

12190

12190

FORM C&GS-504 U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY	
<h2>DESCRIPTIVE REPORT</h2>	
Type of Survey <u>SHORELINE (PHOTOGRAMMETRIC)</u>	
Field No. _____	Office No. <u>T-12190</u>
LOCALITY	
State <u>Alaska</u>	
General locality <u>Keku Strait</u>	
Locality <u>Keku Islands, S. W.</u>	
<u>1961-1969</u>	
CHIEF OF PARTY	
<u>Alfred C. Holmes, Director, AMC</u>	
LIBRARY & ARCHIVES	
DATE _____	

MAP NOT INSPECTED IN QUALITY CONTROL PRIOR
TO REGISTRATION

DESCRIPTIVE REPORT - DATA RECORD

T- 12190

PROJECT NO. (II):

PH-6206

FIELD OFFICE (I):

CHIEF OF PARTY

PHOTOGRAMMETRIC OFFICE (III):

Atlantic Marine Center
Photogrammetric Branch

OFFICER-IN-CHARGE

Alfred C. Holmes, RADM, NOAA
Director, AMC

INSTRUCTIONS DATED (II) (III):

March 18, 1966	OFFICE AMENDMENT I
January 18, 1965	Office
November 26, 1965	Office - SUPPLEMENT I
August 1, 1966	OFFICE AMENDMENT II
May 11, 1965	FIELD
June 14, 1965	FIELD
January 21, 1965	FIELD

METHOD OF COMPILATION (III):

Wild B-8 instrument; Kelsh instrument

MANUSCRIPT SCALE (III):

1:10,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):

1:8,333 (B-8)) Pantograph scale
1:4,000 (Kelsh)) 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): MHW

~~XXXXXXXXXX~~ EXCEPT AS FOLLOWS:
Elevations shown as (25) refer to mean high water
Elevations shown as (5) refer to sounding datum
i.e., mean low water or mean lower low water

REFERENCE STATION (III):

ISLE 1927 (nearest station to sheet) ✓

LAT.:

56° 56' 22.735" ✓

LONG.:

134° 06' 29.881" ✓

ADJUSTED

UNADJUSTED

PLANE COORDINATES (IV):

1,865,435.91 ✓

x = 2,597,451.79 ✓

STATE

Alaska ✓

ZONE

1 ✓

ROMAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (II) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE, OR (IV) WASHINGTON OFFICE.

WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.

DESCRIPTIVE REPORT - DATA RECORD

T-12190

FIELD INSPECTION BY (II): None		DATE:
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): Air photo compilation; Date of photography: 16 July 1961 16 June 1962 29 July 1965		
PROJECTION AND GRIDS RULED BY (IV): A. E. Roundtree	DATE 11/05/65	
PROJECTION AND GRIDS CHECKED BY (IV): R. S. Kornspan	DATE 11/05/65	
CONTROL PLOTTED BY (III): R. Smith	DATE 01/12/66	
CONTROL CHECKED BY (III): C.H. Bishop	DATE 01/12/66	
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): G.M. Ball	DATE Nov. 1965	
STEREOSCOPIC INSTRUMENT COMPILATION (III): 1. Kelsh 2. Wild B-8	PLANIMETRY 1. B. Wilson 2. K. Boyle	DATE 06/10/66 06/10/66
	CONTOURS Inapplicable	DATE
MANUSCRIPT DELINEATED BY (III): K. G. Boyle	DATE 08/16/66	
SCRIBING BY (III): R.E. Smith	DATE 07/01/68	
PHOTOGRAMMETRIC OFFICE REVIEW BY (III):	COMPILATION: C.H. Bishop FIELD EDIT: C.H. Bishop SCRIBING & STICKUP: R.J. Pate	DATE 08/17/66 06/17/68 07/02/68
REMARKS: Field Edit by: June 1966 Ship PATTON		

DESCRIPTIVE REPORT - DATA RECORD

3

CAMERA (KIND OR SOURCE) (III):

Wild RC-8 "W", Wild RC-9 "M"

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE (from predicted tables)
65-M-249 and 250	29 July 1965	0918 PST	1:50,000	-3.7 ft. MLLW (Kake) -3.1 ft. MLLW (Saginaw Bay)
61-W-9351 thru 9354	16 July 1961	0815 PST	1:20,000	1.5 ft. MLLW (Kake)
62-W-5484 and 5485	16 June 1962	0910 PST	1:20,000	3.7 ft. MLLW (Kake) 3.7 ft. MLLW (Saginaw Bay)

TIDE (III) PREDICTED

DIURNAL

	RATIO OF RANGES	MEAN RANGE	MEAN RANGE
REFERENCE STATION: 1. Juneau 2. Ketchikan	1. 2.	13.8 13.0	16.4 15.4
SUBORDINATE STATION: 1. Saginaw Bay, Kuiu Id., Frederick Sound		11.3	13.8
SUBORDINATE STATION: 2. Kake, Keku Strait		11.7	14.0

WASHINGTON OFFICE REVIEW BY (IV): *Leo F. Beugnot, AMC* DATE: *October, 1971*

PROOF EDIT BY (IV): DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (III): RECOVERED: IDENTIFIED:

NUMBER OF BM(S) SEARCHED FOR (III): RECOVERED: IDENTIFIED

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

REMARKS:

T-12190

COMPILATION RECORD

COMPLETION DATE

REMARKS

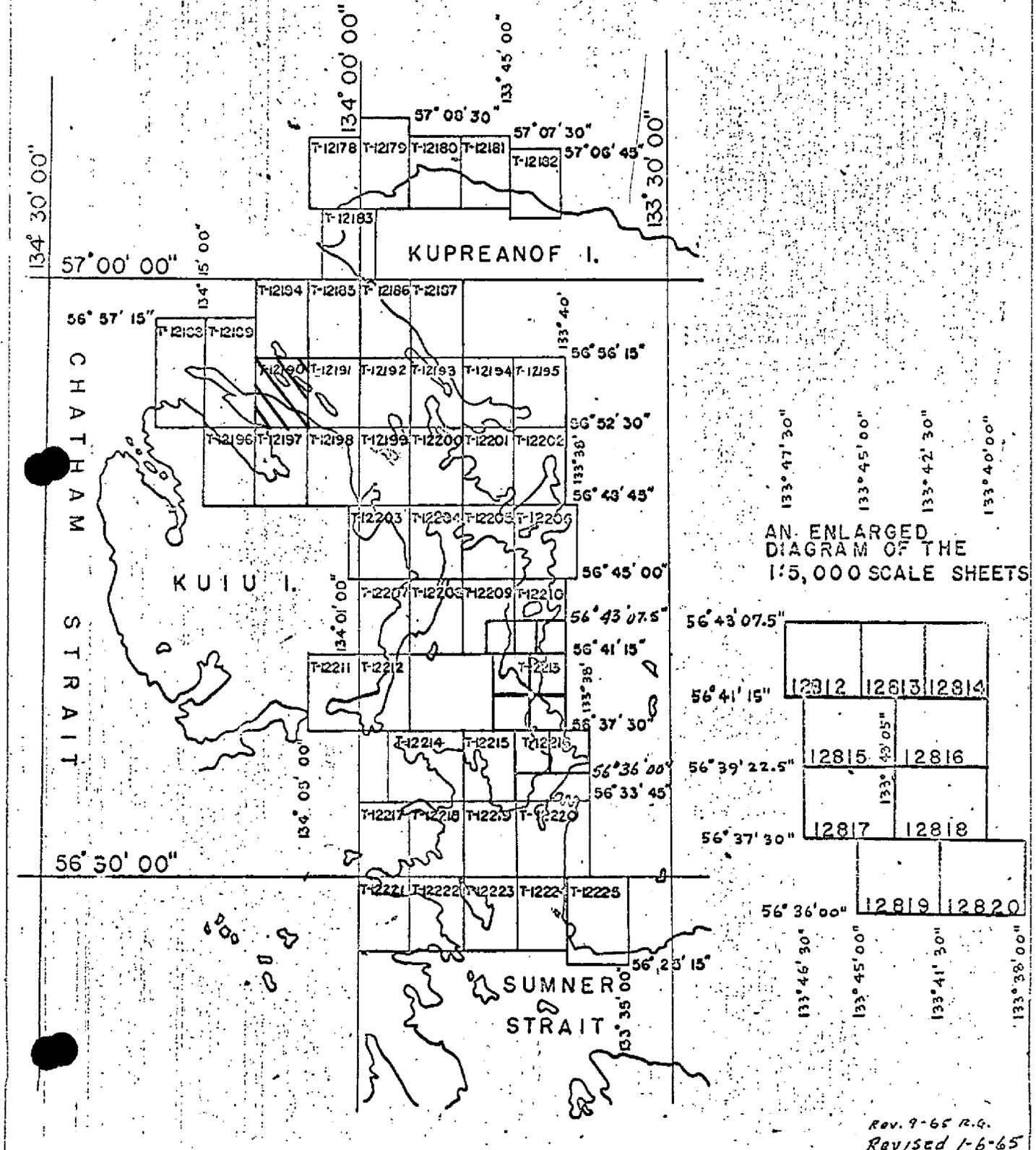
COMPILATION RECORD	COMPLETION DATE	REMARKS
Alongshore area for hydro	July 1966	Superseded
Field Edit Applied Compilation Complete	June 1968	<i>Superseded</i>
<i>Final Review</i>	<i>Oct. 1971</i>	<i>Superseded</i>
Discrepancies with reviewed hydro surveys resolved; Addendum added to review report.	<i>Dec 1972</i> Dec. 1972	

SHORELINE MAPPING PROJECT

Ph-6206

KEKU STRAITS, ALASKA

SCALE 1:10,000



AN ENLARGED
DIAGRAM OF THE
1:5,000 SCALE SHEETS

REV. 9-65 R.G.
REVISED 1-6-65

A.R.

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-12190

Shoreline survey T-12190 is one of 53 similar surveys in project PH-6206. The primary purpose of the project was to provide modern shoreline and photo-hydro support data for hydrographic surveys in the Keku Strait area. See page 5 for the area covered by the project and the location of this survey within the project.

There was no field work prior to compilation with the exception of identification of horizontal control for aerotriangulation. The survey was field edited during the course of hydrography.

Compilation was at 1:10,000 scale by Wild B-8, Kelsh and graphic methods using the photography of July 1961, June 1962 and July 1965. Copies of the incomplete manuscript along with specially prepared photographs and ozalids were furnished for transfer of the shoreline to the boat sheet, photo-hydro support use and field edit.

The compilation manuscript was a vinylite sheet 3 minutes 45 seconds in latitude by 5 minutes in longitude. After application of field edit data the survey was scribed and reproduced on cronaflex. Final review was in the Atlantic Marine Center in October 1971. One cronaflex positive and a negative of the final reviewed survey are forwarded for record and registry.

FIELD INSPECTION REPORT
Map Manuscript T-12190
Project Ph-6206

There was no field inspection prior to compilation.

Photogrammetric Plot Report
Project PH-6206
Keku Straits, Alaska
November 1965

21. Area Covered

This report covers an area of Alaska in the upper portion of Keku Straits and its confluence with Frederick Sound.

22. Method

Analytic aerotriangulation methods were used to bridge four strips of "M" photography at the scale of 1:50,000. The attached sketch of strips bridged shows the amount and placement of triangulation furnished. Closures to control and to tie points have been tabulated.

23. Adequacy of Control

Horizontal control (pre-marked targets) identified and required to adjust the strips bridged was slightly above our minimum requirements. Two of the four strips were adjusted using only three stations and common tie points as a check to our bridging accuracy. The final results are well within the National Standards of Map Accuracy for the fourteen shoreline sheets to be compiled (T-12178, T-12179, T-12183 through T-12192, T-12196 and T-12197).

Control stations that were not used in our final adjustment follow: (1) CORN, 1925, this station is on the tip of a peninsula and so situated that it was impossible to set a model in which this station could have been of any value to our work; (2) KIKU, 1927, this target was not visible on either the film or the plates. It is our belief, based upon the published description, that the target might have washed away; (3) HAM, 1927, this station was used on Strip #2, however on Strip #3 the target was not visible because the lay-over of trees near the station obscured the target on one photograph.

24. Supplemental Data

Numerous U.S.G.S. quads were used to obtain elevations required for the final adjustment.

25. Photography

Photography was adequate with regard to coverage, overlap and image definition.

Respectfully submitted:

George M. Ball
George M. Ball

Approved and forwarded:

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

CLOSURE TO CONTROL AND TIE POINTS
(feet)

STRIP #1

BENDEL, 1917	(0.0	-0.1)
KELP, 1965	(-0.1	-0.1)
PINT, 1965	(-0.1	-0.1)

STRIP #2

BENDEL, 1917	(+1.3	0.0)
CART, 1927	(-2.0	-0.6)
KAKE, 1927	(-1.4	+0.1)
AGE, 1927	(+1.3	+0.6)
AMY, 1927	(-0.5	-0.4)

TIES TO STRIP #1

08401	{ -0.2	+ 2.6)
08402	{ -0.9	+10.1)
08402	{ -0.9	+ 9.6)

TIES TO STRIP #3

27401	{ +6.7	+ 6.2)
28401	{ +9.0	+ 9.1)
29401	{ +3.4	- 2.4)
29401	{ +5.5	- 0.7)
29402	{ +9.5	+ 6.0)
29403	{ +8.2	+ 3.7)
33401	{ +3.2	+ 0.4)
33402	{ +5.0	+ 5.4)

STRIP #3

KAKE, 1927	(+1.8	-2.1)
ALTO, 1927	(-2.0	+0.5)

STRIP #3 cont.

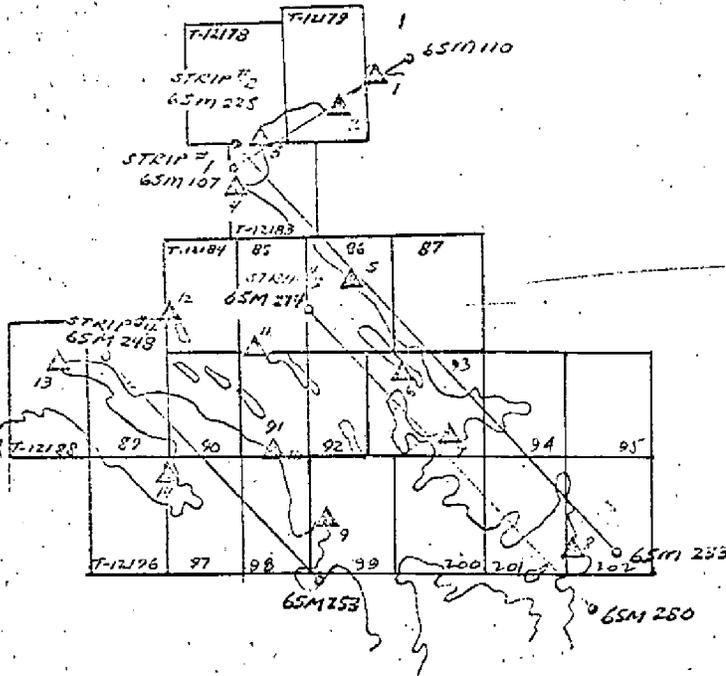
HAM, 1927	(-2.8	-0.9)
AGE, 1927	(+3.4	+3.1)
AMY, 1927	(-0.6	-0.9)

STRIP #4

GNAW, 1965	(-0.1	0.0)
LOW, 1927	(-0.1	0.0)
LUCK, 1927	(-0.1	0.0)

TIES TO STRIP #3

74401	{ +0.1	+0.2)
74401	{ +0.3	+0.6)
75401	{ +3.3	-6.2)
76401	{ +3.1	+3.2)
76402	{ +6.7	+5.4)



KEKU STRAITS, ALASKA

PH - 6206

SHORELINE MAPPING

SCALE 1:10,000

SINGLE LENS PHOTO.

SCALE 1:50,000

KEY TO TRIANGULATION

1. PINT, 1965
2. KELL, 1965
3. SENDEL, 1917
4. CART, 1927
5. KAKE, 1927
6. HANN, 1927
7. AGE, 1927
8. RIMY, 1927
9. LUCK, 1927
10. LOW, 1927
11. ALTO, 1927
12. Keku, 1927
13. CORN, 1925
14. ENAY, 1965

PHOTOGRAMMETRIC PLOT REPORT
Job PH-6206
Keku Straits, Alaska
June 1966

21. Area Covered

This report covers an area of Alaska in Saginaw Bay just south of the upper portion of Keku Straits and its confluence with Frederick Sound. This area will be compiled on five shoreline sheets, T-12188 thru T-12190 and T-12196 and T-12197).

22. Methods

Analytic aerotriangulation methods were used to bridge one strip of "M" photography at the scale of 1:50,000. The attached sketch shows the placement of the triangulation and the closures to this control.

23. Adequacy of Control

Horizontal control identified and required to adjust this strip meets minimum requirements in that we were unable to obtain a check of our work. An effort was made to tie this strip to previously drilled points; however, since the bridging plates have been destroyed and the points were not sketched, this effort proved fruitless.

24. Supplemental Data

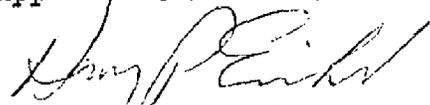
Numerous USGS quads were used to obtain elevations required for the final strip adjustment.

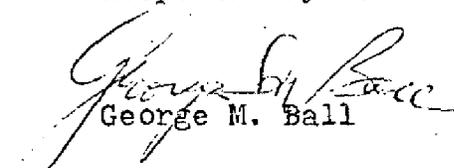
25. Photography

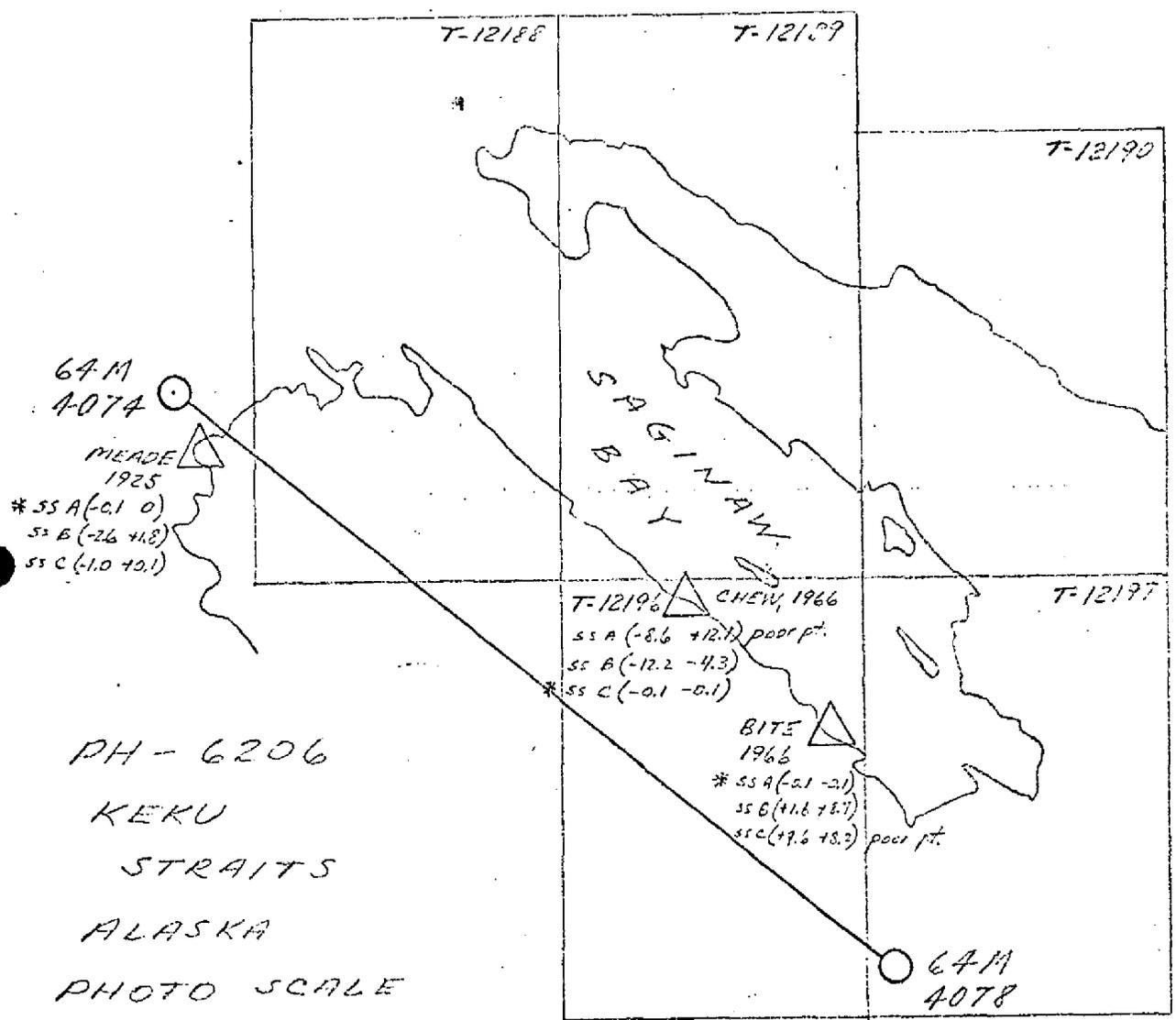
Photography was adequate with regard to coverage, overlap and image definition.

Respectfully submitted:

Approved and Forwarded:


H. P. Eichert, Chief
Aerotriangulation Section


George M. Ball



PH - 6206

KEKU

STRAITS

ALASKA

PHOTO SCALE

1: 50,000

* SUB STATION
USED IN FINAL
ADJUSTMENT

COMPILATION REPORT
Map Manuscript T-12190
Project Ph-6206

31. DELINEATION

Planimetry was compiled by Wild B-8 instrument using 1965 "M" photography, except in the northeast corner of the sheet where the Kelsh instrument was used with 1961 "W" photography.

32. CONTROL

See Photogrammetric Plot Report.

33. SUPPLEMENTAL DATA

None.

34. CONTOURS AND DRAINAGE

Contours not applicable.

Two streams flowing from ponds in the interior of Kuiu Island were delineated.

35. SHORELINE AND ALONGSHORE DETAILS

Shoreline and alongshore details were compiled graphically from 61 "W" and 62 "W" photography, using pass points dropped with the Wild B-8 and Kelsh instruments as control.

36. OFFSHORE DETAILS

Offshore details, rocks, ledges, foul and shallow lines, Kelp limits, were compiled graphically.

37. LANDMARKS AND AIDS

None.

38. CONTROL FOR FUTURE SURVEYS

None.

39. JUNCTIONS

Satisfactory junctions have been made with the following 1:10,000 scale Incomplete Map Manuscripts:

- T-12184 on the north
- T-12189 on the west
- T-12191 on the east
- T-12197 on the south

40. HORIZONTAL AND VERTICAL CONTROL

No statement.

46. COMPARISON WITH EXISTING MAPS

Comparison was made with U.S.G.S. Quadrangle PORT ALEXANDER (D-1), ALASKA, scale 1:63,360, dated 1948.

47. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Nautical Chart 8214, scale 1:40,000, dated July 1, 1909, revised August 10, 1959.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted:

Charles H. Bishop
 Charles H. Bishop
 Cartographer

Approved for forwarding:

Melvin J. Umbach
 Melvin J. Umbach, CDR, NOAA
 Chief, Photogrammetry Division, AMC

Approved:

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

October 20, 1971

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6206

T-12190

Keku Islands

Keku Strait

Kuiu Island

Saginaw Bay

Approved by:


A. Joseph Wraight
Chief Geographer

Prepared by:


Frank W. Pickett
Cartographic Technician

49. NOTES FOR THE HYDROGRAPHER

1. Foul, shoal, and reef areas and rocks shown on this manuscript were determined by office inspection of aerial photographs of the area and are shown to aid the hydrographer in locating possible hazardous areas. Their existence and extent should be verified by the hydrographer. If a foul, shoal, or reef area or rock does not exist, this fact should be noted on the FIELD EDIT OZALID.

2. There was no field inspection prior to compilation; therefore, the mean high water line should be verified. This may be accomplished by an occasional measurement from an identifiable point on the photograph to the mean high water line.

3. Heights of rocks and reefs should be obtained.

4. Give occasional measurements to mean high water line to verify compilation.

5. Investigate landmarks and aids and submit Form 567.

PHOTOGRAMMETRIC OFFICE REVIEW

T- 12190

1. PROJECTION AND GRIDS CHB		2. TITLE CHB		3. MANUSCRIPT NUMBERS CHB		4. MANUSCRIPT SIZE CHB	
CONTROL STATIONS							
5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY None				6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) None		7. PHOTO HYDRO STATIONS None	
8. BENCH MARKS None		9. PLOTTING OF SEXTANT FIXES None		10. PHOTOGRAMMETRIC PLOT REPORT G.M.B.		11. DETAIL POINTS Wild B-8 & Kelsh	
ALONGSHORE AREAS (Nautical Chart Data)							
12. SHORELINE CHB		13. LOW-WATER LINE None		14. ROCKS, SHOALS, ETC. CHB		15. BRIDGES None	
16. AIDS TO NAVIGATION None		17. LANDMARKS None		18. OTHER ALONGSHORE PHYSICAL FEATURES None		19. OTHER ALONGSHORE CULTURAL FEATURES CHB	
PHYSICAL FEATURES							
20. WATER FEATURES CHB				21. NATURAL GROUND COVER CHB		22. PLANETABLE CONTOURS None	
23. STEREOSCOPIC INSTRUMENT CONTOURS None		24. CONTOURS IN GENERAL None		25. SPOT ELEVATIONS None		26. OTHER PHYSICAL FEATURES None	
CULTURAL FEATURES							
27. ROADS None		28. BUILDINGS None		29. RAILROADS None		30. OTHER CULTURAL FEATURES None	
BOUNDARIES							
31. BOUNDARY LINES None				32. PUBLIC LAND LINES None			
MISCELLANEOUS							
33. GEOGRAPHIC NAMES CHB			34. JUNCTIONS CHB			35. LEGIBILITY OF THE MANUSCRIPT CHB	
36. DISCREPANCY OVERLAY CHB		37. DESCRIPTIVE REPORT CHB		38. FIELD INSPECTION PHOTOGRAPHS XX		39. FORMS CHB	
40. REVIEWER <i>Charles H. Bishop</i> Charles H. Bishop				SUPERVISOR, REVIEW SECTION OR UNIT <i>Albert C. Rauck, Jr.</i> Albert C. Rauck, Jr.			
41. REMARKS (See attached sheet)							
FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT							
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 <i>Charles H. Bishop</i> C.H. Bishop 06/17/68				SUPERVISOR <i>Albert C. Rauck, Jr.</i> Albert C. Rauck, Jr.			
Rev. By: C.H. Bishop 06/17/68							
43. REMARKS Field Edit Applied from: Field edit ozalid, Field Photos: Nos. 61-W-9352, 9353, 9409 & 65-M-245, 248.							

T-12190

FIELD EDIT REPORT

There were no field edit reports submitted with the field edit covering the 1966 to 1968 season's work, and no Form 567 was submitted to the compilation office by the field party.

REVIEW REPORT T-12190

SHORELINE

OCTOBER 27, 1971

61. GENERAL STATEMENT

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

There were no registered topographic surveys available for comparison purposes at the time of final review.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Comparison was made with U.S.G.S. PORT ALEXANDER (D-1), ALASKA, 1:63,360 scale quadrangle, dated 1948 with minor revisions made in 1963. The two surveys are in good general agreement.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Comparison was made with copies of boat sheets H-8960 (PA 10-1-67), H-8961 (PA 10-2-67) and H-9040 (DA 10-4-68).

The incomplete manuscript appears to have been the source for some of the rocks and reefs on the boat sheets. All of these were not verified by either the field editor or hydrographer.

The more significant of the differences between the surveys have been noted on the comparison print in purple.

65. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Chart 8214, 4th edition, December 16, 1968. The two surveys are in good general agreement. Rocks shown on the chart that are not visible on the photographs have been indicated on the comparison print.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

The survey is adequate for photo-hydro support and Nautical Chart construction purposes.

67. FIELD EDIT

Field edit of this survey was accomplished during the 1967 and 1968 field seasons. In some cases these field edits overlapped. Where this occurred the elevations of rocks and reefs were often in disagreement.

In 1967 the field editor sketched in reefs, ledges, and rocks directly on the field edit discrepancy print without reference to the photographs. This resulted in some of these features being misplaced. They were corrected during the time of final review.

Reviewed by:

Leo F. Beugnet
Leo F. Beugnet
Cartographer

Approved for forwarding:

Melvin J. Umbach
Melvin J. Umbach, CDR, NOAA
Chief, Photogrammetry Division, AMC

Approved:

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

Approved:

Chief, Photogrammetric Branch Chief, Coastal Mapping Division

ADDENDUM TO REVIEW REPORTS

T-12178, T-12179, AND T-12183 THROUGH T-12202

After Maps T-12178, T-12179, and T-12183 through T-12202 had been final reviewed and the reports written and signed, and the hydrographic surveys had been verified and reviewed, the Marine Chart Division requested additional review of the photogrammetric manuscripts to aid in resolving discrepancies between the hydrographic and photogrammetric surveys. Discrepancy prints of each T-sheet and verified copies of the hydrographic surveys were furnished to aid in this review. H-9041 Boat Sheet was used for T-12198 through T-12202, as a verified copy of this survey was not available to the reviewer.

Copies of the hydrographic surveys were used as aids to verify what could be seen on the photographs of the area; If a feature on the hydrographic survey was not positively identifiable on the photographs, it was not added to the T-sheet. This review resulted in the revision of several ledges, some mean high water line, and the addition of several rocks awash. The hydrographer's elevations were not added to the photogrammetric manuscripts.

Questions on the discrepancy prints were answered on separate ozalids and returned to the Marine Chart Division, along with a Chart Maintenance Print reflecting differences between the Advance Manuscript and the Final Reviewed Manuscript for each map.

Comparison prints bound with this report reflect differences with the verified hydrographic surveys, except T-12198 through T-12202, rather than the boat sheets. The sources for shoreline on the verified hydrographic surveys were copies of Advance Manuscripts; therefore, shoreline agreement is generally good.

Charles H. Bishop

Charles H. Bishop
Cartographer
January, 1973

134° 10' 00"
56° 56' 15"

09' 30"

09' x = 2,590,000 FT.

08' 30"

56'

55' 30"

y = 1,860,000 FT.

55'

kelp

kelp

kelp

kelp

kelp

kelp

kelp

kelp

Not on boat sheet

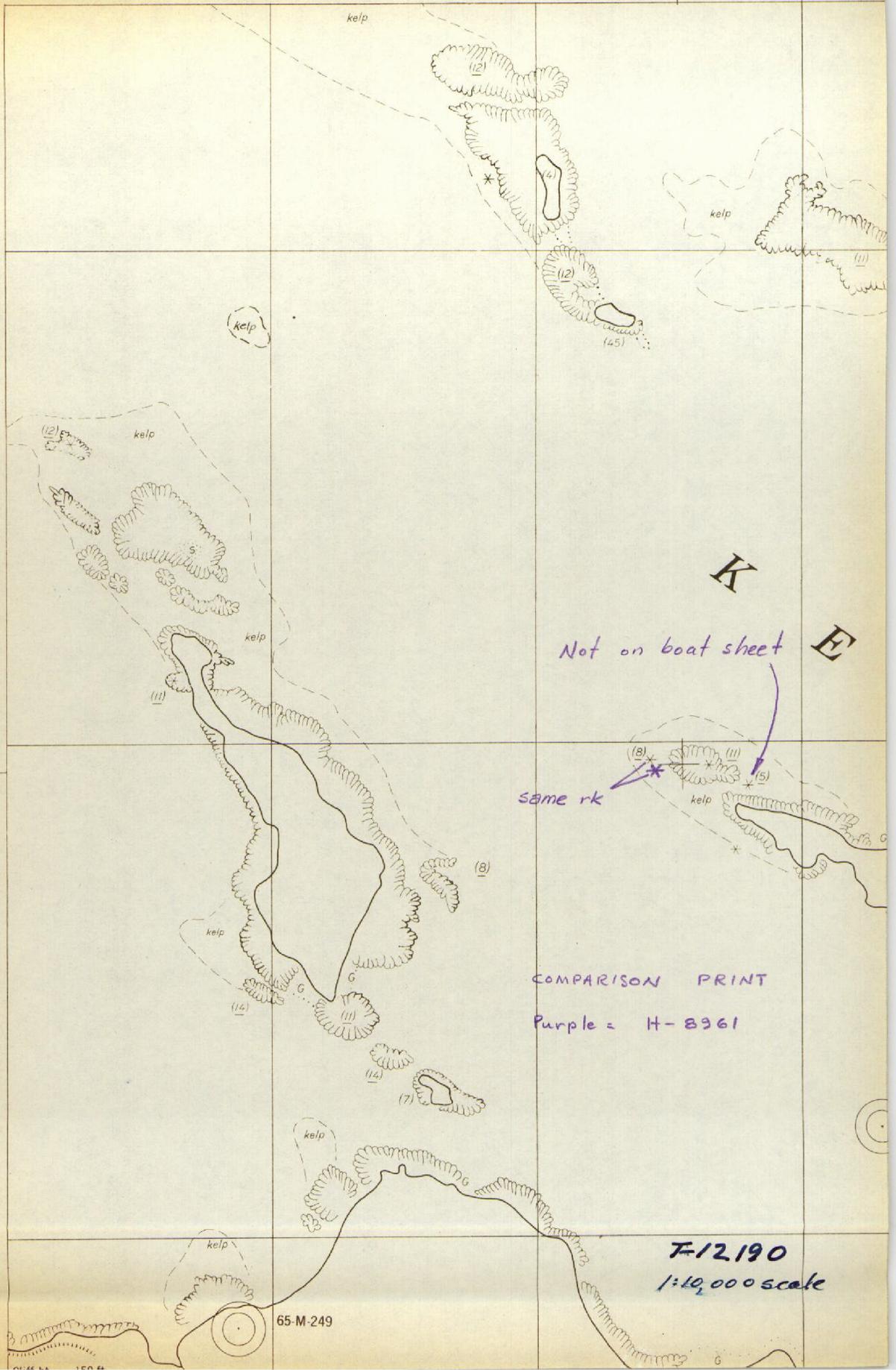
same rk

COMPARISON PRINT

Purple = H-8361

T-12190
1:10,000 scale

65-M-249



08'

07'30" $x=2,595,000$ FT.

134°07'

06'30"

Not on boat sheet

COMPARISON PRINT

Purple = H-8961
Red = Chart 8214

K
E
K
U

K
U

S
T
R
A

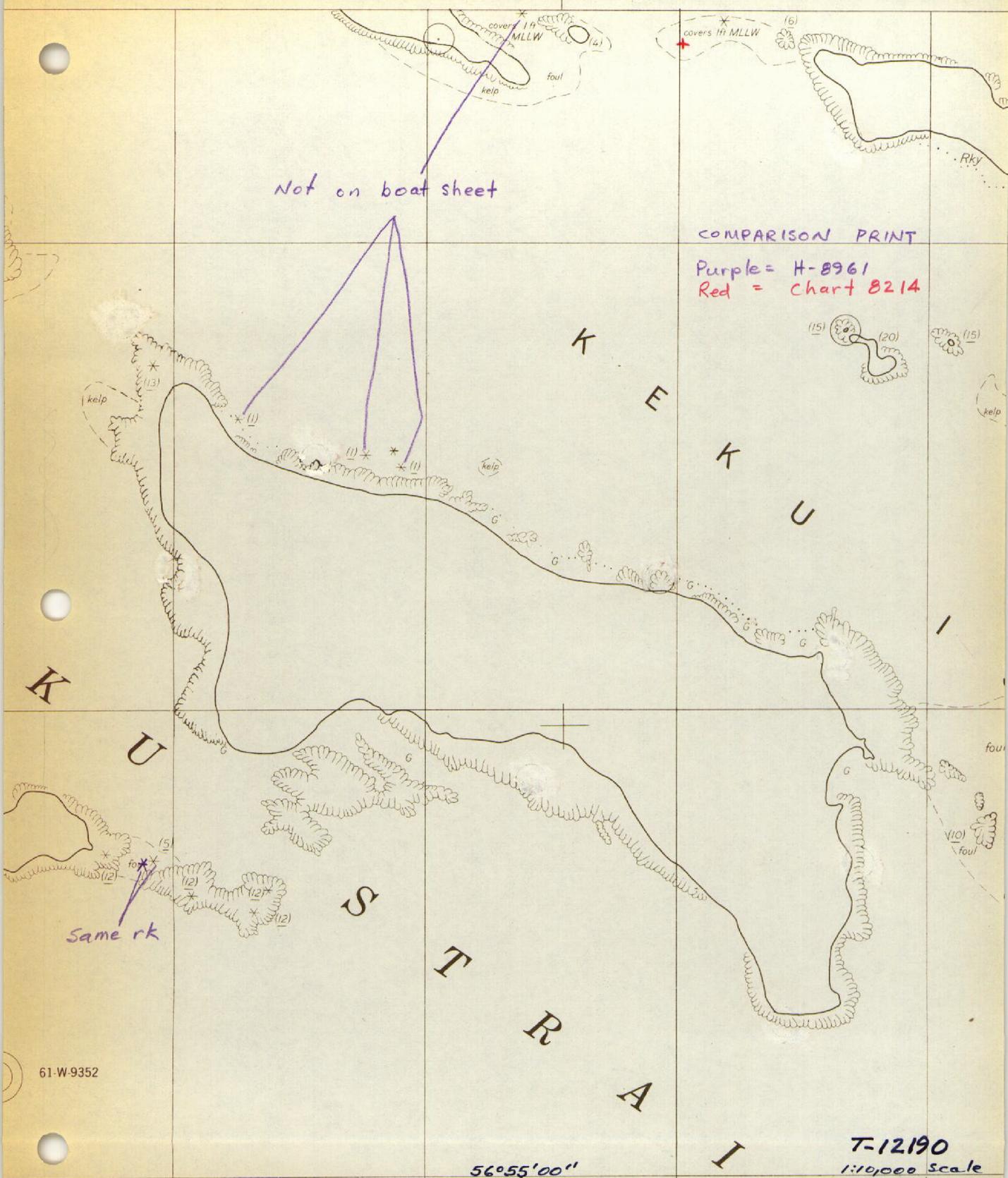
I
T

Same rk

61-W-9352

56°55'00"

T-12190
1:10,000 Scale



06' x = 2,600,000 FT.

05'30"

134°05'00"

56°56'15"

only ledge visible
on photos

covers 2 ft MLLW

56'

only reef visible
on photos

55'30"

y = 1,860,000 FT.

S
L
A
N
D
S

COMPARISON PRINT

Purple = H-9040

55'

T-12190

1:10,000 scale

y = 1,850,000 FT.



K U I

53'30"

Comparison Print
Purple = H-8960

y = 1,845,000 FT.

53'

Probably same rock

SAGINAW BAY

G & Bids

Obstr c

Piling

Float

subm piling

subm pile

(9)

(10)

62-W-5485

(10) * %RK

(10) *

(12) *

(14) *

T-12190
1:10,000 scale

mud

56°52'30"

134°10'00"

09'30"

09'

x = 2,590,000 FT.

08'30"