8632

8632

Diag. Cht. No. 8864-2.

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE   REPORT

Type of Survey ....Shoreline

Field No....Ph-34............Office No.....T-8632

LOCALITY

State....Alaska

General locality....Kiska Island

Locality ...S.W. Portion of Kiska Island

1947-48

CHIEF OF PARTY
F.B.T.Siems, Chief of Party
K.T.Adams, Div. of Photo. Wash.,D.C.

LIBRARY & ARCHIVES

DATE........May 26, 1958

DATA RECORD

T-8632
(Shoreline)

Project No. (II): **Ph-34**   Quadrangle Name (IV):

Field Office (II): **Ship EXPLORER**   Chief of Party: **F.B.T. Siems**

Photogrammetric Office (III): **Washington**   Officer-in-Charge: **K. T. Adams**

Instructions dated (II) (III): **8 April 1948**   Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): **Radial Plot**

Manuscript Scale (III): **1:20,000**   Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): **1.000**

Date received in Washington Office (IV): **6-9-49** Date reported to Nautical Chart Branch (IV): **6-9-49**

Applied to Chart No.   Date: Date registered (IV): **5-6-58**

Publication Scale (IV):   Publication date (IV):

Geographic Datum (III): **NA 1927**   Vertical Datum (III):

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (5) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): **FAN, 1945**

Lat.: **51° 52' 44.433**   Long.: **177° 18' 08.145**   Adjusted
Unadjusted

Plane Coordinates (IV):   State: Zone:

Y=   X=

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

DATA RECORD

Field Inspection by (II): Ship EXPLORER, F.B.T. Siems, Commanding   Date: Nov. 1948

Planetable contouring by (II):   Date:

Completion Surveys by (II):   Date:

Mean High Water Location (III) (State date and method of location):

Projection and Grids ruled by (IV): W. Ward   Date: Feb. 1949

Projection and Grids checked by (IV): W. Ward   Date: Feb. 1949

Control plotted by (III): C. Hanavich   Date: Mar. 1949

Control checked by (III): R. Williams   Date: Mar. 1949

Radial Plot or Stereoscopic Control extension by (III): C. Hanavich   Date: Mar. 1949

Stereoscopic Instrument compilation (III): Planimetry   Date:

  Contours   Date:

Manuscript delineated by (III): C. Hanavich   Date: May 1949

Photogrammetric Office Review by (III):   Date:

Elevations on Manuscript checked by (II) (III):   Date:

Camera (kind or source) (III): U.S.C.& G.S. 9-lens, $8\frac{1}{4}$" focal length

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
21160	10-20-47	1231	1:20,000	
21190	10-25-47	1520	"	
21191	"	1521	"	
21192	"	1521	"	
21193	"	1521	"	
21194	"	1523	"	
21195	"	1523	"	
21196	"	1527	"	
21197	"	1529	"	
21198	"	1529	"	
21199	"	1530	"	
21200	"	1530	"	

Tide (III)

	Ratio of Ranges	Mean Range	Spring Range
Reference Station:			
Subordinate Station:			
Subordinate Station:			

Washington Office Review by (IV): *G. B. Willey*   Date: *Feb. 1952*

Final Drafting by (IV): *M.C. Webber*   Date: *11-25-57*

Drafting verified for reproduction by (IV): *W.D. Hallin*   Date: *1-7-58*

Proof Edit by (IV):   Date:

Land Area (Sq. Statute Miles) (III):
Shoreline (More than 200 meters to opposite shore) (III): 54 statute miles
Shoreline (Less than 200 meters to opposite shore) (III):
Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II):	Recovered:	Identified:
Number of BMs searched for (II):	Recovered:	Identified:
Number of Recoverable Photo Stations established (III):	5	
Number of Temporary Photo Hydro Stations established (III):	24	

Remarks:

Shoreline Map T-8632 covers the southwest part of Kiska
Island, Rat Islands, Alaska, from Latitude 51°-48' to 52°-01'
and Longitude 177°-12'E to 177°-31E. When completed, the
topographic series of the Aleutian Islands will render this
manuscript obsolete.

Material relative to this map is filed as follows:

    1. Division of Photogrammetry General Files

        a. Map Manuscript

    2. Bureau Archives

        a. Descriptive Report

        b. Cloth-backed lithographic print of T-8632
          at manuscript scale.

27. Radial Plot:

One main radial plot was laid for the SW part of
Kiska Island. A total of 12 transparent templets
(acetate) were used. These templets were prepared from
9-lens photographs, scale 1:20,000, and dated October
1947. The plot was rerun when it was found during the
compilation that several additional topographic stations
could not be held in the vicinity of Gertrude Cove,
i.e. stations transferred from graphic control surveys,
which were not available for the first plot. The rela-
tive change in horizontal displacement varied from nil
to about 25 meters, with the maximum shift occurring
between topographic stations Flat and Abe on the northwest shore.

By utilizing topographic points transferred from
the graphic control surveys, the density of control was
found to be sufficient. In the plot, the following
stations were held unless noted otherwise: Triangulation
stations Jimmey Hill, 1947; Tuna, 1948 (only 1 cut
available); Rob, 1948; Sub. Sta. B (only 1 cut available;
1 cut to Sub. Sta. A for this station would not hold);
Silo, 1945 (only 1 cut available); Age, 1943 (only 1 cut
available); Control Tower Airfield, 1945 (1 cut); Ledge,
1904 (1 cut); Gertrude Cove, Stack on Japanese Ship, 1947;
Tent (USE), 1943 (1 cut); Load, 1945; Fender, 1945, Sus,
1945; Lupi, 1947. At triangulation station Corvi, 1947,
all the intersections were common to one point which fell
about 6 meters E of the plotted position; on the pricking
card this station was tied in by 3 reference ties from the
indefinite edges of a high bluff. Triangulation station
† Bun, 1948, could not be held; it was identified on 5-lens
photograph 852 (Navy) and described on a pricking card.
The detail of the area on the 5-lens photograph (very poor)
could not be reconciled with that of the 9-lens photo-
graph, and therefore, the identification of the two
substitute points (for station Bun) on the office 9-lens
photograph is questionable. The topographic stations that
were held are: Theo, Fan, Box, New, Gal, Bob, Put, Art,
Ion, Nul (all intersections common but shading station),
Bus (all intersections common but shading station), Act,
Fox, Mis, Mat, Pin, Abe, Elo, Fig, Wash, and Dog. The
majority of these stations were transferred from the
graphic control surveys to the manuscript. The plotted
position of Dad, which is a topographic station, could not
be held in the plot. The identification of this station
is questionable on all the office photographs.

The accuracy of the plot is believed to be satis-
factory. Although the photograph coverage is complete,
some difficulty was experienced because of clouds and
the distribution of the photograph centers. In those
areas where the photograph centers were located too far
inland, difficulty was encountered in identifying points
along the shoreline because of shadows and the relief
displacement from overhanging bluffs, and additionally
aggravated in some areas by poor stereopsis due to clouds.

28. Detailing:

The shoreline and the adjacent inland features were
compiled from triangulation station Jimmey Hill, 1947,
northeastward to triangulation station Bun, 1948. Field
inspection in this area was sparse, and limited to the
area between topographic stations Wash and K (YW RK). In
the remaining area, from Jimmey Hill, 1947, south and then
east to Hutt Cove, all available detail (except for bluffs)
and control (mainly topographic) were transferred from
graphic control sheets (T-7115, T-7116a & b, T-7117, and
T-7119)(116 the map manuscript and noted in red ink.
The shoreline and adjacent inland features were then com-
piled within this area. In several instances the office
interpretation was not in agreement with the planetable
surveys on the location and configuration of the shoreline.

In areas where the shoreline was questionable or
obscured by clouds, overhanging bluffs, and shadows, the
delineation of the shoreline was omitted or dashed in and
supplemented by appropriate notations.

29. Supplemental Data:

Where the shoreline indicated on the graphic control
surveys was not in agreement with the shoreline compiled
independently, a reinvestigation of the interpretation was
made to resolve any minor discrepancies. However, in
various areas, the office interpretation of the shoreline
has been indicated in black along with the planetable survey
in red to show the discrepancies between the compilation
and the field survey. *See Item 67 in the Review Report.*

For additional information on this subject, refer
to side heading 28.

*Field inspection photographs, extending from Vega point
to Gertrude Cove, were available to facilitate the compi-
lation work offshore from the mean high-water line. The
field delineation of the mean high-water line in this area,
however, was limited.*

30. **Mean High-Water Line:**

Since the field inspection of the high-water line was limited, it was accomplished from an office stereoscopic examination. In some cases, the high-water line could not be distinguished with certainty because of photographic definition--that is, the absence of contrast between the dark water and the dark shadows reflected from alongshore detail (cliffs, bluffs, etc.).

32. **Details Offshore from the High-Water Line:**

Steep, bare, rock cliffs mark the coastline which is strewn with numerous rocks and pinnacles. Breakers found offshore indicate the presence of foul areas or reefs and are covered with a growth of kelp.

Indicated heights (excluding heights transferred from the graphic control surveys) of rocks and pinnacles are estimated heights noted by the field inspector on the field photographs.

35. **Hydrographic Control:**

Signal sites indicated by name or an alphabetical letter and noted by a small black circle were located photogrammetrically. Those indicated by name and date, and noted by a small black circle, are plotted stations. In several instances where names had not been assigned by the field inspector to signal sites, except the descriptive name such as a white washed rock, an alphabetical letter was used.

The remaining topographic stations were transferred from the graphic control surveys and are noted by small red circles, except for the following two stations which were plotted (refer to Form M-2388-12 attached to this report): Pin and Abe. Although a geographic position was available for station Flat (position available from the same source as for stations Pin and Abe), it could not be held in the plot and the photogrammetric location was accepted.

44. **Comparison with Existing Topographic Quadrangles:**

The map manuscript (shoreline) was compared with USF quadrangle maps 2, 3, 4, and 6 of Amchitka Island. The general configurations of the shoreline, bluffs, and drainage were found to be in fair agreement. Offlying rocks and reefs are shown on the USE maps which are not found on the manuscript and vice versus.

Respectfully submitted: Approved by:

Charles Hanavich   _L C Lande_
Charles Hanavich   L. C. Lande

KISKA ISLAND, ALASKA
East Long.   Sheet 1 of 4

MAP T. 8632   PROJECT NO. GS-218   SCALE OF MAP 1:20,000   SCALE FACTOR

N.A. 1927 - DATUM

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE m.		DISTANCE FROM GRID IN FEET OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION Total	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	SCALE FACTOR / FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
ALE, 1947 (Elev.: 16')	ALASKA 416	N.A. 1927	51-52-34.096	30.907	1053.8	800.6	1854.4				
			177-12-29.080	19.130	556.3	591.5	1147.8				
JILLY HILL, 1947	416	"	51-52-47.604	30.907	1471.3	383.1	1854.4				
			177-12-39.470	19.129	755.0	392.7	1147.7				
LUPI, 1947	416	"	51-51-51.424	30.907	1589.4	265.0	1854.4				
			177-20-08.887	19.135	170.1	978.0	1148.1				
CORVI, 1947 (Topo, Sta. Ru. P. 118)	416	"	51-53-42.434	30.907	1311.5	542.9	1854.4				
			177-20-58.556	19.122	1119.7	27.6	1147.3				
THEO, 1947	417	"	51-49-46.571	30.907	1439.4	415.0	1854.4				
			177-19-37.368	19.151	715.6	433.4	1149.0				
BOX, 1947	417	"	51-53-59.396	30.907	1835.8	18.6	1854.4				
			177-21-04.605	19.120	88.0	1059.2	1147.2				
DAD, 1947	418	"	51-54-49.884	30.907	1541.8	312.6	1854.4				
			177-21-53.790	19.115	1028.2	118.7	1146.9				
HI, 1947 (Elev.: 1844')	418	"	51-56-57.51	30.907	1777.4	77.0	1854.4				
			177-22-01.56	19.099	29.8	1116.1	1145.9				
DOG, 1947	418	"	51-52-37.83	30.907	1169.2	685.2	1854.4				
			177-12-34.89	19.130	667.4	480.4	1147.8				
SHORAN EAST, 1947 (Elev.: 627')	419	"	51-53-40.972	30.907	1266.3	588.1	1854.4				
			177-13-16.735	19.123	320.0	827.4	1147.4				
SUS, 1945-1947	281	"	51-53-40.975	30.907	1266.4	588.0	1854.4				
			177-13-16.729	19.123	319.9	827.5	1147.4				
FAN, 1945	281	"	51-52-44.433	30.907	1373.3	481.1	1854.4				
			177-18-08.145	19.129	155.8	991.9	1147.7				

1 FT.=.3048006 METER
COMPUTED BY G. B. Willey 3/1/48   DATE Stations plotted by: C.H. 3/7/48   CHECKED BY C.H. & G.B.W.   DATE

M-2388-12

MAP T. 8632   KISKA   East. Long.   PROJECT NO. CS-218   SCALE OF MAP 1:20,000   SCALE FACTOR   N.A. 1927 - DATUM

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	one sec.	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS — FORWARD	DISTANCE ... — (BACK)	DATUM CORRECTION Total	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS — FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS — FORWARD	(BACK)
FENDER, 1945, '47	281	N.A. 1927	51-51-36.207 / 177-17-37.873	30.907 / 19.137	1119.0 / 724.8	735.4 / 423.4	1854.4 / 1148.2				
LOAD, 1945	281	"	51-54-12.093 / 177-20-11.569	30.907 / 19.118	373.8 / 221.2	1480.6 / 925.9	1854.4 / 1147.1				
SILO, 1945	266	"	52-01-07.614 / 177-32-36.665	30.908 / 19.070	235.3 / 699.2	1619.2 / 445.0	1854.5 / 1144.2				
BUN. 1948 Elev.: 87 feet	G-7853 2	"	52-00-11.994 / 177-28-39.475	30.908 / 19.077	370.7 / 753.1	1483.8 / 391.5	1854.5 / 1144.6				
TUNA, 1948 Elev.: 146 ft.	6	"	52-02-57.95 / 177-29-55.74	30.908 / 19.057	1791.1 / 1062.2	63.4 / 81.2	1854.5 / 1143.4				
RIDGE 2, 1944, '45 (USE)	Alaska V 264	"	51-57-23.349 / 177-38-01.504	30.908 / 19.096	721.7 / 28.7	1132.8 / 1117.1	1854.5 / 1145.8				
NORTH HEAD, 1904, '45	265	"	51-58-35.426 / 177-34-36.201	30.908 / 19.088	1094.9 / 691.0	759.5 / 454.3	1854.5 / 1145.3				
LEDGE, 1904, '45	265	"	51-57-25.745 / 177-34-01.290	30.908 / 19.096	795.7 / 24.6	1058.8 / 1121.2	1854.5 / 1145.8				
SHARP PEAK, 1948 Elev.: 250 ft.	G-7853 8	"	52-03-30.29 / 177-34-51.26	30.908 / 10.053	936.2 / 976.7	918.3 / 166.5	1854.5 / 1143.2				
AIR PHOTO CONTROL PT. A, 1948	8	"	52-03-16.12 / 177-36-14.40	30.908 / 19.051	1425.5 / 274.3	429.0 / 868.8	1854.5 / 1143.1				
AGE (USE), 1943, '45	1	"	52-00-32.432 / 177-35-25.680	30.908 / 19.074	1002.4 / 489.8	852.1 / 654.6	1854.5 / 1144.4				
ROB, 1948 Elev.: 353 ft.	2	"	52-02-53.304 / 177-30-54.500	30.908 / 19.058	1647.5 / 1038.7	207.0 / 104.8	1854.5 / 1143.5				

1 FT.=.3048006 METER

COMPUTED BY B. B. Wiley 3/1/49   DATE   Stations plotted by: C.H. 3/7/49   CHECKED BY C.H. & G.B.T.   DATE

M-2358-12

KISKA

East Long.

MAP T- 8632   PROJECT NO. CS-218   SCALE OF MAP 1:20,000   SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	one sec. m.	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION Total	N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	SCALE FACTOR FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
CONTROL TOWER, AIRFIELD, 1945	Alaska 266	N.A. 1927	51-59-32.557	30.908	1006.3	848.2	1854.5				
			177-33-27.460	19.081	524.0	620.9	1444.9				
RUST, 1948	C-7853 2	"	52-01-56.459	30.908	1745.0	109.5	1854.5				
			177-30-38.943	19.064	742.4	401.4	1143.8				
GERTRUDE COVE, STACK ON JAPANESE SHIP, 1947	Alaska 418	"	51-56-10.73		331.6	1522.8	1854.4				
			177-27-32.25		616.1	530.3	1446.4				
KISKA NORTH BASE 2, 1945	Alaska 265	"	51-58-30.132		931.3	923.1	1854.4				
			177-32-13.236		252.6	892.7	1445.3				
*PIN			51-57-55.976		1730.1	124.3	1854.4				
			177-20-32.708		624.5	521.0	1145.5				
*ABE			51-55-53.136		1642.2	212.2	1854.4				
			177-18-23.463		448.3	698.1	1146.4				

*Note: Positions obtained from the report on "Analytic Determination of Positions of Control Points, West Coast of Kiska Island, Aleutian Islands, 1947-1948".

Stations plotted by: C.H. 3/7/49

COMPUTED BY: U.B. Villey 2/25/49

CHECKED BY: C.H.   DATE

1 FT.=.304800 METER

M-2388-12

East. Long.

KISKA ISLAND

Sheet 4 of 4

MAP T- 8632 PROJECT NO. CS-218 SCALE OF MAP 1:20,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	SCALE FACTOR FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
Sub.Sta.ROB,1948 (Pt. B)			52-02	1642.1	212.4	1854.5				
			177-30	1045.3	98.1	1143.4				
Sub.Sta. ROB,1948 (Pt. A)			52-02	1653.7	200.8	1854.5				
			177-30	1128.7	14.7	1143.4				
Sub.Sta. IRK,1948			52.05	1125.4	729.1	1854.5				
			177-41	146.0	996.3	1142.3				
Sub.Sta. BUN,1948 (Pt. B)			52.00	380.9	1473.6	1854.5				
			177-28	824.6	320.1	1144.7				
Sub.Sta.AGE,1943 (Pt. A)			52.00	1024.3	830.2	1854.5				
			177-35	487.1	657.4	1144.5				
Sub.Sta.AGE,1943 (Pt. B)			52.00	1029.0	825.5	1854.5				
			177-35	483.3	661.2	1144.5				
Sub.StaSUS,1945			51.53	1263.3	591.1	1854.4				
			177-13	325.3	822.0	1147.3				
Sub.Sta.LEDGE, 1944			51.57	825.0	1029.5	1854.5				
			177-24	23.6	1122.1	1145.7				
Sub.Sta.RIDGE 2 (USE), 1944			51.57	724.5	1130.0	1854.5				
			177-38	26.2	1119.5	1145.7				

1 FT.=.304800G METER

COMPUTED BY C.H. 3/7/49 DATE Stations Plotted by: C.H. 3/7/49 CHECKED BY C.H. DATE

M-2388-12

T-8632.   Geographic Names.

Alaska
Aleutian Islands   Rat Islands
Kiska Island
Bering Sea*

Cape St. Stephen*
Dark Cove
Vega Point*
Vega Bay*
Sobaka Rock*
Corvie Bay
Gertrude Cove
Bukhti Point*
Jeff Cove
Mutt Cove

Names underlined in red are app-
roved.   2-15-52.
                    L. Heck

* signifies USBGN decision.

64. Comparison with Contemporary Hydrographic Surveys.-

H-7707, 1:20,000 scale, 1947-'49

T-8632 was used as a base for shoreline for hydrographic Survey H-7707. The position of hydrographic station FLAT as determined in the 1947-48 special report by F. B. T. Siems on "Analytic Determination of Position of Control Points from Sextant Cuts" was used on H-7707, while the radial plot located this station about 18 meters SE of the hydrographic position. However, this shift does not result in disagreement between the shoreline and the inshore hydrography. This Special Report is not available to this office at the time of Review, and it is hoped that this discrepancy can be resolved during the construction of the topographic maps of this island. The following stations listed in the body of this report as topographic stations are located with triangulation accuracy: Theo, 1947; Box, 1947; Dad, 1947, and Dog, 1947.

66. Adequacy of Results and Future Surveys.

T-8632 is considered adequate as a base for hydrographic Surveys and for nautical chart construction.

67. Supplemental Data.

Where the shoreline of the Graphic Control surveys was not in agreement with the shoreline as delineated from the aerial photographs, the photogrammetric shoreline was accepted. At the position of Lat. 51°-52.6' and Long. 177°-12.4'E, the shoreline as located on T-7117 (Graphic Control) 1:10,000 scale, 1948 and T-7119 (Graphic Control) 1:10,000 scale, 1948, did not junction properly. This point was noted "check discrepancy" on the manuscript, but was not changed during the hydrographic survey. This area was corrected to agree with the shoreline as it is seen on Photo No. 21194.

Reviewed by: G. B. Willey

Approved by:

_L C Lande_____
Chief, Review Section
Div. of Photogrammetry

_J Bull_____
Chief, Div. of Photogrammetry

_Max G Ricketts_____
Chief, Nautical Chart Branch
Division of Charts

_____
Chief, Division of Coastal
Surveys

T-8632 is now superseded by T-8635, T-8636, T-8638, T-8639 M Shiftler

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

USC&GSS EXPLORER
705 Federal Office Building
Seattle 4, Washington

13 February 1950

To: The Director
U.S. Coast & Geodetic Survey
Department of Commerce Building
Washington 25, D. C.

Subject: Discrepancies and additions Shoreline Manuscript T-8632
(Kiska Island)

There is transmitted under separate cover Shoreline Manu-
script T-8632 of Kiska Island.

Inshore hydrography along the northwest section of this
Island was completed during the past field season.

The discrepancies and additions shown in red on the manu-
script were obtained during the hydrographic survey. Since most of
these changes are dependent upon hydrographic positions the changes on
the manuscript should not be accepted until after the hydrographic smooth
sheet H-7707 has been verified.

Since this ship was only in this area from 29 - 31 August
1949 and all effort concentrated on the completion of hydrographic survey
no photogrammetric field surveys were made.

H. Arnold Karo, Comdr., C&GS
Commanding Ship EXPLORER

76 The manuscript referred to above is a verible
reproduction of the original manuscript and is filed
with the original manuscript.

As soon as the hydrographic sheet is
available please straighten out the small discrepancies
indicated so as to complete T 8632

Eccentric Station: Bun, 1918

d= 48.4 *meters*

Log *d*= 1. 68484

Colog sin 1"= 5 . 3 1 4 4 3

Sum = 6.99927

16—19440

STATION	s	LOG SIN s	Log s (s in meters)	Log (sin s / s)	LOGARITHM OF REDUCTION IN SECONDS	REDUCTION =c
	° '					"
Center	0 00					
ROB, 1918	141 27 06	9.795 10 4 78	3.744 06	6.046 24 92	3.045 31 4 89	+ 111 09
				m r. to ∝ (Bun to ROB) =		− 18' 30'
				∝ (Bun to Rob) = 207°18'		
						− 18'
				∝ (Ecc. Bun to Rob) = 207° 30'		
				∀ at ecc. sta = 141 = 27		
				∝ (Ecc. Bun to Bun) = 65 - 36		
				180		
				∝ (Bun to Ecc. Bun)= 245 - 36		
					Comp. C.N.	

INSTRUCTIONS

The required reduction to center is, in seconds, $c=\dfrac{d\sin a}{s\sin 1''}$, in which d is the distance from the eccentric station to the true station, and s is the length in meters of the line between the true stations involved, and, therefore, log s is taken directly from the computation of triangle-sides. a is the direction of the distant station involved, reckoned in a clockwise direction as usual, but referred to the direction from the eccentric to the true station, or center, taken as zero. This definition of a is true for the case in which the object pointed upon is eccentric, as well as for the case in which the instrument is eccentric.

Carry a to minutes only and all logarithms to five decimal places only. Do not in any case carry the derived reduction to more than two decimal places. There is no advantage in carrying them to more decimal places than the directions to which they are to be applied are carried on Form 24 A.

REDUCTIONS FOR AN ECCENTRIC INSTRUMENT

If the instrument is eccentric the first column of this form should contain the names of the stations observed from that eccentric position of the instrument.

The values in the fifth column are derived by subtracting those in the fourth column from those in the third. The values in the fourth column may need to be derived by successive approximations from the triangle-side computations if the eccentric reductions are large. The values in the sixth column are obtained from those in the fifth by adding log $\dfrac{d}{\sin 1''}$ derived as indicated in the heading of the form, if d is expressed in meters. If d is expressed in feet, to the other two logarithms add also 9.48402 to convert to meters. To obtain a direction as shown on Form 24 A, subtract the reduction c for the station which is the initial on Form 24 A from the reduction c for the required direction and apply the difference to the observed direction. Similarly, the correction to any angle is the difference of the reductions on this form to the two directions involved in that angle.

REDUCTIONS FOR AN ECCENTRIC OBJECT OBSERVED

If the object observed is eccentric the heading "Eccentric Station ——" should be changed to "Eccentric Observed Object at Station ——," the first column should contain the names of the stations from which this eccentric object was observed, and in each case a is the direction from the eccentric object to the distant station involved, reckoned in a clockwise direction as usual, but referred to the direction from the eccentric object to the true station, or center, taken as zero. (No distinction need be made between the direction from the eccentric object to the distant station and the direction from the true station to the distant station except when the eccentric reduction is more than one minute.) The remainder of the computation on this form is made in the manner indicated above with reference to an eccentric instrument. The reductions to directions are, however, to be applied to observed directions, at the stations named in the first column, to the eccentric object at the station named in the heading. The directions to which these reductions are to be applied are therefore found in various of the lists of directions on Form 24 A, not all in one list as is the case when the instrument is eccentric.

REDUCTION TO CENTER

Eccentric Station: Chase.

$d = 10.987$ *meters*

Log $d=1.04088$
Colog sin $1''=5.31443$
Sum$=6.35531$

STATION	a	LOG SIN a	LOG s (s in meters)	LOG $\left(\dfrac{\sin a}{s}\right)$	LOGARITHM OF REDUCTION IN SECONDS	REDUCTION $=c$
	° ′					″
Center	0 00					
Bossing	179 18	8.08696	4.49198	3.59498	9.95029	+ 0.89
Central	224 27	9.84528	4.40254	5.44274	1.79805	− 62.81
Little River	242 47	9.94904	4.51928	5.42976	1.78507	− 60.96
Lyons, salt works	249 02	9.97025	4.30616	5.66409	2.01940	−104.57

$\cos 10^{-\phi} \cdot \phi = 7.903\ 20$

$\log 30.2m = 1.480\ 01$

$\ast\ 1.463\ 21 = 29.0$

FIRST ANGLE OF TRIANGLE

	°	′	″			°	′	″
α	2	to 8			8 Ecc Bun to 2 Bun		65	36
2d ∠	+				&	+224	01	
α	2 Bun to 1 Ecc Bun	245	36		8 to 1 rub sta B	789	37	
Δα			00.0					00.0
α′	1 Ecc Bun to 2 Bun	65	36		1 to 8	180	00	

	°	′	″			°	′	″
φ	52	00		2 Bun	λ	177	18	
Δφ		181.4 m		Δλ				
φ′	52	00	1 Ecc Bun	λ′	177	28	
					8 Ecc Bun	λ	177	28
					Δλ			
					λ′	177	28

Values in seconds

370.7
+ 20.0
390.7 m

753.1
+ 44.1
797.2 m

	Logarithms		Logarithms
s	1.604 84	½(φ+φ′)	
Cos α	9.616 06	s	1.604 84
B		Sin α	9.959 37
h	1.300 90	1st term	
s²		A′	
Sin² α		Sec φ′	
C		Δλ	1.644 21
		2d term	+
h²			
D		3d term	+
	3d term +	−Δφ	− 1.300 90

Values in seconds

389.7 m
− 9.8
380.9 m

797.2 m
− 17.x
824.6 m

	Logarithms		Logarithms
s	1.463 21	½(φ+φ′)	
Cos α	9.525 98	s	1.463 21
B		Sin α	8.974 03
h	0.989 19	1st term	
s²		A′	
Sin² α		Sec φ′	
C		Δλ	1.437 24
		2d term +	
h²			
D		3d term +	
		−Δφ	+ 0.989 19

Comp. C. H.
Ck'd   2MiL.

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

FIRST ANGLE OF TRIANGLE

		°	'	''
α	Azₑ to 3	∠/H/∠	312	19
2d ∠	&		+220	09
α	'' to 1	Pt A	172	52
Δα				
α'	to 2		180 00	00.0

		°	'	''
φ	52	00	Az₂(WE)1943	λ	177	35
Δφ			Δλ	
φ'	52	00	λ'	177	35

Sub. Sta. 180° 1943 (Pt A)

	Logarithms	Values in seconds
s	1.363 23	1002.4 m + 21.9 1026.3 m
Cos α	9.996 72	
B		1st term
h	1.339 95	
a²		
Sin²α		nota I EA
C	0.431 18	2d term +
h³		
D		3d term + -1.33995
		-Δφ

		°	'	''
α	Azₑ to 3	∠/H/∠	213	19
3d ∠	&		+213	32
α	'' to 1	Pt B	166	51
Δα				
α'	to 3		180 00	00.0

		°	'	''
φ	52	00	Az₂(WE) 1943	λ	177	35
Δφ			Δλ	
φ'	52	00	λ'	177	35

Sub. Sta. 180° 1943 (Pt B)

	Logarithms	Values in seconds
s	1.437 57	1002.4 m + 26. c 1029.0 m
Cos α	9.787 56	
B		1st term
h	1.425 13	
a²		
Sin²α		nota I EA
C	0.810 46	2d term +
h³		
D		3d term + -1.425 13
		-Δφ

	Logarithms	Values in seconds
½(φ+φ')		
s		
Sin α		
A'		
Sec φ'		
Δλ		
Sin ½(φ+φ')		
-Δα		