

11632

Diag. Cht. No. 6450-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Shoreline (Photogrammetric)

Field No. Ph-5905 Office No. T-11632

LOCALITY

State Washington

General locality Whidbey Island, Puget Sound

Locality Useless Bay

1960 - 1961

CHIEF OF PARTY

Lorne G. Taylor and Fred Natella

LIBRARY & ARCHIVES

DATE April 1964

USCOMM-DC 5087

11632

DESCRIPTIVE REPORT - DATA RECORD

T- 11632

Project No. (II): Ph-5905

Quadrangle Name (IV):

Field Office (II): Mt. Vernon, Washington

Chief of Party: Lorne G. Taylor

Unit Chief: Leonard F. Van Scoy

Photogrammetric Office (III): Portland, Oregon

Officer-in-Charge: Fred Natella

Instructions dated (II) (III): 10 Feb. 1960 II
Supplement 1, 5 May 1960 II & III

Copy filed in Division of
Photogrammetry (IV)

Method of Compilation (III): Graphic and Kelsh Instrument

Manuscript Scale (III): 1:10,000

Stereoscopic Plotting Instrument Scale (III): 1:6000

Pantograph Scale: 1:10,000

Scale Factor (III): None

Date received in Washington Office (IV):

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV):

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III):

Mean sea level except as follows: X
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): There are no triangulation stations within
area of this manuscript. Refer to Map
manuscript T-11625.

Lat.:

Adjusted
Unadjusted

Plane Coordinates (IV):

State:

Zone:

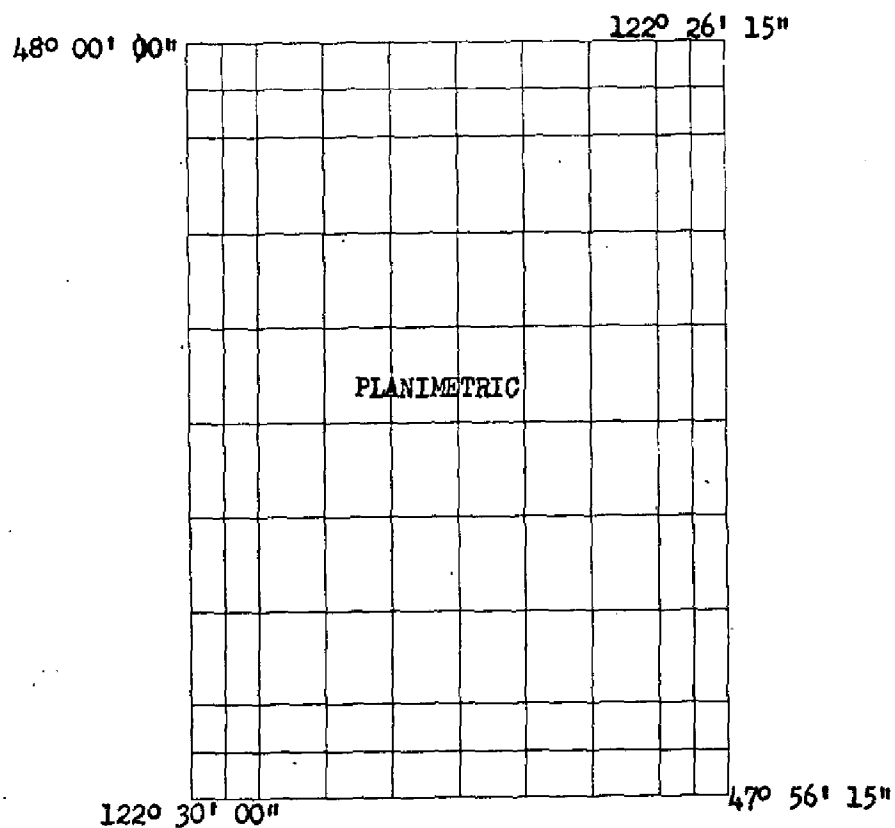
Y=

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.

DESCRIPTIVE REPORT - DATA RECORD



Areas contoured by various personnel
(Show name within area)
(II) (III)

DESCRIPTIVE REPORT - DATA RECORD

Field Inspection by (II): Robert B. Melby & Leonard F. Van Scoy

Date: ~~July & Aug. 1960~~
April + May 1961

Planetable contouring by (II):

Date:

Completion Surveys by (II):

Date:

Mean High Water Location (III) (State date and method of location): 7-8-60 by field inspection and graphic compilation.

Projection and Grids ruled by (IV):

R.A.C.

Date: 10-11-60

Projection and Grids checked by (IV):

J.D.C.

Date: 10-14-60

Control plotted by (III):

None

Date:

Control checked by (III):

None

Date:

Radial Plot or Stereoscopic
Control extension by (III):

D. N. Williams

Date: 10-6-61

Stereoscopic Instrument compilation (III):

Planimetry D. N. Williams

Date: 10-12-61

Contours

Date:

Manuscript delineated by (III):

C. C. Harris, Scribing
C. C. Harris, Stick-up

Date: 2-26-62
4-18-62

Photogrammetric Office Review by (III):

J. L. Harris, rough draft
J. E. Deal, advance

Date: 10-23-61
6-15-62

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

None

Date:

DESCRIPTIVE REPORT - DATA RECORD

5. U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

Camera (kind or source) (III): C&GS Single lens "S" and "L"

PHOTOGRAPHS (III)				
Number	Date	Time	Scale	Stage of Tide
60-S-2138 thru 2141	9-21-60	13:25	1:30,000	5.5' above M.L.L.W.
60-S-2783 thru 2785	4-27-60	09:18	"	2.1' " "
60-L-9538 & 9539	4-16-60	13:35	1:18,500 "	0.8' below "

Tide (III)

Reference Station: Seattle, Washington
Subordinate Station: Point No Point, Washington
Subordinate Station:

Diurnal		
Ratio of Ranges	Mean Range	Spring Range
	7.6	11.3
	6.7	10.4

Washington Office Review by (IV):

Date:

Final Drafting by (IV):

Date:

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): 3.6
Shoreline (More than 200 meters to opposite shore) (III): 8
Shoreline (Less than 200 meters to opposite shore) (III): None
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): None Recovered:
Number of BMs searched for (II): None Recovered:
Number of Recoverable Photo Stations established (III): None
Number of Temporary Photo Hydro Stations established (III): 2

Identified:
Identified:

Remarks:

FIELD INSPECTION REPORT

Map Manuscripts T-11632, T-11633, T-11634,
T-11635, T-11636, T-11637, T-11638, T-11639

Project Ph-6905

April - May 1961

2. Areal Field Inspection:

The shoreline in this area is common to Possession Sound, Puget Sound and the Snohomish River, east of the city of Everett, Washington.

Railroads in the area are the Great Northern Railway along the east shore of Possession Sound; the Northern Pacific Railway and the Milwaukee Road on the west side of the Snohomish River.

The area is served by U.S. Highways 2 and 99, also Washington State Highway 11.

An auto-passenger ferry operates between Mukilteo and Columbia Beach, Whidbey Island.

Towns in the area are Everett, Mukilteo, Meadowdale, Maxwelton, Glendale and Columbia Beach.

Field Inspection was done in accordance with standard field procedures. The field inspection, shoreline inspection and recovery of horizontal control in sheet T-11631 and the major portion of sheet T-11632 was completed and submitted to the Portland Photogrammetric Office at the close of the 1960 field season.

The quality of the field prints were adequate for field inspection and the identification of horizontal control.

3. Horizontal Control:

(a) Supplemental control established by the field party were stations,

MEADOWDALE, HAINES FISHING WHARF CUPOLA, WEST ONE OF TWO, 1961; and EDMONDS, HOLY ROSARY CHURCH, CROSS, 1961. These stations were established by triangulation intersection methods. At the request of the property owner station LINE, 1941 was removed. Station LINE 2, 1961 was established to replace station LINE, 1941. LINE, 1941 was identified on field photo #60031 prior to its removal. Location of station LINE 2, 1961 was by short traverse.

(b) No datum adjustments were made by the field party.

(c) Control established by other agencies was not searched for or recovered.

(d) All stations required by the project instructions for control of the photo plot were recovered and positively identified except station RIDGE, 1924 and station MEADOWDALE, LARGE HALL, CHIMNEY ON WEST GABLE, 1921. Station RIDGE, 1924 could not be identified, as it is beyond photo coverage. However this station was recovered and could be identified when the new proposed photography strips are flown in this area. Station MEADOWDALE, HAINES FISHING WHARF, CUPOLA, WEST ONE OF TWO was established and identified to replace station MEADOWDALE, LARGE HALL, CHIMNEY ON WEST GABLE, 1921 which was reported lost.

(e) All stations established by the Coast and Geodetic Survey were searched for except the stations in sheet T-11635 and T-11636, that were recovered during the 1960 field season. Recovery notes for these stations were submitted at the close of the 1960 field season.

The following stations were searched and have been listed as lost or destroyed.

Sheet 11632

none

Sheet 11633

none

Sheet 11634

STUMP, 1927

MARSH 2, 1924

Sheet 11635

TAIL, 1924

Everett, Oil Pump Plant, Stack, 1927

Sheet 11636

Everett, Red Tank, Near End of Wharf, 1927
 Everett, Robinson Lumber Co., North Twin Stack, 1927
 Everett, Robinson Lumber Co., South Twin Stack, 1927
 Everett, Clark Nickerson Lumber Co., Large Burner, 1927
 Everett, Flour Mill, Tall Brick Chimney, 1924
 Everett, Radio Tower, KRKO, Beacon, 1941
 Everett, Hotel Monte Cristo, T of Hotel Sign, 1927
 Everett, Weather Mast, Pier 2, Southeast Corner, 1927
 Everett, Middle Oil Tank of Three, Cupola, 1927
 Everett, Southwest Stack of Mill, 1927
 Everett, Packing Co., Hexagonal Brick Chimney, 1927
 Everett, Jetty Light, 1924
 Everett, Radio Tower on Oriental Wharf (Pier 3), 1927
 Everett, Brown House, Northwest Gable, 1954
 Everett, 14th Street Dock, Stack, 1954

Sheet 11637

LINE, 1941

Sheet 11638

SURF 2, 1924

Sheet 11639

North Range, 1944	South Range Line, 1944
North Range Line, 1944	First Angle Point, 1944
Giant Powder Co., Wharf, Center of Roof, 1924	
Yellow House at TIDE 2, Brick Chimney, 1924	

(f) The quality of identification of each station or substitute station has been indicated on the control station identification card. None of the identification was considered to be sub-standard.

4. Vertical Control:

Vertical control requirements are the recovery and identification of tidal bench marks. 10 tidal bench marks were searched for and 10 were recovered. One tidal bench mark of each group was identified.

5. Contours and Drainage:

Contours not applicable.

Drainage is common to all of the area. The courses of the streams are generally obscure due to woodland cover. Nevertheless the general courses of the streams can be determined by the lighter tones of the

deciduous cover that predominates along the the streams. In open areas the streams have been indicated on the field photographs. Marsh areas have been noted on the field photography.

6. Woodland Cover:

Most of the land that is not under cultivation or in urban areas is covered with a dense growth of mixed timber. Along the stream courses the deciduous cover predominates, while the conifers are more plentiful on the higher ground and less moist areas. Classification of the woodland cover has been indicated on the field photographs.

7. Shoreline and Alongshore Features:

With a few exceptions the entire shoreline was inspected by field personnel who walked along the shoreline.

(a) The mean high water line was indicated on the field photographs. Its position was determined by visual inspection and by its relative position to identifiable shoreline features.

(b) The low water line was not indicated or delineated on the field photos.

(c) The character of the foreshore has been indicated on the field photographs.

(d) There are no cliffs in the area. Bluffs are characteristic of most of the shoreline. The bluffs are somewhat unstable and slides are frequent in some areas, notably along the southern tip of Whidbey Island.

(e) Port Gardner (at the southwest section of the city of Everett) is highly industrialized with numerous piers, wharves etc. At Mukilteo there is a ferry slip and a oil pier at the U.S. Air Force Petroleum Distributing Station. A ferry slip is found at Columbia Beach, Whidbey Island. Some small, floating piers are secured to piling during the summer months to serve as small craft landings, but the floats are retracted onto the shore during the winter months.

(f) No submarine cables were found during the field inspection. Submarine pipelines have been indicated on the field photographs.

(g) Other shoreline features are a concrete, small boat launching ramp at Mukilteo, State Beach Park. Along the east shore of Possession

Sound is a masonry seawall, that also serves as a retaining wall for the railroad bed of the Great Northern Railway.

Dikes, groins, bulkheads and marine railways have been indicated on the field photographs.

8. Offshore Features:

Offshore features in the form of rocks or piles noted during the shoreline inspection have been indicated on the field photography. In Port Gardiner, there are many rows of piles and dolphins, used to contain logs in these open storage areas.

Piling outlining the channel into Cultus Bay, Whidbey Island were located by planetable intersection methods.

Offshore rocks and their respective heights as determined by the field party have been denoted on the field photographs.

9. Landmarks and Aids:

(a) All charted landmarks were investigated in the field. One was recommended to be deleted. Two new landmarks were selected and identified on the field photographs. Pertinent data on landmarks have been listed on form 567, Landmarks for charts. The Weather Bureau Storm Warning Mast, at the city of Everett was identified on field photo 60 S 2539.

(b) No interior landmarks were selected.

(c) No aeronautical aids were found in the area.

(d) All fixed aids to navigation were investigated and have been listed on form 567. One fixed aid " Snohomish River Moorage Light A " has been recommended for deletion as the dolphin that supported the light has been removed since the date of the field photography. The Port of Everett does not anticipate the replacing of the light in the immediate future.

(e) Floating Aids are not applicable.

10. Boundaries, Monuments and Lines:

Boundaries and monuments not applicable.

The limit lines of cemeteries and parks have been indicated on the field photographs.

11. Other Control:

Other control established by the field party was the identification natural and cultural objects as photo-topo stations to aid in the control of hydrographic surveys.

12. Other Interior Features:

Roads, public buildings and buildings of landmark value were indicated on the field photographs and classified as per instructions.

There are no airports or airfields in the area.

Bridges and overhead cables over the Snohomish River and Ebey Slough were indicated on the field photographs. Heights of the bridges were determined and noted on the field photographs.

13. Geographic Names:

A formal report on geographic names is not required by the project instructions supplement letter 6311/AKH/lrw dated 17 April 1961.

14. Special Reports and Supplemental Data:

No special reports are required by the project instruction. Supplemental data consists of a Map of Everett; by the City of Everett, Washington.

Approved:

Fred Natella
Fred Natella
Capt C & GS
Officer-in-Charge

Respectfully Submitted:

for JFM
Leonard F. Van Scoy
Surveying Technician, C & GS

for JFM
Robert B. Melby
Surveying Technician, C & GS

PHOTOGRAMMETRIC PLOT REPORT

Map Manuscript T-11632

Project Ph-5905

A small hand templet radial plot was required to extend the horizontal control and locate pass points for use in compiling this manuscript.

Seven photographs (ratio prints) at a scale of 1:10,000 were utilized.

Ties were made with stereoplanigraph bridge points as follows. On the east with pass points located in Strip No. 14, on the west with pass points located in Strip No. 5 and on the north with pass points located in Strip No. 6.

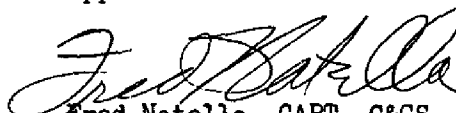
Excellent results were obtained and sufficient pass points were located to enable the compiler to easily orient the photographs for the resection of minor detail points.

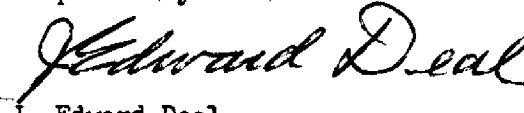
Refer to the combined Photogrammetric Plot Report (Stereoplanigraph Bridge) for Strips 1, 3, 4, 5, 6, 7, 8, 9, 10 and 11 by Willard A. Kuncis, July 1960. Desc. Report T-11584

Refer to the Photogrammetric Plot Report, Puget Sound, Washington, July 1961 for Strips 12, 13 and 14, submitted by John D. Perrow, Jr., Projects Ph-5905 and Ph-6101 (Desc Report T-11633)

Approved:

Respectfully submitted:


Fred Natella, CAPT, C&GS
Portland District Officer


J. Edward Deal
Cartographer, C&GS

SCALE FACTOR None

1 FT. = .3048006 METER

COMPUTED BY:

DATE:

CHECKED BY:

DATE _____

COMM-DC-57843

COMPILATION REPORT

Map Manuscript T-11632

Project Ph-5905

31. Delineation:

For the most part this manuscript was compiled by graphic methods. Compilation at the neat limits of the manuscript was by Kelsh Instrument and the graphic compilation was tied into this previously compiled planimetry.

Field inspection was adequate.

32. Control:

The pass points located in the hand templet radial plot were adequate to compile the manuscript.

33. Supplemental Data:

Map of Island County, Washington, Scale 1 inch = 1 mile, compiled by Island County Engineer, March 1958.

34. Contours and Drainage:

Examination of the U.S.G.S. 7½ minute Maxwellton, Washington quadrangle did not reveal any drainage not field inspected or not shown on the compiled manuscript.

35. Shoreline and Alongshore Details:

The mean high-water line was spot located by field inspection and delineated by the compiler. Interpretation of foreshore areas, channel lines and limits of shallow areas in the vicinity of Deer Lagoon were made from infra-red photography 60-L-9538 and 9539. These features in this area should be quite accurate as they existed on April 16, 1960 because the predicted tide at the time of photography was 0.8 feet below M.L.L.W. Elsewhere on the manuscript these features were compiled from photographs taken when the predicted tide was 2.1 ft. above M.L.L.W. It was necessary to adjust the interpretation between the two sets of photography.

Data on rocks baring along the shoreline was furnished by the field inspector for the time of field inspection which was transcribed to the vertical datum of the manuscript by the compiler.

36. Offshore Details:

None.

37. Landmarks and Aids:

None.

38. Control for Future Surveys:

Two photo-hydro stations were identified and located by graphic methods. These are listed under Item 49: Notes to the Hydrographer.

39. Junctions:

Satisfactory junctions were made with T-11625 on the north, T-11631 on the west, T-11633 on the east and T-11638 on the south.

46. Comparison with Existing Maps:

Comparison was made with U.S.G.S. 7½ minute Maxwellton, Washington quadrangle, Scale 1:24,000, Edition 1956.

47. Comparison with Nautical Charts:

Comparison was made with Nautical Chart No. 6450, Scale 1:80,000, 11th Edition, corrected 7-27-59.


Items to be applied to nautical charts immediately:

None.

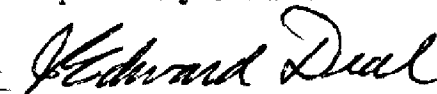
Items to be carried forward:

None.

Approved:


Fred Natella, CAPT, C&GS
Portland District Officer

Respectfully submitted:


J. Edward Deal
Cartographer, C&GS

49. Notes to the Hydrographer:

Two photo-hydro stations were located by graphic methods.

Number	Description	Field Photo No.
3201	N.W. corner bulkhead.	60-S-2138
3202	N.W. gable building with sheet metal roof.	"

PHOTOGRAMMETRIC OFFICE REVIEW

T- 11632

1. Projection and grids ☒ 2. Title ☒ 3. Manuscript numbers ☒ 4. Manuscript size ☒

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 ☒ 8. Bench marks None 9. Plotting of sextant fixes None 10. Photogrammetric plot report ☒ 11. Detail points ☒

ALONGSHORE AREAS

(Nautical Chart Data)

12. Shoreline ☒ 13. Low-water line ☒ 14. Rocks, shoals, etc. ☒ 15. Bridges None 16. Aids to navigation None 17. Landmarks None 18. Other alongshore physical features ☒ 19. Other along-shore cultural features ☒

PHYSICAL FEATURES

20. Water features ☒ 21. Natural ground cover ☒ 22. Planetable contours None 23. Stereoscopic instrument contours None 24. Contours in general None 25. Spot elevations None 26. Other physical features ☒

CULTURAL FEATURES

27. Roads ☒ 28. Buildings ☒ 29. Railroads None 30. Other cultural features ☒

BOUNDARIES

31. Boundary lines ☒ 32. Public land lines None

MISCELLANEOUS

33. Geographic names ☒ 34. Junctions ☒ 35. Legibility of the manuscript ☒ 36. Discrepancy overlay None 37. Descriptive Report ☒ 38. Field inspection photographs ☒ 39. Forms ☒

40. James L. Harris

Reviewer

Edward Deal
Supervisor, Review Section or Unit

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_____
Supervisor

43. Remarks:

COMPILATION RECORD

COMPLETION DATE

REMARKS

1. Alongshore area for hydro	Oct. 12, 1961	
4. Interior details added Compilation complete	Apr. 18, 1962.	

48. Geographic Names:

Deer Lagoon

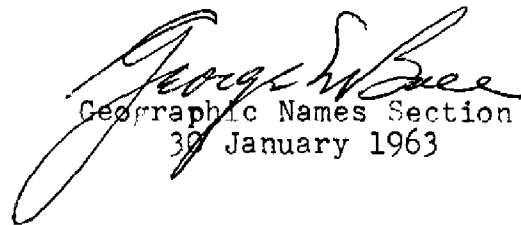
Maxwelton

Puget Sound

Sunlight Beach

Useless Bay

Whidbey Island


Geographic Names Section
30 January 1963

REVIEW REPORT
SHORELINE SURVEYS
T-11631 through T-11639
December 1963

61. General Statement

There are nine (9) shoreline maps of Project PH-5905, Puget Sound, Washington. These maps were prepared primarily to provide basic maps, including the location of all nonfloating aids and landmarks for use in revising our nautical charts and for control of proposed hydrographic surveys.

62. Comparison with Registered Topographic Surveys

T-1388 b	1:10,000	1872
T-1389 a&b	1:10,000	1872
T-1552	1:20,000	1884
T-1681	1:20,000	1885
T-1682	1:20,000	1885
T-4276	1:10,000	1927

There are cultural and shoreline differences due to time interval. These maps are to supersede the above surveys of common area for nautical charting.

63. Comparison with Maps of Other Agencies

Maxwelton, Washington	1:24,000	1953
Mukileto, Washington	1:24,000	1953
Everett, Washington	1:24,000	1953
Hansville, Washington	1:24,000	1953

There are cultural and shoreline changes due to the difference in survey dates.

64. Comparison with Contemporary Hydrographic Surveys

None

65. Comparison with Nautical Charts

6448	1:40,000	Revised to Oct. 1959
6450	1:80,000	Revised to June 1963
184 S. C.	1:80,000	1963

There are no differences of importance between the charts and the subject manuscripts.

66. Adequacy of Results and Future Surveys

These surveys were prepared according to project instructions and are within the required accuracy for nautical charting.

Reviewed by:

L. C. Lande
L. C. Lande

Approved by:

Charles L. Lunn
Chief, Photogrammetric Branch

J. E. Waugh 4/8/64
Chief, Photogrammetry Division

