9957 9958
9959

T-10925

Diag. Cht. No. 8502-3.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT

Type of Survey: Planimetric

Field No.: Ph-6005 Office No.: T-9957, T-9958 & T-9959 T-10925

## LOCALITY

State: Alaska

General locality: Kayak Island

Locality: Cape St. Elias to Lemesurier Point

19 60

## CHIEF OF PARTY

M.E.Wennermark, Chief of Field Party
L.W.Swanson, Div. of Photo. Wash.,D.C.

## LIBRARY & ARCHIVES

DATE: April 1968

USCOMM-DC 37022-P66

9958 9959 9957

FORM C&GS-181a
(12-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT - DATA RECORD

T-9957, 9958, 9959 and T-10925

| | |
|---|---|
| PROJECT NO. (II): PH 6005 | |
| FIELD OFFICE (II): C&GS Ship PATHFINDER | CHIEF OF PARTY: M. E. Wennermark |
| PHOTOGRAMMETRIC OFFICE (III): Washington, D. C. | OFFICER-IN-CHARGE: L. W. Swanson |
| INSTRUCTIONS DATED (II) (III): 19 April 1960<br>Supp Inst 29 April 1960<br>Supp Inst 9 May 1960<br><br>Compilation 7 October 1960 | |
| METHOD OF COMPILATION (III): Graphic (Preliminary Shoreline Surveys)<br>Kelsh Plotter | |
| MANUSCRIPT SCALE (III): 1:20,000 | STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:5000 |
| DATE RECEIVED IN WASHINGTON OFFICE (IV): | DATE REPORTED TO NAUTICAL CHART BRANCH (IV): |
| APPLIED TO CHART NO. | DATE: / DATE REGISTERED (IV): |
| GEOGRAPHIC DATUM (III): NA 1927 | VERTICAL DATUM (III): MEAN SEA LEVEL EXCEPT AS FOLLOWS:<br>*Elevations shown as (25) refer to mean high water*<br>*Elevations shown as (5) refer to sounding datum i.e., mean low water or mean lower low water* |
| REFERENCE STATION (III): | |
| LAT.: / LONG.: | ☐ ADJUSTED<br>☐ UNADJUSTED |
| PLANE COORDINATES (IV): Y = X = | STATE / ZONE |

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.

FORM C&GS-1816
(12-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT - DATA RECORD

| | |
|---|---|
| FIELD INSPECTION BY (II): F. X. Popper (Cape St. Elias only) | DATE: June 1960 |
| MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): Office interpretation from tide stage, at time of photography, computed from data observed at Yakutat | |
| PROJECTION AND GRIDS RULED BY (IV): R. A. C. | DATE October 1960 |
| PROJECTION AND GRIDS CHECKED BY (IV): J. D. C. | DATE October 1960 |
| CONTROL PLOTTED BY (III): E. Ramey (Preliminary shoreline surveys)<br>P. Dempsey | DATE April 1960<br>November 1960 |
| CONTROL CHECKED BY (III): B. F. Lampton<br>C. Misfeldt | DATE April 1960<br>November 1960 |
| RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): B. F. Lampton<br>W. A. Kuncis | DATE May 1960<br>October 1960 |
| STEREOSCOPIC INSTRUMENT COMPILATION (III): Kelsh Plotter — PLANIMETRY: T-9958 P. Dempsey<br>T-9957, 9959, 10925 C. Misfeldt | DATE November 1960<br>1960, 1962 |
| CONTOURS: None | DATE |
| MANUSCRIPT DELINEATED BY (III): T-9958 W. A. Kuncis<br>T-9957, 9959, 10925 C. Misfeldt | DATE December 1960<br>1960, 1962 |
| SCRIBING BY (III): | DATE |
| PHOTOGRAMMETRIC OFFICE REVIEW BY (III): L. Levin | DATE 1-15-66 |
| REMARKS: | |

FORM C&GS-181c
(12-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

# DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

Wild RC 5 Aviogon lens

**PHOTOGRAPHS (III)**

| NUMBER | DATE | TIME | SCALE | STAGE OF TIDE |
|---|---|---|---|---|
| 60 W 1649-1666<br>60 W 1671-1686 | Aug 31 1960 | 11:36-11:57 | 1:25,000 | 2.7 ft above MLLW<br>6.4 ft below MHW |
| 60 W(color) 1741-62<br>60 W(color) 1765-81 | Aug 31 1960 | 13:00 | 1:20,000 | 1.7 above MLLW |
| *0286-0294 | Aug 12 1952 | Unknown | 1:40,000 | Unknown |

**TIDE (III)**

| | RATIO OF RANGES | MEAN RANGE | SPRING RANGE |
|---|---|---|---|
| REFERENCE STATION: | | | |
| SUBORDINATE STATION: | | | |
| SUBORDINATE STATION: | | | |

| | | |
|---|---|---|
| WASHINGTON OFFICE REVIEW BY (IV): | | DATE: |
| PROOF EDIT BY (IV): | | DATE: |
| NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II): | RECOVERED: | IDENTIFIED: |
| NUMBER OF BM(S) SEARCHED FOR (II): | RECOVERED: | IDENTIFIED |

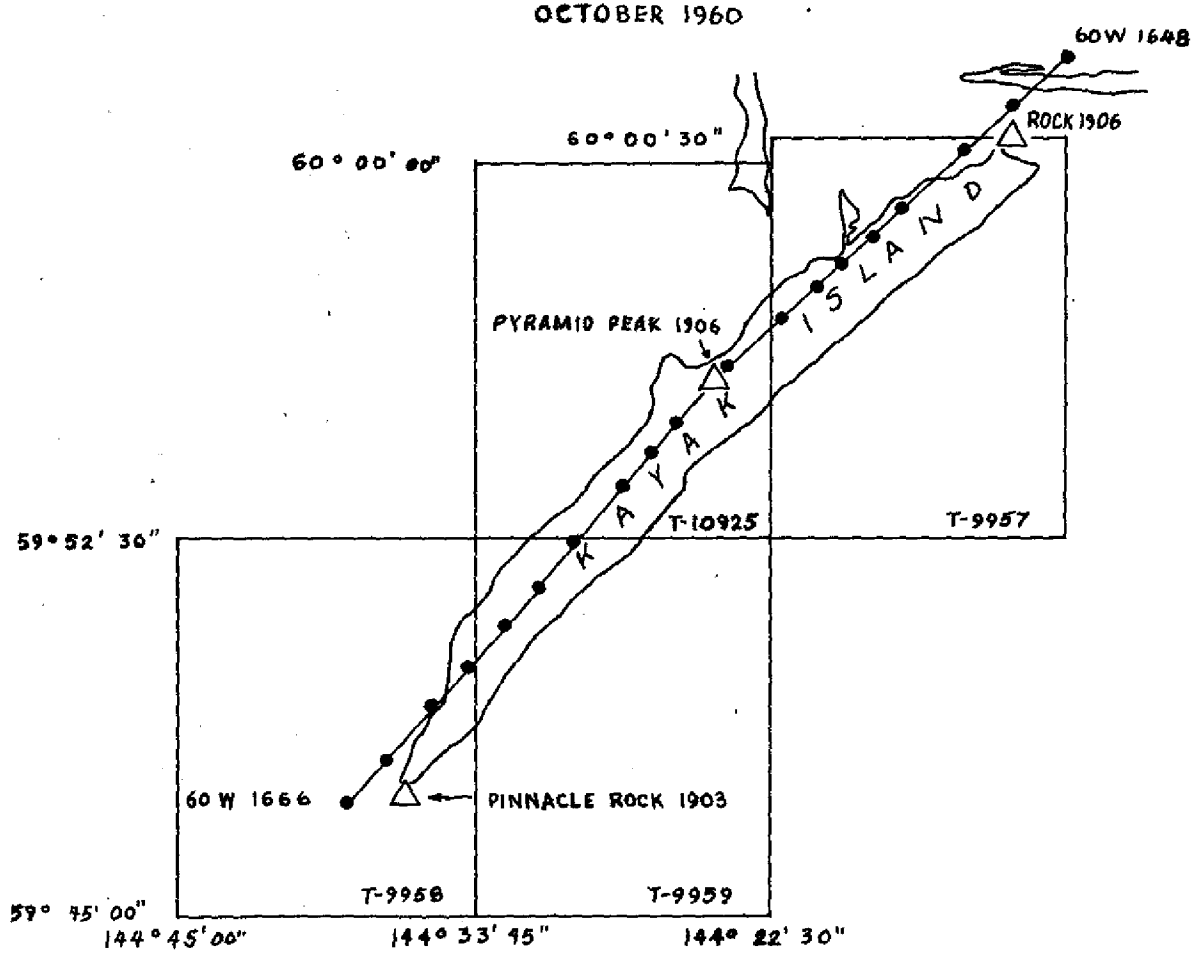
NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

REMARKS:

*Wild 6" Aviogon by USAF...used in preliminary compilation

ALASKA, SOUTH COAST
KAYAK ISLAND
PH-6005
OCTOBER 1960



FORM 164
(4-23-54)

U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT CONTROL RECORD

MAP T-..... PROJECT NO. 6005 ..... SCALE OF MAP 1:20,000 ..... SCALE FACTOR .....

| STATION | SOURCE OF INFORMATION (INDEX) | DATUM | LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE | DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS FORWARD | (BACK) | DATUM CORRECTION | N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD | (BACK) | FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD | (BACK) |
|---|---|---|---|---|---|---|---|---|---|---|
| PINNACLE ROCK 1903 | Computed | | 6,630,596.86 m. | (T-9958) | | | | | | |
| | | | 634,574.68 m. | | | | | | | |
| PYRAMID PEAK 1906 | Computed | | 6,646,494.59 m. | (T-10925) | | | | | | |
| | | | 645,085.45 m. | | | | | | | |
| ROCK 1906 | Computed | | 6,655,645.83 m. | (T-9957) | | | | | | |
| | | | 654,995.42 m. | | | | | | | |

1 FT. = .3048006 METER

COMPUTED BY: ..... DATE ..... CHECKED BY: ..... DATE .....

COMM-DC-57843

SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT
FOR
T-9957, 9958, 9959 AND T-10925

Project PH-6005 was bridged and compiled in April-May 1960 as preliminary shoreline surveys. The surveys cover Kayak Island, Alaska in its entirety. The preliminary photogrammetric bridge was accomplished with 1:40,000 USAF photography flown in August 1952. This bridge was considered sub-standard in accuracy. (See Photogrammetric Plot Report, April 1960).

The 1:20,000 scale manuscripts provided a base for hydrographic surveys; thus only the shoreline and foreshore features were compiled at that time.

The area of these manuscripts was re-bridged on the C-8 Stereoplanigraph in October 1960 with 1:25,000 photography flown in the summer of 1960.

The surveys were re-compiled on the Kelsh Plotter and delineated as Advance Planimetric Manuscripts in November-December 1960.

The control for the final bridge was office identified. The stations used were unchecked positions. For this reason the surveys in this project may not meet the minimum Standards of Map Accuracy.

Field inspection was restricted to the location of hydrographic signals and a small area of shoreline inspection.

As field identification of control was not scheduled or contemplated for the area; the surveys, as compiled, will be registered in the Bureau Archives under their respective T-numbers.

Field Inspection Report

Maps T-9957, T-9958, T-9959, and T-10925

Cape St. Elias

Kayak Island

Project SP 4-60

1960

Signals EAT, FAR, ELI, and GUY in the vicinity of Cape St. Elias Light were located by plane table.

Plane table was set on range with azimuth mark (azimuth determined by solar observations) and stadia distance measured to azimuth mark and light and signals then located by standard methods.

Signals IVY and KIM were located by combination of shoran distances and sextant fixes.

SignalsJAY was located by sextant fixes.

The only section of shoreline inspected was the north side of the pinnacle which has been revised on ozalid print.

Breaker areas were extensively revised by hydrography.

Signals ABE, BOY, CAT, and HER were located photogrammetrically.

Submitted herewith are a series of 14 positions and cuts to various mountain peaks that may aid in photo compilation.

Nine photographs taken by ship personnel previously forwarded 1 September may be of assistance in photo compilation.

F. X. Popper
F. X. Popper
CDR, C&GS

Approved and forwarded.

M. E. Wennermark
M. E. Wennermark
Captain, C&GS
Commanding, Ship PATHFINDER

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
SHIP PATHFINDER
705 FEDERAL OFFICE BUILDING
SEATTLE 4, WASHINGTON

MISCELLANEOUS SEXTANT CUTS TO VARIOUS
MOUNTAIN PEAKS SP - 4 - 60 CAPE ST. ELIAS

1. (0732) Pyramid peak 23° 26'
Left twin
Pinnacle 88° 03'

sharp peak to left twin 05° 04' (A)

2. (0736) Pyramid peak 14° 13'
Left twin
Pinnacle 100° 55'

Pyramid peak to peak A 12° 44'

3. (0809) Left twin to Cape 86° 08'
Cat to Cape 70° 23'
Cape to peak A 84° 51'

4. (1439) S. E. Rock to Cape 26° 56'
Cape to Pyramid Pk. 69° 27'
Cape to Peak A 67° 08'

5. (1442) S. E. Rock to Cape 27° 11'
Cape to Pyramid Pk. 69° 39'
Cape to Peak B 64° 48'

6. (1445) S/ E. Rock to Cape 27° 23'
Cape to Pyramid Pk. 69° 44'
Cape to scar on bluff 48° 16'
Cape to Peak D 58° 10'

7. Abe 27° 44'
Cat
{Cape 64° 11'
{Pk. A 89° 06'

8. Abe 27° 44'
Cat
{Cape 64° 11'
{Pk. B 87° 46' ?

9. Abe 27° 43'
Cat
{Cape 64° 27'
{Pk C 82° 40'

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
SHIP PATHFINDER
705 FEDERAL OFFICE BUILDING
SEATTLE 4, WASHINGTON

| | | | | |
|---|---|---|---|---|
| 10. | Abe | 27° | 41' | |
| | Cat | | | |
| | Cape | 64° | 32' | 15 08 |
| | Pk. D | 79° | 49' | |
| | | | 40 | |
| 11. | Abe | 72° | 04' | |
| | Cat | | | |
| | Eli | 24° | 05' | |
| | Pk. A | 71° | 43' | |
| | | | 36 | |
| 12. | Abe | 72° | 40' | |
| | Cat | | | |
| | Eli | 23° | 54' | |
| | Pk. B | 68° | 01' | |
| | | 67 | 57 | |
| 13. | Abe | 73° | 03' | |
| | Cat | | | |
| | Eli | 23° | 50' | |
| | Pk. C | 56° | 16' | |
| | | | 13 | |
| 14. | Abe | 73° | 18' | |
| | Cat | | | |
| | Eli | 23° | 46' | |
| | Pk. D | 48° | 42' | |
| | | | 39 | |

PHOTOGRAMMETRIC PLOT REPORT
Oct. 1960
T 9957 T 9958 T 9959 T 10925

21 Area covered:

All of Kayak Island at a scale of 1:20 000

22 Method:

One eighteen-model stereoscopic bridge was run on the C 8 Stereoplanigraph using three office-identified triangulation stations to control the adjustment. The adjustment was accomplished by the IBM electronic computer. Sufficient pass points were selected to control compilation by the Kelsh Plotter.

23 Adequacy of Control:

With the adjustment being referenced to only three control stations no evaluation of the control identification was possible. All three stations were unchecked positions and had no field identification. These stations were office-identified by noting their positions relative to planimetric detail as shown on prior planetable surveys.

An attempt was made to identify station Kyak, 1898, a peak; but the resulting position did not check well with the published position.

24 Supplemental Data:

Color photography covered the entire area and was used as an aid in the interpretation of details.

T 2794 T 2963 and T 2964 (1906-1909) were used to aid in the identification of control.

25 Photography

The quality and overlap of the diapositives was satisfactory.

The width of land, normal to the flight line was less than needed to give an optimum solution. This is believed to be the cause for a greater than usual bow error in the adjustment. Photography was 1:25 000 scale.

26 Sketch and control list: Appended

Approved by:
Everett H. Ramey
Chief, Aerotriangulation Section

Submitted by:
Willard A. Kuncis

COMPILATION REPORT

T 9957 T 9958 T 9959 T 10925

31 Delineation:

A Kelsh Plotter was used. When the stereo-models were scaled to bridge points along one shore, the bridge points along the opposite shore fell short. The manuscript was therefore shifted to fit each shore to compile the alongshore areas (see No. 23).

Photointerpretation was used to delineate shore areas; no field inspection was done.

The rocks about station Bowl (eastern offshore, T 9957) and the rocks east of Cape St Elias to, and including, Southeast Rock (T 9958) were beyond the photography used for the stereo-bridge. The area about station Bowl is covered by color photographs 60W c 1757,1758,1759 and the southern rocks are visible on 60W 1671, 1672, 1673, 1674, but extension of control by Kelsh Plotter would be weak.

32 Control:

See No. 31

33 Supplemental data:

The color photography was used stereoscopically for better identification of rocks, shoreline area, and vegetation.

C &GS Topographic Surveys T 2964 (1:10 000; 1906) and T 2963 T 2964 (1:40 000, 1909) were used as general reference.

34 Contours and drainage: No contours.

35 Shoreline and alongshore details:

See No. 31

36 Offshore details:

See No. 31

37 Landmarks and aids:

The 500 foot high pinnacle rock off the southern tip, and the short 1500 foot high ridge at the southern end of the island are of some value as landmarks.

Cape St Elias Light is the only fixed aid to navigation.

38 Control for future surveys: See field report.

39 Junctions

Each of these four manuscripts junction one other of the group

40 Horizontal and vertical accuracy

With only office identified control and insufficient land area to give good relative and absolute orientation of the stereo-models of the horizontal control extension, the probable error may exceed National Standards of Map Accuracy.

41 through 45: Nothing

46 Comparison with existing maps: See No. 33.

47 Comparison with nautical charts:

C & GS 8513 1:100 000 1904 (1913) (see No. 33)

48 Geographic name list:

| | |
|---|---|
| Cape St Elias. | Kayak Entrance. |
| Controllor Bay | Pinnacle Rock. |
| Gulf of Alaska. | Pyramid Peak. |
| Lemesurier Pt. | Sea Ranger Reef. |
| Kayak . | Southeast Rock. |
| Kayak Island . | Wingham Island. |

Submitted by:

Clarence Misfeldt

Approved by:

K. Maki
Chief, Compilation Section

REVIEW REPORT
PH-6005
T-9957, 9958, 9959 and T-10925

61. General Statement

(See the summary in preface of this report).

This review report covers the Planimetric Manuscripts compiled in November-December 1960.

62. Comparison with Registered Topographic Surveys

A comparison was made with planetable surveys: T-2963-2964, dated June-July 1909, scale 1:40,000 and T-2794, dated 1906, scale 1:10,000. Except for horizontal datum (refer to Photogrammetric Plot Report) and the delineation of Southeast Rock along with several rocks awash just north of Southeast Rock, the new surveys supersede the prior surveys.

63. Comparison with Maps of Other Agencies

Comparison was made with U.S.G.S. quadrangle, Middleton Island, D-1 and D-2, scale 1:63,360, dated 1955.

64. Comparison with Contemporary Hydrographic Surveys

Comparison was made with hydrographic survey H-8534, scale 1:20,000, dated 1960. This, the only contemporary survey in the area, covers the southern tip of Kayak Island from Cape St. Elias to Southeast Rock. The positioning of the rocks and reefs in this area could not be provided by photogrammetric methods due to the lack of adequate control.

65. Comparison with Nautical Charts.

Comparison was made with Chart 8513, 7th Edition, December 2, 1963, scale 1:100,000.

66. Adequacy of Results and Future Surveys

The surveys of this project comply with the project instructions. As mentioned in the Photogrammetric Plot and

Compilation Reports, the horizontal accuracy cannot be evaluated without field identification of control and adjusted positions.

Approved by:

Charles Trenner
Chief, Photogrammetric Branch

L. F. Woodcock
Chief, Photogrammetry Division

Reviewed by:

Louis Lorin
Cartographer

Chief, Nautical Chart Division

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 524
Rev. May 1934

# DESCRIPTION OF RECOVERABLE HYDROGRAPHIC OR TOPOGRAPHIC STATION

Name CAPE

Year 1960

General locality Kayak Island

Sheet No. T9958

Locality New Air photocompilation

Datum NA 1927

Chief of party to be made

Scaled by C Misfeldt

Checked by L. Lovin

| | ° | ′ | Meters |
|---|---|---|---|
| Lat. | 59 | 47 | 1744 |
| Long. | 144 | 35 | 776 |

Approximate elevation above high watermark feet

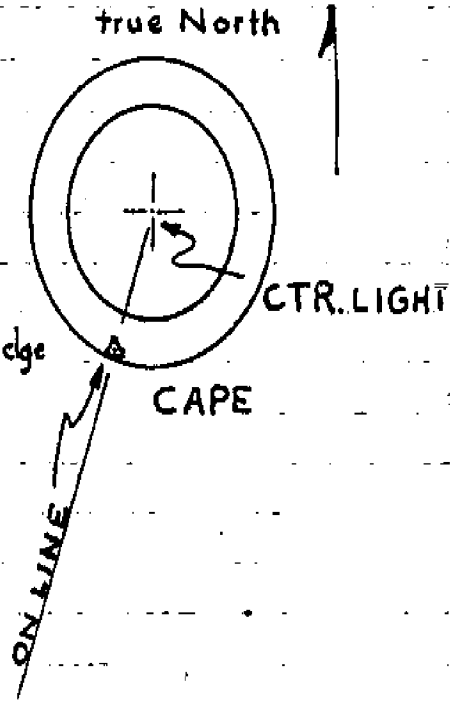
Location method: ~~Plane table, Sextant, Theodolite, Air photocompilation~~ Stereophotogrammetric Bridge

Detailed description: Station is located on the southern end of Kayak Isl. in the Gulf of Alaska. Station is marked by a punch mark with a triangle chiseled around it in the steel deck of the catwalk that surrounds the light deck of Cape St. Elias Lt. house. The station is on line with the light and CAPE ST. ELIAS AZI ECC 1960. Station mark is 7.16 ft. from the center of the light.

Azimuth mark is a standard topographic disk stamped CAPE ST. ELIAS ECC 1960 is located 587 meters SSW of Cape St. Elias Lt. on a hog back at the base of the Pinnacle. Disc is cemented into a drill hole in bedrock about 25 meters from MHWL.

UTM coordinates
x = 634827 m
y = 6631265 m

Sketch for shore-line data and reference points:




SHORE-LINE DATA AT ABOVE STATION

| Object | Distance in meters | Direction | Azimuth |
|---|---|---|---|
| | | 00° 00′ | |

REFERENCE POINTS FOR AIR PHOTO CONTROL

| Object | Distance in meters | Direction | Azimuth |
|---|---|---|---|
| | | 00° 00′ | |

Distances not to be scaled from sheet; [illegible]t be horizontal distances actually obtained in [illegible] field.

Above dista[illegible] measured by:

REFERENCES: Topographic Manual, paragraphs 16[illegible], 20, 30, 57, and page 52; Hydrographic Manual, paragraph 167; Circular No. 30, 1933

16—21[illegible] GPO

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

# RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. T-9957, 9958 & 9959.

## INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

| CHART | DATE | CARTOGRAPHER | REMARKS |
|---|---|---|---|
| 8513 | 1-24-72 | VF Moss | ~~Full~~ Part Before ~~After~~ Verification Review Inspection Signed Via |
| | | | Drawing No. Critical Corrections applied |
| | | | |
| 8513 | 6 July 76 | W W HAUSMAN | ~~Full~~ Part ~~Before~~ After ~~Verification~~ Review ~~Inspection Signed~~ Via |
| | | | Drawing No. Crit. Corr. |
| | | | |
| 8502 | 3-8-78 | J. Bailey | ~~Full~~ Part ~~Before~~ After ~~Verification~~ Review Inspection Signed Via |
| | | | Drawing No. Exam. for critical corrs. thru 8513 |
| | | | No corr. |
| 16723 | 9/30/80 | Naitoh | Full ~~Part Before~~ After Verification Review Inspection Signed Via |
| | | | Drawing No. 10 |
| | | | |
| | | | Full Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. |
| | | | |
| | | | Full Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. |
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| | | | |
| | | | Full Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. |

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63