

12219

12219

NOAA FORM 76-35

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

### DESCRIPTIVE REPORT

Type of Survey Shoreline.....

Job No. PH-6206..... Map No. T-12219.....

Classification No. .... Edition No. ....

Field Edited

#### LOCALITY

State Alaska.....

General Locality Keku Strait.....

Locality Monte Carlo Island.....

1961 TO 1971

Alfred C. Holmes, Director, AMC

#### REGISTRY IN ARCHIVES

DATE .....

MAP NOT INSPECTED IN QUALITY CONTROL PRIOR  
TO REGISTRATION

DESCRIPTIVE REPORT - DATA RECORD  
T-12219

SUBJECT NO. (II): PH-6206			
FIELD OFFICE (III): None		CHIEF OF PARTY	
PHOTOGRAMMETRIC OFFICE (III): Atlantic Marine Center, Norfolk, VA		OFFICER-IN-CHARGE Alfred C. Holmes, Director, AMC	
INSTRUCTIONS DATED (II) (III): OFFICE SUPPLEMENT III December 19, 1967 OFFICE " IV April 14, 1970			
METHOD OF COMPILATION (III): Wild B-8 Stereo Plotter			
MANUSCRIPT SCALE (III): 1:10,000		STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1,20,000 Pantographed To 1:10,000	
DATE RECEIVED IN WASHINGTON OFFICE (IV):		DATE REPORTED TO NAUTICAL CHART BRANCH (IV):	
APPLIED TO CHART NO.		DATE:	DATE REGISTERED (IV): Sept. 4, 1975
GEOGRAPHIC DATUM (III): N.A. 1927		VERTICAL DATUM (III): HIGH WATER EXCEPT AS FOLLOWS: Elevations shown as (25) refer to mean high water Elevations shown as (5) refer to sounding datum i.e., <del>mean low water</del> or mean lower low water	
REFERENCE STATION (III): NEW, 1927			
LAT.: 56°32'12.298" (380.4M)	LONG.: 133°49'52.880" (903.8M)	<input checked="" type="checkbox"/> ADJUSTED <input type="checkbox"/> UNADJUSTED	
PLANE COORDINATES (IV): y = 1,718,007.96 Ft.      x = 2,652,402.18 Ft.		STATE Alaska	ZONE 1
<p>MAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (II) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE, OR (IV) WASHINGTON OFFICE.</p> <p>WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.</p>			

DESCRIPTIVE REPORT - DATA RECORD

T-12219

FIELD INSPECTION BY (II):		DATE:
None		
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):		
Air Photo Compilation		
PROJECTION AND GRIDS RULED BY (IV):		DATE
J. Dempsey-Coradomat		April 10, 1970
PROJECTION AND GRIDS CHECKED BY (IV):		DATE
E. Homick-Coradomat		April 10, 1970
CONTROL PLOTTED BY (III):		DATE
Aerotriangulation - Coradomat		June 11, 1970
Triangulation - F. P. Margiotta		Aug. 14, 1970
CONTROL CHECKED BY (III):		DATE
Aerotriangulation-Coradomat		June 11, 1970
Triangulation - C.E. Blood		Aug. 14, 1970
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):		DATE
Robert E. Fisher		Feb. 19, 1970
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY L.O. Neterer, Jr. Reviewed: A. Shands & A.C. Rauck, Jr.	DATE Aug. 12, 1970 Aug. 12, 1970
	CONTOURS Inapplicable	DATE 1
MANUSCRIPT DELINEATED BY (III):		DATE
Frank P. Margiotta		Aug. 28, 1970
SCRIBING BY (III):		DATE
R.R. White		Jan. 11, 1972
PHOTOGRAMMETRIC OFFICE REVIEW BY (III):		DATE
Compilation: R.J. Pate Field Edit: T.J. Bulfer Scribing and Stick Up: R.R. White		Sept. 11, 1970 Sept. 9, 1971 2/16/72
REMARKS:		DATE:
Field Edit By: Howard W. Herz & Lowell O. Neterer, Jr.		April 1971



DESCRIPTIVE REPORT - DATA RECORD  
T-12219

CAMERA (KIND OR SOURCE) (iii):

Wild RC-8 "E"

PHOTOGRAPHS (iii)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
69-E-(c)-973 & 974	Aug. 5, 1969	12:15	1:40,000	4.3 ft. above MLLW
61-W-9460 thru 9463	July 16, 1961	09:33	1:20,000	-0.5 ft. below MLLW
61-W-9518 thru 9521	" " "	10:25	1:20,000	-0.2 ft. below MLLW

Predicted

TIDE (iii)

Diurnal

		RATIO OF RANGES	MEAN RANGE	SPRING RANGE
REFERENCE STATION:	Ketchikan, Alaska		13.0	15.4
COORDINATE STATION:	Monte Carlo Island		10.3	12.5
SUBORDINATE STATION:				
<del>Atlantic Marine Center</del> Washington Coast Survey Station C.H. Bishop		DATE: April 1973		
PROOF EDIT BY (iv):		DATE:		
NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (ii):	2	RECOVERED:	IDENTIFIED:	
		2	2	
NUMBER OF BM(S) SEARCHED FOR (ii):	None	RECOVERED:	IDENTIFIED:	
		None	None	
NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (iii):		None		
NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (iii):		None		

REMARKS:

T-12219

COMPILATION RECORD

COMPLETION DATE

REMARKS

Compilation Complete Pending Field Edit	Aug. 28, 1970	Superseded
Field Edit Applied	Aug. 1971	Superseded
Final Review	April 1973	



SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT T-12219

This 1:10,000 scale shoreline manuscript is one of 53 maps that comprise Project PH-6206, Keku Strait, Alaska. The project diagram indicates the location of T-12219 in the project.

There was no field work prior to compilation except the identification of horizontal control for aerotriangulation.

Compilation was by Wild B-8 Plotter and graphic methods, using panchromatic photographs taken in 1961 and color photographs taken in 1964. Control was based on a stereoplanigraph bridge. Stable transparent copies of the map manuscript, ozalids, and specially prepared photographs were furnished for transfer of shoreline to the boat sheet, location of photo-hydro signals, and field edit.

Field edit was done in conjunction with hydrography in 1970 and 1971. After application of field edit data to the map, it was scribed and reproduced on cronaflex.

Final review was done at the Atlantic Marine Center in August, 1972.

The compilation manuscript was a vinylite sheet 3 minutes 45 seconds in latitude by 5 minutes in longitude.

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

## FIELD INSPECTION REPORT

Project PH-6206

T-12219

There was no field inspection prior to compilation.

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Aerotriangulation Report  
PH-6206  
Keku Strait, Alaska

February 19, 1970

21. Area Covered

This project covers areas in the vicinity of Keku Strait -  
Kuiu Island, Alaska. T-sheets covered are as follows:

T-12203 thru T-12225  
all T-sheets are at 1:10,000 scale

22. Method

Five strips were bridged to provide horizontal positions  
of pass points needed for compilation. Strip #12 was  
bridged in two parts, 12a and 12b, because of open water.  
Strip #14 was not bridged due to satisfactory pass point  
coverage from Strips 13, 15 and 16.

Strip #11 was bridged on the C-5. Strips 12a, 12b, 13, 15  
and 16 were bridged on the C-8. All were adjusted by  
electronic computer.

Strip #11 used seven control points and a tie point in  
a third degree adjustment.

Strip #12a used a first degree adjustment with two control  
points. One tie point was available for a check.

Strip #12b used a third degree adjustment with five control  
points.

Strip #13 used three control points in a second degree  
adjustment.

Strips 15 and 16 used four control points in third degree  
adjustments.

All pass points, except one in Strip #16, were drilled.

Corresponding tie point values were averaged.

This project was tied through common control stations with  
the 1966 project in this area.

-2-

### 23. Adequacy of Control

Horizontal control was adequate in all strips. However station "SPIT 1927" and its subpoint appearing in both Strip #11 of this project and in Strip #1 of the adjacent "Sumner Strait" project had residual errors on the order of 15 feet in X. These errors were similar in direction and magnitude for both points and in both strips. The reason for not obtaining a better check with these points is not known.

Many control stations in this project were recovered in 1965 and pricked on 1964, 1:20,000 scale photography. The 1970 bridge was run with new 1:40,000 scale photography, therefore, much of the old control was not visible in these bridges. All 1969 identified control used in this project was targeted.

The RMS errors in fit to control for the 1969 identified control, (except "SPIT 1927") and including the 1965 identified control "ALL 1927" and "CEN 1927" were 2.5 feet in X and 1.2 feet in Y. The maximum errors were 6.8 feet in X and 3.3 feet in Y.

### 24. Supplemental Data

U. S. Geological Survey quadrangles were used to provide elevations for vertical adjustment of the bridges.

### 25. Photography

Photography was satisfactory with regards to coverage, overlap and definition.

Submitted by,

*Robert E. Fisher*  
Robert E. Fisher  
Cartographer (Photo)

Approved and forwarded,

*Henry P. Eichert*  
Henry P. Eichert  
Chief, Aerotriangulation  
Section

# KEKU STRAIT ALASKA

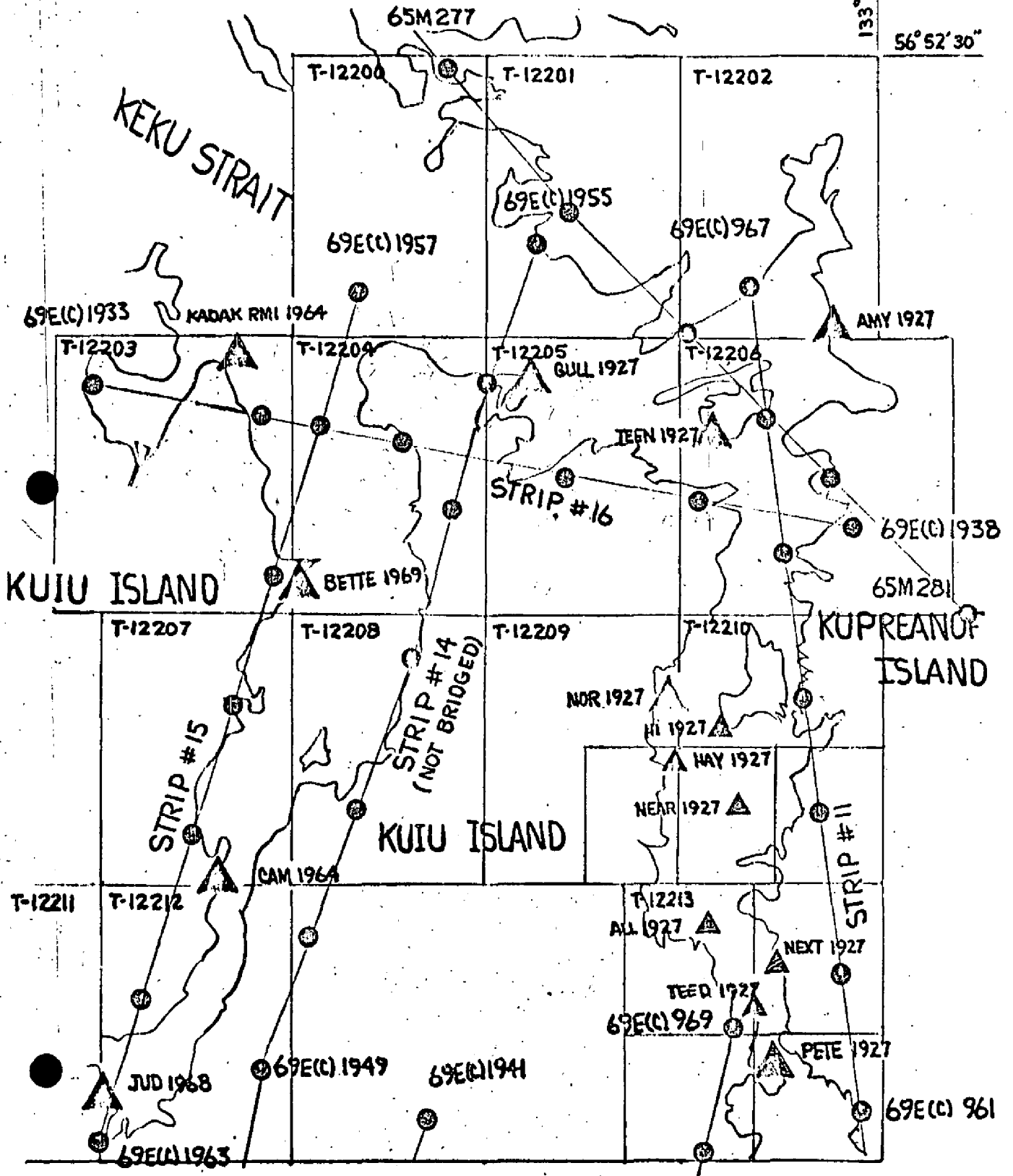
PH 6206 FEB 1970

▲ 1969 Identification

▲ 1965 Identification

133° 40' 00"

56° 52' 30"





# KEKU STRAIT ALASKA

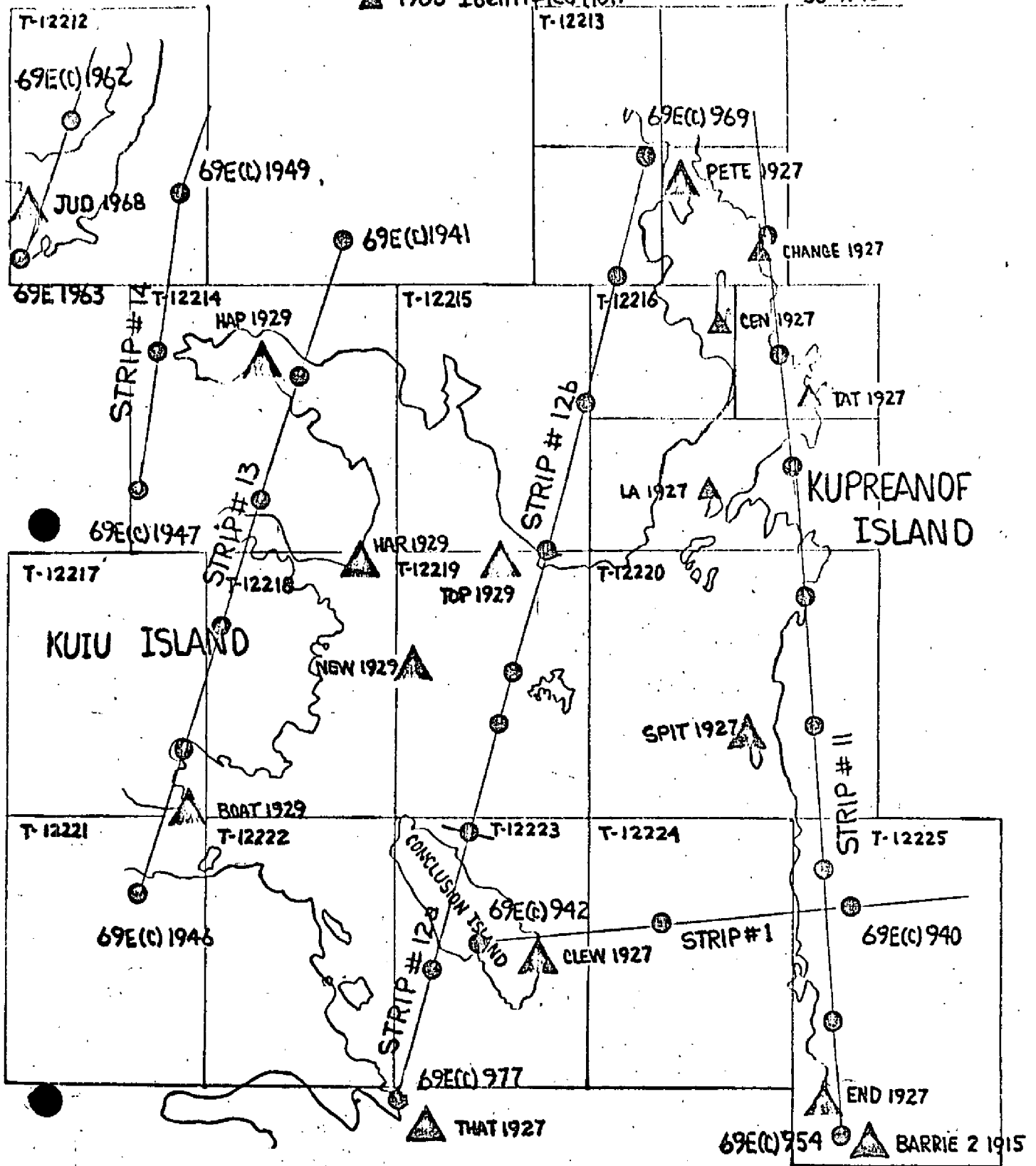
PH 6206

▲ 1969 Identification

▲ 1965 Identification

133° 40' 00"

56° 41' 15"





## COMPILATION REPORT

T-12219

31. DELINEATION

Delineation was by the B-8 plotter. There was no field inspection prior to compilation. Photographic coverage was adequate. Ratios from 69E color photographs were lacking in quality. Ratios from 61W panchromatic photographs were used to delineate ledge, foul and lower low water line. 61W ratio photographs were poor in scale.

32. CONTROL

See Aerotriangulation Report dated February 19, 1970.

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

Contours are inapplicable. Drainage was delineated from office interpretation of the photographs.

35. SHORELINE AND ALONGSHORE DETAILS

The MHW Line was delineated with the Wild B-8 plotter. The MLLWL and ledge was delineated from office interpretation of 61 W photographs.

36. OFFSHORE DETAILS

Small islands, ledge, rocks, and foul areas were delineated from 69E and 61W photographs. Areas that were in question were applied to field edit ozalid.

37. LANDMARKS AND AIDS

38. CONTROL FOR FUTURE SURVEYS

No statement.

39. JUNCTIONS

Junctions were made with T-12215 to the north, T-12223 to the south, T-12218 to the west and T-12220 to the east.

40. HORIZONTAL AND VERTICAL ACCURACY

No statement.

46. COMPARISON WITH EXISTING MAPS

Comparison was made with USGS Quadrangle, PETERSBURG (C-6) ALASKA, dated 1948 with minor revisions in 1963, scale 1:63,360.

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with Charts 8272 (Keku Strait), dated October 17, 1966, 3rd Edition, scale 1:20,000 and 8201, dated November 15, 1969 15th Edition.. (corrected through Notice to Mariners 46/69, scale 1:217,828)

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FORWARD


None

Submitted by:


*Frank B. Margiotta*

Frank B. Margiotta  
Cartographic Aid  
Sept. 1, 1970

Approved for forwarding:

  
Melvin J. Umbach, CDR, NOAA  
Chief, Coastal Mapping Division, AMC

Approved:

  
Alfred C. Holmes  
RADM, NOAA  
Director, Atlantic Marine Center

August 28, 1972

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6206

T-12219

Conclusion Island

Keku Strait

Kuiu Island

Monte Carlo Island

Threemile Arm

Approved by:

A. J. Wright  
A. Joseph Wright  
Chief Geographer

Prepared by:

F. W. Pickett (C. J. W.)  
Frank W. Pickett  
Cartographic Technician

FORM C&GS-1002 (9-66)		U.S. DEPARTMENT OF COMMERCE ESSA COAST AND GEODETIC SURVEY	
PHOTOGRAMMETRIC OFFICE REVIEW T12219			
1. PROJECTION AND GRIDS RJP	2. TITLE RJP	3. MANUSCRIPT NUMBERS RJP	4. MANUSCRIPT SIZE RJP
<b>CONTROL STATIONS</b>			
5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY RJP	6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) XX		7. PHOTO HYDRO STATIONS XX
8. BENCH MARKS XX	9. PLOTTING OF SEXTANT FIXES XX	10. PHOTOGRAMMETRIC PLOT REPORT RJP	11. DETAIL POINTS RJP
<b>ALONGSHORE AREAS (Nautical Chart Data)</b>			
12. SHORELINE B-8	13. LOW-WATER LINE	14. ROCKS, SHOALS, ETC. RJP	15. BRIDGES XX
16. AIDS TO NAVIGATION XX	17. LANDMARKS XX	18. OTHER ALONGSHORE PHYSICAL FEATURES RJP	19. OTHER ALONGSHORE CULTURAL FEATURES XX
<b>PHYSICAL FEATURES</b>			
20. WATER FEATURES RJP		21. NATURAL GROUND COVER XX	22. PLANETABLE CONTOURS XX
23. STEREOSCOPIC INSTRUMENT CONTOURS XX	24. CONTOURS IN GENERAL XX	25. SPOT ELEVATIONS XX	26. OTHER PHYSICAL FEATURES
<b>CULTURAL FEATURES</b>			
27. ROADS XX	28. BUILDINGS XX	29. RAILROADS XX	30. OTHER CULTURAL FEATURES XX
<b>BOUNDARIES</b>			
31. BOUNDARY LINES XX		32. PUBLIC LAND LINES XX	
<b>MISCELLANEOUS</b>			
33. GEOGRAPHIC NAMES RJP		34. JUNCTIONS RJP	35. LEGIBILITY OF THE MANUSCRIPT RJP
36. DISCREPANCY OVERLAY RJP	37. DESCRIPTIVE REPORT	38. FIELD INSPECTION PHOTOGRAPHS	39. FORMS
40. REVIEWER R.J.PPate Sept. 11, 1970		SUPERVISOR, REVIEW SECTION OR UNIT	
41. REMARKS (See attached sheet)			
<b>FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT</b>			
42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.			
COMPILER B. Wilson Aug. 18, 1971		SUPERVISOR A.C. Rauck, Jr.	
Reviewed By: T.J. Bulfer Sept. 9, 1971			
43. REMARKS Field Edit Applied From: (1). Field Edit Ozalid with work of 1970 and 1971 (2). Photos referenced on that ozalid: 61-W-(c)-9518 and 9520.			

## FIELD EDIT REPORT

SOUTH KEKU STRAIT

SOUTHEAST ALASKA

CPR - 448

APRIL 1971

INTRODUCTION

Field edit reports are attached for the following T-sheets:

T-12214	Mouth of Three Mile Arm
T-12215	Head of Three Mile Arm
T-12217	Keku Strait - No Name Bay
T-12218	Seclusion Harbor
T-12219	Monte Carlo Island
T-12221	No Name Bay
T-12222	Alvin Bay
T-12223	West End of Conclusion Island

Inspection for field edit of the shoreline, the foreshore and the offshore areas were performed in April and May 1971 by the NOAA Ship DAVIDSON's personnel with the assistance of Mr. Lowell O. Neterer Jr. from the photogrammetry branch of the Atlantic Marine Center in Norfolk.

Notes have been made on the field photographs and have been cross referenced on the field edit ozalids by photograph number. All times are on the 105° W Meridian. Reports for each individual sheet is enclosed.

Respectfully submitted,



Fidel T. Smith  
LCDR. NOAA



FIELD EDIT REPORT  
 MAP T-12219  
 KEKU STRAIT  
 SOUTHEAST ALASKA

OCTOBER 1970 & APRIL 1971

The field edit of map T-12219 was done by LCdr. Fidel T. Smith, October 1970 and Ltjg. Howard W. Herz with the assistance of Lowell O. Neterer Jr., April 1971. Inspection was done on foot and with a small boat.

METHOD

The field photographs along with a copy of the field edit ozalid were used in physically inspecting the entire shore-line of the map. The areas in question were very carefully inspected and the rest of the compilation closely inspected visually and corrections have been noted on the field edit ozalid and the photographs. The low water 61-W photographs were very useful and were used continually in all inspection of the compilation.

In the Monte Carlo Island area the foul limits were changed and many rocks were deleted since they are not significant dangers to navigation. The guidelines of the Topographic Manual Part II, p.347, first paragraph were followed. Isolated rock, high points of ledge, and ledge limits agreed well with the Boat Sheets DA-10-6-70 and DA-10-2-71. Copies of the boat sheets will be forwarded to AMC when available. Notes have been made on the Field Edit Ozalid and cross-referenced to the proper photograph involved. All times are on 105° W meridian. Notes are on the following photographs:

61-W-9518  
 61-W-9520

ADEQUACY OF COMPILATION

Compilation of the map is good. Hydrographic location of detail compares well with the photogrammetric location. Field edit of this map is complete.

RECOMMENDATIONS

It is recommended that this map be revised in accordance with the notes on the Field Edit Ozalid, photographs and the Boat Sheets and the map be accepted as an advance manuscript.

Respectfully submitted,

*Fidel T. Smith*  
 Fidel T. Smith  
 LCdr. NOAA

*Howard W. Herz*  
 Howard W. Herz  
 Ltjg. NOAA

*Lowell O. Neterer Jr.*  
 Lowell O. Neterer Jr.  
 Photogrammetrist

## APPROVAL SHEET

Field Edit

South Keku Strait

Southeast Alaska

OPR - 448

April 1971

The field work on this edit was accomplished  
under my supervision.



Ray E. Moses  
CDR. NOAA  
Commanding Officer  
NOAA Ship DAVIDSON

## REVIEW REPORT T-12219

## SHORELINE

April 4, 1973

61. GENERAL STATEMENT

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Comparison was made with a copy of Survey No. 4330, scale 1:20,000, dated September 1 - October 15, 1927. Significant differences between this survey and T-12219 are shown in blue on the comparison print. Survey No. 4330 is superseded by T-12219 for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

A comparison was made with U.S.G.S. Quadrangle PETERSBURG (C-6), ALASKA, scale 1:63,360, dated 1948. No significant differences were noted.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

A comparison was made with copies of boat sheets for the following hydrographic surveys:

<u>Survey</u>	<u>Scale</u>	<u>Year</u>	<u>Area</u>
H-9160	1:10,000	1970	East of Long. 133° 46'
H-9213	1:10,000	1971	West of Long. 133° 46' & north of Lat. 56° 32.6'
H-9214	1:10,000	1971	West of Long. 133° 46' & south of 56° 32.6'

It is evident that many rocks and ledges on the hydrographic surveys were taken from the Incomplete Manuscript for T-12219. Several rocks were deleted by field edit and others were deleted when field edit was applied to T-12219. Also some ledge and reef limits were changed when field edit was applied.

Significant differences between these surveys and T-12219 were shown in purple on the comparison print.

65. COMPARISON WITH NAUTICAL CHARTS

A visual comparison was made with Chart 8201, scale 1:217,828, 16th Edition, dated November 7, 1970, of the area not covered by Chart 8272. No significant differences were noted; the chart scale was too small for adequate comparison.

A comparison of the area east of Long. 133° 46.4' and north of Lat. 56° 31' was made with Chart 8272, scale 1:20,000, 4th Edition, dated November 21, 1970. Significant differences between Chart 8272 and T-12219 were shown in red on the comparison print, except for shoreline. Shoreline difference was the same as for T-4330, and was shown in blue on the comparison print.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This survey complies with project instructions and the National Standards for Map accuracy.

Reviewed by:

*Charles H Bishop*

Charles H. Bishop  
Cartographer

Approved for forwarding:

*Melvin J. Umbach*  
Melvin J. Umbach, CDR, NOAA  
Chief, Coastal Mapping Division, AMC

Approved:

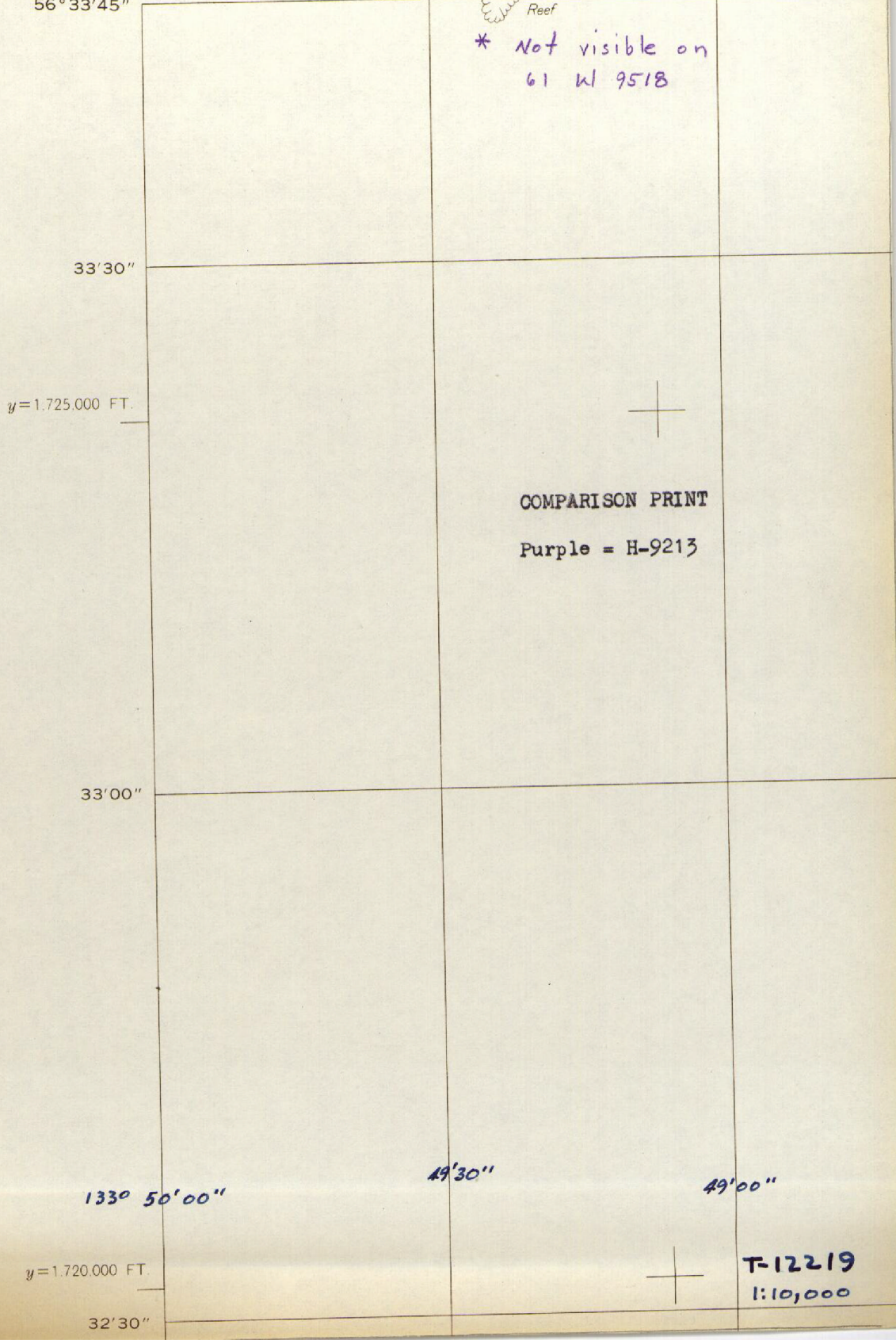
*Alfred C. Holmes*  
Alfred C. Holmes, RADM, NOAA  
Director, Atlantic Marine Center

Approved:

Chief, Photogrammetric Branch      Chief, Coastal Mapping Division

I-15

133° 50' 00" 49' 30" x=2,655,000 FT. 49' 00"  
56° 33' 45"



*Reef*  
\* Not visible on  
61 W 9518

COMPARISON PRINT  
Purple = H-9213

T-12219  
1:10,000



COMPARISON PRINT

Purple = H-9213  
Blue = T-4330

48'30"      48'00"       $\alpha = 2,660,000$  FT.      47'30"      133°47'00"

Threemile Arm

This area covered on 61 W 9518

Not on Boat sheet

Reef awash MHW

Awash MHW

Kelp

Kelp

TOP 1929

61-W-6518

Foul

Foul

Awash MHW

Awash MLLW

from Incomplete Manso; deleted from Class 1.

Kelp

56°33'00"

Foul

Foul

Foul

Kelp

Kelp

Rks from Inc. Manso

Awash MLLW  
Covers 4 ft MLLW

Covers 6 ft MLLW

Rks on H-9213

Reef on H-9214

\* Not visible on 61 W 9518-19  
T-12219  
1:10,000

Kelp

Kelp



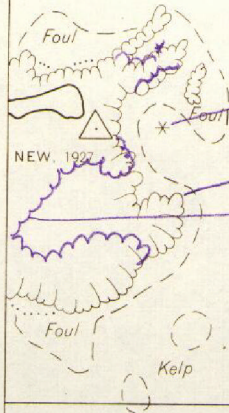




133° 50' 00"

49' 30"

49' 00"



Not on H-9214

This ledge visible on 61W9460

This ledge carried forward to H-9214 boat sheet from Incomplete Manuscript.

56° 32' 00"

COMPARISON PRINT

Purple = H-9214

y = 1,715,000 FT.



31' 30"

T-12219  
1:10,000







46°00"

45'30"

133°45'00"

y=1,720,000 FT.

32'30"

COMPARISON PRINT

Purple = H-9160  
 Blue = T-4330  
 Red = Chart 8272

Le. from Inc. Mansc.

Not on H-9160  
 Rk. approx. 10m.  
 by 20 m. visible  
 on 61 W 9518-19,  
 bare at -0.2 tide

Not on H-9160

56°

32'00"

Not on H-9160

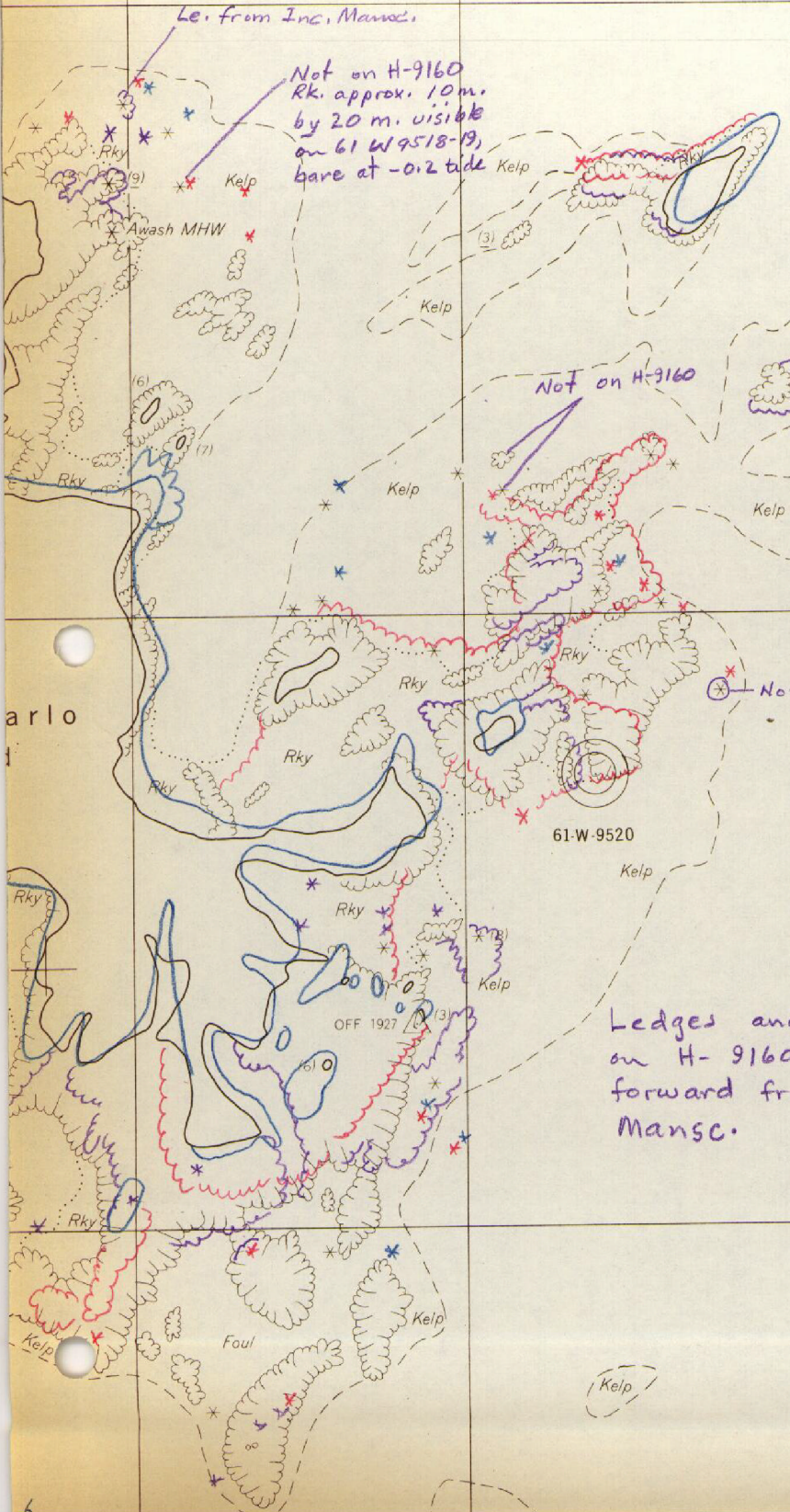
61-W-9520

y=1,715,000 FT.

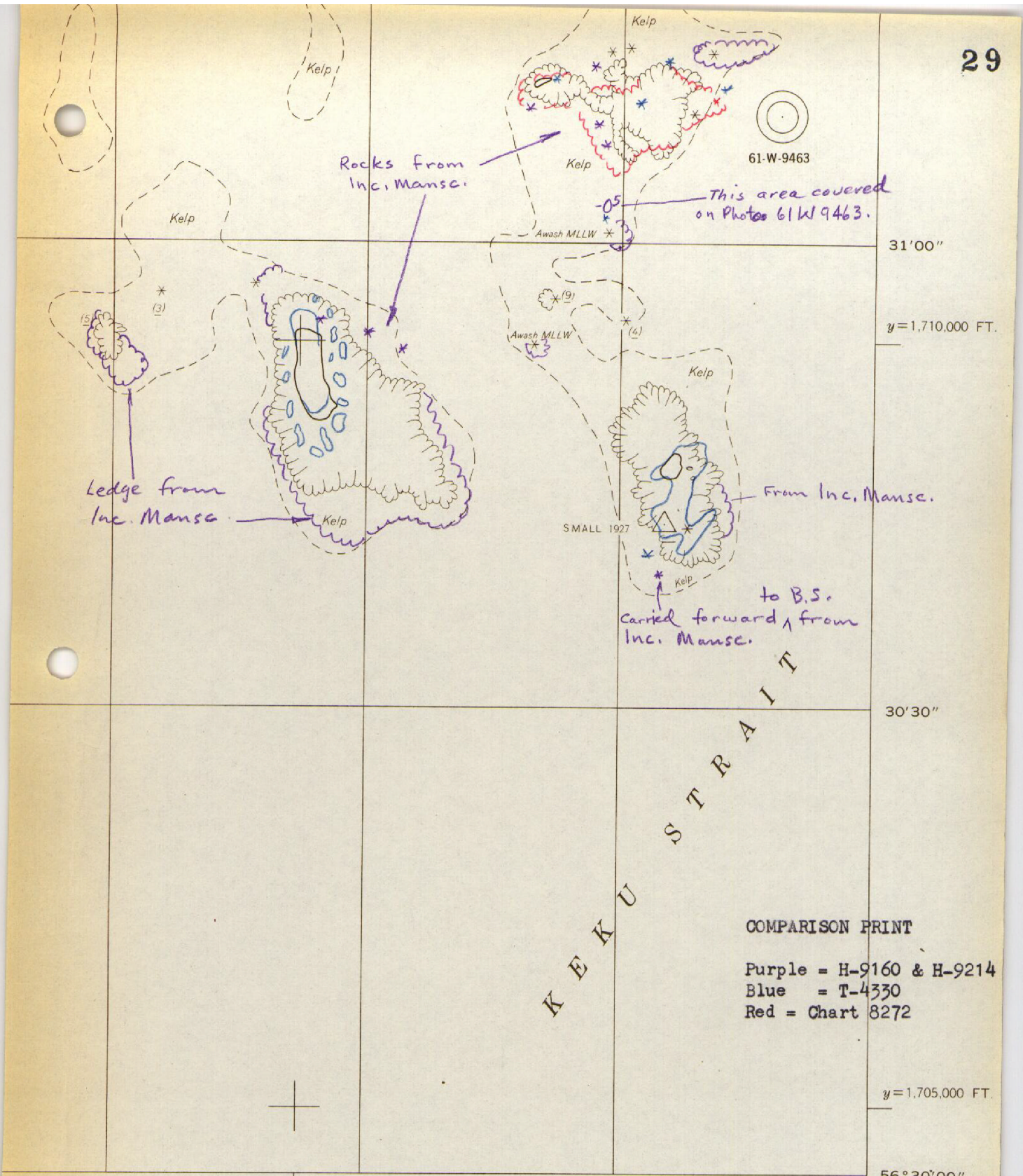
Ledges and rocks  
 on H-9160 carried  
 forward from Inc.  
 Mansc.

31'30"

T-12219  
 1:10,000







61-W-9463

This area covered on Photos 61W 9463.

31'00"

y=1,710,000 FT.

From Inc. Manse.

to B.S. Carried forward from Inc. Manse.

KEKUS STRAIT

COMPARISON PRINT

- Purple = H-9160 & H-9214
- Blue = T-4330
- Red = Chart 8272

y=1,705,000 FT.

46'30"

x=2,665,000 FT.

46'00"

45'30"

133°45'00"

56°30'00"

Horizontal control station of third-order or higher accuracy  
 an lower low water line  
 line defines the approximate mean high water.  
 photogrammetric methods, from aerial photographs

NATIONAL OCEAN SURVEY  
 SHORELINE MANUSCRIPT  
 T-12219  
 ALASKA

T-12219  
 1:10,000