Form 564
U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTION REPORT

Type of Survey: SHORELINE (Advance)
Field No.: Office No.: T-9140

LOCALITY
State: ALASKA
General locality: PRINCE WILLIAM SOUND
Locality: ICY BAY

1950-57

CHIEF OF PARTY
George A. Nelson, Chief of Party
Cartographic Branch, Photogrammetry Div. Washington, D.C.

LIBRARY & ARCHIVES

DATE

9-1970-3 (1)
DATA RECORD

Project No. (II): PH-152 (office) Quadrangle Name (IV):
PH-99 (48)  ICY BAY
GS-277  

Field Office (II): Ship LESTER JONES Chief of Party: George A. Nelson


Instructions dated (II) (III):
16 March 1951 (field)
31 December 1954 (office) 731 mkl
11 February 1955 (office) 732 mkl

Copy filed in Division of
Photogrammetry (IV)
Office files

Method of Compilation (III): Graphic

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

Scale Factor (III): 1.0

Date received in Washington Office (IV): JUL 19 1955 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):
Mean sea level except as follows:
Elevations shown as (2) refer to mean high water
Elevations shown as (3) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): THOR, 1933

Lat.: 60°12'18.305  566.5 m (1290.5) Long.: 148°22'08.785  135.3 m (788.9)

Adjusted Unadjusted

Plane Coordinates (IV): UTM State: Zone: 6

Y= X=

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office,
or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.
DATA RECORD
T-9140

Field Inspection by (II): Ross A. Gilmore
David F. Romero
Date: 30 June 1951 to 24 Sept. 1951

Planetable contouring by (II):

Completion Surveys by (II): Ship BOWIE
Date: Season of 1957

Mean High Water Location (III) (State date and method of location):
8-28-51; 8-29-51; 8-30-51; 8-31-51,
Field inspection of photographs
Date: 1-4-55

Projection and Grids ruled by (IV): A. Riley
Date: 1-10-55

Projection and Grids checked by (IV): H. D. Wolfe
Date: April 1955

Control plotted by (III): B. Hale
Date: April 1955

Control checked by (III): G. S. Amburn
Date: April 1955

Radial Plot or Stereoscopic Control extension by (III):
S. G. Blankenbaker and R. J. French
Date: May 1955

Stereoscopic Instrument compilation (III):
Planimetry
Contours
Date:

Manuscript delineated by (III):
C. O. DeMarr
J. B. Battley Jr.
Date: June 1955
Nov 1957

Photogrammetric Office Review by (III):
K. N. Maki
E. H. Ramsey
Date: July 1955
Nov 1957

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

Form T-Page 3
M-2018-12/40
** T-9140 **

USCGS Single-lens "W" Camera, 6" focal length

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<th>Scale</th>
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<tr>
<td>54-W-2430 thru 2433</td>
<td>26 July 1954</td>
<td>14:12-14:14</td>
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**

78VV N 383
118VV N 383 thru
121VV N 383
11 Aug 1950
1:40,000 (Contact)

Tide (III)

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<tr>
<th>Reference Station:</th>
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<tr>
<td>Subordinate Station:</td>
<td>Chenega Island, Dangerous Passage</td>
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<tr>
<td>Atlantic Marine Center</td>
<td>Review by (IV): C. H. Bishop</td>
</tr>
<tr>
<td>Final Drafting by (IV):</td>
<td>Date: 1-13-71</td>
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<td>Drafting verified for reproduction by (IV):</td>
<td>Date:</td>
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<td>Date:</td>
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Land Area (Sq. Statute Miles) (III): 36
Shoreline (More than 200 meters to opposite shore) (III): 12
Shoreline (Less than 200 meters to opposite shore) (III): --
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II):
Number of BMs searched for (II):
Number of Recoverable Photo Stations established (III):
Number of Temporary Photo Hydro Stations established (III):

Remarks:

*.94 Ratio of ranges suggested by Tides and Currents for Sheets T-9138 thru T-9145 (except Hogg Bay Sub. Station ratio for T-9143).

** Air Force photographs with 1951 field inspection
<table>
<thead>
<tr>
<th>Compilation Record</th>
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<tr>
<td>Shoreline compiled</td>
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<td>Superseded</td>
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<tr>
<td>New radial plot, field edit applied, manuscript re-compiled</td>
<td>Nov. 1957</td>
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<tr>
<td>Final review</td>
<td>Jan. 1971</td>
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SUMMARY TO ACCOMPANY

DESCRIPTIVE REPORT T-9140

Several years have elapsed between the compilation and final review of this map. None of the compilation photographs were available at the final review stage. The compilation record was added by the final reviewer.

This shoreline manuscript, scale 1:10,000, is one of 43 maps that comprise Project PH-152, which is in the western part of Prince William Sound. T-9140 covers Icy Bay from its head at Tiger Glacier to its junction with Nassau Fiord.

Compilation was by radial plot in 1955, using ratio prints of 1:30,000 scale photographs taken in July 1954. Field inspection was done in 1951 on 1:20,000 scale ratio prints of 1:40,000 scale photography taken by the Air Force in August 1950.

Field edit was performed in conjunction with hydrography in 1957. The mean high water line was corrected by plane table in some places and indicated on the photographs in others. In the fall of 1957 a new radial plot was run and the manuscript was re-compiled, using the additional data collected in the 1957 field season.

Final review was done at the Atlantic Marine Center in January 1971.

The compilation manuscript was a vinylite sheet 3 minutes 45 seconds in latitude by 11 minutes 15 seconds in longitude.

A cronaflex copy of the final reviewed manuscript and a negative have been forwarded for record and registry.
2. Areal field inspection.---In general, the 1951 photogrammetric field surveys of the Ship LESTER JONES for Project Ph-39(48) consisted of all of item (a) and part of item (b) of paragraph 2 of the project instructions. A PROGRESS SKETCH showing the entire area of field inspection is attached to this report. In accordance with letter 71-jgh, dated 4 October 1951 (copy attached), the field data was compiled in the following order:

Area 1.-- Area east of Uvaknik Inlet (part of item 2,
(a) of project instructions).

Area 2.-- Remainder of item 2(a).

Area 3.-- Area in vicinity of Chenega Island.

This arrangement was maintained in compiling control, topographic and peak station data and the various areas are indicated on the attached print of the PROGRESS SKETCH. All data and photographs for Area 1 were transmitted to the Washington Office on 15 November 1951 and the remaining two areas are being submitted as of the date of this report.

Field inspection consisted of (1) recovery and identification of aerial photographs of alongshore triangulation stations; (2) approximate identification of existing interior stations and establishment of a few new interior stations in Area 3; (3) shoreline inspection; and (4) selection and identification of phototopographic and photodyne stations.

In general, the coastline inspected is mountainous with little or no beach except at the heads of bays and larger indentations (usually glacial moraines). In most all cases the shoreline is vertical with trees growing to the immediate cliff edge or high water line. The mountainsides are generally covered with a thick growth of coniferous trees interspersed with patches of moss and grass and berry bushes. Alder is found in the glacial valleys and in patches along some of the side slopes, mostly in Area 3. The rock in the area inspected is a very hard granite, oftentimes polished smooth from glacial action. Numerous extensive crevices and faults were noted during the inspection and are very evident on the photographs.

Photographic coverage consisted of nine-lens photographs taken in 1948 and 1949 at a scale of 1:20,000 and single-lens photographs taken by the Air Force in 1950 at an approximate scale of 1:40,000. Ratio prints of the Air Force photographs were furnished on a scale somewhat larger than 1:20,000. Most of the nine-lens photographs were cut to a folded size of 18' x 24' for convenience in handling in the field. Considerable of the nine-lens photographs had been sent to the field in 1948 and had already been cut up in 12" x 12" squares. It was found that better efficiency could be maintained in the field if these squares were rejoined by scotch tape and folded on the cuts to suit the area
being inspected rather than to use them as individual 12" x 12" squares. Cutting the nine-lens photographs to this small size also creates a difficulty in that shoreline detail is often cut at a disadvantageous place. It was found that by cutting the photographs to a 13" x 24" size and making use of the central portion of the photograph that better results were obtained. All of Areas 1 and 2 with the exception of the Naked Island group and the west side of Pery Island (where single-lens photographs were supplied) were adequately covered by nine-lens photographs except for the main part of Perry Island. Here, the nine-lens coverage was such that extreme wing portions had to be used. This presented a problem in control identification. In general, the definition of the nine-lens photographs was good and were easier to interpret than the single-lens. Here, due to having been enlarged to twice their original scale, the inherent only fair definition of the single-lens photographs was amplified causing considerable trouble and excessive eye strain in making accurate identification. However, the single-lens photographs were more convenient to handle and use in the field than the folded nine-lens photographs. Poor coverage was had in parts of Area 3 due to the excessive width of the flight lines. In some instances there was no overlap in flights in this area.

All shoreline inspection was accomplished using the ship's 20 foot dories fitted with a small "dog house" across the gunwales to protect the photographs and instrumental equipment. However, it was generally necessary to take the photograph out into the daylight for close inspection, thus exposing it to the weather. All notes were made directly on the photographs with a soft lead pencil with leaders to the points picked or detail noted. No inking was attempted in the field. All control and topographic station data was inked on the photographs in the evening of the same day the field work was accomplished, leaving other data to be inked at a later date. Consequently, a maximum of field work could be accomplished and certainty assured that control data was complete before advancing to a new area.

Photographs were clipped to a piece of light plywood to facilitate handling and at most times the inspector could stand up in the boat and by using the top of the "dog house" as a plotting table carry on his shoreline inspection quite readily. In general, it is believed that sufficient notes have been made to aid the compiler in interpreting the photographs. No attempt was made to use a stereoscope in the dory. This is an impracticability. All stereoscope work was done aboard ship.

3. Horizontal control.—Sufficient alongshore horizontal control stations were recovered and identified. No new stations were established except in Area 3. Here, 4 peak stations were established by occupying recovered triangulation stations (see Geographic Positions, Form 28 b, submitted 15 November 1951). In a good many instances there is a plethora of identified control stations, especially in the Naked Island group and parts of Area 3. However, due to the fineness of detail sometimes on the single-lens photographs and overhanging trees, etc., most stations were recovered with the idea of identification if possible as it would not be
known until arriving at the next station which would be the best to identify. In as much as an attempt was made to recover all alongshore stations anyway, not too much additional time was used in actual identification. It is believed that the plethora of identification was justified in taking all things into consideration.

Station ROCK, 1912 and FERRY ISLAND LIGHT, 1948 were recovered prior to receipt of the single-lens photographs covering this area and inspection and identification had to be made on the outer wing portion of Photo No. 29842. It is possible that better results would have resulted here had better coverage been available at the time of field inspection.

The three control stations identified on single-lens photograph M-383, 28 WV(2) fall outside of the reported 1951 field inspection area. The control data is attached to the photograph and is submitted to assist in controlling the radio plot of Area 3.

A breakdown of recovered and identified horizontal control stations was made for each area and have been listed alphabetically, showing the photograph on which identified and the method of identification. In most cases identification was made by the substitute station method. The above lists are attached to this report. A separate list has been attached showing control stations recovered but not identified, also indicating LOST stations. All alongshore control stations were searched for and have been reported on Form 526, RECOVERY NOTE, TRAVERSE STATION. All control stations recovered and identified have been shown on the PROGRESS SKETCH for the project.

Peak stations were spot identified as outlined in paragraph 10. of the project instructions. Stations for which a horizontal position is available have been indicated by a large green triangle on the photographs and those without position but having only a single direction and vertical angle have been indicated by a large green circle. All peak stations identified have been listed by areas and are attached to this report. A concerted effort was made to identify as many of these inland stations as practicable depending upon the location of the ship while in an area and also weather conditions at the time. Additional inland stations were determined in Area 3 as called for in paragraph 11. of the project instructions. From necessity, the locations determined depended upon thin intersections. Cuts and vertical angles were taken to additional identified peaks in this area.

4. Vertical control. -- Vertical control for contouring by stereoscopic instruments can be obtained from the identified alongshore and inland control stations for which elevations are available. No attempt was made to abstract all stations with elevations as this data is available on the geographic position lists. However, an abstract of new elevations determined was made and is attached to this report.
vertical angles for stations for which no horizontal position has been determined can be obtained from the ABSTRACT OF ZENITH DISTANCES, Form 29, submitted with other triangulation data on 15 November 1951. Standard methods were used in locating additional peaks and obtaining elevations.

5. Contours and drainage.

Inapplicable.

6. Woodland cover.--Woodland cover exists in almost the entire area of the project and in most cases is right to the waters' edge. See paragraph 2, of this report for further information regarding this subject.

7. Shoreline and alongshore features.--Shoreline inspection was accomplished in the entire area indicated by cross hatching on the attached PROGRESS SKETCH. The mean high-water line has been indicated on the photographs and no difficulty should be experienced by the compiler in its delineation. In a great many cases the high-water line is at the immediate bluff edge which is also the tree and grass or tundra line. In some cases the approximate low-water line is indicated on the photographs but generally only the limits of shoal or reef areas are shown. All shoreline inspection was done from a 20 foot dory by skirting along the shore and also by actually going ashore at appropriate places where phototopographic stations were to be selected or horizontal control stations were being recovered and identified. It is believed that sufficient notes have been made to give the compiler a good idea of shoreline and alongshore features. However, it should be pointed out that a lot of shoreline information not specifically shown can be gleaned from reading the short descriptions of the photohydro stations inked directly on the face of the photographs. There are a few piers, landings and buildings alongshore in the area field inspected. These have been indicated on the photographs and all buildings considered worth delineating have been shown.

8. Offshore features.--An attempt was made to indicate all offshore high-water rocks and rocks awash on the photographs. In some instances a 3 point sextant fix was taken on offshore rocks which could not be readily identified. These fixes have been shown directly on the photograph. In some cases were a spot of some nature appeared on the photograph but no actual feature was found a note was made (generally by the letters NE) indicating the feature or spot was not evident upon visiting the area. In a few instances notes were made requesting fur-
ther investigation by the hydrographer.

9. Landmarks and aids.---There are two buildings in the area inspected which have been submitted on Form 567 as LANDMARKS. Also, there are 3 fixed aids to navigation which have been submitted on Form 567, two having been previously located by triangulation and the third has been identified as a phototopographic station. Conditions at the time did not warrant locating the latter by triangulation. The above forms 567 accompany this report.

10. Boundaries, monuments and lines.---Generally speaking, this paragraph is inapplicable. However, a General Land Office marker was found on the most northerly extremity of Naked Island and was referenced to triangulation KEL50, 1949 and classified as topographic station WILL 32454 1939 (GLO). Form 524 has been submitted for this station.

11. Other control.--- Recoverable topographic stations were established along the shoreline in accordance with paragraph 13, of the project instructions. In many parts of the project no topographic stations had to be established due to the plethora of triangulation stations. Practically all phototopographic stations established were marked stations. A complete listing of all phototopographic stations by areas is attached to this report indicating the photograph upon which the station was identified. Form 524 has been submitted for each station.

Photograph stations were selected and identified for future hydrographic surveys. A particular effort was made to select stations that could be re-identified and used by the hydrographer. Each station was assigned a temporary field number and indicated on the photograph. From necessity, due to two inspectors working in close proximity to each other, oftentimes using the same photograph another day, or even parts of the same photograph the same day, the numbering system became somewhat jumbled but in no case is there a duplication of numbers on the same photograph. A short description of each photograph station has been inked directly on the face of the photograph upon which it was pricked. In some instances where the shoreline was too badly shadowed by overhanging trees or bluff, photograph stations could not be pricked; but generally, very good hydro station coverage is available. As a matter of fact in some cases where the shoreline is considerably broken there is almost a plethora of stations and it will be up to the discretion of the hydrographer which stations to eliminate.
Phoehydro stations were selected for the entire area inspected. In the Naked Island group were photropic control had been executed in 1949 and hydrographic stations had been built but no hydrography done, an attempt was made to identify the same stations indicated on the copies of the graphic control survey furnished. In a good many cases this was possible and they have been indicated on the photographs in the photorphic station descriptions. Number was assigned to the proper phototropic station in the usual manner and then the graphic control survey station name was shown in parentheses to indicate that it was the same station originally located in 1949. In some cases the original whitewashes were still evident and in others a railroad spike was found driven into a crack in the rock approximately midway of where the whitewash had been.

12. Other Interior features.—There are no bridges or known cable areas in the area field inspected, nor are there any airports or landing fields. Air transportation is all done by float planes in this area. The CMA station in the Dutch Group and the village at Chenega are the most outstanding habitations. Most of the other habitations indicated on the photographs are abandoned fox farms except for one on the south side of Ferry Island. Here the buildings are kept up and residence maintained the year around.

The village of Chenega has about 90 residents and has a Bureau of Indian Affairs school and post office (both in the same building). There is a Russian Orthodox Church here and a "native store. There is a long narrow pier here which was in bad repair at the time of inspection. There are no marine facilities here but water can be obtained by hose at the end of the pier.

13. Geographic names.—A special report on geographic names has been prepared and was forwarded to the Washington Office on 14 November 1951.

14. Special reports and supplemental data.—In addition to the data contained in this report, the following data obtained during the 1951 season by the Ship DESTER JONES is pertinent to the photogrammetric work accomplished in Prince William Sound:

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<th>TITLE</th>
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<tr>
<td>SEASON'S REPORT</td>
<td>4 January 1952</td>
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<td>BUSH REPORTS (3), Prince William Sound</td>
<td>13 August 1951</td>
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TITLE

BEACH REPORT (1), Prince William Sound

COAST PILOT NOTES, Prince William Sound

GEOGRAPHIC NAMES REPORT, Prince William Sound

SKETCH to accompany GEOGRAPHIC NAMES REPORT

TRIANGULATION RECORDS and SKETCH (see transmittal letter)

AREA 1, Ph-39(49), FIELD DATA (see transmittal letter)

AREAS 2 and 3, Ph-39(48), FIELD DATA (see transmittal letter)

PROGRESS SKETCH, to accompany SEASON'S REPORT (tracing)

DATE FORWARDED TO WASHINGTON OFFICE

19 October 1951

10 October 1951

14 November 1951

15 November 1951

15 November 1951

15 November 1951

15 January 1952

15 January 1952

Ross A. Gilmore

Commander, CGGS

Approved and Forwarded:

George A. Nelson

Cdr., CGGS

Comdg., Ship LESTER JONES
21. **AREA COVERED:**

The radial plot embraces eight sheets in the vicinity of Knight Island Passage, Whale Bay, Shenaga Island, and Icy Bay on the west side of Prince William Sound:

T-9138, T-9139, T-9140, T-9141, T-9142, T-9143, T-9144 and T-9145

22. **METHOD:**

The radial plot was laid on vinylite manuscripts on which the polyconic projection and the UTM grid were ruled. The eight sheets and the adjoining tabs and manuscripts (T-9146 and T-9147) were joined together in one unit using the grids for functioning. The attached sketch shows the layout and photographs used and the distribution and density of horizontal control. Ratio positype paper prints of 3X enlargement from the "W" camera were used on the western part of the plot, and Air Force photography of 4X enlargement (positype) were used on the eastern side where "W" coverage was not available.

The photographs were prepared in the conventional manner choosing shoreline pass points where possible at intervals of about 3 inches and points in the interior at a density of about 6 inches.

Vinylite templet stock was used throughout, and a calibration templet was used to correct for paper distortion errors.

Rays have been drawn on the photographs through those pass points that were used in the radial plot. Certain of the photo-hydro points were pricked as pass point control, and only those that have rays drawn through the point on the photographs were in the main radial plot, and were the points held to in raying in additional detail and photo-hydro points.

The compiler's judgement was used in locating a map position for all the remaining photo-hydros and detail points. A combination of (1) drawing the remaining rays on the templets and relaying them into the plot, (2) graphic manual intersection, and (3) scale check where expedient, were the techniques used to locate the remaining points. All points were located prior to compilation of the shoreline.

Inasmuch as the field identification of control was done on 1:20,000 by the USGS on Air Force photography, and on 1:40,000 by the 30th Engineers, a reasonable tolerence was expected in holding to control in the final closure and adjustment. The attached sketch and tabulated list of stations with the resultant tolerances show the relative accuracy obtained in the 1:10,000 plot.
In general, better closures were obtained where the sub-point method of recovery was used. Almost without exception, the 30th Engineers pricked the base station direct, which allowed the radial plot considerable discretion in the closure and adjustment. Most of the stations held well within an accepted tolerance of not in excess of \( \pm 0.5 \) cm. of true position. Mancripts T-9142, T-9141 and T-9143 are perhaps the most accurate in position. T-9130, T-9140, T-9142 and T-9143 are next best in horizontal position, and T-9145 is considered the least accurate of the entire group.

The plot was drilled through the various thicknesses of templets through the manuscripts, and the points were circled in red ink where the position was determined by three or more cuts, green if by two cuts only.

This plot should be verified on the east and west sides upon receipt of further field identified control, and it is advisable to use the stereoplanigraph as the bridging instrument since bad tilts and crab in the flight pattern are noticeably evident.

23. ADEQUACY OF CONTROL:

Horizontal control is adequate for those sheets in the middle of the plot, but more accurately identified control is needed on both the east and west sides, and a better plot is anticipated when the field identified control becomes available. Trouble was encountered in the extreme W and NW sides of the plot on T-9130 in Nassau Fiord and on T-9140 in Icy Bay.

It is suggested that topographic stations 418 (HIND, 1951), and 420 (SAND, 1951) in Nassau Fiord, and either 422 (DEO, 1951) or 423 (SAND, 1951) in Icy Bay be located by triangulation methods to give a comparison with the existing preliminary plot positions and thereby justify whether a new radial plot should be laid for smooth sheet plotting. No. 177 (Nassau, 1933) did not hold and the identification is considered to be in error. It is requested that it be re-identified for subsequent work.

24. SUPPLEMENTAL DATA:

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25. PHOTOGRAPHY:

The W camera coverage is better in general as concerns definition and quality of detail than is the Air Force photography on the east side of sheets T-9142 and T-9145. Tree overhang and displacement, and resulting shadows are factors which hindered the accurate recovery of control alongshore.
and will necessitate compiling such shorelines with the dashed line
approximate high water line symbol. Failing a central point direct is
subject to inaccuracies under the circumstances this photograpy presents,
and hence the plot is weak in the areas mentioned in 23 above. The scale was
not good on the "P" 3X enlargements, but was surprisingly good on the 4X Air
Force enlargements.

Flight lines should have followed the general 1X-5X alignment of
these islands in order to afford the radial plot stronger azimuth transfers
across the more narrow straits, and thus avoid as many water azimuths as
possible.

Approved by:         Respectfully submitted:

S. V Griffith         Roscoe J. French
Chief, Cartographic Branch  Supervisory Cartographer
157 Jackal, 1933 Sub. pt. 0.2mm.
160 Wagon, 1933 0.3mm.
161 Precip, 1933 Sub. pt. Held
162 Cener, 1933 0.6mm.
163 Joy, 1933 Sub. pt. Held
164 Motter, 1933 Held
165 Benj, 1933 Sub. pt. Held
167 Slate, 1933 Held
168 Village, 1933 Sub. pt. Held
169 Chernega, 1907 Sub. pt. Held
176 Duke, 1933 Held
177 Nassau, 1933 1.0 mm.
178 Fiord, 1933 Sub. pt. A 0.2mm.
179 Thor, 1933 Held
180 Zeus, 1933 0.2mm.
183 Baron, 1933 0.2mm.
184 Belt, 1933 Sub. pt. Held
185 Olga, 1933 Held
186 Tina, 1933 Sub. pt. Held
189 Vega, 1933 Sub. pt. Held
190 Bebe, 1933 Sub. pt. Held
192 Kit, 1933 Sub. pt. 1.0mm. (Held to home Station)
198 Wat, 1927 Held
199 Goat, 1927 Held
200 Brid, 1927 Held
201 Glac, 1927 0.2mm.
207 Orion, 1933 Sub. pt. 0.2mm.
210 Bain, 1933 2.4mm.
211 Tate, 1948 0.3mm.
213 Pleiades, 1933 Held
214 Sister Rock, 1907 Held
215 South, 1907 Held
217 Squire, 1933 Held
218 Rot, 1910 0.4mm.
219 Ship, 1910 0.2mm.
220 Horn, 1910 0.3mm.
224 Ved, 1910 Held
225A Pas, 1910 Held
229 Gugua, 1910
262 Hydro, 1948
271 Plain, 1948 Held
272 Cross, 1948 0.2mm.
273 Clear, 1943 Held
274 Half, 1943 0.2mm.
275 Fass, 1943 Thin cuts
276 Age, 1943 Held
279 Ratl, 1943 Held
283 Hub, 1943 Sub. pt. Held
281 Low, 1943 Held
282 Sage, 1948 Held
283 Babe, 1948 0.3mm.
284 Dana, 1948 Held
285 Inner, 1948 0.2mm.
286 Sip, 1943 Held

NOTE: All stations that have sub-pts. listed were field identified by USGS on 1:20,000 Air Force photography. All others were field identified direct by 30th Engineers on 1:40,000 photographs.
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<td>ZEST</td>
<td>1951</td>
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</table>
31. Area Covered:

This aerial plot covers three sheets T-617, T-618, T-619 and the western limits of T-620 and T-621. The plot was originally laid in May 1957 and covered eight T-sheets. The sheets covered in this plot comprise the western end of the original plot. (See plot sketch)

32. Method:

Additional control was established and identified in 1957 by the field party in the shore-section area. This plot was begun in the area to the east (Shale Bay area), which was well-controlled originally. It was extended northwesterly into the area of the new control. The plot was laid on the original manuscripts utilizing the same templates with the additional control added.

The new control established a rigid plot for the area with good closures on control base points and azimuths. In general there was a shift in datum of 1.0 cm N-W in this area because of the stronger fix in datum obtainable by the new control. (See item 23 - control below)

33. Adequacy of Control:

As noted under item 23 of the original plot report, trouble was encountered in the area of this plot. With the additional control established in 1957, an accurate fix in datum was obtained. Horizontal control stations used to control this plot are shown on the attached sketch.

Triangulation station "ZEUS 1953" was reported as held in the prior plot. The sub. station was identified on two photographs and erroneously held in the plot to the hole station. The sub. station is 2.3 cm S of the bore station, and was held in this plot. This will effect a shift in detail of approximately 2 cm in S direction.
24. **Supplemental Data:**

   Inapplicable (see original report).

25. **Photography:**

   See original plot report.

---

Submitted by:

J. P. Ballley Jr.

J. P. Ballley, Jr.
Cartographer

Approved by:

E. M. Ramsey, Chief
Graphic Compilation
November 1957
Radial Plot Sketch
(Supplement to Original Plot)

확... indicates control held in the plot (topographic or
三角... indicates control not held

* Found on plot & "field" sub pt. A fell 0.4 mm S of the
plotted position

Project Ph-152
<table>
<thead>
<tr>
<th>STATION</th>
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<th>DATUM</th>
<th>Latitude or y-coordinate</th>
<th>Longitude or x-coordinate</th>
<th>Distance from grid in feet or projection line in meters</th>
<th>Datum Correction</th>
<th>N.A. 1927-Datum Distance from grid or projection line in meters</th>
<th>Factor Distance from grid or projection line in meters</th>
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<td>&quot;</td>
<td>60-13-05.509</td>
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</table>
COMPILATION REPORT, T-9140

31. **DELINEATION:**

Shoreline and all detail adjacent to the MHWL was compiled by the work sheet method. A small piece of transparent vinylite material was placed over the photograph of most nearly true scale, and shoreline detail was drawn while viewing the stereoscopic model. Graphic methods were then used to adjust the detail into the manuscript.

Due to the poor scale between work sheet and manuscript, the reflecting projector had to be used almost entirely to bring the work sheet detail to the scale of the manuscript.

Field inspected photographs of a scale of 1:20,000 were used as an aid in making the work sheets mentioned above.

The shoreline is complete and the photographs are adequate, except for a few small areas where the dashed shoreline (approximate high water) symbol is used. Shadows and tree overhang made viewing these areas impossible.

32. **CONTROL:**

Subject to field verification. See, also, radial plot report.

33. **SUPPLEMENTAL DATA:**

T-4810 1/20000 1933

The above plan table survey was used as an aid to interpret the photographs and to supplement the field inspection.

34. **CONTOURS AND DRAINAGE:**

Only the larger drainage has been shown back from the shoreline a short distance as an aid to the hydrographer in identifying his position.

35. **SHORELINE AND ALONGSHORE FEATURES:**

Field inspection of shoreline and foreshore features was not as complete as desired in several instances; particularly in cove areas where the hydrographer in the field can do a better job than a compiler with his office interpretation.

The photographs were quite clear, and stereoscopic study easily revealed the shallow and shoal areas. The detailing of the approximate low water line was also possible inasmuch as the photographs were flown
just under half-tide.

36. **OFFSHORE DETAILS:**

No unusual difficulties were found in the detailing of offshore features.

37. **LANDMARKS AND AIDS:**

None.

38. **CONTROL FOR FUTURE SURVEYS:**

Six recoverable topographic stations were identified on the 1:20,000 field-inspected photographs and are located on the manuscript. Positions were scaled and the Forms 524 were sent to Photogrammetry files.

Fifty-six (56) photo-hydro stations were field inspected on the 1:20,000 field inspection photographs and are located on the manuscript for future hydrographic surveys.

Many more photo-hydro stations were field inspected than are located on the manuscript. The compiler has shown only those that could be reliably identified by description and stereoscopic study, and were considered to be worthy of location. The compiler assumed the liberty of excluding those stations that appeared doubtful of exact transfer from the 1:20,000 to the 1:10,000 scale photographs.

39. **JUNCTIONS:**

Junctions were made with T-9138 on the north and T-9141 to the east.

40. **HORIZONTAL AND VERTICAL ACCURACY:**

Vertical accuracy is inapplicable.

There is some question as to horizontal position of shoreline east of Zeus, 1933 and almost to Topo Dolt, 1951. This is due partly to the tilt in the photographs in this area and, also, from the detail being on photo azimuth. Redelineated and repositioned in 1957.

Also see radial plot report.

41-45. Inapplicable.

46. **COMPARISON WITH EXISTING MAPS:**

Seward (A-4), Alaska 1:63,360 - 1952
This manuscript supersedes the quadrangle in all shoreline and alongshore detail.

47. COMPARISON WITH NAUTICAL CHARTS:

<table>
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<tr>
<th>Chart No.</th>
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<th>Date</th>
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<td>1:81,436</td>
<td>1st</td>
<td>1930</td>
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</table>

This manuscript supersedes present charted information for shoreline and alongshore features.

Approved by:  
K. N. Makl  
Supervisory Cartographer

Submitted by:  
Creighton O. Demarr  
Cartographer (Photogrammetry)
SUPPLEMENT TO COMPILATION REPORT

T-91440
November 1957
Prince William Sound
Project 152

31. Delineation:

Reference: Compilation Instructions-Supp. 4, dated 23 October 1957

A new manuscript was delineated for T-91440. This was due to a shift in datum, established by the 1957 radial plot, from the original manuscript positions. (See the 1957 radial plot report filed with the descriptive report for T-9144.)

In general the shoreline was redelineated by holding the common shoreline pass points with the original manuscript and tracing the previously compiled details. All previous shoreline interpretation was checked with the photographs for accuracy.

As noted in the 1957 field inspection report, all areas shown as approximate MHWL on the original manuscript, were field inspected. These areas were redelineated on the new manuscript using the 1957 field location.

The hydrographic stations correspondingly shifted in datum on the manuscript and their new locations should be used by the hydrographer.

The new positions for the topographic stations previously established were rescaled and corrected on the 524 cards.

Jeter P. Battley Jr.
Cartographer
GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-152 (Alaska)

T-9140

Icy Bay
Nassau Fiord

Approved by:

A. Joseph Wright
Chief Geographer

Prepared by:

Frank W. Pickett
Cartographic Technician
49. NOTES TO THE HYDROGRAPHER: (T-9140 - Photo-Hydro Signals)

Six (6) recoverable topographic stations were located on T-9140:

- Dolt, 1951
- Jowl, 1951 (1957 triangulation position)
- Ibis, 1951
- Tran, 1951
- Idol, 1951
- Yank, 1951

*1987 photogrammetric plot position

The following photo-hydro stations were field identified and are located on the manuscript for the use of the hydrographer:

176. Round, smooth, light-colored point of rock (7)

179. Outer end of flat (2) ledge connected to island

180. Extreme end of point at HWL

183. Outer end of low (3) ledge

186. Low, projecting, corner point of shoreline with grass and alder behind. (There is a low (2') ledge just N.E.)

188. Large boulder at middle of slide at water edge

189. Mid-point of low, light-colored, grass-topped, flat area at HWL

191. Low ledge (2) in front of flat, sloping, smooth, rock ledge

207. Middle of double point (rock bluff here has marked reddish-purple color). There is a prominent outcropping rock knob (100 ft. above to N.E.

208. High point of large lone rock outcrop on gravel delta (looks like boulder)

210. Outer end of point (has very small alder and moss stop and at end). 

211. Outer corner point of prominent headland. (There is a bare rock to S.W.)

213. Low corner point of rock ledge where alder almost comes down to water's edge. (There is a small niche here to the N.E.)

214. Boulder at end of stunted alder near bottom of dirt slide

215. Large boulder at HWL at base of slide (alder patches above).

216. Rock bench of HWL with dense patch of alder surrounding it. Station is just north of small dirt slide.
217. Corner point of grey rock bluff immediately N.E. of two caves.

218. Middle of triangular vertical face of protruding buttress-like portion of bluff line.

222. White-spotted boulder at S.W. base of rubble slide. (There is a boulder offshore)

223. Group of boulders just south of small slide area at outer point of shoreline (just south of longest and biggest slide in area).

225. Large grey-topped rock (3)

228. Large spruce at storm HML. (First one N.E. of main stream)

229. Large white-topped boulder on beach at grassline. (There is a triangular shaped rock just off HML from station)

230. Light-colored corner of low sloping point

231. N.E. end of (6') grey rock at HML

233. (5') Rock with patch of grass

235. Outermost end of sloping grey rock promontory

237. Prominent knob atop N.E. corner of base grey rock

238. Outer corner at HW of sloping ledge

239. Intersection of HML at end of beach and rock bluff

242. Waterfall at HML (hidden from north).

243. High point (5') of off-lying ledge

244. White-spotted (3') rock (semi-detached) just north of slide

246. (2') Rock ledge just off shoreline

293. Light grey-colored rock at N.W. corner of island

295. Most westerly corner of hooked point, just south of deep indentation in rock shoreline

296. HML at corner marking north end of opening in rock

297. Outer end of light-colored rock on projecting point. (There is a small grass patch and alder atop)
298. Top of small conical semi-detached rock on point (2)

299. NW end of sloping bare rock point with few white streaks in rocks

300. Round, smooth, white knob on S.E. end of islet

301. High point of smooth-topped rock (8) at west end.

302. Top center of smooth rock (5)

304. Top (4) of rounded semi-detached rock at north end of small bight

305. S.W. end at HWL of sloping rock bluff

306. Top of light-colored rock with small wisp of grass. There is a low water ledge in front

798. Bare peak of islet (16)

799. Top of large rock (13)

801. Top of large boulder just offshore (8)

803. Bluff face of southermost point of islet (5)

805. Bare face of rock (11)

808. Face of farthest projecting point (5)

809. Highest part of rock (1)

810. Highest part of rock (5)

815. End of wide bare point (7)

816. Large boulder-like point (9)
49. NOTES TO THE HYDROGRAPHER FOR T-9138, T-9140 and T-9141

The manuscripts for these surveys were revised to incorporate changes in positions of features and photo-hydro stations as determined by additional field work in 1957 and a new photogrammetric plot in 1957. Because of a datum shift completely new manuscripts were delineated for T-9138 and T-9140.

The manuscripts are now in final form, subject to correction by final office review. Copies of these manuscripts will be available for the processing of hydrographic surveys. In addition the vinylite impression of the original manuscript for T-9141 has been corrected to show new positions for photo-hydro stations.

The Photogrammetric Plot Report for these surveys is filed as part of the Descriptive Report for T-9141.

EHR

Everett H. Ramsey
Chief, Graphic Compilation Unit
FORM 1002(T-2) PHOTOGRAMMETRIC OFFICE REVIEW

MAP T-9140

PROJECT PH-152

No Form 1002(T-2) was available at the time of final review and none is bound with this Descriptive Report.
The shoreline for all hydrographic work accomplished during the 1967 field season was derived from shoreline surveys compiled on a 1:12,000 scale from aerial photographs. Signals for visual hydrography were derived by visual spot in the field, by recovery of previously selected stationery stations when available, by intersection from triangulation, by plane-table, and by vector cuts and fixes. All signals located by vector plot in the field are indicated on the manuscripts by a red circle with the signal name alongside. A few signals located by plane-table and by triangulation cuts are indicated in the same manner. In a few instances, sextant cuts and fixes were plotted on the manuscripts and the signal locations were indicated by blue circles with the name alongside.

Shoreline revisions and unusual methods of hydrographic signal location are summarized below:

PRELIMINARY SHORELINE MANUSCRIPT G-9145

The north shore of Fleming Island appeared on this manuscript as a dashed line labeled "APPROXIMATE SHORE." Five signals, VAL, VAD, YAM, ZAG and AOE, were located by theodolite cuts from triangulation stations. These five signals and nearby triangulation stations were used as control to locate the VAE by plane-table and stadia distances. The approximate VAE was removed from the black line impression of the manuscript and the correct shoreline was applied. One rock wash between AOE and ZAG and a small islet between PUT and AOE were located during the plane-table work.

Since this is a preliminary manuscript, this portion of the shoreline, the rock wash and the small islet should be held fixed when the rest of the shoreline is adjusted to the correct datum.

The approximate PUT in the vicinity of PUT 1968, TVN and on around the small island was located by plane-table. Station TVN was located by plane-table and stadia distance. For this portion of the work, photo-hydro points were used exclusively for control. Then the rest of the shoreline in the vicinity is adjusted to the correct datum this portion of shoreline and signal PUT should receive the same adjustment.

ADVANCE SHORELINE MANUSCRIPT G-9141

The approximate PUT between topographic signal TVN and triangulation station G-9141 1963 was located by plane-table. The plane table was set up on TVN, oriented on G-9141 1963, and the PUT was located by stadia distances to several points. The approximate PUT was removed from the black line impression and the correct PUT added.
The true NFL between LAT and LAD and between LAT and LAM. LAT is on the highest point of an inlet which was originally indicated by a reef tank. The black line impression was corrected, on the basis of stadia distances by photo-grammetry.

Preliminary Chartlines Manuscript F-9144

On Nantucket Island, the approximate NFL between LAT and LAX was resolved by plane-table, using the manuscript as the field sheet. Stations COD, POF and PGO were located by plane-table using on photo-grammetric prints, and all shoreline was controlled by photo-grammetric prints.

The approximate NFL between LAT and WIN in 1951 was resolved by plane-table, using photo-grammetric prints in the vicinity of station LAT and the black-line impression as the field sheet. The same method was used between LOG and POF near GAD, between LOG and LAX and between LAT and PAS. Stations BDF and HOF were located by plane-table.

In all the above work only photo-grammetric control was used. When the rest of the shoreline is adjusted to the correct datum the newly located shore-line should receive the same adjustment, also the signals located by plane-table.

The approximate NFL at latitude 60° 15'19", longitude 148° 17'16" was carefully field inspected and the true NFL is indicated on photographs 56-2433 and 56-2434. The true NFL in the small bay at latitude 60° 14'13" and longitude 148° 17'15", and in the vicinity of topographic station PULL 1951 is indicated on photographs 56-2434. The true NFL between stations LOY and NIFY 1951 is indicated on photographs 56-2390 and 56-2391. The true NFL between stations NIFY 1951 and AID is indicated on photograph 56-2391.

Preliminary Chartlines Manuscript T-9144

The approximate NFL between JOE and MOD (T-9146), in the vicinity of stations BDF, POF, and in the vicinity of LAX and PLAN 1948 was resolved by plane-table, using photo-grammetric control. Stations BDF, POF and MOD were located by plane-table. Station AOF was located by plane-table. All this work should be adjusted to the correct datum on the final manuscript.

Stations LAX and MOD were located by plane-table using photo-grammetric control. They should be adjusted to the correct datum on the final manuscript.

Advance Chartlines Manuscript T-9148

The approximate NFL in the vicinity of signal BAR was field inspected and the true NFL is indicated on photograph 54-2433.

The approximate NFL, northwest of photo point 316 was resolved by plane-table. The correct NFL is now shown on the black-line impression.
STATE TAKEN AT MEXICO CITY.

The approximate W.T. of the following locations are recorded by plane-table and the correct W.T. is now shown on the black-line impressions:

1. Vicinity of station "A" and "B.
2. Vicinity of station "C", latitude 51° 12'10", longitude 159° 21'.
3. Vicinity of "E" in 1957 and "F".

The approximate W.T. of the vicinity of toponymic station "A" was field checked and the true W.T. is indicated on photomontage.

No additional shoreline discrepancies were noted during hydrography and signal buildings. All signals appear to plot in their correct location with respect to the NML.

Special sheets were not prepared for any of the plane-table work. Some of the field work was done directly on the black-line impressions. In the remaining cases the field work was done on tracings of the black-line impressions. In each case, a tracing was used in the field only one day, and results transferred to the black-line impressions the same evening. There was no detectable distortion.

The following triangulation stations were identified this year:

<table>
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<th>NAME</th>
<th>PHOTOGRAPH</th>
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<tr>
<td>TURK 1957</td>
<td>5402497 74-4-10</td>
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<tr>
<td>ITAN 1957</td>
<td>5402496 74-18-3</td>
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<tr>
<td>VIND 1957</td>
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<td>PIAIN 1943</td>
<td>5402496 74-18-3</td>
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<td>KOAT 1927</td>
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</tbody>
</table>

In addition, the following toponymic stations marked in 1951 and located by radial plot, were re-located by triangulation cuts or short traverse from triangulation stations: "WIL 1957", "JUL 1957", "JOST 1957", "SAND 1957".

Approved and forwarded:

Fred Matella
CDS, CGS
Commanding Ship DOWIN

Signature:


date: [Signature]

[Stamp: USCGS, CGS]
REVIEW REPORT T-9140

SHORELINE

JANUARY 13, 1971

61. **GENERAL STATEMENT:**

   See Summary on page 6 of this Descriptive Report.

   An ozalid comparison print (pages 36 through 43), with differences noted in Items 62 and 63 is bound with the original of this report.

62. **COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:**

   A comparison was made with Survey T-4810, scale 1:20,000, dated Sept. - Oct. 1933, and T-4308, scale 1:20,000, dated July - August 1927. Differences between these surveys and T-9140 are shown in blue on the comparison print.

   The general trend of the shoreline is the same, but there are large differences in placement.

63. **COMPARISON WITH MAPS OF OTHER AGENCIES:**

   A visual comparison was made with U.S.G.S. Quadrangle SEWARD (A-4), ALASKA, scale 1:63,360, dated 1952. No significant differences were noted, with one exception. Two bare rocks are shown on the quadrangle in the vicinity of latitude 60°13.2', longitude 148°19.0'. These rocks are not visible on the photographs, and are not shown on Chart 8528 or Boat Sheet H-8390. The approximate locations of these rocks are shown in brown on the comparison print.

64. **COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:**

   A comparison was made with copies of the boat sheets for Surveys H-8389 and H-8390, both 1:10,000 scale and both dated 1957. No differences were noted. T-9140 was used as the base map for shoreline for the part of H-8389 and H-8390 that is covered by this map.
65. **COMPARISON WITH NAUTICAL CHARTS:**

A visual comparison was made with Chart 8528, scale 1:80,000, 4th edition, dated Nov. 25, 1968. No significant differences were noted.

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
January 13, 1971

Approved:

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

Approved:

Chief, Photogrammetric Branch  Chief, Photogrammetry Division
NOTE: Unlabeled circles are photogrammetric plot points; not map features

△ Recoverable horizontal control standards

......... Approximate mean lower low water
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<td>J.A. Graham</td>
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