

6655

U. S. COAST & GEODETIC SURVEY  
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DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

## DESCRIPTIVE REPORT

Topographic

~~Hydrographic~~

Sheet No. T-6655

State Aleutian Islands  
~~ALASKA~~

### LOCALITY

SOUTH SIDE OF UNIMAK ISLAND

CAPE AKSIT to CAPE LAZAREF

1937

CHIEF OF PARTY

Ray L. Schoppe

U. S. GOVERNMENT PRINTING OFFICE: 1934

6655

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. "G" 1937-38

REGISTER NO. T-6655 T6655

State ALASKA Aleutian Islands

General locality SOUTH SIDE of UNIMAK ISLAND

Locality CAPE AKSIT to CAPE LAZARET

Scale 1: 20,000 Date of survey September, 1937

Vessel USS DISCOVERER

Chief of party Ray L. Schoppe

Surveyed by H. J. Seaborg

Inked by H. J. Seaborg

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

~~Contours, Approximate contours~~ Form line interval 100 feet

Instructions dated March 30, 1936

Supplemental Instructions of March 30, 1937.

Remarks:

DESCRIPTIVE REPORT  
to accompany  
TOPOGRAPHIC SHEET T-6655(1937)

CAPE AKSIT TO A POINT TWO MILES WEST OF CAPE LAZAREF  
UNIMAK ISLAND, ALASKA

Scale 1: 20,000

September, 1937

U. S. C. & G. S. S. DISCOVERER  
Ray L. Schoppe, Commanding

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INSTRUCTIONS:

The topography was executed in accordance with the Director's Instructions, Project H. T. - 208 dated March 30, 1936; Supplemental Instructions dated March 30, 1937.

LIMITS:

This sheet is a survey along the south side of Unimak Island from 1/2 mile west of Cape Aksit to a point two miles west of Cape Lazaref and including Rock Island.

JUNCTIONS:

Junction was made with Sheet C-1936 of this project at Cape Aksit. The work on <sup>T-6506</sup> C-1936 carried around the Cape proper west to a rocky point 1/2 mile beyond the Cape where a satisfactory junction was made (Topo Signal UP). Elevations and form lines were in agreement between these two surveys.

<sup>T-6506</sup>  
The C-1936 work has been left in pencil to indicate the connections. <sup>Erased, H.W.M.</sup>

The last paragraph under the heading "Connections with Preceding and Adjoining Work" on page 6 of the report for Topographic Sheet <sup>T-6506</sup> C-1936 refers to the rocks just west of Signal SPIRE in Latitude  $54^{\circ} 39.5'$ , Longitude  $163^{\circ} 26' W.$  The topographic party of this present survey found it impossible to traverse east of Signal UP. Hence the rocks referred to were located on Hydrographic Sheet H-6386 and are shown in pencil on this sheet. <sup>Erased, hydro sufficient.</sup> A new foul area limit has been shown inclosing the outermost line of rocks.

During this survey in 1937, Topographic Signal SPIRE 1936 was found in error. A new location was obtained in 1937 and called "SPOT". During the 1938 season this signal was located by Triangulation, and it now appears on the sheet as Triangulation Station SPIRE, 1938. This discrepancy was first indicated under "DISCREPANCIES" in the Descriptive Report for Sheet H-6146, year 1937.

The checked position of this signal was forwarded to the Washington Office under our letter dated October 18, 1938 as requested in the Director's Letter reference 80-DRM, dated July 2, 1938. The new location (Triangulation Station SPIRE 1938) shifts this offlying rock 40 meters N.E. with reference to the work on Sheet C-1936. <sup>T-6506</sup> As the inshore hydrographic work about Cape Aksit showed no discrepancies in signals or shoreline with the exception of Signal SPIRE 1936, it is felt that the error of the 1936 Topographic work was confined to this rock. This rock location has been shifted 40 meters to the N.E. and left in pencil on the sheet. <sup>inked in office, H.W.M.</sup>

Signal FIZ on the western end of this sheet serves as the junction point with T-6656 of this same survey. This signal was a three point problem obtained by plotting Triangulation Station LAZAREF 1936, and

Triangulation Station S. PINNACLE off Cape Lazaref 1936 in temporary positions on the projection so as to include Triangulation Station DAVIS 1936 which does not fall within the normal limits of the sheet. The location thus obtained was then transferred to the proper "square". In this manner a strong determination was had as a terminus and junction point in this work. Form lines in the N.W. corner of this sheet are to be joined to those of T-4943.

CONTROL:

The topography was controlled by the scheme of second-order triangulation executed by the DISCOVERER in 1936. Six of these stations appear on this sheet. SPIRE 1938 was determined to clear up discrepancies found in the 1936 work.

METHODS:

Ordinary plane table methods were employed in conducting this survey. Signal POINT was located as a three point problem and a traverse was run to Signal YOU where a three point determination was made. A short traverse was run between Signals YOU and UP. A traverse was carried to Signal FIZ from Signal POINT. All traverses run were adjusted in the usual manner. The limits of Lazaref Reef were cut in from various set-ups along the mainland and also from a set-up on the reef itself in the vicinity of N.PINNACLE. Rock Island was cut in from shore and later verified by the hydrographic party.

TRAVERSES:

From	To	Length Stat. Miles	Closure, Meters	Closure per mile.
POINT (3 point)	YOU (3 point)	3.1	6	2
YOU (3 point)	UP (junction)	1.2	0	0
POINT (3 point)	FIZ (3 point)	5.75	0	0

Due to the exposed nature of this section of shoreline on the south side of Unimak Island, satisfactory and safe use of small boats for

landing at various points was impossible. However, during relatively calm weather small boat landing can be made in the small bight between signals NOT and SHACK. A camp was established under the grass bluff at Signal SHACK and all survey work accomplished from this point by the party on foot. Three hours were required to hike with light loads from SHACK to Signal UP, the farthest point in the work.

Difficulty was experienced in crossing Lazaref River just N.E. of the camp site and the large river at signal ROOF. It was found that at low water during calm weather these streams could be waded at their mouths. Even so, care had to be exercised in these crossings due to strong current and uncertain footing. The approximate maximum depth was three feet. At times other than low water it was necessary to go inshore about 1/2 mile before these streams could be crossed. In view of this difficulty and also that certain other portions of the shore line could not be traversed except at low water, the work had to be planned to take full advantage of these tides. Later, a small skiff found along Lazaref River was used as a ferry on this stream, thus eliminating the wading process at this point.

The four horses used on topographic operations along Unimak Bay were brought to this camp at the close of the work to aid in finishing the survey.

There are two trapper's shacks within the confines of this sheet, one at Signal SHACK and the other at Signal ROOF. Both of these structures are habitable and during the progress of the work, instruments and other gear was stored at ROOF to save packing.

CHARACTER OF SHORELINE:

The High Water Line between Cape Aksit and the mouth of the river west is sandy, and a deep valley of rolling tundra extends back of this portion of the shoreline. Around the base of Lazaref Peak the cliffs are

very precipitous and extend down to the high water line so that this area cannot be traversed at high tide. Another sandy stretch lies between Lazaref Peak and Lazaref River. The east side of Cape Lazaref is precipitous and at high tide it is impossible to traverse the shoreline. West of Cape Lazaref the shore is sandy with rolling tundra lands inshore.

The mouths of the two large streams emptying into the Ocean (one 2-1/2 miles west of Cape Aksit and Lazaref River) shift constantly due to wind and wave action. During the course of a three or four day storm, these river entrances will shift as much as 150 meters.

As mentioned elsewhere in this report, small boat landings at any time are hazardous along this shoreline. During calm weather small boat landings were made at Signal SHACK to put out and break up the camp. Landing can be effected in the lee of Lazaref Reef at Signal TIP, on either side, depending upon the direction of the wind and sea; and also along the stretch of shoreline just north of BOB. As regards the open stretches of sand beach on this sheet, at no time during this survey did the topographer deem conditions suitable for small boat landing.

HIGH WATER LINE:

The high water line is defined by the outside edge of the heavy black line.

LOW WATER LINE, FOUL AREAS:

Low Water Line has been shown along the sandy stretches by the customary symbol. A short dash line has been used to inclose and define the limits of foul area. These areas are strewn with sunken and rocks awash and rocky ledges, and no attempt was made to locate and show each and every rock, but rather to obtain the limits and the more prominent rocks in these areas. Lazaref Reef has been shown in this manner. There are numerous rocks awash and sunken rocks in this area which are not shown

but the outside limits and all of the more prominent rocks have been shown. Passage can be made at various places through this reef by small pulling boats, but it would be a dangerous practice because of the heavy swells running over the rocks.

ELEVATIONS AND FORM LINES:

All elevations above M. H. W. are shown with figures in red. The positions of all form line elevations have been indicated by a red dot with the elevation off to one side inclosed in parenthesis. A few sextant cuts supplemented the plane table determinations. All form lines shown with a full line have been verified by offshore observations from the ship.

VERIFICATION AND CHANGES TO TOPOGRAPHY:

Former surveys of this area were sketchy and the present one agrees only in very general terms. New height determinations have been obtained for Lazaref Peak, Cape Lazaref, Rock Island, North and South Pinnacle Rocks.

LANDMARKS:

Cape Lazaref with the North and South Pinnacle Rocks and the very sharp, 31 foot pinnacle between them, form an unmistakable landmark. Lazaref Peak the offlying rock at Cape Aksit (SPIRE), and Rock Island are also recommended for Charting purposes. These are listed on Form 567, Landmarks for Charts.

GEOGRAPHIC NAMES:

There appears to be no reason to change the following names: Cape Lazaref, Lazaref Peak, Rock Island, North Pinnacle Rock, and South Pinnacle Rock. The river between Cape Lazaref and Lazaref Peak is known as Lazaref River, and that name is recommended. Lazaref Reef seems to be an obvious name for the reef off Cape Lazaref.

COAST PILOT:

The general description of Cape Lazaref as it now appears in the

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Coast Pilot warrants no change. However, distances and heights should be changed to conform with the present survey.

Lazaref Reef extends 7/8 mile S.S.E. from the sharp point of the Cape instead of 1-1/8 miles southeastward. The North Pinnacle is 89 feet and the South Pinnacle is 104 feet in height. The sharp pointed rock between them is 31 feet. Cape Lazaref is 804 feet in elevation, while Lazaref Peak is 1259 feet. Rock Island is 112 feet and 1/2 mile from the beach.

MAGNETIC DECLINATION:

One observation with the Declinatoire was obtained at LAZAREF 1936. The scaled reading is 16° 25'. No comparison at a magnetic station was made with the Declinatoire.

STATISTICS:

Statute Miles of Shoreline, High Water-	-14.2
" " " " Low Water-	-15.2
Area, Square Statute Miles-	-34.6
Number of Inshore Elevations Determined	-56

Respectfully submitted,

*Harold J. Seaborg*  
Harold J. Seaborg,  
Aid, U.S.C. & G.S.,  
Ship DISCOVERER.

APPROVED:

*Ray L. Schoppe*  
Ray L. Schoppe,  
H. & G. Engineer,  
Chief of Party.

FORWARDED:

*G. C. Jones*  
G. C. Jones,  
H. & G. Engineer,  
Commanding DISCOVERER.

U. S. GOVERNMENT PRINTING OFFICE

## Remarks.

## Decisions

1	USGB decision	File No.
2		" 545 635
3		" 545 635
4		" 545 630
5		" 545 635
6		" 545 635
7		" 545 635
8	Local name	" 545 635
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# GEOGRAPHIC NAMES

Survey No. T-6655

GEOGRAPHIC NAMES										
Survey No. T-6655										
Name on Survey	On Chart No. 8701	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
	A,	B,	C,	D	E	F	G	H	K	
<u>Pacific Ocean</u>	8802									1
<u>Unimak Island</u>	✓									2
<u>Cape Lazaref</u>	✓									3
<u>Cape Aksit</u> <u>Aksit</u>	✓									4
<u>Lazaref Reef</u>										5
<u>Rock Island</u>	✓									6
<u>Lazaref Peak</u>	✓									7
<u>Lazaref River</u>										8
										9
										10
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✓ GAE										26
7/5/39										27

M 234-1A

✓ GAE

7/5/39

# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY  
 DESCRIPTIVE REPORT } ~~XXXXX~~  
~~PHOTOGRAPH~~ } No. T-6655

{ received May 3, 1939  
 { registered June 17, 1939  
 { verified  
 { reviewed  
 { approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
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24			
25	✓	ABC	Pages 6 and 7
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83			
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90			

RETURN TO

82	T. B. Reed
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✓ JBR

Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 6655 (1937) FIELD NO. G

Cape Aksit to Cape Lazaref, South Side of Unimak Island,  
Aleutian Islands

Surveyed in Sept. 1937, Scale 1:20,000

Instructions dated March 30, 1936 (DISCOVERER)

Plane Table Survey

Aluminum Mounted

Chief of Party - Ray L. Schoppe

Surveyed by - H. J. Seaborg

Inked by - H. J. Seaborg

1. Junctions with Contemporary Surveys.

- a. The junction on the east with T-6506 (1936) is satisfactory. In lat.  $54^{\circ}39.4'$ , long.  $163^{\circ}25.5'$  the position of the island and signal shown here on T-6506 was known to be 30 to 40 meters in error. The revised position of the island and signal (signal relocated by triangulation) and shown on the present survey should supersede the information on T-6506. (See D. R., page 2, for further details).
- b. The junction on the west with T-6656 (1938) is satisfactory. In lat.  $54^{\circ}38'$ , long.  $163^{\circ}38'$ , the present survey does not show the continuation of the actual tundra limits delineated on T-6656 although it is covered by a general note.
- c. The junction on the northwest with T-4943 (see D. R., page 3) will be considered when that sheet is received from the field.

2. Comparison with Prior Surveys.

a. T-2554 (1901), 1:40,000.

Within the area of the present survey, this survey contains triangulation stations but no topography. No further consideration is necessary.

b. H-2556 (1901), 1:140,000.

This small scale hydrographic survey contains topography which covers the entire area of the present survey. Comparison with the present survey shows many differences, some of which are excessive. In lat.  $54^{\circ}40'$ , long.  $163^{\circ}36'$ ; the present survey shows a valley about  $3/4$  mile in width with a detached mound to the westward. On H-2556 (1901), the identical mound is shown connected by a uniform slope to the higher land just east of the valley. Elevations of identical peaks differ by 110 to 236 feet. Differences of as much as 600 meters are al-

so noted in the geographic position of peaks not cut in by triangulation. Differences in shoreline generally exist throughout the entire area and in some cases are as large as 700 meters.

Because of the excessive differences noted, the larger scale present survey should supersede this reconnaissance survey.

3. Comparison with Chart 8701 (New Print dated April 12, 1937)

The chart contains no additional information that needs consideration in this review.

4. Condition of Survey.

- a. The Descriptive Report satisfactorily covers all items of importance. On page 7, it is stated that "no comparison at a magnetic station was made with the declinatoire."
- b. The field drafting is very good.
- c. Elevations in open areas were indicated by a red dot with the elevation off to one side. In such cases, the elevation should be placed directly over the dot. (par. 51 of Topographic Manual).
- d. In the vicinity of lat. 54°39', long. 163°29'; a distance of about 3 3/4 miles exists between triangulation stations SPIRE and LAZAREF PEAK. A recoverable topographic station should have been established here in order to comply with the maximum distance spacing of not over two miles. (See par. 29 of Topographic Manual).

5. Compliance with Instructions for the Project.

Satisfactory.

6. Additional Field Work Recommended.

None.


7. Reviewed by Harold W. Murray, September 25, 1939.


8. Inspected by H. R. Edmonston, September 29, 1939.


Examined and Approved:



T. B. Reed,  
Chief, Section of Field Records.

  
K. T. Adams  
Chief, Division of Charts.

  
Fred. L. Peacock  
Chief, Section of Field Work.

  
J. H. Hude  
Chief, Division of H. & T.