

Original

9624

9624

Form 504	
U. S. DEPARTMENT OF COMMERCE	
COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	Shoreline (Photogrammetric)
Field No. 6087	Office No. T-9624
LOCALITY	
State	Alaska
General locality	Prince of Wales Island
Locality	Shakan Bay
1953 1954 1955	
CHIEF OF PARTY	
(Curtis LeFever, Chief of Field Party)	
(G. A. Nelson, Chief of Field Party)	
E. H. Kirsch, Baltimore District Office	
LIBRARY & ARCHIVES	
DATE	

COMM-DC 61300

DESCRIPTIVE REPORT - DATA RECORD

T -9624

Project No. (II): ~~6087~~ PH-87 Quadrangle Name (IV):

Field Office (II): Ship LESTER JONES

Chief of Party: Curtis LeFever
G. A. Nelson

Photogrammetric Office (III): Baltimore, Md.

Officer-in-Charge: E. H. Kirsch

Field: 3 June 1953

Instructions dated (II) (III): 28 Dec. 1953

23 Dec. 1954

25 Jan. 1955

Office: 17 Dec. 1953

12 Nov. 1954

6 Sept. 1955

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):

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): SHAKAN, 1886-1937

Lat.: 56° 08' 57.080" (1765.4m) Long.: 133° 37' 57.336" (989.9m)

Adjusted
~~Uncorrected~~

Plane Coordinates (IV):

State: Alaska

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.

DESCRIPTIVE REPORT - DATA RECORD

Field Inspection by (II): H. A. Garcia
P. A. Stark
~~C. W. Clark~~
P. A. Stark

Date: { June 1954 thru
Oct. 1954
MAY - July 1955

{ WORK ACCOMPLISHED SUBSEQUENT
TO MAY-JULY WORK

Planetable contouring by (II): INAPPLICABLE

Date:

THE FIELD OPERATIONS (LISTED ABOVE) ACCOMPLISHED JUNE-OCT 1954 AND SUBSEQUENT
TO THE MAY-JULY WORK CONSTITUTE FIELD EDITS OF THE PRELIMINARY MANUSCRIPT. THE
NATURE OF THE MAY-JULY WORK IS UNKNOWN - REFER TO PAGE 6

Completion Surveys by (II):

Date:

Mean High Water Location (III) (State date and method of location): 1953 date of photography AND
Field identification (REFER TO FIELD
REPORTS)

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

Date: 12/24/53

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

Date: 12/29/53

Control plotted by (III): H. R. Rudolph
J. C. Cregan

Date: 12/6/54
9/23/55

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

Date: 12/13/54
9/27/55

Radial Plot ~~in Stereoscopic~~

Date: 10/31/55

~~Control extension~~ by (III): E. L. Williams

Planimetry

Date:

Stereoscopic Instrument compilation (III):

Contours

Date:

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

Date: 1/5/54
11/14/55

Photogrammetric Office Review by (III): R. Glaser

Date: 11/25/55

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

Date:

DESCRIPTIVE REPORT - DATA RECORD

Camera (kind or source) (III): U.S.C. & G. S. nine-lens

3

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
41502	8/22/53	1045	1:10,000	9.0 above MLLW
41508 thru 41510	"	1057	"	9.0 " "
41541 thru 41543	"	1124	"	9.6 " "

Tide (III)
From Predicted tables

Reference Station: Sitka, Alaska
Subordinate Station: Shakan, Kosciusko Is., Alaska
Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range
	7.7	9.9
1.3	9.7	11.7

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

Final Drafting by (IV):

Date:

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): 5.6
Shoreline (More than 200 meters to opposite shore) (III): 28 mi.
Shoreline (Less than 200 meters to opposite shore) (III): 4 mi.
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): 12 Recovered: 9 Identified: 5*
Number of BMs searched for (II): Recovered: Identified:
Number of Recoverable ~~Photo~~ Stations established (III): 1 (See par. 38.)
Number of Temporary Photo Hydro Stations established (III): 20

Remarks:

*During 1954 & 1955 seasons: Stations established: 13 Identified: 9

T-9624

COMPILATION RECORD	COMPLETION DATE	REMARKS
PRELIMINARY MANUSCRIPT	1954	FOR HYDRO SUPPORT AND EDIT
Compiled	November 1955	
Final Review	June 1968	

6

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-9624

Shoreline survey T-9624 is one of 58 similar surveys in Project PH-87. It covers the area of Shakan Bay. See page 5 of this report for the position of the map within the project. The primary purpose of the survey was to provide new shoreline for nautical charts and photo-hydro data for hydrographic surveys.

This survey was originally compiled as a preliminary manuscript. In 1954 additional horizontal control was established and identified along with other existing control. Shoreline inspection and location of fixed aids to navigation was also done at this time. In 1955 a new radial plot was laid, the manuscript re-compiled and classified Advance. REPORT PAGE 13 * See below

~~There was no actual field edit of the Advance manuscript.~~ INCOMPLETE Field edit consisted of corrections made by the hydrographer and corrections made by the field inspector for corrections to the preliminary manuscripts.

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

The manuscript is a vinylite sheet 3 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.

* THERE WERE TWO ADDITIONAL FIELD "INSPECTIONS" (EDITS) FOR THIS SURVEY AS FOLLOWS: (1) A PRELIMINARY FIELD INSPECTION ACCOMPLISHED BY P.A. STARK IN MAY - JULY 1955. THIS WORK IS ACCOUNTED FOR ONLY BY NOTE IN THE COMPILATION REPORT. THE REPORT MENTIONED ^{IN THE COMPILATION REPORT} COULD NOT BE FOUND AT THE TIME OF FINAL REVIEW; (2) A FIELD INSPECTION (INCLUDING THE RECOVERY & IDENTIFICATION OF HORIZONTAL CONTROL) ACCOMPLISHED BY P.A. STARK (SUBSEQUENT TO THE MAY - JULY WORK). FOR REPORT SEE PAGES 7 THROUGH 12 OF THIS DESCRIPTIVE REPORT. THE ADVANCE MANUSCRIPT (COMPILED IN 1955) WAS BASED ON A 1955 RADIAL PLOT (ASSEMBLED ON CONTROL IDENTIFIED IN 1954 AND 1955)

THE DIFFICULTIES ENCOUNTERED WITH THE PRELIMINARY MANUSCRIPT - DESCRIBED AS MANUSCRIPT DISTORTION - DURING 1954 FIELD OPERATIONS, WERE ATTRIBUTED TO IMPROPER TRANSFER OF MANUSCRIPT DETAILS TO THE BOAT SHEET (REFER TO PAGE 30(3)). THESE DIFFICULTIES WERE NOT MENTIONED IN THE REPORT FOR THE 1955 WORK. JAB.

FIELD INSPECTION REPORT (in part)

For

MAPS T-9623 to T-9630

1955

1954 REPORT ON

PAGE 13

2. AREAL FIELD INSPECTION

The shoreline inspection was started from the southern limit of the 1954 work and continued southward to include all of the shoreline encompassed by the 1955 hydrography. Control Identification was further extended southward to Cape Pole and around the south end of Kosciusko Island to Holbrook Point at the head of Davidson Inlet.

The shoreline was inspected from an open skiff, and the inspection was intermittent, depending upon the weather, surf conditions and the locale of hydrographic operations.

The area inspected was heavily wooded, the tree line almost always reaching the high water line. The overall photographic coverage was good, being more than adequate for a good compilation of the shoreline. In some instances, however the foreshore was completely obliterated by excessive shadows on some of the photographs.

The locale being Alaska, a detailed inspection was not feasible and the field inspection was standard only with respect to control identification. No extra time was taken to make low tide inspection of any area to determine the low water line. Usually the foreshore was very steep, thus decreasing the relative importance of a low water line delineation. Where the gradient of the foreshore was gradual, a low water line was usually obtained by the hydrography that was done concurrently with the field inspection.

3. HORIZONTAL CONTROL

(a) New Stations

The following new stations were established by second-or third order triangulation:

*BILL	1938-1955	LOWER	1955	SHAKE	1955
CALDER	1955	MARBLE	1955	*SICKLE	1938-1955
CENTER	1955	MIDDLE	1955	*SLEEPY	1938-1955
DEAD 2	1955	MILTON	1955	SQUEEZE	1955
DIVIDE	1955	*MUD	1938-1955	TURN	1955
*FRAN	1938-1955	*PLAY	1938-1955	TWIST	1955
GRAZE	1955	QUARRY	1938	UPPER	1955
INNER	1955	SHAKAN STRAIT DAYBEACON, 1955			

*Although stations BILL, FRAN, MUD, PLAY, SICKLE and SLEEPY were set in 1938, no observations were made then to enable a determination of geographic positions.

(b) No datum adjustments were made in 1955.

(c) All control used in 1955 was established by the Coast & Geodetic Survey.

(d) No specific stations were required by the instructions, and considerably more control was identified than required to meet the spacing requirements of Photogrammetry Instruction No. 46.

(e) The following stations were determined lost:

ALDER, A	1922	OUT	1922
BIGHT	1922	SLIDE	1922
DEAD	1922	STATION ID. LIGHT	1915
ISLE	1922	TAINÉ	1922

Station ISLE was considered lost as a triangulation station because the center mark was missing. However, its probable location, to within less than a foot, was readily determined and the station was identified for photo control.

Two stations, BLUE 1903 and ROUND 1903 were searched for but not found. Because of unfavorable surf conditions, station BLACK 1903 was identified from offshore by description and was not recovered.

(f) The following fifty-six stations were identified for photo control and entered on Control Identification Cards

<u>Station</u>	<u>Map No.</u>	<u>Photo. No.</u>	<u>Station</u>	<u>Map No.</u>	<u>Photo. No.</u>
ALCOA 1946	D	41451	MINE 1946	D	41446
BEAR 1903	E	41492	NEW 1922	T-9624	41543
BEND 1922	T-9627	41540	NUTT 1937	T-9626	41476
BILL 1938-55	T-9627	41512-13	ON AUG 1937	W. of A	41314
BLACK 1903	S. of A	41317	*LITTLE POLE ANCHORAGE		
BLUFF 1886	T-9626	41475	OUTER LIGHT, 1937	T-9630	41330
BUSH 1922	T-9627	41541	PERK 1937	T-9627	41499
CAMP 1937	T-9629	41473	PHIL 1937	T-9627	41501
CENTER 1955	T-9624	41543	PIES 1937	T-9629	41442
CHAN 1937	T-9630	41314	PINK 1903	D	41492
DARTS 1946	D	41453	PLAY 1938-1955	T-9627	41497
DEAD 2 1955	T-9625	41607	POLE 1886	T-9630	41312
DIVIDE 1955	T-9624	41541	QUARRY 1955	T-9625	41608
EDNA 1946	D	41451	QUARTZ 1903	A	41306
GILLS 1946	F	41451	RED 1903	D	41451 & 41687
GRAZE 1955	T-9624	41541	REEF 1922	T-9624	41511
GREEN 1903	F	41447	ROS (4th order)	T-9624	41511
GRIM 1937	T-9627	41500	RUINS 1937	T-9626	41476
HALI 1937	A	41315	SCRAB 1937	T-9630	41332
HAMILTON ID. DAY-			SHAKAN STRAIT		
BEACON, 1954	T-9624	41510	DAYBEACON, 1955	T-9624	41541
HIP (4th order)	T-9624	41511	SHAKE 1955	T-9624	41542
HOLBROOK 1903	C-	41515	SICKLE 1938-1955	T-9627	41512
INNER 1955	T-9623	41565	SLEEPY 1938-1955	T-9627	41512
ISLE 1922	T-9624	41540	STATE 1922	T-9624	41510
LEDGE 1922	T-9625	41541	STRAW 1903	A	41327
LICHEN 2 1937	W. of A	41315	TWIST 1955	T-9624	41543
LONE 1922	T-9625	41606	UPPER 1955	T-9625	41609
MIDDLE 1955	T-9624	41608	VENT 1937	T-9627	41501
			WOLF 1903	D	41687

*This light is described under the name of OUTER LIGHT on Triangulation Index, Alaska No. 41, and FISHERMANS HARBOR OUTER LIGHT in the Coast Guard LIGHT LIST.

Paragraph 4, 5, & 6 Inapplicable.

7. SHORELINE & ALONGSHORE FEATURES

- (a) The mean high water line was adequately compiled on the preliminary Manuscripts and exceptions duly noted on field photos.
- (b) Inasmuch as the foreshore area was usually very steep, delineation of the low-water line was relatively unimportant, and no extra time was taken to make a low-water inspection of any area.
- (c) The foreshore was usually very steep and composed of solid bedrock. Exceptions were noted on field photos.

- (d) Bluffs and cliffs were noted on field photos. The only prominent cliff encountered was on the east side of Bluff Island.
- (e) The pier indicated on the west side of Fontaine Island (Shakan Strait) was deleted, and the adjoining buildings abandoned. The only other structure encountered was the site of an abandoned logging camp (clearly visible on photos) located at the head of a small bight $\frac{1}{4}$ mile southeast of triangulation station PIES, 1937. Adequate notes were made on the field photos.

8. OFFSHORE FEATURES

Delineation of foul areas was well done on the Preliminary Manuscripts, this opinion having also been expressed by the Hydrographer. Additional notes were during the field inspection and all important offshore rocks and heavy kelp areas were located by either the field inspection or the concurrent hydrography.

9. LANDMARKS AND AIDS

Information regarding landmarks and aids was covered by the concurrent hydrographic phase of the project. A copy of Form 567 is submitted as supplemental data.

10. BOUNDRIES, ETC., INAPPLICABLE

11. OTHER CONTROL

Reference may be made to plane table survey T-6589, Bluff Island to Hard-scrabble, 1937.

One recoverable topo station, ERV, was established during the 1955 Field Season. This station was marked in 1954 but no position determined at that time. During the 1955 Field Season, a fourth-order theodolite position was determined and the appropriate data recorded on Form 524.

All station names were inked on the field photos on which they were pricked. At no time was it necessary to refer to or use the office photos. When a direct prick was not possible, a substitute station was selected and the necessary data recorded on C.S.I. Cards.

The following photo-hydro stations were established:

<u>Map T-9624</u>		<u>Map T-9627</u>	
<u>Station</u>	<u>Photo. No.</u>	<u>Station</u>	<u>Photo. No.</u>
Car	41502	Oaf	41475
Dum	41509	Rev	41475
Elk	41502	Sag	41499
Fir	41509	Tax	41499
Got	41509	Use	41499
Ill	41509		
Jeb	41502		
Kay	41510		
Let	41501		
Mow (Sub pt)	41501		
Nob (Sub pt)	41501		
Sip	41501		
<u>Map T-9626</u>		<u>Map T-9629</u>	
<u>Station</u>	<u>Photo. No.</u>	<u>Station</u>	<u>Photo. No.</u>
Ina (Sub pt)	41476	Air	41333
Jit	41475	Bad	41333
Kid	41475	Dan	41442
Kip (Sub Pt)	41477	Doc	41474
Lam	41475	Eon	41472
Liz (Sub Pt)	41476	Flo	41473
Mag	41500	Gob	41333
Own (Sub Pt)	41476	Hag	41442
Pod	41475	Hut	41474
		Lux	41441
		Ned	41473
		Obi	41333
		Ova (Sub pt)	41473
		Pil	41473
		Rap	41473
		Pub (Sub pt)	41473
		Neo	41473
		Tea (Sub pt)	41473
		Wac (Sub pt)	41442
		Zam (Sub pt)	41442
		End (T-9630)	41332

The above stations are listed under the Manuscript Numbers indicated in the new Map-Photo Index sent to this party at the beginning of the 1955 field season.

12. Interior Features. Not applicable.
13. Geographic Names. None recommended during the 1955 field season.

14. SPECIAL REPORTS & SUPPLEMENTAL DATA

<u>Item</u>	<u>Date</u> <u>Trans. Ltr.</u>	<u>Package No.</u>
Photo Data	30 July 1955	1, 2, 3, 4
Triangulation Data	31 July 1955	5, 6
Triangulation Data	28 September 1955	11, 12
Photo Data	30 September 1955	13, 14, 15
Field Inspection Report & Miscellaneous Data	1 October 1955	16

Reference may also be made to the following applicable data:

Plane Table Survey T-6589, 1937, Bluff Island to Point Hardscrabble.

Graphic Control Sheets, LJ-A-55 and LJ-B-55.

The 1955 Hydrographic Surveys. Boat Sheets were forwarded to the Washington Office and prints are available.

Respectfully submitted,

/s/ P. A. Stark
Lt. USC&GS

Approved and Forwarded,

/s/ George A. Nelson,
Comdr., USC&GS
Chief of Party

1954

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

14

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 should call this attention to the writer
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. 15

- (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 varified 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 Summer 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.

7. Shoreline and Alongshore Features

was this
noted on
reference sheet

- 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	* uncovered - uncov	not visible - not vis
Awash - aw	covered - cov	heavy - hvy
Feet - ft	submerged - sub	light - lt

* 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 precipitious and contains a vertical crevasse 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.

Summa that acquired all sections should be used for Rock, submerged light - and actual correct - not be reported as just submerged covered rocks all in Hydro - top mounted.

(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 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

8
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

19

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	"

DESCRIPTIVE REPORT CONTROL RECORD

MAP T- 9621 PROJECT NO. PH-87 SCALE OF MAP 1:10,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR Y COORDINATE LONGITUDE OR X COORDINATE	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS (1 Ft. = 3048006 meter) FORWARD (BACK)
CENTER, 1955	Vol.III Pg. 943	N.A. 1927	56 10 01.259 133 33 39.046	38.9 (1816.9) 673.8 (361.6)
GRAZE, 1955	Vol.III Pg. 943	"	56 09 25.459 133 31 16.287	787.4 (1068.4) 799.0 (236.7)
MIDDLE, 1955	Vol.III Pg. 942	"	56 10 32.766 133 31 09.791	1013.5 (842.3) 168.9 (866.3)
Sub Sta. MIDDLE, 1955	Comp.	"	56 10 133 31	1016.0 (832.8) 178.3 (856.9)
SHAKE, 1955	Vol.III Pg. 943	"	56 09 32.398 133 32 56.321	1002.1 (853.7) 972.2 (63.5)
Sub Sta. 1 SHAKE, 1955	Comp.	"	56 09 133 32	1000.7 (855.1) 975.6 (60.1)
DIVIDE, 1955	Vol.III Pg. 943	"	56 09 35.561 133 30 17.002	1099.9 (755.9) 293.5 (742.1)
Sub Sta. 1 DIVIDE, 1955	Comp.	"	56 09 133 30	1070.6 (785.2) 268.6 (767.0)
Sub Sta. 2 DIVIDE, 1955	Comp.	"	56 09 133 30	1057.2 (798.6) 295.4 (740.2)
CALDER, 1955	Vol.III Pg. 943	"	56 11 11.750 133 31 13.167	363.4 (1492.4) 227.1 (807.9)
TURN, 1955	Vol.III Pg. 942	"	56 11 01.072 133 31 55.446	33.2 (1822.6) 956.1 (78.6)
S. P. CENTER, 1955	Comp.	"	56 10 133 33	76.5 (1779.3) 682.2 (353.2)
COMPUTED BY B. Kurs	DATE 9/19/55	CHECKED BY J. Steinberg	DATE 9/21/55	

DESCRIPTIVE REPORT CONTROL RECORD

MAP T- 9624 PROJECT NO. PH-87 SCALE OF MAP 1:10,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR Y COORDINATE LONGITUDE OR X COORDINATE		N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS (1 FT. = 3048006 meter)	FORWARD (BACK)
MILTON, 1955	Vol.III Pg. 943	N.A. 1927	56 08 36.754		1136.8	(719.0)
			133 33 24.769		427.7	(608.4)
SHAKAN, 1886-1922	Vol.I Pg. 204	"	56 08 57.080		1765.4	(090.4)
			133 37 57.336		989.9	(46.0)
			56 08 57.976		1793.2	(62.6)
SHAKAN BAY LIGHT, 1954	Vol.III Pg. 937	"	133 37 26.741		461.7	(574.2)
			56 08 39.073		1208.5	(647.3)
STATE, 1922	Vol.I Pg. 316	"	133 36 59.847		1033.4	(02.7)
			56 07 44.921		1389.4	(466.4)
LOG A, 1922	Vol.I Pg. 316	"	133 34 41.556		717.8	(318.6)
			56 07 49.253		1523.3	(332.5)
HAM, 1922	Vol.I Pg. 318	"	133 30 05.404		93.3	(943.1)
			56 07 46.291		1431.7	(424.1)
TRIPLE, 1922	Vol.I Pg. 318	"	133 30 13.108		226.4	(810.0)
			56 07 36.277		1122.0	(733.8)
ISLE, 1922	Vol.I Pg. 317	"	133 31 22.761		393.2	(643.4)
			56 07 44.248		1368.5	(487.3)
REEF, 1922	Vol.I Pg. 317	"	133 33 35.201		608.1	(428.3)
			56 07 52.816		1633.5	(222.3)
END, 1922	Vol.I Pg. 316	"	133 34 11.407		197.0	(839.3)
			56 07 52.842		163.4	(1692.4)
HAMILTON ISLAND DAYBEACON, 1954	Vol.III Pg. 936	"	133 34 08.241		142.3	(894.0)
			56 07 58.12		1797.6	(58.2)
LIM, 1915	Vol.I Pg. 214	"	133 34 13.56		234.2	(802.1)
COMPUTED BY B. Kurs	DATE 9/19/55	CHECKED BY J. Steinberg ✓	DATE 9/21/55			

MAP T- 9624 PROJECT NO. PH-87 SCALE OF MAP 1:10,000 SCALE FACTOR _____

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR Y COORDINATE LONGITUDE OR X COORDINATE	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS (1 Ft. = 3048006 meter)	
				FORWARD	(BACK)
TWIST, 1955	Vol. III Pg. 943	N.A. 1927	56 11 03.957 133 33 17.895	122.4 308.7	(1733.4) (726.3)
WAS, 1954	Vol. III Pg. 937	"	56 10 06.341 133 34 16.379	196.1 282.6	(1659.7) (752.8)
MINK, 1954	Vol. III Pg. 933	"	56 10 36.766 133 34 34.671	1137.2 598.2	(718.6) (437.0)
NEW, 1922	Vol. I Pg. 316	"	56 10 42.866 133 35 49.023	1325.8 845.7	(530.0) (189.4)
COMPUTED BY A. Queen	DATE 9/29/55	CHECKED BY E. L. Williams ✓	DATE 9/30/55	22	

PHOTOGRAMMETRIC PLOT REPORT
PROJECT 6087

Surveys T-9624 thru T-9628

21. AREA COVERED

This radial plot covers the area of surveys T-9624 thru T-9628 and the southeast corner of T-9623. They are shoreline surveys located on the Prince of Wales Island, Alaska, along Sumner Strait, and cover the areas of Shakan and Shipley Bays.

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. Base sheets were prepared in this office.

All control stations and substitute stations were plotted using the meter bar and beam compass.

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

Photographs:

All photographs used are nine-lens unmounted photographs, at a scale of 1:10,000. Thirty-one photographs were used in the radial plot, and are numbered as follows:

41474 thru 41477
41498 thru 41502
41508 thru 41513
41537 thru 41544
41605 thru 41610
41630 and 41631

Standard symbols were used on the photographs.

Templets:

Vinylite templets were prepared for all photographs. A master templet was used to correct for paper and film distortion, and for chamber displacement.

Closure and Adjustment to Control:

Vinylite base sheets were prepared in this office. Because there were no grid lines on the manuscripts, some intersections of the manuscript projections were transferred to the base sheets. These common intersections were held in order to transfer the control.

The radial plot was laid, tying into points established in a previous plot laid in December 1954 for surveys T-9622 and T-9623 to the north. The flights beginning with photographs 41508 and 41544 were laid first, and extended southward.

22. METHOD - RADIAL PLOT (cont'd)

Closure and Adjustment to Control: (cont'd)

The plot was then extended to the east and to the west. Some control stations could not be held, but a satisfactory plot was obtained. In Calder Bay station INNER, 1955 could not be held in the plot.

Transfer of Points:

The map manuscripts were placed over the finished plot and oriented by holding the control and intersections that had been transferred to the base sheets. All pass points and photograph centers were pricked on the map manuscripts.

23. ADEQUACY OF CONTROL

There was adequate control to obtain a satisfactory radial plot.

The following stations could not be held in the plot:

INNER, 1955. The radially plotted position is 8 meters southwest of the geographic position. This sub. pt. was a very poor image point and it is quite possible the wrong rock was identified on the office photograph.

MIDDLE, 1955. The radially plotted position is 0.2 mm southwest of the geographic position.

ISLE, 1922. The radially plotted position is 0.4 mm east of the geographic position. Station ISLE, 1922 was reported lost, but the RM was recovered. The azimuth station was listed on the control identification card as BLACK, 1922 by the field man. The orientation of the control identification card indicates that either BEND, 1922 or BUSH, 1922 probably was used.

UPPER, 1955. The control station identification card describes the sub point as a ledge, but the image pricked on the field photograph is a tree laying over. The ledge was not visible on the office photographs and this sub. station was not used to control the plot.

RUINS, 1937. The radially plotted position for Sub. Pt. No. 1 is 1.1 mm northwest of the geographic position. However, Sub. Pt. No. 2, which is a more definite image point, was held in the plot.

PHIL, 1937. The radially plotted position is 0.4 mm northwest of the geographic position. This is probably a matter of inaccurate identification, because VENT, 1937 to the north, and PERK, 1937 to the south were held in the plot.

BILL, 1938-55. The radially plotted position from Sub. Pt. No. 1 is 0.7 mm southwest of the geographic position. Sub. Pt. No. 2 was held in the plot. The distances measured to these sub stations were stadia distances of 100 meters and 228 meters.

15
25

23. ADEQUACY OF CONTROL (cont'd)

NIPPLE, 1922. This station was office identified, and extreme elevation and tilt made the identification very weak.

LONE, 1922. This station was office identified in 1954 measuring from the lone tree as described in the 1922 description. The 1955 identification of a Sub Pt. for LONE, 1922 was the same image point as the office identification of the station. Consequently, the pricking was not changed on the office prints. LONE, 1922 and not the position of Sub. Sta. LONE, 1922 was held in the radial plot. LEDGE, 1922 just to the south of LONE, 1922 held in the plot. This confirms the office identification of the station and tends to indicate the field identification may be in error.

H. HIP, 1955. The radially plotted position is 0.3 mm northeast of the geographic position for this hydrographic signal, which was computed in the field as less than third-order.

24. SUPPLEMENTAL DATA

None.

25. PHOTOGRAPHY

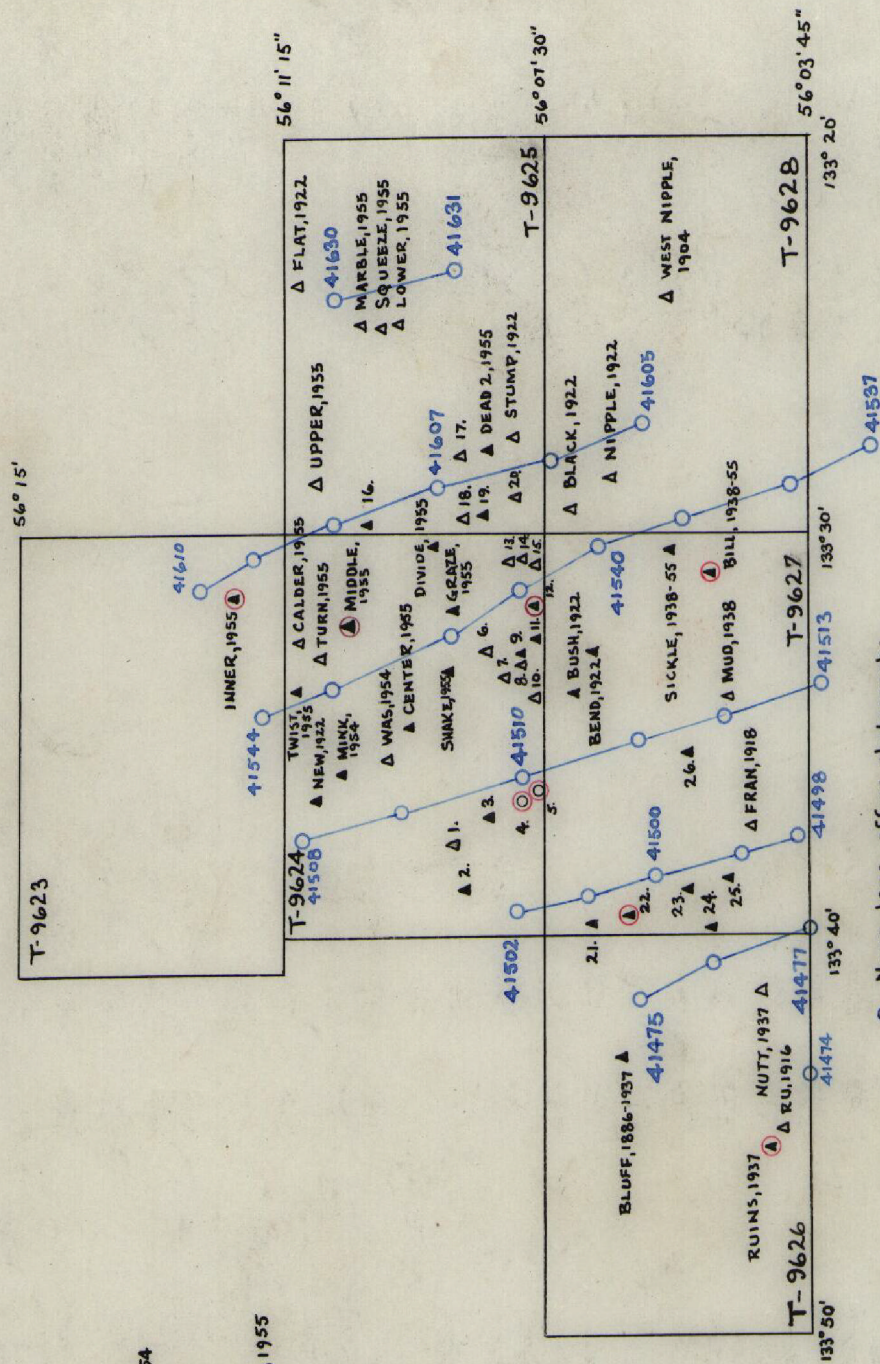
The photographic coverage and definition of photographs used in the plot were good. However, the office prints were in poor condition as the result of being used in a previous plot of the same area, as well as in preliminary compilation and in two field seasons with the hydrographic party. It is believed that new office prints would have made control identification easier, because the office identification of control for the preliminary surveys interfered with pricking of field identified control. In addition, the condition of the office prints undoubtedly resulted in local distortions of the paper and emulsion, so that the resulting templates could not be adjusted as well as a new flat print. A request for new prints was not made at the start of the radial plot because the completion date for this project did not allow sufficient time.

Respectfully submitted
22 November 1955

E. L. Williams
Cartographic Aid (Photo.)

LAYOUT SKETCH PROJECT 6087 SURVEYS T-9623 thru T-9628

1. STATION 15. L.H., 1954
2. SHAKAN, 1886
3. STATE, 1922
4. WIP, 1955
5. ROS, 1955
6. MILTON, 1953
7. LIM, 1915
8. END, 1922
9. HAMILTON 15. DAY BN., 1954
10. LOG A, 1912
11. REEF, 1922
12. 15LE, 1922
13. HAM, 1922
14. SHAKAN STRAIT DAY BN., 1955
15. TRIPLE, 1922
16. QUARRY, 1955
17. NOR, 1922
- TAINE, 1922
- PASS, 1922
18. CREEK, 1922
19. LONE, 1922
- LEDGE, 1922
20. EAST A, 1922
- WEST, 1922
- MIL, 1922
21. VENT, 1937
22. PHIL, 1937
23. PERK, 1937
24. GRIM, 1937
25. SHIP, 1937
26. PLAY, 1938
- SLEEP, 1938-55



- Nine-lens office photographs
- △ Control stations identified
- △ Control stations not identified
- △ Control stations not held in plot
- Hydro signal identified
- Hydro signal not held in plot

COMPILATION REPORT T-9624

Field Inspection Report: Refer to three reports:

1. Field Report for Project CS-347(Ph-87), Ship LESTER JONES, 1954 season, submitted by Curtis LeFever.
2. Preliminary Field Inspection Report, Maps T-9623 thru T-9627, May-July 1955, combined operations - USC&GS Ship LESTER JONES Project CS-347 - Ph-87, submitted by P. A. Stark.
3. Field Inspection Report, Maps T-9623 through T-9630, Combined Operations - U.S.C. & G. S. Ship LESTER JONES, Project 1347 (Ph-87) submitted by P. A. Stark. (See page 7). 1955

Photogrammetric Plot Report: In addition to the present report, refer also to the previous report for surveys T-9622, T-9623 and T-9624 which is part of the Descriptive Report for Survey T-9623.

31. DELINEATION

This manuscript was delineated by graphic methods. The shoreline and offshore details north and west of station MINK, 1954 were delineated in January 1955 from 1954 inspection. See paragraph 36 for offshore details not delineated. THERE WAS SOME OVERLAP IN FIELD WORK- REFER TO PAGE 34. THE HORIZONTAL POSITIONS OF FEATURES COMPILED IN JAN. 1955 WERE VERIFIED THROUGH THE 1955 PLOT (FINAL) BASED ON FIELD IDENTIFIED CONTROL.

32. CONTROL

Refer to the Photogrammetric Plot Report.

33. SUPPLEMENTAL DATA

Copies of boat sheets LJ-1354 and LJ-1155 were available for purposes of comparison.

Theodolite cuts from triangulation stations were furnished for hydrographic signals in this area.

Graphic control sheet LJ-A-55 became available after the manuscript was compiled.

34. CONTOURS AND DRAINAGE

Contours: Inapplicable.

Drainage: No comment.

35. SHORELINE AND ALONGSHORE DETAILS

The shoreline inspection was adequate. The low water lines and ledge areas are based on data furnished by the field party. The notes indicating where points of land and ledges were attached or detached were especially helpful in shoreline interpretation.

At places where the shoreline was obscured by shadows and relief displacement, the shoreline was shown with a broken line.

36. OFFSHORE DETAILS

The manuscript was compared with the boat sheets and several rocks were identified on the photographs from positions indicated on the boat sheets, and delineated on the manuscript. Numerous rocks were not visible on the photographs which are at a high stage of tide. The manuscript was also compared with graphic control sheet LJ-A-55, which shows a rock near station MIDDLE, 1955 bare at minus tides. This rock was not visible on the photographs and was not delineated.

The foul lines delineated on the preliminary manuscripts were compiled from Geological Survey photographs which are at a lower stage of tide. These lines seem to agree fairly well with the hydrographic data. The nine-lens photographs do not show these foul areas as well, and they were not delineated on the manuscript. The kelp areas outlined by the field party approximate these lines and were delineated on the manuscript except that "heavy kelp" areas within kelp areas were not delineated.

Theodolite cuts were furnished to the following features which verified the positions as delineated on the manuscript:

	No. of cuts
Rock 675 m SW of SHAKE	2
Rock 600 m ESE of MINK	2
Rock awash 210 m S of SAW	1
Rock awash 800 m SSW of TWIST	2
Rock SW of GRAZE	1
Rock 825 m NE of CENTER	1
Rock 780 m SW of SHAKE	1
Rock at MID	1

Apparent discrepancies between the boat sheet positions and the manuscript positions of numerous rocks and other detail appears to have been caused by improper transfer from the preliminary manuscript and also the adjustment of the photogrammetric plot to newly established control stations.

37. LANDMARKS AND AIDS

Forms 567 for three aids to navigation have been submitted by the hydrographic party. A copy is attached to this report.

38. CONTROL FOR FUTURE SURVEYS

Form 524 was submitted by the 1954 field party for station WAS, 1954. This station was shown with a triangle because a third-order position was available.

FORM 524
LOST

Refer to par. 38 of the Descriptive Report for Survey T-9623 for discussion of the 8 photo-hydro stations located in 1954. A list of these stations is included in paragraph 49 of this report.

Twelve photo-hydro signals were identified by the 1955 field party and located on the manuscript. Paragraph 49 includes a list of these and their discrepancies from the boat sheet positions.

Fifteen hydrographic signals were located by theodolite cuts furnished by the field party. They were plotted on the manuscript and are listed in par. 49 along with their discrepancies from the boat sheet position.

39. JUNCTIONS

Junction with surveys T-9623 to the north, T-9625 to the east and T-9627 to the south have been made and are in agreement.

40. HORIZONTAL AND VERTICAL ACCURACY

Refer to Photogrammetric Plot Report.

41 - 45 Not applicable.

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.

Items to be applied to nautical charts immediately:

See "Notice to Mariners " No. 35, 27 August 1955, par. 3901.

Items to be carried forward:

None.

Approved and Forwarded

E. H. Kirsch
E. H. Kirsch,
Comdr. C&GS
Baltimore District Officer

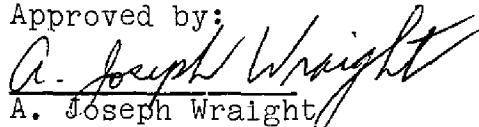
Respectfully submitted
18 November 1955

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

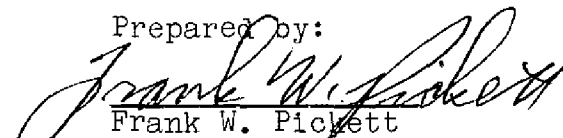
GEOGRAPHIC NAMES
FINAL NAME SHEET
PH-87 (Sumner Strait)
T-9624

Calder Bay
Divide Island
Hamilton Island
Kosciusko Island
Middle Island
Prince of Wales Island
Shakan Bay
Shakan Island
Shakan Strait
Station Island

Approved by:


A. Joseph Wraight
Chief Geographer

Prepared by:


Frank W. Pickett
Cartographic Technician

T-9624

49. NOTES FOR THE HYDROGRAPHER

The following is a list of the photo-hydro signals on this survey located in the 1954 season. Measured discrepancies of the manuscript positions from the boat sheet positions are indicated.

<u>Signal</u>	<u>LJ-1354</u>	<u>LJ-1155</u>
BUM*	Old, 0.7 mm E New, checks	
COD	0.5 mm SE	checks
CRY	1.5 mm SE	checks
GUY		checks
HID	checks	1.0 mm SE
SIR	checks	checks
SUE	checks	checks
WAD	1.0 mm NE	checks

*During the 1955 season, a new signal BUM was established and located about 1.0 mm E of the old position. Refer to the blackline impression of the incomplete manuscript for the old position.

Recoverable topographic station WAS, 1954 was shown with a triangle because a third-order position was available.

The following is a list of the 12 photo-hydro signals located in 1955. Measured discrepancies of the manuscript positions from the boat sheet positions are:

CAR*	2 mm NNW	JEB	1.0 mm N
DUM	checks	KAY	1.8 mm NE
ELK	0.8 mm SW	LET	2.3 mm NW
FIR	0.5 mm N	MOW	2.0 mm NW
GOT	0.7 mm W	NOB	1.7 mm NE
ILL	0.8 mm N	SIP	1.0 mm N

*One theodolite cut from STATE, 1922 verifies the manuscript position.

The following is a list of the 15 hydrographic signals located by theodolite cuts furnished by the field party. Measured discrepancies of the manuscript positions from the boat sheet positions are:

<u>Signal</u>	<u>LJ-1354</u>	<u>LJ-1155</u>
BOB	3.5 mm SSE	checks
BUM	Checks	Not the same as in 1954. See blackline impression of incomplete manuscript T-9624 for 1954 position.
FOX	Checks	
HIP	3.2 mm S	Plotted from field computed position.
LOG		Near LOG A, 1922. Not on the boat sheets.
LOW		Only two theodolite cuts.
MID		checks
	0.4 mm E	" " " "

49. NOTES FOR THE HYDROGRAPHER

<u>Signal</u>	<u>LJ-1354</u>	<u>LJ-1155</u>	<u>Remarks</u>
PET	1.2 mm SE		
PIG	1.5 mm SE		
PRU	3.0 mm SSE	0.5 mm SSE	Same as FRY, 1954
RCS	1.5 mm S	checks	Plotted from field computed position.
TRE			Same as Sub. Pt. NEW. Not on LJ-1354.
UNA		checks	
VAL		checks	
WEB		0.5 mm SSW	

The discrepancies in the photo-hydro and the hydrographic signals are listed to call the attention of the hydrographic party to possible weaknesses in the boat sheet positions of these signals.

It appears that the shoreline was transferred incorrectly to the boat sheet. The photo-hydro signals were then located to fit the details of the shoreline. (Reference preliminary field report, page 4 and final field inspection report, page 10.)

The positions of the signals located by theodolite cuts appear to have been affected by the incorrect shoreline on the boat sheets.

On redelineation of the shoreline from field inspection with a new photogrammetric plot on the N.A. 1927 datum, the positions of the signals show marked discrepancies from the positions on the boat sheet.

It is believed that the office photographs should have been used to locate control station and photo-hydro signals on the preliminary manuscript (paragraphs 6 and 7, Instruction No. 45). The transfer of the photo-hydro signals to the boat sheet holding to the control on the boat sheet would have resulted in positions closer to the datum.

It is possible that these discrepancies are not sufficient to seriously affect the hydrography or the boat sheet work, but the manuscript positions should be used in the preparation of the smooth sheets.

The plotting of the following stations were found to be in error on graphic control sheet LJ-A-55:

DIVIDE, 1955	0.3 mm N of manuscript position.
GRAZE, 1955	0.4 mm NE " " "
TWIST, 1955	0.3 mm NW " " "
CENTER, 1955	0.2 mm E " " "

25 Nov 1962 31

Form T-2

50-

PHOTOGRAMMETRIC OFFICE REVIEW

T- 9624

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 ^{Theodolite} ~~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 Frank J. Larcia
Reviewer 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.

Leo F. Baumgart *

Compiler

Supervisor

43. Remarks:

* SEE FINAL REVIEW REPORT
ITEM # 67

M-2661-12

REVIEW REPORT T-9624
SHORELINE
June 11, 1968

61. GENERAL STATEMENT:

See Summary accompanying the Descriptive Report.

There is no Field Edit Report or Field Edit Sheet for this survey. Field Edit consisted of corrections made by the hydrographer and notations made by the field inspectors on the photographs of corrections to be applied to the Preliminary manuscripts. ~~Field Edit Report~~

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Comparison was made with a copy of Registered Survey No. 1757, 1:20,000 scale, made in 1888. The passage of time has made this survey obsolete, it is superseded by T-9624 for nautical chart purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with USGS PETERSBURG (A-5), ALASKA, 1:63,360 scale quadrangle, edition of 1953. The two surveys are in good general agreement, the USGS quadrangle being somewhat generalized because of the scale of the map.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with copies of H-8151 and H-8243. H-8151 has been reviewed, H-8243 has not been reviewed. All of the discrepancies between the hydrographic surveys and T-9624 have been noted on the comparison print which is bound with this report. ~~See below.~~

The height of the tide at the time of photography plus large areas of kelp prevented verification of many of the rocks located by the hydrographer.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Nautical Chart 8172, 1:40,000 scale, 5th edition, November 23, 1964. All discrepancies between the chart and this survey have been noted on the Comparison Print. REFER TO NOTES AT BOTTOM OF PAGE 33

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with instructions and meets the National Standards of Map Accuracy. SEE NOTES AT BOTTOM OF PAGE 33

* REFER TO PAGES 35, 39 & 40 (ABSTRACT FROM CONTEMPORARY HYDRO SURVEY REPORT) AND NOTE AT BOTTOM OF PAGE 33. NO SIGNIFICANT DIFFERENCES EXIST BETWEEN THE SURVEYS.

67. The mean high water line which had been mapped with the approximate mean high water symbol, and which had been verified or corrected by the hydrographer, was redrafted with a solid line by the final reviewer.

The following office and field photographs were examined during final review:

OFFICE	FIELD
41501 and 41502	41501 and 41502
41508 thru 41510	41508 thru 41510
41541 thru 41543	41541 thru 41543
41608 thru 41610	41606 thru 41610

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 J. Ramsey
Chief, Photogrammetric Branch *ADD*

R. H. Houlston
Chief, Photogrammetry Division

Chief, Nautical Chart Division

* THERE ARE INCONSISTENCIES IN STATEMENTS MADE IN THE 1955 FIELD INSPECTION (EDIT) REPORT CONCERNING THE EXTENT OF FIELD INSPECTION - ITEM 2, PARAGRAPHS 2 AND 4, AND ITEM 7, PARAGRAPH (a).

THE CARTOGRAPHIC COMPARISON PRINT (BOUND WITH THIS REPORT) ACCOUNTS FOR (1) ROCKS SHOWN ON THE NAUTICAL CHART THAT ARE NOT VISIBLE ON THE PHOTOGRAPHY (2) ROCKS SHOWN ON THE HYDRO SURVEY THAT ARE NOT VISIBLE ON THE PHOTOGRAPHY. IT IS ASSUMED THAT THE ROCKS INCLUDED ONLY ON THE CHART ^{SEE} WERE ACCOUNTED FOR THROUGH THE HYDROGRAPHIC SURVEY RECORDS; AND EITHER CARRIED FORWARD OR REJECTED. AS INDICATED, THESE ROCKS CANNOT BE ACCOUNTED FOR THROUGH AVAILABLE PHOTOGRAMMETRIC SURVEY RECORDS.

IT IS BELIEVED THAT THE TOPOGRAPHIC INFORMATION FURNISHED THROUGH THE COMBINED HYDRO AND TOPO SURVEYS IS ADEQUATE FOR NAUTICAL CHARTING IN THIS AREA.

BASIC MAP ACCURACY - HORIZONTAL CONTROL WAS FIELD IDENTIFIED ON THE PHOTOGRAPHY; AND THE RADIAL PLOT WAS CONSIDERED ADEQUATE FOR MAPPING TO MEET THE NATIONAL STANDARDS OF MAP ACCURACY. *ADD*

NOTE TO REVIEWER
T-9624

The preliminary manuscript shows foul lines that agree fairly well with the hydrographic survey data on the boat sheets (kelp, zero soundings). These foul lines were delineated from Geological Survey photographs which are not in the compilation office at this time. They do not appear on the nine-lens photographs because of the high stage of tide and are not shown on the manuscript. Consideration should be given to compiling the additional information that appears on the Geological Survey photographs.

There is only one theodolite cut to a TBM near signal FIG. No other information was furnished to locate this TBM on the manuscript.

There are discrepancies in rock elevations between the 1954 and 1955 inspection. NE of GUY, the inspected elevation is shown in preference to a computed elevation. SE of GUY, the higher of two computed elevations is shown. Three other discrepancies in the 1955 inspection in the vicinity of station DIVIDE, 1954 and signal MOW were indicated on the field photographs.

One sunken rock near MIDDLE, 1955 is located on graphic control sheet LJ-A-55. It is not visible on the photographs and is not shown on the manuscript.

G. SHORELINE AND TOPOGRAPHY:-

Shoreline and topographic details are from manuscripts T-9623, T-9624, T-9625 and T-9627 compiled by photogrammetric methods based on 1954 and 1955 field inspection data. There is a small amount of shoreline and topographic details on graphic control sheet LJ-A-55. Location of some offshore rocks were duplicated by the hydrographer and others were located which are not on the manuscripts. Kelp areas defined by the hydrographer should be given preference over those indicated on the manuscripts. Shoreline indicated by dashed line on the manuscripts is partially obscured by trees and shadows on the photographs. However it is essentially correct for charting as shown.

The low water line was not defined by soundings except in limited areas of flat bottom such as in Calder Bay. Steep foreshore prevented sounding in to the low-water line along most of the shoreline.

All stations outside the high-water line are on rocks or islets.

Shoreline on the boat sheet is from preliminary manuscripts T-9623, T-9624, T-9625 and T-9627 compiled without projections. Shoreline was transferred to the boat sheet to fit established control.

H. SOUNDINGS:-

All soundings on sounding lines were measured in fathoms with 808 fathometer No. 102-S. Soundings on some rocks and shoals were measured with a hand lead.

All sounding was routine. No unusual methods were used and no unusual corrections were applied.

Bar checks were taken when weather conditions permitted to a depth of 10 fathoms. Bar checks to 10 fathoms were in agreement with the 2 fm. bar checks, and the correction is entered in the sounding records as part of a combined phase-draft correction. All fathometer soundings are on A scale for which the phase correction is zero.

The fathometer initial was set on zero and any variation from this setting was entered in the sounding records as an index correction.

I. CONTROL OF HYDROGRAPHY:-

All hydrography was controlled by visual sextant fixes on shore stations. No unusual methods were used.

J. ADEQUACY OF SURVEY:-

The survey is considered complete and adequate to supersede all prior surveys of the area.

All parts of the survey are equally reliable and comply with the Project Instructions and the Hydrographic Manual.

Soundings of adjoining sheets transferred to the boat sheet indicate that junctions are satisfactory and depth curves can be adequately drawn.

There are no holidays.

areas are as follows:

In the pass between Prince of Wales Island and Middle Island - the line between stations FAD and RYE.

In the pass between Middle Island and Divide Island - the line between stations HOG and CAM.

In the pass between Divide Island and Hamilton Island - a north-south line along longitude $133^{\circ} 31.1'$.

In Shakan Strait - the line between stations CON and MIL.

These lines are indicated on the boat sheet.

No time or range corrections were made on observed tides for either gage in their respective areas.

On 21, 23, 24 and 25 May Inner Shakan Bay gage was not in operation. During this period Outer Shakan Bay tides were used in the inner bay with a time difference of plus 15 minutes and a range ratio of 1.0. These values were obtained from the Washington Office (Ltr., ref. 36-161-9821, dated 14 October 1955.).

There are no current stations within the limits of this survey.

E. SMOOTH SHEET:-

Not plotted by field party.

F. CONTROL STATIONS:-

The source of control is triangulation executed by T.J.M. in 1922 supplemented in the northern part of the survey by triangulation executed by Curtis Le Fever in 1954 and by this party in 1955.

Topographic station CRY is a photo-hydro station located in 1954 on T-9624. Other topographic stations in this vicinity west of longitude $135^{\circ} 34'$ were also located in 1954 on T-9624 and were relocated in 1955 by other means. Geographic positions were computed for stations COD and BUM from fourth-order theodolite observations. Others were located by planetable on LJ-A-55. Note that station BUM used in 1955 is not the same as photo-hydro station BUM located in 1954 on preliminary manuscript T-9624.

Geographic positions for topographic stations ROS, BOB, PRU, UNA, VAL and WEB were computed from fourth-order theodolite observations.

Topographic stations in Shakan Strait were located by sextant fixes at the station and/or by sextant cuts from other shore stations. These should be shown on the smooth sheet as topographic stations.

Station SAW was located by a short traverse from WAS, 1915-1954. See H-8151. See also LJ-A-55.

All other topographic stations were located by plane-table on graphic control sheet LJ-A-55 (Registry No.).

No positions of stations are known to be of sub-standard accuracy.

G. SHORELINE AND TOPOGRAPHY:-

Shoreline and topographic details are from manuscripts T-9623, T-9624, T-9625 and T-9627 compiled by photogrammetric methods based on 1954 and 1955 field inspection data. There is a small amount of shoreline and topographic details on graphic control sheet LJ-A-55. Location of some offshore rocks were duplicated by the hydrographer and others were located which are not on the manuscripts. Kelp areas defined by the hydrographer should be given preference over those indicated on the manuscripts. Shoreline indicated by dashed line on the manuscripts is partially obscured by trees and shadows on the photographs. However it is essentially correct for charting as shown.

The low water line was not defined by soundings except in limited areas of flat bottom such as in Calder Bay. Steep foreshore prevented sounding in to the low-water line along most of the shoreline.

All stations outside the high-water line are on rocks or islets.

Shoreline on the boat sheet is from preliminary manuscripts T-9623, T-9624, T-9625 and T-9627 compiled without projections. Shoreline was transferred to the boat sheet to fit established control.

H. SOUNDINGS:-

All soundings on sounding lines were measured in fathoms with 808 fathometer No. 102-S. Soundings on some rocks and shoals were measured with a hand lead.

All sounding was routine. No unusual methods were used and no unusual corrections were applied.

Bar checks were taken when weather conditions permitted to a depth of 10 fathoms. Bar checks to 10 fathoms were in agreement with the 2 fm. bar checks, and the correction is entered in the sounding records as part of a combined phase-draft correction. All fathometer soundings are on A scale for which the phase correction is zero.

The fathometer initial was set on zero and any variation from this setting was entered in the sounding records as an index correction.

I. CONTROL OF HYDROGRAPHY:-

All hydrography was controlled by visual sextant fixes on shore stations. No unusual methods were used.

J. ADEQUACY OF SURVEY:-

The survey is considered complete and adequate to supersede all prior surveys of the area.

All parts of the survey are equally reliable and comply with the Project Instructions and the Hydrographic Manual.

Soundings of adjoining sheets transferred to the boat sheet indicate that junctions are satisfactory and depth curves can be adequately drawn.

There are no holidays.

38

PROCESSING OFFICE NOTES H-8243

SMOOTH SHEET

The smooth sheet was hand constructed by the Seattle Hydrographic Processing Unit, using standard methods of construction and checking.

CONTROL STATIONS

Control comes from the same source as for the boat sheet.

ADEQUACY OF SURVEY

The survey is complete and adequate for charting.

The junction with H-8151 was compared and found satisfactory. The depth curves can be adequately drawn at the junction.

Junction soundings in El Capitan Passage are not available in the processing office.

COMPARISON WITH CHART

A comparison was made with Chart 8172 3rd Ed. Revised 9/1/58, which was made up from the boat sheet.

See the section of Chart 8172 attached to this report, for discrepancies between the chart and the smooth sheet.

DANGERS AND SHOALS

Items under this heading in the Field Report have been checked or corrected to the smooth sheet values.

Respectfully submitted

WILLIAM M. MARTIN
Supervisory Cartographer

Approved and forwarded

G. C. MAST
G. C. MAST
Captain C&GS
Seattle District Officer

Re. SMOOTH SHEET:-

Not plotted by field party. (By Seattle Photo. Corp.)

F. CONTROL STATIONS:-

The source of control is triangulation executed by J.M.H. in 1886, T.J.M. in 1922, G.C.J. in 1937 and Curtis Le Fever in 1954.

Topographic stations used in 1954 are photo-hydro stations located on T-9623 and T-9624.

Topographic stations in the northerly part of the sheet used in 1955 are mostly photo-hydro stations located in 1954 on T-9623 and T-9624.

Topographic stations south of Shakan Bay are mostly photo-hydro stations located on T-9624, T-9626 and T-9627 (1955).

Geographic positions were computed from fourth-order theodolite observations for topographic stations BOB, BUM, COD, ERV (See T-9623) FOX, HIP, (See T-9624) NOY (See H-8245), ORA, PET, FIG, PRU, and ROS (See T-9624). Numerous fourth-order theodolite directions were observed on other stations for which no positions were computed. (See Lists of Fourth-order Directions).

Topographic stations WOL and SAW were located by traverse from stations WOLF, 1954 and WAS, 1954, respectively.

Topographic stations COO, COT, DIP (fix and traverse), HAD, NIG, and TUF were located by a sextant fix at the station and/or sextant cuts from other shore stations.

No positions of stations are known to be of sub-standard accuracy.

G. SHORELINE AND TOPOGRAPHY:-

DESC. REPORT H-8151

Shoreline and topographic details are from manuscripts T-9623, T-9624, T-9626 and T-9627 compiled by photogrammetric methods based on 1954 and 1955 field inspection data. Location of some offshore rocks was duplicated by the hydrographer and others are located which are not on the manuscripts. Kelp areas defined by the hydrography should be given preference over those indicated on the manuscripts.

Steep foreshore and heavy kelp prevented sounding in to the lower line.

All stations outside the high-water line are on rocks or islets.

SOUNDINGS:-

All soundings on sounding lines were measured in fathoms with 808 fathometers. Soundings on some rocks and shoals were measured with a hand-lead. Wire soundings were measured with sounding machine while taking bottom samples with the ship.

All sounding was routine. No unusual methods were used and no usual corrections were applied.

40
PROCESSING OFFICE NOTES H-8151

SMOOTH SHEET

The smooth sheet was hand constructed by the Seattle Hydrographic Processing Unit using standard methods of construction and checking. Shoreline and topography were transferred from blue line tracings of the photo - manuscripts covering the area.

CONTROL STATIONS

All topographic stations shown in red circles were transferred from the photo - manuscripts covering the area. Signals COO, COT, HAD, NIC, RUT and TUF were located by sextant angles measured from other stations or at the point located. Signals DIP and WOL were located by one sextant angle and a taped distance. GIF and NON are hydro locations.

SHORELINE AND TOPOGRAPHY

The shoreline and topography were transferred from Advanced Manuscripts T-9623, T-9624, T-9626 and T-9627.

ADEQUACY OF SURVEY

This survey is considered complete and adequate for charting.

The junctions with adjoining surveys H-8150, H-8243, H-8244 and H-8245 have been compared and, except for a small area in the northwest corner of this survey at the junction with H-8150, are satisfactory. The above mentioned discrepancy is in soundings on the "E" scale, on both sheets, and appears to be in the phase correction. The soundings on this are 2 to 3 fathoms deeper than on H-8150 in depths of 155 to 165 fathoms.

sec P4
Review

adjustment
made on
H-8150

The usual charted depth curves can be adequately drawn at the junctions.

CROSSLINES

Except for the above mentioned discrepancy, the crossings are in agreement.

COMPARISON WITH CHART

Comparison has been made with Chart 8172 3rd Ed. Revised 9/1/58. See section of chart attached to this report for comparison between the chart and the smooth sheet.

sec P5 & 6
Review

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

STRIKE OUT ONE

Point Baker, Alaska

30 September 1955

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

The positions given have been checked after listing by P. A. Stark

George A. Nelson, CDR., C&CS

Chief of Party.

[illegible]

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating