

9072

9073

9072 9073
2106 2106

Diag. Cht. No. 8502-3

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey PLANIMETRIC (PHOTOGRAMMETRIC)

Field No. Ph-8(46) Office No. T-9072
T-9073

LOCALITY

State ALASKA

General locality BRISTOL BAY

Locality SOUTHEAST SHORE OF KVICHAK BAY FROM:
1 1/2 MILES NORTH OF CAPE CHICHAGOF TO 7
MILES SOUTH OF NAKNEK RIVER.

1948

CHIEF OF PARTY

R.F.A. Studds, Chief of Field Party.
W.H. Bainbridge, Portland Photogrammetric Office

LIBRARY & ARCHIVES

DATE May - 21 - 1953

DATA RECORD

T-9072

Project No. (II): Ph-8(46) Quadrangle Name (IV):

Field Office (II): Ship "PATHFINDER"

Chief of Party: R.F.A Studds

Photogrammetric Office (III): Portland, Oregon

Officer-in-Charge: W.H. Bainbridge

Instructions dated (II) (III): 19 March 1948

Copy filed in Division of
Photogrammetry (IV)
Office Files

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:20,000

Stereoscopic Plotting Instrument Scale (III): —

Scale Factor (III): None

Date received in Washington Office (IV): *5-18-49* Date reported to Nautical Chart Branch (IV):

Applied to Chart No. *9051* Date: *2-1-50* Date registered (IV): *3-12-53*

Publication Scale (IV): —

Publication date (IV): —

Geographic Datum (III): N.A. 1927 *9 June, 1954*

Vertical Datum (III): Mean *High Water* Sea Level

*Note: Will, 1948 is less than third order
Accuracy, so cannot be used to
determine the Datum correction.
See Form M-2388-12; T-9072. J.B. Willey*

Mean sea level 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): WILL, 1948

Lat.: $58^{\circ} 32' 26.180''$ *.117 08.1* Long.: $157^{\circ} 20' 51.750''$ *.184 27.5*
(1046.4m) *810.1m* *837.2m* *(133.5m)* *Adjusted* ✓
Unadjusted ✗

Plane Coordinates (IV):

State:

*The difference between Unadjusted Datum
and N.A. 1927 Datum is Lat. plus/minus 1.3 m.
and Long. minus 4.8 m.*

Y=

X=

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.

DATA RECORD

Field Inspection by (II): Ship "PATHFINDER"

Date: Season 1947
Season 1948

Planetable contouring by (II): _____

Date: _____

Completion Surveys by (II): _____

Date: _____

Mean High Water Location (III) (State date and method of location): The high-water line was located on the 1946 photographs by the field party. It was transferred to the office photographs with the aid of the stereoscope and then compiled.

Projection and Grids ruled by (IV):

Date: _____

Projection and Grids checked by (IV):

Date: _____

Control plotted by (III): John Winniford

Date: 12/8/48

Control checked by (III): James L. Harris

Date: 1/19/49

~~Radial Plot or Stereoscopic Control extension by (III):~~

James L. Harris and J.E. Deal

Date: 2/14/49

Stereoscopic Instrument compilation (III):

Planimetry _____

Date: _____

Contours _____

Date: _____

Manuscript created by (III): John Winniford

Date: 3/1/49

Photograph Office Review by (III): Ree H. Barron

Date: 3/4/49

Elevation: _____
checked by (I): _____

Date: _____

Camera (kind or source) (III):

U.S.C.&G.S. 9 lens focal length 8.25 inches

Number	Date	PHOTOGRAPHS (III)			Stage of Tide
		Time	Scale		
14380 & 14381	6/10/43	11:11	1:20,000		14.5 ft. above M.L.L.W.
17977 & 17978	9/25/46	9:36	1:20,000		3.5 ft. above M.L.L.W.

Tide (III)

Diurnal

Reference Station: NUSHAGAK BAY, ALASKA (Clark Point)
 Subordinate Station: Approximation at the mouth of Kvichak
 Subordinate Station: River to be plus 1 hour.

Ratio of Ranges	Mean Range	Spring Range
	15.2	19.5

Washington Office Review by (IV): *G. B. Willey*

Date: *6-20-52*

Final Drafting by (IV): *m. c. Jones*

Date: *8/26/52*

Drafting verified for reproduction by (IV): *W. C. Holliman*

Date: *8-25-52*

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): 7.6

Shoreline (More than 200 meters to opposite shore) (III): 9.6 Statute Miles

Shoreline (Less than 200 meters to opposite shore) (III): None

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II):

Recovered:

Identified:

Number of BMs searched for (II):

Recovered:

Identified:

Number of Recoverable Photo Stations established (III): None

Number of Temporary Photo Hydro Stations established (III): None

Remarks:

DATA RECORD

T - 9073

Project No. (II): Ph-8(46) Quadrangle Name (IV):

Field Office (II): Ship "PATHFINDER"

Chief of Party: R.F.A. Studds

Photogrammetric Office (III): Portland, Oregon

Officer-in-Charge: W.H. Bainbridge

Instructions dated (II) (III): 19 March 1948

Copy filed in Division of
Photogrammetry (IV)
Office Files

Method of Compilation (III): **Graphic**

Manuscript Scale (III): 1:20,000

Stereoscopic Plotting Instrument Scale (III): —

Scale Factor (III): **None**

Date received in Washington Office (IV) *5-18-49* Date reported to Nautical Chart Branch (IV):

Applied to Chart No. *9051* Date: *2-1-50* Date registered (IV): *3-13-52*

Publication Scale (IV): —

Publication date (IV): —

Geographic Datum (III): **N.A. 1927**

Vertical Datum (III): **Mean Sea Level** *High Water*

Mean sea level 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): **JOHNSON, 1946**

Lat.: 58° 35' *.502* 34.496" *6* 1067.7m Long.: 157° 13' *.192* 58.455" *0.0* 944.2m
(789.2m) *8.9* (28.0m) *9.3*

Adjusted
~~Unadjusted~~

Plane Coordinates (IV): *The difference between Unadjusted Datum and N.A. 1927 Datum is Lat. plus 0.2 m and Long. minus 4.3 m.* State: Zone:

Y= X=

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.

DATA RECORD

Field Inspection by (II): Ship "PATHFINDER" Date: Season 1947
Season 1948

Planetable contouring by (II): _____ Date: _____

Completion Surveys by (II): _____ Date: _____

Mean High Water Location (III) (State date and method of location): In the area of this map manuscript the Mean High-Water Line was not located by field inspection. With the aid of the stereoscope and by comparison with adjacent shoreline areas which had been field inspected, it was located on the office photographs and then compiled.

Projection and Grids ruled by (IV): _____ Date: _____

Projection and Grids checked by (IV): _____ Date: _____

Control plotted by (III): John Winniford Date: 12/8/48

Control checked by (III): James L. Harris Date: 1/19/49

Radial Plot or Stereoscopic Control extension by (III): James L. Harris & J.E. Deal Date: 2/14/49

Stereoscopic Instrument compilation (III): Planimetry _____ Date: _____

Contours _____ Date: _____

Manuscript delineated by (III): John Winniford Date: 3/25/49

Photogrammetric Office Review by (III): Ree H. Barron Date: 4/1/49

Elevations on Manuscript checked by (II) (III): _____ Date: _____

Camera (kind or source) (III): U.S.C.&G.S. 9 lens focal length 8.25 inches

Number	Date	PHOTOGRAPHS (III) Time	Scale	Stage of Tide
14382 & 14383	6/10/43	11:14	1:20,000	14.5 ft. above M.L.L.W.
14411 to 14413 incl.	6/10/43	11:54	1:20,000	13.0 ft. above M.L.L.W.
17979	9/25/46	9:38	1:20,000	3.5 ft. above M.L.L.W.

Tide (III)

Reference Station: NUSHAGAK BAY, ALASKA (Clark Point)
Subordinate Station: Approximation at the mouth of Kvichak
Subordinate Station: River to be plus 1 hour.

Ratio of Ranges	Mean Range	Diurnal Spring Range
	15.2	19.5

Washington Office Review by (IV): *G.B. Willey*

Date: 6-20-52

Final Drafting by (IV): *A.P. Berry*

Date: 8-25-52

Drafting verified for reproduction by (IV): *W.O. Halheim*

Date: 9-25-52

Proof Edit by (IV): *W.O. Halheim*

Date: 10-17-52

Land Area (Sq. Statute Miles) (III): 81.5
Shoreline (More than 200 meters to opposite shore) (III): 6 Statute Miles
Shoreline (Less than 200 meters to opposite shore) (III): None
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): Recovered: Identified:
Number of BMs searched for (II): Recovered: Identified:
Number of Recoverable Photo Stations established (III): None
Number of Temporary Photo Hydro Stations established (III): None

Remarks:

Summary to Accompany T-9072 and T-9073

Ph-8(46)A is a planimetric map project consisting of 23 maps covering the area from Egegik Bay to Nushagak Bay, including Kvichak Bay, Alaska. Ph-8(46) consists of 45 topographic maps extending from Nushagak Peninsula to Cape Newenham and north to Goodnews Bay, including the off-shore islands, along the northern shore of Bristol Bay, Alaska. Ph-8(46)B consists of 2 shoreline surveys. The hydrography has not been completed in the area of the topographic maps.

Planimetric Map T-9072 covers the area of the central eastern shore of Kvichak Bay, Alaska, extending from Latitude $58^{\circ}-30'$ to $58^{\circ}-37'-30''$ and from Longitude $157^{\circ}-20'$ to $157^{\circ}-40'$. Planimetric Map T-9073 covers a part of the central eastern shore of Kvichak Bay, in the vicinity of Johnson Hill, Alaska, extending from Latitude $58^{\circ}-30'$ to $58^{\circ}-37'-30''$ and from Longitude $157^{\circ}-00'$ to $157^{\circ}-20'$. Planimetry was delineated by graphic compilation methods in the Portland Photogrammetric Office. The field inspection, consisting of the identification of horizontal control and partial shoreline inspection, was accomplished in 1947 and 1948.

Cloth-backed lithographic prints of these maps at compilation scale and the descriptive reports will be registered in the Bureau Archives. These maps will not be published. The manuscripts and a copy of the descriptive reports will be filed in the Division of Photogrammetry.

NOTES TO ACCOMPANY FIELD INSPECTED
PHOTOGRAPHS, BRISTOL BAY, ALASKA BY
PERSONNEL OF USC&GS SHIP PATIFINDER

The area covered is mostly on the south side of Bristol Bay between EGEKIK and NAKNEK. The photographic inspection is not continuous, the policy being to secure as much information as time and tide conditions permitted while on signal building and triangulation assignments.

From signal building operations on each side of the Bay it was obvious that the north shore was receding; witness loss at \triangle KVICHAK, while the south shore remains almost stationary. Some receding of the higher bluffs in exposed areas on the south shore was noticed, however, the stations, established in 1946 by R. Woodworth were in the same relative position in 1948. It is believed that the H.W. line on the south shore is building off shore from the present H.W. line. This seemed obvious from the old wrecks and drift wood, found inshore in the marsh flats between MIDDLE BLUFF LIGHT and \triangle WILL.

Elevations were not obtained at stations ABE, JOE and BUG due to lack of time. The elevations of stations ABE and JOE as submitted by members of the party of R.W. Woodworth in 1946 are believed to be too high; the approximate elevations submitted are as follows:-

ABE 125 to 150 feet
JOE 75 to 100 feet

The computed elevation (1946 triangulation) at \triangle MIDDLE is 37.7 meters (124 feet) and RED BLUFF LIGHT 31.0 meters (102 feet). These two points are among the highest along the coast. It is believed that the elevation at Station ABE is about 80 feet and the elevation at Station JOE about 40 feet.

COMPILATION REPORT
Map Manuscripts T-9072 and T-9073
Project Ph-8(46)

26: CONTROL:

The horizontal control of map manuscripts No's. T-9072, T-9073, T-9076 and T-9078 is discussed collectively because these four sheets were combined into one radial plot.

There are sufficient horizontal control stations in the area for use in running the radial plot. Although all but three of the control stations, one of which could not be identified, are along the southeast shoreline of Kvichak Bay, no trouble was experienced in controlling the eastern limits of the three north and south flights, as the two identifiable inshore stations were near the extremities - triangulation station JOHNSON 1946 in the north and triangulation station MON 1946 near the southern edge. In addition, the pass points, lying along the southern border of T-9069, which had been established during the running of a previous radial plot, were used to supplement the horizontal control stations.

In an "Index of Picture Points - Alaska Peninsula" it was stated that the sub-station for BAY 1946 was incorrectly identified. This fact was verified when the sub-station would not hold during the running of this radial plot.

27: RADIAL PLOT:

These two map manuscripts were included as part of a combined radial plot comprising No's. T-9072, T-9073, T-9076 and T-9078. It was originally planned to include map manuscripts No's. T-9077 and T-9079 into this radial plot but due to difficulties encountered with the photographs taken in 1945 these two map manuscripts were laid aside and will be compiled when new photography is made in this area. These facts are contained in a letter to "The Director", dated 11 February 1949, Subject: "Radial Plots Ph-8(46)", and the reply is contained in the letter 711-rb, dated, 17 February 1949, Subject: "Radial Plots East Shore of Kvichak Bay," from "The Director".

The methods used in running this radial plot are the same as described for other radial plots in Project Ph-8(46) where nine lens photographs, base grids, and acetate templates corrected with a calibration template, were used. Refer to Compilation Reports for T-9068 and T-9069, and T-9051 and T-9052.

The results of the radial plot were satisfactory and it is believed that the planimetry, compiled in this area, will be well within the limits of accuracy set forth in the instructions for Project Ph-8(46) dated 19 March 1948.

28: DETAILING:

These map manuscripts were compiled in accordance with instructions for Project Ph-8(46). Features and symbols were shown as indicated in Photogrammetry Instructions No's. 10, 12, and 17 and in a special symbol of hachures, furnished by the Washington Office.

Operations, methods, and other facts pertaining to detailing these map manuscripts are in general similar to those described for other map manuscripts in Project Ph-8(46). Refer to Item 28 "Detailing" in the descriptive reports for T-9051 and T-9052, and for T-9066 and T-9067.

The following exceptions are noted:

There are no knolls or prominent changes of elevation in the area of T-9072. In the area of T-9073, three prominent ridges have been detailed, one known as Johnson Hill and the other two located just south of Johnson Hill.

The field inspection was not continuous and in general was confined to portions of the shoreline and areas immediately adjacent thereto. Much of the photograph interpretation was done by analogy with the aid of the stereoscope.

Because of insufficient photograph coverage the southeast corner of T-9073 could not be compiled.

29: SUPPLEMENTAL DATA:

No supplemental data were furnished this office in the area of these two map manuscripts.

30: MEAN HIGH-WATER LINE:

Except for a small area, the field inspection of the mean high-water line in T-9072 was complete. In this area the mean high-water line was transferred from the field photographs to the office photographs, with the aid of the stereoscope and then compiled. There was no field inspection of the mean high-water line in T-9073. By analogy and with the aid of the stereoscope, the

mean high-water line for this sheet was located on the office photographs, and then compiled.

The mean high-water line bordering firm ground has been shown by a continuous black acid ink line .012" in thickness.

The mean high-water line bordering marsh areas has been shown by a continuous black acid ink line .006" in thickness.

31: LOW-WATER AND SHOAL LINES:

The approximate limits of mud flat areas, believed to bare at low-water, were compiled from the 1946 photographs, which were taken when the predicted tide tables indicated a tide stage of about 3.5 feet above Mean Lower Low Water.

32: DETAILS OFFSHORE FROM THE MEAN HIGH-WATER LINE:

There are no details offshore from the mean high-water line.

33: WHARVES AND SHORELINE STRUCTURES:

There are no shoreline structures in the area.

34: LANDMARKS AND AIDS TO NAVIGATION:

No field or other data on landmarks and aids to navigation in the area were furnished this office.

35: HYDROGRAPHIC CONTROL:

None were selected or identified by the field party to be radially plotted.

36: LANDING FIELDS AND AERONAUTICAL AIDS:

There are none in the area of these two map manuscripts.

37: GEOGRAPHIC NAMES:

Geographic Names have been shown as listed in a "Report on Geographic Names, Kvichak Bay, from Naknek to Egegik" and as shown on a copy of an advance chart of Kvichak Bay, Egegik Bay to

Libbyville, dated September 1947, Scale 1:100,000. The notation "Temporary report on Geographic Names" is lettered on the reverse side of the chart. The above data were furnished this office by the Ship "PATHFINDER".

38: RECOVERABLE TOPOGRAPHIC STATIONS:

No data on recoverable topographic stations in the area were furnished to this office.

39: JUNCTIONS:

Complete and satisfactory junctions have been made between these map manuscripts and adjacent map manuscripts.

44: COMPARISONS WITH EXISTING TOPOGRAPHIC SURVEYS:

There were no previous topographic surveys of this area available to this office.

45: COMPARISON WITH NAUTICAL CHARTS:

A comparison was made by use of the vertical projector with the advance chart of Kvichak Bay, Egegik Bay to Libbyville, dated September 1947, Scale 1:100,000. In general, the planimetry is in agreement between the chart and map manuscript T-9073. There are numerous minor differences in the form of the mean high-water line and the streams. Triangulation stations RED, 1946 and SUE 1946 appear to be the two "Survey Markers" shown on the chart and triangulation station JOHNSON HILL CAIRN 1946 appears to be the landmark "Sharp Tip" shown on the chart. In T-9072 there are many places that appear to be in disagreement as to geographic position between the chart and map manuscript.

Approved:

W.H. Bainbridge
W.H. Bainbridge
Comdr.-USC&G Survey
Chief of Party

Respectfully submitted:

J. Edward Deal Jr.
J. Edward Deal, Jr.
Photogrammetric Engineer

MAP T-2072

PROJECT NO. Ph-8(46)

SCALE OF MAP 1:20,000

SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR ψ -COORDINATE LONGITUDE OR α -COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
				FORWARD	(BACK)		FORWARD	(BACK)	FORWARD	(BACK)
WILL 1948	Field	N.A. 1927	58° 32' 26.180"	810.1	(1046.4)		Ret. Fev. 1948	Used in radial		
	Comp.		157° 20' 51.750"	837.2	(133.5)		2nd order	plot		
BEAR 1948	Field	N.A. 1927	58° 31' 00.311"	9.6	(1846.8)		"	"		
	Comp.		157° 23' 06.545	106.0	(865.4)		"	"		
BEAR 1948	Aster III Z-41	Adj. N.A. '27	58° 31' - 00.355	11.0	(1845.5)		Only one unchecked cut in 1948.			
			157-23 - 06.254	101.2	(870.1)		Wiley Position from 1947-4th order by Studer			

MAP T-9073

PROJECT NO. Ph-8(46)

SCALE OF MAP 1:20,000

SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR ψ -COORDINATE LONGITUDE OR x -COORDINATE	DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS
				FORWARD	(BACK)		FORWARD	(BACK)	
SUE, 1946	G-6906 Page 12	N.A. 1927	58° 34' 36.026"	1114.7	(741.8)				Not used in
JOHNSON HILL	Field Comp. Page 7	N.A. 1927	58° 35' 51.997"	1608.9	(247.6)				radial plot
CAIRN, 1946	G-6906 Page 4	N.A. 1927	58° 34' 24.505"	758.2	(1098.3)				Not used in
JOHNSON 1946	G-6906 Page 12	N.A. 1927	58° 35' 34.496"	1067.4	(789.1)				Used in radial plot
JOHNSON AZI-	G-6906 Page 4	N.A. 1927	58° 31' 17.290"	535.0	(1321.5)				radial plot
MUTH MARK, 1946	G-6906 Page 4	N.A. 1927	58° 31' 17.290"	535.0	(1321.5)				index of picture points-Alaska peninsula lists this station as incorrectly pricked.
BAY, 1946	G-6906 Page 4	N.A. 1927	58° 34' 24.505"	758.2	(1098.3)				Not used in
			58° 34' 36.026"	1114.7	(741.8)				
			58° 35' 51.997"	1608.9	(247.6)				
			58° 34' 24.505"	758.2	(1098.3)				
			58° 35' 34.496"	1067.4	(789.1)				
			58° 31' 17.290"	535.0	(1321.5)				
			58° 31' 17.290"	535.0	(1321.5)				
			58° 34' 24.505"	760.0	(211.2)				

1 FT. = 3048006 METER
COMPUTED BY: F.H. Elrod

DATE Oct. 11, 1948

CHECKED BY: G. Richter

DATE Dec. 9, 1948

M. 2388-12

T-9072.

Geographic Names.

- Alaska
- Bristol Bay (For Title)
- Kvichak Bay
- Big Flat

T-9073.

- Alaska
- Bristol Bay
- Kvichak Bay
- Big Flat
- Johnston Hill
- Johnston Hill Creek

(pending with BGN: use form going back to earliest days pending its decision---as on nautical charts)

Names underlined in red are approved. 6-16-53 *Handwritten signature*

REVIEW REPORT T-9072 and T-9073
Planimetric Maps
20 June 1952

62. Comparison with Registered Topographic Surveys:

T-7036b 1:20,000 scale 1948 No discrepancies noted.

63. Comparison with Maps of Other Agencies:

None.

64. Comparison with Contemporary Hydrographic Surveys:

H-7666 1:20,000 scale 1948 No discrepancies noted.

65. Comparison with Nautical Charts:

Nautical Chart 9051 1st Edition (1950) 51-8.20.
1:100,000 scale

See Item 45 in the Compilation Report. Several minor discrepancies were noted. This planimetric map should supersede the detail as shown on the provisional nautical chart.

66. Adequacy of Manuscript:

This planimetric map complies with Bureau standards and with project instructions.

Reviewed by:

G. B. Willey by G. B. Willey
Gordon B. Willey

Approved by:

S. V. Griffith
Chief, Review Section B
Division of Photogrammetry

H. Chamberlain
Chief, Nautical Chart Branch
Division of Charts CA

O. S. Reading
Chief, Div. of Photogrammetry
RES

Carl O. Heston
Chief, Div. of Coastal Surveys
M7

I⁹⁶⁷²
Y⁹⁰⁷³ applied to chart 9051 2/1/50 L.A.M.

No Corr. after U.E.R. to chart 9051 1-19-55 J.H.E.

HORIZONTAL DATUM ADJUSTMENT

Bristol Bay, Alaska

The subject maps were radial plotted on unadjusted (Field) datum which was subsequently adjusted to the North American 1927 datum by the Division of Geodesy. The datum correction has been computed for each sheet, and stamped into the Descriptive Report on page 1, and on the manuscripts and registered cloth-backed copies near the title block. However, as the title block of each clothback sheet contains the note, "1927 North American Datum", it was necessary to stamp the word, "(Unadjusted)" beside this datum note in the title block of each sheet.

See the special report, Horizontal Control Datum, Ph-8(46), Ph-8A(46), and Ph-8B(46), filed with the Completion Report for the project for details and lists of the maps, reports, and registration copies marked with this adjustment. The following is a list of the maps in the projects:

Ph-8(46), TOPOGRAPHIC

T-9038 thru T-9040
9044 " 9047
9054 " 9057
9064, -9065, -9070
9071, -9074, -9075
9227 thru 9253

Ph-8A(46), PLANIMETRIC

T-9041 thru T-9043
9048 " 9053
9058 " 9063
9066 " 9069
9072, -9073
9076, -9078

Ph-8B(46), SHORELINE

T-8873 (E&W) and T-8874