

11493

Aug. 1958

11493

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY  <b>DESCRIPTIVE REPORT</b>	
Type of Survey <u>Shoreline (Photogrammetric)</u>	
Field No. <u>Ph-117</u>	Office No. <u>T-11493</u>
<b>LOCALITY</b>	
State <u>ALASKA</u>	
General locality <u>Tlevah Strait</u>	
Locality <u>Soda Bay</u>	
<u>1954-1958</u>	
<b>CHIEF OF PARTY</b> F. X. Popper, Chief of Field Party William F. Deane, Baltimore District Officer	
<b>LIBRARY &amp; ARCHIVES</b>	
DATE _____	

DESCRIPTIVE REPORT - DATA RECORD

T - 11493

Project No. (II): **GS-357**  
**Ph-117**                      Quadrangle Name (IV):

Field Office (II): **USC&GS Ship PATTON**

Chief of Party: **J. T. Jarman (1956)**  
**F. X. Popper (1958)**

Photogrammetric Office (III): **Baltimore, Md.**

Officer-in-Charge: **E. H. Kirsch**  
**William F. Deane**

Instructions dated (II) (III): **11 October 1954**  
**7 January 1955**  
**9 December 1955**  
**1 November 1957**  
**11 June 1958**

Copy filed in Division of  
Photogrammetry (IV)

Method of Compilation (III): **Graphic**

Manuscript Scale (III): **1:10,000**                      Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): **1.000**

Date received in Washington Office (IV): **24 OCT 1958**                      Date reported to Nautical Chart Branch (IV):

Applied to Chart No.                      Date:                      Date registered (IV):

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

Geographic Datum (III): **N.A. 1927**

Vertical Datum (III): **MHW**  
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): **CALF, 1956**

Lat.: **55° 15' 27.103"** (838.2 m)                      Long.: **132° 51' 30.317"** (535.5m)                      ~~ADJUSTED~~  
Unadjusted

Plane Coordinates (IV):                      State: **Alaska-UTM**                      Zone: **8**

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.

DESCRIPTIVE REPORT - DATA RECORD


NOT APPLICABLE

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

DESCRIPTIVE REPORT - DATA RECORD

Field Inspection by (II): G. E. Haraden  
K. W. Jeffers Date: 1956  
1958

Planetable contouring by (II): Date:

Completion Surveys by (II): Date:

Mean High Water Location (III) (State date and method of location): 1954 Photography - Office  
interpretation.  
Field inspection - 1956 and 1958.

Projection and Grids ruled by (IV): A. Riley Date: 10/25/54

Projection and Grids checked by (IV): A. Riley Date: 10/26/54

Control plotted by (III): F. J. Tarcza Date: 6/25/58

Control checked by (III): H. R. Rudolph Date: 8/11/58

Radial Plot ~~XXXXXXXXXX~~ Date: 3/14/55  
~~Controlled by (III): E. L. Williams~~

Planimetry Date:  
Stereoscopic Instrument compilation (III): Contours Date:

Manuscript delineated by (III): J. B. Phillips Date: 9/5/58  
J. Honick

Photogrammetric Office Review by (III): R. Glaser Date: 9/17/58

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

DESCRIPTIVE REPORT - DATA RECORD

Camera (kind or source) (III): Nine-lens, single lens, "O" and "W"

Number	Date	PHOTOGRAPHS (III)		Scale	Stage of Tide
		Time			
54-0-51 and 53	6/5/54	1055		1:10,000	1.6' below MLLW
54-0-220 thru 223	"	1637		"	12.2' above " ← +HW
45415	"	1128		1:20,000	0.8' below "
55-W-9710	9/22/55	1206		1:10,000	4.6' above "

Tide (III)  
From Predicted Tide Tables

Reference Station: Sitka, Alaska  
Subordinate Station: North Bay - Tlevak Strait  
Subordinate Station: South Pass - Sukkwan Strait

Ratio of Ranges	Mean Range	Spring Range
	7.7	9.9
1.4	10.9	13.0
1.4	10.9	13.0

Washington Office Review by (IV): D. M. BRANT

Date: JUNE 1970

Final Drafting by (IV):

Date:

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III):

Shoreline (More than 200 meters to opposite shore) (III): 22 mi.

Shoreline (Less than 200 meters to opposite shore) (III): 1 mi.

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): 0 Recovered: 0 Identified: 6\*

Number of BMs searched for (II): Recovered: Identified:

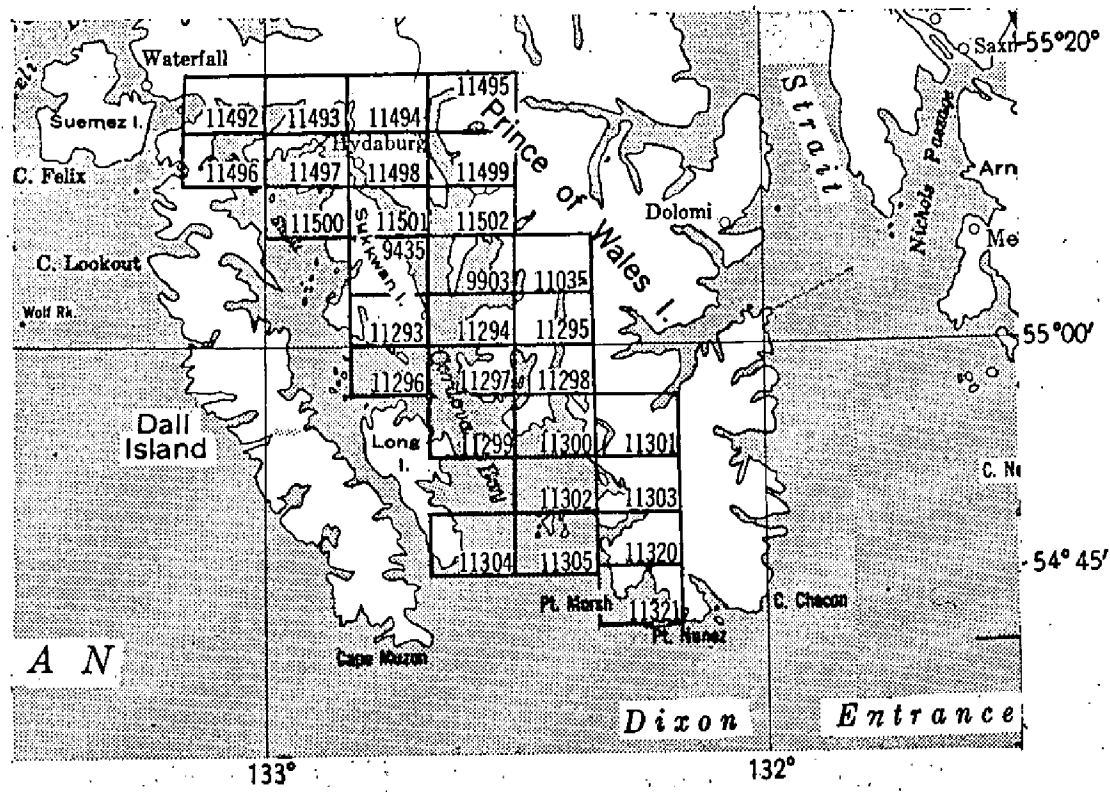
Number of Recoverable Photo Stations established (III):

Number of Temporary Photo Hydro Stations established (III):

Remarks: \* 2 stations established in 1956, and identified.  
5 stations established in 1958, and 4 identified.

# SHORELINE MAPPING PROJECT PH-117

## Cordova Bay & Vicinity of S.E. Alaska



OFFICIAL MILEAGE FOR COST ACCOUNTS			
SHEET NO.	AREA SQ. MILES	LIN. MI. SHORELINE	
9435	13	13	11304 12
9903	21	21	11305 37
11035	9	9	11320 24
11293	20	20	11321 20
11294	15	15	11492 24
11295	13	13	11493 12
11296	14	14	11494 2
11297	21	21	11495 16
11298	22	23	11496 17
11299	16	16	11497 26
11300	31	31	11498 8
11301	7	7	11499 11
11302	18	18	11500 27
11303	14	14	11501 17
			11502 15
			TOTALS 503 503

Summary to Accompany  
Descriptive Report  
All T-Numbers  
PH-117

September 1970

This project is comprised of twenty-nine shoreline surveys compiled at 1:10,000 scale. It covers an area in the vicinity of Cordova Bay in southeast Alaska. The purpose for the compilation of these shoreline surveys was to provide a base for hydrographic survey operations and to update marine charts of the area.

The shoreline area was covered with single-lens and nine-lens photography. Field inspection prior to compilation consisted only of recovery and identification of control. Control was extended by radial plot method in the Baltimore District Office prior to graphic compilation. The shoreline was delineated from office interpretation of the photographs.

Copies of the manuscripts and the ratio photographs were sent to the hydrographic parties (ships HODGSON and PATTON) for hydro support use. Hydro signals were identified and described. Corrections and additions to the shoreline and offshore details were made from field annotated photographs. This has been treated as field inspection throughout this project, but actually it is field edit.

The application of field inspection and photogrammetric office review was done in the Baltimore District Office.

Map Accuracy

The extension of control (radial plots) for the subject maps was considered to be sub-standard in accuracy (refer to radial plot reports). However, the maps were used to provide shoreline and control for hydrographic surveys and were found by the hydrographer to be generally satisfactory for this purpose. A new project is planned for this area.

(Continued)

Differences Between Contemporary Hydrographic and Topographic Surveys

Field inspection was done during hydrography (refer to the field inspection report). Where the application of field inspection (additions and corrections) was not applied to the hydrographic surveys, they were called to the attention of the hydrographic verification and review activities by the following means:

1. For an unverified smooth sheet a "Notes to the Verifier" page was inserted in the Hydrographic Survey Descriptive Report.
2. For an unreviewed smooth sheet a "Notes to the Reviewer" page was inserted in the Hydrographic Survey Descriptive Report.
3. For reviewed hydrographic surveys the Chief, Hydrographic Data Branch was notified.

The remaining discrepancies were disposed of in conference with the Hydrographic Review Branch.

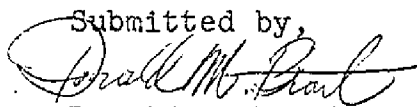
Rock Elevations

Differences in some rock elevations were found during final review between a number of the photogrammetric surveys and the contemporary hydrographic surveys. It was decided in conference with the Hydrographic Review Branch that since the rock elevations were from predicted tides they would be removed in most cases from the photogrammetric surveys and the elevations on the hydrographic surveys would be used because of more accurate tide data. An ozalid copy of all manuscripts showing the rock elevations computed from predicted tides will be filed along with available field inspection photographs in the Federal Records Center.

A complete Geographic Names Investigation was made and a final names sheet is a part of this report.

Field records were incomplete at the time of final review. Available field data was used at this time.

A registration manuscript copy for all surveys, except T-11301 and T-11321 which are lost, will be registered in the Bureau Archives under their respective T-numbers.

Submitted by,  
  
 Donald M. Brant



FIELD INSPECTION REPORT

FOR MAPS

T-11493-497-498, T-11500-501

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2. AREAL FIELD INSPECTION:

This report covers the shoreline of the northern part of Sukkwan Strait and all of South Pass and the adjacent area to the north.

The shoreline is generally rocky with trees overhanging the high water line almost everywhere. North of Saltery Point there are numerous small islands, shoals, and flats which bare at various stages of the tide.

The only cultural features are in the village of Hydaburg. There are several native cemeteries on the small islands immediately north of Sukkwan Narrows.

Photo coverage is adequate for the entire area. The photographs are somewhat "fuzzy" causing most of the boulder detail to appear as smooth, sand beaches. Shadow in some cases obscures the high water line. The approximate shoreline on the preliminary manuscripts was checked on the ground, and except as noted, is adequate for charting purposes.

3. HORIZONTAL CONTROL:

(a) The following supplemental stations were established in 1956 to control the photographs in the area northeast of North Pass.

<u>Second Order</u>	<u>Third Order (Intersection)</u>
CLAM	CALF
MINK	LION
PONY	
TOAD	
SEAL	
LOON	

All of the above stations, with the exception of Station LOON, were identified on the photographs.

In addition to the above triangulation stations, the following hydrographic signals, located by graphic control, were identified on the photographs and can be used for control if desired.

ASK	GAB	LEO	SOW	FAT	IVY	LOG	TEE	FUN
LEG	NOR	TIN						

3. HORIZONTAL CONTROL (Contin.):

(b) All horizontal control is computed on the NA 1927 Datum and no datum adjustments are necessary.

(c) All control was established by the U. S. Coast and Geodetic Survey.

(d) All control called for in the Instructions was established and identified as far as the field work was carried.

A new second order triangulation scheme was carried from Hyamburg to North Pass. An attempt was made to identify all these stations, but lack of ground detail made some stations impossible to identify.

It is considered that a sufficient number of stations was identified to control the radial plot adequately.

(e) A thorough search was made for all stations in the project area.

4. VERTICAL CONTROL:

Inapplicable.

5. CONTOURS AND DRAINAGE:

Inapplicable.

6. WOODLAND COVER:

The entire area is covered with a dense growth of coniferous trees extending down to and overhanging the high water line in most places.

7. SHORELINE AND ALONGSHORE FEATURES:

(a) Shoreline inspection was completed in the area north of latitude 55° 09' and east of longitude 132° 55'. All shoreline was inspected from a launch or skiff running close inshore. The highwater line is indicated on various places on the photographs. Some areas are in shadow and the high-water line is not visible on the photographs. Some of these areas are not defined in detail on the photographs, however, by comparison with the preliminary manuscript, few errors in the interpretation were found and for charting purposes, the high-water line is entirely adequate as shown.

(b) The low-water line is sketched on the photographs at various places. In areas where extensive flats exist, the low-water line is defined by the hydrography.

7. SHORELINE AND ALONGSHORE FEATURES (CONTIN.):

(c) The foreshore is characterized by boulders extending from a few feet to several hundred feet in bights. In some cases grassy islets and spits which cover only in extreme storms were misinterpreted as sand bars which cover at MHW. These have been clarified on the photographs. It is noted that almost the entire shoreline is labeled as sand and gravel on the preliminary manuscripts. It should be mentioned here that there are very few sand beaches in the project area. Most all of the foreshore is boulders, except as noted. The different types of foreshore are indicated on the photographs.

(d) There are no high bluffs or cliffs along the shoreline. Bedrock is exposed up to the storm waterline above which there is top soil and vegetation.

(e) The only waterfront structures are at Hydaburg and are evident on the pictures. Ellis Airlines maintains a small float on the north side of the cannery pier. There is a small pier in the basin at the northern edge of the village and a float secured to a dolphin just offshore from this pier. The objects on the highwater line at the head of this basin are floats which are used alongside the cannery pier during the fishing season and stored on the beach at other times.

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

8. OFFSHORE FEATURES:

There are some piles off the cannery at Hydaburg which are indicated on the photographs. The only other offshore features are rocks and shoals. All rocks visible at the time of inspection were noted on the photographs. Heights of rocks were estimated above the water surface at the time of inspection and the time and date is noted.

The area north of Hydaburg Harbor was not covered as thoroughly as should be because of lack of time. Some rocks were probably missed because it was impossible to complete all the inspection at low tide. A hydrographic survey would be required to locate all the rocks in this area.

Kelp areas are outlined approximately.

9. LANDMARKS AND AIDS:

Two new landmarks for nautical charts were located by planetable and were identified on the photographs. One of these, Hydaburg Presbyterian Church Spire, was later intersected with a theodolite. Of the five fixed aids to navigation in the area, three of them, Sukkwan Narrows Light, Goat Island Light, and Turn Rock Daybeacon, were used as sub-points for triangulation station identification. The Hydaburg Daybeacon is identified direct. The small uncharted and privately maintained daybeacon on the north side of the bar west of Hydaburg is not indicated on the photographs. It is located by planetable on topographic sheet PAT-56-B.

All floating aids were located by planetable and none are identified on the photographs.

10. BOUNDARIES, MONUMENTS, AND LINES:

Inapplicable.

11. OTHER CONTROL:

In addition to the hydrographic stations listed in Paragraph 3, the following recoverable topographic stations were located for hydrographic signals, but are not identified on the photographs: SKY, JIM, NAT, And PEP.

12. OTHER INTERIOR FEATURES:

There is a bridge over the creek at Hydaburg. There are no landing strips or other interior features.

13. GEOGRAPHIC NAMES:

Geographic names will be covered in a special report, to be submitted.

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA:

Data forwarded separately from this report are:

Field and Office Photographs

Control Station Identification Cards

Descriptions of Recoverable Topographic Stations

Complete triangulation data will be forwarded to the Washington Office in the near future.

15. COMMENTS:

All hydrographic signals were located graphically by planetable on Sheets PATT-56-A, B, and C. Sheets A and C are at a scale of 1:10,000 and cover the northern part of Sukkwan Strait and South Pass respectively. Sheet B is at a scale of 1:5,000 and covers Hydaburg Harbor.

Short sections of shoreline were rodded in at various places and are so indicated on the topographic sheets. All rock detail visible at low water was either cut in or located by sextant fixes. Rocks are shown with their heights above mean lower low water.

On sheet C, all shoreline shown as dotted on the preliminary manuscripts was rodded in. The shoreline on both 10,000 scale sheets is in generally good agreement with the manuscripts.

Some discrepancies between the manuscript and topographic sheet B are apparent by inspection. The shoreline of the small islands north of Saltery Point is not in agreement with the manuscripts. The shoreline in this area was rodded in and is shown on the topographic sheet.

It is also apparent that the shoreline as per boat sheet PA-05156 should be shifted to the north slightly to agree with the graphic control. The shoreline for this boat sheet was blown up, using a Saltzman Projector, from 1:10,000 to 1:5,000. It is possible that some of the discrepancy was introduced in the process of enlarging the manuscripts to 1:5,000 scale.

15. COMMENTS (Contin.):

In compiling the final manuscripts, reference should be made to the graphic control sheets.

Because of the overhang of the trees and the lack of detail on the ground, it would have been difficult to locate, with certainty, sufficient signals to control the hydrography. The area surveyed was particularly well suited for graphic control in that there was ample triangulation on both sides of Sukkwan Strait and South Pass. For these reasons, photo-hydro control was not used and it is felt that control by planetable was justified.

16. LIST OF CONTROL STATIONS IDENTIFIED:

A complete list of horizontal control stations and the photographs on which they were identified follows:

STATION	MANUSCRIPT	PHOTO NO.
ANT 1925	T-11500	540-47
ARK 1907, 14	T-11500	540-38
BEACH 1925	T-11498	540-57
BLUFF? 1908	T-11501	540-58
BOAR 1956	T-11497	540-55
CALF 1956	T-11493	540-223
CLAM 1956	T-11497	540-224
COLT 1956	T-11497	540-54
CRAB 1956	T-11497	540-56
CRIB 1956	T-11497	540-55
CROW 1956	T-11497	540-55
DEER 1956	T-11497	540-55
DUCK 1956	T-11498	540-56
END 1925	T-11500	540-47
FIRST 1925	T-11498	540-56
FORT 1908, 25	T-11500	540-38
FROG 1956	T-11497	540-55
GOAT 1956	T-11497	540-55
GOOD 1908, 27	T-11501	540-58
HIGH 1908, 14	T-11501	540-59
HIP 1907, 27	T-11500	540-38
HOOK 1956	T-11498	540-56
HOP 1956	T-11497	540-56
HYDA 1925	T-11498	540-56
LAP 1908, 27	T-11500	540-38
LION 1956	T-11493	540-223
MINK 1956	T-11494	540-224
OAR 1908, 27	T-11501	540-58

16. LIST OF CONTROL STATIONS IDENTIFIED (Contin.):

STATION	MANUSCRIPT	PHOTO NO.
POINT 1925	T-11498	540-57
PONY 1956	T-11497	540-223
ROW 1925	T-11497	540-56
SCRAGG 1925	T-11497	540-47
SEAL 1956	T-11497	540-55
SMALL 1925	T-11498	540-57
SNAG 1956	T-11497	540-56
TERN 1956	T-11497	540-49
TOAD 1956	T-11497	540-224
WASH 1908,27	T-11501	540-58
WOLF 1956	T-11491	540-49

TOPOGRAPHIC STATIONS IDENTIFIED

STATION	SOURCE	MANUSCRIPT	PHOTO NO.
ASK	PATT-56-C	T-11497	540-47.8 ✓
FAT ✓	PATT-56-B	T-11498	540-57
FUN	PATT-56-C	T-11500	540-47
GAB ✓	PATT-56-B	T-11498	540-57
IVY	PATT-56-C	T-11500	540-48 ✓
LEG ✓	PATT-56-A	T-11501	540-58
LEO ✓	PATT-56-A	T-11501	540-58
LOG	PATT-56-C	T-11500	540-48 ✓
NOR ✓	PATT-56-B	T-11498	540-57
SOW ✓	PATT-56-B	T-11498	540-57
TEE ✓	PATT-56-B	T-11498	540-57
TIN ✓	PATT-56-B	T-11498	540-57

Respectfully submitted,

*Gerard E. Haraden*  
 Gerard E. Haraden  
 LT C&GS

Approved and Forwarded:

*J. T. Jarman*  
 J. T. Jarman  
 CDR USC&GS  
 Cmdg., Ship PATTON

Scaled Geographic Positions  
Topographic Control Identified

Name	Latitude & Longitude		Meters
FAT	55 11		431
	132 48		1296
GAB	55 12		671
	132 49		516
NOR	55 12		244
	132 49		444
SOW	55 12		231
	132 49		428
TEE	55 12		889
	132 49		565
TIN	55 12		548
	132 49		479
LOG	55 11		412
	132 52		1019
ASK	55 11		1055
	132 53		642
FUN	55 10		1200
	132 52		14
IVY	55 11		274
	132 54		69
LEG	55 10		1714
	132 47		346
LEO	55 10		284
	132 47		596

FIELD INSPECTION REPORT

T-11492, T-11493, T-11496

2. AREAL FIELD INSPECTION

This report covers the shoreline from Meares Island on the northwest side of Tlevak Narrows to just south of Farallon Bay in Tlevak Strait, including Soda Bay. The inspection was made from a skiff, with landings being made at frequent intervals.

The shoreline is generally rocky with trees overhanging the high water line in many areas. The region is cluttered with small islands, reefs, and foul areas.

Cultural features are virtually absent; there being only a few trappers' shacks and a logger's camp present in the entire region.

Photo coverage is fair with the exception of the Lively Islands and Guide Is. These islands are visible only on the fringe of a few photographs, and are quite blurred. Shadows obscure the high water line and recoverable horizontal control points in some cases.

3. HORIZONTAL CONTROL

(a) The following stations were established in 1958 to control the photographs in Soda Bay

<u>Second Order</u>	<u>Third Order (Intersection)</u>
ABLE ECC.	Block Island Light
FIRST*	Lively Island Light
INTER	
LIKOF*	
NATAL	
PHOTO*	
ROUND*	
SODA*	
SHELI	
SUNNY*	
TROUT*	
WALES*	

\*Stations identified on the photographs.



3. HORIZONTAL CONTROL (Contin.)

To control the photographs in the vicinity of Halibut Nose, Station STEEP, 1958 was established and identified on the photographs. The triangulation data for this station is included with the <sup>triangulation</sup> report. This station will be incorporated in the triangulation scheme through North Pass at a later date.

(b) All horizontal control is computed on the NA 1927 Datum and no datum adjustments are necessary.

(c) All control was established by the U. S. Coast and Geodetic Survey.

(d) All control called for in the Instructions was established and/or identified on the photographs.

(e) All Coast and Geodetic Survey stations in the area were thoroughly searched for. The following stations were reported as searched for, not found, and presumed lost:

- BIG 1907
- DARK 1907
- GUND 1907
- ISLE 1907
- NORTH BASE (North Bay) 1907
- OUT 1907
- SOUTH BASE (North Bay) 1907
- TURN 1907

4. VERTICAL CONTROL

In applicable

5. CONTOURS AND DRAINAGE

Inapplicable

6. WOODLAND COVER

The area is covered with a dense growth of trees composed mainly of spruce, cedar and hemlock. The tree line and high water line coincided or are very close in many places.

7. SHORELINE AND ALONGSHORE FEATURES

(a) The mean high water line is indicated at various places on the photographs. In general it appears as the seaward side of a distinct white line on the photographs. This white area is caused by grass covered rock or the jumble of driftwood lining the beach. In some areas the high water line is obscured by shadows or overhanging trees; however, a comparison with the manuscripts indicated that the office interpretation was correct for charting purposes.

In the region of Tlevak Narrows where extensive areas bare at low water, a visual inspection on the ground was made and the high water line sketched on the photographs.

(b) The low water line is dotted on the photographs at various places. This line will be better defined after the hydrographic survey has been completed.

(c) The foreshore is characterized by boulders in the greater part of the area. Bedrock is exposed in many places, and some stone and gravel beaches are present. There are no beaches composed of sand and gravel such as shown on the manuscripts. The foreshore is labeled at various locations on the photographs.

(d) There are no high bluffs or cliffs along the shore line. The southern shore of Shelikof Island has a few low cliffs (10 to 20 feet) and rock ledges that rise from the water's edge.

(e) There are no docks, wharves, piers, or landings in the area.

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

8. OFFSHORE FEATURES:

The only offshore features are rocks, reefs, shoals, and kelp beds. Heights of rocks and reefs above the water surface were estimated and noted on the photos along with the time (120th meridian) and date. Hand lead soundings were made and depth noted on some shoals and foul areas that were covered by water at the time of inspection. Kelp beds visible on the photos were noted as such, and the kelp symbol was used in other areas.

9. LANDMARKS AND AIDS:

There are no landmarks in the area. Three fixed aids to navigation in the area are: Meares Island Light, Block Island Light, and Lively Islands Light. Meares Island Light will be located by planetable. The other two were located by intersection using a theodolite.

The only floating aid to navigation is the red buoy on the northwest side of Tlevak Narrows. It will be located by plane table.

None of these aids were pricked on the photographs.

10. BOUNDARIES, MONUMENTS, AND LINES:

Inapplicable.

11. OTHER CONTROL:

No other control was established at this time. A plane-table graphic control sheet will be made of the area north of Tlevak Narrows prior to the hydrographic survey.

12. OTHER INTERIOR FEATURES:

None.

13. GEOGRAPHIC NAMES:

Geographic names will be covered in a special report, to be submitted later.

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA:

Data forwarded separately from this report are:

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA (Contin.):

Field and Office Photographs.  
Control Station Identification Cards.  
Descriptions of Recoverable Triangulation Stations.  
Complete triangulation data for stations established.

15. LIST OF CONTROL STATIONS IDENTIFIED:

A complete list of horizontal control stations and the photographs on which they were identified follows:

Station	Manuscript	Photo No.
CEDAR, 1907	T-11492	55W9090
EAST, 1907	T-11496	55W9098
FIRST, 1958	T-11496	55W9711
KNOB, 1907	T-11496	55W9100
LIKOF, 1907	T-11496	55W9712
MID, 1907	T-11492	55W9713
MOSS, 1907	T-11492	55W9090
PHOTO, 1958	T-11493	55W9710
ROUND, 1958	T-11493	55W9710
SAW, 1907	T-11492	55W9090
SODA, 1958	T-11496	55W9711
STEEP, 1958	T-11496	54-0-35
SUNNY, 1958	T-11493	55W9710
TROUT, 1958	T-11493	55W9710
WALES, 1958	T-11496	55W9711

Respectfully submitted,

*K. William Jeffers*  
K. W. Jeffers  
ENS C&GS  
Ship PATTON

Approved & Forwarded:

*Francis X. Popper*  
Francis X. Popper  
LCDR C&GS  
Cmdg., Ship PATTON

~~18~~

PHOTOGRAMMETRIC PLOT REPORT  
PROJECT PH-117  
SURVEYS T-11492 thru T-11502

21. AREA COVERED

This radial plot covers the area of shoreline surveys T-11492 thru T-11502 in the vicinity of Sukkwan Strait and Hetta Inlet on Prince of Wales Island, Alaska. This radial plot at 1:20,000 scale was used to establish pass points to control a radial plot with single lens photographs at a scale of 1:10,000.

22. METHOD - RADIAL PLOT

Map Manuscripts:

Vinylite sheets with polyconic projections in black at a scale of 1:10,000, and Universal Transverse Mercator Alaska, Zone 8, grids in red, were furnished by the Washington Office. Base sheets were prepared in this office, at a scale of 1:20,000.

All control was plotted using the meter bar and beam compass.

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

Photographs:

Fifteen (15) unmounted nine lens photographs at a scale 1:20,000 were used in this radial plot, with the following numbers: 45392, 45393, 45396 thru 45400, and 45412 thru 45419.

Templets:

Vinylite templets were made for all photographs using a master templet to make adjustments for paper and film distortion and chamber displacement.

Closure and adjustment to control:

All control was transferred graphically to the 1:20,000 scale base sheets, the plot was begun at the southwestern end of the two flights where a fix could be obtained on 45392. The northern flight was extended north-eastward to control station TIP, 1924. The southern flight was extended eastward holding control stations FLOAT, 1908-14, and ROUND, 1908. At the eastern end of the flight in surveys T-11499 and T-11502 the plot was adjusted to pass points established in a previous plot. The previous plot was a long bridge between control stations in Cordova Bay and identified control in Clarence Strait on the east side of Prince of Wales Island. At the northern end of Hetta Inlet in T-11495 there was very little side lap between the two flights. It was not possible to hold Sub Pt. TIP, 1924, and the pass points from the previous plot on the southern flight and at the same time get good intersections in this area. After considerable adjustment of templets it was decided to hold slightly off TIP, 1924, in order to get a more rigid plot in the northern tip of HETTA INLET.

Transfer of points:

All pass points which were common on both the nine lens and single lens, 1:10,000 scale, photographs were transferred to 1:10,000 scale base sheets, using small transparent templets. A templet was made for each pass point drawing radial lines to four grid intersections on the 1:20,000 scale base sheet. The position of the point was established on the 1:10,000 scale base sheet by holding the same grid intersection and pricking the position of the point through to the base sheet. In survey T-11496, in the area where there was no coverage with single lens photographs, the positions were transferred in similar manner to the map manuscripts. These points are to be used for delineation of shoreline, using the 1:20,000 scale nine lens photographs in the vertical projector.

23. ADEQUACY OF CONTROL

Except in the southern and southwestern side of the plot, control was inadequate for an accurate radial plot. There was no control in the northern part of Hetta Inlet in surveys T-11495 and T-11499. The purpose of this plot was to establish control points to be used in a radial plot at a scale of 1:10,000 with single lens photographs. The positions of pass points in this survey are known to be quite weak because of the long bridge between control stations; and because control station TIP, 1924, was not held exactly. The identification of Sub Pt. TIP, 1924, is doubtful because of shadows and trees and may be up to 0.5mm in error. It is believed, the positions of these pass points may be in error by 0.5mm or more in this plot. When transferred to 1:10,000 scale base sheets this error would be doubled. This means that the positions of Pass points on the map manuscripts may possibly be in error by 1.0mm or more. The results obtained are not considered to be satisfactory due to the lack of control, however they are the best that can be obtained at the present time. Several tilted photographs in the uncontrolled area added to the difficulty of getting a satisfactory plot. (See paragraph 25)

An attempt was made to identify MID, 1907, in the office to strengthen the plot, but it could not be held. The radially plotted position fell 30 meters southeast of the true position. All other identified control stations, including those identified in the office, were held satisfactorily in the radial plot.

24. SUPPLEMENTAL DATA

No supplemental data was used in this radial plot.

25. PHOTOGRAPHY

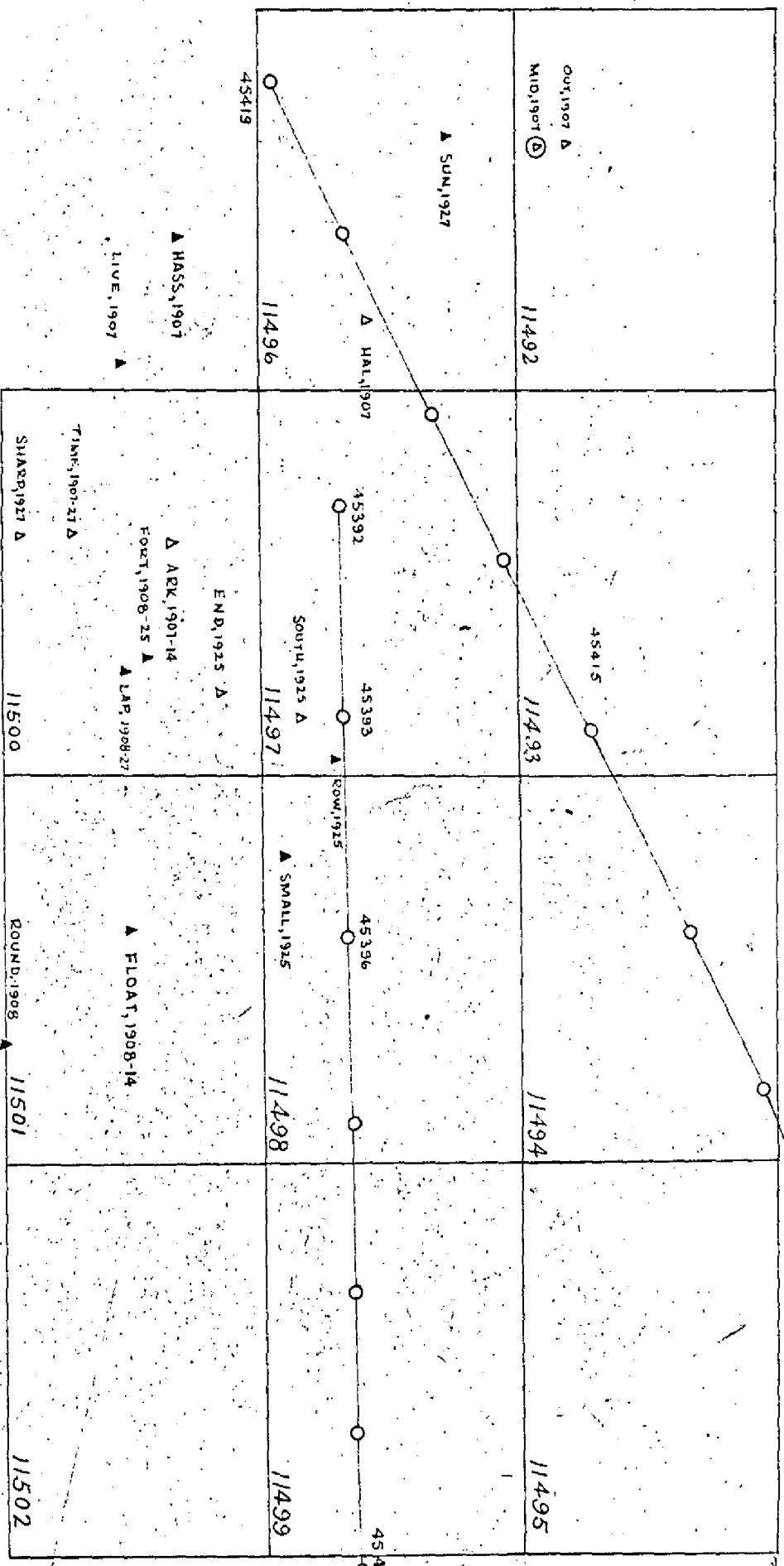
Photographic coverage and overlap is adequate and definition is good. The side lap in T-11495 is quite small, and to the eastward there is none.

The following photographs were tilted, but no tilt determination was made: 45396, 45400, 45414 and 45416.

Respectfully submitted  
23 March 1955

*Frank J. Carca*  
Frank J. Carca  
Supervisory Cartographer

LAYOUT SKETCH  
PROJECT PH-117  
SURVEYS T-11492 thru T-11502



- Nine-lens office photographs
- ▲ Control Stations (identified)
- △ Control Stations (office identified)
- ⊙ Control stations not held in plot

PHOTOGRAMMETRIC PLOT REPORT  
PROJECT PH- 117  
SUVREYS T-11492, T-11493, T-11494  
T-11496, T-11497, T-11498  
T-11500, T-11501, T-11502

21. AREA COVERED

This radial plot report covers: (1) The entire area of Surveys Nos. T-11493, T-11497, T-11500 and T-11501; (2) The portions of Surveys Nos. T-11492 and T-11496 which are covered by photography; (3) The western portions of Surveys T-11494 and T-11498; (4) The south west corner of Survey No. T-11502.

Another radial plot report for Hetta Inlet deals with the portions of Surveys Nos. T-11494, T-11498, and T-11502 which are east of the limits of this plot.

This radial plot is for shoreline surveys located along Sukkwan Strait, South Pass, North Pass, Tlevak Strait, and Soda Bay, near the southern end of Prince of Wales Island, Alaska.

22. METHOD - RADIAL PLOT

Map Manuscripts:

Vinylite sheets with polyconic projections in black and Universal Transverse Mercator, Alaska, Zone 8, grids in red, at a scale of 1:10,000 were furnished by the Washington office.

The positions of all control and substitute stations were plotted on the manuscripts using the beam compass and meter bar.

A sketch showing the layout and the distribution of control and photograph centers is attached to this report.

Photographs:

Single lens photographs taken 4 June, 1954 with the "O" camera at a scale of 1:27,500 and ratioed to a scale of 1:10,000 were used in this plot.

Thirty-nine single lens photographs were used, numbered as follows:

54-0-32 thru 40  
54-0-43 thru 61  
54-0-63  
54-0-75 thru 77  
54-0-219 thru 225

Templets:

Vinylite templets were made for all photographs. The master templet was used to make adjustments for film and paper distortion.

Closure and adjustment of control:

Vinylite base sheets were prepared in this office. All control was transferred to the base sheets from the manuscripts.



Supplementary pass points established in a 1:20,000 scale radial plot of the area was transferred graphically to the 1:10,000 scale base sheets. This was done by means of transparent templates made for each point to be transferred. Four rays were drawn radially from the point through the grid intersections on the 1:20,000 base sheets. Then the template was oriented over the corresponding grid intersections on the 1:10,000 base sheets and the point pricked through to the base sheet.

For additional information about this supplementary control see the photogrammetric plot report for the 1:20,000 radial plot of the area with 9-lens photographs.

The plot was laid in three parts. The first part extended from ROUND, 1908-14 northwest along Sukkwan Strait to ROW, 1925. This includes all of Survey T-11501 and parts of T-11498 and T-11502 in this area, in addition to control identified in the field; some stations were identified in this office by referring to the descriptions.

This portion of the plot started with photographs 54-0-43 and 54-0-62 holding to ROUND, 1908-14 and pass points established in a radial plot for Surveys T-9435, to the south. The flight of photographs Nos. 54-0-43 through 54-0-48 was laid first because it was a continuous flight. Photographs 54-0-63, 61, and 60 were then laid. There was less than 50% overlap between photographs 58 and 59, and 59 and 60. Therefore, this flight was not continuous and could be laid holding only to the few common points established by the other flight. Both of these flights, however were tied in to ROW, 1925. After these flights were laid photographs 54-0-75 through 77 were laid holding to BRETT, 1908-14. This was done at that time to establish sufficient points to compile Survey No T-11501 in its entirety.

The second part of this radial plot consisted only of laying photographs 54-0-37 through 54-0-40 which are on Survey T-11500. These were laid holding to points established by the photographs 54-0-47 and 48 in the first part of the plot and to control stations which were identified in the office.

The third part of the plot was an extension of the three flights of single lens photographs northwestward into the area where the only control was that established in the 1:20,000 scale radial plot. It was extremely difficult to get a tight plot chiefly because of insufficient overlap between photographs in line of flight. Specifically, breaks occur in all three flights at the following places:

- Between photographs 54-0-48 and 49;
- " " 54-0-58 and 59;
- " " 54-0-59 and 60; and in the flight from 54-0-32 through 40 all of the centers are in water areas except photographs 34, 39, and 40.

A tight plot in this area was finally achieved after considerable adjustment between the three flights. In this area, substitute station SUN, 1927 was held. Of the supplementary control points transferred from the 1:20,000 radial plot about two-thirds of them were held within 0.5 mm. This can be attributed to three causes: (1) The points selected

on the 1:20,000 photographs are not exactly the same as those on the 1:10,000 photographs, (2) In transferring the points from a 1:20,000 scale to a 1:10,000 scale discrepancies occurred. (3) The points are the product of two different plots using different photographs and base sheets.

Finally after the three flights were laid; the flight numbered 54-0-219 through 225 was laid. No great difficulty was encountered here, although again a break occurred in the flight line where photograph 54-0-221 and 222 did not have 50% overlap along the flight line.

The positions of all the pass points and photograph centers in the area north of ROW, 1925 and FORT, 1908-25 are weak. It is difficult to estimate how far off the points may be on Survey T-11493 and the areas immediately adjacent. It is felt, however, that they are not in error by more than 1.5mm.

Transfer of points:

The positions of all photograph centers and pass points were transferred to the manuscripts by superimposing the manuscripts on the plot and matching common grid intersections. All the supplementary control points were treated as pass points; i.e. where the positions of the points established in the 1:20,000 scale plot were not held, the positions established in this 1:10,000 scale plot were shown on the manuscript.

23. ADEQUACY OF CONTROL

With the points established in the 1:20,000 plot, the control should have been adequate, however, because of the inadequate 1:10,000 photography too much dependance had to be placed on the control from the 1:20,000 plot. If more of the established control had been identified in the field along the 54-0-32 through 40 flight then that flight could have been strengthened and the plot extended to the east to hold the supplemental 1:20,000 control points.

All of the control identified in the field was held except Sub Pt. "B" ROUND, 1908-14. The radially plotted position of Sub Pt. "B" is 0.7mm N of the plotted position. Sub Pt. "A" was held.

Of the 17 control stations identified in this office from descriptions, 10 were held within 0.5mm and all but two were off less than 1.0mm.

24. SUPPLEMENTAL DATA

Supplementary control established in a 1:20,000 scale radial plot was used as control for this radial plot. Reference should be made to the 1:20,000 scale plot report for Surveys Nos. T-11492 thru T-11502.

25. PHOTOGRAPHY

The photography was inadequate in that too many of the photographs had less than 50% overlap in line of flight. In some areas definition

was poor; quite possibly because of the enlargement process.

Respectfully submitted  
14 March, 1955

E. L. Williams  
E.L. Williams  
Carto. Photo. Aid *E.L.*

SUPPLEMENTARY  
Photogrammetric Plot Report  
Project Ph-117

Surveys T-11493, T-11494, T-11497, T-11498, T-11500 & T-11501

During the 1956 field season the triangulation network was extended northward from Hydaburg with 30 new stations. 22 of these were identified, as well as 17 existing control stations. All new control and identified points were plotted and used to verify the radial plot.

Except at stations PASS, 1925 and END, 1925, where minor local corrections in shoreline were needed, and in the Hydaburg area, the radial plot was found to be reasonably accurate in position. In the northern part of Natzuhini Bay, where the radial plot was considered weakest, the error was only about 0.3 mm.

At Hydaburg, Survey T-11498, the entire area from POINT, 1925 to HOOK, 1956 was moved northerly about 0.6 mm. The adjustment was made using the photographs under the map manuscript. It was not considered necessary to make templets and reassemble the radial plot.

Respectfully submitted  
June 1957

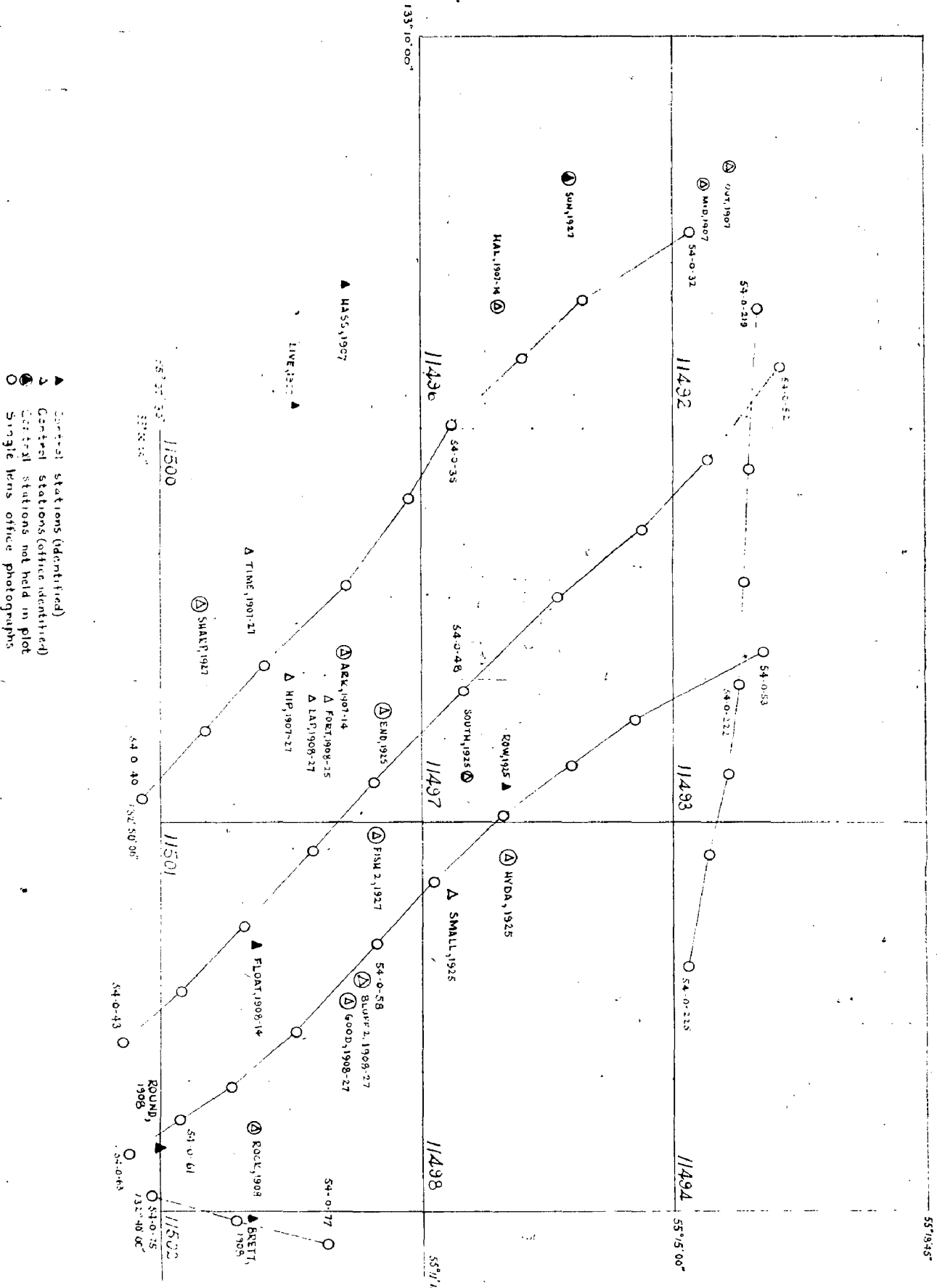
*Elmer L. Williams*

Elmer L. Williams  
Carto. (Photo.)

# LAYOUT SKETCH

PROJECT - PH 117

SURVEYS: T-11492 thru T-11494, T-11496 thru T-11498, &  
T-11500 thru T-11502



- ▲ Correct stations (office identified)
- General stations not held in plot
- ⊗ Single lens office photographs

U.S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
DESCRIPTIVE REPORT  
CONTROL RECORD

MAP T. 11493 PROJECT NO. Ph-117 SCALE OF MAP 1:10,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR $\psi$ -COORDINATE LONGITUDE OR $x$ -COORDINATE		DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS
			°	'	°	'		FORWARD	(BACK)	
SUNNY, 1958	Field Comp.	N.A. 1927	55	15	06.424			198.7	(1656.8)	
Sub. Pt. SUNNY, 1958		"	132	58	25.314			447.2	( 612.7)	
SHELI, 1958	"	"	55	15	42.834			201.2	(1654.3)	
ROUND, 1958	"	"	132	58				438.2	( 621.7)	
Sub. Pt. ROUND, 1958	"	"	55	15	15.927			1324.6	( 530.9)	
TROUT, 1958	"	"	132	57	52.435			281.3	( 778.4)	
PHOTO, 1958	"	"	55	15	37.155			1621.6	( 233.9)	
LION, 1956	G-11323 p. 5	"	132	57				656.2	( 403.4)	
CALF, 1956	"	"	55	15	28.095			1568.8	( 286.7)	
		"	132	57	02.451			676.3	( 383.3)	
		"	55	16	18.310			868.8	( 986.7)	
		"	132	58	00.709			43.3	(1016.0)	
		"	55	16	19.781			566.2	(1289.3)	
		"	132	57	51.658			12.5	(1016.9)	
		"	55	15	27.103			611.7	(1243.8)	
		"	132	50	30.317			912.1	( 147.3)	
		"	55	15				838.2	(1017.3)	
		"	132	51				535.5	( 524.3)	

-29-

COMPILATION REPORT  
T-11493

~~The Field Inspection Report (1956), for Natzuhini Bay is a part of Descriptive Report, T-11497.~~

~~The Field Inspection Report, (1958), for Soda Bay is a part of Descriptive Report, T-11492.~~

~~Photogrammetric Plot reports are a part of Descriptive Report, T-11497.~~

31. DELINEATION

This survey was compiled by graphic methods. The 1:20,000 scale nine-lens photographs were used in a vertical projector to supplement single lens photography in the northern part of Natzuhini Bay.

32. CONTROL

There was no control on this survey when radial plots were constructed and original compilation was done.

In 1956 the triangulation net was extended to the north end of Natzuhini Bay. Identification of control verified the accuracy of the plot (see Supplementary Plot Report).

In 1958 the triangulation net was extended into Soda Bay up to PHOTO, 1958. Identification of this station showed an error of about 0.7 mm. The radial plot in the area of SUNNY, 1958 was proved to be accurate. Positions of all pass points northeast of TROUT, 1958 and ROUND, 1958 in Soda Bay were changed by adjusting photographs holding PHOTO, 1958. The shoreline ~~was~~ of TROUT, 1958 and south of ROUND, 1958 was found to have the required accuracy as originally established in the photogrammetric plots.

33. SUPPLEMENTAL DATA

A copy of Hydrographic Survey PA-1258 was available for comparison with the east portion of this manuscript.

34. CONTOURS AND DRAINAGE

Contours: Not applicable.  
Drainage: No comment.

35. SHORELINE AND ALONGSHORE DETAILS

The delineation of shoreline was by office interpretation of the photographs, and was corrected, where necessary, by field inspection made during hydrographic surveys.

The low-water lines were delineated from photographs taken at a very low stage of tide and verified by field inspection. Foul areas were field inspected. Shoreline inspection was adequate.

36. OFFSHORE DETAILS

No comment.

37. LANDMARKS AND AIDS

38. CONTROL FOR FUTURE SURVEYS

None.

39. JUNCTIONS

Junctions are in agreement with T-11492 to the west, T-11494 to the east and T-11497 to the south. There is no contemporary survey to the north.

40. HORIZONTAL AND VERTICAL ACCURACY

See paragraph 32.

41 through 45:

Not applicable.

46. COMPARISON WITH EXISTING MAPS

This survey was compared with Craig, Alaska, quadrangle USGS, scale 1:250,000, edition of 1952.

47. COMPARISON WITH NAUTICAL CHARTS

Chart 8151, which covers the area of this survey, is incomplete in the areas of Soda Bay and Natzuhini Bay delineated on this map manuscript.

Items to be applied to nautical charts immediately: None

Items to be carried forward: None

Approved and forwarded

*William F. Deane*  
William F. Deane, CDR C&GS  
Baltimore District Officer

Respectfully submitted  
10 September 1958

*Frank J. Tarcza*  
Frank J. Tarcza  
Super. Carto. (Photo.)



August 17, 1970

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-117 (Alaska)

T-11493

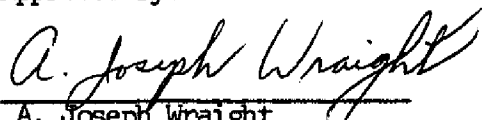
Natzuhini Bay

Prince of Wales Island

Shelikof Island

Soda Bay

Approved by:



A. Joseph Wraight  
Chief Geographer

Prepared by:



Frank W. Pickett  
Cartographic Technician

50 -

PHOTOGRAMMETRIC OFFICE REVIEW

T. 11493

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

4a. Classification label

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
- 8. Bench marks
- 9. Plotting of sextant fixes
- 10. Photogrammetric plot report
- 11. Detail points

ALONGSHORE AREAS

(Nautical Chart Data)

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

PHYSICAL FEATURES

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

CULTURAL FEATURES

- 27. Roads
- 28. Buildings
- 29. Railroads
- 30. Other cultural features

BOUNDARIES

- 31. Boundary lines
- 32. Public land lines

MISCELLANEOUS

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

40. R. Glaser  
Reviewer

Joseph Steinberg  
Supervisor, Review Section or Unit

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. *Information not available.*

\_\_\_\_\_  
Compiler

\_\_\_\_\_  
Supervisor

43. Remarks:

Review Report T-11493  
Shoreline Mapping

August 1970

61. General Statement

Differences in some rock elevations were found between photogrammetric survey T-11493 and hydrographic surveys 8456 and 8457 (refer to Summary, "Rock Elevation"). These elevations were removed from T-11493. *page 7*

The following field data was used during final review:

Field photographs 55-W-9710 and 9711.  
Graphic Control Surveys Patt-58-A and D.

62. Comparison with Registered Topographic Surveys

There is no prior topographic survey covering T-11493.

63. Comparison with Maps of Other Agencies

Comparison was made with USGS Craig (B-3), Alaska, quadrangle, 1:63,360 scale, dated 1951. No significant discrepancies were found in the comparison.

64. Comparison with Contemporary Hydrographic Surveys

Photogrammetric survey T-11493 was used as a base for new hydrography. The contemporary hydrographic survey 8456 (unverified) and 8457, scale 1:10,000 dated 1958 were used for comparison.

The agreement was good, except for a feature located in the upper waters of Natzuhini Bay between latitudes 55°16'00" and 55°16'30" and between longitudes 132°51'00" and 132°51'30" (southwesterly of two reefs) is shown on the Advanced Manuscript T-11493 as a reef (awash MHW). This feature is shown on hydrographic survey 8456 as a bare rock. Apparently the hydrographer took this feature from the Incomplete Manuscript before field inspection was applied. A "Notes to the Verifier" page is inserted in the Descriptive Report for 8456 regarding this feature.

-2-

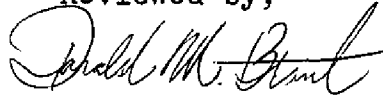
65. Comparison with Nautical Charts

Comparison was made with Chart 8151, 1:40,000 scale, 9th edition, corrected to July 8, 1968. No significant discrepancies were found in the comparison.

66. Adequacy of Results and Future Surveys


(Refer to Summary, "Map Accuracy") - Page 6

Reviewed by,



Donald M. Brant

Approved by,

  
Chief, Photogrammetric Branch  
Chief, Photogrammetry Division