

# 11482

Diag. Cht. No. 6450-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. Ph-147(54) Office No. T-11482

### LOCALITY

State Washington

General locality Everett

Locality Possession Sound, Everett Har-  
bor, Port Gardner

194 52-54

### CHIEF OF PARTY

F. Natella, Chief of Field Party

L.C. Lande, Div. of Photo. Wash., D.C.

### LIBRARY & ARCHIVES

DATE June 13, 1958

# 11482

## DATA RECORD

2.

T - 11482

Project No. (II): Ph-147 (54)      Quadrangle Name (IV): POSSESSION SOUND

Field Office (II): Everett, Washington  
Portland, Oregon

Chief of Party: Fred Natella

Photogrammetric Office (III):

Officer-in-Charge: O. S. Reading

Div. of Photogrammetry, Washington, D. C.

Instructions dated (II) (III): 28 July 1954 731-lmh  
3 August 1954 731-aalCopy filed in Division of  
Photogrammetry (IV)  
Office files

Method of Compilation (III): shoreline - graphic      contours - Reading Plotter

Manuscript Scale (III): 1:10,000

Stereoscopic Plotting Instrument Scale (III): 1:10,000

Scale Factor (III): 1.0

Date received in Washington Office (IV): 14 Jan. 55 Date reported to Nautical Chart Branch (IV): 21 Jan 55

Applied to Chart No.

Date:

Date registered (IV): 1 May 1957

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III):

NA 1927

Vertical Datum (III):

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):

View Crest, 1941

Lat.: 48° - 00' - 36.618"

Long.: 122° - 11' - 28.893"

Adjusted

1131.0 (722.2) M.

599.0 (644.8) M.

Unadjusted

Plane Coordinates (IV):

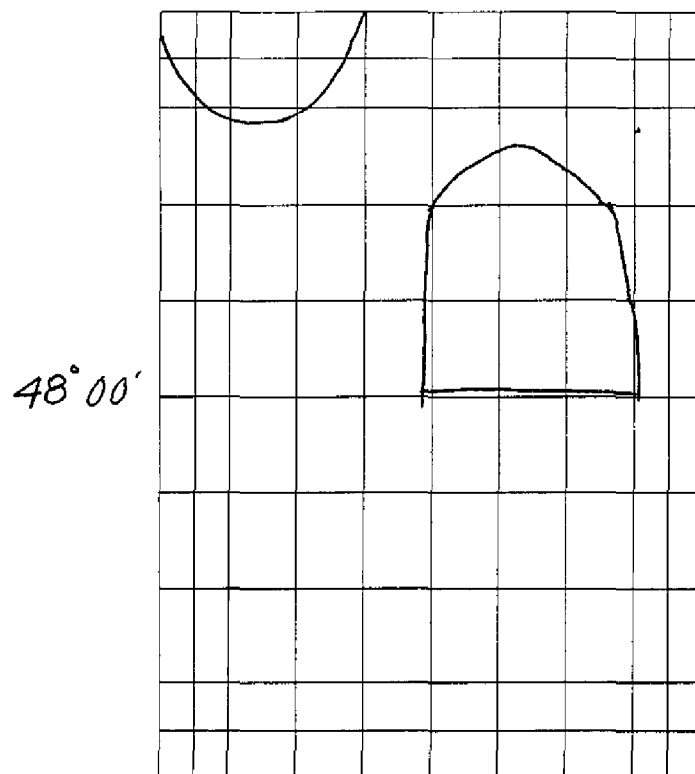
State: Washington Zone: North  
5,000 ft. Interval

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.



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

Area north of 48° contoured by  
Clarence E Mifeldt on Reading Plotter  
Model 'A'.

Contours and interior planimetry south  
of 48° to be transferred from U.S.G.S.  
N.W/4 Everett 15' Quadrangle, 1:62,500 1950.

## DATA RECORD

4.

Field Inspection by (II): Ray H. Skelton II

Date: 2 August -  
10 September 1954

Planetable contouring by (II): \_\_\_\_\_

Date: \_\_\_\_\_

Completion Surveys by (II): *Completion work  
by hydrographic survey*Date: *1954*

Mean High Water Location (III) (State date and method of location):

Field inspection August 1954

Projection and Grids ruled by (IV):

Austin Riley

Date:

8-3-54

Projection and Grids checked by (IV):

A. R.

Date:

8-3-54

Control plotted by (III):

Garnett Amburn

Date:

August 1954

Control checked by (III):

S. G. Blankenbacker

R. J. French

Date:

August 1954

Radial Plot or Stereoscopic

Control extension by (III):

J. Battley

R. J. French

Planimetry

Stereoscopic Instrument compilation (III):

Contours

*Clarence E. Mifflin* Nov. 1954

Date:

Date:

Date: Sept. 1954

Manuscript delineated by (III):

Shoreline - J. Battley, S. Blankenbaker, R. J. French, Sept. 1954

Contours and interior planimetry - John B. McDonald Dec. 1954

Date:

Photogrammetric Office Review by (III): *Orvis N. Dalbey*Date: *14 Jan. 1955*

Elevations on Manuscript

checked by (II) (III):

*Orvis N. Dalbey*Date: *14 Jan. 1955*

Camera (kind or source) (III):

5.

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
36722	May 16, 1952	10:35	1:10,000	6.8' above MLLW
723	"			
724				
725				
726				
727		10:37		
36745		10:53		6.6' above MLLW
746				
747				
748				
749				
750		10:56		
W 2899 - 2902	9/25/54	13:25	1:24,000	

Tide (III)

Reference Station: Seattle, Washington  
Subordinate Station: Everett, Washington  
Subordinate Station:

Diurnal		
Ratio of Ranges	Mean Range	Series Range
--	10.4	11.3
1.0	10.2	11.1

Washington Office Review by (IV): *E. N. Maki*

Date: 4-7-55

Final Drafting by (IV): *J. H. Frazier*

Date: ~~Oct~~ Nov 3, 1955

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

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

12 sq. mi.

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

20 sq. mi.

Shoreline (Less than 200 meters to opposite shore) (III):

Control Leveling - Miles (II): 11.5 miles

Number of Triangulation Stations searched for (II): 48

Recovered: 28

Identified: 14

Number of BMs searched for (II): 22

Recovered: 21

Identified: 20

Number of Recoverable Photo Stations established (III):

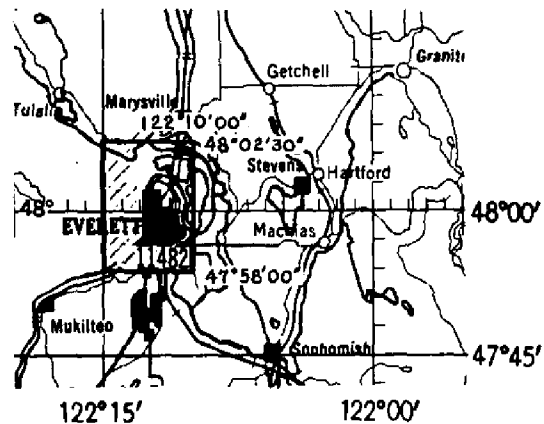
Number of Temporary Photo Hydro Stations established (III):

Remarks:

# TOPOGRAPHIC MAPPING PROJECT PH-147

Everett, Wash.

OFFICIAL MILEAGE FOR COST ACCOUNTS		
	LIN. MI.	AREA
SHEET NO.	SHORELINE	SQ. MILES
11482	20	12
TOTALS	20	12



Summary to Accompany Descriptive  
Report T-11428

Topographic map T-11482 in project Ph-147 covers the area of Everett, Washington. Project Ph-147 consists of only the one map. Shoreline was delineated by graphic compilation methods in advance of hydrographic surveys. The scale of the map is 1:10,000. The field operations preceding compilation included complete field inspection of the shoreline and foreshore areas, the establishment and recovery of horizontal control and the determination of elevations required to control the 9-lens stereo-plotting instrument vertically. Field edit was accomplished by the hydrographic survey. Interior planimetry and contours were compiled by the Washington Office on the Reading 9-lens plotter with a contour interval of 20 feet. Supplementary five-foot interval contours were added in the low flat areas.

The map was forwarded to the Geological Survey prior to review for inclusion in their Marysville 1:62,500-scale quadrangle. A cloth-mounted lithographic print of T-11428 at scale 1:10,000 and the descriptive report will be registered and filed in the Bureau Archives.

## FIELD INSPECTION REPORT

EVERETT, WASHINGTON

PROJECT PH-147

August 1954

2. Areal Field Inspection:

Field inspection was completed according to project instructions. This included a complete shoreline inspection and a modified interior inspection.

The area covered by the project included the Everett waterfront, the mouth of the Snohomish River, and mouths of Ebey and Steamboat Sloughs. The Everett waterfront and the left bank of the Snohomish River are highly developed and industrialized waterfronts. The balance of the shoreline in the project is typical tide flat shoreline.

The work was scheduled in such manner that control had to be identified on every other photograph and shoreline delineated on the remainder. This led to the use of some very poor images. There is considerable new construction in the area. Among these projects are the Sound View Division of the Scott Paper Company, the Kraft Plant, Pulp Division of the Weyerhaeuser Timber Co., and its waste reservoir, and the new construction on Highway U. S. 99. The Scott Mill is a small detailed development, the Kraft Plant and the reservoir involve changes a mile in extent and the Highway changes cover a long narrow area. Additional photography is recommended if practicable.

3. Horizontal Control:

A copy of the preliminary report on this project dealing mostly with Horizontal Control is attached.

(a) Supplemental control - Perk 1954 was established by resection from four intersection stations established in 1941. Triangle side-checks indicate a probable position error on the order of from one to two feet.

Snohomish River Light 4, Snohomish River Light 5 and Everett, Weyerhaeuser Timber Co., Kraft Plant, stack were located by triangulation. Average side check was 5"; maximum 10". No reobservations were made.

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



(c) The following stations identified as control were not established by the Bureau:

DOMS (U.S.G.S.) 1941  
GOLF FLAG (U.S.G.S.) 1941  
H 44 (U.S.G.S.) 1941

These are presumably 3rd order stations. The datum has not been considered in the field. A cut was observed to GOLF FLAG from Perk to try to determine the datum but nothing conclusive was proved.

(d) Station DOANE 1941 was originally to be recovered and a traverse to be run from it into the project area. The resection station Perk 1954 was substituted at the end of the traverse, since it seemed impracticable to attempt the traverse with two men. Since DOANE was outside the project area it was not recovered.

TT 1 N (U.S.G.S.) was to be identified if practicable. It has apparently been destroyed and was not identified.

(e) All Bureau control was searched for with the exception of several points, NORTH FOG BOARD, SOUTH FOG BOARD, etc. whose destruction is obvious by inspection from the boat.

(f) The quality of identification of control has been discussed in the preliminary report. The use of every other photograph for identification forced the use of some very poor images, although there was no doubt about the identity of the image. "Doubtful" I assume to mean that the substitute station is difficult to prick precisely, not that there is any doubt as to the identification.

(g) Certain other control has been pricked after the Horizontal Control photos were submitted. No triangle was placed around them on the photo to avoid congestion in an already detailed area.

#### 4. Vertical Control:

Vertical control for stereoscopic contouring was provided by identifying all vertical control north of the 48th parallel and by identifying points along the level lines laid out in the project instructions. The one foot allowable closure was quite liberal. Levels were run with the dumpy level and stadia rod, making no effort to balance shots. Maximum closure was about 0.28 foot.

(a) The following bench marks of 3rd order or higher accuracy were recovered:

H 296

1947

BM 11.11 (U.S.G.S.)

✓ J 296 ✓	1947	✓ 3 RS (U.S.G.S.) 1940
✓ K 296 ✓	"	✓ BM 127.263 (U.S.G.S.)
✓ L 296 ✓	"	✓ 4 RS (U.S.G.S.) 1940
✓ M 296 ✓	"	5 RS (U.S.G.S.) 1940
✓ N 296 ✓	"	BM 37.75 (U.S.G.S.)
P 296	"	8 RS (U.S.G.S.) 1940
I RS (U.S.G.S.)	1940	BM 125.77 (U.S.G.S.)
R 332	1952	2 RS (U.S.G.S.) 1940
S 332	1954	I 7
T 332	1952	

The following monumented bench marks were not recovered:

16 TUL (U.S.G.S.)                      9 RS (U.S.G.S.) 1941

In addition to the above listed marks several "Supplementary elevation points" of this bureau were identified as well as triangulation station "VIEW CREST" which with its Reference Marks is a bench mark also.

Several vertical reference marks of the U.S.G.S. were not recovered. They are generally poorly described, not monumented, and are usually close to a monumented point and no great effort was expended on them.

No datum adjustments were made.

No bench marks were established by this party.

(b) Supplemental elevations were established by fly leveling as described in the first paragraph of this sub-head.

(c) Level points were numbered from 01 to about 56 with no omissions. The exact number is in doubt because the photographs have already been submitted.

(d) All vertical control submitted has been in compliance with specifications.

##### 5. Contours and Drainage:

Contouring not applicable. Very little surface drainage in the area.

##### 6. Woodland Cover:

The small amount of woodland cover is obvious from the photos.

##### 7. Shoreline and Alongshore Features:

(a) The mean high water line has been delineated on the pertinent photographs. It was fairly well defined except in the tide flats between Ebey Slough and the Snohomish River. Here considerable apparent shoreline was sketched. Even the apparent shoreline will be conjectural in some areas and can be determined precisely only by leveling.

(b) The low-water line. No reference was made to the (lower) low-water line in the instruction. Owing to the very flat nature of the foreshore, small vertical errors will lead to large displacements and it will best be shown as the line of zero soundings. In some places it passes under log rafts.

(c) The foreshore - Notes on the foreshore have been placed at intervals on the pictures. Although in some extensive bulkheaded localities the bottom was not observed. The foreshore is mostly sand or hard mud, except in the northwest corner of the project where there is some gravel.

(d) Bluffs or Cliffs - The only bluffs immediately inshore are between Priest Point and Mission Beach, at the northwest corner of the project. Here sloughing earth-faced bluffs are approximately 80 feet high.

(e) Docks, wharves, piers, etc. - All waterfront facilities have been delineated. The floating drydock formerly at the Pacific Car and Foundry yard in the central part of the Everett waterfront is now gone.

(f) Submarine cables - The vicinity of the Snohomish River Highway Bridges is posted as a submarine cable crossing.

There is a pipeline crossing from the Weyerhaeuser Kraft Plant to the waste reservoir - This is noted on the photos.

There is also a pipe line running about 3000 feet offshore at the old Weyerhaeuser Pulp Plant at the south end of Everett. This is already charted and is also shown on the photos.

#### 8. Offshore Features:

Only two rocks were found in the whole project, each visible on the photos.

#### 9. Landmarks and Aids:

(a) Landmarks for nautical charts, Form 567, is being submitted.

(b) Interior landmarks - There are no interior landmarks

except those already noted as landmarks for nautical charts.

(c) Aeronautical aids - No aeronautical charts or indexes showing aeronautical aids were furnished the field inspector. However, I believe there are none in the area.

(d) Fixed aids to navigation - The only fixed aids in the area are Snohomish River Light 4 and Snohomish River Light 5. These were located by triangulation.

(e) Floating aids - No floating aids were located.

#### 10. Boundaries, Monuments and Land Lines:

Not applicable.

#### 11. Other Control:

(a) Topographic stations - The following listed natural objects were selected as topographic stations. The figure following is the photograph number where the station is pricked. Each point is pricked, and a purple leader and the station designation shown in purple ink. No square was inked around the station to avoid further crowding in already congested areas.

Tank Weyerhaeuser Lumber Co., Pulp Div.	36725
Scott Paper Co., Sound View Div., stack	36747
Robinson Mill, twin stacks	36725

(These are given as topographic station because they have not been positively identified as Everett, Robinson Lumber Co. north twin stack 1927 and Everett, Robinson Lumber Co. south twin stack 1927)

Hulbert Mill burner	36725
Hulbert Mill tank	36725
Twin stacks north of Jamieson Mill	36723
E. A. Nord Co., stack	36723
Blackman's Point, shingle mill, black stack	36723

(This may be Everett, North Point, Blackman's Mill, higher stack 1927)

Mary G.	36749
Ever	36749
BM J 296	36749
BM M 296	36749

In accordance with the project instructions Form 524 is submitted only for the last four stations listed, and not for the

natural objects selected.

(b) Photo-hydro stations - 52 Hydrographic stations were selected. No designation was given these stations. They were pricked and a brief description inked in blue with a blue leader to the prick mark.

In certain areas there was a dearth of good objects for hydrographic station available. Piling and dolphins were selected in a few cases where positively identifiable, but in general these were used very conservatively.

In the marshy areas between Ebey Slough and the Snohomish River few natural objects are available as hydrographic stations and most of those furnished are on piling.

12. Other Interior Features:

(a) Road classifications were made in accordance with topographic practice in the open portions of the project, but in the developed portion of Everett no classification was attempted since all streets should be shown uniformly.

(b) Bridge and cable clearances - Bridge and cable clearances were determined and shown on the photograph with the exception of incomplete construction and the vertical lift span at the Snohomish River.

(c) Airports and landing fields - None.

13. Geographic Names:

Not applicable.

14. Special Reports and Supplemental Data:

None.

15. Supplemental Information:

Contact was made with the Northwest District Supervisor during the survey. He anticipates that a large part of the work will be done with ranges set on the breskwat~~r~~ to keep the launch on line with a single angle observed at the launch to locate the launch along the line. The line spacing is too close for sextant fixes.

16. Recommendations:


Experience in the San Juan Islands indicates that the plane table topographer compares very well with the photogrammetrist under certain conditions. The dearth of detail in the marshy areas at the north end of the project will make progress difficult for the photogrammetrist. The country is open, it sees prominent triangulation intersection stations, or triangulation stations in all directions, and presents an optimum set of conditions for signal location by graphic resection. To give the hydrographer his choice of methods of location, I recommend that a metal mounted photo copy of the portion of the manuscript north of 48-00-30 with a dog-ear at the top to allow plotting of Marysville, North municipal water tank, 1941 and Marysville, South municipal water tank, 1941, be furnished the hydrographer.

Approved and Forwarded:



Fred Natella  
Comdr., USC&G Survey  
Chief of Party

Respectfully submitted:

  
for Ray H. Skelton II  
Photogrammetric Engineer

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
General Delivery  
Everett, Washington

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

15 August 1954

To: Comdr. Fred Natella  
U. S. Coast and Geodetic Survey  
405 Custom House  
Portland 9, Oregon

Subject: Preliminary report, Project Ph-147

Field work in the identification of horizontal control for this project is now complete. The photograph and pricking card mailed you Saturday morning will complete the data necessary to prick the substitute stations on the office photographs, but complete data on positions of the substitute stations has not yet been forwarded. The following review of the horizontal control will indicate what you do not have.

BEVERLY 1941. This station was outside the limits of the photography initially furnished. It was necessary to run about a 2200 foot traverse to identify this station on the original photography, and much of the work had been done by the time I learned I was to receive another photo in the flight. No other stations were available for azimuth ties in the area. We had a run of thick weather the first week, and I had to wait four days to get a solar azimuth at the end of the traverse. I could not get an azimuth at BEVERLY except on a reference mark. These are quite a distance from the station mark, and I assume directions to them were observed from the steel tower. I check the azimuth on the reference mark to one minute. An additional substitute station was identified on the traverse after the new photograph was received.

H 44 (U.S.G.S.) 1941. No other azimuth station was available, so identification of this station had to be suspended until the sun came out. Two substitute stations were selected before the new photograph was received. One of them is quite good on the new photo, the other not so good, but nothing much better was available, so no further work was attempted.

TT 1 N (U.S.G.S.) 1942. This station was to have been ident-

To: Comdr. Fred Natella

-2-

15 August 1954

ified if practicable. The station has been destroyed. It was set in curbing which has been destroyed in new road construction. I have been unable to find any position for S296. It is well outside the area circled.

Everett, Oil Pump Plant, stack, and Everett, Catholic Church, spire were pricked directly, and there should be no question about these stations.

LINE 1941 was identified by the usual substitute station method. It is well out on the edge of the photograph, however, and image definition in the vicinity is very poor.

Everett, KEVE radio tower, beacon, was not clear enough on the photo for me to prick it. Everett, First mill south of Blackman's or Preston Point, iron stack, 1927, is an old station, and I hesitated to let it stand alone unproved. GOLF FLAG (U.S.G.S.) 1941 is visible on all photos, but I was a little concerned about the datum. I am not sure whether the datum change noted in the U.S.C.S. control list applied to all positions on the page, or only to the positions above the note. Therefore, I did not want to let this station stand alone. Although station VIEW CREST is slightly outside the area circled it also has been identified, since it is really only the best point in the area. VIEW CREST should govern if points fail to "hold".

Station COLVIN 2 1941 was identified without difficulty. The Marysville water tanks are clearly visible on every photo, although the image definition has been very poor in each case.

Station Perk 1954 was located by resection in lieu of a  $1\frac{1}{2}$ -mile traverse from station DOANE 1941. The fix was not as strong as desirable, but yielded checks of 1.9 m. on a 9200 ft. line, and about 1 ft. on a 22,000 ft. line.

Station DOME (U.S.G.S.) 1941 was recovered with difficulty, and identified doubtfully. Inasmuch as the other "if practicable" station was necessarily omitted I tried quite hard for this one. About nine hours were expended on this station. The station is a snag in the woods. Its recovery is positive because it was reinforced to a concrete monument. Identification by a substitute station is definitely not practical. The only point I could definitely identify on the ground was about  $3/4$  mile away. The snags are visible on the photo but they all look alike. I tried taping between snags I thought I was seeing on the photo, and I believe I have the right one. *He did! RJE!*

Respectfully,

/s/ Ray H. Skelton II

Ray H. Skelton II



## Photogrammetric Plot Report

### 21. Area covered.-

The radial plot covers the area shown on T-11482, which includes the city of Everett, Washington, the port area, and portions of the Snohomish River, Ebey and Steamboat Sloughs.

### 22. Method.-

The usual method of laying the radial plot with vinylite templates from metal-mounted nine lens photographs was used to effect a satisfactory plot. Base grids as such were not used.

Tab projections were ruled on vinylite to enable plotting the necessary stations in the extremities for perimeter control as indicated on the attached sketch. The tabs were attached to the map manuscript and the plot proved satisfactory to within a close tolerance on all stations concerned. No weak areas were noted. Master calibration templet No. 36269 was used to account for minor chamber errors in printing. The photographs have exceptional clarity and are quite satisfactory for mapping purposes.

A number 80 twist drill was used to drill down through the several thicknesses of templet material through the manuscript, and all pass points and control were inked with black circles since it is desirable to have the circles reproduce for field copies.

### 23. Adequacy of control.-

The attached sketch shows numbered horizontal stations used to control the plot which extends to perimeter control outside the limits of the manuscript. Adequate selection and density of horizontal control was good and there were no weak areas in the plot.

Pass points with near zero elevations were selected along the shoreline for rectification purposes and as control for holding scale during compilation. Inasmuch as field identified vertical control was not available at the time of photo preparation, a number of vertical control points were transferred from USGS and AMS contemporary topographic surveys of the area to aid in rectification. Our own USC&GS field inspected vertical control became available during compilation, and a selection was made so as to introduce C&GS elevations for rectification.

A total of fourteen C&GS elevations subsequently were added to the photographs and templets, and the entire plot was relaid to drill the 14 additional points as a further aid and check in rectification.

24. Supplemental data.-

Not applicable.

25. Photography.-

The nine lens metal-mounted photographs were adequate as to coverage and overlap, definition and accuracy, and but minor chamber errors were evident to necessitate using a correction templet.

26. Location of photo-hydros.-

Field inspection indicating the photo-hydros to be located by the radial plot were not available until after the main radial plot was laid. However, they were added to those photographs with the four strongest cuts only, and manuscript positions were obtained by relaying and drilling the templets involved.

Sketch and Control Stations.-

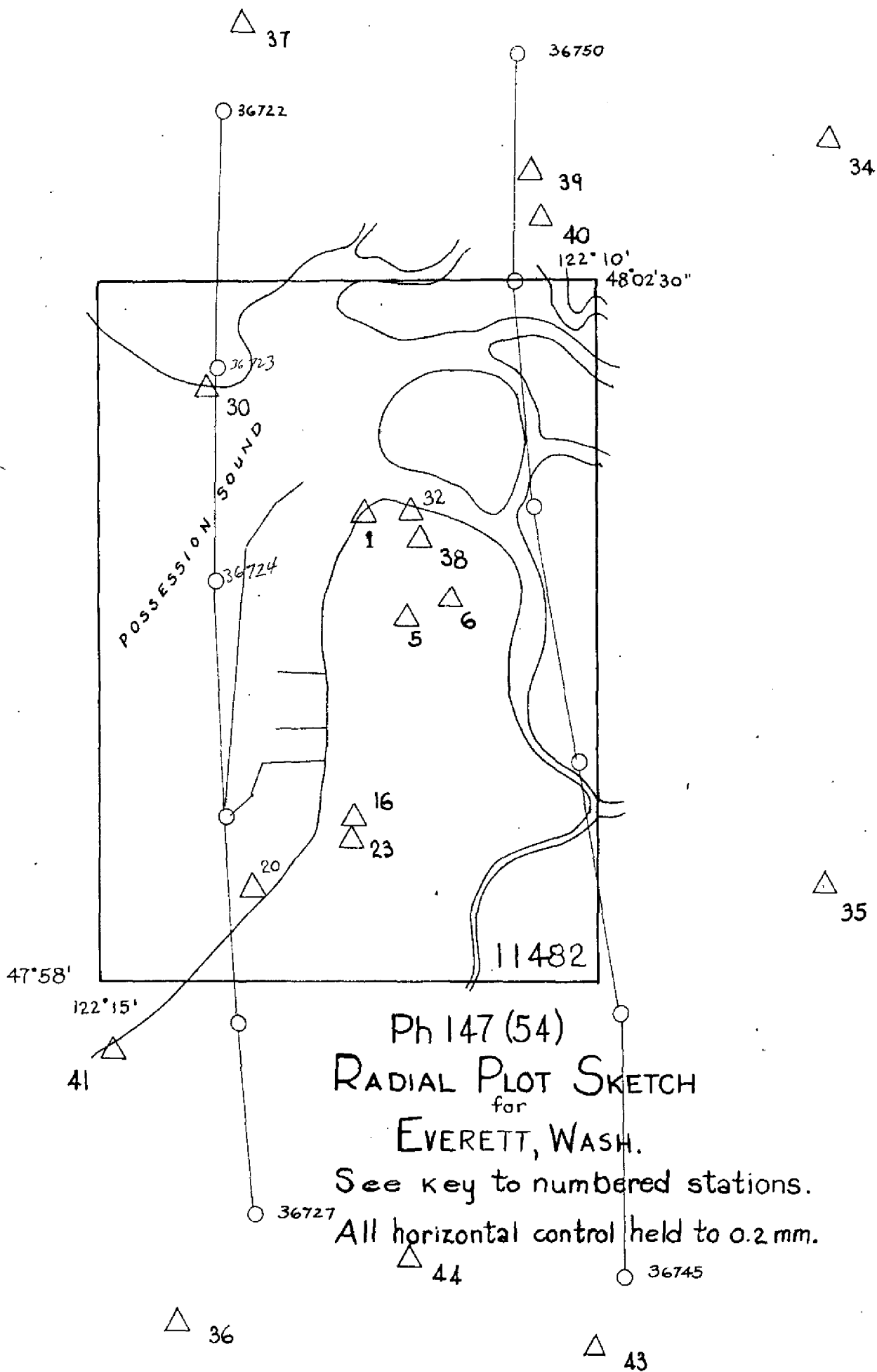
The control used in the plot is shown on the attached sketch and a list showing name and number is also included as the key for identifying the individual stations. Recovery forms 526 were used to exclude those stations considered lost, and they are so indicated on the list.

Approved:

L. C. Lande  
L. C. Lande

Respectfully submitted

Roscoe J. French  
Roscoe J. French



Project Ph-147 (54)  
T-11482

STATION	NAME	Identifi- cation (Field-Off)	DATA	REMARKS	TOLERANCE
37	DOMES, 1941 (USGS)	Field	Field photo 36722 Pricking card	Doubtful Point transferred as indicated on field photo	Held
34	PERK, 1954 (Skelton RESECTION STA.) (subpt.)	Field	Field Photo 36748 Pricking card	Point transferred as indicated on field photo (Road intersection)	Held
6	VIEW CREST 1951 (sub.pt.)	Field	Field Photo 36748 Pricking card	Good (tree)	Held
33	GOLF FLAG 1941 (USGS)	Field	36748 Pricking card	Good (Pole)	Held
1	EVERETT FIRST MILL S. of Blackmans 1927	Field	36748	Good - Note: see Skelton's letter of Aug. 19 concerning this station	Held
5	KEVE RADIO TOWER BEACON 1941	Field	36748	Good (tower)	Held
43	R 59 1934 (USGS)	Office Identify	36745 (Office)	Point transferred from G.S. de- scrip. Should be good .3 mm	Held
4	BURNER, SECOND MILL	Office	36725 (Office)	Same as No. 4 "incinerator"	Held

Identifi-

STATION	NAME	Location (Field Off)	DATA	REMARKS	TOLERANCE
30 COLVIN 2 (sub.sta.)		Field	36724 2 pricking cards	Point is identified incorrectly on field photo. The 2 cards sub- mitted by Skelton clear this up.	Held
36 BEVERLY	Subpt."C"	Field	36727	1 photo only. Should be good. Transfer as shown	Held 1 cut
36 BEVERLY	Subpt."E"	Field	36726	Should be good - 2 photos only	Held 2 cuts
44 H-44 Subpt. "A" (USGS)		Field	36726	Should be good. Pt. transferred as shown on field photo	Held
42 Everett - mid oil tank of 3, cupola		Field	36726	Very good	Held
41 EVERETT - oil pump plant stack		Field	36726	Very good	Held
23 EVERETT CATHOLIC CHURCH spire		Field	36726	Should be good	Held
16 EVERETT EPISCOPAL CHURCH twr.		Field	36726	Should be good	Held
35 Line substa. A & B		Field	36726	2 cuts - should be good photos Pt. transferred as shown on field/	Held 2 cuts
39 MARYSVILLE North Municipal W.T.		Field	36728	Very clear - good	Held
40 MARYSVILLE South Municipal W.T.		Field	36728	Very clear, should be good	Held
20 Weyerhaeuser direct tall conc. chy.		Office	36725	Should hold good	Held



## KEY TO NUMBERED STATIONS

*\* stations considered lost.*

1. Everett, first mill south of Blackman's or Preston Point Iron Stack, 1927
2. \*Gap, 1927
  - \*Everett, turn of jetty, 1927
3. \*Everett, south of fogboard, 1927
4. Everett, second mill south of Blackman's or Preston Point, Incinerator, 1927
  - Everett, second mill south of Blackman's or Preston Point, Iron stack, 1927
5. KEVE radio tower beacon, 1941
6. View Crest, 1941 sub.pt.
7. Everett, Weyerhaeuser Lumber Co., taller stack, 1941
  - " " " " shorter stack, 1941
8. Army, 1927
9. Everett, Parker Box Factory (C&B Lumber Co.) Brick Chy., 1924
10. Everett, concrete Chy., 1927
11. \*Everett, general hospital tank, 1927
12. \*Everett, red tank near end of wharf, 1927
13. " Robinson Lumber Co., north twin stack, 1927
  - " " " south twin stack, 1927
14. \* " Clark-Nickerson Lumber Co., large burner, 1927
15. \* " flour mill, tall brick chy., 1924
16. " Episcopal Church Tower, 1924
  - " Square tower of church, 1927
17. \* " jetty light, 1924
18. \* " radio tower on oriental wharf (Pier 3) 1927
19. \* " packing company, hexagonal brick chy., 1927
20. " Weyerhaeuser Lumber Co., tall concrete chy., 1924
21. \* " southwest stack of mill, 1927
22. Walton, 1924
23. Everett, Catholic Church Spire, 1924
24. " Medical Dental Building, elevator shaft, 1927
25. \* " Hotel Monte Cristo, "T" of hotel sign, 1927
26. \* " KRKO radio tower beacon, 1941
27. " Courthouse Dome, 1924
28. " Providence Hospital Cross, 1927
29. " Great Northern Tower, 1927
  - \* " Weather mast pier 2, southeast corner, 1927
- ✓30. Colvin 2, 1941 sub.pt.
31. \*Everett, North fog board, 1927
32. " North Point, Blackman's Mill, higher stack, 1927
- ✓33. " Priest Point, Saunder's green roofed house, chimney, 1927
34. \*Perk, 1954 sub.pt.
35. Line, 1941 sub.pts.
36. Beverly, 1941 sub.pts. B and C
37. Dome (USGS), 1941
38. Golf Flag (USGS) 1941
39. Marysville, north municipal watertank, 1941
40. Marysville, south municipal water tank, 1941
41. Everett, Oil pump plant, stack, 1927
42. Everett, Middle oil tank of three, cupola, 1927
43. R 59 (USGS) 1934
44. H 44 (USGS) 1941
45. Everett, Weyerhaeuser Timber Co. Kraft Plant Stack, 1954



MAP T-11482

PROJECT NO. Ph-1147

SCALE OF MAP 1:10,000

SCALE FACTOR 1.0

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR $\nu$ -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)	
No. 1	647	NA1927	48-01-00.771	23.8	(1829.3)				
			122-12-23.952	496.4	(747.0)				
No. 4 stack	647	"	48-00-51.747	1598.2	(254.9)				
			122-12-39.904	827.2	(416.5)				
No. 4 incinerator	647	"	48-00-51.384	1587.0	(266.1)				
			122-12-41.184	853.7	(390.1)				
No. 29 (south)	647	"	47-58-42.47	1311.7	(541.4)				
			122-13-03.39	70.3	(1174.3)				
No. 10	647	"	48-00-07.153	220.9	(1632.2)				
			122-12-56.127	1163.5	(80.3)				
No. 13 (north)	648	"	47-59-27.752	857.1	(996.0)				
			122-12-53.029	1099.5	(144.5)				
No. 13 (south)	648	"	47-59-27.582	851.9	(1001.2)				
			122-12-53.028	1099.5	(144.5)				
No. 16 (south)	648	"	47-59-10.39	320.9	(1532.2)				
			122-12-30.22	626.7	(617.5)				
No. 24	648	"	47-58-51.898	1602.9	(250.2)				
			122-12-27.567	571.8	(672.8)				
No. 6	595	"	48-00-36.618	1131.0	(722.2)				
			122-11-28.893	599.0	(644.8)				
No. 7 Taller	600	"	48-00-43.516	1344.0	(509.1)				
			122-10-54.519	1130.2	(113.6)				
No. 7 Shorter	601	"	48-00-43.592	1346.4	(506.7)				
			122-10-56.382	1168.8	(75.0)				

1 FT. = 3048006 METER

COMPUTED BY: Lande

DATE August 1954

CHECKED BY: C. O. DeMarr

DATE August 1954

M-2388-12

MAP T-11482

PROJECT NO. Ph-147

SCALE OF MAP 1:10,000

SCALE FACTOR 1.0

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR $\psi$ -COORDINATE LONGITUDE OR $\chi$ -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)
No. 5	601	NA1927	48-00-23.656 122-11-49.359	730.6 (1122.5) 1023.2 (220.5)			
No. 22	645	"	47-53-23.618 122-13-23.909	729.5 (1123.7) 495.9 (748.6)			
No. 8	645	"	48-00-24.944 122-12-45.318	770.4 (1082.7) 939.4 (304.4)			
No. 16 North	646	"	47-59-14.11 122-12-30.24	435.8 (1417.3) 627.1 (617.1)			
No. 20	682	"	47-58-32.821 122-13-20.344	1013.7 (839.4) 422.0 (822.6)			
No. 27	682	"	47-58-37.957 122-12-18.410	1172.3 (680.8) 381.9 (862.7)			
No. 23	837	"	47-59-04.659 122-12-30.314	143.9 (1709.2) 628.6 (615.6)			
No. 9	837	"	48-00-14.469 122-12-58.853	446.9 (1406.2) 1220.0 (23.8)			
✓30 1941	645		48-01-50.561 122-13-52.837	1561.6 (291.5) 1094.7 (148.4)			
32	647		48-01-06.162 122-12-13.193	190.3 (1662.8) 273.4 (970.0)			
←33	648		48-01-50.994 122-13-56.666	1575.0 (278.1) 1174.0 (69.1)			
35A			47-58 122-07-	1184.7 (668.5) 907.- (337.4)			

1 FT. = 3048006 METER

COMPUTED BY: Lande

DATE August 1954

CHECKED BY: C. O. DeMarr

DATE August 1954



MAP T-11482

PROJECT NO. Ph-147

SCALE OF MAP 1:10,000

SCALE FACTOR 1:0

[illegible]

1 ET - 308006 MEYER

1 FT. = .3048006 METER  
COMPUTED BY: R. J. French

DATE August 1954

CHECKED BY: C. O. DeMarr

DATE Sept. 1954

M. 2388-12

MAP T 11482

PROJECT NO. Ph-1147

SCALE OF MAP 1:10,000

SCALE FACTOR 1.0

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR $\psi$ -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)
35 B		NA1927	47-58-	1156.2 (697.0)			
			122-07-	915.0 (329.4)			
36 B		"	47-56-	57.0 (1796.1)			
			122-14	163.0 (1082.5)			
36 C		"	47-55-	1376.9 (476.2)			
			122-14	141.3 (1104.2)			
37	USGS	"	48-04-11.74	362.6 (1490.6)			
			122-13-34.79	720.2 (521.9)			
38	"	"	48-00-59.42	1835.2 (17.97)			
			122-11-53.70	1112.8 (130.6)			
39	601	"	48-03-13.255	409.5 (1443.8)			
			122-10-34.222	708.7 (533.8)			
40	601	"	48-02-58.598	1809.8 (43.4)			
			122-10-36.625	758.5 (484.1)			
41	650	"	47-57-30.984	957.0 (896.2)			
			122-14-56.723	1176.8 (68.0)			
42	649	"	47-57-30.480	941.4 (911.8)			
			122-15-00.022	0.5 (1244.3)			
6	sub.	"	48-00-	1140.1 (713.1)			
			122-11-	592.0 (651.5)			
30		"	48-01-	1577.2 (276.0)			
			122-13-	1158.4 (84.8)			
44		"	47-56	291.9 (1561.3)			
			122-11	1125.2 (120.1)			

1 FT. = 3048006 METER

COMPUTED BY: Lande

DATE August 1954

CHECKED BY: R. French

DATE August 1954

COMPILATION REPORT T-11482  
(Shoreline)

31. Delineation.-

The shoreline and foreshore features were delineated by graphic compilation methods.

All planimetry that was field inspected for a regular shoreline sheet and all photo-hydro stations were located by graphic methods. Interior planimetry and contours north of  $48^{\circ}$  latitude will be compiled on the Reading plotter.

The work sheet method of compilation was used to compile shoreline and alongshore features of near zero elevation. A small sheet of vinylite was placed upon the central portion of the photograph and all pass and detail points of shoreline elevation were circled on it to serve as control when fitting to the manuscript. The MHWL, foreshore data, and all cultural features that were of similar elevation were detailed while viewing a stereoscopic model. The detail thus compiled was fitted to the manuscript either by direct tracing where scale was good or in the projector when scale was beyond accurate adjustment between detail points.

32. Control.-

Horizontal control was adequate and the proper density and placement was satisfactory. There were no errors in identification. Reference is made to the field inspector's note as to the reliability of triangulation stations Everett, Robinson Lumber Co., Twin Stacks, 1927. If the stacks were destroyed, the rebuilt one that appears on the photography cuts in exactly with position South Twin Stack, 1927, and is so mapped.

33. Supplemental data.-

A copy of the contemporary survey by the USGS of the area south of  $48^{\circ} 00'$  latitude and the AMS 1:50,000 scale quadrangles Everett and Marysville (1947) were used to obtain vertical control for rectification purposes. Before completion of the detailing the level lines became available from the field inspection party, and 13 additional elevations were introduced for rectification purposes. The individual templates carry the elevation and origin, and are presumably at MSL.

34. Contours and drainage.-

This manuscript will have contours, drainage, and interior topographic features added with the Reading plotter for that area north of latitude  $48^{\circ} 00'$  N. See

"Addition to Compilation Report"

35. Shoreline and alongshore details.-

Field inspection notes were consulted to delineate the MHWL and alongshore features. Discrepancies and omissions observed during compilation are noted on a discrepancy print and are to be resolved during field edit. The field inspection was hurried for such a complicated shoreline and industrial waterfront, but is considered adequate. Identification of piling and dolphins, bulkheads, and other waterfront features south of the limits of field inspection will require further field edit since compilation is from office interpretation only. Since field inspection followed the date of photography by three years, the field inspector of necessity had to sketch in some new construction, and the compiler incorporated these features as shown on the inspection photographs.

No low water or shallow lines are shown on the manuscript.

36. Offshore details.-

The proper delineation of piling and dolphins should be carefully edited by the hydrographic party especially south of the area field inspected by the photogrammetric party. The amount and limits of piling near the confluence of Union and Steamboat Sloughs should be shown along the southern limits of the grass in water symbol indicated. It is not known if the boats that make up the bulkhead straight out from the Snohomish River are wrecks or are otherwise a permanent part of the bulkhead.

37. Landmarks and aids.-

See Form 567 attached to this report.

38. Control for future surveys.-

Two monumented topographic stations (Ever, 1954, and Mary, 1954) and two bench marks (M 296 and J 296) were located by the radial plot. Seventy-five field inspected photo-hydro stations were located and their descriptions are listed under 49.

Forms 524 are submitted for the monumented stations, and other intersection features suitable for topographic stations have map positions which are appropriately labelled. Forms 524 on file in Div. of Photogrammetry general files.

39. Junctions.-

EVERETT quadrangle on the South (USGS)  
MARYSVILLE quadrangle on the North (AMS)

The manuscript is in substantial agreement with these quadrangles.

40. Horizontal and vertical accuracy.-

There are no areas of substandard horizontal accuracy within the confines of the manuscript.

41 thru 45. Not applicable.

46. Comparison with existing maps.-

The shoreline is more detailed and complete on this manuscript and supersedes previous copies of the AMS quadrangles issued in 1947.

EVERETT, AMS, 1:50,000 1947  
MARYSVILLE, AMS 1:50,000 1947

47. Comparison with nautical charts.-

New construction has been built since the charts were compiled and the same notes listed under 46 apply for nautical charts. New positions were obtained for the fixed aids and landmarks, and disposition of those now charted are on Form 567.

6401	1:150,000	
6448	1:40,000	March 1935, 7th edition, 52-6/9
6450	1:80,000	March 1945, 11th edition, 54-6/28

ADDITION TO COMPILATION REPORT T-11482

31. DELINEATION:

Contours, interior features and drainage were delineated, north of latitude  $48^{\circ} 00'$ , by standard methods with metal-backed nine-lens rectified negative prints on Reading Plotter, Model A.

Field inspection photographs were not available during instrument compilation but were returned before completion of drafting so that minor revisions of buildings and other interior detail were effected.

Further revisions of buildings, roads, bridges and waterfront construction were made upon receipt of 1:10,000 enlarged prints of W2899 thru 2902 9/25/54 1:24,000. Graphic methods were used.

32. CONTROL:

Vertical control was adequate. The selection of level elevations made by the radial plot office was used, in the absence of the field level photos with the complete lines, with no difficulty.

34. CONTOURS AND DRAINAGE:

Interior features and contours at 20-foot intervals were added, north of latitude  $48^{\circ} 00'$  to the shoreline manuscript, with the Reading Plotter. On the tidal flats along the Snohomish River the 5, 10 and 15-foot contours were added to conform to the USGS NW/4 Everett 15' Quadrangle 1:62,500 195~~8~~<sup>3</sup>. The northern limit of this quadrangle is at latitude  $48^{\circ} 00'$ . Contours and interior planimetry from latitude  $48^{\circ} 00'$  to the southern limits of the quadrangle are to be transferred from a 1:10,000 enlargement of the previously mentioned USGS quadrangle. In attempting the transfer the streets and waterfront detail at Everett Harbor immediately south of latitude  $48^{\circ} 00'$  were found to be displaced about 1 mm. north of corresponding detail on the USGS quad. Projection line of latitude  $48^{\circ} 00'$  and state grid ticks along it were held. Contours junctioned within 10 feet.

USGS will make junction and transfer the interior planimetry and contours to complete the quadrangle.

39. JUNCTIONS:

New construction incorporated into the shoreline from sketches on the field photos were revised when 1:10,000 enlargements of W2899-2902 9/25/54 1:24,000 were received.

Respectfully submitted:

*Clarence E. Misfeldt*

---

Clarence E. Misfeldt  
Cartographer

Approved and forwarded:

*Orvis N. Dalbey*

---

Orvis N. Dalbey  
Supervisory Cartographer

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

## NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED  
~~TO BE DELETED~~

STRIKE OUT ONE

Everett, Washington

31 August

19 54

I recommend that the following objects which ~~have~~ *(have not)* been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by R. J. French

Fred Natella Chief of Party.

STATE	Washington			SIGNAL NAME	POSITION					METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	CHARTING NAME	DESCRIPTION	LATITUDE*		LONGITUDE*										
					° ' "	D. M. METERS	° ' "	D. P. METERS							
TANK	Tank, Weyerhaeuser Lbr. Co. Pulp Div.		47 58	1022	122 13	411		Air Photo Plot T-11482	1954					6450 6448	
STACK	Scott Paper Co. Sound View Div. stack		47 59	150	122 13	9		"	"					"	
TWIN STACKS	Everett, Robinson Lbr. Co. North Twin Stack		47 59	27.752 857.1	122 12	53.029 1099.5		Triang.	1927					"	
	Everett, Robinson Lbr. Co. South Twin Stack		47 59	27.582 851.9	122 12	53.028 1099.5		"	"					"	
NOTE:	Two stacks were located by triangulation in above area in 1927. It is not certain that these are the same stacks.														
STACK	Everett E. A. Nord Co. stack		48 00	1565	122 12	574		Photo Plot T-11482	1954					"	
STACK	Everett, Weyerhaeuser Timber Co. Kraft Plant stack		48 01	01.038 32.1	122 11	30.540 632.9		Triang. Ph-147	"					"	
TANK	Everett, Weyerhaeuser Timber Co. Kraft Plant, Tank		48 01	39	122 11	595		Photo Plot T-11482	"					"	
STACK	Everett, Weyerhaeuser Lumber Co. Taller stack, 1941		48 00	43.516 1344.0	122 10	54.519 1130.2		Triang.	1941					"	
STACK	Everett, Weyerhaeuser Lumber Co. Shorter stack, 1941		48 00	43.592 1346.4	122 10	56.382 1168.8		"	"					"	
TANK	Everett, Weyerhaeuser Timber Co. Water tank		48 00	1425	122 11	48		Photo Plot T-11482	1954					"	
LIGHT	Snohomish River Lt. 4		47 59	04.653 143.7	122 13	40.002 829.5		Triang. Ph-147	"					"	
LIGHT	Snohomish River Lt. 5		47 59	17.325 535.1	122 13	43.077 893.2		"	"					"	

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks, and *nonfloating* aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.



**STRIKE OUT ONE**

Everett, Washington

31 August 1954

## NONFLOATING AIDS OR LANDMARKS FOR CHARTS

I recommend that the following objects which have *(have not)* been inspected from seaward to determine their value as landmarks be charted on *(deleted from)* the charts indicated.

The positions given have been checked after listing by R. J. French

[illegible]

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

**AIR MAIL**

731-mk1

AIR MAIL

22 September 1954

To: Commanding Officer  
U.S.C. & G.S. Ship PATTON  
705 Federal Office Building  
Seattle 4, Washington

Via: Supervisor, Northwestern District

Subject: Shoreline and photo-hydro signals, Project Ph-147  
Everett, Washington (CS-374)

Reference: Instructions, CS-374, dated 5 August 1954

The delineation of shoreline and location of photo-hydro signals for 1:10,000 scale map T-11482, project Ph-147 (Everett, Washington), will be completed today. Film positives and prints enlarged to 1:5,000 scale will be forwarded to you via air mail on 24 September 1954, for hydrographic party use in accordance with reference instructions. The field inspection photographs will also be furnished as an aid in the recovery of photo-hydro signals and for field edit use.

The hydrographic survey will be considered as a field edit of the shoreline. Any errors or discrepancies that are found during the course of your survey shall be investigated and reported to the Washington Office. Sufficient notes and information shall be indicated on the field photographs and copies of the map so that all shoreline discrepancies can be resolved in this office. (Please use violet colored ink for noting field edit corrections on the photographs.)

A report on the adequacy of the photo-hydro signal selection and location is required. These signals were selected in the field and carefully located during the radial plot. Although the copies of the map that are furnished to you have been enlarged two diameters, it is not anticipated that the signal location will be in error more than .3 or .4 mm. at 1:5,000 scale. In the event the signal locations are not satisfactory for your purpose, new signals will be located by your party.

Upon completion of the field work the field inspection photographs and photogrammetric data will be required in this office for completion of interior details and application of field edit changes. If there are no shoreline changes, the film positives and copies of the map will be considered as part of the hydrographic records and forwarded to the processing office for application to the smooth sheets.

(Signed) Robert W. Knox

cc: NW Dist.; Portland  
Photo. Office; 22

Acting Director

REPORT ON ADEQUACY OF PHOTO-HYDRO  
SIGNAL SELECTION AND LOCATION

PROJECT PH-147 (CS-374) Ref. Director's Letter 731-MKL  
Dated 22 September 1954

LOCATION AND SCALE:

This report concerns photogrammetric sheet T-11482 compiled on 1: 10,000 scale covering the area of Everett, Washington.

PHOTO-HYDRO SIGNALS:

4

In general, an insufficient number of photo-hydro signals was selected, and additional signals were required before completion of hydrography.

A number of additional signals were located in the harbor area, which was difficult to sound because of very limited visibility in the areas between docks. In those areas particularly, the selection of photo-hydro signals was inadequate, but in some places there were no identifiable points suitable for photo-hydro signals.

Additional signals were required in the lower Snohomish River between Preston Point and Snohomish River Light 5. It appears that selection of more dolphins in that area would have been desirable.

There were not enough signals in the area between Preston Point and Priest Point and in Steamboat Slough. More photo-hydro signals could have been selected in those places on ends of jetties, on barges and dolphins.

The hydrographic party located additional signals with sextant fixes in that area.

Signals were located by sextant cuts south of Photo-Hydro Signal #074; however no suitable points were identifiable on the photographs. Two additional signals northwest of photo-hydro signal #001 were located by traverse from Station ERODE, 1954.

The selection of signals was adequate from #001 eastward around Priest Point through #017, which was at the approximate northern limit of hydrography.

No particular difficulty was experienced in identifying the selected signals. In a few instances the selected points were difficult to mark with a signal and of no use unless marked.

DISCREPANCIES:

The location of the photo-hydro signals was adequate, with few exceptions, as follows:

#001 - Appears mis-identified, relocated by sextant cuts.

#067 & 068 - Located on outer ends of Pier 1, which has been lengthened and broadened since the photographs were taken. Outer end of pier located by 3-point theodolite fix, marked by a standard topographic disk.

#041 - (Tri. Sta. FIRST MILL S. OF BLACKMAN'S, or PRESTON POINT IRON STACK, 1927). Believed destroyed. Sextant cuts to a stack here intersect considerably south of the plotted position of this stack.

Letter and cos forwarded  
to Natella & 712  
1/13/55 DAB

731-MKL  
738

JAN 10 1955

DISPOSITION OF DATA:

The field inspection photographs have been returned to the Washington office. The film positives will be forwarded to the Seattle Processing Office.

SHORELINE CHANGES:

The only shoreline change discovered by the hydrographic party is along the north side of the Snohomish River training dike, just west of the gap in the dike. This area has been built out since the aerial photographs were taken, presumably by spoil dumped there from dredging in the river. The correct MHW line was located by sextant fixes and plotted on boat sheet PA-05254. It is not plotted on the manuscript because some of the signals used were located by the hydrographic party and those are not located on the manuscript.

A large number of piles and dolphins were not located by the hydrographic party. The most of them however are visible in the photographs and it was thought they were omitted from the manuscript in the press of time. Piles & dolphins added from 1954

single lens photographs. See item #39  
"Addition to Compilation Report"

Respectfully submitted

*Roger F. Lanier*  
Roger F. Lanier  
Lt. (j.g.) C&GS  
Ship PATTON

Approved & Forwarded:

*J. C. Partington*  
J. C. Partington  
CDR C&GS  
Cmdg., Ship PATTON



733

55

78-1mh

29 July 1954

Mr. Gerald Fitzgerald  
Chief Topographic Engineer  
U. S. Geological Survey  
Washington 25, D. C.

PH 147

Dear Mr. Fitzgerald:

The Coast and Geodetic Survey plans the construction of a 1:10,000 scale Nautical Chart of the harbor at Everett, Washington, as soon as practicable at the request of the City authorities. To provide the necessary information in time a 1:10,000 scale topographic survey is planned in the area outlined in red ink on the enclosed map diagram. This survey will join your recent Everett, Washington Quadrangle, scale 1:24,000, on the north between Longitude  $120^{\circ} 10'$  and  $122^{\circ} 15'$ .

Control recovery will be accomplished by 20 August 1954 and the map compiled on the Reading Stereoscopic Plotter about 10 September 1954. Hydrographic surveys will follow shortly thereafter.

The map will not be field edited by this Bureau. Copies of the map manuscript will be available for inclusion in your mapping program about the middle of September, 1954.

The remainder of the chart area will be compiled as a shoreline survey also at 1:10,000 scale with shoreline, offshore and foreshore details and landmark features only to be compiled.

Sincerely yours,

(Signed) O. S. Reading

O. S. Reading, Chief,  
Division of Photogrammetry

Enclosure

Summary to Accompany Descriptive  
Report T-11428

Topographic map T-11482 in project Ph-147 covers the area of Everett, Washington. Project Ph-147 consists of only the one map. Shoreline was delineated by graphic compilation methods in advance of hydrographic surveys. The scale of the map is 1:10,000. The field operations preceding compilation included complete field inspection of the shoreline and foreshore areas, the establishment and recovery of horizontal control and the determination of elevations required to control the 9-lens stereo-plotting instrument vertically. Field edit was accomplished by the hydrographic survey. Interior planimetry and contours were compiled by the Washington Office on the Reading 9-lens plotter with a contour interval of 20 feet. Supplementary five-foot interval contours were added in the low flat areas.

The map was forwarded to the Geological Survey prior to review for inclusion in their Marysville 1:62,500-scale quadrangle. A cloth-mounted lithographic print of T-11428 at scale 1:10,000 and the descriptive report will be registered and filed in the Bureau Archives.



# GEOGRAPHIC NAMES

Survey No.

11482

Name on Survey

	A	B	C	D	E	F	G	H	K	
EVERETT										1
EVERETT HARBOR ✓										2
PORT GARDNER ✓										3
SNOHOMISH RIVER ✓										4
POSSESSION SOUND										5
SMITH ISLAND										6
STEAMBOAT SLOUGH ✓										7
PRIEST PT.										8
UNION SLOUGH ✓										9
Ebey slough ✓										10
U.S. 99										11
Great Northern Railway										12
Preston Point										13
East Waterway ✓										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names approved  
3-15-55 L. Heck

Project Ph-147(54)

T-11482

Notes for the Hydrographer

A satisfactory radial line plot was effected with metal mounted nine lens photographs to include control beyond the extremities of the map as indicated on the attached sketch.

All field inspected control held to within a close tolerance and satisfactory cuts were obtained to pass points in the interior. No weak areas as such were observed, and the hydrographer should have confidence in the location of photo-hydros in spite of the 2 enlargement. Reasonable care was exercised in the transfer of points from the field inspection photographs, and the quality of position is largely dependent on how well the photo-hydro was located on the field inspection photographs.

As will be noted, some additional positions are shown for tanks and stacks such as 036 A and B, which were not field inspected. The position of the tank (0 38 B) should be verified before using since it is not an image on the photography but was indicated by field inspection as noted on 36749.

Reference is made as to the reliability of triangulation stations EVERETT, Robinson Lumber Co., Twin Stacks, 1927. If the stacks were destroyed, the rebuilt one that appears on the photography cuts in exactly with position South Twin Stack, 1927, and is so indicated.

Positions are shown for those features shown on Form 567, attached, that are either triangulation or the result of scaling from the original 1:10,000 scale manuscript. Field positions are given for the two lights (4 and 5) and the Kraft plant stack (038).

In the course of a rushed field inspection on a complicated waterfront such as this, some features are apt to be missed, and, since this is preliminary manuscript, the compilation may have omissions, additions, or perhaps deletions that only a good edit can resolve. A discrepancy print is being prepared for your use and will be forwarded as soon as possible. Geographic names and descriptive notes have not been shown but will appear on the completed manuscript. A more complete inspection of the submarine and overhead cables and bridge clearances for the bridges over the Snohomish River and Ebey Slough is necessary, and will be questioned on the discrepancy print.



The compiler has attempted to interpret the piling and offshore features south of the limits of field inspection in the Snohomish River and even though hydro may not proceed that far, the information will be needed for the chart.

Although sufficient information has been taken from the field inspection photographs to complete the shoreline manuscript as far as is possible at this writing, the field photos will be needed in this office as soon as is practical so as to complete the topographic work.

Respectfully submitted,

Roscoe J. French  
Roscoe J. French

Approved:

L. C. Lande  
L. C. Lande

HYDROGRAPHIC SIGNALS

Ph-147(54) Everett, Washington

Field Photograph 36723

- 001 SE Gable red hse
- 002 Stump
- 002A Stump
- 003 Large boulder at foot of steps near MHW line
- 004 Large stump
- 005 Large stump with small fixed pier secured to it
- 006 Large stump in front of stone hse. with red trim
- 007 S Gable freshly painted yellow hse.
- 008 SE cor. twr. at E end brown shingle hse. with green trim
- 009 Chimney on yellow shingled hse
- 010 E. cor. brown stained shingled hse. - bright blue green trim.
- 011 Dolphin
- 012 Dolphin
- 013 Dolphin
- 014 E Cor. wrecked barge
- 015 Dolphin
- 016 Dolphin
- 016A Dolphin
- 017 Dolphin
- 018 SW cor. wreck
- 019 Dolphin

- 020 Dolphin
- 021 Dolphin
- 022 Dolphin
- 023 Topo (Ever, 1954)
- 024 Light
- 025 Dolphin
- 026 Dolphin
- 027 Topo (Mary, 1954)

Field Photograph 36749

- 028 Low black stack
- 029 Elevated water tank

Field Photograph 36747

- 030 Dolphin
- 031 Dolphin
- 032 Dolphin
- 033 Dolphin
- 034 Dolphin
- 035 W. Gable red barn
- 036 N.W. Gable House
- 036A Water tank
- 036B Stack

Field Photograph 36749

- 038 Everett, Weyerhaeuser Kraft Plant Stack
- 038A Dolphin
- 038B Elevated tank
- 039 Everett, Weyerhaeuser Lbr. Co., taller stack, 1941
- 039A " " " " shorter stack, 1941

Field Photograph 36723

- 040 Everett, North Pt., Blackman's mill higher stack, 1927
- 041 Everett, First mill south of Blackman's or Preston Point  
Iron stack, 1927
- 042 Everett, E. A. Nord Co. Stack (at SE end of small cream  
colored bldg.)
- 043 Everett, second mill south of Blackman's or Preston Point,  
iron stack, 1927
- 044 Everett, second mill south of Blackman's or Preston Point,  
incinerator, 1927.

Field Photograph 36725

- 045 Burner, at Box Factory
- 046 Everett, Parker Box Factory, (C&B Lbr.Co.) brick chy.
- 047 Everett, Concrete chimney, 1927
- 048 Hulbert Mill Burner
- 049 Hulbert Mill Water Tank
- 050 Corner of fill
- 051 Stack
- 052 Stack
- 053 Corner of fill
- 054 Corner of piling
- 055 Inshore corner sheet steel piling
- 056 Southerly of 2 stacks
- 056A Tall chimney
- 056B Everett, Robinson Lbr. Co. N. Levin stack
- 056C Stack
- 057 NW corner of pier
- 058 NW corner wharf
- 059 SW corner pier
- 060 SW corner pier
- 061 SW corner of wharf
- 061A Scott Paper Co. grey stack
- 062 Stack
- 063 Snokomish River Lt. 5
- 064 Snokomish River Lt. 4
- 065 Corner of pier
- 066 Corner of pier
- 067 Corner of pier
- 068 Corner of pier
- 069 Everett, Great Northern tower, 1927
- 070 Tank
- 071 Everett, Weyerhaeuser Lbr. Co., tall concrete chy. 1927
- 072 corner of inshore opening in pier

073 SW corner of pier  
074 Tank  
075 High flat topped water tank

## PHOTOGRAMMETRIC OFFICE REVIEW

T-11482

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

## CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy ☒ *4-524 cards not submitted* 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) ☒ 7. Photo hydro stations ☒ 8. Bench marks ☒ *No recovery cards*  
9. Plotting of sextant fixes ☒ 10. Photogrammetric plot report ☒ 11. Detail points ☒

## ALONGSHORE AREAS

(Nautical Chart Data)

12. Shoreline ☒ 13. Low-water line ☒ 14. Rocks, shoals, etc. ☒ 15. Bridges ☒ 16. Aids to navigation ☒ 17. Landmarks ☒ 18. Other alongshore physical features ☒ 19. Other along-shore cultural features ☒

## PHYSICAL FEATURES

20. Water features ☒ 21. Natural ground cover ☒ 22. Planetable contours ☒ 23. Stereoscopic instrument contours ☒ 24. Contours in general ☒ 25. Spot elevations ☒ 26. Other physical features ☒

## CULTURAL FEATURES

27. Roads ☒ 28. Buildings ☒ 29. Railroads ☒ 30. Other cultural features ☒

## BOUNDARIES

31. Boundary lines ☒ 32. Public land lines ☒

## MISCELLANEOUS

33. Geographic names ☒ 34. Junctions ☒ 35. Legibility of the manuscript ☒ 36. Discrepancy overlay ☒ 37. Descriptive Report ☒ 38. Field inspection photographs ☒ 39. Forms ☒  
40. Ervin M. Dalbey ☒ Supervisor, Review Section or Unit

Reviewer

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:

Review Report T-11482  
Topographic Map  
7 April 1955

61. General Statement

Field edit for this map area was accomplished by the hydrographic survey in conjunction with their field operations. In addition, prior field inspection deviated from standard practice to the extent that only buildings of significance to nautical charting were field inspected and labeled for delineation. Classification of woodland, coast pilot, section and boundary investigations were omitted as was a systematic geographic names investigation. Refer to Instructions Project Ph-147-Everett, Washington (Field) and attached copy of letter to Commanding Officer, U.S.C.&G.S. Ship Patton of 22 September 1954 on the subject of shoreline and photo-hydro signals, Project Ph-147, Everett, Washington.

62. Comparison with Registered Topographic Surveys

T-1552	1:20,000, 1884
1681	1:20,000, 1884-5
2937	1:10,000, 1909
4276	1:10,000, 1927

Many changes and cultural improvements have occurred since the dates of these prior surveys. This map T-11428 supersedes the above prior surveys for their common areas.

63. Comparison with Maps of Other Agencies

Everett, Washington, USGS, NW/4 15' Quadrangle  
1:62,500, 1953 (Advance Sheet).  
Everett, Washington, USGS, 1:62,500, 1944  
Marysville, USGS, 1:62,500, 1943  
Everett, Washington, AMS, 1:50,000, 1947  
Marysville, Washington, AMS, 1:50,000, 1947

T-11428 supersedes the above surveys for common detail in common areas.

64. Comparison with Contemporary Hydrographic Surveys

H-1728	1:20,000	1886
H-4657	1:5,000 )	1927
	1:10,000)	
H-7168	1:600	1946
Boat Sheet PA-05254	1:5,000, 1954 (unverified)	
Boat Sheet PA-1454	1:10,000, 1954 (H-8174)	

T-11428 has been compared with the boat sheets. There are no conflicts between the boat sheets and this map.

65. Comparison with Nautical Charts

6401	1:150,000, corr. to 3/22/54
6448	1:40,000, " " 6/9/52
6450	1:80,000, " " 6/28/54

T-11428 in comparison with the charts shows numerous additions and changes to water front structures, such as piers, piling and buildings. An island of some extent is also beginning to form along the west side of the Everett Harbor breakwater. Much interior culture has been added in the form of roads, buildings and bridges.

66. Adequacy of Results and Future Surveys

T-11428 is adequate as a base for hydrographic surveys and the construction of nautical chart. This map meets the National Standards of Map Accuracy.

Reviewed by:

K. N. Maki  
K. N. Maki

APPROVED:

L. C. Lande  
Chief, Review Section  
Photogrammetry Division

Max Skelton  
Chief, Nautical Chart Branch  
Charts Division

J. B. Buell  
Acting Chief, Photogrammetry Division

J. B. Buell  
Chief, Coastal Surveys Division

## History of Hydrographic Information

T-11482

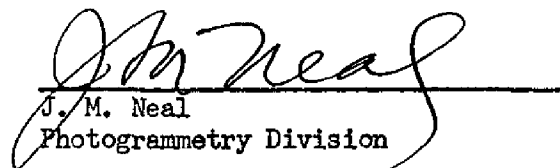
Hydrography was applied to an ozalid print of the map manuscript, prior to review, in accordance with Division of Photogrammetry General Specifications dated 18 May 1949.

Soundings and depth curves, at mean lower low water datum, originate with the following USC&GS hydrographic surveys:

Boat Sheet PA-05254 1:5,000, 1954 (unverified)

Boat Sheet PA-1454 1:10,000, 1954 (unverified)

Hydrography compiled by J. M. Neal and checked by  
O. Svendsen 3-1-55.

  
J. M. Neal  
Photogrammetry Division