

9622

original

9622

Form 504
U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE
DESCRIPTIVE REPORT
Type of Survey <u>Shoreline Photogrammetric</u>
Field No. <u>Ph-87</u> Office No. <u>T-9622</u>
LOCALITY
State <u>Alaska</u>
General locality <u>Prince of Wales Island</u>
Locality <u>Hole in the Wall to Protection Head</u>
<u>1953-1954</u>
CHIEF OF PARTY
Curtis LeFever, Chief of Field Party
E. H. Kirsch, Baltimore Photo. Office
LIBRARY & ARCHIVES
DATE _____

DATA RECORD

T-9622

Project No. (II): **PH-87** Quadrangle Name (IV):

Field Office (II): **Ship LESTER JONES**

Chief of Party: **Curtis LeFever**

Photogrammetric Office (III): **Baltimore, Maryland**

Officer-in-Charge: **E. H. Kirsch**

Instructions dated (II) (III):

Office: **17 Dec. 1953**

Copy filed in Division of
Photogrammetry (IV)

6 Aug. 1954

Field: **25 Dec. 1953**

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):

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): **M.H.W.**

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): **SHIP 2, 1915**

Lat.: **56° 17' 38.268" (1183.6m)**

Long.: **133° 40' 16.202" (278.7m)**

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): H. A. Garcia

Date: June 1954 thru
Oct. 1954

Planetable contouring by (II):

Date:

Completion Surveys by (II):

Date:

Mean High Water Location (III) (State date and method of location): 1953, date of photography.
Field identification.

Projection and Grids ruled by (IV): A. Riley

Date: 12/23/53

Projection and Grids checked by (IV): H. D. Wolfe

Date: 12/29/53

Control plotted by (III): H. R. Rudolph

Date: 12/6/54

Control checked by (III): F. M. Wisiecki

Date: 12/10/54

Radial Plot ~~not stereoscopic~~

Date: 12/21/54

~~Stereoscopic Instrument~~ by (III): E. L. Williams

Planimetry
Stereoscopic Instrument compilation (III):

Date:

Contours

Date:

Manuscript delineated by (III): J. Y. Councill
F. M. Wisiecki

Date: 12/30/54

Photogrammetric Office Review by (III): R. Glaser

Date: 12/28/54

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

Date:

Camera (kind or source) (III):

PHOTOGRAPHS (III)					Stage of Tide
Number	Date	Time	Scale		
41550 thru 41553	8/22/53	1129	1:10,000	10.4'	above MLLW
41617 and 41618	"	1245	"	10.8'	" "

Tide (III)
From predicted tables

Reference Station: Sitka
Subordinate Station: Port Protection, Prince of Wales I.
Subordinate Station: Shakan, Kosiushko I.

Ratio of Ranges	Mean Range	Spring Range
	7.7	9.9
1.4	10.4	12.7
1.3	9.7	11.7

Washington Office Review by (IV): *Leo F. Beugnet, Atlantic Marine Center* Date: *May 1968*

Final Drafting by (IV): Date:

Drafting verified for reproduction by (IV): Date:

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): *4.0*
Shoreline (More than 200 meters to opposite shore) (III): *20 statute mi.*
Shoreline (Less than 200 meters to opposite shore) (III): *5 " "*
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): *1* Recovered: *1* Identified: *1**
Number of BMs searched for (II): Recovered: Identified:
Number of Recoverable Photo Stations established (III): *1 (see paragraph 38)*
Number of Temporary Photo Hydro Stations established (III): *93*

Remarks: * Nine triangulation stations were established and identified in 1954.

T-9622

COMPILATION RECORD	COMPLETION DATE	REMARKS
Compiled	December 1954	
Final Review	May 1968	

SHORELINE MAPPING PROJECT PH- 87

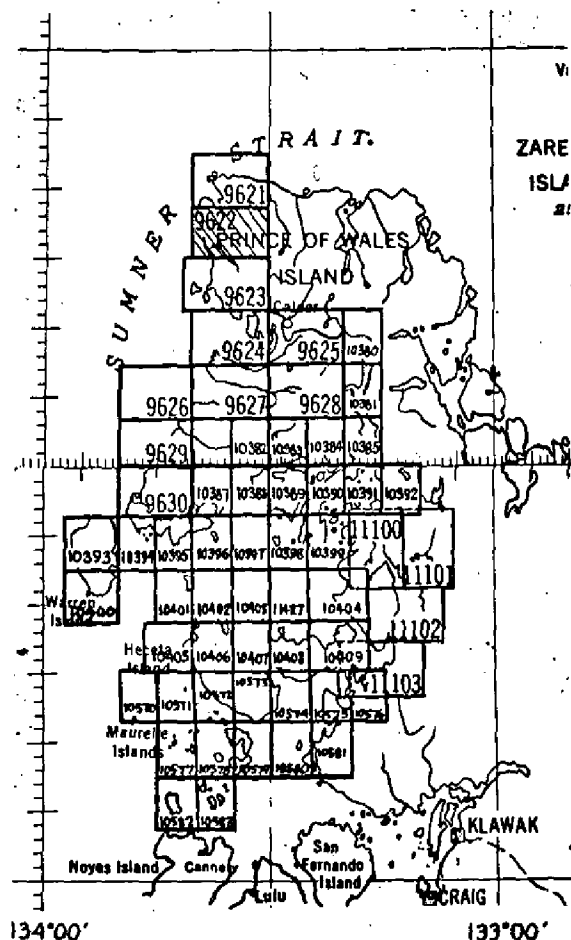
5

Prince of Wales Island, Alaska

56°30'

56°00'

55°30'



Project Ph-87 Official Mileage for Cost Accounts

Sheet No.	Area Sq.Mi.	Lin. Mi. Shoreline
9621	12	10
9622	16	11
9623	15	7
9624	17	12
9625	21	11
9626	4	5
9627	15	15
9628	14	2
9629	5	6
9630	7	6
11100	32	16
11101	9	8
11102	18	10
11103	16	15
10380	6	4
10381	5	10
10382	8	2
10383	6	8
10384	7	5
10385	4	8
10386	9	1
10387	6	7
10388	3	6
10389	7	12
10390	6	16
10391	4	12
10392	8	7
10393	12	10
10394	2	4
10395	5	8
10396	2	4
10397	1	1
10398	3	5
10399	4	11
10400	6	8
10401	1	2
10402	2	3
10403	3	6
11427	1	1
10404	5	10
10405	2	2
10406	8	1
10407	8	2
10408	5	7
10409	10	10

10570	1	1
10571	1	1
10572	5	6
10573	8	2
10574	3	4
10575	2	4
10576	7	2
10577	1	1
10578	2	2
10579	1	6
10580	2	2
10581	12	9
10582	2	6
10583	2	5

TOTAL 412 378

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-9622

Shoreline survey T-9622 is one of 58 similar surveys in Project PH-87. It covers Labouchere Bay, Hole in the Wall, part of Port Protection, and part of the shoreline of Sumner Strait.

This survey was originally compiled as a preliminary manuscript. In 1954, additional horizontal control was established and identified on the photographs along with other existing control. Shoreline inspection was also accomplished in June - July of that year.

In the fall of 1954 a new radial plot was laid and the manuscript was re-compiled as an Advance manuscript.

There was no actual field edit of the Advance manuscript. Edit notes consist of changes in the MHWL made by the hydrographer directly on the boat sheet. These changes were applied to the manuscript by the Final Reviewer. See paragraph 61 of the Final Review Report.

Compilation was at 1:10,000 scale by graphic methods using the nine-lens photography of August 1953. A blueline tracing and cronaflex copy of the manuscript along with ozalids and specially prepared photographs were furnished for preparation of the hydrographer's boat sheet, location of hydrographic signals and field edit purposes.

The manuscript is a vinylite sheet $3 \frac{3}{4}$ minutes in latitude by 10 minutes in longitude, which was smooth drafted and reproduced on cronaflex. One cronaflex positive and one cronar negative are provided for record and registry.

2. Areal Field Inspection

The area inspected for boat sheet LJ 1154 (covered by manuscript T 9621) is on the northwest side of Prince of Wales Island from about two miles east of Point Baker to the north point of Protection Head including the settlement at Point Baker, the settlement in Protection Cove, and the northern half of Port Protection. The south side of Strait Island was included in the hydrographic survey, but it was not adequately covered by photography and was not field inspected. About two miles of shoreline east of the eastern limits of LJ 1154 was covered by photography and was field inspected.

The area inspected for boat sheet LJ 1254 (covered by manuscript T 9621, T 9622, T 9623) includes the southern half of Port Protection. The west side of Protection Head, Labouchere Bay, Hole-in-the-Wall and the shoreline south to the northern sector of the Barrier Islands.

The area inspected for boat sheet LJ 1354 (covered by manuscripts T 9623, T 9624) includes most of the Barrier Islands, and the shoreline south to the first point of land on the northwest side of Shakan Bay.

Field inspection consisted of (1) recovery and identification on aerial photographs of existing triangulation stations; identification of newly established triangulation stations; (2) identification of hydrographic control signals; (3) shoreline inspections.

Green and red waterproof ink was used on the field photographs exclusively. Red ink was used to delineate the high water line, offshore rocks and cultural features not readily discernable on the photographs; green ink was used to delineate the limits of kelp patches and the approximate low water line. Attention is called to photograph 41620 on which the small boat channel through Point Baker is shown with special symbol as described in a legend at the top of the photograph.

Strait Island was not included in the photogrammetric plot, but was part of the hydrographic survey. It was therefore necessary to sketch an approximate shoreline from one photograph on which the island appeared on an oblique section. Several hydrographic stations with computed positions and triangulation stations on the island were approximately identified on the photograph and the shoreline sketched on the boat sheet holding to these positions. The shoreline thus determined proved adequate for the purposes of the hydrographic survey.

The photographic coverage consisted of nine lens photographs at a scale of 1:10,000 and nine lens photographs at a scale of 1:20,000. The 1:10,000 photographs were used throughout with the exception of the identification of triangulation station SID 1915 which could only be positively identified on one 1:20,000 photograph. The photography was generally good, and areas where vertical or near vertical sections were

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poor due to reflection, overhang of trees, or shadows, oblique sections of adjacent photographs were used to complement the field inspection. The principal difficulty encountered was due to shadows cast by trees on the northerly and northwesterly sides of islands. Field photographs were cut and the sections joined with tape to fold into compact 25" x 20" units for convenient handling in the field. The photographs were cut to embody the vertical lens and its immediate area on one large uncut section and the oblique areas in two flaps on either side. Vast water areas were eliminated and all useful shoreline preserved in order to expedite handling in the field.

Photographs and pertinent data were transmitted to the Washington Office on the 27 July 1954, and the 12 August 1954, and the remainder of the completed photographs and data are being submitted as of the date of this report.

3. Horizontal Control

(a) Horizontal control established by second order triangulation

ASPEN 1954	FRANK 1954	JAPAN 1954	MINK 1954	PLOVER 1954	SANDY 1954
CABOT 1954	GLASS 1954	KAPOK 1954	NICHE 1954	QUEEN 1954	SHELL 1954
DEBIT 1954	HERON 1954	LOTUS 1954	OCTET 1954	RAVEN 1954	STRAIT 1954
EAGLE 1954	INGOT 1954	MANOR 1954	PATIO 1954	RIDER 1954	WOLF 1954

Horizontal control with computed positions established with third order accuracy.

Ago (dm)	Cod	End (dm)	Gal (dm)	Cat (dm)
Bib (dm)	Con (protection	Era (dm)	How (dm)	Eat (dm)
Bob	day beacon)	Few	Nav (Protection	Fix
	Dim		light)	Tin (dm)
Was (m)	Hamilton Is. Day Beacon			
	Station Is. Nav. Lt.		(m) marked topo	Station

(b) All horizontal control is on N.A. 1927 datum and no datum adjustments are necessary.

(c) All control is established, computed and adjusted by the Coast and Geodetic Survey.

(d) Existing triangulation stations were recovered in accordance with Paragraph 12, Supplemental Instructions, Project CS 347. Additional triangulation was established and carried into Port Protection and Labouchere Bay; to Strait Island; and to intervals along the west side of Prince of Wales Island to Shakan Bay, more than satisfying minimum spacing requirements. All triangulation thus recovered and established were identified on the office photographs wherever the station fell within good photographic coverage in accordance with Photo-

*We spent
Call them all
to the country
KSS*

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grammetry Instruction No. 22. A washable yellow ink was used throughout on the office photographs. All signals were identified on as many overlapping photographs as they were clearly distinguishable.

- (e) All marked Coast and Geodetic Survey stations were recovered within the survey limits. The following are unmarked topographic stations identified in the plot which were not recovered because no description was available.

Gun, Twin, Tre, (All three stations are located on map T-9621)

- (f) Control Station Identification cards were made for every station that was identified on the photographs, and have been transmitted to the Washington Office or will be submitted as of the date of this report.

Office identified control verified by field inspection proved to be quite accurate in most cases. Notation was made on the Control Station Identification Cards as to the amount of error determined by field inspection. The office identified position for Ship 2 1915 was not changed, and the positions for Sumner 2 1915, Fly 1886, and New 1922 were changed only slightly. Shakan 1886 was found to be in considerable error; however, it was evidently not used as a control point, but merely as a pass point in the preliminary plot.

4. Vertical Control

Tidal benchmarks located in Port Protection are the only old benchmarks found in the project. One additional bench mark was established at the Port Protection gage site, and new sites were established at Point Baker and Hole-in-the-Wall, each containing three benchmarks. Tidal benchmarks were not used to establish elevations of vertical control points, and were not identified on the photographs.

The Mt. Calder Cairn is the only elevation observed by trigonometric leveling. It was observed from three horizontal control stations whose elevations were estimated in feet above the mean high water level. There were no vertical control stations required by the project instructions for stereoscopic mapping.

5. Contours and Drainage - Inapplicable

6. Woodland Cover

The islands are almost entirely covered by a dense stand of coniferous (spruce, cedar, hemlock) trees. There are a few isolated areas in which slides or cut timber have given rise to a new growth of Aspen and Alder trees. At very high elevations as on Mt. Calder, and at the heads of bays as in Hole-in-the-Wall and Calder Bay, the tree cover ends, and grass and low foliage cover the open area. In many instances the tree line reaches the waters edge and partially overhang making identification of some signals very difficult or impossible.

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7. Shoreline and Alongshore Features

was this noted on previous sheets

a) Shoreline and alongshore features were inspected from a skiff equipped with an outboard motor running close inshore. The high waterline is generally definable in most places, but is obscured in others, usually by shadows and overhanging trees. The high waterline and other features were sketched on the photographs in places where they were not clearly distinguishable. Easily interpreted images were verified with an occasional dashed line. The high waterline transferred from the blue line manuscript to the boat sheet was revised occasionally on the boat sheet during the course of inshore hydrography and noted in black ink; otherwise, all changes were noted on the field photographs.

- (b) An approximate low waterline was shown on the field photographs in green ink. In cases where the bottom could be seen from the boat, its low water position was estimated and outlined on the image appearing on the photograph. If no image was evident, a position was indicated in reference to the surrounding topography.
- (c) On most of the open coast the foreshore has very little horizontal displacement, and is almost invariably of a monolithic limestone composition. Where it uncovers as a rocky ledge, it is usually evidenced on the photographs by foam and breakers. At the inshore end of large bights and bays the foreshore is usually quite wide and uncovers as a muddy flat often with sand or gravel near the high water edge. Particularly is this situation true at the heads of Port Protection, Labouchere Bay, Hole-in-the-Wall, and Calder Bay.
- (d) Bluffs and cliffs are indicated on the field photographs with an estimated height for each. There are two outstanding light colored, vertical, rock cliffs situated directly on the shoreline that have usefulness as landmarks. One is on the west side of Protection Head about 200 meters north of triangulation station DEBIT. The other is about a half mile south of the entrance to the Hole-in-the-Wall. In other places steep bluffs and deep narrow ravines are covered with tree mantle overlaying the extensive limestone bedrock that characterizes the region.
- (e) Shoreline structure consists principally of floats in the few habitated areas. These are located in Point Baker and Wooden Wheel Cove in Port Protection where permanent settlements reside. In the course of the seasons work a float was built by the Ship LESTER JONES near a water source in a protected bight on the west side of Port Protection. It is not probable that the float will endure unless it is maintained by local inhabitants.
- (f) The only other shoreline structures located so far in the project are a few abandoned or stored fish traps beached in the south end of Port Protection.

8. Offshore Features

All offshore features were field inspected for possible identification on the field photographs. In practically all instances rocks located could be identified on the photographs and their relative height was estimated above the surface at the time of inspection. The time and date was shown on the photograph for each rock, or a group of rocks were bracketed for an interval of time. Submerged rocks and rocks awash but covered at the time of inspection were given an estimated depth below the surface. Images appearing on the photographs in the likeness of rocks but not found were thusly noted as "not visible" or "no rock". Breakers shown on the photograph were inspected to find any evidence of rocks or shoals. Kelp patches of any significance were delineated - - described as to density, and were investigated for possible rocks. The following are abbreviations used on the field photographs.

Rock - rk <i>Rk</i>	* uncovered - uncov ✓	not visible - not vis
Awash - aw	covered - cov ✓	heavy - hvy
Feet - ft ✓	submerged - sub	light - lt <i>lt</i>

* some high water rocks were
also described as bares _ ft

All important offshore rocks that fell within the area surveyed were located directly by a field inspection party taking sextant fixes on or near the rock; by theodolite or sextant cuts from nearby stations; or by the launch hydrographic party. These records are entered in the horizontal direction volumes, sounding volumes for the skiff, and sounding volumes for the launch, respectively. In cases where a rock was transferred to the boatsheet as it appeared on the manuscript and its location determined directly, a note was made to that effect on the boatsheet. A few dolphins and piles were located directly by the hydrographic party.

9. Landmarks and Aids

(a) Landmarks for nautical charts - See 7 (d).

(b) The most extent interior landmark is the spire on Mount Calder which rises about a thousand feet above the tree line, and can be seen from practically every direction in the surrounding water area. The north face of the spire is extremely precipitous and contains a vertical crevass that retains a column of snow almost year round. Horizontal directions were observed from three triangulation stations to the cairn on the summit.

A very marked feature of lesser significance is a slide area on the west slope of the mountain which appears as an elongated cut in the trees. The slide is no longer active and is covered with a light colored growth of trees.

(c) Aeronautical Aids. Inapplicable

(d) Fixed Aids to Navigation listed on Form 567 to be forwarded to the Washington Office.

Seems that acetylene should be used for Rock, submerged light - and other correct - not be reported as covered. Rk all in Hydro & Topo manual.

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(e) Floating Aids to Navigation - See Hydrographic Descriptive reports

10. Boundries and Monuments. Inapplicable

11. Other Control

All recoverable topographic stations have computed G.P.'s and are listed under side heading 3, Horizontal Control. Topographic stations were established along the coast in compliance with spacing requirements of paragraph 10 of project instructions.

All hydrographic signals that could be identified were pricked on the office photographs, and transferred to the acetate manuscript. All triangulation stations and computed topographic stations that could be identified were similarly located on the acetate manuscript, thus establishing a uniform datum for the two systems of control. The computed stations were plotted on the boat sheet projection in their true positions and the manuscript oriented on the projection by matching corresponding stations. It was found that on the north end of the project from Port Protection to the eastern limits of the sheet, the plot was quite accurate in both azimuth and scale; therefore, the passpoint method was used to transfer positions from the office photographs to the acetate manuscript, thence signals were pricked directly through to the boat sheet. In order to check the accuracy of signals located on the north side, triangulation station BARRIE 2 1915 on the opposite side of Sumner Strait was occupied and theodolite cuts taken to all observable signals. BARRIE 2 1915 was plotted on a dogear off of the projection, and the cuts were laid off on a steel protractor. The photohydro signals checked in this manner were proved to be essentially correct.

As the survey moved progressively south the same system was employed for location control, but it became evident that there was some distortion in the manuscript through the middle portion of Port Protection and Labouchere Bay where no previous control existed. Other methods were utilized to complement photogrammetric means to maintain a uniform geodetic datum. Fortunately, triangulation was carried into these areas and provided a rigid network from which other signals could be cut in. If a signal had three or more triangulation cuts, the intersection position was used in preference to a photographic position. In most other cases the photographic location was used, and theodolite cuts and sextant cuts from nearby stations were used as an overall check. Some signals could not be identified on the photographs and were located entirely by sextant cuts from adjacent stations or by the hydrographic launch using three point fixes.

From Labouchere Bay south considerable distortion persisted in the manuscript, and thereafter the radial plot method was used to keep the proper internal relationship between control. Along the open coast

Note: This refers to use of Preliminary photogrammetric Manuscripts in accord with photogrammetry Inst. 45. Copies of T 9621 to T 9630 furnished Lester Jones in spring of 1954 were preliminary manuscripts. 1954.

strong triangulation intersection were used whenever possible, and photographic locations adjusted to these. In instances where a photographic location was thought to be out of position, it was checked or relocated by the hydrographic party. It is probable that in the controlled radial plot, most photohydro signals necessarily relocated in the field will fall in their correct relationship. A few signals were misidentified in the field, but all have been detected, and another method used for their final location.

A comprehensive list of all control and their method of final location (excepting triangulation stations listed in side heading 3) is attached at the end of this report. Theodolite cuts are recorded in the horizontal direction volumes, and sextant cuts are recorded in the sounding volumes for the launch, and skiff.

12. Other Interior Features.

The village of Point Baker has about 20 year-round residents, but during the summer fishing seasons this number is greatly increased by transient and summer resident fishermen. There is a fish buying station and a combined store and postoffice. Point Baker is served by Alaska Coastal Airlines which makes a scheduled mail stop at least once a week during the summer. The Point Baker store is equipped with a licensed radio transmitting station.

The village of Port Protection in Wagon Wheel Cove has about four resident families, a fish buying station and store. The store, known as the B. S. Trading Post, has recently become a chart distribution agency for the Coast and Geodetic Survey. It also is equipped with a radio transmitter that can be utilized in emergencies.

Practically all other isolated dwellings in the area are abandoned fox farms or mink trapping camps used in special seasons. There are no roads, bridges, cables, or landing fields in the area field inspected.

13. Geographic Names

A special report on geographic names will be prepared and forwarded to the Washington Office at the earliest date possible.

14. Supplemental Data Forwarded to the Washington Office

<u>Item</u>	<u>Transmitting Letter Date</u>
Field Photographs	27 July 1954
Office Photographs	"
Control Station Identification Cards	"
Geographic Positions for Triangulation located stations	"
List of Photohydro Signal Names	"
Field Photographs	12 August 1954
Office Photographs	"
Control Station Identification Cards	"
Field Photographs	2 November 1954
Office Photographs	"
Control Station Identification Cards	"

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

MAP T 9622

PROJECT NO. Ph-87

SCALE OF MAP 1:10,000

SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR ψ -COORDINATE LONGITUDE OR λ -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)	FORWARD	(BACK)
SHIP 2, 1915 ✓	G-609 p. 204	N.A. 1927	56	17	38.268			1183.6	(672.2)		
			133	40	16.202			278.7	(753.3)		
HOLE, 1915 ✓	G-609 p. 213	"	56	15	44.126			1364.8	(491.0)		
			133	38	40.585			698.7	(334.2)		
EAGLE, 1954 ✓	Field Comp. p. 1	"	56	17	06.741			208.5	(1647.3)		
			133	39	31.941			549.5	(482.7)		
DEBIT, 1954 ✓	"	"	56	18	33.270			1029.0	(826.8)		
			133	39	42.151			724.7	(306.9)		
KAPOK, 1954 ✓	"	"	56	18	18.860			583.3	(1272.5)		
			133	36	25.071			431.1	(600.6)		
NICHE, 1954 ✓	" p. 2	"	56	18	34.011			1052.0	(803.8)		
			133	35	42.177			725.2	(306.4)		
PATIO, 1954 ✓	"	"	56	17	35.283			1091.3	(764.5)		
			133	37	35.460			609.9	(422.1)		
QUEEN, 1954 ✓	"	"	56	17	47.351			1464.6	(391.2)		
			133	38	46.386			797.8	(234.1)		
RIDER, 1954 ✓	"	"	56	17	33.722			1043.0	(812.8)		
			133	38	53.283			916.5	(115.5)		
SANDY, 1954 ✓	"	"	56	17	54.347			1681.0	(174.8)		
			133	38	01.160			20.0	(1011.2)		
CABOT, 1954 ✓	G-10728 p. 3	"	56	15	41.556			1285.3	(570.5)		
			133	38	36.560			629.4	(403.5)		
EAT, 1954 ✓	G-10728 p. 7	"	56	16	25.296			782.4	(1073.4)		
			133	39	04.034			69.4	(963.1)		

1 FT. = 30480
COMPUTED BY: L. A. Senasack

PETER H. R. Rudolph

DATE 3 December 1954

19 January 1954

F. M. Wisiecki

CHECKED BY: J. C. Cregan

DATE 12/9/54

1/21/54

COMM-DC-57843

PHOTOGRAMMETRIC PLOT REPORT
PROJECT Ph-87
Surveys T-9622, T-9623, and T-9624

21. AREA COVERED

This radial plot covers all the area of Shoreline Survey T-9623 and part of Survey T-9622, and T-9624.

It extends from the southern point of the entrance of Labouchere Bay in the northwest portion of Prince of Wales Island southerly along Sumner Strait to Shakan Strait.

22. METHOD - RADIAL PLOT

Map Manuscripts:

Vinylite sheets with polyconic projections in black at a scale of 1:10,000 were furnished by the Washington office.

All the control was plotted on the vinylite sheets using a meter bar and beam compass.

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

Photographs:

All photographs used were nine-lens prints on positype paper, scale approximately 1:10,000.

Twenty (20) photographs were used, numbered as follows:

41503 thru 41510

41542 thru 41553

Templets:

Vinylite templets were made from all photographs. A master templet was used to correct for errors due to paper distortion and chamber displacements.

Closure and Adjustment to Control:

The radial plot was constructed on vinylite base sheets to which all control had been transferred from the map manuscripts.

The plot was laid starting with photograph 41506 and then laying the rest of that flight. The flight to the east was then laid starting in the north with photograph 41553. The position of photograph 41553 had been established in a previous plot for Surveys T-9621 and T-9622.

The problems arising in laying a plot with control identified direct instead of by substitute points were fully discussed in the radial plot report for Surveys T-9621 and T-9622. In the plot for Surveys T-9621 and T-9622 many of the control stations could not be held, but a very rigid plot was laid. In this plot for Surveys T-9622, T-9623 and T-9624, all but two of the control stations identified in the field were held; however, the plot was not as rigid as was the plot for T-9621 and T-9622. The plot is satisfactory, nevertheless.

22. METHOD - RADIAL PLOT

Transfer of Points:

The vinylite map manuscripts were placed over the finished plot and oriented by holding the control and some intersections of the manuscript projection which had been transferred to the base sheets. Then the pass points and centers were picked off on the map manuscript.

23. ADEQUACY OF CONTROL

There was adequate control as far south as latitude ⁵36° 10' 30". This was as far south as field inspection and hydrographic signal identification were completed and as far as compilation will be done at this time.

The stations not held in the plot are:

EAT, 1954. The radially plotted position is 0.5 mm. south of the geographic position. No pricking card was available in this office for this station. The field man's identification on photographs 41504 and 41505 seemed to more nearly fit the description of the station; Therefore, all the photographs were so pricked.

OAK, 1954. The radially plotted position is 0.9 mm. west of the geographic position. No pricking card was available in this office for this station. The fieldman's identification on photograph 41507 was accepted and all the photographs were so pricked.

CALDER MOUNTAIN CAIRN, 1915. This had been identified from Geological Survey photographs for the original plot laid in 1953. No satisfactory intersection could be obtained chiefly because of the large relief displacements and consequent errors arising from tilted photographs.

24. SUPPLEMENTAL DATA

None.

25. PHOTOGRAPHY

The photographic coverage and definition of the photographs used in the plot were good.

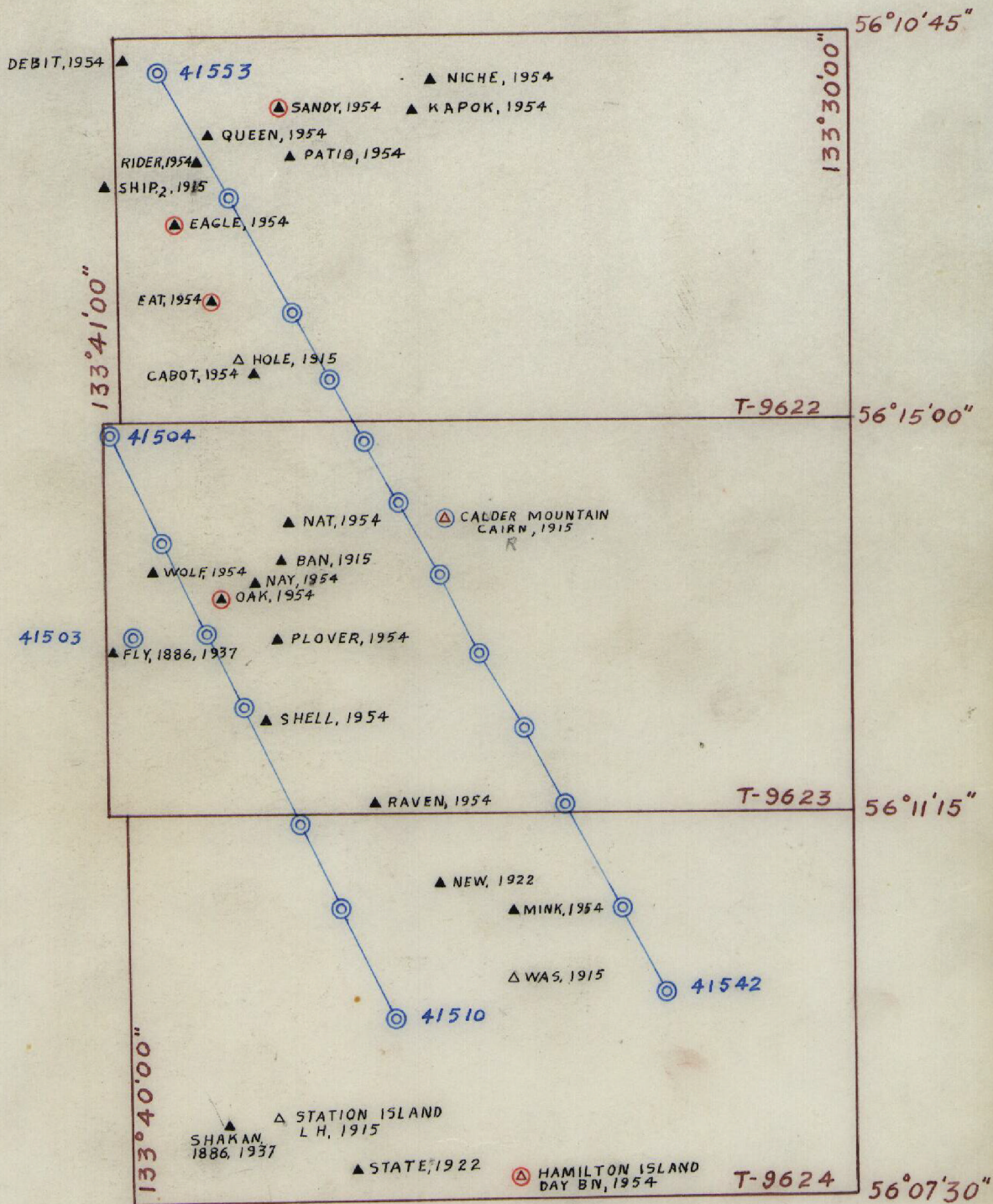
Respectfully submitted,
21 December 1954

Approved and Forwarded

E. H. Kirsch
E. H. Kirsch,
Comdr. USC&GS
Officer in Charge
Balto. Photo. Office

E. L. Williams
E. L. Williams,
Carto. Photo. Aid

4017



LAYOUT SKETCH PROJECT PH 87

- ⊙ 9 Lens office Photographs
- △ Control not identified
- ▲ Identified Control held in Plot
- ⊗ Identified Control not held in Plot
- ⊙ Office identified Control held in Plot
- ⊗ Office identified Control not held in Plot

COMPILATION REPORT

Project Ph-87
Survey No. T-9622

Field Inspection Report: Refer to field report for Project CS-347 (Ph-87), 1954 season, submitted by Curtis LeFever.

Photogrammetric Plot Report: The report for this survey is part of the Descriptive Report for Survey T-9621. See, also, the Photogrammetric Plot Report for survey T-9623, for the southern part south of EAGLE, 1954.

31. DELINEATION

This manuscript was delineated by graphic methods.

32. CONTROL

Refer to Photogrammetric Plot Reports.

33. SUPPLEMENTAL DATA

A copy of the boat sheet for survey No. H-8150 was available after the areas of Port Protection and Labouchere Bay were compiled.

34. CONTOURS AND DRAINAGE

Contours: Inapplicable.

Drainage: No comment.

35. SHORELINE AND ALONGSHORE DETAILS

Shoreline inspection was adequate. In a few places between CABOT, 1954 and signal FAR (field Photo. 41551) it is believed the MHWL is in error due to relief displacement of the trees over the shoreline. The offshore photos were used to delineate the shoreline in this area. With reference to paragraph 7(a) of the field report, it was noted that wherever the boat sheet calls for a correction to the shoreline, the shoreline has been identified on the field photographs.

The MLLW lines shown on the manuscript were furnished by the field party.

36. OFFSHORE DETAILS

The limits of kelp areas were transferred from the field photographs.

37. LANDMARKS AND AIDS

None.

*Rock awash to be deleted at Lat. 56° 18.35' Long. 133° 38.02'.
See H-8150 1954 - verifier's report. D.K. 8150 1954 - verifier's report.*

*Field Inspector says Rock
at or near this position - See
Field photo 41553*

37. LANDMARKS AND AIDS (cont'd)

38. CONTROL FOR FUTURE SURVEYS

Form 524 was submitted by the field party for station EAT, 1954, but the station has been shown on the manuscript with a triangle because a third-order position was furnished.

The pricking of the photo-hydro stations on the office photographs by the field party was verified and corrected in a few instances, using the identification on the field photos. They were then cut in on the manuscript. A list of the stations located on the manuscript is included in paragraph 49.

Along the shoreline south of Labouchere Bay, the identification of the signals was done on the inshore flight of field photographs and in many cases not clearly labeled. The shoreline was obscured by relief displacement of bluffs and trees on these photos, so that verifying the pricking on the office photographs was made difficult. If some description of the feature pricked was available, the pricking could be more positively verified. The field pricking on the office photos was depended upon for the identification. Where discrepancies were noted, there was no way of being positive of the correct pricking, but an attempt was made to insure identical pricking on all photos.

In the instance of signal GOB, north of CABOT, 1954; the signal could not be accurately pricked on the offshore photos because it was identified in the trees on field photo 41550. The field pricking on the office photos did not agree with this and resulted in a position which does not agree with the position on the boat sheet. It was decided not to show any position for signal GOB because apparently the hydrographic party located it by other methods.

39. JUNCTIONS

Junctions have been made with survey T-9621 to the north and T-9623 to the south and they are in agreement.

40. HORIZONTAL AND VERTICAL ACCURACY

No comment.

41 - 45. Inapplicable.

46. COMPARISON WITH EXISTING MAPS

None were available in the compilation office.

47. COMPARISON WITH NAUTICAL CHARTS

Chart No. 8172, scale 1:40,000, published March 1937, corrected to 9/8/52.

Chart No. 8174, scale 1:20,000, published December 1931, corrected to 5/26/52.

Items to be applied to nautical charts immediately:

None.

Items to be carried forward:

None.

Respectfully submitted
11 January 1955

Joseph W. Vonasek
Joseph W. Vonasek
Carto. (Photo.)

Approved and Forwarded

E. H. Kirsch
E. H. Kirsch, Comdr. USC&GS
Officer in Charge
Balto. Photo. Office

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-87 Sumner Strait, Alaska)

T-9622

Hole in the Wall

Labouchere Bay

Labouchere Island

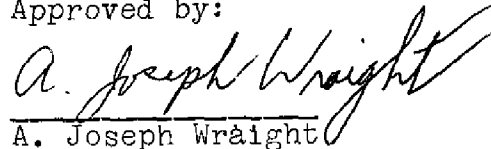
Prince of Wales Island

Port Protection

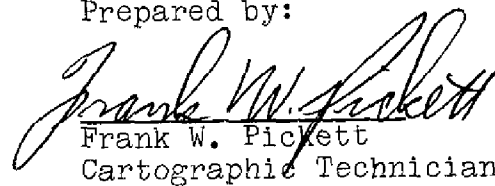
Protection Head

Sumner Strait

Approved by:

A. Joseph Wright
Chief Geographer

Prepared by:

Frank W. Pickett
Cartographic Technician

49. NOTES FOR HYDROGRAPHER

Ninety-three (93) photo-hydro stations are shown on the manuscript and are listed as follows:

ACT	EST	IDA	LUX	PAW	TAP
ADO	EVA	IRK*	MAG	PRO	THY
AHA	FAR	IVY	MAR	RAT	TOM
ALM	FAT	JAY	MAY	REO	TRE
ARM	FED	JIB	MID	RIG	UTE
BAH	FLY	JOB	MON	RIM	VAL
BED	FOX	JUT	MUM	ROT	VAN
BIG	PRO	KED	NEW	ROW	WAS
BUT	GIC*	KEY	NIP	RUB	WIG
CAM	GIN	KIM	NOD	SAG	WIT
COP	GUM	LAG	ODD	SAL	WOO
DAW	HEX	LAS	OHM	SHE	YET
DIM	HOE	LAX	OLD	SIC	ZOO
DOT	HON	LEO	OIL	SKI	
EAR	HUT*	LIP	PAD	SLY	
ELM	ICE	LOP	PAL	SOP	

*GIG - only two cut intersection.

*HUT - only two cut intersection.

*IRK - 12.7 mm north of boat sheet position. It is believed the hydrographic party relocated this signal.

GOB - could not be satisfactorily located photogrammetrically. It is believed that the hydrographic party located GOB by other methods.

Several signals were noted on the boat sheet that are not located on the manuscript. It is assumed that the data for these will be found in the hydrographic records.

Station EAT, 1954 has been shown with a triangle because a third-order position was furnished.

50-
PHOTOGRAMMETRIC OFFICE REVIEW

T- 9622

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. Blasen
ReviewerJoseph Steinberg
Supervisor, Review Section of 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.

Leo F. Bugniet
Compiler_____
Supervisor

43. Remarks:

Shoreline in vicinity of FED, GAB, GOB, HEX moved by Final Reviewer. See pages 24 and 27 of this report.

Project Ph-87
Survey No. 9622

NOTES TO THE REVIEWER

Refer to field print No. 41617:

Two dates of field inspection have been noted by the field man on this photograph. It is believed that the date, June 6, is in error as tide computations worked out for this date when applied to field measurements of rock heights were inconsistent with other data. This area is believed to have been inspected on June 29 and follows inspection on photograph No. 41618. The manuscript shows data based on June 29.

REVIEW REPORT T-9622
SHORELINE
May 27, 1968

61. GENERAL STATEMENT:

See Summary accompanying the Descriptive Report.

There is no Field Edit Report or Field Edit sheet for this survey. Although the Compilation Report refers to the Field Report for Project CS-347 (PH-87), 1954 season, submitted by Curtis LeFever, it contains little field inspection information of value to the compiler or reviewer.

Paragraph G of the Hydrographic Survey Descriptive Report and paragraph 2 of the Processing Office Notes for H-8150 reveal that some changes in the shoreline were made during hydrography by the hydrographer. The shift which occurred in the area of hydro signals FED, GAB, GOB, And HEX was caused by relief displacement of trees which made photographic interpretation difficult. This area was corrected during the time of final review, the maximum change was approximately 0.5 mm and this for only a short distance.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

A comparison was made with a copy of Registered Survey 3536, 1:20,000 scale, made in 1915. That survey is not on N.A. 1927 datum. After an adjustment for difference in datum it was noted that there are large discrepancies between the MHWL of the two surveys. These major discrepancies have been noted on the Comparison Print with a dashed blue line.

Survey T-9622 supersedes survey 3536 for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with USGS PETERSBURG (B-5), ALASKA, 1:63,360 scale quadrangle, edition of 1949 with minor revisions made in 1963 and with PETERSBURG (B-6), ALASKA, 1:63,360 scale quadrangle, edition of 1948. Because of the difference in the scale of the quadrangles and manuscript only a visual comparison was made. The rocks on the USGS quadrangle have no doubt been generalized because of the scale of the maps.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with a copy of smooth sheet H-8150. The shoreline of the two surveys are in agreement. The height of the tide at the time of photography plus kelp, flotsam, and foam prevented verification of all rocks located by the hydrographer. All differences between the two surveys have been noted on the Comparison Print.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Chart 8174, 1:20,000 scale, 8th edition, October 18, 1965.

All of the rocks which appear on the chart could not be verified because of the reasons stated in Item 64. The differences between the chart and this survey have been noted on the Comparison Print.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with instructions and meets the National Standards of Map Accuracy.

67. PHOTOGRAPHY:

The following field photographs were examined during final review:

41551 thru 41554
41617 and 41618

The following office photographs were examined during final review:

41550 thru 41554
41614 thru 41618

Reviewed by:

Leo F. Beugnet
Leo F. Beugnet

Approved by:

For P. A. Stark
J. Bull, RADM, USESSA
Director, Atlantic Marine Center

Approved by:

Everett D. Ramsey
Chief, Photogrammetric Branch JAB

R. H. Houlston
Chief, Photogrammetry Division

Chief, Nautical Chart Division

Desc. Ref.

H-8150

-(2)-

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The Port Protection gage was used for the reduction of soundings in that bay except at times when it refused to operate. On those days Point Baker gage was used with a range ratio correction as furnished in Director's letter No. 36-25-9821J being applied.

The Hole in the Wall gage was used for all other areas on this sheet except on days when it was inoperative. On those days the gage at Point Baker was used with a range ratio correction furnished in the Director's letter No. 36-25-9821J, being applied.

No time corrections were applied.

No current stations were observed on this project.

E. SMOOTH SHEET:-

The smooth sheet projection was made in the Washington Office by ruling machine. Shoreline and signals are to be transferred by the processing office. This work is not yet begun as of the date of this report.

F. CONTROL STATIONS:-

Triangulation control was obtained from surveys by L.O. Colbert in 1915 and by this party in 1954. Positions for all recoverable topographic stations which were located by theodolite cuts are computed. All triangulation and recoverable topographic stations are pricked on the photographs and shore line details are tied to them by field inspection.

The majority of non-recoverable hydro stations are located by photogrammetric methods on manuscript T-9621, T-9622 and T-9623 from 1954 field data. The positions of many of these are strengthened by theodolite cuts.

Other non-recoverable topographic stations are located by computed geographic positions, graphically from theodolite cuts and sextant angles. All theodolite directions observed on control signals are recorded in the list of directions. All sextant cuts are indexed in volumes 1 and 25 of this sheet.

Hydrographic stations were located by conventional methods. Data is indexed in sounding volume 1.

G. SHORELINE AND TOPOGRAPHY:-

Shoreline and topographic details are from advanced photogrammetric compilations of manuscripts T-9621, T-9622 and T-9623 from 1954 field inspection data.

Isolated revisions to the shoreline based on the hydrographer's interpretations were made during the hydrography, while running close inshore. The changes are sketched in, in black india ink, distinguishable from the rest of the shoreline which is delineated in yellow ink.

Rock symbols transferred to the boat sheet from bromoil prints were investigated and their positions verified. See verification notes concerning the transfer of contemporary topography to the smooth sheet.

H. SOUNDINGS:-

All soundings on sounding lines were measured with echo sounding equipment listed in side heading C. Vessels and Equipment. See the report of fathometer corrections attached at the end of this report.

Hand lead and wire soundings were obtained at detached positions on shoal and at the times bottom samples were taken.

A fifth phase was installed on 808 depth recorder No. 75, which recorded depths from 155 to 196 fathoms. This phase was used in those depths on this sheet.

PROCESSING OFFICE NOTES - H-8151

27

8150

SMOOTH SHEET ✓

The smooth sheet projection was made in the Washington Office by the ruling machine. The shoreline and signals were transferred and plotted by the Seattle Hydrographic Processing Unit, using standard of transfer, plotting and checking.

SHORELINE AND TOPOGRAPHY ✓

The computed theodolite locations of signals FED, GAB, GOB and HEX were used instead of those on the manuscript. These locations along with hydro locations of high water rocks, showed that the shoreline between signals FED and MAW was misplaced. A shift of the manuscript shoreline to those computed positions cleared all sounding lines. Signal ICE was shifted to agree with this move. *Shoreline affected by the shifting of these signals was left in pencil by the processing office to be subsequently verified, adjusted and inked by the Verifier, DSK.*

Except for the above mentioned change the shoreline and topographic signals were transferred from blue line tracings of T-9622 and T-9623 with some changes of shoreline transferred from the Boat Sheet.

All changes in shoreline have been left in pencil for verification in the Washington Office. *shoreline adjusted and inked. DSK.*

CONTROL OF HYDROGRAPHY ✓

All of the hydro sounding lines were plotted by L. W. Eason who apparently made some attempt to follow the instructions in C&GS General Circular 53 - 2, with innovations of his own. He made no attempt to space the positions for odd intervals of time, changes of course or speed changes of the launch; nor were the "spaced" positions indicated in the sounding volumes.

In penciling the soundings at least 20% of the positions were replotted and about 10% changed. The numerous erasures and replotting have roughened the paper surface of this sheet and made legibility difficult.

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OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8150

FIELD NO. LJ-1254

S. E. Alaska, Sumner Strait, N. W. Coast Prince of Wales Island

SURVEYED: July - Sept. 1954

SCALE: 1:10,000

PROJECT NO. GS-347

SOUNDINGS: 808 Depth Recorder
Hand lead & wire

CONTROL: Sextant fixes
on shore signals

Chief of Party ----- C. LeFever
Surveyed by ----- C. LeFever; C. A. Schoene; H. A. Garcia
Protracted by ----- L. W. Eason, II
Soundings plotted by ----- H. C. Parsons
Verified and inked by ----- D. J. Kennon
Reviewed by ----- I. M. Zeskind
Inspected by ----- R. H. Carstens

DATE: 6-26-61

1. Description of the Area

This is a survey of Sumner Strait, the lower part of Protection Harbor, Labouchere Bay and Hole in the Wall, all of which are located on the west side of Prince of Wales Island, Alaska. The bottom is very irregular. Inshore, the bottom lies adjacent to mountainous land areas. Here in depths less than 50 fms. submarine features such as ledges, reefs, pinnacles, deeps and ridges are found. In the offshore area, knolls and ridges rising from depths greater than 100 fms. are found. On Calder Rocks pinnacles uncover or rise to about 1 fm. depths.

2. Control and Shoreline

The source of the control is given in the Descriptive Report.

The shoreline originates with unreviewed photogrammetric surveys T-9621 and T-9622 of 1953-54 and T-9623(1953-54-55).

3. Hydrography

Depths at crossings are in good agreement. The usual depth curves were adequately delineated, except close inshore where the foul character of the bottom generally prevented development to the low-water line. The least depths on shoals and the bottom configuration were adequately developed.