as could be seen. From the cuts to the different stations and the relocation of ⊙ Both, the error in azimuth seemed to be uniform, and the work on the east side was adjusted accordingly, locating the stations on the azimuths as determined from △ South and ⊙ East.

This error in azimuth could probably have been avoided by building stations first but, as the weather was favorable for plane-table work the first day at the island, no time was lost begining it.

On the west side the weather permitted building signals first when the sea was toheavy for plane-table work and an azimuth was carried from △ North to ⊙ See about 3/4 the length of the island. This traverse from △ Forrester to △ South was 35 meters off, the plane-table position being 20 meters east and 16 meters south of the true position. The adjustment of this error, which distortion reduces, was put in the traverse south of ⊙ See where the azimuth was weakest.

The traverse run around Lowrie island checked exactly. A short traverse was run down the west side of Petrel Island which there was no change to check up.

When possible all breakers and detached rocks were located by plane-table cuts and tangents. In some cases it was necessary to use sextant angles in locating breakers. Except as noted on the boat sheet, all of these locations were well made by several good intersections.

The peaks were located with sextant anglesand the elevations were computed from vertical angles taken with a sextant. At the north end of △ North was occupied with a theodolite and vertical angles taken to all high points visible. The computed theodolite elevations agreed almost exactly with the means of the sextant elevations.

In takingthe sextant angles the COSMOS was stopped about a mile or more off shore and the position angles and cuts taken as quickly as possible. It was found that but few cuts could be taken at each position on account of the current. In takingthe vertical angles the sextant was held as low as possible, probably not more than three feet above water, and the distance from the object would average two or three miles. It was noted that, at this distance, the water line of the island and the line of the horizon were coincident, from the elevation at which the angles were taken.

For the final elevations of the different points from three to six values were meaned. The individual values for the lower points agreed within a very few feet, while those for the higher points agreed closely, no elevations being used which disagreed by more than ten or fifteen feet.

A Descriptive Report to Accompany Topographic Sheet "No.2"

Hydrography:-

The general system was of 400 meters lines carried at least one mile off shore. In most of the work the hydrography was carried about 2000 meters off shore, the idea being to carry it out beyond the irregular broken bottom close to the island. The bottom is generally rocky and sandy and is very lumpy on the west side.

Inquiries were made among the fishermen as to the existence and location of shoals and breakers. All reports were investigated except one breaker close to Butler Rock which is described on the boat-sheet.

The inshore dangers are treated under the heading of breakers.

Considerable difficulty was experienced at times, because of the strong and eddying currents, especially in the pass just North of Forrester Island, North of the North Rocks and South of the South Rocks. In the last two places lack of control, and tides and currents rendered developement work all but but impossible. In these two places the bottom is very lumpy but no breakers or dangerous shoals are known to exist.

New Place Names:-

The names of Forrester and Lowrie Islands were taken from the chart.

The other names on the sheet were obtained from Mr. Willet, and the fishermen and are well known locally.

The North Rocks are apparently so named because of their position.

Sea-Lion Rock is well named because of the Sea Lions which are often seen there.

Cape Horn Rocks are probably so named because of the peculiarity of the formation.

Butler Rock is some times called Norwegian Rock because the locality is a favorite fishing ground for the Norwegians. The name Butler Rock, is better established however and was given the rock because Butler, the first white man to start fishing king-salmon at the island, found his first salmon near the rock.

Eagle Harbor is the Indian name for the cove where the camp is located. Among the fishermen it is commonly called the Camp.

Wood cove was so named because a good share of the fire wood used by the fishermen is the drift found there.

Petrel Island is so known because it is the only place in the locality where the sea birds known as "Petrels" breed.

A Descriptive Report to Accompany Topographic Sheet "No.2"

South Rock is so known because of its position.

Importance:-

For several years the government has protected the sea birds on these islands and kept an ornithologist there as Warden during the summer months. Is is estimated that about 300,000 sea birds breed there, the more common of which are the Puffin, Murres, Murreletts, Petrel and Gull. To the present warden, Mr. George Willet, who has been stationed there three years, the party is much indebted for information and assistance.

For generations these islands have been frequented by the indians during the summer months. It is reported that the islands were at one time divided into sections to which families were assigned. At different places old pole ladders are to be found, where they were used in scaling the cliffs. The indians lived on the birds and eggs and cured the salmon and herring.

There are old trails in many places, one from the camp to the north end, and one from the camp to the meadow or bare spot above the camp are shown on the sheet.

In 1910 white men began coming to the island for the king salmon, which are caught there in great numbers. The method of fishing is trolling either with a herring bait or with a spoon, using both power and pulling boats.

From May to August there is a camp of trollers at Eagle Harbor averaging from one hundred up. A hundred hand trollers and as many power trollers is not unusual, while three years ago 450 men were in camp at one time.

A small landing of planks is built at the camp and the skiffs are for the most part hauled out though many are moored. These moorings are a source of danger to power boats. One launch was lost last summer with a mooring in her wheel and insufficient ground tackle.

During some seasons great numbers of king salmon and cohoes are caught here. Herring are also found in large schools. The salmon are bought on the grounds and taken to the various canneries and salteries on the West Coast of Prince of Wales Id. and to Ketchikan and some times to Prince Rubert for shipment. The best fishing grounds are around the north end of Forrester Island on the west side.

Halibut are caught all around the island but the best ground is supposed to be on the banks west of the island which are reported to extend about thirty miles off shore and have a depth of from 30 to 100 fathoms.

In trolling for salmon the fishermen drag their bait at a depth varying from three to fifteen fathoms. In doing this they have covered

all the bottom about the island very thoroughly and are well acquainted with the shoals or breakers. Every effort was made to learn of any unreported shoals but none were heard of except those examined and noted.

Tradition:-

There are several indian superstitions connected with the locality, some regarding the tide rips and some on other features.

On the north-east point of Lowrie Island is a small shelf covered with moss grown pebbles. One who wishes to know how long he is to live, takes four pebbles from the beach and stands about twenty feet from the ledge with his back to it. He throws the pebbles over his shoulder at the ledge without looking around and the length of his life is supposed to be indicated by the number which stay on the ledge.

There is also a rock on Lowrie Island which when struck gives forth a peculiar sound and the striking of which is supposed to bring on heavy S. E. weather.

The name "Eagle Harbor" comes from an Indian story of an enormous Eagle whose foot prints made while the earth was soft, forms the harbor.

Respectfully, Submitted,

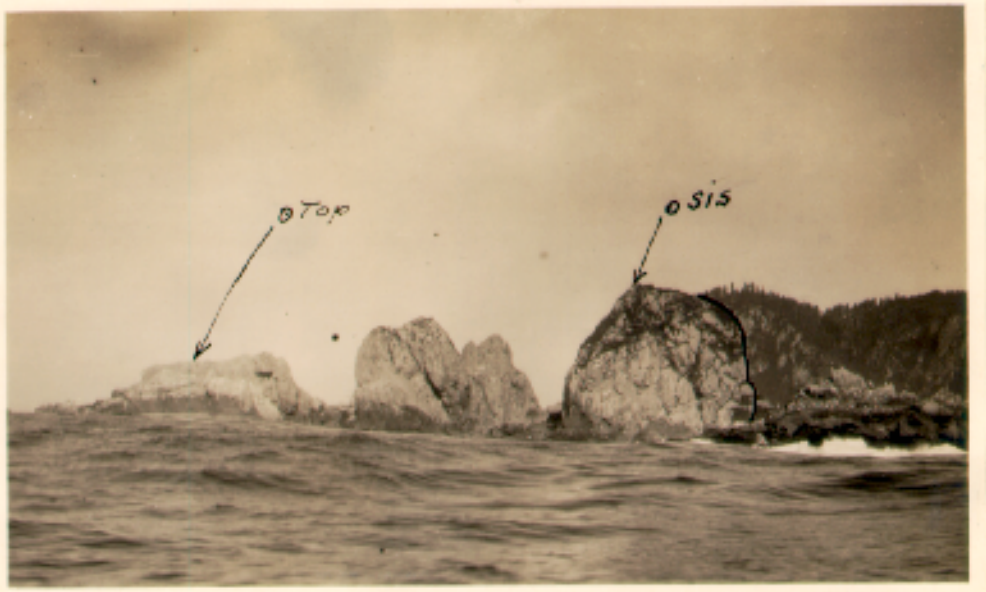
H B Campbell

Assistant, C. & G. Survey.

Approved and Forwarded,

H B Hardy

Assistant, C. & G. Survey,
Commanding Stmr. "EXPLORER"



Pinnacles on West side of Forrester,
See paragraph 3 page 3.
Elevation o Sis 182 ft.
" o Top Flat 88 ft.
Taken from South.

Cape Horn Rocks from SE. showing A North.
Elevation 148 ft.

High point of trees on boulder is ofan on
Lowrie Island
Elevation 161 ft.

Showing Δ Forrester and formation.
Elevation of rock at station is 148'.

STATIONS OF HYDROGRAPHIC SHEET No. 2

West Coast Dall Island,
S. E. Alaska.

Party on Steamer "EXPLORER"
Season 1916

F. H. Hardy, Commanding.

Stations.	Lat.	D M's.	Long.	D P's.	Remarks.
Ale	54 44	1844	133 30	358	
		11		715	
Bar	54 49	1275	133 31	618	
		580		453	
Big	54 45	247	133 30	~~315~~ 346	
		1608		722	
Bil	54 47	535	133 32	823	
		1320		259	
Bob	54 48	606	133 31	67	
		1249		1005	
Both	54 47	999	133 30	615	
		856		457	
Brown	54 49	1092	133 32	71	
		763		1001	
Bud	54 48	148	133 32	728	Described Form 524
		1707		344	
Bul	54 45	559	133 31	117	
		1296		956	
But	54 49	1434	133 33	143	
		421		928	
Cane	54 49	825	133 31	176	Described Form 524
		1030		895	
Cor	54 45	1415	133 31	466	Described Form 524
		440		607	
Cove	54 47	451	133 30	921	
		1404		151	
Cum	54 50	15	133 32	679	
		1840		392	
Cut	54 50	1178	133 ~~32~~ 33	282	Authority for change to "33" on photograph of Topographic Sheet with this report — Rappleye
		677		789	
East	54 51	1187	133 31	570	Described Form 524
		668		500	
End	54 44	1428	133 30	488	Described Form 524
		427		585	
Fan	54 51	780	133 32	6	
		1075		1064	
Flag	54 48	1852	133 30	1070	
		3		2	
Flat	54 46	1232	133 30	945	
		623		128	
Hal	54 45	119	133 30	1040	
		1736		33	
Har	54 51	1111	133 33	88	Described Form 524
		744		982	

Continued.

STATIONS OF HYDROGRAPHIC SHEET No.2

Season 1916

Stations.	Lat.	D M's.	Long.	D P's.	Remarks.
Hid	54 49	339	133 31	93	
		1516		969	
High	54 47	1467	133 30	712	
		388		360	
In	54 46	511	133 31	675	
		1344		398	
Isle	54 46	949	133 32	306	
		906		767	
Las	54 52	758	133 33	801	Described Form 524
		1097		269	
Lip	54 46	145	133 31	898	
		1710		175	
Lit	54 46	310	133 31	146	
		1545		927	
Low	54 51	731	133 31	1064	
		1124		6	
Mid	54 46	1728	133 32	764	
		127		309	
Mik	54 51	545	133 32	1040	Described Form 524
		1310		31	
Min	54 49	515	133 32	584	
		1340		487	
Ner	54 49	1807	133 31	621	
		48		450	
Nut	54 46	674	133 31	29	
		1181		1044	
Pek	54 47	1014	133 32	640	Described Form 524
		741		432	
Pen	54 48	1374	133 32	580	
		481		492	
Pole	54 49	909	133 31	616	
		946		455	
Puf	54 49	1231	133 32	617	
		624		454	
Pul	54 51	693	133 32	623	
		1162		447	
Red	54 49	1570	133 32	792	
		285		279	
Rex	54 45	1513	133 31	98	
		342		975	
Rock	54 52	848	133 33	61	Described Form 524
		1007		1009	
Run	54 47	747	133 30	673	
		1108		399	
Sak	54 44	1329	133 30	500	
		526		573	
See	54 46	1565	133 32	868	Described Form 524
		290		205	

Continued.

STATIONS OF HYDROGRAPHIC SHEET No.2

Season 1916.

Stations.	Lat.	M D's.	Long.	D P's.	Remarks.
Sis	54 49	149	133 32	761	
		1706		310	
Sky	54 44	1680	133 ~~20~~ 30	642	
		175		431	
So	54 48	1306	133 31	142	Described Form ~~#5~~ 574
		549		930	
Tan	54 51	1403	133 32	506	Described Form #574
		452		564	
Tin	54 49	1649	133 31	616	
		206		455	
To	54 49	829	133 32	243	
		1027		828	
Top	54 49	149	133 32	901	Described Form 574
		1706		170	
Wet	54 46	1586	133 30	869	
		269		204	
Yel	54 48	244	133 30	863	
		1611		209	
P, K	54.50	1325	133-32	645	
Ros	54-47	200	133-32	880	

\#

Geographic Positions of Peaks to

Accompany Topographic Sheet "No.2"
Season 1916

Elev.	Lat.	D.M's.	Long.	D.P's.	Remarks.
553	54 - 46	1486	133 - 31	56	
		369		1017	
1408	54-- 47	1493	133 - 31	621	
		362		451	
1128	54 - 48	1077	133 - 31	824	
		778		246	
992	54 - 49	412	133 - 32	205	
		1443		866	
827	54 - 49	1270	133 - 32	186	
		585		885	
800	54 - 49	1549	133 - 32	497	
		306		574	
291	54 - 51	1145	133 - 32	571	H. P. Lowrie Id.
		710		499	

##########


NORTH ROCKS
Bares Lkv.
Rock
Las
Breaks Lkv.
LOWRIE ISLAND
Breaks on heavy swell
CAPE HORN ROCKS
North (ST)
SEA LION ROCK
Forrester (146) (ST)(g)
Far (lyd)
Breaks on Lkv with moderate swell
BUTLER ROCK
EAGLE HARBOR
WOOD COVE
Breaks Lkv.
Bares Lkv.
FORRESTER ISLAND
To A Bajan
Used to orient PT.
South (ST)
PETREL ISLAND
SOUTH ROCK

Fig. 3636

SEASON 1916

Statistics for Hydrographic Sheet No. (2) 3931

Forrestery Island,
S. E. Alaska

By Party on
Stmr. "EXPLORER"

F. H. Hardy, Commanding.

Date 1916.		Letter.	Volume.	Positions.	Soundings.	Miles Statute.	Vessel.
July	12	a	1	66	66	11.2	COSMOS
"	13	b	1	147	147	23.6	"
"	14	c	1	178	181	24.0	"
"	15	d	2	210	210	29.0	"
"	16	e	2	13	13	2.1	"
"	17	f	2	57	57	8.6	"
"	21	g	2	224	225	16.5	"
"	22	h	3	181	181	27.8	"
Aug.	2	i	3	42	44	7.1	"
"	3	j	3	144	144	18.0	"
Sept.	13	k	3	41	41	4.2	"
"	14	l	4	41	38	4.3	"
TOTAL.....				1344	1347	176.4	

VEC

June 13, 1917

PS
S.P.O.
H Cy

HYDROGRAPHIC SHEET 3931.

West Coast of Dall Island, Southeast Alaska, by party of Assistant F. H. Hardy in 1916.

See Top 3636

TIDES.

	Craig. Feet.
Mean lower low water, or plane of reference on staff	8.3
Mean range of tide	7.9

HYDROGRAPHIC SHEET NUMBER 3931.

This sheet was protracted in the field by L.C.Wilder and in verifying the sheet a large number of positions were protracted and invariably all were found to be correctly plotted. In short the work done on the sheet in the field was very neatly and accurately executed.

The soundings were in pencil by W.D.Sutcliffe, Asst., and were very well plotted. No mistakes were discovered.

Several cases were however in doubt, in as much as the positions, which were plotted correctly, in so far as the data contained in the sounding record was concerned, and yet gave a very irregular twist to the sounding lines. These were, however, not located in critical places and as there was no boat sheet to compare with the plotting as obtained from the sounding record was left to stand, with the exception of one case; position No. 127 h.

The devlopment of the shoals was complete and as far as can be judgd from the sheet the area was well covered and the work carefully done.

One point should be noted in connection with the signals on the sheet and that is that the longitude of the signal "Cut" as given in the list of D.M.s and D.P.s accompanying the descriptive report for Topographic Sheet No. 3636, was in error one minute. This was merely an error in making up the list and was corrected in red on the list.

The depth curves were put in for the depths of 20 and 50 and 100 fathoms and in a few places the 10 and 6 fathoms curves were shown for short distances. Data was not sufficient however for putting in the shallow depth curves all around the island.

There was then made an over sheet on tracing paper, which is left in the tube with the sheet, showing the depths of "least water" on the shoal spots and three other outlying dangers which might possibly stamd a chance of getting missed in the later work.

Howard S Rappleye

Draftsman.

Soundings in fathoms.
Protracting by L.C.Wilder.
Soundings in pencil by W.D.Sutcliffe.
Verified and inked by H.S.Rappleye.

3931

Diag. Cht. No. 8152-1

See Topo-3636

SEE TOPOGRAPHIC DESCRIPTIVE REPORT NO. 3636

Alaska (Southeast)

West Coast of Dall Island

3931
See Topo 3636

Form 537a
11—5813

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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) 3636.

State . . . . . Alaska, South East. . . . . .

General locality . Forrester Island . . . . . .

Locality . . . . . Forrester Island . . . . . .

Chief of party . . F. H. Hardy, Ass't. C. & G. S. . . . . .

Surveyed by . . . H. B. Campbell, Ass't. C. & G. S. . . .

Date of survey . . August & September 1916 . . . . . .

Scale . . . . . 1 to 40,000 . . . . . .

Heights in feet above . Mean high water . . . . . .

Contour interval . 100 . feet.

Inked by H. B. Campbell, Lettered by . H. B. Campbell, . . .

Records accompanying sheet (check those forwarded): Photographs, ✓

Descriptive report ✓, Horizontal angle books, Field computations,

Data from other sources affecting sheet . . . . . .

Remarks: List of D.M. and D.P. of Stations located for hydrographic use attached.