9519N
9519S
COMBINED

Diag. Cht. No. 6002-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Shoreline & Topographic

Field No. Ph-62 Office No. T-9519

LOCALITY

State Washington

General locality Grays Harbor

Locality Hoquiam

19 50-57

CHIEF OF PARTY
C.W.Clark, Chief of Field Party
E.H.Kirsch, Baltimore Photo. Office

LIBRARY & ARCHIVES

DATE December 17, 1960

8-1870-1 (1)

9519N
9519S
COMBINED

DATA RECORD 95-19 1

T-9519 (Shoreline)

Project No. (II): Ph-62(49) Quadrangle Name (IV):

Field Office (II): Aberdeen, Washington Chief of Party: Chas. W. Clark

Photogrammetric Office (III): Baltimore, Md. Officer-in-Charge: E. H. Kirsch

Instructions dated (II) (III): 20 March 1951
Letter No. 71-aal, dated 3/ Aug. 1951
Letter No. 731-mkl, Horizontal Control, Dated 17 Aug. 1951
Instructions - Supplement 1, dated 15 Feb. 1952.
Letter No. 73-mkl, Horizontal and Vertical Control, dated 13 May 1952.

Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Air Photographic (Multiplex)

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

Scale Factor (III): 1.000

Date received in Washington Office (IV): APR 11 1955 Date reported to Nautical Chart Branch (IV): 4-13-55

Applied to Chart No. Date: Date registered (IV): 9-10-58

Publication Scale (IV): Publication date (IV):

Geographic Datum (III): N.A. 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): POLKA, 1940

Lat.: 46° 55' 50.309" Long.: 123° 55' 30.053" Adjusted ~~Unadjusted~~

Plane Coordinates (IV): State: Washington Zone: South

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.

1

M-2618-12(4)

9519 2

DATA RECORD

Field Inspection by (II): Chas. H. Bishop Date: 20 Nov. 1952

Planetable contouring by (II): Date:

Completion Surveys by (II): Date:

Mean High Water Location (III) (State date and method of location):
7/11/50 Photogrammetric

Projection and Grids ruled by (IV): Jack Allen Date: 9 Sept. 1952

Projection and Grids checked by (IV): H. D. Wolfe Date: 6 Oct. 1952

Control plotted by (III): E. H. Taylor Date: 19 Mar. 1953

Control checked by (III): E. L. Rolle Date: 27 Mar. 1953

Radial Plot or Stereoscopic Control extension by (III): ----- Date: ------

Stereoscopic Instrument compilation (III): Planimetry J. D. McEvoy Date: 21 May 1953

~~Contours~~ Date: ------

Manuscript delineated by (III): J. D. McEvoy Date: 17 Sept. 1953

Photogrammetric Office Review by (III): D. M. Brant Date: 18 Mar. 1955

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

9519 (3)

Camera (kind or source) (III): Single lens type "O" USC&GS

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
50-0-1751 - 1756	7/11/50	1549 - 1551	1:24,000	3.7 at MLLW
1690 - 1696	"	1521 - 1522	"	4.0 at MLLW
1674 - 1679	"	1508 - 1510	"	3.5 at MLLW

Tide (III)

From predicted tables

diurnal

	Ratio of Ranges	Mean Range	Spring Range
Reference Station: Aberdeen	--	7.8	9.9
Subordinate Station: North Channel	1.0	7.6	9.7
Subordinate Station: Markham	0.9	7.2	9.2

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):

Shoreline (More than 200 meters to opposite shore) (III): 18

Shoreline (Less than 200 meters to opposite shore) (III): 8.8

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): 41 Recovered: 17 Identified: 15

Number of BMs searched for (II): Recovered: Identified:

Number of Recoverable Photo Stations established (III): 7

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

Remarks:

9519 4

DATA RECORD

T-9519 (Topographic)

Project No. (II): Ph-62 Quadrangle Name (IV): GRAYS HARBOR

Field Office (II): Aberdeen, Washington Chief of Party: Charles W. Clark

Photogrammetric Office (III): Baltimore, Maryland Officer-in-Charge: E. H. Kirsch

Instructions dated (II) (III): 20 March 1951 Copy filed in Division of Photogrammetry (IV)
Letter No. 71-aal, Dated 3 August 1951
Letter No. 731-mkl, Horizontal Control, Dated 17 August 1951
Instructions - Supplemental, dated 15 Feb. 1952
Letter No. 73-mkl, Horizontal and Vertical Control, dated 13 May 1952

Method of Compilation (III): Air Photographic (Multiplex)

Manuscript Scale (III): 1:17,000 Stereoscopic Plotting Instrument Scale (III): 1:17,000

Scale Factor (III): 1.000

Date received in Washington Office (IV): JUN 15 1955 Date reported to Nautical Chart Branch (IV): JUL 15 1955

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:
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): POLKA, 1940

Lat.: 46° 55' 50.309" Long.: 123° 55' 30.053" Adjusted

Plane Coordinates (IV): State: Washington Zone: South

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.

M-2618-12(4)

9519 5

DATA RECORD

Field Inspection by (II): Charles H. Bishop — Date: 20 Nov. 1952

Planetable contouring by (II): Ja — Date:

Completion Surveys by (II): CHARLES H. BISHOP — Date: 31 MAY 1957

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

Projection and Grids ruled by (IV): Jack Allen — Date: 9 Sept. 1952

Projection and Grids checked by (IV): H. D. Wolfe — Date: 6 Oct. 1952

Control plotted by (III): A. K. Heywood — Date: 30 March 1953

Control checked by (III): E. H. Taylor — Date: 4 April 1953

Radial Plot or Stereoscopic Control extension by (III): E. L. Rolle — Date: 20 April 1953

Stereoscopic Instrument compilation (III):
- Planimetry: E. H. Taylor — Date: 15 May 1953
- Contours: E. H. Taylor — Date: 15 May 1953

Manuscript delineated by (III): E. H. Taylor — Date: Aug. 1953

Photogrammetric Office Review by (III): D. M. Brant — Date: 20 May 1955

Elevations on Manuscript checked by (II) (III): D. M. Brant — Date: 17 May 1955

M-2618-12(4)

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Camera (kind or source) (III): 6" focal length, Type "O" camera

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
7163 thru 7166	6/16/51	14:35 PDST	1:40,000	5.0' above MLLW
7249 thru 7252	6/17/51	14:36 PDST	"	6.0' " "
7258 thru 7262	"	14:47 PDST	"	6.9' " "

See page 4 of the Descriptive Report for shoreline survey T-9519 for 1:24,000 scale photography.

Tide (III)

From predicted tables

Diurnal

Ratio of Ranges	Mean Range	~~Spring~~ Range
	7.8	9.9
1.0	7.6	9.7
0.9	7.2	9.2

Reference Station: Aberdeen
Subordinate Station: North Channel
Subordinate Station: Markham

Washington Office Review by (IV): A.K. Heywood Date: 8 Sept 1958

Final Drafting by (IV): Date:

Drafting verified for reproduction by (IV): Date:

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 30
Shoreline (More than 200 meters to opposite shore) (III): 18
Shoreline (Less than 200 meters to opposite shore) (III): 8.8
Control Leveling - Miles (II): 12 (Topo. Levels)
Number of Triangulation Stations searched for (II): 41 Recovered: 17 Identified: 15
Number of BMs searched for (II): ~~38~~ 39 Recovered: ~~32~~ 32 Identified: 18
Number of Recoverable Photo Stations established (III): 7
Number of Temporary Photo Hydro Stations established (III): None

Remarks: Third-order triangulation stations established: 17
Forth-order supplemental stations established and identified: 4
Bench marks established: 2

M-2618-12(4)

9519 1

SUMMARY

TO ACCOMPANY DESCRIPTIVE REPORT T-9519

Topographic Map T-9519 is one of 14 similar maps in Project PH-62. It covers Grays Harbor.

This is a multiplex project in advance of Hydrographic surveys to be made in the area.

The field operations preceding compilation included complete field inspection. The establishment of some additional horizontal control and the determination of elevations necessary to control a multiplex project vertically.

Both a topographic and a shoreline survey was made of this area.

The topographic compilation was at a scale of 1:17,000. The manuscript consists of one vinylite sheet $7\frac{1}{2}$ in Latitude and $7\frac{1}{2}$ in Longitude.

The shoreline survey consisted of two sheets T-9519N and T-9519S, at a scale of 1:10,000. Each sheet is 3 3/4' in Latitude and $7\frac{1}{2}$' in Longitude.

The entire map was field edited. Contours do not meet the National Standards of Map Accuracy. It is to be published by the Geological Survey as a standard topographic quadrangle at a scale of 1:24,000 without an accuracy statement.

The registered copies under T-9519 will include cronar film positives of the topographic manuscript and the shoreline maps.

FIELD INSPECTION REPORT
FOR
T-9519 and T-9520
Project Ph-62(49)

2. Areal Field Inspection

These quadrangles surround the head of Grays Harbor on the north, east and south sides. The north and south sides of the area are rough and heavily wooded except where cleared by logging operations. The Chehalis River enters the east edge of T-9520 and flows generally in a westerly direction to Grays Harbor.

The city of Hoquiam is contained in the northeast corner of T-9519 and the northwest corner of T-9520. The city of Aberdeen, which has a mutual boundary with the east side of Hoquiam, is in the north central part of T-9520. Cosmopolis is on the south side of the Chehalis River at the east edge of T-9520. Markham, a small settlement, is near the southwest corner of T-9519.

The terrain is mostly rough and covered with second growth coniferous trees except where recent logging operations have cleared the land. Elevations range up to between 500 and 600 feet. There are flat meadows along the Johns River, with some marsh near the mouth. Hoquiam, Aberdeen and Cosmopolis are all built on flat areas of only a few feet elevation. The area extending southwest from South Aberdeen to the Newskah River and north of Highway 13A is flat, clear, and used mostly for grazing.

Rennie Island is a marshy island in the east end of Grays Harbor.

These quadrangles are accessable by water, air, highway and railroad. There is a 5000 foot paved landing strip running in an east-west direction on Moon Island. West Coast Airlines makes daily flights to this strip. The Port of Grays Harbor, with facilities for loading coastwise and ocean going vessels, is at the head of Grays Harbor at the southeast corner of Hoquiam.

The Northern Pacific Railway enters the east side T-9520 on the north side of the Chehalis River and continues through Aberdeen and Hoquiam and along the north shore of Grays Harbor and leaves T-9519 at the northwest corner of the quadrangle. A branch line crosses the Chehalis River in Aberdeen and runs along the south shore of Grays Harbor to Markham, where it terminates. The Union Pacific Railroad enters the east side of T-9520 on the south side of the Chehalis River, goes through Cosmopolis and Aberdeen and terminates in Hoquiam.

There are two state highways and two federal highways in these quadrangles. U.S. Highway 410 enters the east side of T-9520 on the north side of the Chehalis River and terminates at its junction with U.S. Highway 101 in Aberdeen. U.S. Highway 101 extends from the east edge of T-9520 through Cosmopolis, Aberdeen and Hoquiam to the northeast corner of T-9519, where it leaves the quadrangle on the west side of the Hoquiam River. State Highway 13A extends from its junction with U.S. Highway 101 in South Aberdeen to the west edge of T-9519, where it leaves the quadrangle at Markham. State Highway 9-C extends from its junction with U.S. Highway 101 in Hoquiam westward along the north shore of Grays Harbor to the northwest corner of T-9519.

Aberdeen and Hoquiam are adjoining cities on the north side of Grays Harbor. The population of Aberdeen is about 21,000. Hoquiam has a population of about 11,000. South Aberdeen on the south side of the Chehalis River is within the corporate limits of Aberdeen.

Cosmopolis, an incorporated city with a population of 1,000, is on the south side of the Chehalis River. It joins the east boundary of Aberdeen.

Grays Harbor City is a small settlement with no industry; on the north side of Grays Harbor about 8 miles west of Hoquiam.

Markham is a small settlement at the mouth of the Johns River on the west edge of T-9519. This is the west end of a spur line of the Northern Pacific Railway. There is a shingle mill and a cranberry canning and packing plant there.

Lumbering is the main industry in the area. There are saw mills, plywood mills, and one pulp mill in Aberdeen and Hoquiam. Logs, lumber and plywood is shipped from the Port of Grays Harbor. There is also fishing in the area with canneries in Aberdeen and Hoquiam. The cranberries which are raised mostly in T-9521 are processed and packed in Markham.

Field inspection was done in accordance with the project instructions and the Topographic Manual. None of the field inspection is considered substandard. No unusual methods were used.

There is complete photograph coverage on two different scales of photography. Field inspection was done on the 1:40,000 contact scale photography, except shoreline, which was done on the 1:24,000 contact scale photography. See Field Inspection Reports for Quadrangles T-9518 and T-9521 for photo interpretation which also applies to these quadrangles.

The field edit party should be alert for changes in highway location. A new bridge across the Chehalis River at Aberdeen is

proposed. A new bridge across the Johns River at Markham is now under construction.

3. Horizontal Control

(a) The following stations were established by second-and third-order triangulation:

T-9519

STEARNS 3, 1951
GUS (U.S.E.), 1951
TIDE (U.S.E.), 1951
Hoquiam, Moon Island Airport Beacon, 1951
Grays Harbor Range 3 Front Light, 1951
Grays Harbor Range 3 Rear Light, 1951
" " " 4 Front " , 1951
" " " 4 Rear " 1951
" " " 5 Front " 1951
" " " 5 Rear " 1952
" " North Channel Range 6 Front Light, 1952
" " " " " 6 Rear Light, 1952
North Channel Light 36, 1951
North Channel Light 46, 1951
Grays Harbor North Channel Light 51, 1952
South Channel Light 27, 1951
Hoquiam, Washington State Patrol Radio Mast, 1951

T-9520

Grays Harbor North Channel Light 57, 1952
" " " " " 59, 1952
Charlies Creek Dike Light 38, 1952
Chehalis River Range 1 Front Light, 1952
" " " " Rear Light, 1952
Aberdeen Municipal Tank, 1952
Aberdeen, First Methodist Church, dome, 1952
Aberdeen, McDermoth School, Cupola, 1952
Aberdeen, Our Savior's Lutheran Church, spire, 1952
Aberdeen, Station KBKW, radio mast, 1952
Aberdeen, Station KXRO, south radio mast, 1952
Aberdeen, Anderson & Middleton Lumber Co.
radio mast, 1952
Arctic Lookout Tower, 1952

The following stations were established by fourth-order theodolite observations:

T-9519

TRACK
BM B 285
RESERVOIR

DOLF
BM X 285
YEL
Johns River Daybeacon 1 (T-9518)
Johns River Daybeacon 3

T-9520

WIND
NAVY
BM Q 285
Grays Harbor North Channel Range 7 Front Daybeacon
" " " " " 7 Rear "
" " " " " 8 Front "
" " " " " 8 Rear "
" " " " " 9 Front "
" " " " " 9 Rear "
" " " " " 10 Front "
" " " " " 10 Rear "

Several stations north of quadrangle T-9519 were established by third-order traverse and were reported in the Field Inspection Report for Quadrangles T-9514 to T-9517, inclusive.

(b) No datum adjustments were made and none are required.

(c) Recovered stations not established by the Coast and Geodetic Survey are:

T-9519

P.T.S. 7 (U.S.G.S.) - North
T S 4 (U.S.E.) (29th Engrs.)

T-9520

MN 7 (U.S.E.) (29th Engrs.) - East
P.T.S. 1 (U.S.G.S.)
T 61 (U.S.E.) (29th Engrs.) - East

See also Field Inspection Report for Quadrangles T-9514 to T-9517, inclusive.

The order of accuracy is not known, but is assumed to be third-order. The source of data used by the field party was the project data furnished by the Washington Office.

No datum adjustments were made by the field party.

(d) All control required by the project instructions was identified.

(e) All known Coast and Geodetic Survey stations were searched for except undescribed 1911 stations for which there was no hope of recovery.

Stations not recovered are:

T-9519

MOON, 1940
STEARNS, 1909 - 1935
STEARNS 2, 1939
BLACK, 1911
CREEK, 1911
DOCK, 1911
GAR, 1911
INDIAN, 1910
MUD, 1911
SIX, 1911
WHITE, 1911
FLAT, 1910
TOWER, 1911
HOTEL, 1910
Burner A, 1911
Burner B, 1911
Burner D, 1911
Red Light, 1911
Grays Harbor Wharf, 1911

T-9520

DRUMMOND, 1911
DUCK, 1911
FISH, 1911
HOQUIAM, 1910
NEU, 1911
NEWSKAH, (U.S.E.) 1940
RENNIE, 1911
"S", 1940
TANK, 1911
CHEHALIS, 1911
STAFF, 1911
Harbor Plywood Co., iron stack (WOOD), 1940
Sign Pioneer, dot over letter "I", 1940
Smith's Dairy Products, iron stack (SILVER), 1940
Standard Oil Co. dock, N.E. corner, Light standard, 1940
Wilson Bros. Lumber Co., iron stack, (TALL), 1940
" " " " , steel water tank, (TRIPOD), 1940
Posey Mfg. Co., water tank (LOW), 1940
Washington Public School, flagpole, 1940
Firehouse, cupola atop old hose tower (CUP), 1940
Donovan Lumber Co., water tank (NORTH TWIN), 1940
" " " " (SOUTH TWIN), 1940
Cow Point, beacon 11, 1940
Grays Harbor North Channel Light, 9, 1940
Grays Harbor, Charlies Creek Dike Light, 1940
North Aberdeen Water Tank finial (41), 1940
Port of Grays Harbor dock, mast atop weather tower, 1940
"U" (Drugs(, 1911
Burner A and M, 1911
Burner B, 1911
Burner C, 1911
Burner E, 1911
Burner F, 1911
Chimney of Island House, 1911
Light, east end of jetty, 1911
Light, west end of jetty, 1911
Stack, 1911

Tank in town, 1911
Tank with cover, 1911
Tank with spire, 1911

4. Vertical Control

(a) The following bench marks were recovered:

T-9519

B.M.	Established by:	Accuracy:
Y 284	U.S.C.& G.S.	First-order
MILE	"	"
A 285	"	"
B 285	"	"
C 285	"	"
D 285	"	"
Y 25	"	"
L 1 (USGS)	"	"
Tidal 2, 1940	"	"
Z 284 (N)	"	"
Z 25 (N)	"	"
L 2 (USGS) (N)	"	"
X 25	"	"
Y 25	"	"
Z 25 (N)	"	"
A 26 (N)	"	"
S 285	"	"
INDIAN 2 (USE)	"	"
RM 1 INDIAN 2	"	"
RM 2 INDIAN 2	"	"
T 285	"	"
WALTZ	"	"
X 285	"	"
RM 1 STEARNS 2	"	"
RM 2 STEARNS 2	"	"
Markham Tidal No. 1	"	"
" " No. 3	"	"
S 12	"	"
Y 285	"	"
P.T.S. 7 (U.S.G.S.) (N) U.S.E.		Second-order

T-9520

ABERDEEN	U.S.C.& G.S.	First-order
Tidal 4 a	"	"
Tidal 2, 1927	"	"
K 285	"	"
G 12	"	"
J 285	"	"
H 285	"	"
G 285	"	"
F 285	"	"

B.M.	Established by:	Accuracy:
I 12	U.S.C.& G.S.	First-order
HIWAY	"	"
R.M. 1 HIWAY	"	"
R.M. 2 HIWAY	"	"
E 285	"	"
J 12 - PTS 1 (USGS)	"	"
K 12	"	"
Tidal 4, 1939	"	"
Tidal 5, 1934	"	"
Tidal 6, 1934	"	"
Tidal 3, 1939	"	"
N 12 RESET	"	"
U 285	"	"
COSMOPOLIS	"	"
V 285	"	"
W 285 (E)	"	"
S 61 RESET (E)	"	"
T 61 (E)	"	"
U 61 (E)	"	"
V 61 (SE)	"	"
W 61 (SE)	"	"
N 285	"	"
Q 285	"	"
NEWS	"	"
R.M. 1 NEWS	"	"
R.M. 2 NEWS	"	"
R 285	"	"
JALNA	"	"
R.M. 2 JALNA	"	"
MN - 7 (USE) (E)	U.S.E.	Third - order
104' (USGS) (E)	U.S.E.	Second- order

All known bench marks were searched for.

Datum adjustments were made where necessary on tidal bench marks not tied in on geodetic level lines. Datum adjustments were made on elevations of U.S.E. and U.S.G.S. bench marks published in U.S.E. publications to correct the datum from the old 1929 General Adjustment datum to the Pacific Northwest Supplemental adjustment datum. The correction applied was the same as the nearest benchmark on which elevations on both datums were known.

Bench marks established by this party are R.M. 1 MILE and R.M. 2 MILE.

Bench marks for which geographic positions are known were not identified on the photographs.

(b) Supplemental elevations were established by closed loops or double run spur lines of trig. leveling or spirit leveling and by trig leveling over lines of triangulation. All level lines started and closed on First-order bench marks or on T.B.M.'s

established by this party. Supplemental elevations are listed on Line 13, Centralia to Grays Harbor, Washington. Some of these points were identified for additional control. Trig. leveling from triangulation stations are connected directly to stations which are first-order bench marks.

Elevations of mark or ground were established at triangulation stations as follows:

BRACK, 1910 - 1939
STEARNS 3, 1951
JACK, 1940 (Topo leveling)
KNOB, 1940
VISTA, 1940
WISK, 1940
KAH, 1940
ABERDEEN, (U.S.E.), 1940 (Topo leveling)
ISLAND, 1940
BIG, 1911 - 1939
FINIS, 1940 (TOPO LEVELING)
GRAYS HARBOR (U.S.E.), 1940
Cosmopolis, South transmission tower, 1940
Cosmopolis, North transmission tower, 1940
Arctic Lookout Tower, 1952

Elevations were also established by trig. leveling on the top of 15 of the more prominent intersection stations some of which are obstructions to aircraft.

(c) Designated level points were established as follows:

T-9519

41 points
1901 to 1939, inc.
1943 and 1944
Points 1940 to 1942, inc. were not established.

T-9520

76 points
2001 to 2076, inclusive

(d) All required vertical control points were established. See Field Inspection Report for Quadrangle T-9518, side heading 4 (d) concerning the overlap of vertical control for quadrangle T-9519 into quadrangles T-9518 and T-9516.

5. Contours and Drainage

Contouring is inapplicable.

Study by the compiler of the topography in the clear logged off areas will possibly be an aid in contouring the adjacent

wooded areas, as the terrain in the two areas is similar.

The northern section of Quadrangles T-9519 and T-9520 drain south into Grays Harbor through the Hoquiam and Wishkah Rivers. Drainage from the east is through the Chehalis River.

The southern section of this area drains into Grays Harbor through the Johns River and several small streams between Markham and the Chehalis River.

Where drainage was field inspected it was indicated on the photographs. No attempt was made to field inspect all drainage. Drainage in the area is clearly defined.

6. Woodland Cover

Woodland cover was classified in accordance with Photogrammetry Instructions No. 21 and the Topographic Manual. In the rough sections of these quadrangles the cover is coniferous except in recently logged over areas, where the cover is deciduous brush and small trees. Deciduous trees are prevalent in the flat area adjoining South Aberdeen and around the east and north edges of Aberdeen.

See Field Inspection Report for Quadrangle T-9521, Section 6, Woodland Cover, for description of woodland cover in zone 4, which is similar to the woodland cover in the rough sections of Quadrangles T-9519 and T-9520.

7. Shoreline and Alongshore Features

(a) The mean high water line is indicated on the 1:24,000 contact scale photographs. Along the south side of Grays Harbor it is at the grass line, which is at a vertical bank one to two feet high. Along part of this stretch of shoreline, there is a narrow strip of marsh between the MHWL and the tree line. The mean high water line is at the foot of a somewhat higher bank.

(b) The low water line is not visible on the photographs and is not defined. See Field Inspection Report for Quadrangle T-9518, Project Ph-62 (49).

(c) Foreshore in the area is extensive mud flats. There are no rocks or boulders except along the railroad track from Grays Harbor City to Point New. These have been placed here to keep the track from being undermined by wave action. However, logs and stumps drift into the foreshore area and lodge there, especially on the south side of Grays Harbor. The locations of these are subject to change by extra high tides.

(d) There are no bluffs or cliffs adjacent to the shoreline in this area except from Grays Harbor City westward to Point New.

This bluff rises abruptly from the railroad which is adjacent to the shoreline. It is about 150 feet high and partially covered with trees. A prominent earth bluff mostly covered with deciduous trees extends eastward along the north side of State Highway 9C from Grays Harbor City to a point about 1 mile west of the west edge of Hoquiam, where it leaves the road and roughly follows the north edge of the city, turning north, and then west near the junction of the Little Hoquiam and Hoquiam Rivers. There is a prominent earth bluff about 90 feet high on the north side of East Hoquiam. Another prominent bluff is in East Aberdeen, near the junctions of U.S. Highways 101 and 410. The southwest tip of this bluff is cut face and about 100 feet high. About ¼ mile east of the junction of U.S. 410 and U.S. 101 is the beginning of a similar bluff which extends eastward along U.S. 410 for about 0.7 mile.

(e) There are numerous piers, wharves, and docks in the area covered by this report, all but one of them being in Aberdeen and Hoquiam. There is a small pier just north of the cranberry cannery at Markham. Wharves in Aberdeen and Hoquiam have enough depth of water alongside them to accommodate ocean going vessels.

(f) There are submarine cable and pipeline crossings that have been indicated on the photographs in the following areas;

1. Union Pacific Railroad bridge over Chehalis River - cable and pipeline.
2. Highway bridge over Chehalis River - cable.
3. Northern Pacific Ry. bridge over Wishkah River - Pipeline
4. Northern Pacific Ry. bridge over Chehalis River at Junction City - cable.
5. Heron St. bridge over Wishkah River - cable.
6. Wishkah St. bridge over Wishkah River - cable and pipeline.
7. Second St. bridge over Wishkah River - cable and pipeline.
8. 0.3 m. N.W. of 2nd St. Bridge - pipeline
9. Northern Pacific Ry. bridge over Hoquiam River - pipeline.
10. About 100 meters south of Eighth St. bridge over Hoquiam River - cable.
11. Northern Pacific Ry. bridge over Hoquiam River (Spur line near E. Hoquiam River) - cable.
12. Pipeline goes under Elliot Slough about 1 mile east of Junction City.

(g) Other shoreline structures are bridges, overhead cables, and numerous piles and dolphins, See 12, Other Interior Features, below for bridges and cables.

Piling and dolphins were located either by theodolite cuts

or by sextant fixes, unless they were visible on the photographs. Lists of Directions were made for the theodolite cuts. Sextant fixes were recorded on the backs of the photographs. In Aberdeen, log booms are along the greater part of the shoreline.

8. Offshore Features

There is a power line on poles 35 feet high extending in an easterly direction from the vicinity of Grays Harbor Range 3 Rear Light to just northwest of Grays Harbor North Channel Light 51, from where it runs in a northeasterly direction until it crosses the mean high water line. The poles have been located by theodolite cuts and sextant fixes. See Photo 1754 (1:10,000 scale) for Photo Point A which is the point where the power line crosses the mean high water line. A similar power line 25 feet high extends from the vicinity of Topographic Station NAVY to Grays Harbor North Channel Light 51. This power line has been located by theodolite directions and sextant cuts.

There are no other offshore features except piles and dolphins mentioned in 7 (g) above and aids to navigation mentioned in 9 below.

9. Landmarks and Aids

(a) Land marks for nautical charts have been selected and listed on Form 567, Landmarks for Charts, TO BE CHARTED. Elevations of the more prominent landmarks were determined by trigonometric leveling. Charted objects which are no longer useful as landmarks have been listed on Form 567, Landmarks for Charts, TO BE DELETED.

(b) There is only one object in the area that is considered to be useful as an interior landmark. This is Arctic Lookout Tower located near the southeast corner of Quadrangle T-9520. The position of this object has been determined by third-order triangulation.

(c) Aeronautical aids in the area are the airway beacon on Moon Island and the Hoquiam Radio Range located in the Southwest corner of Aberdeen. The airway beacon has been located by third-order triangulation (Moon Island Airport, beacon, 1951). Hoquiam Radio Range has been identified on Photo 1764.

(d) All fixed aids to navigation have been located. The position of all lighted aids have been determined by third-order triangulation. The positions of all daybeacons have been determined by fourth-order triangulation.

Azimuths of daybeacon ranges were determined by theodolite cuts from the rear objects. Azimuths for Grays Harbor North Channel Range 5 and Chehalis River Range 1 were determined by

sextant cuts from the rear objects. No observations were made on the azimuths of other ranges except the triangulation location of the range lights.

Four non-floating aids east of Quadrangle T-9520 have been identified on the photographs. These are Chehalis River Lights 2, 6, 8, and 11.

Two daybeacons charted on Harbor Chart 6195, dated 10/2/50 are no longer in existance. They are about 0.4 mile southwest of the mouth of the Hoquiam River.

10. Boundaries, Monuments, and Lines

Boundaries to be located in Quadrangles T-9519 and T-9520 are city limits for Hoquiam, Aberdeen and Cosmopolis and the boundary of the U.S. Naval Reserve in Aberdeen. See Special Report on Boundaries - Part 1 - Project Ph-62 (49).

Nine section corners were recovered in Quadrangle T-9519.

Sixteen Section corneres were recovered in Quadrangle T-9520.

11. Other Control

T-9519

Thirteen 1940 recoverable topographic stations were searched for. Eight were recovered and identified. One (YEL) was located by fourth-order theodolite observations for supplemental control.

Six new recoverable topographic stations were established.

Recoverable topographic stations not listed on Form 567 are:

BM X 285	L 1
BM B 285	FLAT
TRACK	FOUN
NO. A (USE)	GUS
YEL	EL
NA	ME
MILL	

T-9520

Two 1940 recoverable topographic stations were searched for and recovered.

Sixteen new recoverable topographic stations were established including eight daybeacons.

Recoverable topographic stations not listed on Form 567 are:

NORT	AB
NAVY	BIN
BM Q 285	

Daybeacons were described before receipt of instructions to omit descriptions of day beacons surrounded by water. All descriptions are submitted.

No photo-hydro control was required in this project and none was established.

12. Other Interior Features

(a) All roads in the area have been classified in accordance with the Topographic Manual. Road classifications and highway numbers have been inked on the 1:24,000 contact scale photographs.

(b) All buildings that are within the area covered by this report and outside the urban limits have been field inspected on the 1:40,000 contact scale photographs. The general rule was to place a green "X" on any buildings or structures to be deleted and red dots or squares on buildings to be mapped. Public buildings within the urban limits of Hoquiam and Aberdeen have been listed by numbers on Photo 7164.

(c) There are several bridges over navigable streams in this area. They are listed below.

13. Geographic Names

See "Special Report on Investigation of Geographic Names - Project Ph-62 (49) - Parts 1 and 2".

14. Special Reports and Supplemental Data.

Special Report on Investigation of Geographic Names - Project Ph-62 (49) - Parts 1 and 2 forwarded 20 October 1952.

Special Report on Land Lines - Part 1 - Project Ph-62 (49) forwarded 15 December 1951.

Special Report on Boundaries - Part 1 - Project Ph-62 (49) forwarded 19 December 1952.

Geodetic records (triangulation and leveling) were forwarded to the Washington office on two transmitting letters dated 17 December 1952.

Carbon copies of lists of directions, descriptions and geographic positions are included with photogrammetric records.

Observations of fourth-order directions, observations of zenith distances, lists of fourth-order directions and related computations for quadrangles T-9518 to T-9521 and T-9633 to T-9635 are grouped together and include some data pertaining to these quadrangles.

Photogrammetric records are forwarded with this report.

Control station identification card for TRACK was forwarded with records for Quadrangle T-9516.

Supplemental data:

Map of Aberdeen, Washington
Map of Hoquiam, Washington
A plotting sheet of Grays Harbor with sextant fixes at piles, etc. plotted thereon.
U.S.E. sketch of Flood Control Survey of Chehalis River at Aberdeen,Washington.
Print of 1951 Triangulation Progress Sketch.
Print of 1952 Triangulation Progress Sketch.

Approved and forwarded

Charles W. Clark

Charles W. Clark
Lt. Comdr., USC&GS
Chief of Party

Respectfully submitted

Charles H. Bishop

Charles H. Bishop
Cartographer

9519

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PHOTOGRAMMETRIC PLOT REPORT
Project Ph-62

21. AREA COVERED

T-9519 and T-9520

22. METHOD

The 1:40,000 scale photographs were used for bridging at a scale of 1:17,000. No bridging was done with the 1:24,000 scale photography. All bridging was done directly on the 1:17,000 scale manuscripts. Pass points between strips were averaged where necessary. Average adjustment was less than 0.5 mm.

An attempt was made to set the strip 51-0-7163 thru 7167 as a unit. The scale of the strip was good but there was an error in azimuth of approximately 1.5 mm which would not yield to repeated attempts at solution. The water area across the strip may have prevented the best solution. It was found necessary to shorten the strip by one model. Therefore, model 51-0-7163 - 7164 was set separately.

Pass points were transferred by graphic intersections from the 1:17,000 projections to the 1:10,000 projections for shoreline Models at scale 1:10,000 were set separately during instrument compilation of the shoreline surveys.

23. ADEQUACY OF CONTROL

Horizontal control identification was furnished on both the 1:17,000 scale and 1:10,000 scale ratio prints. It complied with project instructions and was adequate.

Sketch of "control", attached, shows layout of flights, strips bridged and identified, horizontal control points. All points, (either triangulation points or substitute points relisted in the field), except where noted, were held within 0.5 mm. See copy of letter to Chief, Div. of Photogrammetry dated 19 May 1953, attached, regarding points which could not be held in the bridging. *The discrepancies, to date, have not been resolved.

24. SUPPLEMENTAL DATA

*SEE LETTER WITH IDK NOTATION AREA

None.

25. PHOTOGRAPHY

Coverage and overlap of the 1:40,000 scale photography was adequate. Photography for the separate shoreline surveys at a scale of 1:24,000 was adequate unless discussed in the Compilation Reports for these surveys.

25. PHOTOGRAPHY (cont'd)

Quality of the diapositives is considered only fair, with the flight 51-0-7163 thru 7167 considered poor. See item 25 of Photogrammetric Plot Report bound with Descriptive Report for T-9515 for quality of photography in general.

Respectfully submitted
10 June 1953

Henry P. Eichert
Super. Carto.

COPY COPY 9519 COPY

23

Balto. Photo. Office
518 East 32nd St., Baltimore 18, Maryland

19 May 1953

To: Chief, Division of Photogrammetry,
U. S. Coast and Geodetic Survey,
Washington 25, D. C.

Subject: Horizontal Control - Project Ph-62

Horizontal control stations identified by the field party for the control of Surveys T-9518, T-9519, and T-9520 in Project Ph-62, Grays Harbor - Willapa Bay, Washington which could not be held with other stations in bridging are as follows:

** GRAYS HARBOR E. BASE 2, 1940 (Sub. Pts. 1 & 2)	1.8 mm.east.
MARKHAM, 1940 (Sub. Pts. 1 & 2)	8.0 mm.north.
POLKA, 1940 (Sub. Pt.)	1.2 mm. southwest.
TS-4 (USE), 1937 (Sub. Pts. 1 & 2)	6.8 mm. east.
T-61, 1937 (USE)(Sub. Pts. 1 & 2)	1.5 mm. south.

The first three listed stations are believed to be misidentified. The sub points for station *TS-4 (USE), 1937 as identified by the field party were each in error the same distance and direction indicating a possible error in the geographic position. This same fact is also true of station T-61, 1937 (USE). It is noted that the CSI card submitted by the field party lists station as T-61, 1934 (USE).

* FIELD SOIT AGREES. GP. IS IN ERROR AKA

The geographic positions for stations TS-4 (USE)1937 and T-61, 1937 (USE) are listed in publication "Horizontal And Vertical Control" by the Corps of Engineers 1943, on page A-5 of Montesano Quadrangle and page A-5 of Aberdeen Quadrangle.

A satisfactory bridge was obtained by disregarding the above listed stations and holding to other identified control; and reidentification of misidentified stations is not required to complete the surveys.

Verification of the published geographic positions of the two engineers stations is requested.

/s/ Jack C. Sammons,
Capt. U.S.C. & G. S.
Officer in Charge

k

** STATIONS WERE NOT RECHECKED SINCE STRENGTH OF BRIDGE WAS ADEQUATE. AKA

COMPILATION REPORT
Project Ph-62
T-9519 (Shoreline)

FIELD INSPECTION REPORT

See Descriptive Report for topographic survey for T-9519 to be submitted later.

PHOTOGRAMMETRIC PLOT REPORT

No bridging was done using the 1:10,000 scale photography. Nevertheless, reference should be made to the Photogrammetric Plot Report which will be bound with the Descriptive Report for topographic Survey T-9519.

31. DELINEATION

Multiplex methods were used for delineation. Individual models were set to horizontal control points and pass points. Reference is made to item 22, paragraph 3, of the Photogrammetric Plot Report for discussion of pass points. All cultural features except shoreline were drawn by multiplex. Detail points were established during multiplex compilation for graphic location of the MHWL.

32. CONTROL

Refer to Photogrammetric Plot Report item 25.

33. thru 34.

Inapplicable.

35. SHORELINE AND ALONGSHORE DETAILS

The interpretation of the field inspection was extremely difficult. Considering the character of the shoreline a more detailed field inspection would have been advantageous in compilation. There was little or no distinction between the symbols used for the MHWL and apparent shoreline. The legibility of the field inspection was poor. Also, the limits for grass in water were very poorly indicated by the field inspector.

During compilation of surveys T-9519 and T-9520 additional field inspection was requested. Reference is made to a letter dated 26 June 1953, 711-mkl. The additional field inspection was submitted to this office on ratio photographs 50-0-1754, 1755, 1764 and 1812. This field inspection was more detailed and complete than the original. Legibility was good and the symbols used for apparent shoreline and MHWL were clearly marked.

The only low water line shown on this survey was taken from the latest field inspection. It was indicated on the field photographs as the limits of mud. No low water lines were inspected on the original field inspection.

All channel lines were delineated from office interpretation of the photographs. The interpretation was based on the contrasting tones on the photographs.

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36. OFFSHORE DETAILS

Numerous offshore details such as piling and dolphins were located offshore from the MHWL in the vicinity of Grays Harbor. Details were located either by sextant fixes or theodolite cuts. The amount of field data was voluminous. Approximately 160 sextant fixes and a cahier containing theodolite cuts were submitted by the field party for the location of these offshore details. The plotting of these data was very tedious and time consuming. As a whole the sextant fixes plotted very well. However, many of the theodolite cuts were difficult to correlate with the correct feature being located. The designation of the given feature was not identical from page to page throughout the cahier of theodolite cuts. As a result many cuts could not be used because of uncertain intersections.

The location of the offshore detail in Grays Harbor required much time in both the office and field. Possibly a much improved method in locating offshore details in a similar area would be to fly low altitude photographs so that features would be visible on them. It would be necessary for the field party to locate only enough photo points in the water areas so that each photograph could be oriented for the graphic location of details. Then with a minimum amount of field inspection the compilation office could make a more complete survey and the time consumed both in the field and office would be considerably less.

* MOST OF THE OFFSHORE DETAIL CHECKED VERY WELL DURING HYDROGRAPHY. DIFFERENCES WERE RESOLVED DURING REVIEW.

37. LANDMARKS AND AIDS

Landmarks and aids have been reported on Form 567.

38. CONTROL FOR FUTURE SURVEYS

Item 11 of the field inspection report listed six new recoverable topographic stations established. Actually there are seven. Positions for seven recoverable topographic stations previously established have been verified. New positions have been established for the two previously established recoverable topographic stations.

No Form 524 was submitted for recoverable topographic station RESERVOIR, 1952 which was identified on photo. 50-0-1755. A Form 524 was made in this office.

38. CONTROL FOR FUTURE SURVEYS (cont'd)

A list of all recoverable topographic stations is included under item 49 "Notes For the Hydrographer" of this report.

Twenty Forms 524 are submitted herewith.

39. JUNCTIONS

Satisfactory junctions were made with the following surveys:

To the east with T-9518.
To the west with T-9520 (Shoreline)
To the north and south - there are no shoreline surveys.

40. HORIZONTAL AND VERTICAL CONTROL

Refer to item 23 of the Photogrammetric Plot Report.

Contrary to item 4 of the Field Inspection Report, MARKHAM TIDAL NO. 1, was not recovered.

41. thru 45.

Inapplicable.

46. COMPARISON WITH EXISTING MAPS

Comparison was made between this survey and AMS V791, sheet 1277 IV Aberdeen Quadrangle, scale, 1:50,000, First edition (AMS 1), 1942; (AMS 2), 1947.

47. COMPARISON WITH NAUTICAL CHARTS

Harbor Chart No. 6195, scale 1:40,000, published July 1949 (First edition) corrected 4/21/52.

Items to be applied to Nautical charts immediately: Extensive changes have been noted in the vicinity of Moon Island.

Items to be carried forward: None.

Respectfully submitted
21 March 1955

Donald M. Brant

Donald M. Brant
Carto. (Photo.)

Approved and forwarded

E. H. Kipsch

E. H. Kipsch, Comdr. USC&GS
Officer in Charge
Baltimore Photo. Office

COMPILATION REPORT
Project Ph-62
T-9519 (Topographic)

31. DELINEATION

All topography with the exception of shoreline was compiled by multiplex at a scale of 1:17,000. Models were set individually to horizontal control points and pass points.

Shoreline was taken from a film positive reduction of a separate shoreline survey at a scale of 1:10,000.

The poor quality 1:40,000 scale photography caused many difficulties in compilation. Models 51-0-7250 - 7251 and 51-0-7260 - 7261 could not be used in compilation because of clouds and glare. These models were supplemented by the 1:24,000 scale photography in the same manner mentioned in item 31 of Compilation Report for survey T-9633.

32. CONTROL

Refer to Photogrammetric Plot Report, item 23 for the adequacy of control.

Vertical control was adequate.

33. SUPPLEMENTAL DATA

The following data was used in compiling the city limits of Hoquiam:

Map of the City of Hoquiam, Grays Harbor County, Washington, scale 1"=800'.
Sketch showing method of computing land and water areas, City of Hoquiam dated, December 1951.

Land Plats:

Township No. 16 North Range 10 West Willamette Meridian, dated 11/25/1858.
Township No. 17 North Range 10 West Willamette Meridian, dated 7/22/1860.
Township No. 18 North Range 10 West Willamette Meridian, dated 6/4/1884.
Map of Grays Harbor County, Washington (Land lines Project Ph(62), Reference No. 1).

34. CONTOURS AND DRAINAGE

Photography was poor and diapositives were only fair. The fact that photographs were obscured by clouds caused considerable difficulties. Reference is made to item 31, paragraph 3 of this report. The accuracy of the contours in the densely wooded areas has been discussed in the Compilation Report for T-9516, item 34.

35. thru 38

Refer to the corresponding items of the Compilation Report for the shoreline survey of T-9519.

39. JUNCTIONS

Satisfactory junctions were made with the following surveys:

To the north, there is no contemporary survey.
To the south, with T-9633.
To the east, with T-9520.
To the west, with T-9518.

40. HORIZONTAL AND VERTICAL CONTROL

Refer to the Photogrammetric Plot Report.

The possibility of subnormal vertical accuracy has been discussed in previous paragraphs.

41. BOUNDARIES

The land lines delineated on this survey are only fair, especially in the southern portion of the quadrangle along the fourth standard parallel (between T 17 N and 16 N). Nine section corners were recovered by the Field Inspection party. Land lines running east and west are quite good. Land lines which run north and south are only fair. The sum of the distances measured from the land plats (along the fourth standard parallel) between section corners does not agree with the distances measured on the manuscript between the same identified section corners. These disagreements were compromised by using natural features where available. Where a section line measured by distances from the land plats disagreed with a section line formed by natural features, the natural features were given preference. Most of the natural features were timber lines. When the area was recently logged, it appears to have been cut by sections.

42. thru 47.

Refer to the corresponding items of the Compilation Report for the shoreline survey of T-9519.

Respectfully submitted
10 June 1955

Donald M. Brant

Donald M. Brant
Carto. (Photo.)

Approved and forwarded

E. H. Kirsch

E. H. Kirsch, Comdr. USC&GS
Officer in Charge
Balto. Photo. Office

Section Corner	Information
Point on line 36/1 T17,18N R11W	Recovered point on section line at edge of road. Identified on Photo 50-0-1679 (1:10,000)

PHOTO LOST 1679 AT TIME OF REVIEW AHL

As the note on the discrepancy print regarding contours was deleted by the Washington Office, no elevations on this map were checked.

Notes to the field editor have been answered on the discrepancy print or cross-referenced to the proper source of information.

Field edit information is found on the discrepancy print, Field Edit Sheet No. 1, on supplemental data listed in Section 56 of this report and on the following photographs:

Photo	Type of Information
50-0-1674 (1:10,000)	End of railroad track and siding at Markham
50-0-1691 (1:10,000)	Point on section line 36/1 T17,18N R11W
50-0-1691 (1:10,000)	Shoreline
50-0-1696 (contact)	Drainage
50-0-1697 (1:10,000)	Road 7, east side of Johns River
50-0-1749 (1:10,000)	Section corners
50-0-1754 (1:10,000)	Delineation of wood breakwater, near southwest corner of Hoquiam; shoreline

52. Adequacy of Compilation:

Attention is directed to the following changes and verifications made during field edit:

a. Relocation of Highway 13-A and new bridge at Markham. This was done by planetable at a scale of 1:10,000, using triangulation station Johns River, Markham Lumber Co. Tank 1940 as the initial point and the intersection of centerlines of roads approximately 1300 feet south of Section Corner 2,1,11,12 T16N R11W as the closing point.

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FIELD EDIT REPORT

Project 24120

Quadrangle T-9519

31 May 1957

51. Methods:

Field edit was done in accordance with Instructions for Field Edit, Project Ph-62, dated 1 June 1955, and notes to the field editor on the discrepancy print for this quadrangle.

All planimetric details within the land area were edited. Additions and corrections have been made with red ink and deletions with green ink.

In view of the fact that the water area of this map is within the area covered by the hydrographic survey of Grays Harbor that was completed in 1956, offshore features other than those to which attention was called on the discrepancy print were not edited.

A summary of section corner information follows:

Section Corner	Information:
1,6,12,7 T17N R11,10W	Positive recovery; located by planetable on Field Edit Sheet No. 1
¼ Corner 11/12 T16N R11W	Doubtful in that "approx" was noted on the identification tag near the corner. Identified on Photo 50-0-1674 (1:10,000)
4,3,9,10 T16N R10W	Recovered iron pipe; Identified on Photo 50-0-1749 (1:10,000)
3,2,10,11 T16N R10W	Doubtful recovery. Tree blazed on four sides was assumed to be the corner. The blazes were not conventional. Identified on Photo 50-0-1749 (1:10,000)
7,8,18,17 T16N R10W	Recovered 4x4-inch fir stake and two old blazes on witness trees. Located by planetable on Field Edit Sheet No. 1.

NOTE! THIS PHOTO 1749 COULD NOT BE FOUND DURING REVIEW AT WASH. OFFICE AKB

b. Cable and bridge clearances were checked where requested and the results noted on the discrepancy print. Overhead cable clearances were determined by planetable. Vertical clearances for bridges were measured with a tape. A mean high water value of 9 feet was used in determining the vertical clearances.

c. The city limit of Hoquiam covers a much larger area than indicated on the manuscript. A city map was obtained from the assistant city engineer. Changes in the city limit since the map was compiled and notes pertinent to the city limit were added with purple pencil. The boundaries of Lions City Park and Sunset Memorial Park are indicated on this map with red pencil.

d. It is recommended that Stations PTS 13 (USGS), PTS 14 (USGS) and FLAT 1910 be deleted from the map. They were not recovered. It is highly probably that PTS 13 and PTS 14 have been destroyed. The area in which Station FLAT plots is open. As it was marked by a wooden post in 1910, it has probably rotted away or been destroyed.

e. The geographic position for TS 4 USE plots this station 68 meters west of its actual position on the ground. It was located by planetable on the planetable sheet showing relocation of Highway 13-A at Markham. DELETED FROM MANUSCRIPT AHH

f. Note location of Field Edit Sheet No. 1 of dike around marsh on south side of Johns River at Markham.

g. See supplemental data for the proposed boundary of the Johns River Game Range. The shaded area has already been purchased by the State of Washington and is the present range. The State plans to purchase the un-shaded parcels and thus extend the limits to the boundary shown on the tracing. This state-owned area is for the free hunting of migratory waterfowl by the public.

h. Note shoreline changes in the vicinity of Grays Harbor City and Moon Island. Shoreline in this area has been delineated on Photographs 50-0-1691 and 1754 with purple ink.

j. It is noted that the elevation of Station WALTZ 1940 is in meters instead of feet. See note on discrepancy print.

53. Map Accuracy:

No horizontal accuracy test was required and none was made.

No contours on this map were checked. See deletion of note on discrepancy print referring to contours.

It is believed that the planimetric detail will conform to the requirements for horizontal accuracy.

T-9519

3A

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54. Recommendations:

None.

55. Examination of Proof Copy:

The following named person has agreed to examine a proof copy of the map if it should be sent to him:

Mr. Elwood Shorey
Star Route Box 131
Montesano, Washington

Mr. Shorey is a local land surveyor and a lifetime resident of the area.

56. Supplemental Data:

a. Map of City of Hoquiam, showing city limits, boundary of Lions City Park and boundary of Sunset Memorial Park.

b. Tracing from map of Johns River Game Range, showing boundary.

c. Sheet showing relocation of State Highway 13-A at Markham by planetable.

57. Current Hydrographic Surveys:

The water area of T-9519 is within the area covered by the hydrographic survey of Grays Harbor completed by the Coast and Geodetic Survey in the fall of 1956. For the editing of offshore features, a comparison of this map with the hydrographic survey should be made.

Approved:

V. Ralph Sobieralski
LCDR C&G Survey
Officer-in-Charge

Respectfully submitted:

Charles H. Bishop
Cartographer
C&GS

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Review Report T-9519
Topographic
5 September 1958

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

H-334	1:221,360	1852
3154	1:10,000	1911
3045	"	1909-10
6809	"	1940
6810	"	1940

This manuscript supersedes the above surveys for nautical chart construction.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Aberdeen First Edition 1942 AMS

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

H-8293 - 1956

Comparison was made with the boat sheet and unverified smooth sheet. These are in agreement with T-9519 (field edited 1957) except as follows:

1. At latitude 46°56'16" and longitude 123°54'20" T-9519 shows a short line of piling running NW, SE the end being in 12' of water. This was not on H8293 and should be added since the sheet was field edited in 1957.

2. The two lines of pile at the entrance to O'Leary Creek do not agree in position with that shown on the 1956 boat sheet. The positions on T-9519 were corrected by the field edit in 1957 and probably should be used on H 8293.

3. A line of piling at lat 46°58'59' and long. 123° 57'25' on H 8293 extends some 850 meters farther south from the shoreline than on T-9519. This line of piling is entirely inside the low water area. It is recommended that the piling be retained as shown on H 8293 even though T-9519 was field edited a year later.

65. COMPARISON WITH NAUTICAL CHARTS:

6195 53 Edition May 1954 5/26/58

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66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

The vertical accuracy of this map was not checked. It will be published without an accuracy statement.

to
Refer/item 53 of the Field Edit Report.

The horizontal accuracy is adequate to meet the National Standards of Map Accuracy.

Refer to general statements relative to the contouring of this project in item 66 of Review Report T-9514.

The manuscript complies with all instructions and may be used as a base for nautical chart construction.

67. SHORELINE SURVEYS

Shoreline manuscript T-9519, scale 1:10,000 covers that portion of Grays Harbor as shown on the topographic manuscript.

The surveys are in agreement.

Review by

A. K. Heywood

Approved

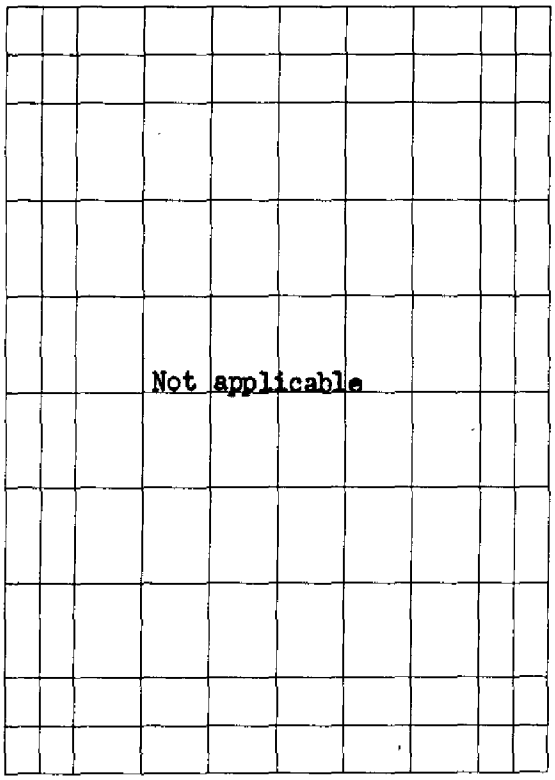
L C Lande
Chief, Review Branch
Photogrammetry Division

Mary Ricketts
Chief, Nautical Chart Branch
Charts Division

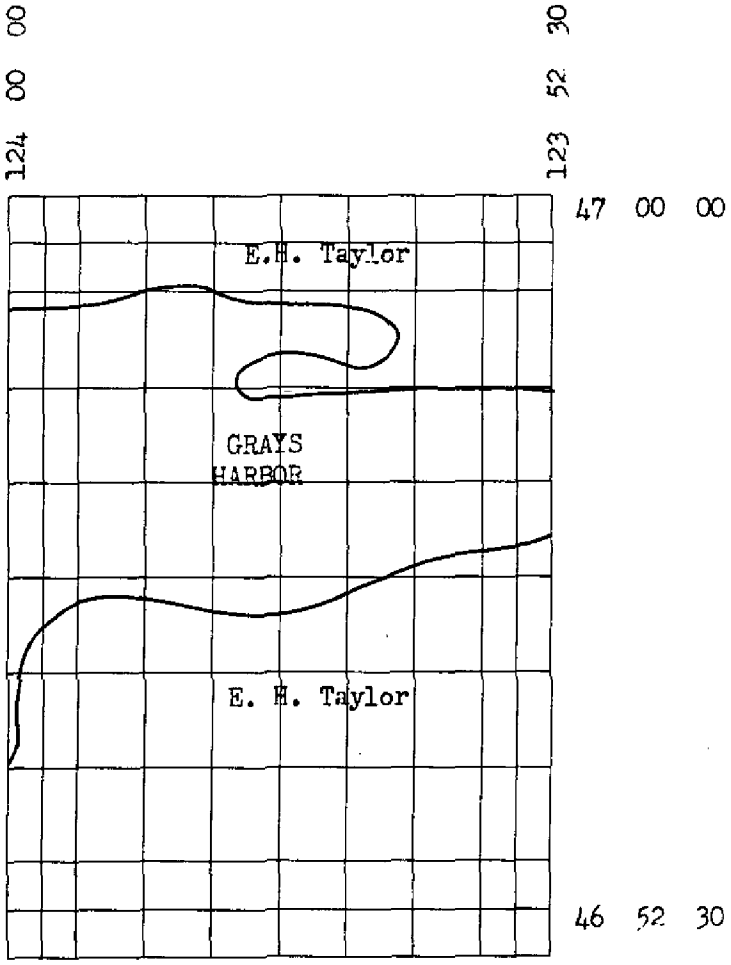
L W Swanson
Chief, Photogrammetry Division
24 Sept 59

J. H. Boyce
Chief, Coastal Surveys Division

T9519



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

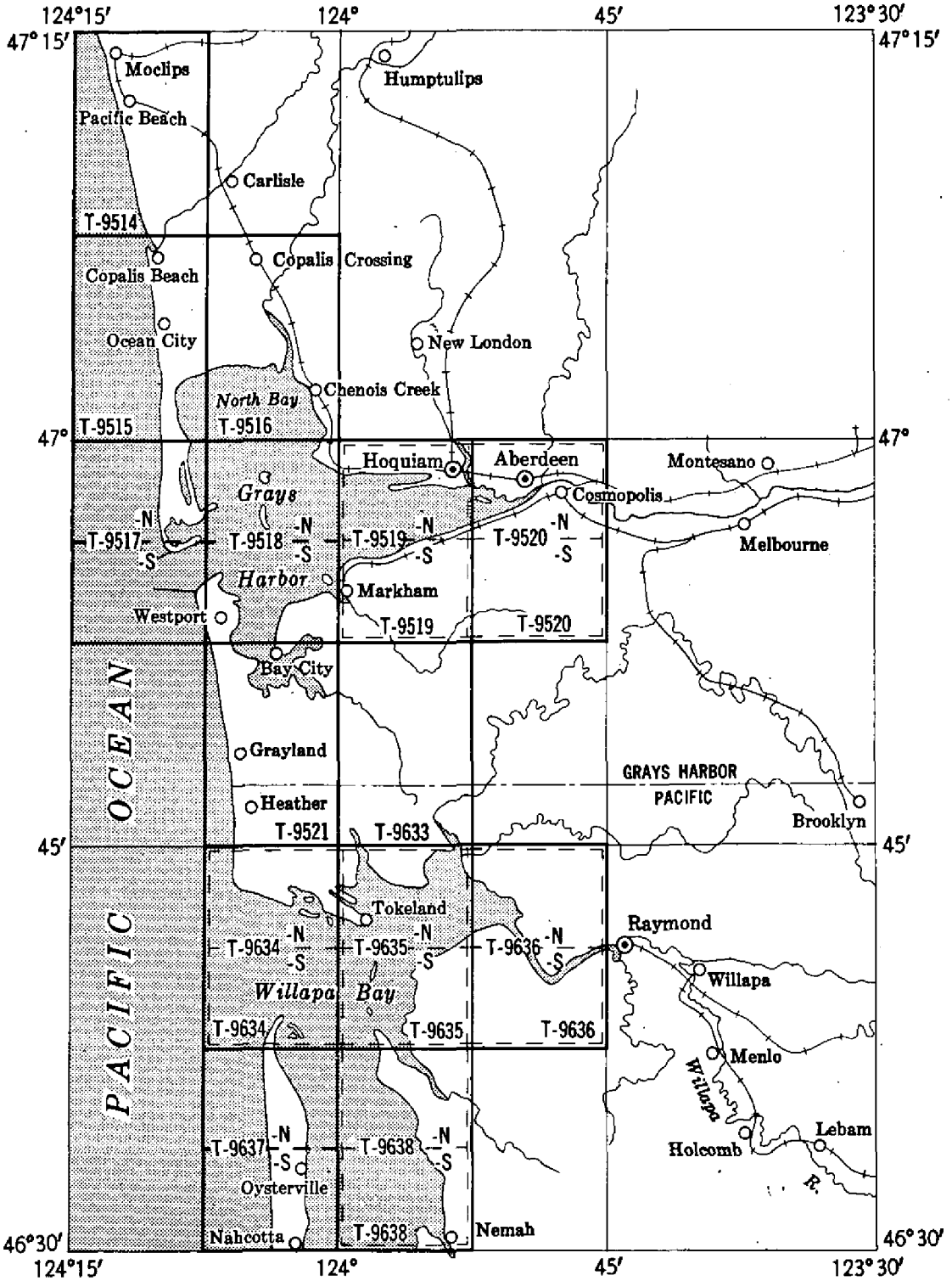


Areas contoured by various personnel
(Show name within area)
(II) (III)

TOPOGRAPHIC AND SHORELINE MAPPING PROJECT PH-62 (49)

WASHINGTON, Grays Harbor - Willapa Bay

Compilation scales 1:10,000 and 1:20,000



TOPOGRAPHIC MAPS: T-9514, T-9515, T-9516 T-9519, T-9520, T-9521, T-9633 to T-9636 and T-9638, (scale 1:20,000), T-9517-N, T-9517-S, T-9518-N, T-9518-S, T-9637-N, T-9637-S, (scale 1:10,000),

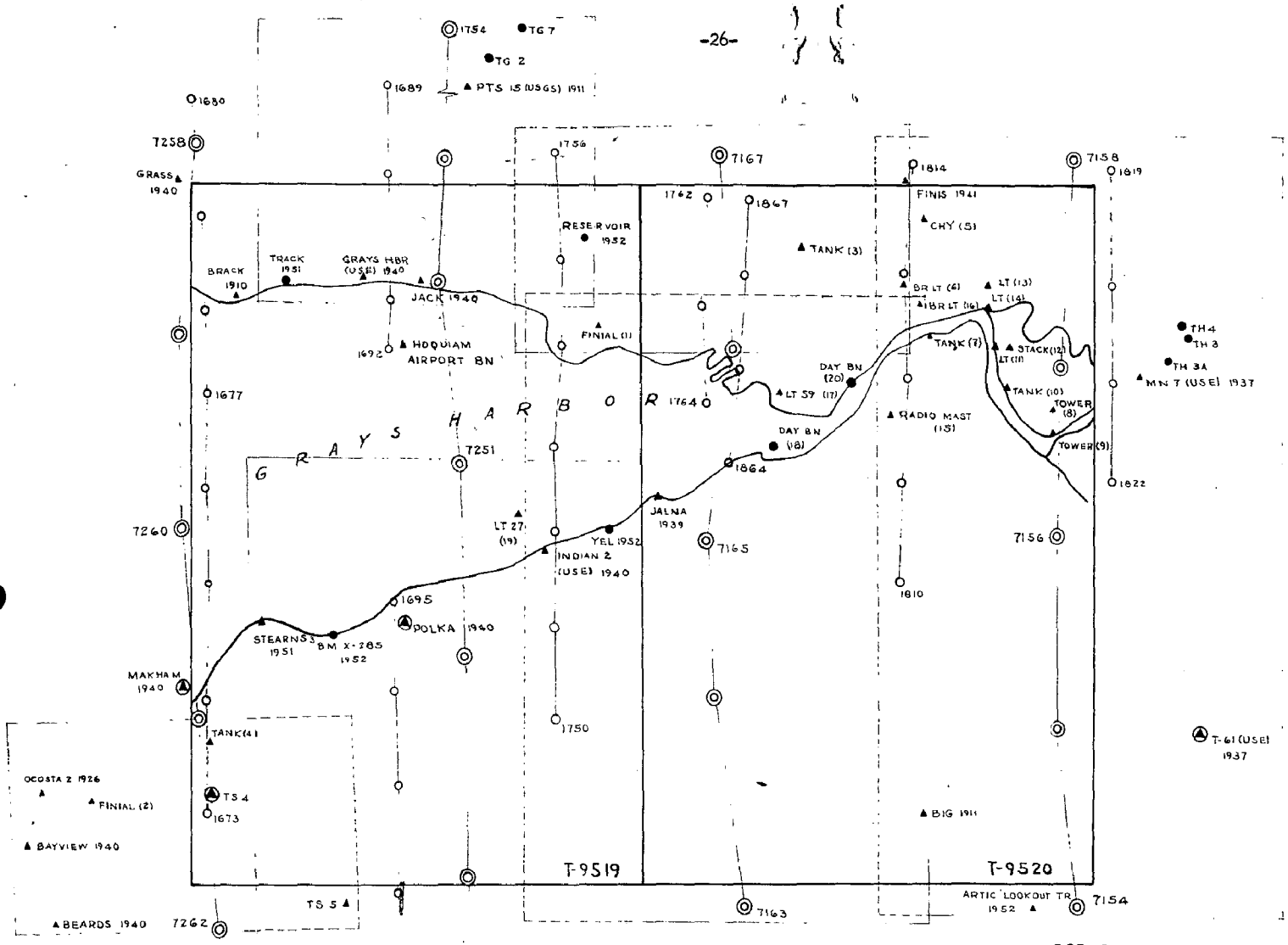
SHORELINE SURVEYS: T-9519-N, T-9519-S, T-9520-N, T-9634-N, T-9634-S, T-9635-N, T-9635-S, T-9636-N, T-9636-S, T-9638-N, T-9638-S, scale 1:10,000,

Bridge & Type	River	Hor. Cl. (feet)	Vert. Cl. (feet)	Time	Date	Quad.	Identified on Photo.	
N.P. Ry.(swing)	Hoquiam	137	11.0	1420 PDST	8/20/52	T-9519	1763	9.7 11.5 MHW
Simpson Ave (double bascule)	"	160	42.6	1142 PDST	8/20/52	T-9519	1763	40. 39.4 MHW
Eight St. (swing)	"	129	21.0	1223 PDST	8/20/52	T-9519	1763	20 20.4 MHW
N.P. Ry. (swing)	"	116	11.7	1245 PDST	8/20/52	T-9519	1755	10.9 MHW
U.S. 101 (bascule)	Little Hoquiam	39	12.2	1252 PDST	8/20/52	T-9519	1755	11.6 MHW
N.P. Ry. (swing)	Wishkah	136.5	13.0	1045 PST	9/18/52	T-9520	1812	
Heron St. (swing)	"	69	12.0	1104 PST	9/18/52	T-9520	1812	
Wishkah St. (single bascule)	"	124.9	11.8	1114 PST	9/18/52	T-9520	1812	
2nd Ave. (swing)	"	99.0	11.7	1150 PST	9/18/52	T-9520	1812	
U.P. RR (swing)	Chehalis	145.6	14.2	1130 PST	9/18/52	T-9520	1812	

Bridge & Type	River	Hor. Cl. (feet)	Vert. Cl. (feet)	Time	Date	Quad.	Identified on Photo.	
U.S. 101 (swing)	Chehalis	128.4	26.3	1407 PST	9/18/52	T-9520	1812	
N.P. Ry. (swing)	"	126	12.8	1010 PST	9/30/52	T-9520	1812	
Highway (fixed)	Elliot Slough	38.0	14.0	0955 PST	9/30/52	T-9520	1813	
Pipeline (fixed)	"	20.0	8.9	0848 PST	10/2/52	T-9520	1821	
N.P. Ry. (fixed)	"	12.9	10.6	0835 PST	10/2/52	T-9520	1821	
Markham Br. (fixed)	Johns River	69.0	37.2	1441 PST	(6.0) 5/27/52	T-9519	1674	36' MHW
Fixed Br	O'Leary Creek	14.0	11.0	910 PDST	8/6/52	T-9519	1695	4' MHW

(d) Cable crossings over navigable waters in the area are listed below.

Over (stream)	Place	Vert. Cl. above MHW
Little Hoquiam River	W. of Hwy. Br. at Mouth	48 feet
Hoquiam River	about 200 m S.E. of East Hoquiam River	84 feet
Hoquiam River	about 700 m. N. of Simpson St. Bridge	See Level Vol. 32, P. 1-10
Wishkah River	near Fern Hill Cemetery	73 feet
Wishkah River	at 2nd St. Bridge	80 feet
Wishkah River	about 200 m downstream from 2nd St. Bridge	84 feet
Chehalis River	Cosmopolis	103 feet



1. HOQUIAM, FIRST CH OF CHRIST SCIENTIST, FINIAL 1940
2. OCOSTA, WHITEHOUSE CUP. FINIAL, 1940
3. ABERDEEN MUN. TANK, 1952
4. JOHNS RIVER, MARKHAM LUMBER CO TANK 1940
5. ABERDEEN FERN HILL CEM. MAUSOLEUM CHY 1940
6. ABERDEEN, WISHKAH RIV BR HIGHEST LT (SWING) 1940
7. SO ABERDEEN LUMBER MILL W.T. (WAT) 1940
8. COSMOPOLIS N. TRANS TOWER 1940
9. " S " " "
10. SO. ABERDEEN, BAY CITY LUMBER CO W.T. FINIAL 1940
11. CHEHALIS RIVER BRIDGE TO JUNCTION CITY LT ATOP CENTER SPAN (DRAW) 1940
12. BISHOP PLANT IRON STACK (BROKE) 1940
13. CHEHALIS RIVER RANGE 1 REAR LT 1952
14. " " " FRONT LT 1952
15. ABERDEEN, STATION KXRO, SO. RADIO MAST, 1952
16. CHEHALIS RIVER BRIDGE LT. ATOP CENTER SPAN (RAIL) 1940
17. GRAYS HARBOR N. CHAN LT. 59, 1952
18. GRAYS HARBOR N CHAN. RANGE 7 REAR DAY BN 1952
19. SO. CHAN LT. 27, 1951
20. GRAYS HARBOR N. CHAN RANGE 9 REAR DAY BN, 1952

SKETCH OF CONTROL
PROJECT PH62(49)
GRAYS HABOR

LEGEND

- ○ 1:24,000 SCALE PHOTOGRAPHY
- ◎ 1:40,000 SCALE PHOTOGRAPHY
- ● TOPOGRAPHIC AND TRAVERSE POINTS (Identified & Held)
- ▲ TRIANGULATION POINTS (Identified & Held)
- ⓐ TRIANGULATION POINTS (Identified but not held)

FORM 164
(4-23-54)

U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT CONTROL RECORD

MAP T-9519 PROJECT NO. Ph-62(49) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE			DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
			°	'	"							
STEARNS 3, 1951	Field Comp. p. 1	N.A. 1927	46	55	22.595	697.7	(1155.1)					
			123	58	54.208	1146.9	(122.5)					
GUS (USE), 1951	"	"	46	55	24.332	751.4	(1101.4)					
			123	58	55.950	1183.8	(85.7)					
GRAYS HARBOR RANGE 4 FRONT LT. ~~1~~, 1951	p. 4	"	46	57	26.857	829.3	(1023.5)					
			123	59	23.260	491.8	(776.8)					
GRAYS HARBOR RANGE 4 REAR LT., 1951	p. 4	"	46	57	23.136	714.4	(1138.4)					
			123	59	43.626	922.4	(346.2)					
NORTH CHANNEL LT. 36, 1951	p. 4	"	46	57	22.382	691.2	(1161.6)					
			123	58	51.568	1090.3	(178.3)					
GRAYS HARBOR RANGE 3 REAR LT., 1951	p. 4	"	46	57	55.996	1729.2	(123.6)					
			123	58	18.740	396.2	(872.3)					
GRAYS HARBOR RANGE 3 FRONT LT., 1951	p. 4	"	46	57	45.751	1412.8	(440.0)					
			123	58	32.432	685.7	(582.8)					
GRAYS HARBOR N. CHAN. LT. 51, 1952	p. 1809 Miss. 330's Comp.	"	46	58	11.219	346.4	(1506.4)					
			123	54	05.095	107.7	(1160.6)					
NORTH CHANNEL LT. 46, 1951	Field Comp. p. 4	"	46	58	05.238	161.7	(1691.1)					
			123	55	17.257	364.7	(903.7)					
GRAYS HARBOR RANGE 5 FRONT LT., 1951	"	"	46	58	14.114	435.8	(1417.0)					
			123	55	00.878	18.6	(1249.8)					
GRAYS HARBOR RANGE 5 REAR LT., 1951	p. 5	"	46	58	17.885	552.3	(1300.5)					
			123	54	40.176	849.3	(419.0)					
SOUTH CHANNEL LT. 27, 1951	p. 5	"	46	56	18.698	577.4	(1275.4)					
			123	54	42.995	909.4	(359.7					

1 FT. = .3048006 METER

COMPUTED BY: A. K. Heywood DATE 3 March 1953 CHECKED BY: E. L. Rolle DATE 4 March 1953

COMM-DC-57843

FORM 164
(4-23-54)

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

DESCRIPTIVE REPORT — CONTROL RECORD

MAP T- 9519 PROJECT NO. Ph-62(49) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE			DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
HOQUIAM, MOON ISLAND AIRPORT BN, 1951	Field Comp. p. 5	N.A. 1927	46	58	25.905	799.9	(1052.9)					
			123	55	48.878	1033.1	(235.1)					
TIDE (USE)	"	"	46	57	46.002	1420.5	(432.3)					
			123	58	28.722	607.2	(661.3)					
HOQUIAM, WASH.STATE PATROL RADIO MAST 1951	"	"	46	58	48.606	1501.0	(351.8)					
			123	52	33.727	712.8	(555.3)					
GRAYS HARBOR N. CHAN. RANGE 6 REAR LT., 1952	Miss. Comps	"	46	58	12.428	383.8	(1469.0)					
			123	55	52.570	1111.3	(157.0)					
GRAYS HARBOR N. CHAN. RANGE 6 FRONT LT., 1952	"	"	46	58	11.786	364.0	(1488.8)					
			123	55	39.283	830.4	(437.9)					
POLKA, 1940	G-9448 p. 1382	"	46	55	50.309	1553.5	(299.3)					
			123	55	30.053	635.8	(633.5)					
GRAYS HARBOR (USE), 1940	G-5735 p. 731	"	46	58	58.327	1801.1	(51.7)					
			123	57	23.403	494.6	(773.4)					
MILE, 1940	G-5735 p. 746	"	46	58	49.425	1526.2	(326.6)					
			123	54	35.149	742.9	(525.2)					
WALTZ, 1940	"	"	46	55	28.326	874.7	(978.1)					
			123	56	50.578	1070.1	(199.3)					
HOQUIAM, IRON STACK (HO.),1940	p. 735	"	46	58	11.951	369.0	(1483.8)					
			123	54	04.884	103.2	(1165.1)					
BRACK, 1910	p. 653	"	46	58	52.299	1615.0	(237.8)					
			123	59	20.409	431.3	(836.8)					
INDIAN 2 (USE) 1940	p. 731	"	46	56	09.698	299.5	(1553.3)					
			123	54	05.406	114.4	(1154.8)					

1 FT. = .3048006 METER

COMM-DC-57843

COMPUTED BY: A. K. Heywood DATE 3 March 1952 CHECKED BY: E. L. Rolle DATE 3 March 1953

FORM 164
(4-23-54)

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

DESCRIPTIVE REPORT — CONTROL RECORD

MAP T-9519 PROJECT NO. Ph-62(49) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE °	'	"	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
JACK, 1940	G-5735 p. 746	N.A. 1927	46	58	59.274	1830.4	(22.4)					
			123	55	53.937	1139.9	(128.1)					
JOHNS RIVER MARKAM LUMBER CO. TANK, 1940	G-5735 p. 747	"	46	54	06.090	188.1	(1664.7)					
			123	59	44.947	951.3	(318.7)					
HOQUIAM, FIRST CH. OF CHRIST SCIENTIST FINAL, 1940	G-5735 p. 736	"	46	58	35.565	1098.2	(754.6)					
			123	53	13.013	275.0	(993.2)					
HOQUIAM, GRAYS HBR LUMBER CO. BRICK STACK (GRAYS), 1940	G-5735 p. 735	"	46	58	12.407	383.1	(1469.7)					
			123	53	23.933	505.9	(762.4)					
HOQUIAM, RADIO POLE, (SOUTH RADIO) 1940	"	"	46	58	29.351	906.4	(946.4)					
			123	53	37.937	801.9	(466.3)					
HOQUIAM, RADIO POLE, (NORTH RADIO), 1940	p. 736	"	46	58	30.683	947.5	(905.3)					
			123	53	36.053	762.1	(506.1)					
HOQUIAM, SARON LUTH. CHURCH, CROSS OF STEEPLE, 1940	p. 736	"	46	58	28.445	878.4	(974.4)					
			123	53	12.929	273.2	(995.0)					
TS 4 (U.S.E.), 1937	C of E Control Data p.A-5	"	46	53	31.819	982.6	(870.2)					
			123	59	48.218	1020.8	(249.4)					

1 FT. = .3048006 METER

COMPUTED BY: A. K. Heywood DATE: 3 March 1953 CHECKED BY: E. L. Relle DATE: 3 March 1953

COMM-DC-57843

FORM 164
(4-23-54)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
DESCRIPTIVE REPORT
CONTROL RECORD

MAP T-9519 PROJECT NO. Ph-62(49) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE			DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
YEL, 1952	Misc. Comp. p 2 of 4	N.A. 1927	46	56	19.606	605.4	(1247.4)					
			123	53	23.139	489.4	(779.7)					
TRACK, 1951	"	"	46	58	56.161	1734.3	(118.5)					
			123	58	48.003	1014.5	(253.5)					
BM X 285, 1952	"	"	46	55	18.217	562.5	(1290.3)					
			123	58	25.713	544.0	(725.5)					
RESERVOIR, 1952	"	"	46	59	16.922	522.5	(1330.3)					
			123	53	35.448	749.1	(518.8)					
FLAT, 1910	G-6580 p. 1008	"	46	58	44.183	1364.4	(488.4)		DESTROYED AHL			
			123	54	12.215	258.2	(1010.0)					
INDIAN, 1910	"	"	46	56	09.445	291.7	(1561.1)					
			123	54	05.619	118.9	(1150.4)					
STEARNS, 1909	p.1007	"	46	55	21.893	676.1	(1176.7)					
			123	58	51.244	1084.2	(185.2)					
PTS 13 (USGS)	C of E Aberdeen p. 44	"	46	58	56.6	1747.8	(105.0)		DESTROYED AHL			
			123	58	34.9	737.6	(530.5)					
PTS 14 (USGS)	C of E Aberdeen p. 44	"	46	58	55.2	1704.6	(148.2)		"			
			123	55	04.1	86.7	(1181.4)					
TOWER, 1911	G-6580 p.1014	"	46	58	38.72	1195.7	(657.1)		DESTROYED AHL			
			123	53	04.40	93.0	(1175.2)					

1 FT. = .3048006 METER

COMPUTED BY: D. M. Brant DATE 10 March 1955 CHECKED BY: H. P. Eichert DATE 10 March 1955

COMM-DC-57843

Photogrammetry

MAP T-9519 PROJECT NO. Ph-53(49) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE ° '	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
Sub. Sta. No. 2 JACK, 1940	Comp.		46 58	1798.9 (53.9)			
			123 55	1075.6 (192.4)			
Sub. Sta. No. 1 JACK, 1940	"		46 58	1820.2 (32.6)			
			123 55	1100.6 (167.4)			
Sub. Sta. BRACK, 1910	"		46 58	1618.7 (234.1)			
			123 59	431.3 (836.8)			
Sub Sta. No. 1 TS 4(USE)), 1937	"		46 53	952.8 (900.0)			
			123 59	1039.9 (230.3)			
Sub Pt. 1, BM X 285, 1952	"		46 55	586.7 (1266.1)			
			123 58	558.6 (710.9)			
Sub Pt. No. 2, BM X 285, 1952	"		46 55	575.7 (1277.1)			
			123 58	505.1 (764.4)			
Sub Pt. No. 3, BM X 285, 1952	"		46 55	548.7 (1304.1)			
			123 58	521.1 (748.4)			
Sub Pt. No. 4, BM X 285, 1952	"		46 55	411.7 (1441.1)			
			123 58	420.6 (848.9)			
Sub Pt. No. 1 STEARNS 3, 1951	"		46 55	707.0 (1145.8)			
			123 58	1157.4 (112.0)			
Sub Pt. No. 2 STEARNS 3, 1951	"		46 55	703.6 (1149.2)			
			123 58	1081.5 (187.9)			
Sub Pt. No. 3 STEARNS 3, 1951	"		46 55	668.0 (1184.8)			
			123 58	1192.1 (77.3)			
Sub Pt. No. 2, TS 4(USE), 1937	"		46 53	958.1 (894.7)			
			123 59	1071.1 (199.1)			

1 FT. = .3048006 METER

M-2388-12

COMPUTED BY: A. K. Heywood DATE 6 March 1953 CHECKED BY: E. L. Rolle DATE 9 March 1953

Photogrammetry

MAP T- 9519 PROJECT NO. Ph-62(49) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE ° '	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
Sub Pt. RESERVOIR, 1952	Computed	N.A. 1927	46 59	526.7	(1326.1)					
			123 53	754.6	(513.3)					
Sub Pt. POLKA, 1940	"	"	46 55	1570.5	(282.3)					
			123 55	640.1	(629.2)					
Sub Pt. No. 1 INDIAN 2(USE), 1940	"	"	46 56	301.9	(1550.9)					
			123 54	26.4	(1242.8)					
Sub Pt. No. 2 INDIAN 2(USE), 1940	"	"	46 56	288.3	(1564.5)					
			123 54	120.0	(1149.2)					
Sub Pt. No. 3 INDIAN 2(USE), 1940	"	"	46 56	295.5	(1557.3)					
			123 54	127.0	(1142.2)					
Sub Pt. No. 1 YEL, 1940-1951	"	"	46 56	602.4	(1250.4)					
			123 53	442.4	(826.7)					
Sub Pt. No. 2 YEL, 1940-1951	"	"	46 56	587.6	(1265.2)					
			123 53	466.5	(802.6)					
Sub Pt. No. 1 TRACK, 1951	"	"	46 58	1717.1	(135.7)					
			123 58	1009.5	(258.5)					
Sub Pt. No. 2 TRACK, 1951	"	"	46 58	1722.1	(130.7)					
			123 58	1031.6	(236.4)					
Sub Pt. No. 1 FLAT, 1940	"	"	46 59	601.3	(1251.5)					
			123 52	883.0	(384.9)					
Sub Pt. No. 2 FLAT, 1940	"	"	46 59	615.4	(1237.4)					
			123 52	863.8	(404.1)					

1 FT. = .3048006 METER

M-2388-12

COMPUTED BY: E. L. Rolle DATE 3/19/53 CHECKED BY: J. D. McEvoy DATE 3/19/53

PHOTOGRAMMETRIC OFFICE REVIEW

T-9519 (Shore line)

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

CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy ✓ 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) ✓ 7. Photo hydro stations — 8. Bench marks —

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 alongshore 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. Donald M. Grant
Reviewer

Henry J. Eisler
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:

Form T-2

PHOTOGRAMMETRIC OFFICE REVIEW

T. 9519

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

CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy ✓ 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) ✓ 7. Photo hydro stations None 8. Bench marks ✓
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 alongshore cultural features ✓

PHYSICAL FEATURES

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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. Donald M. Burt — Reviewer; [signature] — 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:

M-2623-12

48. GEOGRAPHIC NAMES LIST

Barlow Creek
Beaver Creek
Bluff Creek
Brackenridge Bluff

Campbell Creek
Crossover Channel

Emerson School

Florence Creek – not on map

Gold Creek
Grays Harbor
Grays Harbor City
Highways 13A, 9C, U.S. 101 and 9 not on this sheet
Hoquiam
Hoquiam River

Indian Creek

Johns River
Johns River Road

Lincoln School
Lincoln Street
Little Hoquiam River
Lions City Park

Markham
Middle Channel
Moon Island
Moon Island Airport

North Channel
North Fork Little Hoquiam River
North Fork Johns River
Northern Pacific Railroad (Moclips Branch)
Northern Pacific Railroad (Ocosta Branch)

O'Leary Creek

Rennie Island

South Arbor
South Channel
Stafford Creek
Stearns Bluff

West Fork Hoquiam River

Names approved 9-8-55, on basis of Project Names Report.
L. Heck.

49. NOTES FOR THE HYDROGRAPHER

Numerous offshore details such as piling and dolphins were located offshore from the MHWL in the vicinity of Grays Harbor. Details were located either by sextant fixes or theodolite cuts. Since these data were very difficult to correlate and also, since the features were not visible on the photographs it is felt that some offshore details have been omitted.

A set of photographs have been especially prepared for hydrography and are forwarded herewith.

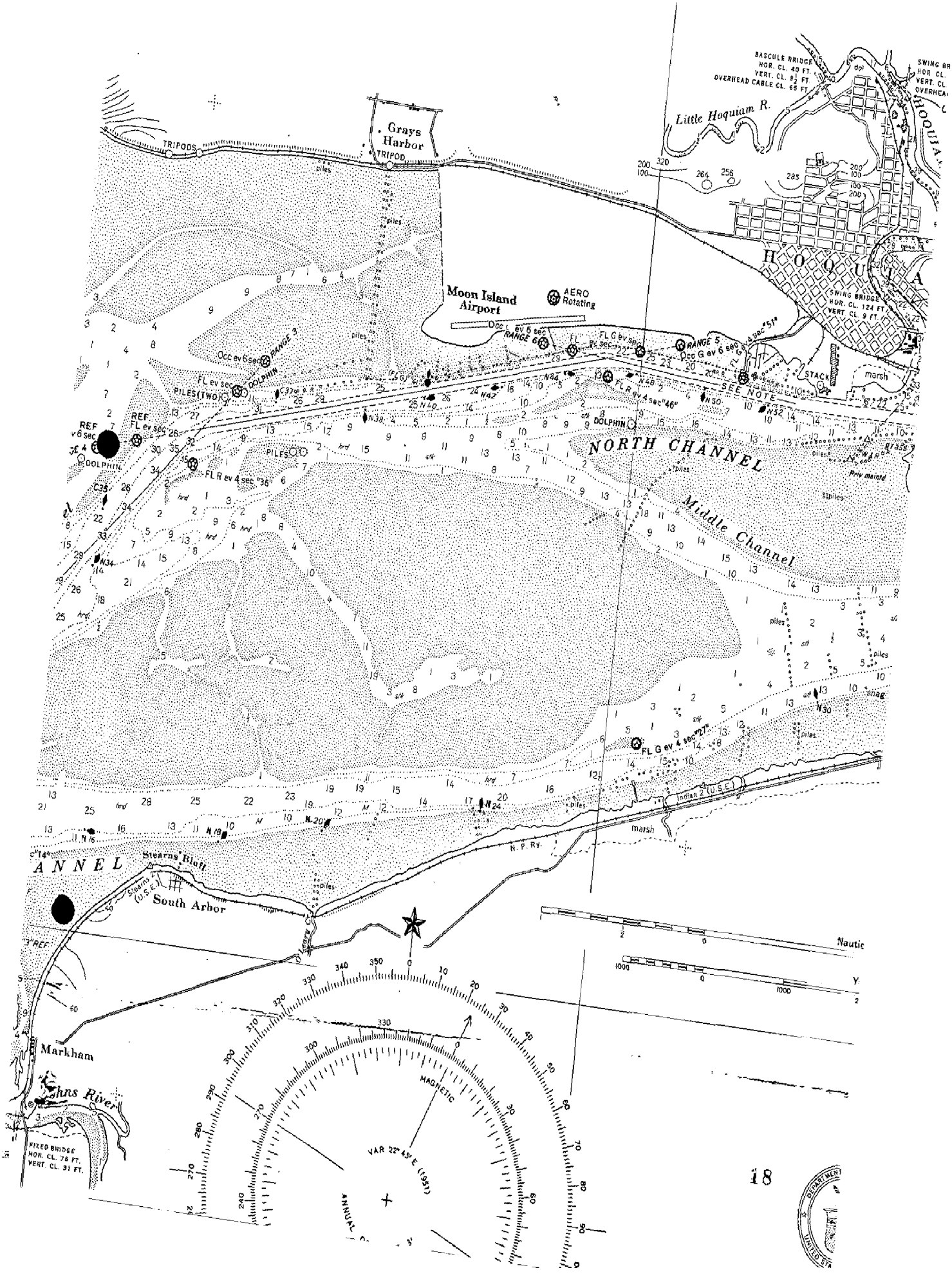
The following is a list of recoverable topographic stations which may be used for hydrography.

B.M. X 285, 1953
B.M. B 285, 1952
DOLF, 1952
JOHNS RIVER DAYBEACON 3, 1952
NO. A (U.S.E.) 1952
RESERVOIR, 1952
TRACK, 1952
MILL (1940) 1952
EL (1940) 1952
YEL (1940) 1952
NA 1927
ME 1940
L 1 1940
GUS 1940
FOUN 1940
FLAT 1940
*BLUFF (USE) 1940

* Station recovered but not identified.

The following stations were not recovered and are not shown on the manuscript.

HOP 1940
RAIL 1940
WHIT 1940


Grays Harbor
TRIPOD
TRIPODS
Little Hoquiam R.
BASCULE BRIDGE
HOR. CL. 40 FT.
VERT. CL. 9½ FT.
OVERHEAD CABLE CL. 65 FT.
HOQUIAM
SWING BRIDGE
HOR. CL. 124 FT.
VERT. CL. 9 FT.
Moon Island Airport
AERO Rotating
Occ ev 6 sec
RANGE 3
RANGE 5
RANGE 6
FL ev sec
FL G ev sec
FL R ev 4 sec "46"
FL G ev 4 sec "27"
DOLPHIN
PILES (TWO)
PILES
REF
STACK
marsh
SEE NOTE
NORTH CHANNEL
Middle Channel
Priv marked
grass
piles
stumps
stk
hrd
sand
Indian 2 (USCE)
N.P. RY.
Stearns Bluff
Stearns (USCE)
South Arbor
Markham
Johns River
FIXED BRIDGE
HOR. CL. 76 FT.
VERT. CL. 31 FT.
MAGNETIC
VAR 22° 45' E (1951)
ANNUAL
Nautic
Y.
1000
0
18

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED
~~TO BE DELETED~~ } STRIKE OUT ONE

Baltimore, Maryland 10 March, 1952

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 J. D. McEvoy

E. H. Kirsch *Chief of Party*

STATE	WASHINGTON (Grays Harbor)		POSITION					METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
			LATITUDE*		LONGITUDE*								
CHARTING NAME	DESCRIPTION	SIGNAL NAME	° ′	″ D.M. METERS	° ′	″ D.P. METERS	DATUM						
LT.	- North Chan. Range 3 Front Light (△ Grays Harbor Range 3 Front Lt 1951)		46 57	45.751 1412.8	123 58	32.432 685.7	N.A. 1927	T-9519 Tri. Ph-62	1951	x			6195
LT.	- N. Chan. Range 3 Rear Lt. (△ Grays Harbor Range 3 Rear Lt 1951)		46 57	55.996 1729.2	123 58	18.740 396.2	"	"	"	x			"
LT. "36"	- N. Chan. Light 36 (△ North Channel Lt 36 1951)		46 57	22.382 681.2	123 58	51.568 1090.3	"	DESTROYED 1952	"	x			"
LT.	- N. Chan. Range 4 Front Light (△ Grays Harbor Range 4 Front Lt 1951)		46 57	26.857 829.3	123 59	23.260 491.8	"	"	"	x			"
LT.	- N. Chan. Range 4 Rear Light (△ Grays Harbor Range 4 Rear Lt 1951)		46 57	23.136 714.4	123 59	43.626 922.4	"	"	"	x			"
LT.	- N. Chan. Range 5 Front Light (△ Grays Harbor Range 5 Front Lt 1951)		46 58	14.114 435.8	123 55	00.878 18.6	"	"	"	x			"
LT.	- N. Chan. Range 5 Rear Light (△ Grays Harbor Range 5 Rear Lt 1951)		46 58	17.885 552.3	123 54	40.176 849.3	"	"	"	x			"
LT. "46"	- N. Chan. Light 46 (△ North Channel Lt 46 1951)		46 58	05.238 161.7	123 55	17.252 364.7	"	"	"	x			"
LT.	(△ Grays Harbor N Chan Range 6 Rear Lt 1952)		46 58	12.428 383.8	123 55	52.570 1111.3	"	"	1952	x			"
LT. "51"	(○ Grays Harbor N. Channel Light 51 1952)		46 58	11.219 346.4	123 54	05.095 107.7	"	~~Topo.~~ TRI Ph-62	"	x			"
LT. "27"	- South Channel Light 27 (△ South Channel Lt 27 1951)		46 56	18.698 577.4	123 54	42.995 909.4	"	Tri. Ph-62	1951	x			"
LT.	(△ Grays Harbor N. Chan. Range 6 Front Lt 1952)		46 58	11.786 364.0	123 55	39.283 830.4	"	"	1952	x			"
BN. "3"	(○ Johns River Daybeacon 3, 1952)		46 54	51.640 1594.6	123 59	58.705 1242.3	"	Sextant Fix	"	x			"

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.

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~NONFLOATING AIDS OR~~ LANDMARKS FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ — STRIKE OUT ONE

Baltimore, Maryland, 3 March, 19 5[illegible]

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

The positions given have been checked after listing by J. D. McEvoy

E. H. Kirsch *Chief of Party.*

STATE: WASHINGTON (Grays Harbor)

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE* ° ′	LATITUDE* ″ D.M. METERS	LONGITUDE* ° ′	LONGITUDE* ″ D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTE
TRIPOD	(△ Brack 1910 - 1939) (170 feet)		46 58	52.299 1615.0	123 59	20.409 431.3	N.A. 1927	Tri Ph-62 (49)	1939	x			6195
TRIPOD	(△ Grays Harbor (USE) 1940)		46 58	58.327 1801.1	123 57	23.403 494.6	"	"	1939	x			"
STACK	(△ Hoquiam Grays Harbor Lumber Co Brick Stack (Grays) 1940 157 ft		46 58	12.407 383.1	123 53	23.933 505.9	"	"	1940	x			"
TANK	(△ Johns River, Markham Lumber Co Tank 1940		46 54	06.090 188.1	123 59	44.947 951.3	"	"	"	x			"
DOLPHIN	(○ Dolf 1951)		46 57	53.172 1642.0	123 55	02.212 46.8	"	Topo Ph-62 (49)	1951	x			"
DOLPHIN	(△ Tide 1951)		46 57	46.002 1420.5	123 58	28.722 607.2	"	Tri Ph-62 (49)	"	x			"

C&GS

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.

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY (AERONAUTICAL CHARTS)

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED / ~~NO BE DELETED~~ } STRIKE OUT ONE

Baltimore, Maryland 10 March, 1955

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

The positions given have been checked after listing by J. D. McEvoy

E. H. Kirsch *Chief of Party.*

STATE WASHINGTON (Grays Harbor)

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE* ° ′	LATITUDE* ″ D.M. METERS	LONGITUDE* ° ′	LONGITUDE* ″ D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	(△ Hoquiam Moon Island			25.905		48.878	N.A.	Tri.					
ABRD BN	Airport Beacon 1951)		46 58	799.9	123 55	1033.1	1927	Ph-62 T-9519	1951	x			6195

* 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.

NAUTICAL CHARTS BRANCH

SURVEY NO. T-9519

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
2-24-61	6195	Charles R. Wellman	~~Before~~ After Verification and Review
~~5-28-81~~	~~18500 (600-2)~~	~~Peter Schuman~~	
5-28-81	18500 (600-2)	Peter Schuman	~~Before~~ After Verification and Review #20
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.