9302 9303

9303

9302

Diag. Cht. No. 8556-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. Ph-14 (49) Office No. T-9302 T-9303

LOCALITY

State Alaska

General locality South Coast Alaska Peninsula Opposite Kodiak Island

Locality KIKAK BAY

194 9

CHIEF OF PARTY

John Bowie Jr, Chief of Party

Division of Photogrammetry, Wash, D.C.

8-1870-1 (1)

DATA RECORD

T- 9302, 9303, ~~9805~~

Project No. (II): Ph-44(49) (CS-338)

Quadrangle Name (IV): 9302 = HEAD OF KUKAK BAY
9303 = KUKAK BAY ENTRANCE
~~9805 = CAPES KULIAK AND ATUSHAGVIK~~

Field Office (II): USC&GS Ship LESTER JONES

Chief of Party: John Bowie Jr.

Photogrammetric Office (III): Baltimore, Md.
Washington, D.C.

Officer-in-Charge: Hubert A. Paton
Louis J. Reed, Chief, Stereoscopic Mapping Section

Copy filed in Division of Photogrammetry (IV)

Instructions dated (II) (III):

II 24 Mar 49
II 19 Aug 49, Ltr 711-rs
III Verbal

Method of Compilation (III): Reading Plotter

Manuscript Scale (III): 1:20,000

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

Scale Factor (III): 1:1

Date received in Washington Office (IV): 5-22-51

Date reported to Nautical Chart Branch (IV): 5-29-51

Applied to Chart No.

Date:

Date registered (IV): 12-14-54

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
Shoreline at MHW.

Reference Station (III):

Lat.:

Long.:

Adjusted

~~Unadjusted~~

Plane Coordinates (IV):

State: Alaska

Zone: 5

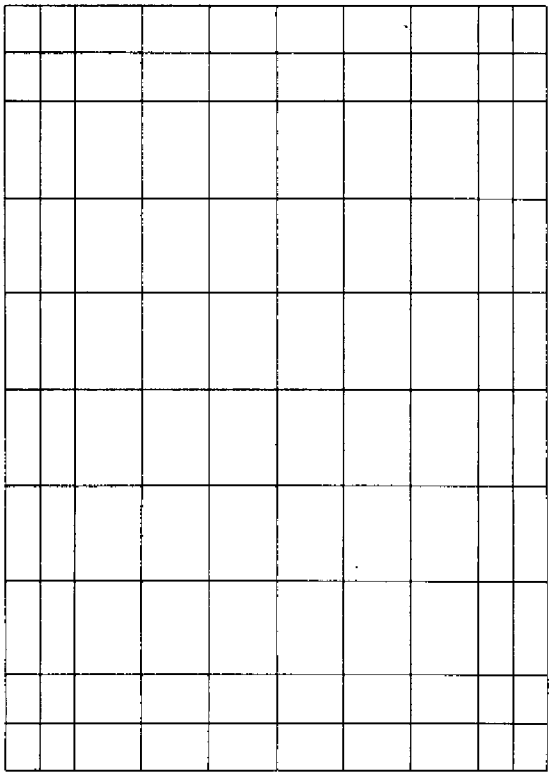
Y=

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.

M-2618-12(4)



Areas contoured by various personnel
(Show name within area)
(III)

100% by Clarence E. Misfeldt

DATA RECORD

Field Inspection by (II): John Bowie Jr. Date: 13 Sep 49

Planetable contouring by (II): None Date: —

Completion Surveys by (II): None Date: —

Mean High Water Location (III) (State date and method of location): 1949 = Field; 1951 = Inst.
The major portion of the shoreline on these two sheets was established in 1949 by field inspection in conjunction with graphic control surveys. This comprised the MHWL between Capes Nukshak and Ugyak. The balance is instrument delineation.

Projection and Grids ruled by (IV): Ruling Machine Date: 14 Jan 51
(manuscripts)

Projection and Grids checked by (IV): Theodore L. Janson Date: 14 Jan 51

Control plotted by (III): Date:
Base sheets = M.F.Kirk 14 Jun 50
Manuscripts = Robert L. Sugden 20 Jan 51

Control checked by (III): Date:
Base Sheets = R. Glaser 19 Jan 50
Manuscripts = John B. McDonald 20 Jan 51

Radial Plot or ~~Stereoscopic Control extension~~ by (III): Frank J. Tarza Date: 29 Jun 50

Stereoscopic ~~Instrument~~ delineation by Planimetry and Contours (III): Clarence E. Misfeldt Date: 4/Apr 51 Date:

Manuscript delineated by (III): Robert L. Sugden Date: 27 Apr 51

Photogrammetric Office Review by (III): Louis J. Reed Date: 31 MAY 51

Elevations on Manuscript checked by (III): Louis J. Reed Date: 31 MAY 51

Camera (kind or source) (III): USC&GC,9-lens,model B, f=8.25 inches

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
24938 thru 24957	3 Aug 49	13:30	1:20,000	~~MLW or~~ 8' below MHHW
24963 thru 24974	3 Aug 49	14:05	1:20,000	~~MLW or~~ 8' below MHHW

Tide data furnished by Mr Wilcox of Tides & Currents, 26 Dec 50, as calculated from staff readings taken in area at about the time the photographs were exposed.
LJR

Tide (III)

Ratio of Ranges	Mean Range	Diurnal ~~Spring~~ Range
—	6.6	8.5
	12.5	

Reference Station: Kodiak
Subordinate Station: Kukak Bay
Subordinate Station: Aquligik Island

Washington Office Review by (IV): {G. B. Willey T-9303 Date: Mar 7, 1952
L. Martin Gaxiola} L.M.G. T-9302 Date: Oct 27, 1952
Aug 5, 1953

Final Drafting by (IV): E B Hunter Date: 1-22-54

Drafting verified for reproduction by (IV): W.O. Hallum Date: 1-8-54

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): See remarks below
Shoreline (More than 200 meters to opposite shore) (III): See remarks below
Shoreline (Less than 200 meters to opposite shore) (III): None
Control Leveling - Miles (II): none
Number of Triangulation Stations searched for (II): 3 Recovered: 3 Identified: 3
Number of BMs searched for (II): None Recovered: Identified:
Number of Recoverable Photo Stations established (III): None
Number of Temporary Photo Hydro Stations established (III): None

Remarks:

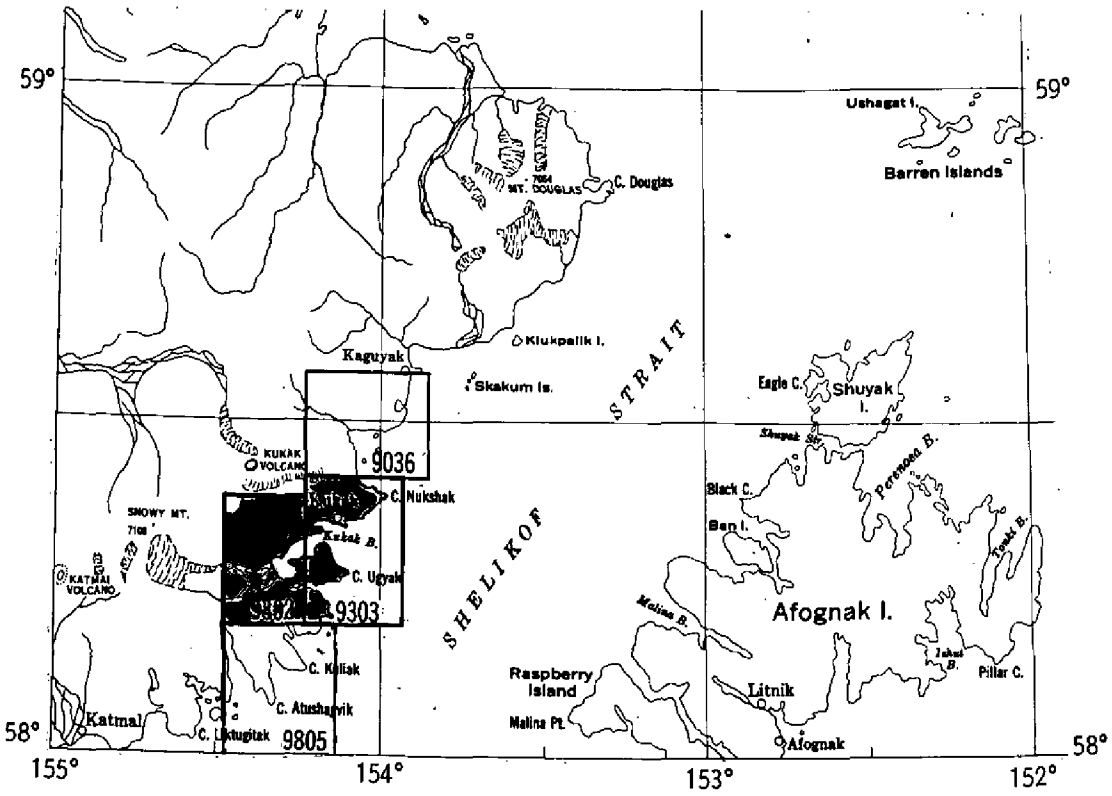
	T-9302	T-9303
Land area =	94 sq mi	57 sq mi
Shoreline =	22 miles	68 miles

TOPOGRAPHIC MAPPING PROJECT

PH-44 (49)

ALASKA, Gulf of Alaska

Kukak Bay



Summary to Accompany T-9302 and T-9303

Topographic maps T-9302 and T-9303 are two of a group of four similar maps in project Ph-44(49). T-9302 and T-9303 cover Kukak Bay and Shelikof Strait, Alaska Peninsula. T-9302 from latitude 58°12' to 58°22' and longitude 154°15' to 154°30'. T-9303 from latitude 58°12' to 58°24' and longitude 153°57' to 154°15'.

The field operations preceding compilation included field inspection of shoreline and recovery and establishment of horizontal and vertical control.

These maps were compiled in the Washington Office on the Reading Plotter from rectified nine-lens photographs using a contour interval of 100 feet and occasionally supplemented by a contour interval of 50 feet. The first 50 foot supplemental contour has been shown almost completely. The manuscripts were compiled on vinylite ruled with a polyconic projection at 1:20,000 scale on the N. A. 1927 Datum. A military grid, 2500 meter universal transverse mercator, was ruled on each manuscript.

A single descriptive report was prepared for this series of two topographic maps. Material relative to these maps will be filed as follows:

1. Division of Photogrammetry General Files

    a. Map manuscriptsT-9302 and T-9303.

2. Bureau Archives

    a. Combined Descriptive Report for T-9302 and T-9303

    b. Cloth-backed lithographic print of T-9302 and T-9303 at manuscript scale.

2. Areal field inspection

The area generally is mountainous with many sections of rugged shoreline composed of large rock segments which have broken away from the cliffs close at hand. In other sections, the shore is composed of rather large smooth boulders, gravel, and a few intermittent sand beaches. At the south end of Kukak Bay large glacier streams have deposited material to make a low flat mud and sand area which at low tide drains off to extend about a mile beyond the high water line. For the most part the hills and mountains rise abruptly from the shore except that in the glacier stream areas the land slopes more gently to the mountains several miles inshore.

A heavy growth of alder and grass covers most of the area up to about the 1000 foot level. Beyond that there is only scattered alder and the grass growth terminates at about 1500 feet.

The East-West mountain ridge extending west from Cape Nukshak has a moderate slope on the south side but drops off with a sheer cliff on the north side. Along the western shore of the bay the lesser bare rock mountain range in the foreground is spearated from the next inshore higher range by a deep gorge or chasm. The higher peaks in the background have some snow on them thruout the year. A steep glacier wall about 1000 feet high can be seen from seaward just below Kukak Volcano.

Thruout the area ~~there~~ are numerous odd shaped patches of volcanic sand prosumably deposited during the 1912 eruption of Mt. Katmai. This sand is whitish in color and fine in texture. On the photographs it appears like snow.

Only trimetrogon photographs were available for field inspection at the beginning of the season. On 3 August 1949 nine-lens photographs were taken and prints became available to the field party in the early part of September. Some field inspection and control identification had been accomplished on the trimetrogon photographs but subsequently all of the information was transferred to the nine-lens prints.

The trimetrogon and nine-lens photographs when used in the field were covered with a sheet of Kodatrace cut to fit the trimmed photographs with enough overlap for securing over the ends with scotch tape. All field notes were made on the kodatrace overlay and later transferred to the photograph.

In the field one end of the kodatrace was freed and the photograph consulted direct before the notes were made on the overlay. No difficulty was experienced in resolving the notes at a later date. It is believed that more notes can be made easier this way as long leaders can be utilized in crowded areas without cluttering up the photograph.

The quality of the nine-lens photographs was excellent. Field inspection was accomplished using a 20 foot dory with an improvised table board set across the gunwales about midships. A canvas dodger served to keep most of the spray off the photographs. The dory was powered with an outboard motor and beach landings were made as necessary for measurements

and closer inspection. About half of the field inspection was accomplished while running between points during the graphic control surveys. A red lead pencil was found best for making the notes on the blue appearing Kodatrace.

It was impossible to use a mirror stereoscope in the dory and the small pocket simple lens type was resorted to. At that it was impossible to use the small stereoscope on the large nine-lens prints. More success was experienced when using the trimetrogon prints. At the first opportunity marked points were verified with the mirror stereoscope aboard the LESTER JONES.

A complete topographic survey was made of Cannery Passage obviating the need for photo inspection. See Descriptive Report, Sheet LJ-D-49.

3. Horizontal control

Prior to the nine-lens photography of 3 August 1949 all of the main scheme triangulation stations except UGYAK, YUGNAT, and OTTO were marked on the ground with either white cloth squares, 10 feet on a side, or by whitewash. Also, most all of the hydrographic signals (located by graphic control) had been whitewashed. As a consequence practically all of the shoreside horizontal control has been identified positively by locating the white images on the nine-lens prints. Of these stations marked prior to photography only OZONE, MAIN, DIKE, and BRUCE could not be marked directly. However, the last three named stations have substitute stations for identification. The bulk of the topographic stations were identified with the aid of the whitewash images.

Interior control stations were established by theodolite intersection. Most of these peaks have been identified and marked direct.

(a) List of Supplemental control established by plane table graphic control survey:

Station Name 1949	Graphic Control Sheet	Marked on Photograph
ABE	(LJ-A-49) T-7173a	24949
AID		24947
CAB		24947
DOT		24949
END		24949
FIT		24948
LET		24948
TENT		24946
TUB	(LJ-A-49) T-7173a	24947

Station Name 1949	Graphic Control Sheet	Marked on Photograph
ARM	(LJ-B-49) T-7173b	24945
BUB		24945
BUT		24944
DEB		24945
DUO		24945
EGG		24951
FOG		24945
JOE		24951
KIL		24951
LAND – Topo station – see Form 524, T-7173b.		24951
OUT		24951
STY		24951
TOP		24951
RUM	(LJ-B-49) T-7173b	24944
BAD	(LJ-C-49) T-7060a	24952
DON		24942
FLY		24952
JAW		24942
HOP		24952
SKI		24952
TOM	(LJ-C-49) T-7060a	24951
BAR	(LJ-D-49 LJ-D-49) T-7060b	24951
ROY		24951

(b) No datum adjustment made by field party.

(c) All control established by C. & G. Survey.

(d) All stations required recovered and positively identified.

(e) No 'lost' stations.

(f) Practically all of the identification was positive.

4. Vertical control

During the observations for triangulation horizontal control, vertical control was established by measuring double zenith distances between main scheme stations and to all of the intersected mountain peaks. However, it was deemed more expedient to determine the elevation of some of the main scheme stations particularly in the south end of the bay, by plane table. Additional checked spot points on the lower hills were determined by plane table. Most of the intersected peaks will serve as both horizontal and vertical control. There are no bench marks for the establishment of level lines in this area.

Of the near peaks located only 'D' and 'J' were not identified on the field photographs. These two peaks and the inner ridge of peaks from Devils Desk thru Mt. Denison are not covered in the nine-lens photography.

However, these peaks have been indicated on several of the oblique trimetrogon photographs. On these they show as profile similar to a horizontal photograph.

5. Contours and drainage

There was no planetable contouring on this project.

6. Woodland cover

A very few evergreen trees are scattered about the area and there is a small stand of cottonwood trees just southeast of Apuligik Island on the mainland.

7. Shoreline and alongshore features

(a) In many areas of the photographs the mean high water line is not easily distinguished. The numerous short dashes appearing on the photographs are in most cases the result of an estimation in the field while cruising along the shore. Refer to graphic control sheets of this project for sections of mean high water line.

(b) No lower low water line is indicated on the field photographs. The graphic control and hydrographic surveys of this same project delineate these features.

(c) The legend 'broken rock' has been used often in the field inspection notes. This type of shore is composed of jagged rock sections of moderate size which have fallen away from the nearby cliff. These rocks lie on the surface in contrast to other sections of shoreline where the rock is outcrop.

(d) In most cases the elevations of bluff have been estimated and refer to the approximate height of an overhanging or steep bluff just back of the mean high water line.

(e) The only wharf in the area is that belonging to the Mainland Fisheries at the north end of Cannery Passage. This wharf is to be enlarged sometime in the future although it only is of semi-permanent nature being erected on set piles.

(f) There are no submarine cables in this area.

(g) The two twin black tanks shown on topographic sheet LJ-D-49 are small and of no importance as they sit upon a hillside and are not conspicuous.

8. Offshore features

A great many of the offshore high water rocks have been surveyed on the graphic control sheets. Others have been indicated on the field photographs.

Limits of foul areas and some lower low water line were surveyed on the graphic control sheets. The remainder of the lower low water line has been defined by the hydrographic survey.

All of the offlying and important reefs were surveyed either by plane table, or sextant and plotted on the hydrographic sheet. On some of the photographs, reefs have been noted but only for identification and the field inspection is not complete or necessary because of contemporary surveys. For those reefs close inshore no attempt was made to refer them to the datum plane. Where the note on the photograph simply says 'reef' and is not surveyed otherwise it indicates a reef awash at some stage of the tide but not baring at high water. Usually these reefs are very rough and only the note 'bare at MLLW' would apply. The above would also apply to rocky ledges where there are no further notes.

9. Landmarks and aids

Landmarks and aids are covered in the Report of Landmarks for Charts, Form 567 for this project and the report on the graphic control survey. Chart Letter 72 (1950) Nant. Ch. Br.

10. Boundaries, monuments, and lines

This area is within the boundary of the Katmai National Monument.

11. Other control

Only one recoverable topographic station (LAND) was necessary to supplement the triangulation control.

12. Other interior features

There are no other interior features already not noted.

13. Geographic names

The special report on geographic names will be submitted with the records of this survey.

14. Special reports and supplemental data

All of the following reports and data refer to the survey operations of the LESTER JONES in Kukak Bay during 1949:

Title	When submitted
a. Season's Report	About 16 January 1950
b. Triangulation Report	" " " "
c. Descriptive Report, hydrographic sheets LJ-2149 and LJ-1149	" " " "
d. Descriptive Report, graphic control sheets LJ-A-49, LJ-B-49 and LJ-C-49	" " " "
e. Descriptive Report, topographic sheet LJ-D-49	" " " "
f. Landmarks for Charts, Form 567	" " " "
g. Coast Pilot Report	10 November 1949
h. Chart letter	10 November 1949
i. Information for Notices to Mariners	10 November 1949
j. Geographic Names Report	About 16 January 1950
k. Special Pictorial Report	About 20 January 1950
l. Abstract of elevations, Main Scheme Stations	~~With this report~~ Geodesy
m. Abstract of elevations, Mountains and Peaks	~~With this report~~ Geodesy
n. Horizontal K-20 photographs showing mountain peaks	About 20 January 1950

15. Photograph list

(a) All field inspection notes will be found on the following list of nine-lens prints:

24939
24942 - 24949 inclusive
24951 - 24954 "
24956
24967
24973

(b) Supplemental and duplicate field inspection notes will be found on the following list of trimetrogon prints:

103V	477-VT
104V	477-LT
190RT	479-VT
458VT	479-LT
462VT	481-VT
463VT	481-RT

Approved and Forwarded,
Date: 1/14/50 Place: Seattle, Wn.

John Bowie, Jr.
JOHN BOWIE, JR.,
COMDR., C&GS
COMDG., SHIP LESTER JONES

Respectfully submitted,

Harold J. Seaborg
HAROLD J. SEABORG
LIEUT. COMDR., C&GS

PHOTOGRAMMETRIC PLOT REPORT

Project Ph-44(49)

~~Surveys T-9302 and T-9303~~

21. AREA COVERED

This radial plot covers the areas of topographic surveys Nos. T-9302 and T-9303 and a part of Surveys ~~T-9497~~ T-9805 and T-9036, into which the radial plot was extended as far as photographic coverage was available. This area includes all of Kukak Bay and shoreline between Cape Nukshak and Cape Kuliak, along Shelikof Strait opposite Kodiak Island, Alaska.

22. METHOD-RADIAL PLOT

MAP MANUSCRIPTS - Vinylite base sheets, with polyconic projections ruled at a scale of 1:20,000, were furnished by the Washington Office. No map manuscripts were needed. All control stations were plotted on the base sheets using beam compass and meter bar. The two substitute stations were plotted using a steel protractor.

A sketch showing layout of surveys and distribution of control and photograph centers is attached to this report, page 18.

PHOTOGRAPHS - Thirty-two (32) metal-mounted, nine-lens photographs, taken with the U.S.C.& G.S. nine-lens camera, focal length 8¼ inches, were used in this radial plot. They were printed at a scale of 1:20,000 and are numbered as follows:

24938 to 24957 incl.
24963 to 24974 incl.

The symbols used on photographs were given in special instructions for projects in which the nine-lens plotter is used and do not follow standard instructions. A 4 mm circle is used to designate control stations and pass points and both 4 mm and 6 mm circles for photograph centers. A 3mm circle is used for positions on templets and base sheets.

TEMPLETS - Vinylite templets were made of all photographs using a master templet to adjust for errors resulting from paper distortion and chamber displacements during printing.

CLOSURE AND ADJUSTMENT TO CONTROL

A preliminary plot was first constructed to determine the relative amount of tilt in the photographs. The tilt was observed by noting the displacements of image points of shoreline pass points and low control stations. The image points were represented on the templets by small red dots near the radial lines. The templets were arranged in groups having the same apparent amount of tilt. Except in the southerly flight, Nos. 24970 to 24974, there were no badly tilted photographs found. Since there was sufficient control in the Kukak Bay area so that any templet could be laid individually, the radial plot was begun in this area with

the eastern halves of the two northerly flights. The most nearly vertical templets were laid first, then slightly tilted templets next. Those with most tilt were laid last on top. There was no difficulty in constructing the plot in the Kukak Bay area.

The western half of Survey T-9302 had no control, except two high peaks which are suitable for vertical control only. Before the radial plot was extended across this area, the third flight, Nos. 24963 to 24969, was laid. Although there are only two control stations south of Cape Ugyak, one at Cape Gull and one at Cape Kuliak, the irregular shoreline allowed the selection of many shoreline pass points. With these two stations, GULL, 1908 and KULIAK, 1908, and pass points from Kukak Bay photographs, a good plot was easily constructed with this third flight. The radial plot was then extended west across Survey T-9302 beyond the control in Kukak Bay. After considerable adjustment a fair radial plot was obtained but the two peaks were not held. The error was about 1.5 mm on each. This could be due to a combination of weak position, inaccurate identification and lateral displacements due to tilting which made it impossible to establish good intersections on the radial lines on these high points.

The most southerly flight was laid last since these photographs are half, or more, water areas. They were found to be considerably or badly tilted and did not add anything of value to the radial plot.

TRANSFER OF POINTS - The completed radial plot was placed on a light table and the positions of all points, including control and centers, were pricked on the top templets. These points were circled with a 3 mm. blue circle. The positions were then established on all templets and on base sheets by drilling down through to the base sheets with a small jeweler's drill (.013 inch diameter). All points were circled on each templet before removal from the plot and also circled on the base sheet with 3 mm circle.

23. ADEQUACY OF CONTROL

There was abundant control in the Kukak Bay area, from Nukshak Point to Cape Ugyak. South of Cape Ugyak there are only two control stations, GULL, 1908 and KULIAK, 1908. But it is believed that a good radial plot was obtained along shoreline and all points to Cape Kuliak are within required accuracy for shoreline delineation. In the western half of Survey T-9302, the radial plot was extended beyond control. PEAK C, 1949 and PEAK Z, 1949, are near the western edge but cannot be relied on for horizontal control due to weak position and high elevation. (Peak C is nearly a mile high). A fair radial plot was obtained after considerable adjustment and pass points in the western edge of Survey T-9302 are believed to be within 1 mm of their correct position.

There was only one horizontal control station, JONES, 1949, (except for some peaks) which could not be held in the radial plot as originally identified. The radially-plotted position was about 7 mm south of the geographic position. It was misidentified in the field. The point

identified was probably a rock outcrop which shows as a white spot. The station was marked with white cloth 10 feet square prior to photography. After the radially-plotted position was obtained, this white spot was readily identified at the geographic position when re-examined with a stereoscope.

The following peaks could not be held as originally pricked on the office photographs:

PEAK G, 1949 - radially - plotted position falls 1.2 mm southeast of geographic position. It was repricked on another high point at the correct position. T-9303

PEAK W, 1949 - radially-plotted position falls 1.0 mm west of geographic position. This is a ridge with several high points of equal elevation. It was pricked same as field identification. The correct point was repricked on the photographs. T-9307

PEAK L, 1949 - radially-plotted position falls about 1.0 mm southwest of geographic position. No good reason was found for this discrepancy. Re-examination failed to reveal a definite high point at the true position. A good definite intersection of radial lines was not obtained due to some tilt in the photographs. T-9303

PEAK U, 1949 - radially-plotted position falls 1.5 mm north of the geographic position. This is a definite sharp peak and cannot be repricked. ~~There is probably some error in the position of the station.~~ A good intersection of radial lines was obtained. T-9307

PEAK C, 1949 - radially-plotted position falls about 1.5 mm east of geographic position. Due to tilt in photographs and its elevation of almost a mile, no definite intersection of radials was obtained. ~~The geographic position is probably in error also.~~ It could not be repricked to improve the position. T-9307

PEAK Z, 1949 - radially-plotted position falls about 1.5 mm north of the geographic position. It was identified in the field on another peak about a mile to the west. By coincidence, a peak selected as a pass point in the office is PEAK Z, 1949. This, as with PEAK C, is probably an error due to weak position and tilt. T-9307

When control stations were repricked, they were marked on the photographs with a 4 mm blue circle.

24. SUPPLEMENTARY DATA

There were four graphic control surveys available in the Kukak Bay area, T-7123a and T-7123b at a scale of 1:20,000 and T-7060a and T-7060b at a scale of 1:10,000.

Thirty-one hydrographic signals and one recoverable topographic station (LAND, 1944) were identified on the photographs. The positions for these were transferred from the 1:20,000 graphic control sheets to the base sheets for a comparison with the radial plot. They were not used as control for the radial plot. Where the discrepancy was less than 0.5 mm no

attempt was made to find the reason. Two signals were in error by 1 mm or more. TENT, 1949, falls about 1.5 mm west of the graphic control survey position. Since identification is positive and position falls in water there must be an error on the graphic control sheet. This signal is about 500 meters from station KUKAK, 1949.

END, 1949 falls about 1.0 mm east of graphic control survey position. Identification is difficult and indefinite. This could be due to identification on the photographs. It was pricked same as on field photograph.

The radially-plotted positions of all hydrographic signals were marked on the base sheets by a 3 mm blue circle whether or not they agreed with graphic control survey locations, which are circled with small (about 1 mm) red circles.

25. PHOTOGRAPHY

Photographic coverage was adequate and definition was very good. Except in the most southerly flight, (Nos. 24970 to 24974) there were no badly tilted photographs. Most photographs appeared nearly vertical and those which were tilted most are probably of less than one degree of tilt. They were better than photographs previously used in this type of terrain. The southerly flight appeared to have considerable tilt but they were mostly in water areas and did not affect the radial plot north of Cape Kuliak. They could have been disregarded for this radial plot. No tilt determination was made. These tilted photographs may be used in studying shoreline details between Cape Kuliak and Cape Gull in case delineation of this area is made but it is recommended that they not be used in establishing positions of shoreline detail since it is unlikely that an accurate rectification could be made.

26. Prior to photography, the triangulation stations in this area were marked by 10 foot squares of white cloth. These appeared as small white spots on the photographs and pricking of control was a simple but accurate process. The saving in time of pricking control is probably 75% or more since usually it involves considerable stereoscopic study in this rough terrain. There is further saving in time, which cannot be estimated, in laying the plot since pricking is positive and can be held without question unless misidentified as was JONES, 1949 in this project. There would be considerable saving in field work also, since one man could do the identification and also eliminate establishing substitute stations. The necessary field party which searches for and recovers stations could mark stations. There is additional time saved in computing and plotting substitute stations in the office. It is also quite likely that a more accurate radial plot results from this method of identification. The marking of control prior to photography is highly recommended, particularly in rough and undeveloped areas such as Alaska.

Respectfully submitted
27 June 1950

Frank J. Tarcza
Frank J. Tarcza
Cartographic Engineer

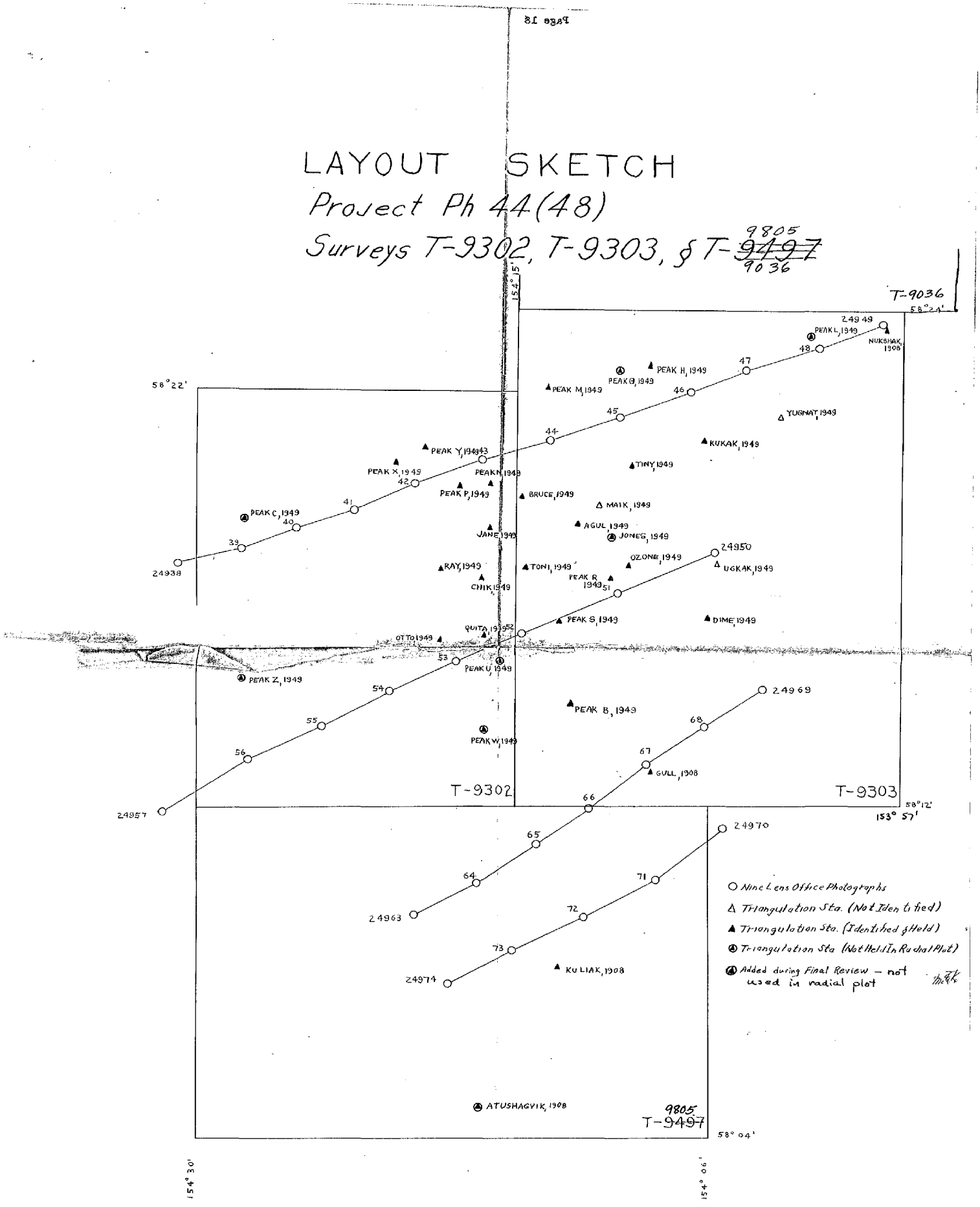
Approved and forwarded

Hubert A. Paton
Hubert A. Paton
Comdr., USC&GS
Officer in Charge

LAYOUT SKETCH

Project Ph 44(48)

Surveys T-9302, T-9303, & T-~~9497~~ 9805 9036



○ Nine Lens Office Photographs

△ Triangulation Sta. (Not Identified)

▲ Triangulation Sta. (Identified & Held)

◉ Triangulation Sta (Not Held In Radial Plot)

◉ Added during Final Review – not used in radial plot

COMPILATION REPORT

31. Delineation:

Topographic compilation on the two manuscripts of this report was delineated on the Reading Plotter, Model "A", using metal-mounted 9-lens photographs. 1949 field inspection was used as a guide in mapping the high water line and offshore detail. The field inspection was complete from Cape Nukshak on the north to Cape Ugyak on the south. The shoreline was completed to the north and south of this section by instrument delineation.

The land area of T-9303 was mapped in its entirety, but a portion of T-9302 has not been completed due to a lack of photograph coverage and necessary control in the area. The mapped areas have been indicated in red on the Map Layout Sketch, page 5, this report.

32. Control:

Reference side-headings 3, 4, and 23, where both horizontal and vertical control are discussed at length.

All triangulation stations were transferred to the manuscripts from the base sheets used in laying the radial plot. These positions were then checked against their geogra phic positions and made to agree perfectly.

Graphic control points were also transferred from the base sheets to which they had been copied from the field survey sheets. An attempt was made to hold all of them during compilation, but two did not agree with surrounding stations and have been shifted slightly to new positions; the two stations were TOM, 1949, and END, 1949.

Both graphic control and triangulation stations are shown on the manuscripts in proper symbols and names.

The principal source of vertical control for contouring purposes was furnished by the MHW line converted to MSL. Additional points of elevation were supplied on some of the triangulation stations, peak stations especially. A majority of these peak stations were ~~not~~ held in horizontal position during the radial plot, ~~but~~ and the elevations given for all of them were held during the compilation. More area could have been contoured if more peaks had been positively identified; several additional elevations would have made it possible to have made use of existing photograph coverage.

33. Supplemental Data:

Nothing can be added here to supplement side-headings 14 and 24 of this report.

34. Contours and Drainage:

Photograph quality could have been better; over-exposure of the film resulted in deep shadows in which contouring was difficult. Further, considerable snow existed in the elevated areas, and this added to the contouring problems of the instrument operator. Attention toward improving these conditions would not only tend to increase the efficiency of the instrument compiler, and the accuracy of his product, but might mean making it possible to work certain areas which otherwise might have to be left blank.

35. Shoreline and Alongshore Details:

Field inspection was adequate and is reflected in the shoreline compiled on the manuscripts. More detailed inspection is desirable but it is realized that the rugged nature of this area has prevented such quality.

The low-water line is not complete but has been shown where indicated by field inspection. Low-water and shoal lines beyond the limits of inspection are instrument delineated.

36. Offshore details:

There is nothing unusual to report here.

37. Landmarks and Aids:

Reference chart letter No 72, 1950, filed in Nautical Charts Division, Washington Office. This is the report of Landmarks mentioned in side-heading 9 of this report.

38. Control for Future Surveys:

No additional topo or photo-hydro stations were established during instrument compilation.

39. Junctions:

Junctions are in agreement.

40. Horizontal and Vertical Accuracy:

Standard. See Item 67 of the Review Report, p. 27.

46. Comparison with Existing Maps:

USGS, KAMISHAK BAY - KATMAI REGION, ALASKA, Alaska Map 16, 1:250,000, 1938, 200 ft contour interval.

47. Comparison with Nautical Charts:

USC&GS, Alaska - South Coast, KODIAK ISLAND, No 8556, 1:350,000, Feb 1938(1st Edition), last correction date Of 28 August 1950.

48. Geographic Name List:

See separate sheet following.

49. Notes for the Hydrographer:

None.

50. Compilation Office Review:

See separate form following.

Submitted by:

Orvis N. Dalbey

Orvis N. Dalbey,
Cartographer-Photogrammetric

Approved and Forwarded by:

Louis J. Reed

Louis J. Reed, CAPT
Stereoscopic Mapping Section
Photogrammetric Engineer

Form T-2

PHOTOGRAMMETRIC OFFICE REVIEW

T- 9302 & 9303

1. Projection and grids ✓ 2. Title ✓ 3. Manuscript numbers ✓ 4. Manuscript size ✓

CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy ✓ 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) ✓ 7. Photo hydro stations N 8. Bench marks N

9. Plotting of sextant fixes N 10. Photogrammetric plot report ✓ 11. Detail points N

✓ = checked
N = non-existant

ALONGSHORE AREAS
(Nautical Chart Data)

12. Shoreline ✓ 13. Low-water line ✓ 14. Rocks, shoals, etc. ✓ 15. Bridges N 16. Aids to navigation N 17. Landmarks ✓ 18. Other alongshore physical features ✓ 19. Other alongshore cultural features N

PHYSICAL FEATURES

20. Water features ✓ 21. Natural ground cover ✓ 22. Planetable contours N 23. Stereoscopic instrument contours ✓ 24. Contours in general ✓ 25. Spot elevations ✓ 26. Other physical features ✓

CULTURAL FEATURES

27. Roads N 28. Buildings ✓ 29. Railroads N 30. Other cultural features N

BOUNDARIES

31. Boundary lines N 32. Public land lines N

MISCELLANEOUS

33. Geographic names ✓ 34. Junctions ✓ 35. Legibility of the manuscript ✓ 36. Discrepancy overlay N 37. Descriptive Report ✓ 38. Field inspection photographs ✓ 39. Forms ✓

40. _____ _____
Reviewer Supervisor, Review Section or Unit

Louis J. Reed, Chief
Stereoscopic Mapping Section
Photogrammetric Engineer

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

_____ _____
Compiler Supervisor

43. Remarks:

M-2623-12

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ — STRIKE OUT ONE

Review Section, Div. of Photogr.
Washington, D. C. Oct 24, 1952

I recommend that the following objects which have *(~~have not~~) been inspected from seaward to determine their value as landmarks be charted on ~~the~~ the charts indicated.

The positions given have been checked after listing by L. Martin Gazik

S. V. Griffith
Chief of Party.

STATE Alaska, Shelikoff Strait, Kukak Bay

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	Small, lighted, locally maintained	Lite	58-18	921	154-08	1783	NA 1927	T-7123b	1949	x		x	8556 8851
	* This aid was located and inspected by the survey party for T-7123b.												

Page 23

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by

T-9302. Geographic Names.

Alaska
Shelikof Strait (for title)

Kukak Bay
Aguchik Island
Hidden Harbor
Katmai National Monument
Third Judicial Division

Names underlined in red are approved. A[illegible]3-31-52.

T-9303. Geographic Names.

Alaska
Shelikof Strait
Cape Gull
Kaflia Bay
Cape Ugyak
Kulichkof Island
Kukak Bay
Cannery Passage
Aguligik Island
Tiny Island
Devils Cove
Kukak Point
Little Beach (just north of Kukak Point)
Yugnat Rocks
Cape Nukshak
Nukshak Island

Katmai National Monument (10-22-52)

Names underlined in red are approved. 3-3-52.

Review Report for T-9302 & 9303
Topographic Maps
October 27, 1952

62. Comparison with Registered Topographic Surveys.-

T-7060a	1:20,000	1949
T-7060b	1:10,000	1949
T-7123 a & b	1:10,000	1949

The above planetable surveys cover shoreline and foreshore features in the KUKAK BAY area and there is agreement in this area with T-9302 and 9303.

For a more complete coverage of shoreline and foreshore features together with complete interior topographic information, T-9302 and 9303 supersede the above listed surveys as basic topographic surveys for nautical chart purposes.

63. Comparison with Maps of Other Agencies.-

KAMISHAK BAY - KATMAI REGION, Alaska Map 16 USGS, 1:250,000, 1938.

There are several holidays in the above map in the area common to the present surveys, and, except for the shoreline about KUKAK BAY, all contours, drainage and shoreline in this area are shown with approximate symbolization on the USGS map.

64. Comparison with Contemporary Hydrographic Surveys.-

H-7822	1:20,000	1949

Unreviewed copies of T-9302 and 9303 were used as a base for the shoreline of H-7822.

Some additions of ledge and minor changes in approximate LW line delineation were made to T-9302 and 9303 during review without effecting the agreement with the hydrographic survey.

65. Comparison with Nautical Charts.-

Chart 8851	1:100,000 (approx.)	Aug. 1952
8556	1:350,000	Apr. 1952

The above charts include the latest information available from H-7822 and T-9302 and 9303.

A light located by T-7123b and shown on T-9303 is not shown on either of the above charts. Form 567, dated October 24, 1952 was submitted recommending the charting of this light.

66. Miscellaneous.-Two monumented tidal benchmarks established in 1949 at about 58° 20.4 latitude and 156° 07.0 longitude were not field identified for location by photogrammetric methods.

67. Adequacy of Results.- Since there was no field edit of these sheets no opportunity was available to make horizontal and vertical accuracy tests in the areas of these two photogrammetric surveys.

Fourteen triangulation stations served to satisfactorily control T-9303 horizontally. Three stations not held in the radial plot, due to misidentification or some other cause, had no effect on the horizontal accuracy of the map. For particulars see the triangulation diagram in the layout sketch on page 18 and the paragraphs concerning horizontal and vertical control in the Field Inspection Report, pages 8-10; in the Photogrammetric Plot Report, pages 14-16; and in the Compilation Report at page 19.

T-9303 conforms to project instructions and Bureau standards.

Eleven triangulation stations are concentrated in the eastern half of T-9302 and of these nine were held in the radial plot to give adequate control in this portion. The western half does not meet the same horizontal accuracy since the only two triangulation stations in this half could not be held in the plot. For particulars see the same references listed at the end of the second paragraph under this item, Item 67.

T-9302 is adequate as a basic topographic survey for charting ~~at the scale now published in this area and conforms to project instructions~~, at scale of 1:20,000 or smaller

Reviewed by:

L. Martin Gazik

L. Martin Gazik

APPROVED

L C Landy 22 Dec 54

Chief, Review Section
Div. of Photogrammetry

Chief, Nautical Chart Branch
Division of Charts GFA

Chief, Div. of Photogrammetry

Chief, Div. of Coastal Surveys