

4335

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

E. Lester Jones, Director

State: *S.W. Alaska*

DESCRIPTIVE REPORT

Topographic
Hydrographic

Sheet No. 'E'

4335

LOCALITY

Kenai Peninsula

Nuka Bay

East Arm

1928.

CHIEF OF PARTY

R. R. Lukens, H. & G. Engr.

GOVERNMENT PRINTING OFFICE

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3
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DESCRIPTIVE REPORT

TO ACCOMPANY TOPOGRAPHIC SHEET E

NUKA BAY, ALASKA, 1927

STR. SURVEYOR - - - - - R. R. LUKENS, CHIEF of PARTY

Work executed under instructions issued to the Commanding Officer of the STR. SURVEYOR, dated February 3, 1927.

GENERAL DESCRIPTION OF THE COAST

The area embraced on this sheet is the EAST ARM of NUKA BAY, ALASKA, and MAC ARTHUR PASS entrance to NUKA BAY. Nearly all of the coast line on this sheet is steep, and the land rises abruptly from the water to hills of moderate height. The geological formation is volcanic, and all the west shore, and as far down the east shore as MOONLIGHT BAY, is slate or shale of varying forms. South of MOONLIGHT BAY, and all the shore line of CROOKED ISLAND, is white granite. All of this white granite formation is loose in nature, being, in general, huge granite boulders, piled in a jumbled heap for the hills, and consequently forming many rock slides and cliffs. These hills are covered with spruce trees of moderate size, alders, and huckle berry and salmon berry bushes, to an elevation of 1000 feet. The condition of the spruce in this vicinity is lamentable. The porcupines keep the tops of the young trees stripped of bark, which soon kills the trees. In consequence all the hills are covered with many dead trees. The most striking feature of the BAY is Mc CARTY'S GLACIER, which enters the arm at the northern extremity. The solid ice face now occupies the position indicated, and is approximately 2 miles wide, varying in height from 200 feet down. One wide medial moraine and several narrow ones show on the surface of the glacier. Between the solid face of the GLACIER and a line between triangulation stations GLACIER and CART, the water is filled with an ice pack, which is held in this area by a submerged terminal moraine, lying between the two triangulation stations referred to above. This moraine is covered by about 2 fathoms of water at mean tide, and on high tides a large amount of ice floats over the moraine and drifts about the bay. Ice is discharged in larger volumes on the spring tides when a northerly breeze is blowing. In the early part of July, the writer made a short trip into the ice pack in a small boat and took several soundings, all of which were no bottom at ten fathoms. To go into the pack any farther would have been unsafe, but these soundings indicate the existence of marginal moraine rather than an outwash plain. The last sounding was approximately 1/2 mile north (true) of station CART. A prospector in Seward has several photographs of this glacier which were taken in 1925. These photographs show plainly that the solid ice wall occupied a position

nearly parallel with the present face, but about 3/4 mile nearer to the bay, and also shows the water area, inside the submerged terminal moraine, to be comparatively loose floating ice. In 1927 this area was practically a solid ice pack as is shown in the attached photographs. Between 1925 and 1927 considerable seismic activity must have occurred in this vicinity, liberating what was solid ice in 1925. The GLACIER seems to be quite active, but no opportunity was had to measure the exact movement during the season of 1927. The dirt cone on which triangulation station GLACIER is located, is obviously of recent origin. It is over 100 meters in diameter and 90 feet high - nearly solid ice. During the season of 1927, the GLACIER itself was impassable, the lower reaches being cut by seracs. Several prospectors assert that in times past, the surface has been passable. This glacier is not described by TARR and MARTIN in their volume "ALASKAN GLACIER STUDIES".

INSHORE DANGERS

There are no obvious inshore dangers.

LANDMARKS

There are no obvious landmarks, except peaks.

SURVEY METHODS

All of the shore line of CROOKED ISLAND and east shore of the mainland, JAMES LAGOON, MAC ARTHUR PASS, and HARRINGTON POINT between stations TOP and EAST, as well as the shore line around the Glacier was done by the topographic party. The remainder of the west shore line, i.e., the shore line between station EAST and a point 300 meters south of ICE was done by the hydrographic party from inshore sextant fixes. This was done in order to complete the sheet, on the last day of the season, and wherever a plane table check of the hydrographic work was made, it seemed well within the limits of plane table accuracy. All fixes were taken from triangulation stations on the east side of the arm. The west shore has been accordingly shown as a full line. Control was carried thru MAC ARTHUR PASS on small pole signals, previously established, by graphical triangulation from stations MAC, ARTHUR, and TOP, and a check obtained on stations PAW, STEEP and HOOF. Due to the nature of the triangulation on stations STEEP, PAW and HOOF, the topographic positions and cuts are left on this sheet in pencil for future reference. The plane table position of PAW is about 5 meters ESE (true) of the triangulation; the plane table position of STEEP is about 20 meters NE (true) of the triangulation; and a single cut from PAW and HOOF passes thru the triangulation position of HOOF. (See triangulation report for NUKA BAY). 1927.

No adjustment was made. The remainder of the shore line was done by a combination of three point fixes and plane table traverse. DELIGHT LAKE and MC CARTY'S LAGOON have been taken from the GEOLOGICAL SURVEY MAP, referred to in the REPORT to ACCOMPANY TOPOGRAPHIC SHEET D, NUKA BAY, ALASKA, 1927. No topography was done in either of these places. Numerous cuts were taken to the solid face of the glacier and the position shown should be reliable for future comparison. A small stake and flag was securely set on the shoulder of the bare hill between DELIGHT LAKE and the GLACIER, and should remain undisturbed for some time in case a continuance of this survey is desired. No plane table set-ups were made in the vicinity of the GLACIER, north of station CART AND GLACIER.

All elevations shown were checked by one or more cuts. The shore line has been hachured, with a light line at the top of the hachures, to indicate the eroded nature of the rocks. Most of the prominent rock-slides and ravines are shown by hachures, but no attempt has been made to make the formation conform to the exact details of such topography.

NEW PLACE NAMES

Names well established by local usage are: MC CARTY'S GLACIER^{GP}, DELIGHT LAKE^{GP}, JAMES LAGOON^{GP}, EAST ARM, MAC ARTHUR PASS, and HARRINGTON POINT. *not found* ^{GP} McCarty Lagoon, (GB). ^{GP} MacArthur (GB).

Names applied by COAST SURVEY OFFICERS are: ICY COVE, MOONLIGHT BAY, MIDNIGHT COVE, CHANCE LAKE, WINDY BAY, CHANCE COVE, CHANCE LAGOON, MORNING SUN COVE, and ROARING COVE. *no*

MINING ACTIVITY

There were no mining operations under way in this arm during the 1927 season. An almost perpetual fog hangs over the EAST ARM, and a stiff northerly breeze usually blows down the arm from the glacier. Such a condition makes camping in this vicinity particularly disagreeable.

POSSIBLE ARBOPLANE LANDING FIELDS

Either of the flats at the foot of the glacier could be used for plane landings. The beach west of station GLACIER is possibly the best. However, a good lookout should be made for small boulders before landing. There is a large meadow on the flat north of JAMES LAGOON, but the writer has not walked over this ground, and it may be cut up by gullies and sloughs.

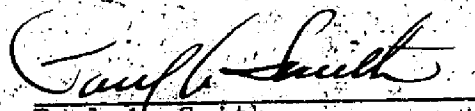
* *Biologic Reconnaissance Map*
of
Kenai Peninsula, Alaska
Map No 15922

The flat east of station CART is smooth and moderately free from boulders, altho covered in the summer by high grass. Any of the coves or lagoons are suitable landing for a sea plane or amphibian plane.

PHOTOGRAPHS

Photographs have been taken from topographic station EASY and from a position about 220 meters N by W (true) from topographic station BERG. These photographs show only the hills on the west shore of EAST ARM, but they will indicate the general nature of the country. The adaptability of this type of topography to a combination of aerial and land photography should not be overlooked, and it is recommended that advantage be taken of such opportunities in experimental photography, whenever practicable.

Respectfully submitted,



Paul A. Smith
Jr. H & G Engr.
Topographer.

Seattle, Washington.
December 8, 1927.

approved
R. B. Lusk
Chief of Survey

Inspected and found adequate

E. D. Ellis

June, 1928

EAST ARM SHEET E

List of Plane Table Positions

Object.	Lat.	D. N.	Long.	D. P.	Remarks.
Stake	59 32	1147	150 19	873	Stake set in a cairn of rocks. No check on position.
Que	59 29	362	150 22	543	South extremity of detached rock

Report on Geographic Names, Topographic Sheet No. 4335

Nuka Bay, East Arm, Kenai Peninsula, Alaska

The following names have been approved by the Geographic Board and may be used in our publications:

McCarty Lagoon and Glacier, Delight Lake, James Lagoon,
McArthur Pass.

Harrington Point was reported to the Geographic Board as a name established by local usage and may be used in our publications.

East Arm is a descriptive term and should not be used except in the absence of a better name.

The following names applied by Coast and Geodetic Survey officers are forwarded to the Geographic Board for approval:

Moonlight Bay, Midnight Cove, Chance Lake, Chance Lagoon,
Chance Cove, Morning Cove, Roaring Cove.

Windy Bay is rejected because of numerous duplications, there being a Windy Bay on the west side of Coronation Island, one in Kuiu Bay, and one on the north shore of Hawkins Island, Prince William Sound. *

* Another on the
same coast, 50 mi. W.
J.W.H.

Icy Cove is rejected because of duplications.

The following names found on the sheet without recommendation from the field officers are sent to the Geographic Board with recommendation that they be approved:

Arthur Cove, Wildcat Cove, Hoof Point

H. Bacon

June 27, 1928.

2 Photos

T 4335

North
2240

2730

MS

MS



Sheet D. Nuka Bay

Bear
- At A Bear

2240 3340 3505 2750

1606?

B4

T3

A6

Δ Plot

P.A. Smith

May 27, 1927, 4:00 PM.

3 1/2 sec. f G4

4334

f = 183 mm.

Mt. Nages.
↓
Mt. Diablo
↓

Alt. O. Cave



At. Δ Pilot

A Bear
↓



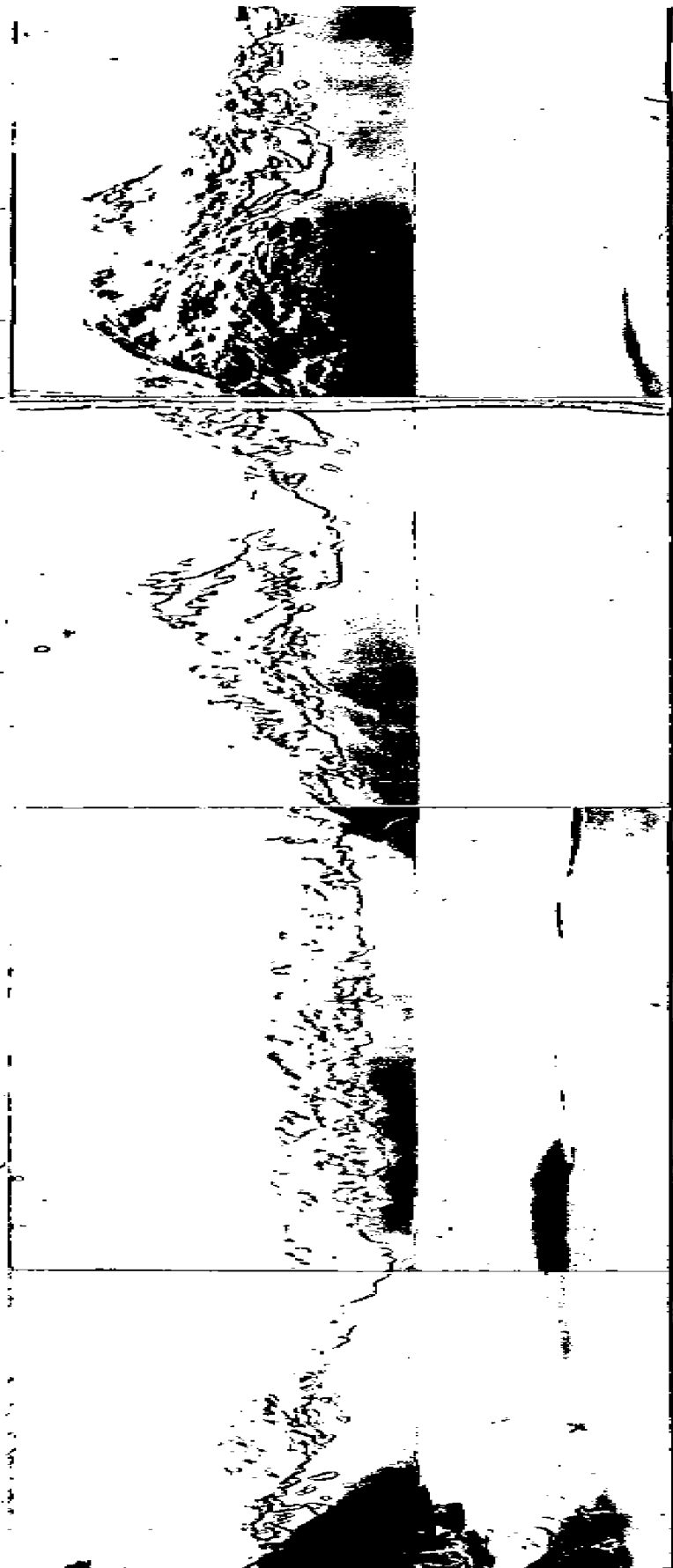
P.H. Smith

May 28, 1927

(2 sec. f 32.)

10:15 AM.

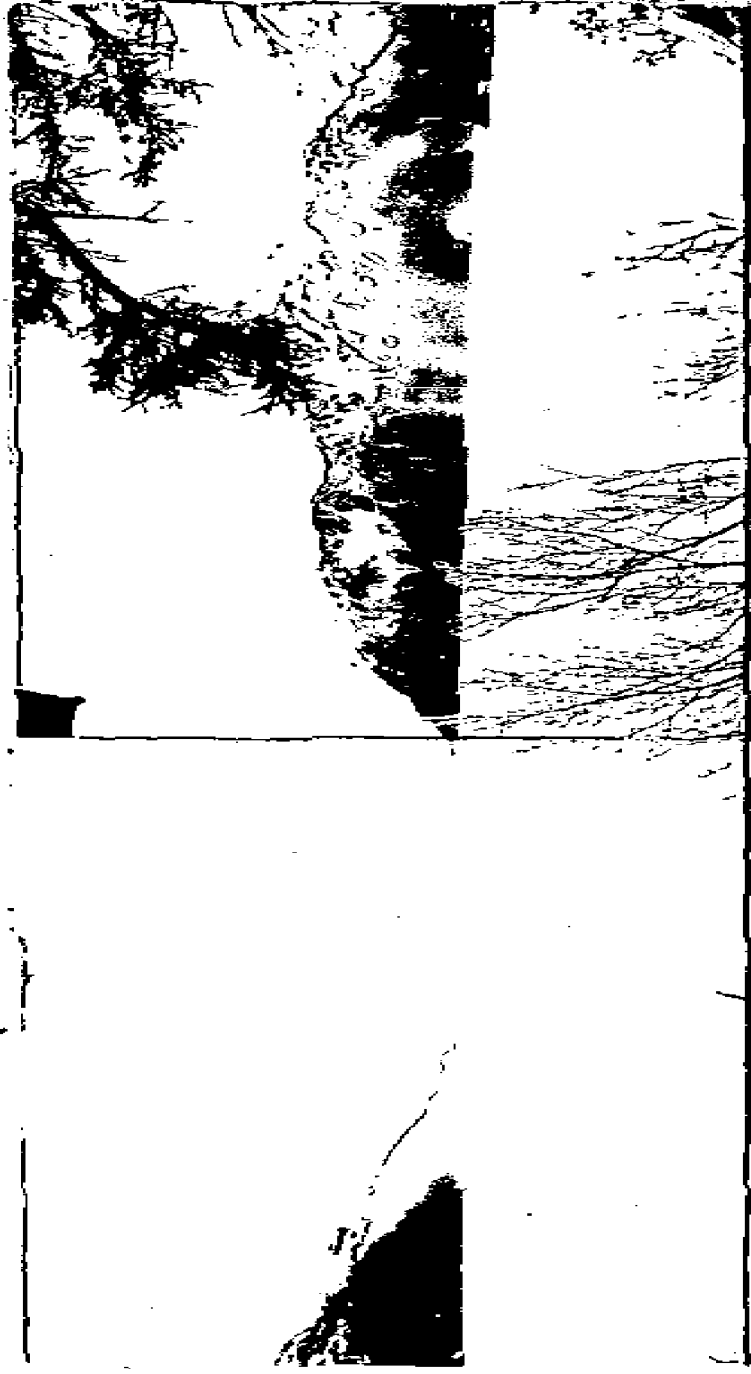
Peak F.



Pye Islands
(Dist)

Mt Hodes.

At High



High

1927

by P.A. Smith

May 29 11:20 AM

1 sec f 32

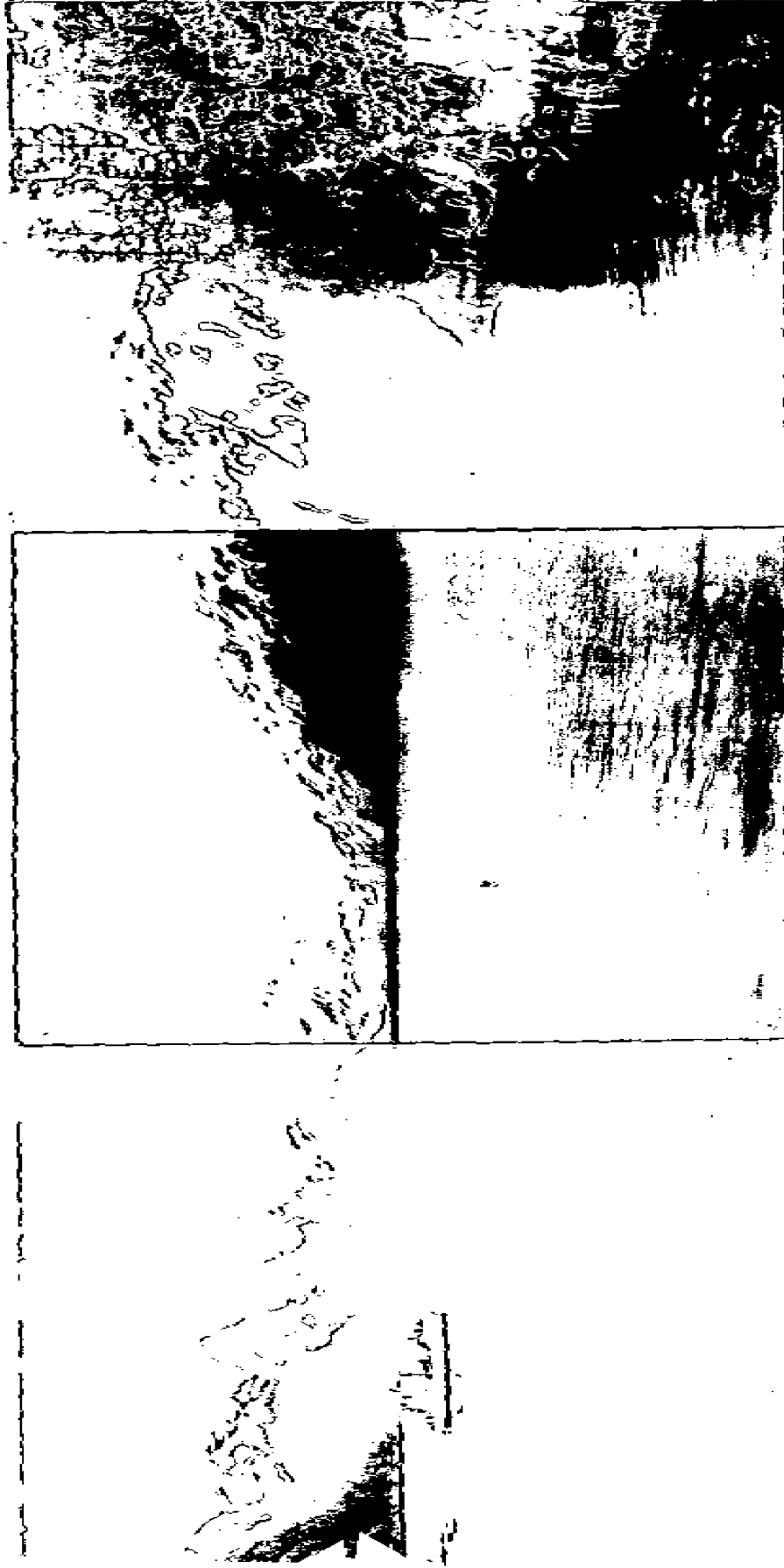
focal length approx
4 1/2 inches

Sheet D. Nuka Bay

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Glacier at head of
Nuka River

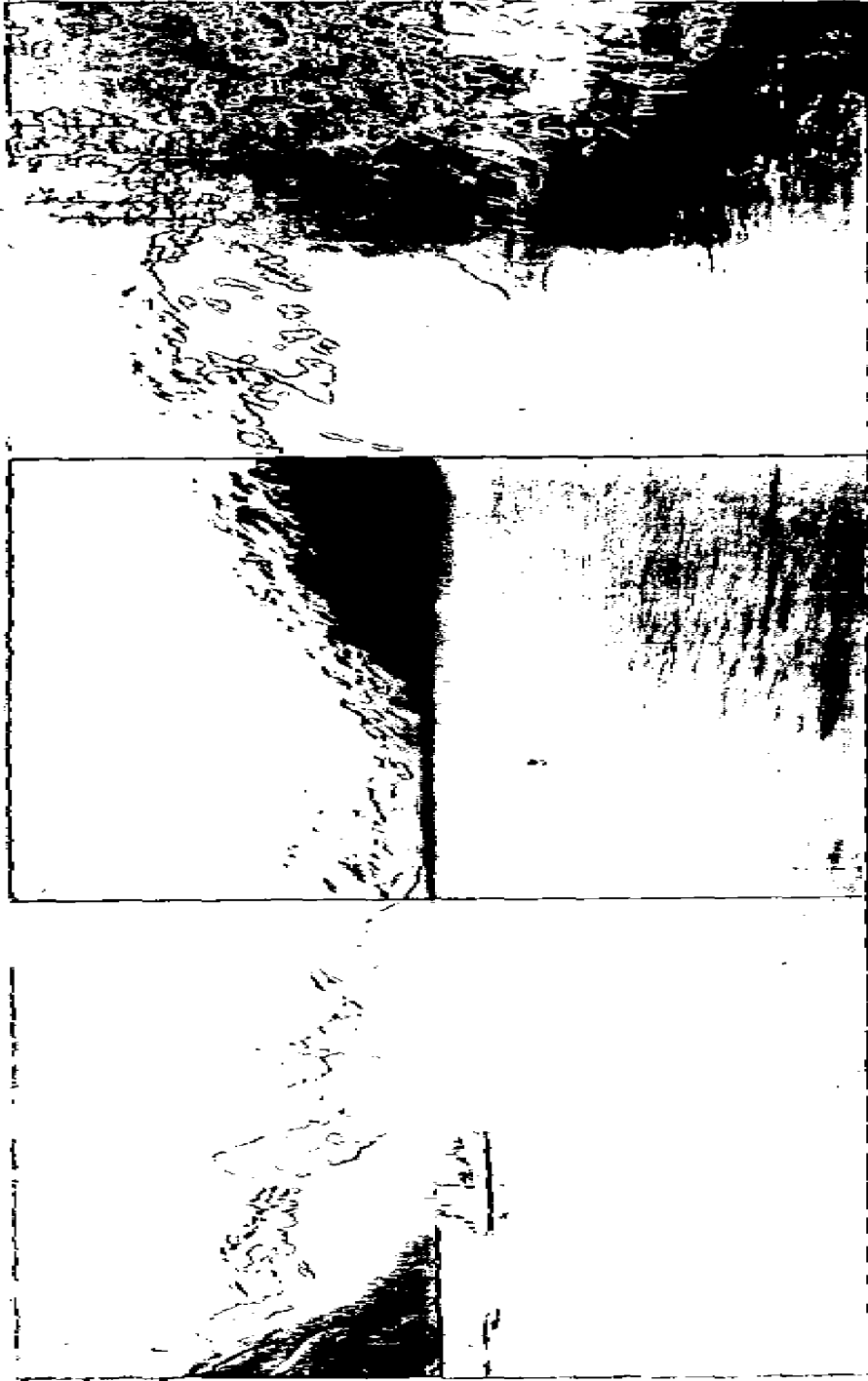
Alt: 11000 yds



P.A. Smith
May 192
2:00 PM
2300 f

Glacier at head of
Nuka River.

At: Tide Gauge

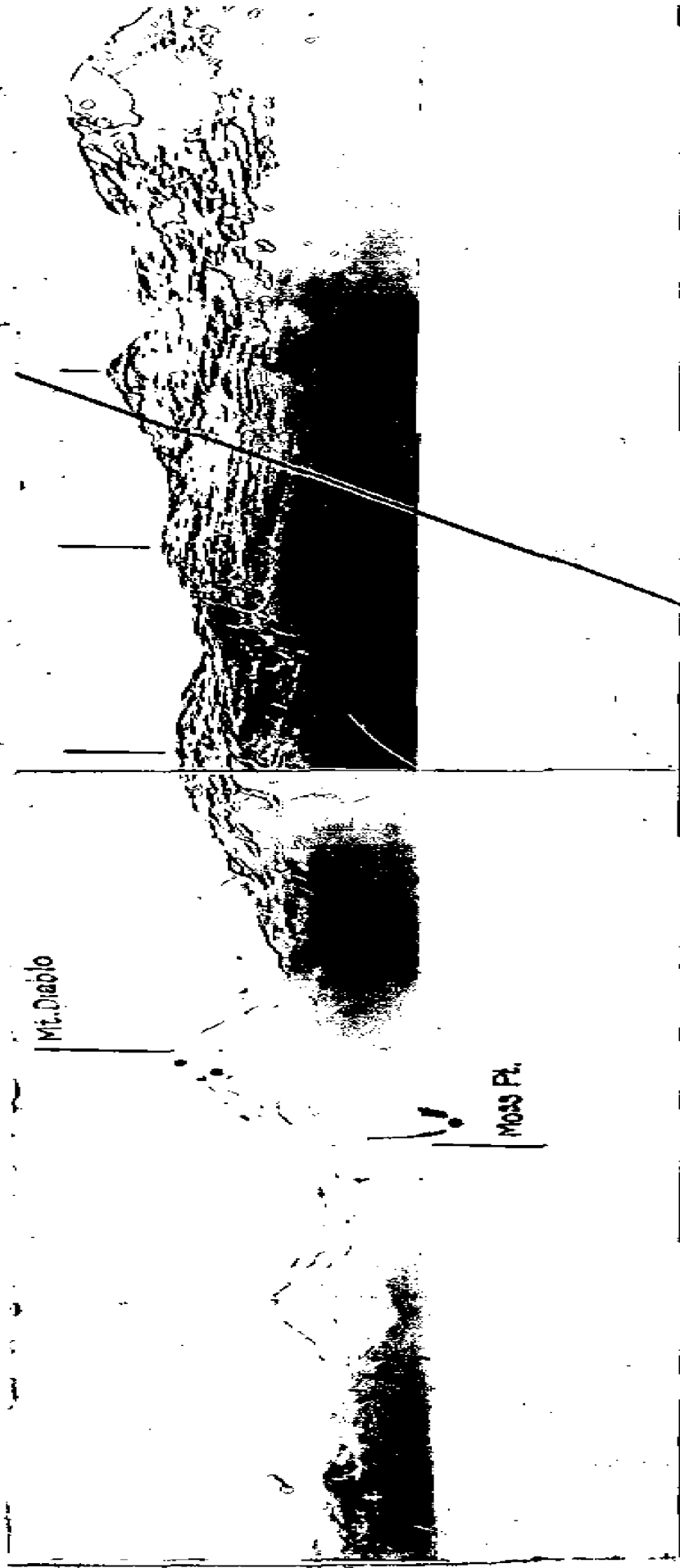


P.A. Smith

May 1929

2:00 PM.

2 sec. f 32



Mt. Diablo

Moss Pt.

Q

11

12

13

Q

Q

Sheet D

Nuka Bay

Al. A. F. 1.



P.A. Smith

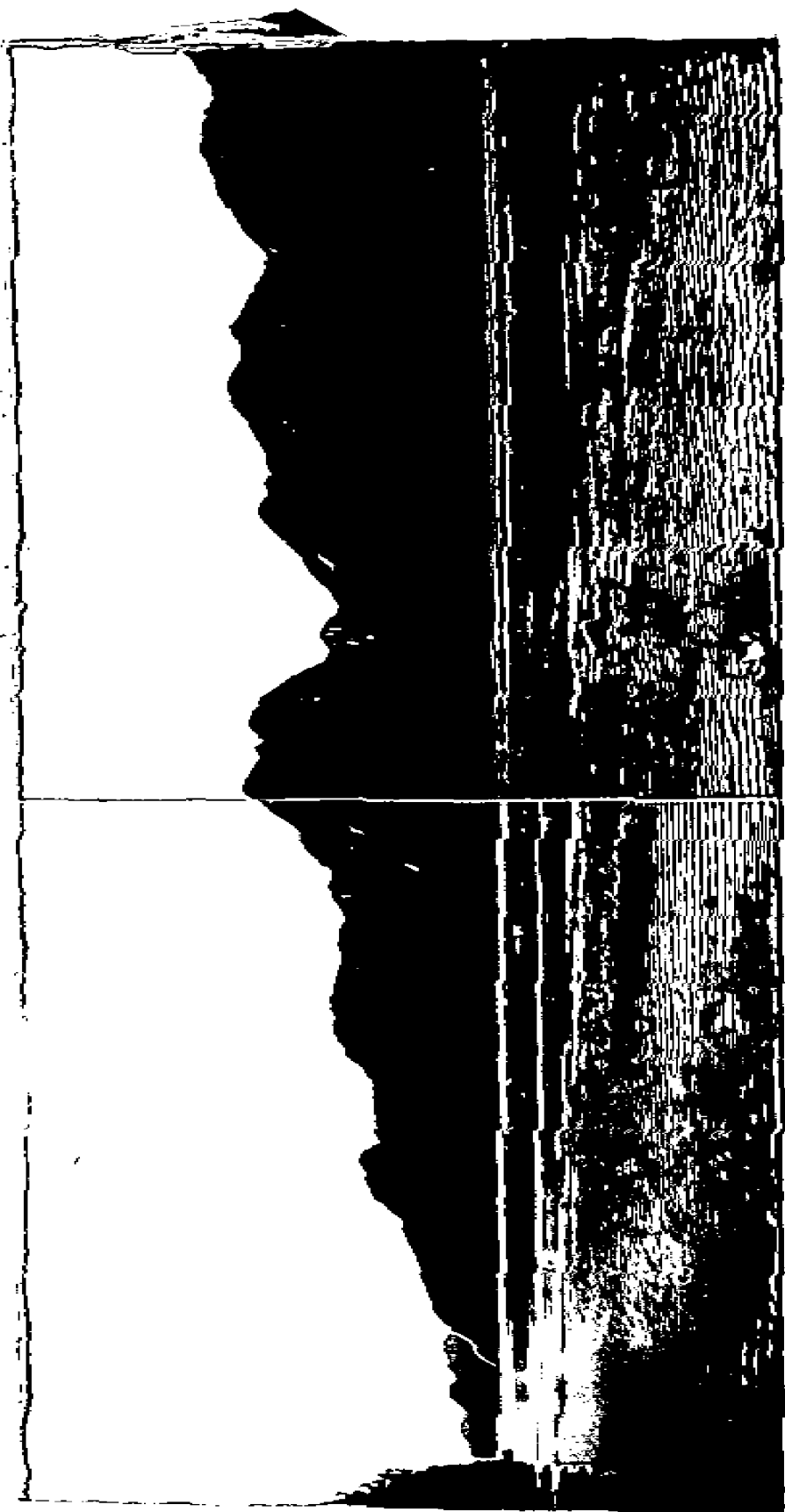
May 27, 1927, 2:30 PM

2 sec. f 64.

focal length = 133 mm.

4334

10000



3255 3240 1945

2780 2760 2730

Nuka Bay - East Arm West Shore



P.A. Smith

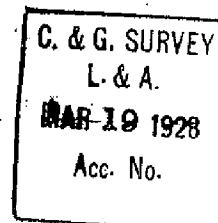
Sept. 1927

Near station "Berg"

Exact position unknown.

4335

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



REG. NO.
4335

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. E

REGISTER NO. **4335**

State Alaska

General locality ~~Nuka Bay~~ Kenai Peninsula

Locality East Arm of Nuka Bay

Scale 1:20,000 Date of survey August & Sept., 1927

Vessel SURVEYOR

Chief of Party R. R. Lukens

Surveyed by W. D. Patterson and P. A. Smith

Inked by P. A. Smith

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

Contour, Approximate ~~contour~~, Form line interval 100 feet

Instructions dated February 3, 1927

Remarks: _____