

9133

Original

9133

FORM C&GS-504	
U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	TOPOGRAPHIC
Field No.	Office No. T - 9133
LOCALITY	
State	ALASKA
General locality	PRINCE WILLIAM SOUND
Locality	ESTHER ISLAND
1947 - 51	
CHIEF OF PARTY Glendon E. Boothe - Field Hubert A. Paton - Baltimore Photo Office Louis J. Reed - Washington Office	
LIBRARY & ARCHIVES	
DATE	

DESCRIPTIVE REPORT - DATA RECORD

T-9133

PROJECT NO. (II): PH-152		
FIELD OFFICE (III): Ship DERICKSON		CHIEF OF PARTY Glendon E. Boothe
PHOTOGRAMMETRIC OFFICE (III): Baltimore Photo Office Washington Office		OFFICER-IN-CHARGE Hubert A. Paton Louis J. Reed, Chief, Stereo Map Section
INSTRUCTIONS DATED (II) (III): II Field, dated 28 June 1949		
METHOD OF COMPILATION (III): Reading Plotter		
MANUSCRIPT SCALE (III): 1:20,000	STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:20,000	
DATE RECEIVED IN WASHINGTON OFFICE (IV):	DATE REPORTED TO NAUTICAL CHART BRANCH (IV):	
APPLIED TO CHART NO.	DATE:	DATE REGISTERED (IV):
GEOGRAPHIC DATUM (III): NA 1927		VERTICAL DATUM (III): MEAN SEA LEVEL EXCEPT AS FOLLOWS: <i>Elevations shown as (25) refer to mean high water</i> <i>Elevations shown as (5) refer to sounding datum</i> <i>i.e., mean low water or mean lower low water</i>
REFERENCE STATION (III): BIRD 1947		
LAT.: 60° 49' 33.049"	LONG.: 148° 08' 44.642"	<input checked="" type="checkbox"/> ADJUSTED <input type="checkbox"/> UNADJUSTED
PLANE COORDINATES (IV): Y = X =		STATE ZONE
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

T-9133

FIELD INSPECTION BY (II): Glendon E. Boothe		DATE: 1949
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): 1949 Compiled from aerial photographs taken in 1947 and 1948		
PROJECTION AND GRIDS RULED BY (IV): Ruling machine		DATE 8-14-50
PROJECTION AND GRIDS CHECKED BY (IV): T. L. Janson		DATE 8-14-50
CONTROL PLOTTED BY (III): O. N. Dalbey		DATE 11-14-50
CONTROL CHECKED BY (III): L. J. Reed		DATE 1950
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): F. J. Tarcza		DATE 6-7-50
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY L. Levin and C. Misfeldt	DATE 1950
	CONTOURS L. Levin and C. Misfeldt	DATE 1950
MANUSCRIPT DELINEATED BY (III): L. Levin and J. B. McDonald		DATE 1950
SCRIBING BY (III):		DATE
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): L. J. Reed		DATE 1951
REMARKS:		

DESCRIPTIVE REPORT - DATA RECORD

T-9133

CAMERA (KIND OR SOURCE) (III):

U.S.C. & G.S. 9-lens Camera "B", F = 8.25"

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
19713 - 19716	27 June 1947	11:51	1:20,000	5.5 ft. above MLLW
23600 - 23603	3 Sept. 1948	10:38	1:20,000	7.4 ft. above MLLW

TIDE (III) (PREDICTED)

Diurnal

	RATIO OF RANGES	MEAN RANGE	MEAN RANGE
REFERENCE STATION: Cordova			
SUBORDINATE STATION: Culross Bay, Wells Passage		9.7	12.1
SUBORDINATE STATION:			

Atlantic Marine Center
~~WASHINGTON~~ REVIEW BY (IV):

Charles H. Bishop

DATE:

6-26-70

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

RECOVERED:

IDENTIFIED:

NUMBER OF BM(S) SEARCHED FOR (II):

RECOVERED:

IDENTIFIED

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

REMARKS:

linear miles of shoreline: 36
Land area: 45

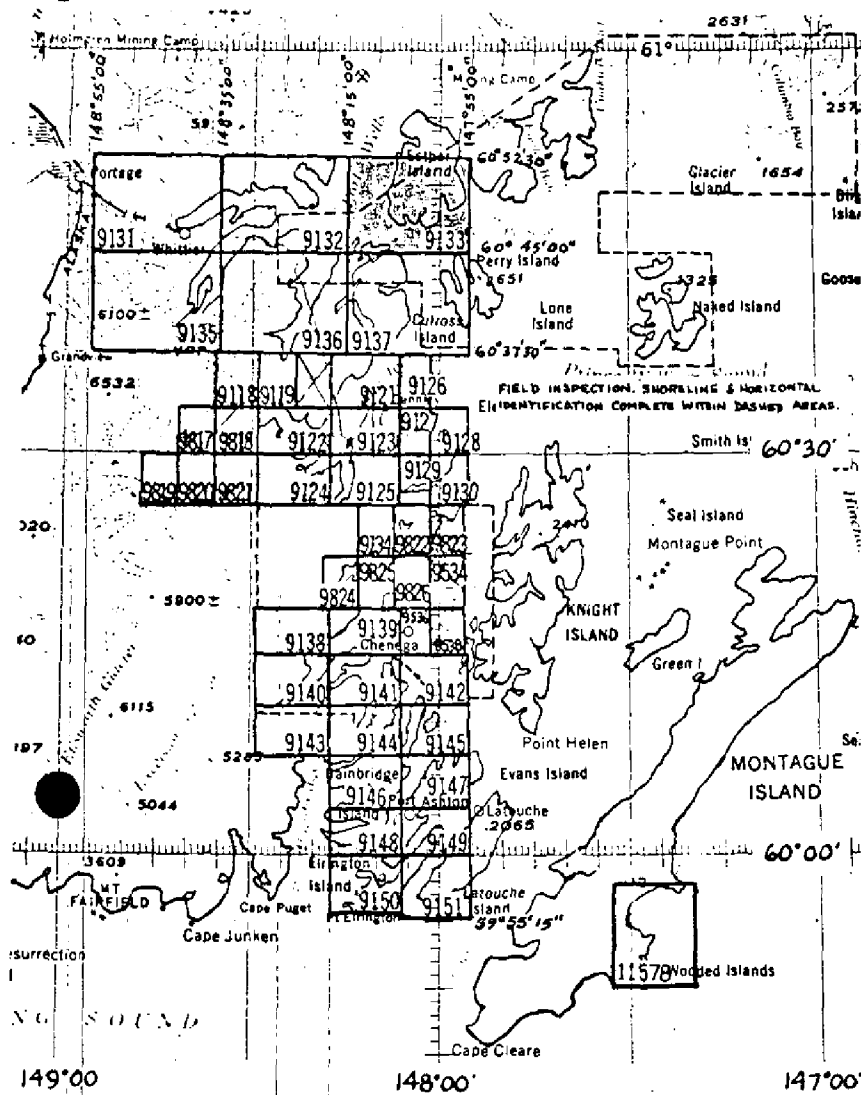
T-9133

COMPILATION RECORD	COMPLETION DATE	REMARKS
Contours and shoreline	1951	
Final review	July 1970	

PH - 152

5

Prince William Sound, Alaska



OFFICIAL MILEAGE FOR COST ACCOUNTING

SHEET NO. LIN.MI. AREA
SHORELINE MILES

9118	3	13
9119	9	11
9121	11	10
9122	23	7
9123	17	7
9124	7	5
9125	15	6
9126	5	3
9127	6	8
9128	5	3
9129	7	8
9130	14	6
9131	12	95
9132	48	50
9133	36	45
9134	5	11
9135	24	90
9136	26	85
9137	68	48
9138	10	7
9139	13	5
9140	12	8
9141	24	12
9142	10	3
9143	9	4
9144	26	9
9145	19	8
9146	18	8
9147	24	9
9148	25	9
9149	19	7
9150	24	8
9151	15	9
9534	6	4
9536	6	6
9538	4	1
9817	9	10
9818	11	6
9819	3	9
9820	7	5
9821	2	10
9822	9	9
9823	7	4
9824	9	10
9825	11	6
9826	10	8
11578	19	21

TOTALS

702

726

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-9133

At the time of final review, which is twenty years after compilation, many of the records concerning this map were not available for the final reviewer's use. Data Record Forms 181a, 181b, and 181c, the Compilation Record, and Form 164 Control Record were prepared by the final reviewer. Notes concerning the absence of reports are inserted where the reports should be in this Descriptive Report.

A compilation report covering three T-sheets is included as part of this Descriptive Report. It is not dated, nor does the title indicate which maps it covers. The contents indicate that it is for T-9131, T-9132, and T-9133. Items 31 and 35 of this report indicate that there was field inspection. Field photographs indicate that the inspection was done by the ship DERICKSON in 1949. Field inspection by the ship LESTER JONES in 1951 was applied to the manuscript during final review. Only the Lake Bay and Quillian Bay areas were affected by this inspection.

Compilation was by Reading Plotter, Model A, using 1:20,000 scale nine-lens photographs taken in 1947 and 1948. All features were delineated simultaneously, using field inspection as a guide.

The area is covered by the following photographs:

Nine-lens (1947-1948)

19712 through 19718
23600 through 23605
23636 through 23637

Single-lens (1954)

54 W 2366 through 2369
54 W 2455 through 2460
54 W 2467 through 2472
54 W 2518 through 2530

It is not known if the 1954 photography was used to update this map.

There is no compilation east of longitude 148°00'. Mapping is complete west of this longitude.

It does not appear that data was furnished for hydrographic support; hydrography was accomplished in 1948.

There was no data available to the final reviewer stating that field edit had been performed.

Final review was done at the Atlantic Marine Center during June 1970.

The compilation manuscript was a vinylite sheet $7\frac{1}{2}$ minutes in latitude and 20 minutes in longitude.

A cronaflex copy of the final reviewed manuscript and a negative have been forwarded for record and registry.

FIELD INSPECTION REPORT

2-20

Field inspection was accomplished in 1949 in conjunction with hydrographic operation in the area. The report on this field inspection was meager and can be found in the 1949 season's report of the USC & GS Ship DERICKSON, Project CS-277, Prince William Sound, Alaska, Glendon E. Boothe, Chief of Party, Commanding, a copy of which report relative to field inspection follows:

4. Field Inspection of Air Photographs:

Unfortunately air photographs of the area of the working grounds were not available. Under date of 9 Aug 49 instructions were received to make a field inspection of air photographs covering Passage Canal, Wells Passage, Pigot Bay, and heads of Blackstone Bay, Cochran Bay, Port Wells, and Cylross Passage. All triangulation stations in the area were recovered, and where possible the station was located on the air photographs. All of the shoreline was inspected from small boats cruising along close to the beach, landings were made as necessary for inspection purposes, the high water line was determined and off-lying rocks were inspected and notes made on the photographs. The usual standard practices for this type of work were used. A new oil dock at Whittier was located by measurement on the ground and placed on the air photograph.

RADIAL PLOT REPORT

21 - 30

See combined descriptive report for map manuscripts T-9131, T-9132, and T-9133, page 8, which report applies here since the same plot covered all six quadrangles.

RADIAL PLOT REPORT

MAP T-9133

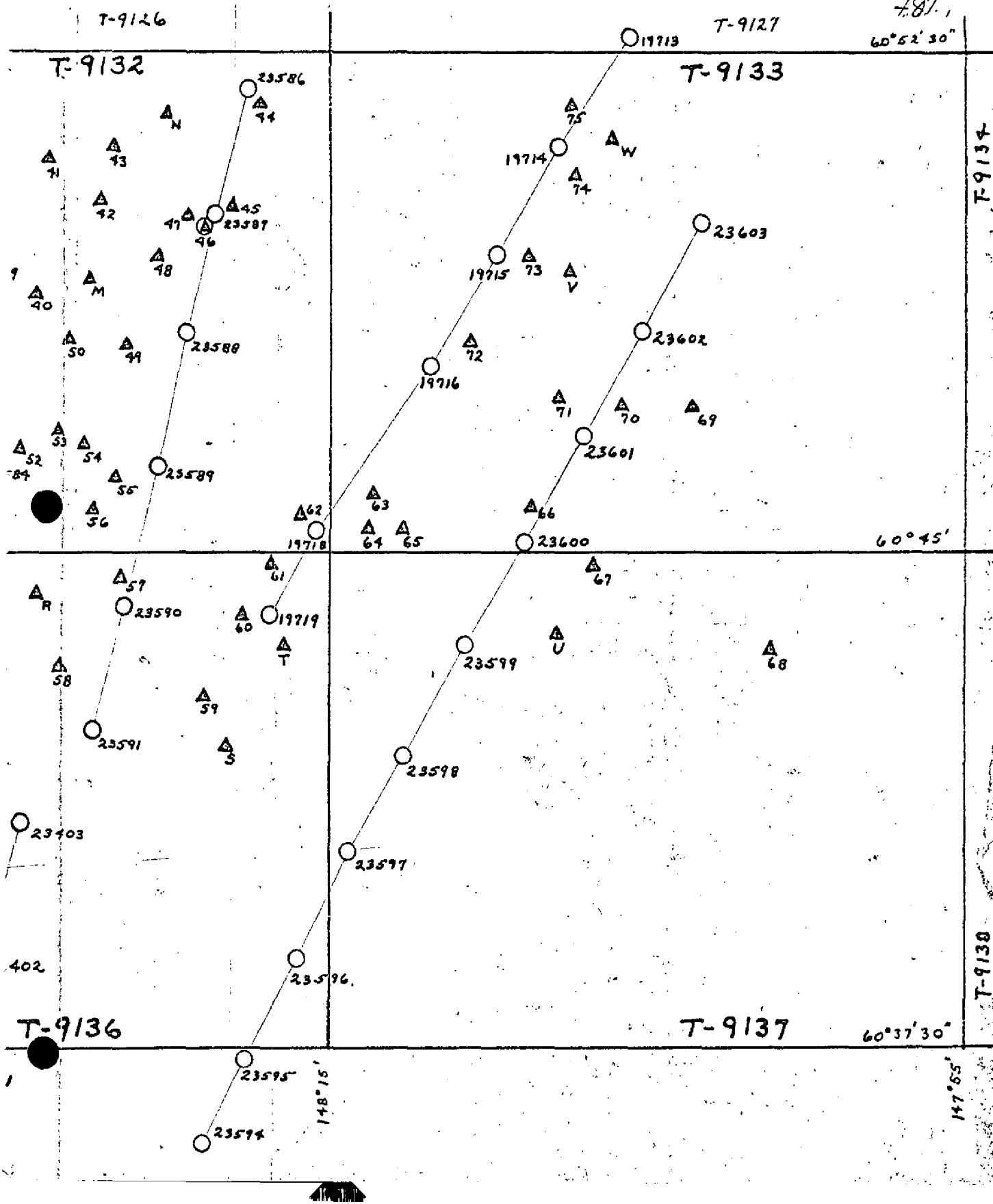
PROJECT PH-152

A Radial Plot Report is mentioned in Item 32 of the Compilation Report for T-9131, 9132, and 9133. This plot report was not available at the time of final review and is not bound with this Descriptive Report.

The following sketch (original bound with T-9135) is for the 1950 plot.

July 15, 1970

- NINE-LENS OFFICE PHOTOGRAPHS
- △ TRIANGULATION STATIONS (NOT IDENTIFIED)
- ▲ TRIANGULATION STATIONS (IDENTIFIED and HELD)
- ⊙ TRIANGULATION STATIONS (NOT HELD IN RADIAL PLOT)
- ▲ TRIANGULATION STATIONS (IDENTIFIED IN OFFICE)



DESCRIPTIVE REPORT CONTROL RECORD

MAP T-9133

PROJECT NO. PH-152

SCALE OF MAP 1:20,000

SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE LONGITUDE		N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS (1 Ft. = 3048006 meter)
					FORWARD (BACK)
BASE 1912	Vol. VI, P. 52	NA 1927	60	45	27.455
			148	08	40.847
BIRD 1947	"	"	60	49	33.049
			148	08	44.642
BOWL 1947	"	"	60	50	49.774
			148	07	18.290
CUIROSS 1914	"	"	60	45	31.111
			148	08	46.695
EST 1912	"	"	60	47	28.135
			148	07	49.490
ESTHER 1914	"	"	60	47	49.526
			148	06	49.614
LIME 1912	"	"	60	45	05.194
			147	57	41.880
PEAK N 1947	"	"	60	51	15.09
			148	06	07.40
PEAK O 1947	"	"	60	49	30.46
			148	07	30.60
PEAK P 1947	"	"	60	49	18.76
			148	07	13.86
PEAK NO. 20 1914	"	"	60	47	58.31
			148	00	33.77
PEAK NO. 52 1947	"	"	60	50	59.24
			147	59	52.36

COMPUTED BY

CHB

DATE

6-23-70

CHECKED BY

LFB

DATE

6-24-70

DESCRIPTIVE REPORT CONTROL RECORD

MAP T-9133 PROJECT NO. PH-152 SCALE OF MAP 1:20,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE LONGITUDE	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS (1 ft. = 3048006 meter)	
				FORWARD	(BACK)
PEAK NO. 53 1947	Vol. VI, P. 72	NA 1927	60 47 56.65	1753.4	
PETER 1948	" 45	"	148 00 15.76	238.4	
PITCH 1947	" 17	"	60 45 32.260	998.5	
POINT ESTHER LIGHT 1947	" 66	"	148 13 39.602	599.7	
PORT 1914	" 5	"	60 51 41.717	1291.3	
SCARE 1948	" 45	"	148 07 37.585	567.3	
SPLIT (SPILT 1914) 1947	" 6	"	60 47 10.198	315.6	
STO 1912	" 51	"	148 05 54.127	819.0	
TIN 1912	" 5	"	60 48 07.253	224.5	
TWIN 1947	" 51	"	148 10 37.814	571.9	
TWO 2 1914	" 5	"	60 45 23.862	738.6	
			148 12 45.510	689.2	
			60 45 53.815	1665.7	
			148 13 38.337	580.5	
			60 47 54.581	1689.4	
			147 58 16.451	248.8	
			60 47 10.104	312.7	
			148 05 53.683	812.3	
			60 47 09.629	298.0	
			148 03 30.771	465.6	
			60 46 57.222	1771.1	
			148 01 57.758	874.1	
COMPUTED BY	DATE	CHECKED BY	DATE		
CHB	6-23-70	LFB	6-24-70		

COMPILATION REPORT
Washington Office

31. Delineation:

Shoreline, Contours, and all cultural features were delineated simultaneously on the Reading Plotter, model "A". Inspection was used as a guide during this delineation and applied finally during manuscript compilation. Photo coverage was complete for the area mapped, the area adjacent to the coast to a depth reaching the general base of high peaks beyond which visibility from shipboard was obscured; this did not allow the completion of the land mass mapping within the limits of any one quadrangle. The inspection was complete as far as it went but did not include the upper reaches of Blackstone Bay, Cochrane Bay, and the shores of Culross Island except for a short distance along its north coast. More area could have been mapped using this same photography had the additional inspection been made along with control identification. Mapped areas are complete within the limits to which the mapping was extended.

32. Control:

Reference side-heading 23 of the Radial Plot Report, ~~page 10 of this report~~, which deals primarily with horizontal control.

Vertical control for contouring purposes was furnished by the shoreline datum, and by elevations on triangulation stations and distant peaks obtained during triangulation. ~~Peak No 68 was found to be badly out of position (CP) and has been omitted from the manuscript.~~

33. Supplemental Data:

(a) Plotting instrument rectified photos:

19713-16, 19718-19, 23443-5, 23447-50, 23454-8, 23534-91, and 23597-603.

(b) Field inspection photos:

19698, 700, 700, 701, 701, 702, 714, 715, 716, 718,
719, 720, 720, and
23405, 406, 447, 447, 445, 446, 446, 446, 447, 448,
448, 449, 449, 449, 454, 455, 455, 456, 583, 584,
584, 585, 586, 587, 587, 588, 589, 589, 600, 600,
600, 601.

(c) Graphic Control Surveys:

- (1) T-3278, Perry Island and entrance to Port Wells, Prince William Sound, Alaska.
- (2) T-3278a, July 1914, 1:20,000, Port Wells, Prince William Sound, Alaska, Ship TAKU, Rude comdg.
- (3) T-3404, Passage Canal, Alaska.
- (4) T-3463, T-3464, and T-3465, July 1914, 1:10,000, Passage Canal, Prince William Sound, Alaska, Ship TAKU, Gilbert T. Rude comdg.
- (5) T-7042, May 1947, 1:10,000 and 2,500, Pigot Bay, Port Wells, Prince William Sound, Alaska, Ship DERICKSON, H. Arnold Karo comdg.
- (8) T-7073, a&b, 17 July 1948, 1:10,000, Passage Canal, Prince William Sound, Alaska, Ship DERICKSON, H. Arnold Karo comdg.

(d)

Hydrographic Surveys:

- (1) H-3408, 1912 season, 1:20,000, Perry Island Passage, Prince William Sound, Alaska, Ship TAKU, Rude comdg.
- (2) H-3538, 1913 season, Passage Canal, Prince William Sound, Ship TAKU, Gilbert T. Rude comdg.
- (3) H-3676, 1914 season, 1:20,000, Vicinity of Perry Island, Prince William Sound, Alaska, Ship EXPLORER, R. S. Patton comdg.
- (4) H-3689, 1914 season, 1:20,000, South End of Port Wells and into the Entrance to Passage Canal to Point Decision, Alaska, Ship TAKU, Gilbert T. Rude comdg.
- (5) H-3694, 1914 season, 1:10,000, Passage Canal, Point Decision to Billings Delta, Alaska, Rude comdg.
- (6) H-6981, 1948 season, 1:10,000, Passage Canal, Point Decision, Eastern Part, Prince William Sound, Alaska, H. Arnold Karo comdg.
- (7) H-7187, 1947 season, 1:10,000, Pigot Bay, Port Wells, Prince William Sound, Alaska, Ship DERICKSON, Karo comdg.
- (8) H-7618, 1947 season, Port Wells, Prince William Sound, Alaska, Ship DERICKSON, H. Arnold Karo comdg.

34. Contours and Drainage:

The quality of photography was not all-together satisfactory for contouring purposes; the detail in general was not as sharp as usual, shadows were exceptionally long because the photographs were exposed after mid-day, and above 2000 ft in elevation snow caused some difficulty. Very tall timber in limited areas made contouring a bit of a problem. Further, two separate sets of photographs taken in different years were involved requiring nearly double the number of models to complete both shoreline and contouring. However, a satisfactory compilation has been achieved with no areas of questionable contours other than snow covered areas.

35. Shoreline and Alongshore Features:

Field inspection of the shoreline was quite adequate except in Whittier and has been applied to the map manuscript after compilation of the plotting instrument work sheets. The photography was taken very near the time of high tide causing very little low-water and/or sand lines to be located; no attempt has been made to extend these lines in the office.

36. Offshore Details:

Most offshore details were close in to shore and were covered in shoreline features in side-heading 35 above.

37. Landmarks and Aids:

See Nautical Chart Branch file "Chart-Letter File No. 224 (1949)" letter to The Director under date of 12 May 49 from Glendon E. Boothe as commander of the Ship HIRSHON, subject: "Landmarks for Location of Floating Aids to Navigation at Orca Inlet", wherein the following information is listed:

(a) Landmarks which fall entirely within the limits of map manuscript T-9131:

- (1) Green Water Tower, Conical Top.
- (2) Sawmill, West Twin Stack.
- (3) Red Tank, Cylindrical, Steel.

(b) Navigation Aids falling entirely within the limits of map manuscript T-9132:

- (1) Point Pigot Light.
- (2) Decision Point Light.
- (3) Trinity Point Light.

No Prominent objects for landmarks were mentioned or recommended in reports of 1912-14 surveys in the area of these three quadrangles, No aids existed at that time. No additional aids or landmarks were recommended in the more recent surveys of 1947-48.

38. Control for Future Surveys:

None.

39. Junctions:

All junctions are in agreement.

40. Horizontal and Vertical Accuracy:

Standard.

41. Compilation Limits:

The entire land areas within the limits of the three quadrangles of this report have not been completely mapped during the initial phase ending January 1951. In general, only shoreline and the strip of land area immediately shoreward have been completed where field inspection has been furnished. This field inspection to date has not covered all the shoreline within the quadrangles. It is planned to complete the inspection permitting the compilation to be completed also. At that stage quadrangles T-9136 and T-9137 will be 100% compiled; T-9135 may not be complete since the western half of it reaches beyond chart requirements into a solid land-area where field inspection and control identification may not be executed.

The area covered in the first phase of compilation includes all the ground areas and shorelines to the north and east of an approximate line joining $60^{\circ}45'N$ by $148^{\circ}45'W$ to $60^{\circ}41'$ by $148^{\circ}06'$ not including Perry Island.

46. Comparison with Existing Maps:

- a. Alaska, Portage Quadrangle, CE, USA, 1:62,500, 1947.
- b. Alaska, Pigot Bay Quadrangle, CE, USA, 1:62,500, 1947.

47. Comparison with Nautical Charts:

4. See Supplemental Data, side-heading 33, this report.

8. Alaska, South Coast, Prince William Sound, Western Part, No. 8517,

48. Geographic Name List:

1:80,000, Publication of Sept 1950
(18th Edition)

See separate page following.

49. Notes for the Hydrographer:

None.

50. Compilation Office Review:

See T-2 form following.

Submitted by:

Orvis N. Dalbey

Orvis N. Dalbey

Cartographer-Photogrammetric

Approved and Forwarded by:

Louis J. Reed

Louis J. Reed

Photogrammetric Engineer,
Chief, Stereoscopic Mapping
Section

August 21, 1970

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-152 (Alaska)

T-9133

Chugach National Forest

Culross ~~Is~~ Bay

Culross Island

Culross Passage

Esther Island

Esther Lake

Esther Rock

Granite Bay

Hodgkins Point

Lake Bay

Point Culross

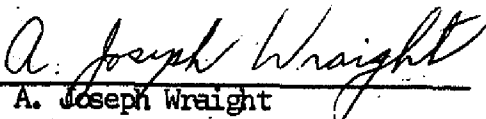
Point Esther

Port Wells

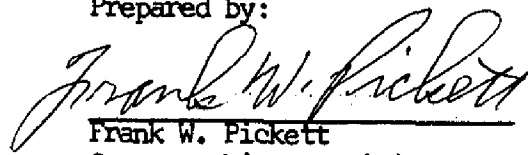
Quillian Bay

Wells Passage

Approved by:

A. Joseph Wright
Chief Geographer

Prepared by:

Frank W. Pickett
Cartographic Technician

49. NOTES FOR THE HYDROGRAPHER:

There were no Notes for the Hydrographer available at the time of final review.

FORM 1002 - PHOTOGRAMMETRIC OFFICE REVIEW

MAP T-9133

PROJECT PH-152

No Form 1002 (T-2) was available at the time of final review and none is bound with this report.

FIELD EDIT REPORT .

MAP T-9133

PROJECT PH-152

No Field Edit Report for this map was available at the
time of final review.

REVIEW REPORT T-9133

TOPOGRAPHIC

JUNE 25, 1970

61. GENERAL STATEMENT:

See Summary, which is page 6 of this Descriptive Report.

An ozalid comparison print (pages 26 through 30), with differences noted in Items 62, 63, 64, and 65, is included with the original of this report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Shoreline comparisons were made with Surveys Nos. T-3278 and T-3278a, both at 1:20,000 scale and both dated 1912. These did not extend north of latitude 60°49'; no comparison with registered topographic surveys was made north of this latitude.

Differences between these registered surveys and T-9133 are shown on the comparison print in blue.

The general trend of the shoreline is the same, but there are many differences in placement; the larger differences being in the Lake Bay and Quillian Bay areas.

T-9133 supersedes previous topographic surveys for chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

A shoreline comparison was made with U.S.G.S. Quadrangles SEWARD (D-3) and (D-4), ALASKA, scale 1:63,360, dated 1952. Differences between these surveys and T-9133 are shown in brown on the comparison print.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

A comparison was made with a verified copy of H-8608, scale 1:10,000, dated 1961. The only coverage was in the vicinity of Culross Passage. Differences with T-9133 are shown with purple pencil on the comparison print bound with the original of this Descriptive Report.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with Chart 8517, scale 1:80,000, 9th Edition, dated April 28, 1969. Differences with this chart and T-9133 are shown in red on the comparison print.

Large differences were indicated on the west side of Esther Island between latitude $60^{\circ} 49'$ and $60^{\circ} 52.5'$, at the head of Lake Bay, and in Quillian Bay. Shoreline at the northeast corner of Culross Island is displaced approximately 5 mm. The shoreline of Lake Esther on the chart is only an approximation. It is realized that the enlargement of the chart has much to do with these discrepancies.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with Job Instructions, Bureau requirements, and the National Standards for Map Accuracy. No accuracy tests were run in the field.

Reviewed by:

Charles H. Bishop

Charles H. Bishop
Cartographer
June 26, 1970

Approved:

Allen L. Powell
Allen L. Powell, RADM, USESSA
Director, Atlantic Marine Center

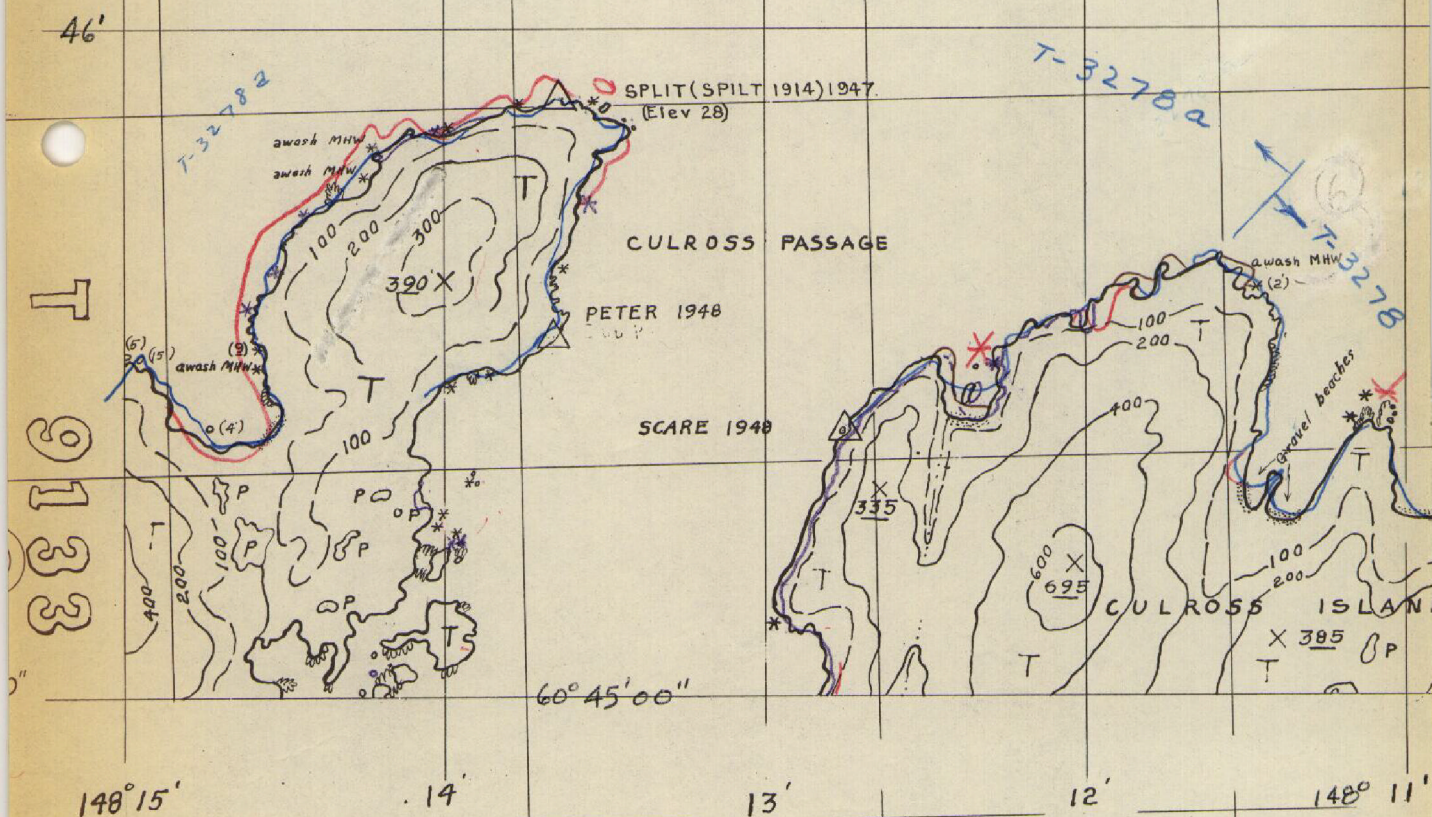
Approved:

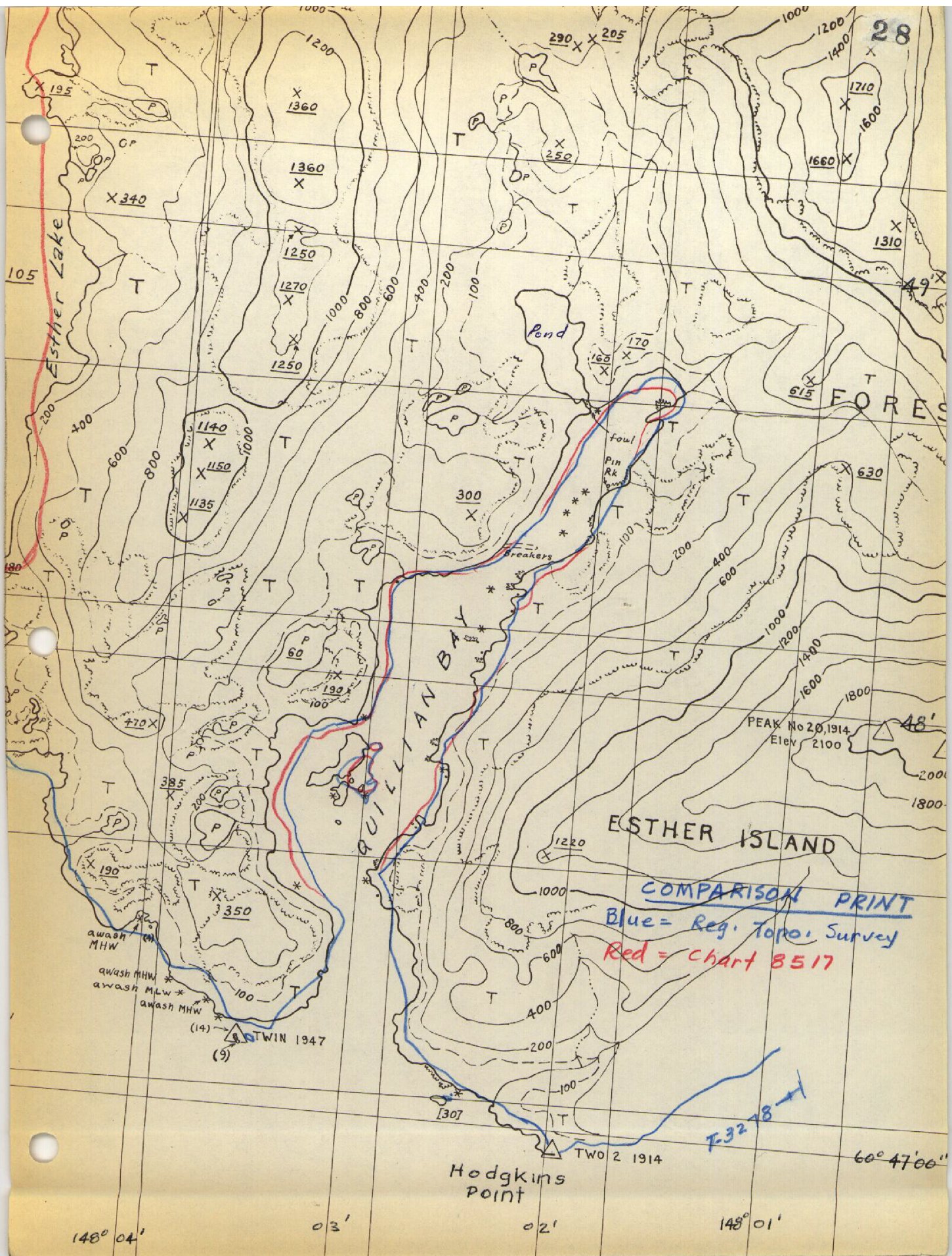
Charles L. Hume
Chief, Photogrammetric Branch

Jack E. Luth
Chief, Photogrammetry Division

Blue = Registered Topo	Surveys
Purple = Hydrographic	Surveys
Red = Chart 8517	
Brown = U.S.G.S. Quad	SEWARD (D-4)

H-8606





BIRD 1947

awash MHW

awash MHW

Pin Rk (15)

PEAK O, 1947
Elev 1499

PEAK P, 1947
Elev 1791

Awash *
MLLW

3278

48'

PT. ESTHER

1890

1800

1500

1860

1400

1200

800

600

400

200

100

50

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6

3

1

0

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COMPARISON PRINT

Red = Chart 8517
Brown = U.S.G.S. Quads
SEWARD (D-3) (D-4)

52'

PITCH, 1947
(Elev 26)

(3)

Awash MHW

Cabin

ESTHER ISLAND

PEAK N, 1947
Elev 2057

(X) 2045

(X) 1980

19714

51'

Awash MHW

BOWL, 1947
(10)

CHUGACH

Awash MHW

Awash MLW

Awash MHW

(3)

(5)

Awash MHW

(5)

60°50'

ESTHER LAKE