6645

~~CONFIDENTIAL~~

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Topographic / ~~*Hydrographic*~~ Field No. T-38
Sheet No. T-6645

State ~~Alaska~~ Aleutian Islands

LOCALITY

~~Aleutian Islands~~

Umnak Island
Cape Ilmalianuk & Vicinity
~~Ikanudek Bay~~

1938

CHIEF OF PARTY

A. M. SOBIERALSKI, H.&G.E.

U. S. GOVERNMENT PRINTING OFFICE

6645 CONFIDENTIAL

Form 537a
Ed. Nov., 1929

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. T - 38

REGISTER NO. T-6645.

State ~~ALASKA~~ Aleutian Islands

General locality ~~Aleutian Islands~~ Umnak Island

Locality ~~Inanudak Bay - Umnak Island~~ Cape Ilmalianuk & Vicinity

Scale 1:20,000 Date of survey June, July, Aug. & Sept., 1938

Vessel U.S.C.&G.S.S. SURVEYOR

Chief of party A. M. Sobieralski

Surveyed by J. C. Tison, Jr.

Inked by J. C. Tison, Jr.

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

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

Instructions dated February 3, 1938

Remarks:

GPO

DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET T-6645

Field No. T-38

INANUDAK BAY, UMNAK ISLAND, ALASKA

Project No. H.T.-218

Season 1938

INSTRUCTIONS:

The work was executed in accordance with the Director's Instructions, dated February 3, 1938.

EXTENT OF SURVEY:

This survey includes the shoreline of Inanudak Bay, Umnak Island, Alaska south of Latitude 53° - 17.0' N. and west of Longitude 168° - 27.2' W., and the Bering Sea coast of Umnak Island from Cape Ilmalianuk westward to Longitude 168° - 39.9' W. It covers the land area of Umnak Island north of Latitude 53° - 12' N. included between Longitudes 168° - 27' W. and 168° - 29' W., and north of Latitude 53° - 11.1 N. included between Longitudes 168° - 29' W. and 168° - 40' W.

GENERAL DESCRIPTIONS AND COMMENTS:

The shoreline along the point of land called "Broken Point" by the survey party, from the eastern limit of the sheet westward to signal DAY, is rocky and ragged; characterized by steep rock cliffs, from 40 to 150 ft. high, rising directly from the H.W.L., and by numerous steep sided rock islets lying just outside the H.W.L. The water is quite deep in the numerous indentations along this shoreline and around the rock islets. Back of the cliffs the point presents a flat appearance for several hundred meters inshore as the land rises very gradually to southward. The 272 ft. hill on which triangulation station "Broke 1937" is located is the most conspicuous feature of the point. It is conical in shape and is visible throughout most of Inanudak Bay. The ridge extending south-southeastward from Broken Point presents a smooth appearance along its slopes, and the high points or peaks are rounded on top. Much of the top of the ridge and its higher slopes is bare of grass and dark in color.

The sand beach at the head of the bight called "Geyser Bight" by the survey party is low and flat, the grass line being also the storm H.W.L. The sand is dark in color, and very shoal water extends for some distance off the beach as evidenced by several lines of breakers. The broad valley extending south from the beach is quite low near the water, but numerous grass covered dunes and ridges are visible further inland. The large stream emptying near the center of the sand beach is quite deep, and quicksand was encountered

at its mouth between the low and high water lines. A series of spirals of steam or water vapor was noted on the west side of the valley about two miles inland, indicating the possible existence of hot water springs in vicinity of Lat. 53° - 13.3' N. and Long. 168° - 29.7'W. The phenomenon was sighted from the ship at anchor in Geyser Bight on a calm clear evening. Upon the same occasion, and several times thereafter during the season, a large geyser of steam or hot water was noted on top the plateau like ridge at the head of the valley in vicinity of Lat. 53° - 12.5' N. and Long. 168° - 28.0' W. While the eruptions of the geyser were not timed, they seemed to occur at more or less regualr intervals, throwing spurts of white vapor 50 or 75 ft. in the air. The sides of the valley are very steep and precipitous, showing many washes and rock outcroppings alongthe steep slopes. On the east side of the valley near the base of the steep slope, several large areas of bare windswept sand exist, as evidenced by clouds of sand being blown up from the valley floor during strong wind storms. Violent gusts of wind blow out of the valley during all S'ly and SW'ly weather.

The 356 ft. sand bluff located just south of triangulation station "Nanu 1937" is a conspicuous feature from Geyser Bight. Its northeast slope consists of bare grey sand.

From triangulation station "Nanu 1937" westward around Cape Ilmalianuk to signal "Cap", the shoreline is very rocky and the slope behind it very steep. This slope is generally grass covered, but numerous rock outcroppings exist along its face. The fringe of rock islets, rocks awash, and kelp which exists outside the H.W.L. makes it very difficult to approach the beach, which consists of large boulders and broken rock. Many pinnacle rocks are located along the strip of beach between triangulation station "Nanu 1937" and signal PAC, but they blend in with the slope behind, and are so numerous that they have no individual value as landmarks. Numerous small pinnacles from 30 ft. to 40 ft. high also exist along the northwest extremity of Cape Ilmalianuk, just back of the H.W.L., but these, too, are difficult to identify individually, and are of no value for navigation. The outermost rock off the northwest extremity of Cape Ilmalianuk, which constitutes signal "IRA", is quite conspicuous except at high tide with a calm sea.

The ridge extending southeast from Cape Ilmalianuk is very conspicuous from seaward. Except in clear weather, that part southeast of triangulation station "Plate" is usually shrouded in fog, and the outer portion resembles a box when viewed from the water; appearing flat on top with almost vertical sides. The most conspicuous point on the outer portion of the ridge is the rounded hill at the edge of the bluff which constitutes signal "Nik". Just below signal "Nik" and projecting vertically from the steep bluff slope is a sharp pinnacle rock, 500 ft. high, which constitutes signal "Tooth" and is also conspicuous when viewed from a position off the Cape. From triangulation Station "Plate 1938" northwestward, the top of the ridge is grass covered, but from triangulation station "Plate 1938" southeastward it is almost entirely bare on top, showing black in color. The steep sides are grass covered, with numerous washes and rock outcroppings. The 2267' elevation in Lat. 53° - 12.8' and Long. 168° - 30.9', and the 2870 ft. elevation in Lat. 53° - 11.6' and

Long. 168° - 30.0' are conspicuous when viewed from Bering Sea westward of the exis of the ridge.

On the west side of Cape Ilmalianuk from Signal "Cap" to signal "Sir" a chain of wierd shaped rocks and pinnacles is located behind the sand beach between the grass line and the foot of the grass bluff. The 80 ft. pinnacle rock at signal "Aid", located on the sand beach, is the most conspicuous in the group.

From signal "Sir" to triangulation station "Strat 1938" the beach is gray sand, very steep between the L.W.L. and H.W.L., then flat back to the sand and grass bluff behind. This bluff varies in height from about 10 to 100 ft. and backs that part of the beach lying SW of the large glacial stream emptying near signal "Rap". Grass covered dunes and ridges occupy the valley floor back of the bluff. The two sand washes shown on the sheet, extend a considerable distance inland behind the bluff and outer dunes. When strong S'ly winds blow and are not accompanied by rain, clouds of sand, ("sand devils"), are blown into the air from these washes and are plainly visible from seaward. The bed of the above mentioned glacial stream shows plainly from offshore, and consists of coarse gravel, rocks, and boulders. The position of the stream's mouth varies with seasons of the year, and is apt to wander back and forth between triangulation station Dune and signal "Aid". The stream is too deep to wade across for a considerable distance inland, the current is very swift, and the volume of flow large. The water is a milky white color during the summer months and discolors the waters of Bering Sea for as much as 2 miles off the beach during certain stages of tide.

The large valley back of the sand beach is low and broad. Its northeasterly side is very flat up to the foot of the steep bluff extending SE from the west side of Cape Ilmalianuk, while its southwest and south portions are characterized by low grassy hills and knolls. The long and irregular slope rising southward from the valley floor constitutes the lower slopes of a high mountain peak which is shown on Topographic Sheet Field No. X-37. Masses of blue ice and snow occupy large areas on the north side and near the top of this peak, and the two glaciers shown on this sheet lead from those ice fields. The W'ly glacier shown is red in color for several hundred feet above its base and is visible from seaward. The E'ly glacier is dark in color and only occasional glimpses can be had from offshore of its lower portion. In clear weather the view afforded from Bering Sea through the valley is quite grand. On the SW side of the valley there is an abrupt rise of about 500 ft. from the valley floor, then a gradual slope interspersed with flat terraces up to the mountain peaks constituting triangulations stations "Ti 1938","Grad 1938", and "Rollo 1938". The peaks are very definite, sharp on top, and conspicuous from seaward. The ridge on which they are located appears otherwise smooth on top, is bare of grass above 1500 ft., and is dark in color. Inland from triangulation station "Grad" the ridge is snow covered until late in the summer.

T-4947

CONTROL:

This survey was controlled entirely by second and third order triangulation stations established and located during the 1937 and 1938 field seasons.

SURVEYING METHODS:

A combination of traversing and resecting was used in executing this plane table survey. Wherever possible, topographic signals, for hydrographic use were located in advance of the traversing by intersecting cuts, and so furnished a check on the traverses.

All important offlying features were located either from direct rod readings or from three or more intersecting cuts.

TRAVERSES:

Closed traverses were run as follows:

From triangulation station "Nudak 1937" eastward to signal "Rent", which had been located previously on Sheet T-6643 by numerous cuts giving a strong intersection. The two positions of Rent checked, and no adjustment of the traverse was necessary.

From triangulation station "Nanu 1937" eastward to triangulation station "Nudak 1937" -- no appreciable closing error and no adjustment necessary.

From triangulation station "Nanu 1937" northwestward to triangulation station"Malinuk 1938" -- no appreciable closing error and no adjustment necessary.

From triangulation station "Malinuk 1938" westward then southward to triangulation station "Dune 1938" -- no appreciable closing error and no adjustment necessary.

From triangulation station "Dune 1938" southwestward to triangulation station "Strat 1938". This traverse was run in very windy weather, and wind and blowing sand hampered operations. The traverse checked in at triangulation station "Strat 1938" as regards azimuth, but was out 6 meters in distance. The traverse was adjusted as specified in the Topographic Manual. Satisfactory

ELEVATIONS:

The following elevations were located and computed from sextant cuts and vertical angles taken from offshore positions:

2870 ft. in Lat. 53° - 11.6' and Long. 168° - 30.0'.
1387 ft. in Lat. 53° - 12.3' and Long. 168° - 30.5'.
2640 ft. in Lat. 53° - 12.55' and Long. 168° - 30.16'.
1040 ft. in Lat. 53° - 12.06' and Long. 168° - 31.60'.
1020 ft. in Lat. 53° - 12.25' and Long. 168° - 32.40'.
1888 ft. in Lat. 53° - 11.70' and Long. 168° - 33.90'.
1978 ft. in Lat. 53° - 11.50' and Long. 168° - 33.60'.
1886 ft. in Lat. 53° - 11.35' and Long. 168° - 35.35'.

All other elevations shown on this sheet were located with the planetable by means of intersecting cuts; in many instances the planetable cuts being supplemented by sextant angles from offshore positions. In most instances two or more vertical angles were used in computing elevations.

FORM LINES:

While the planetable survey was in progress, form lining on this sheet in certain areas of high altitude was considerably hampered by fog and clouds preventing visibility. This was true for that part of the ridge extending SE from Cape Ilmalianuk which lies to SE of triangulation station "Plate 1938" and also for the eastern half of the north slope of the large mountain peak whose lower slopes are shown along the southern edge of this sheet. Opportunities were afforded later in the season, however, to secure sextant cuts and elevation angles to definite peaks and points in these doubtful areas, and form lining on the sheet was completed from such offshore observations. Frequent checks from offshore on the work already accomplished by planetable were made.

JUNCTIONS WITH ADJACENT SURVEYS:

This sheet joins Topographic Sheet T-6643, Field No. R-38, Scale 1:20,000, on the east, north of Lat. 53° - 14.1'. A satisfactory junction along the shoreline was effected at signal "Rent", while a junction of form lines was accomplished along Long. 168° - 27'W.

On the east, south of Latitude 53° - 14.1' N., and on the south, this sheet joins a 1:40,000 scale Topographic Sheet, Field No. X-37. T-4947 Form lining on that sheet was continued from this one and was largely accomplished from observations made while executing this survey. The junction is satisfactory.

On the west this sheet joins Topographic Sheet T-6646, Field No. V-38, Scale 1:20,000. A satisfactory shoreline junction was effected at triangulation station "Strat 1938" and a junction of form lines was made along Long. 168° - 40' W. The elevations shown on this sheet west of Long. 168° - 40' W. were located and computed from planetable observations made while executing this survey.

COMPARISON WITH EXISTING CHARTS:

A detailed comparison with Chart 8802, the only Chart available showing Inanudak Bay and adjacent territory, is impossible because of the small scale of the chart.

NAMES:

The names "Bering Sea", "Inanudak Bay", "Umnak Island", and "Cape Ilmalianuk" are from Chart 8802.

The following new names which have not appeared on Charts of the area were assigned during the 1938 field season while executing this survey:-

1. BROKEN POINT - to the broad, blunt point of land on which are located triangulation stations "Nudak 1937" and "Broke 1937". Name suggested by the broken and ragged character of the shoreline around the point.

2. GEYSER BIGHT - to the broad shallow bight of water in Inanudak Bay lying east of Cape Ilmalianuk. Name suggested by the geyser which was sighted at the head of the valley extending SE from this bight.

STATISTICS:

Statute miles of shoreline - 16.5

Area in square statute miles - 35.0

Respectfully submitted:

James C. Tison, Jr.
JAMES C. TISON, JR.
Jr. H. & G. ENGR.

Forwarded:

Ray L. Schoppe
RAY L. SCHOPPE, H.&G.E.
Commanding Officer
U.S.C.&G.S.S. SURVEYOR

Topographic Sheet T-6645, Field No. T-38, and its accompanying discriptive report, have been reviewed and examined and are hereby approved:

A. M. SOBIERALSKI, Chief of Party
H. & G. Engr.

LIST OF SIGNALS

to accompany

DESCRIPTIVE REPORT FOR TOPOGRAPHIC SHEET T-6645

TRIANGULATION STATIONS OUTSIDE H.W.L.:

Malinuk 1938 - Marked station on small rock islet just outside H.W.L.
Nanu 1937 - Marked station on rock islet at N. end of rocky point.

TOPOGRAPHIC SIGNALS:

AID - Highest point 80 ft. pinnacle rock on sand beach - RECOVERABLE.
ART - Whitewash vertical face rocky point - not recoverable.
BAL - Whitewash on rock point - not recoverable.
BAR - Whitewashed boulder on beach - not recoverable.
BOY - Whitewash on rock islet - not recoverable.
BOZ - Highest point grass topped pinnacle rock (112 ft.) - RECOVERABLE.
BUT - Driftwood signal - not recoverable.
CAP - Whitewashed boulder on beach - not recoverable.
COD - Driftwood signal - not recoverable.
COW - Driftwood signal - not recoverable.
DAD - Whitewashed face of rock point - not recoverable.
DAY - Whitewash on rocky point - not recoverable.
DOG - 2568 ft. mountain peak (Highest point) - RECOVERABLE.
DON - Whitewash on rocky point - not recoverable.
ED - Whitewash on rock point - not recoverable.
FID - Whitewash on rock islet - not recoverable.
GEN - Whitewash on rock islet - not recoverable.
GET - 75 ft. pinnacle rock - RECOVERABLE.
GOS - Whitewashed boulder on beach - not recoverable.
HAL - Driftwood signal - not recoverable.
HED - Whitewash, highest point rock islet - RECOVERABLE.
IRA - Center of offshore rock awash at H.W.; most SW'ly of a group of three off Cape Ilmalianuk - RECOVERABLE.
IRK - Whitewash on rock point - not recoverable.
KEN - Driftwood signal - not recoverable.
LAMP - Whitewash on rock islet - not recoverable.
LOC - Whitewash on rock islet - not recoverable.
MIN - Whitewash on offshore rock - not recoverable.
MIT - Whitewash on rock outcrop - not recoverable.
MUK - Driftwood signal - not recoverable.
NIK - Highest point 836 ft. hill at top of bluff; SW side Cape Ilmalianuk - RECOVERABLE.
NOR - Whitewash, highest point rock islet - RECOVERABLE.
ODD - Whitewashed boulder - not recoverable.
PAC - Whitewash face of rock islet - not recoverable.
PAGE - Whitewash on rock islet - not recoverable.
PRY - Driftwood signal - not recoverable.
PUS - Whitewashed boulder on beach - not recoverable.
RAP - Driftwood signal - not recoverable.
RENT - Whitewash on offshore islet - not recoverable.

LIST OF SIGNALS (continued)

to accompany

DESCRIPTIVE REPORT FOR TOPOGRAPHIC SHEET T-6645

TOPOGRAPHIC SIGNALS (continued):

SIR - Whitewash on large rock on sand beach - not recoverable.
SIT - Driftwood signal - not recoverable.
SOL - Whitewash on rock point - not recoverable.
SUB - Driftwood signal - not recoverable.
TEM - Whitewash on rock point - not recoverable.
TOOTH - Top of 500 ft. pinnacle rock side of bluff on SW side Cape Ilmalianuk - RECOVERABLE.
VAL - Whitewash on rock islet - not recoverable.
WASH - Whitewash top of rock cliff - not recoverable.
WAY - Whitewashed boulder on beach - not recoverable.
YID - Whitewash face rock cliff - not recoverable.
YIP - Highest point 46 ft. pinnacle rock on sand beach - RECOVERABLE.

	Remarks	Decisions
1		530 685
2		530 685
3		530 680
4	Assigned by field party	530 685
5	submitted to USGB	530 680
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M 234

GEOGRAPHIC NAMES

Survey No. **T-6645**

Name on Survey	A, On Chart No. 8802	B, On previous survey No.	C, On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Bering Sea	✓									1
Cape Ilmalianuk	✓									2
Inamudak Bay	✓									3
Geyser Bight				USED Decision						4
Broken Bight Point					"	"				5
Umnak I	✓									6
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7/18/39										27

M 234 VR

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

~~Nxxxxx~~

No. T -6645

received May 8, 1939
registered June 14, 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
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RETURN TO

82	T. B. Reed

JBC

Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 6645 (1938) FIELD NO. T.

Cape Ilmalianuk and Vicinity, Umnak Island, Aleutian Islands.
Surveyed in June-Sept., 1938, Scale 1:20,000.
Instructions dated Feb. 3, 1938 (SURVEYOR).

Plane Table Survey. Aluminum Mounted.

Chief of Party - A. M. Sobieralski
Surveyed by - J. C. Tison, Jr.
Inked by - J. C. Tison, Jr.
Reviewed by - J. A. McCormick, November 29, 1939.
Inspected by - H. R. Edmonston.

1. Junctions with Contemporary Surveys.

Junctions with T-6643 (1938) on the northeast, T-6646 (1938) on the southwest and with T-4947 (1937-38) on the south and southeast are satisfactory.

2. Comparison with Prior Surveys.

This Bureau has made no previous surveys in this vicinity.

3. Comparison with Chart 8802 (New Print of November 3, 1938).

The chart is on such a small scale that only a generalized shoreline with a bare rock and sunken rock off Cape Ilmalianuk are shown in the area covered by the present survey. The latter supersedes the topography now charted in the common area.

4. Condition of Survey.

Satisfactory.

5. Compliance with Instructions for the Project.

Satisfactory.

6. Additional Field Work Recommended.

None.

Examined and Approved:

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

K.T. Adams
Chief, Division of Charts.

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

G Rude
Chief, Division of H. & T.