DESCRIPTIVE REPORT

U.S. COAST & GEODESIC SURVEY
LIBRARY AND ARCHIVES
APR 10 1941

State: ALASKA

LOCALITY
CAPE
VICINITY OF FAIRWEATHER

CHIEF OF PARTY

Ray L. Schoppe & Robert W. Knox

U.S. GOVERNMENT PRINTING OFFICE: 1940
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No.: FL. & A. " 1940

REGISTER NO. T 4958

State: ALASKA

General locality: GULF OF ALASKA

Locality: VICINITY OF CAPE FAIRWEATHER

Scale: 1:80,000 Date of survey: May - Sept., 1940

Vessel: U. S. SURVEYOR

Chief of party: R. L. Schoppe - R. W. Knox

Surveyed by: L. S. Hubbard

Inked by: L. S. Hubbard and co-inked by WAC.

Heights in feet above M. H. W. to ground to tops of trees

Contour, Approximate contour, Form line interval: 100 feet

Instructions dated: Feb. 2, 1940

Remarks: Form Line Sheet

...
DESCRIPTIVE REPORT
TO ACCOMPANY FORM LINE SHEET #A-1940
VICINITY OF MT. FAIRWEATHER, ALASKA.
U.S. COAST & GEODETIC SURVEY SHIP "SURVEYOR"

RAY L. SCHOPPE
&
ROBERT W. KNOX

CHIEF OF PARTY

SCALE -- 1:60,000

SEASON 1940

DATE OF INSTRUCTIONS:

This sheet was surveyed under instructions dated
February 2, 1940 for project HT-245.

LOCATION AND JUNCTIONS:

The area surveyed extends from Lituya Bay to the
Deception Hills, south of Dry Bay, and from the coastline
to the mountainous region about ten miles inshore.
On the south the survey makes a junction with topo.
sheet # 4244, scale 1:20,000. On the west it makes a junction
with sheets # 11 and # 12 of the International Boundary
Survey, scale 1:250,000. On the north the survey joins in
part sheet # 12 of the International Boundary Survey; but
much of the region on the north side remains to be surveyed.
Along the coast the sheet makes junctions with topo-
ergaphic sheets - "Surveyor" E-1940 and C-1940.

SURVEY METHODS:

This area was surveyed entirely by sextant from off-
shore positions. When the ship was anchored at various places
along the coast, the ships position was determined by three
point fix on objects or signals previously located by tri-
angulation or traverse.

Sextant cuts and vertical angles were then taken to
all geographical features in sight. Sketches of the country were
made at each anchorage. All features to which angles were
taken were labeled in the sketches, for future identification.

Due to the mountainous nature of the country all angles
taken for cuts were oblique. These oblique angles were reduced
to horizontal angles by formula. All elevations are based
on at least two vertical angles. Most elevations are the
mean of three observations.

A few photographs were taken, and used as an aid
in form lining.
COMPARISON WITH PREVIOUS SURVEYS:

The only previous surveys at hand of the region were those of the International Boundary Survey. Many discrepancies were found, more especially in the regions some distance from the path of the boundary. It is believed the former surveys lacked the definite control which the 1940 survey had available. At the outer limits of the sheet the form lines were adjusted to fit the contours of sheet #11 and #12 of the International Boundary Survey.

GEOGRAPHIC NAMES:

Most of the names shown on the sheet are taken from the International Boundary Survey sheets.

RECOMMENDED NAMES:

Fairweather Glacier: It is recommended that the glacier flowing through the low pass between Mt. Fairweather and Mt. Lituya and ending at Cape Fairweather be named Fairweather Glacier. This is the most conspicuous and spectacular glacier in the vicinity.

Mt. Hook: A black, jagged peak with a tip resembling a hook from certain directions. Named by Mr. Long 137°40' Jesse Hill of the International Boundary Survey.

Twin Peaks: Southeast Twin Peak and Northwest Twin Peak: These two peaks appear to be the same elevation from offshore. The wall-like precipice below and between them is a notable feature of the region.

DESCRIPTION OF COUNTRY:

This is a rugged, mountainous country, much of it submerged under glaciers. Mt. Fairweather, towering from the interior, dominates the region. It appears as a white pyramid-like head on two white shoulders. On the slopes below the shoulders black rocks protrude through the snow. Rugged spur ridges, separated from each other by glaciers, spread out from the lower slopes. A jagged black spire tops the spur which is four miles west of the summit. This spire is 8370 feet in elevation.

South of Mt. Fairweather is Mt. Lituya, a blunt topped, wedge shaped peak; the edge of the wedge tilting toward the shore. A secondary peak (PK "B") is situated a few miles west of Mt. Lituya.

North of Mt. Fairweather are several jagged ridges or mountain ranges, projecting above the ice sheets and glaciers. Mt. Watson is here the most distinctive peak. It is sharp tipped, black, and symmetrically steep sided. Mt. Hook is a lower, sharp peak at the upper end of a jagged ridge.
The next ridge north is crowned by a flat, triangular shaped, snow covered plateau. Near the three corners of the plateau, block like masses of rock raise above the snow. At the lower end of this long rugged ridge are three spikelike peaks.

At the north end of the region are the Twin Peaks. A steep, sheer-faced crag lays between and beneath the two peaks, the whole resembling a buttressed wall.

At the foot of this impressive chain of peaks is a coastal range of hills from two to three thousand feet high. These hills parallel the shore. They are separated into several groups by the glaciers which break through to the coast. The tops and upper slopes of these hills are snow covered in the Spring, but by late Summer are barren or grass covered. The lower slopes, up to an elevation of about 1200 feet are covered with spruce trees. The low coastal plains are covered with spruce trees, except for the terminal moraines of the glaciers. These moraines are a jumble of glacial drift and stony heaps. The heaps vary definitely from each other in color, some light brown, some red.

In the range of hills situated between Lituya Bay and the moraine of Fairweather Glacier are several deep valleys. Waterfalls may be seen on the hillsides of these valleys.

A few landmarks are along the shore. On the south side of Lituya Bay are the Paps. These are two rounded hills which form excellent markers for the entrance to Lituya Bay.

On the south side of Fairweather Glacier and about one and a half miles inshore are a row of three hillocks. They raise successively from 720 feet to 865 feet high. They are tree covered, except for the north slopes, which are scoured and eroded.

North of Grand Plateau Glacier are the Deception Hills. The peak immediately north of the glacier, 3635 feet high, is notably black in color to observers on ships ten to twenty miles offshore.

An isolated hillock about 2700 feet high appears as an island above the ice of Grand Plateau Glacier, about five miles east of the black mountain previously mentioned. (Only a slim cut was obtained to this hillock, and it is recommended that it be definitely located, the next field season).

Respectfully submitted:

[Signature]

L.S. Hubbard, Lieut. C.& G.S.

[Signature]

L.W. Knox, Lieut. C.& G.S.

Commanding U.S.S. SURVEYOR

[Signature]

[Forwarded Apr. 21, 1941]

[Signature]
STATISTICS:

Area - 510 square statute miles

Number of Elevations - 205
APPENDIX A

ELEVATIONS:

The elevations on the peaks listed below were determined from theodolite vertical angles. All other elevations shown on the sheet were obtained from sextant angles.

<table>
<thead>
<tr>
<th>Peak</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Elevations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt. Grillon</td>
<td>69°39'46.31''</td>
<td>137°-10'-10.56''</td>
<td>12,735</td>
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<tr>
<td>PK &quot;p&quot;</td>
<td>69°35'53.80''</td>
<td>137°-22'-20.78''</td>
<td>7,215</td>
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<tr>
<td>Mt. Lituya</td>
<td>68°46'-15.20''</td>
<td>137°-26'-06.87''</td>
<td>11,910</td>
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<tr>
<td>Mt. Fairweather</td>
<td>54°36'23.96''</td>
<td>137°-31'-29.17''</td>
<td>15,320</td>
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<tr>
<td>PK 10,640</td>
<td>58°37'49.39''</td>
<td>137°-36'-33.92''</td>
<td>10,620</td>
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<tr>
<td>Mt. Root</td>
<td>56°59'08.82''</td>
<td>137°-29'-53.79''</td>
<td>12,880</td>
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<tr>
<td>Mt. Hook</td>
<td>58°59'17.70''</td>
<td>137°-39'-54.84''</td>
<td>8,940</td>
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<tr>
<td>Mt. Watson</td>
<td>59°00'-30.79''</td>
<td>137°-33'-15.23''</td>
<td>12,430</td>
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<tr>
<td>- Spike -</td>
<td>59°01'-49.52''</td>
<td>137°-45'-06.25''</td>
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<td>Peak 10,995</td>
<td>59°02'-21.98''</td>
<td>137°-35'-55.98''</td>
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<td>- Big -</td>
<td>59°03'-06.74''</td>
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<tr>
<td>PK 10,620</td>
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<td>137°-38'-37.23''</td>
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<td>S.E. Twin</td>
<td>59°09'-47.22''</td>
<td>137°-49'-41.65''</td>
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<td>N.W. Twin</td>
<td>59°10'-14.96''</td>
<td>137°-50'-59.73''</td>
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<td>585 375</td>
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<td>590 380-385</td>
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<td>Cape Fairweather</td>
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<td>Deception Hills</td>
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<td>Fairweather Glacier</td>
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<tr>
<td>Grand Plateau Glacier</td>
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<td>Gulf of Alaska</td>
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<tr>
<td>Mt. Fairweather</td>
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<tr>
<td>Sea Otter Cr.</td>
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<tr>
<td>Mt. Escures</td>
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<tr>
<td>Lituya Mt.</td>
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<td>Mt. Watson</td>
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<tr>
<td>Northwest Twin Peak</td>
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The document is completed by L. Heck on 9/29/44.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

To: Director
U. S. Coast & Geodetic Survey
Washington, D.C.

From: Commanding Officer
U S C & G S S SURVEYOR
Seattle, Washington

Subject: Landmarks for Charts.

1. Enclosed is a list of the more prominent peaks in the area covered by form line sheet #A-1940 Surveyor. The majority are already printed on chart 8002. The chief changes are in the elevations to be charted. Better determinations in location have been made for a few.

2. These peaks are shown on an attached copy of chart #8002. They are numbered in the order as listed on form 567.

(Signed) Robert W. Knox
Commanding Officer
U S C & G S S SURVEYOR.

COPY
MEMORANDUM
IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOGRAPH

No. T
T4958

received April 10, 1941
registered May 1, 1941
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked calling for the records at your convenience.

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RETURN TO

82  T. B. Reed

✓
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Seattle, Washington
Feb. 1941, 193

I recommend that the following objects which have (XXX) been inspected from seaward to determine their value as landmarks, be checked on (XXX) the charts indicated.

The positions given have been checked after listing.

<table>
<thead>
<tr>
<th>GENERAL LOCALITY</th>
<th>NAME AND DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>DATUM</th>
<th>METHOD OF LOCATION</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
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<td>D. M. Meters</td>
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<tr>
<td>3540 PK</td>
<td></td>
<td>68 42</td>
<td>1391</td>
<td>137 57</td>
<td>849</td>
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<td>4690 PK</td>
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<td>69 44</td>
<td>806-</td>
<td>137 50</td>
<td>295</td>
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<td>4605 PK</td>
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<td>69 44</td>
<td>1668</td>
<td>137 41</td>
<td>893</td>
<td>1927</td>
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<tr>
<td>965 Tree Top (Hymook)(A Bear)</td>
<td></td>
<td>69 46</td>
<td>1450.9</td>
<td>137 51</td>
<td>48.1</td>
<td>Trans.</td>
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<td>10,430 (Hedge shaped top)(A PK&quot;A&quot;)</td>
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<td>69 49</td>
<td>601.2</td>
<td>137 26</td>
<td>110.3</td>
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<tr>
<td>Mt. Fairweather El.11,320 (A PK&quot;a&quot;)</td>
<td></td>
<td>69 54</td>
<td>741.3</td>
<td>137 51</td>
<td>467.1</td>
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<tr>
<td>Mt. Hook El. 8940 (Black jagged)(Rook)</td>
<td></td>
<td>69 54</td>
<td>8947.7</td>
<td>137 59</td>
<td>875.1</td>
<td>1940</td>
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<tr>
<td>2830 (A Hunt)</td>
<td></td>
<td>69 54</td>
<td>1682.5</td>
<td>137 50</td>
<td>153.9</td>
<td>1940</td>
<td></td>
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<tr>
<td>(A Watson)</td>
<td></td>
<td>69 54</td>
<td>952.8</td>
<td>137 33</td>
<td>243.1</td>
<td>1940</td>
<td></td>
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<tr>
<td>Mt. Watson El.12430 (black symmetrical)</td>
<td></td>
<td>69 01</td>
<td>1521.3</td>
<td>137 46</td>
<td>96.7</td>
<td>1940</td>
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<tr>
<td>7365 Spike(lowest of three)(A Big)</td>
<td></td>
<td>69 03</td>
<td>208.6</td>
<td>137 40</td>
<td>620.4</td>
<td>1940</td>
<td></td>
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<td>10,165 (rock mass on snow plateau)</td>
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<td>69 03</td>
<td>1165.8</td>
<td>139 05</td>
<td>787.8</td>
<td>1940</td>
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<tr>
<td>3635 Black rugged (A block)</td>
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<td>69 03</td>
<td>1165.8</td>
<td>139 05</td>
<td>787.8</td>
<td>1940</td>
<td></td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
I recommend that the following objects which have (have not) been inspected from seaward to determine their value as landmarks, be charted on (deleted from) the charts indicated.

The positions given have been checked after listing.

<table>
<thead>
<tr>
<th>NAME AND DESCRIPTION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>DATUM</th>
<th>METHOD OF LOCATION</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
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<tr>
<td>S.E. Twin El.7615</td>
<td>69 09</td>
<td>1461.8</td>
<td>157</td>
<td>49 661.8</td>
<td>1927</td>
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<tr>
<td>N.W. Twin E.7305</td>
<td>69 10</td>
<td>462.9</td>
<td>157</td>
<td>60 949.0</td>
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</table>

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
DIVISION OF CHARTS
SURVEYS SECTION

REVIEW OF TOPOGRAPHIC SURVEY
REGISTER NO. 4958 (1940)
FIELD NO. FL-A (1940)

Alaska; Gulf of Alaska; Vicinity of Cape Fairweather
Surveyed in May - September 1940, Scale 1:80,000
Instructions dated February 2, 1940 (SURVEYOR)

Sextant Survey
Whatman's Paper

Chief of Party - R. L. Schoppe; R. W. Knox
Surveyed and inked by - L. S. Hubbard
Reviewed by - J. A. McCormick, September 17, 1941
Inspected by - H. R. Edmonston

1. Adjoining Surveys

The present survey is an offshore sextant determination
of inland detail adjacent to shoreline surveys T-4244
(1926) and T-6760 to T-6763, inclusive, of 1940. Satisfac-
tory form-line junctions were effected with T-4244,
T-6761, and T-6762.

T-6760 and T-6763 do not include form lines. The pres-
ent survey furnishes the necessary data for the area
inland from T-6760 and it is probable that the gap be-
tween high water line of T-6763 and the Deception Hills
will be taken care of when the project is resumed in
this vicinity.

Form lines at the eastern and northern limits of the
survey were adjusted to those of Sheets 11 and 12 of the
International Boundary Survey.

2. Previous Surveys

T-2174 (1894), 1:80,000; T-2846 (1906), 1:80,000;
T-2852 (1907), 1:80,000; H-4648 (1926), 1:100,000

Topographic information on T-2174 and H-4648 is con-
fined mostly to elevations of some of the principal
peaks of the Fairweather Range. T-2846 and T-2852 are
phototopographic surveys executed by the Alaska-Canada
Boundary Survey. Elevations on the old surveys are
generally within 100 feet of those obtained on the cur-
rent project. Form lines of the boundary surveys
overlap the outer limits of the present survey and, being in the area where Mr. Hubbard made his adjustments to conform to International Boundary Sheets 11 and 12, are naturally in fairly good agreement with his form lining. The descriptive report, page 3, mentions an isolated hillock about 2,700 feet high (Lat. 59° 03', Long. 137° 55') on which only a slim cut was obtained and recommends that it be more definitely located. T-2846 shows a hillock with elevation of 2,400 feet about 1-1/2 miles northwest. The two features are probably identical and should be investigated further.

3. Comparison with Chart 8002 (New Print of 1-8-41)
   Chart 8505 (New Print of 6-1-40)

Chart 8505, on a scale of 1:20,000, shows topography in this area from T-4244 (1926). The small scale of Chart 8002 precludes showing more than a generalized shoreline and the elevations of principal peaks. The elevations on the present survey are probably more accurate than those now charted from the older surveys.

4. Condition of Survey
   Satisfactory.

5. Compliance with Project Instructions
   Excellent.

6. Additional Field Work Recommended

When field work is resumed in the vicinity of Dry Bay, a more definite location should be obtained for the hillock in approximate Lat. 59° 03', Long. 137° 55' (par. 2) and form lines should be continued northwest from Grand Plateau Glacier between high water line and the Deception Hills (par. 1).

7. Superseded Surveys
   T-2174 in part
   T-2846 " "
   T-2852 in part
   M-4648 " "

Examined and Approved:

[Signatures]

Chief, Surveys Section
Chief, Section of Hydrography

Chief, Division of Charts
Chief, Division of Coastal Surveys