

U. S. CHAST & GEONETIC SURVEY

MAY 8 1939

CONFIDENTIAL

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

L. Q. Colbert., Director

Aleutian Islands

DESCRIPTIVE REPORT

Topographic | Hydrographic |

Sheet No. T-6643 Field No. R-38.

LOCALITY

Inanudak-Bay, Umnak Island

Tnanudak Bay

1938

CHIEF OF PARTY
A. M. SOBIERALSKI, H.&G.E.
Commanding Officer
U.S.C.&G.S.S. SURVEYOR

U. S. GOVERNMENT PRINTING OFFICE: 183

DECLASSIFICATION BY NOAA

PURSUANT TO DOC SYSTEMATIC REVIEW

GUIDELINES AS DESCRIBED IN SECTION

3.3 (a), EXECUTIVE ORDER 12356

applied to new compilation Chart 8861- Jan 1942- John

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 Letter R-38

REGISTER NO. T-6643.

General locality Aleutian Islands Umnak Island
Locality Umnak Island, Inanudak Bay
Scale 1:20,000 Date of survey June, July, August 19 38
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.N.H.M. to ground Instructions dated February 3 , 19 38
Remarks:

DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET T-6643

Field No. R-38

Inanudak Bay, Umnak Island, Alaska

Project No. HT-218

Season 1938

INSTRUCTIONS:

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

EXTENT OF SURVEY:

This survey covers that part of Inanudak Bay, Umnak Island, Alaska, south of Latitude 53° - 20.4° N. and east of Longitude 168° - 27.2° W. It also covers that portion of the land area of Umnak Island included between Latitudes 53° - 14.1° N. and 53° - 20.0 N. and Longitudes 168° - 15.0° W. and 168° - 27.0° W.

GENERAL DESCRIPTIONS AND COMMENTS:

The shoreline shown on this sheet is rocky and precipitous except at the heads of the several coves or bights which indent the shoreline. Sand and pebble beaches are found at the heads of these coves, and low bluffs from 5 ft. to 20 ft. high rise abruptly from the beaches at the grass line; then give way to flat lands or valleys beyond. Where the shoreline is rocky, numerous rock islets, rocks awash, small rocky reefs, and sunken rocks lie offshore.

Along the west and south sides of Cape Kigunak the shoreline consists of a steep boulder and broken rock beach with very steep grass slope rising directly behind it. The 15 ft. rock islet, the highest point of which is triangulation station "GROAN 1938", lying about 280 meters off the Cape is the most conspicuous offshore feature in the vicinity; being visible against the skyline from most places inside Inanudak Bay. Small boat landings along the beach are very difficult at all times due to the fringe of rocks and boulders outside the HWI, and the band of heavy kelp which extends for a considerable distance offshore. The detached ridge extending east and west on the Cape is irregular and eroded on top at its western end, but is comparatively smooth and rolling east of triangulation station "KIG 1937". The most conspicuous points on the ridge are the 1164 ft. elevation at triangulation station "JAM 1937", the 1096 ft. elevation at triangulation station "KIG 1937", and the 795 ft. elevation at signal "Crib"; the latter being a large block of rock projecting above the otherwise smooth top of the ridge. A sheer black rock cliff several hundred

feet high, lies immediately below and to the south of triangulation station "KIG 1937".

The beach at the head of the bight called "Northeast Anchorage" by the survey party is dark sand with sand and grass bluffs from 10 to 20 ft. high rising directly behind it. Flat grassland, marshy in places, lies back of the bluff and extends in a northeast direction through to the large flat valley lying north and northeast of Cape Kigunak. The two streams emptying into the bight are not conspicuous and are visible only from just off the beach. The water is quite shallow along the beach and several lines of breakers make small boat landings difficult. Large numbers of crabs were noted in the shallow water near the south end of the beach. The 1645 ft. elevation on the northwest end of the ridge which terminates due east of the bight is a definite rock tit or tooth on an otherwise smooth topped ridge.

The point of land called "Cinder Point" by the survey party is a very conspicuous feature in the Bay. Its shoreline consists of vertical black rock cliffs rising directly out of the water, which are honeycombed with small pot holes and cracks. Near the top the cliffs consist of a lava or cinder formation which is rotten and in process of rapid weathering. Many birds nest along the cliff face. Triangulation station "CINDER 1937" is on top a bare red and black cinder cone, which is very prominent from the inner Bay. The top of the point above the cliff is flat and grass covered, and the higher mass of the cone rises above this plateau-like area. Numerous boulders and blocks of lava are strewn over the point. The 1185 ft. elevation on the ridge immediately back of the cinder cone is a definite point or peak, and bare rock cliffs and rock outcroppings along the west face of the top of the ridge make it conspicuous.

The bight called "Cinder Cove" by the survey party has a dark sand beach at its head with a ragged sand bluff from 6 to 20 ft. high back of it. A series of low grass covered sand dunes and ridges lie back of the bluffs, but present a flat appearance when viewed from the water. A low narrow valley with steep sides extends in a southeasterly direction from the head of the bight to the south coast of Umnak Island. Very shoal water and several lines of breakers make small boat landings difficult along the sand beach except on the north side of this cove, where the water is usually quiet. Many crabs were noted in this north part of the cove, and numerous fresh springs and seepages exist along the beach in that vicinity. The 70 ft. pinnacle rock at signal "Block" is conspicuous from all parts of the cove.

The point of land called "STEEPLE POINT" by the survey party is characterized by a very rocky shoreline with steep grass slopes behind, and by the curiously shaped pinnacle rock formation constituting triangulation station "PICK 1938". This pinnacle is very slender and sharp but blends with the grass slope behind it when viewed from the west. The beach from signal "Block" to signal "As" consists of boulders and broken rock with numerous flat rock reefs, the outer edges of which are awash at MLLW, outside the H.W.L. Small boat landings are difficult along the beach.

The beach at the head of the bight called "Hot Springs Cove" is dark sand with low sand bluffs from 5 to 15 ft. high back of it. The short valley extending south from the beach is flat and marshy, and several hot water springs are located near its head. The location of the springs is visible from the bight on a calm day due to columns of steam or vapor rising above them. The temperature of the spring water is sufficiently hot to prevent immersing one's hand in it, and the presence of mineral salts is indicated by discoloration around the springs. Along the beach at the mouth of the stream flowing north from the springs the water is much warmer than elsewhere in the Bay, and clouds of water vapor were noted to rise along the beach in the vicinity on calm days. Crabs abound in the shallow water along the beach, and several lines of breakers make landing difficult except in very smooth weather.

Along the west side of "Hot Springs Cove" and westward to signal "Hart" the shoreline is rocky and ragged. Large boulders and broken rock form the beach and a steep grass slope rises directly behind it. The cliffs indicated at the top of the slope behind triangulation station "KAW 1937" are black in color and very rough and sheer.

Along the shore of the indentation called "Southwest Anchorage" by the survey party, from signal "Hart" to signal "Ear" the beach is pebble and very steep, with a low grass bluff about 6 ft. high behind it; and from signal "Ear" to signal "So" it consists of large boulders with deep open water outside the L.W.L. Back of this latter section of beach the grass slope is very steep and abrupt, with numerous rock outcropping along its face. The wreck lying on the beach at signal "Big" is that of the "Umnak Native", a small trading boat formerly owned by the natives of Nikolski Village. The wreck cost seven or eight lives and graves of the dead are located on a grassy bench or ledge about 50 ft. above the beach.

The land area shown on this sheet is grass covered in general and mountainous. The higher peaks and ridges are ragged and bare on top and of a dark color. The ridges are often bare of grass and considerably weathered for several hundred feet down their slopes. The steeper slopes in all cases are characterized by numerous rocks outcroppings and washes, the latter showing much red and yellow coloring.

CONTROL:

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

SURVEYING METHODS:

A combination of traversing and resecting, supplemented by three point fix checks on set-up positions, when available, was used in executing this survey. Topographic signals for hydrographic use were in most cases located by cuts in advance of the traversing, and so furnished a constant check on traverses. Around "Cinder Point" from signal "Ivy" to signal "Pro", inclusive, all signals were located by three or more intersecting cuts, and the top of the vertical cliff was rodded in by running a closed traverse from a three point fix position above signal "Ivy" to one above signal "Pro". It was found impossible to set up the plane table at the foot of the cliffs around this point.

All important off-lying features were located either by direct / red readings or by intersecting cuts.

TRAVERSES:

Short closed traverses, with no appreciable closing errors and requiring no adjustments, were run as follows:

From a "BROKE 1937" to a "KAW 1937".

From a "KAW 1937" to a "HANDE 1937".

From a "UNA 1937" to a "HANDE 1937".

From a "UNA 1937" to signal "Pro", which had been located previously from intersecting outs.

From A "GANIC 1937" to A "GROAN 1938".

From A "GANIC 1937" to signal "Ivy", which had been located previously from intersecting cuts.

From a three-point fix position above signal "Ivy" to one above signal "Pro".

ELEVATIONS:

The following elevations were transferred from Topographic Sheet T = 6596 - Field No. B = 37.-

1650 ft. in Lat. 53° - 14.53' N., Long. 168° - 18.60' W. / 1970 ft in Lat. 53° - 14.80' N., Long. 168° - 18.65'W. 1736 ft. in Lat. 53° - 15.10' N., Long. 168° - 17.85'W. 1775 ft. in Lat. 53° - 15.20' N., Long. 168° - 17.60' W.

The following elevations were transferred from Topographic Sheet T-4942 (1937):-

1650 ft in Lat. 53° - 15.38' N., Long. 168° - 17.36' W.(checked / by single cut and elevation this sheet)
1300 ft. in Lat. 53° - 15.50' N., Long. 168° - 17.30' W.(checked ✓

by single cut and elevation this sheet.)
850 ft. in Lat. 53° - 16.63'N., Long. 168° - 16.65' W.

1939 ft. in Lat. 53° - 18.05' N., Long. 168° - 16.25' W.

2113 ft. in Lat. 53° - 18.47' N. Long. 168° - 16.67' W. (checked / by single cut and elevation Sheet T-6642 - Field No. U-38.)

2206 ft. in Lat. 53° - 18.75' N., Long. 168° - 17.25' W. (checked / by single cut and elevation Sheet T-6642 - Field No. U-38)

1930 ft. at signal "Spur" (Checked by two cuts and one elevation / Sheet T-6642)

The following elevations were either transferred from Sheet T-6642 - Field No. U-38, or were located and computed on this sheet from cuts and vertical angles taken on that sheet and transferred:-

1668 ft. in Lat. 53° - 18.80' N., Long. 168° - 15.85' W. /
770 ft. in Lat. 53° - 19.60' N., Long. 168° - 18.57' W. /
600 ft. in Lat. 53° - 19.78' N., Long. 168° - 18.37' W. /
433 ft. in Lat. 53° - 19.77' N., Long. 168° - 19.20' W. /
210 ft. in Lat. 53° - 19.60' N., Long. 168° - 22.35' W. /
670 ft. in Lat. 53° - 19.50' N., Long. 168° - 22.55' W. /
540 ft. in Lat. 53° - 19.72' N., Long. 168° - 23.46' W. /
700 ft. in Lat. 53° - 19.97' N., Long. 168° - 24.40' W. /

All other elevations shown on this sheet were located with the plane table by means of intersecting cuts. In most instances two or more vertical angles were used in making the computations.

The positions of many of the more prominent peaks and ridges were verified by sextant angles taken from positions offshore.

FORM LINES:

3.

Form lining on this sheet was carried inland as far as land formations permitted visibility. The general land configuration / was verified from various positions offshore on the north side of Umnak Island and also from offshore positions on the south side of the Island.

On the north slope of the ridge on Cape Kigunak form lining / was done in conjunction with Lieut. (j.g.) J. Laskowski, who executed the topographic survey on sheet T-6642.

Form lining on the north slope of the mountainous area east of "Cinder Point" was also done in conjunction with Mr. Laskowski and from observations as to general land configuration made from offshore positions north of Cape Kigunak.

Form lining along the southern edge of the sheet east of Longitude 168° - 22' W. and along the southeast and eastern edges of the sheet is largely a revision of the form lines originally shown on Topographic Surveys T-6596 and T-4942 (1937), respectively. This revision is discussed in detail further on in this report.

JUNCTIONS WITH ADJACENT SURVEYS:

This sheet joins Topographic Sheet T-6642, Field No. U-38, on the north. A junction was effected on the shoreline at signal "Sob", which was located on this sheet by means of a short traverse run north from triangulation station "GROAN 1938". The position so obtained was checked on Sheet T-6642 by means of a short traverse run westward from triangulation station "IGNEOUS 1938". A satisfactory junction of form lines and land features was effected along Latitude 530 - 20' N.

On the west this sheet joins Topographic Sheet T-6645, Field No. T-38. A shoreline junction was effected at signal "Rent", which was located on Sheet T-6645 T-6845 by means of a traverse run eastward

from triangulation station "NUDAK 1937", and on this sheet by means of numerous intersecting cuts obtained from various set-ups throughout the Bay. The two positions checked. The shoreline from signal "Rent" southeastward was redded in from a set-up along the traverse run from triangulation station "BROKE 1937" to triangulation station "KAW 1937". A junction of form lines was effected along Longitude 168° - 27' W., and the elevations shown west of that meridian were determined from a combination of cuts taken on both sheets.

On the south this sheet joins a 1: 40,000 scale Topographic Sheet, Field No. \bar{X} -37, whereon the form lining was continued from this sheet to conform with elevations determined during the course of this survey.

On the southeast and east this sheet joins Topographic Sheet T-6596 (1937) south of Latitude 530 - 15' N. and Sheet T-4942 (1937) north of that Latitude. Elevations and form lines shown along the outer limits of both of those sheets could not be checked in the course of this survey, and as a consequence the rejection of many elevations and considerable revision of form lines was necessary. It is understood that elevations on those two sheets most distant from the south coast of Umnak Island were determined largely from sextant cuts, and the failure to check with work on this sheet is attributed to that fact. Since a great many well determined elevations were located in the questionable area by plane table on this sheet, and since a comprehensive mental picture was formulated for that part of the area visible from Inanudak Bay, form lining was done on this sheet to the limit of visibility from Inanudak Bay disregarding exeisting form lines and elevations from the 1937 surveys. Beyond the limit of visibility from Inanudak Bay, the existing form lines were revised until a junction with this survey could be effected. During the 1938 field season several opportunities for viewing the questionable area from the south side of Umnak Island were afforded and the mental picture of the general land configuration so obtained was used in making the revision; at the same time adhering as closely as possible to the land configuration indicated on the 1937 surveys. Most of the revision consisted present survey largely of deepening and lengthening valleys indicated on the 1937 supersedes surveys. It is recommended that form lines shown on this sheet be T-4942 and regarded as correct, and that form lining and elevations on Sheets T- 6596 in the T-6596 and T-4942 which extend beyond a junction with this sheet be overlapping disregarded.

COMPARISON WITH EXISTING CHARTS:

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

NAMES: / HAE

CAPE KIGUNAK, INANUDAK BAY, and UMNAK ISLAND are from Chart

The following new names which have never appeared on charts were assigned during the 1938 field season while executing this survey:

- 1. NORTHEAST ANCHORAGE to the first bight or cove southeast of Cape Kigunak. Name indicates best anchorage in northerly and northeasterly weather.
- 2. CINDER POINT to the flat-topped, semi-circular point of land at triangulation station "CINDER 1937". Name suggested by the prominent cinder cone on top of which the triangulation station is located.
- Stepanof Cove
 3. CINDER COVE to the bight or cove between triangulation station "CINDER 1937" and "HANDE 1937".
- 4. STEEPLE POINT to the high point of land inshore from triangulation station "HANDE 1937". Name suggested by the steeple or spire-like rock formation constituting triangulation station "PICK 1938".
- 5. HOT SPRINGS COVE to the large bight or cove in the southeasterly part of the Bay. Name suggested by the hot water springs which exist in the valley south of the cove.
- 6. SOUTHWEST ANCHORAGE to the bight or indentation lying between triangulation stations "BROKE 1937" and "KAW 1937". Name suggested because the bight furnishes best available anchorage in SW'ly and W'ly weather.

STATISTICS:

Statute miles of shoreline - 16.8

Area in square statute miles - 32.0

Respectfully submitted:

Jr. H. & G. Engr.

U.S. Coast & Geodetic Survey

Approved and Forwarded:

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

Commanding Officer

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

LIST OF SIGNALS

to accompany

DESCRIPTIVE REPORT FOR TOPOGRAPHIC SHEET T-6643

TRIANGULATION STATIONS OUTSIDE H.W.L.:

GROAN 1938 - highest pt. of offshore rock islet.

HANDE 1937 - Marked station on offshore rock islet.

KAW 1937 - Marked station on offshore rock islet.

TUM 1937 - Marked station on large boulder just outside HWL.

TOPOGRAPHIC SIGNALS:

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ABE - Whitewash on boulder -- not recoverable.

ALA - Large boulder in grass on beach--not recoverable.

AS - Whitewash face of low rock cliff -- not recoverable.

BIG - Whitewash on boulder -- not recoverable.

BIT - Driftwood and cloth signal -- not recoverable.

BLOCK - Whitewash side of 701 pinnacle rock--recoverable.

BOS - Whitewash on boulder -- not recoverable.

BULB - Whitewash highest point top of offshore rock islet--

CAT - Whitewash on boulder -- not recoverable.

CON - Whitewash on cliff -- not recoverable.

CRIB - Large dark block of rock on top East end ridge on Cape Kigunak--recoverable.

DEW - Whitewash on boulder -- not recoverable.

DING - Whitewash face of cliff -- not recoverable.

DOC - Driftwood and cloth signal -- not recoverable.

DOG - 2568 ft. mountain peak--recoverable.

DOOR - Door of old trappers' barabara side of grass bluff-recoverable.

EAR - White wash on boulder -- not recoverable.

END - Whitewash on rock outcrop--not recoverable.

EVE - Whitewash on boulder -- not recoverable.

EX - Whitewash on rock outcrop -- not recoverable.

FEE - Whitewash on boulder -- not recoverable.

FIG - Whitewash on boulder -- not recoverable.

FIN - Whitewash rock outcrop side bluff -- not recoverable.

GOT - Whitewash on boulder -- not recoverable.

HAD - Whitewash on boulder -- not recoverable.

HART - Whitewash on boulder -- not recoverable.

HUN - Whitewash side of 60 ft. pinnacle rock (W'ly of two) -- recoverable.

IN - Whitewash on boulder--not recoverable.

INK - Driftwood and cloth--not recoverable.

IRE - Whitewash on boulder -- not recoverable.

IVY - Whitewash face of cliff--not recoverable.

JET - driftwood and cloth -- not recoverable.

LEM - Whitewash on rock outcrop--not recoverable.

LID - Whitewash on large boulder -- not recoverable.

LIT - Whitewash on rock reef -- not recoverable.

LOO - Whitewash side rock islet -- not recoverable.

LIST OF SIGNALS (cont.)

to accompany

DESCRIPTIVE REPORT FOR TOPOGRAPHIC SHEET T-6643

TOPOGRAPHIC SIGNALS (cont):

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MAT - driftwood and cloth -- not recoverable.
NEW - Whitewash on boulder -- not recoverable.
PART - Whitewash on boulder -- not recoverable.
PIN - Whitewash side of 18' offshore pinnacle--recoverable.
POR - Whitewash on boulder -- not recoverable.
PRO - Whitewash face cliff -- not recoverable.
RED - Whitewash on boulder -- not recoverable.
REG - Light Spot on rock outcrop--not recoverable.
RENT - Whitewash offshore islet -- not recoverable.
RIF - Driftwood and cloth--not recoverable.
ROB - Whitewash on rock outcrop--not recoverable.
ROK - Whitewash large detached black boulder in grass--
                              recoverable.
ROW - Whitewash offshore rock islet -- not recoverable.
ROY - Whitewash face reck point-not recoverable.
RUN - Whitewash on boulder -- not recoverable.
SAD - Whitewash rock outcrop -- not recoverable.
SEA - Driftwood and sloth--not recoverable.
SEL - Whitewash on boulder -- not recoverable.
SID - Whitewash face of reck point -- not recoverable.
SIL - Whitewash on boulder -- not recoverable.
SO - Whitewash on boulder -- not recoverable.
SOB - Whitewash face rock point -- not recoverable.
SPEC - Driftwood and cloth -- not recoverable.
SPUR - 1930 ft. mountain peak--recoverable. (transferred from
                                     Sheet T-4943 (1937)).
TAB - Driftwood and cloth -- not recoverable.
TAIL - Whitewash rock outcrop--not recoverable.
TAN - Whitewash face cliff -- not recoverable.
TES - Driftwood and cloth--not recoverable.
TI - Whitewash side rock islet -- not recoverable.
TIP - Whitewash on boulder -- not recoverable.
TOP - Whitewash face cliff -- not recoverable.
TUK - Whitewash face rock islet -- not recoverable.
VAN - Whitewash on boulder -- not recoverable.
WAR - Driftwood and eloth--not recoverable.
WAT - Whitewash on boulder -- not recoverable.
WE - Whitewash on boulder -- not recoverable.
 WIG - Whitewash face cliff -- not recoverable.
 WOOD - driftwood and cloth--not recoverable.
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YE - Whitewash high point rock islet -- recoverable.

Remarks

Decisions

	Nemarks.	Decisions
1		File M. 530 680
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MEMORANDUM IMMEDIATE ATTENTION

SURVEY DESCRIPTIVE REPORT XRHOXOSXRAXXOFX	No. T-6643	\downarrow	received May 8, registered June verified reviewed approved	14, 1939
		(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

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Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 6643 (1938) FIELD NO. R.

Inanudak Bay, Ummak Island, Aleutian Islands. Surveyed in June-Aug., 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 30, 1939.

Inspected by - H. R. Edmonston.

1. Junctions with Contemporary Surveys.

- a. Junctions with T-6642 (1938) on the north, T-6645 (1938) on the southwest and T-4947 (1937-38) on the south are satisfactory.
- b. Wide differences in form line detail at the junctions with T-4942 (1936-37) and T-6596 (1937) on the east necessitated overlapping those surveys until satisfactory agreement had been attained (see descriptive report, page 6). In some places the overlap is quite extensive. The present survey is accepted as more accurate and supersedes T-4942 and T-6596 in the overlapping areas.
- 2. Comparison with Prior Surveys.

This Bureau has made no previous surveys in this locality.

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

The small scale of the chart permits only a general comparison with the present survey. Charted topography bears a rough resemblance to that on the present survey and is superseded by the latter 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:

T. B. Reed,

Chief, Section of Field Records.

Ghief, Section of Field Work.

Chief, Division of Charts.

Chief, Division of H. & T.