

FEB 21 1938

Acc. No. _____

6240ah

Wire Drag

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

WIRE DRAG

~~Hydrographic~~

~~Hydrographic~~

Sheet No. 1 & 1-A, 1937

6240ah

State Oregon

LOCALITY

Port Orford

Island Rock to Port Orford

1937

CHIEF OF PARTY

F. H. Hardy

SP.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

WIRE DRAG
~~HYDROGRAPHIC SURVEY~~ TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 1-1937

REGISTER NO. H6240aW.D.

State Oregon

General locality Port Orford

Locality Island Rock to Port Orford

Scale 1:10,000 Date of survey July-August, 1937

Vessel GUIDE

Chief of Party F. H. Hardy

Surveyed by Wm. D. Patterson and I. E. Rittenburg

Protracted by W. J. Chovan

Soundings penciled by W. J. Chovan

Soundings in fathoms & feet Effective Depths in Feet.

Plane of reference MLLW

Subdivision of wire dragged areas by W. J. Chovan

Inked by W. J. Chovan

Verified by *W. J. Chovan*
May 31, 1934,

Instructions dated May 2, 1936 & March 6, 1937

Remarks: Visual Fixes - Dual Control, using ship's launches
and chartered launches.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

WIRE DRAG
~~HYDROGRAPHIC SHEET~~ TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 1-A, 1937

REGISTER NO. H-62406 W.D.

State Oregon

General locality Port Orford

Locality Port Orford Dock

Scale 1:2,500 Date of survey August, 1937

Vessel GUIDE

Chief of Party F. H. Hardy

Surveyed by I. E. Rittenburg

Protracted by H. F. Garber

Soundings penciled by H. F. Garber

Soundings in ~~fathoms~~ feet Effective Depths in Feet.

Plane of reference MLLW

Subdivision of wire dragged areas by H. F. Garber

Inked by H. F. Garber

Verified by *H. F. Garber*
May 31, 1934,

Instructions dated May 2, 1936, March 6, 1937, 19

Remarks: Visual Fixes-Dual Control using ship's launches.

DESCRIPTIVE REPORT
to accompany
WIRE DRAG SHEET FIELD NOS. 1 & 1-A, 1937
Project No. HT-206
Port Orford, Oregon
U.S.C. & G.S.S. GUIDE
1937

(1) INSTRUCTIONS: Instructions for this work were dated May 31, 1934 and Supplemental Instructions dated May 2, 1935 and March 6, 1937. ✓

(2) CHARACTER AND LIMITS OF WORK: This sheet together with attached Sheet 1-A, 1937 is a wire drag survey of Port Orford, Oregon southward to a point 3/4 mile south of Island Rock, Oregon. The limits desired by the office were furnished this vessel on a copy of Chart 5952 and a tracing of Port Orford, Oregon, the original of which was filed in the office with letter No. 850 CT-28, dated December 24, 1936. ✓

The inshore limits of work executed followed those shown on the chart and tracing referred to above, whenever possible. Inshore of and north from Redfish Rocks, the kelp was too heavy to drag through, necessitating the omission of this area. Likewise the inshore portion of Area B shown on the tracing could not be dragged for the same reason together with the locations of numerous rocks not shown previously. Offshore drag work was done to about 2 1/2 to 3 miles from the shoreline. The area covered lies between Latitude 42° 39.4' (south of Island Rock), to Latitude 42° 44.3' (off Klooqueh Rock) and offshore from about 1 1/4 miles off Island Rock to 2 miles off Klooqueh Rock. On the north this sheet joins with Wire Drag Sheet Field No. 21, 1937. The drag in the vicinity of the dock is shown on Sheet 1-A attached hereto on scale of 1:2,500. ^{H-6238} ✓

The scale of this sheet is 1:10,000 and of 1-A is 1:2,500. ✓

The position interval was 2 1/2 and 5 minutes, except at beginnings and ends of lines and radical changes in courses and speeds. ✓

Dual control and visual fixes were used throughout this sheet. ✓

Effective depths ranged from 10 to 84 feet. ✓

(3) CONTROL AND DATUM: This sheet is on the final adjusted North American 1927 datum. Triangulation was established in 1869, 1928 and 1937. Topographic signals were taken from topographic sheets ~~A~~, B, and C, 1937, this party. Shoreline was obtained from these sheets and the bromides of the 1928 work. In this connection none of the shoreline and off-lying rocks, etc, were located by this wire drag party. At the south end of this sheet are four signals located by sextant cuts. These are indexed in the Wire ✓

Drag Volume No. 3. For the differences in position of Island Rock and Lan see Descriptive Reports of Triangulation, 1937 and Topographic Sheet C, 1937, this vessel.
T-6566b

The highest point of the rock, Triangulation Station LAN 109 feet high, lying close to northward of Island Rock, was located by the topographic party on Topographic Sheet "C". Since this location fell outside the shoreline as shown on the 1928 topographic survey, the point was also located by Triangulation Station LAN-1937, which position checked the topographic location of 1937. The shoreline of this rock was then determined by sextant cuts, (tangents), by the wire drag party and is shown on the smooth sheet. This location shown on the smooth sheet should be used for charting in preference to the 1928 topographic location. These cuts are indexed in Volume 3.

(4) DATES OF SURVEY: This survey was done from July 20, 1937 to August 3, 1937, inclusive. Thirteen day's work were done by the ship's launches and 6 day's work were done in this period by the regular wire drag party using the chartered launches.

(5) TIDAL REDUCERS: Tidal reducers for this work were taken from the records of the portable automatic tide gage operated at Port Orford, Oregon. For further information, see attached Tidal Data Sheet.

(6) JUNCTIONS AND OVERLAPS: This sheet joins with Wire Drag Sheet Field No. 21, 1937 on the north. The overlap of these sheets and between adjoining and adjacent lines is sufficient.
H-6238

(7) FIELD WORK - MISCELLANEOUS: The work, day letters of which are inked in green, was done by the ship's motorsailers. That work, the day letters of which are inked in blue was done by the regular wire drag party using the chartered launches.

(a) A day green: The drag was set out at the northwest end of Area A of the tracing mentioned above and towed south until Position 23 when drag grounded. As it was too rough to use the dinghy (used as tender) the dinghy was made fast to the end of the drag to act as an anchor and the investigating was done by the starboard motorsailer. After sounding and feeling around for about one hour the drag slipped off the ground (the tide rising). The position of grounding was taken and upright length (41 feet) is plotted on the sheet. The drag was then taken up and while taking in the drag several strands of kelp were noted. After the drag was in, these spots were investigated and soundings, 1 to 3a, obtained with a least depth found of 35 feet. All these were later covered on "C" day with an effective depth of 30 feet.

(b) B day green: The drag was set out north of the 41 foot grounding of A day but before much had been accomplished it grounded. A least depth of 30 feet, positions 4 and 5b, was found and again a strand of kelp, ahead of the drag, was noticed and a sounding of 37 feet obtained, Position 6 b. These were all covered on "G" day with an effective depth of 26 feet. The drag was picked up and as it had become too rough to continue work in this

area the drag was set out again at the north end of the sheet south of the dock at Port Orford. It was towed south until Position 25 when the drag grounded on the kelp of the 5 fathoms previously found on Sheet H-4814, 1928. On "K" day a sounding of $5 \frac{2}{6}$ fathoms was the least depth found and as Sheet H-4814, 1928 shows 5 fathoms, this should be charted. The smooth sheet shows this grounding to be on a depth of 29 feet. However, this grounding actually occurred in the section inclined from 29 to 35 feet. This spot is in an area of heavy kelp and for this reason could not be covered with the result that a small split exists here.

(c) C day green: Immediately after setting out the drag grounded on the $3 \frac{3}{4}$ fathom sounding found on Sheet H-4814, 1928. This was done to verify this old sounding and a least depth of $2 \frac{5}{6}$ fathoms was found here, Position 5c. The uprights were then changed and the drag towed southward into position to clear the shoals found on "A" day with a 30 foot effective depth. At Position 20C the drag grounded again and a least depth of 28 feet found, positions 9 and 10c. Uprights were changed, and this new pinnacle was covered with 24 feet, uprights were lowered and drag continued southward until end of day. This pinnacle was also covered on "J" day with 26 feet. On the smooth sheet, positions 4 and 5C and 21C were rejected as drag was aground previous to these positions. The depth changes at 30C and 40c were greater than $2 \frac{1}{2}$ percent of the width of section. Accordingly in inking the smooth sheet the intervening depths of 36 feet and 57 feet were not shown but were inked as 24 and 45 feet, respectively, although the depth diagrams show the small areas of 36 and 57 feet. This is on the safe side.

(d) D day green: Because of the prevalent rising of the strong north-west wind in the late morning and early afternoon, an attempt was made to start at the south end of the sheet and tow north to connect with the work of "C" day. However, after eight positions the drag grounded and by the time the shoal was found it was too rough to continue work in this locality. A least depth of 10 fathoms was found here, Position 1d, and covered by 53 feet, E day, blue. Positions 1 and 2 were rejected due to the uncertainty of end launch whether Triangulation Station HUM was seen or not. The drag was picked up and set out again at the north end of the sheet and towed south in an attempt to drag Area A of tracing as ^{deeply as} possible. At Position 17D, however, the drag grounded in two places. Least depths found were 38 feet, (2 d), and 18 feet, (6 d), cleared by 25 and 14 feet, respectively on "F" and "G" days. On "E" day a 16 foot drag grounded on the 18 foot above so the upright depth of $2 \frac{4}{6}$ fathoms is shown on the sheet.

(e) E day green: Drag was set out at north end of sheet and towed south to Position 8E where drag grounded in 2 or 3 places. At 9E the drag was too short by 9 meters to stretch around the grounding on 3F. However, this had to be done. Least depths found here were 14, 21, 23 feet. The drag was then set out again to clear these shoals and towed south. At Position 15E the drag grounded on the 18 feet found on "D" day and somewhere between buoys 2 and 3. As it was very rough the groundings could not be found. However, positions were taken near Buoy 1 and at the point where it was thought the "V" of the grounding was. As plotted it would appear that a

ground of 16 feet exists here, Position 6 e, but this is in the inclined section and was later covered with 22 and 25 feet from both directions. It may be as noted in records by plotted or else this Position, 6e, was not at the grounding. On "F" day a 26 foot spot was found in this locality. A sounding on 5 e of 14 feet appears to be cleared with a 16 foot drag. Boat sheet shows this drag to pass clear of the 14 foot sounding. A slight displacement in either the N-buoy path or the position of the shoal would show this shoal not cleared.

(f) F day green: Drag was set out at north end of sheet and towed south to Position 6 to ground on shoals found on "E" day. After a great deal of time was spent by three launches investigating this spot a least sounding of 26 feet was found, (see guide launch record, Page 47). This felt as if it were wood bottom and it is believed to be either a wreck or sunken timbers. The uprights were then raised to 22 feet and this spot was covered and cleared towing southerly. The uprights were then lowered to 25 feet and this spot was again cleared towing northerly.

(g) G day green: Drag was set out north of Redfish Rocks at the north edge of kelp field and towed northerly. The inshore limit of this strip was also governed by kelp. The strip 1 to 19 G covered the shoals of "B" day and the line ended on the heavy kelp patch on the shoals of "C" day. The uprights were raised to 14 feet and the drag towed north to clear the shoals found at the inshore limits of work of "D" and "E" days. While end launch was picking up drag here the guide launch ran over to investigate Area B to see what could be done with the view point of dragging this area. Many spots of kelp were noticed and investigation was begun. The rest of the day was spent in feeling around these spots. Nine rocks were found, the shoalest of which had 4 feet of water over it. This development precluded the possibility of dragging here.

(h) H day green: Drag was set out with a depth of 10 feet south of the shoals of "D" and "E" days and towed north. At Position 10 the drag was reversed, buoys were reset and new line started with an effective depth of 20 feet to drag as close as possible to bottom in this area. At Position 18 H the drag hung up on the anchor of the mooring buoy. Both launches continued towing and tender took fixes at the mooring buoy so that the exact bight of the drag could be plotted.

(j) J Day green: Drag was set out with an effective depth of 26 feet, north of Redfish Rocks, towed north to clear the 28 foot shoal of "C" day. As soon as this shoal was cleared the uprights were lowered to 48 feet and drag continued north. This was to be the offshore limit of the drag work of the launches and was to be joined with the work of the chartered launches. At Position 32 the line turned northeast and squared off the drag work at the north end of Pert Orford Harbor. At Position 43 the line ended and drag was picked up. After picking up the drag two spots of kelp noticed while dragging were investigated and the shoals found.

(k) K day green: Launches ran down to the south end of sheet but found it too rough for dragging. However, on the way in several kelp patches were investigated inshore from Redfish Rocks. Finally it became too rough to continue this work and day was ended.

(l) L Day green: This day's work is plotted on attached Sheet 1-A on a scale of 1:2,500. This was necessary as this work could not be shown on the 1:10,000 boat sheet. Accordingly a boat sheet on scale of 1:2,500 was prepared and used during the field work. Signals and the dock were scaled and plotted from Topographic Sheet "B", 1937, scale 1:10,000. As this meant

that the signals and dock were enlarged four times, several fixes were taken at the corners of the dock to prove the sheet. There was no discrepancy. On "M" day the hydrographic line, 1 to 4, has various notes about the distances off the dock. These checked the actual plotted distances. At the beginning of "L" day the Far buoy (F) was made fast to the southwest corner of the dock and remained there until the end of the second line, Position 15 L. The first line was run, using a 500 foot drag with 100 foot sections, to sweep as wide an arc as possible off the end of the dock. At Position 6L the drag was grounded and a least depth of 16 feet^(102.1) was found. On the second line the drag was shortened to 300 feet with the Far buoy still made fast to the southwest corner of dock, to sweep a narrow strip off the dock as far as possible as shoals east and north of Position 5L would not allow a wider strip. At Position 10 the Near buoy (N) touched bottom but pulled off. It is believed that this was due to sag as it had previously been cleared with the same depth (21 feet). The least depth found here later was 22 feet, Position 6-1⁽¹²⁾. After the Near buoy broke loose the line continued until Position 15L when the drag grounded in several places. Investigation showed several dangerous pinnacles. Position 2-1 with 14 feet, 4-1 with 16 feet, and 11-1 with 16 feet were the most dangerous. The drag was then shortened, end launch made fast to the buoy using no towline. A line was led to a winch on the dock and the end buoy was heaved in by hand. Meanwhile the guide launch attempted to keep a strain on the drag but this method did not work due to sag in the wire between buoys. This work, positions 16 to 23, inclusive, was not plotted. Several hydrographic lines were then run with the port motorsailer to end the day.

(m) M day green: No dragging was done this day. In order to completely develop the area off the side of the dock where vessels load, three lines were run with the dinghy under oars and the leadline dragging through the water throughout. Soundings were recorded at regular intervals on a line about 2 meters off the dock, the estimated dockside bilge line of vessels, the estimated keel line of vessels laying at the dock and at the estimated outside bilge line of vessels also at the dock. These soundings were plotted on the 1:2,500 sheet called 1-A and give a close development. Two detached positions, 12 and 13m were taken on rocks found by lead using starboard motorsailer before the three sounding lines were run and were copied into the record book. These spots were picked up while looking for the rock of Position 11-1 to place a marker there.

(n) N day green: Drag was set out just south of Redfish Rocks and towed southerly. At the end of line, Position 25N the drag was reversed and towed inshore, after uprights were reset. Drag was then towed north to the south edge of kelp field inshore from Redfish Rocks. This completed the drag work of the ship's launches on this sheet. Upon returning to Port Orford, a representative of the lumber company was taken out to the end of the dock in the dinghy and shown the locations of the pinnacles previously found. While feeling around another pinnacle was found, Position 1 to 5 n. These together with those previously found were shown the lumber company who hired a diver to blow the rocks out. However, the Ship GUIDE left Port Orford before this was done but Mr. Johnson of the lumber company at Port Orford informed the members of the wire drag party and the office that these rocks had been blown off to 26 feet, see Notice to Mariners No. 1665 of September 15, 1937. In the area near the south end of dock on Sheet 1-A, it is believed that there are only four separate pinnacles or heads. While the records show numerous soundings on "L", "M" and "N" days in this vicinity it is believed

that the following positions are the locations of these rocks.

4-1 with 16 feet, 11-1 with 16 feet, 13-m with the 16 foot sounding of 12-m, and 5-n with 18 feet.

The numerous soundings were taken and recorded while feeling around for least water. There may be slight differences in positions of the numerous soundings but this is due to the extremely large scale of the sheet being used. The positions above are considered to be the most accurate. While feeling around for the rocks of 11-1, 13-m and 5-n an observer was ashore on the end of the dock to pick approximate ranges when rocks were found. The three ranges are shown in pencil on the boat sheet. Rocks of Positions 11-1, 13-m and 5-n are reputed to have been blown up by the lumber company, as already mentioned. Rock of 4-1 is not in the way of vessels docking or loading and was considered unimportant.

(o) A day blue: A 10,000 foot drag was set out at the northern end of the sheet and dragged southward to the vicinity of Island Rock without grounding. Ample overlap was made at the beginning of the day's work with the drag work on Sheet 21-37 to northward.

(p) B day blue: A 6,400 foot drag was set out at the northern end of the sheet and dragged southward to the bell buoy without grounding. Position 18B gives the location of the bell buoy. This buoy was moved by the Light-house tender on July 27th and the new location is given at Position 22D.

(2) C day blue: The drag was set out at the southern end of the sheet, but soon went aground at the guide launch end due to error in plotting fixes which permitted the drag to get too close to shore. The drag set at 60 feet went aground inside the 10 fathom curve so this work was all rejected. The hydrographic signals here were difficult to identify at first. The topographer was unable to build and locate signals here due to the steep rocky shore and heavy surf. The drag was set out again and dragging was begun at Position 6C. The drag soon grounded at Buoy 15, pulling around to Buoy 14, at tender Position 1c. The seas were by this time too rough for the tender to sound and the effective drag depth of 86 feet was plotted here. The grounding, being close to Island Rock, was not cleared.

(r) D day blue: The drag was set out south of the bell buoy and was towed northward until it touched the bell buoy as reported by the tender which was stationed there, and then the drag was reversed and dragging began to southward at Position 5D. The drag grounded on a charted 10 fathom spot at Position 20D. This spot had previously been cleared with an effective depth of 45 feet, so the effective depth of drag on D day of 53 feet was plotted here. Increasing wind and sea prevented the tender from sounding on the grounding.

(s) E day blue: The drag was set out at the south end of the sheet and was dragged to northward inside of Island Rock. The drag grounded at Position 18E on the rocks located at tender positions 1 and 2e, with least found depths of 41 and 43 feet, respectively. The drag was set out again to northward and towed south grounding again on the same shoals and also on the 10 fathom shoal located at Position 1 d (green). The drag was then picked up and set out again and these shoals were cleared.

(t) F day blue: The split in the vicinity of the bell buoy was cleared. The drag was towed across the split and tight up against the bell buoy as was noted by the tender stationed there. The seas were too rough for the tender to test drag on this day.

(8) GROUNDINGS: The numerous groundings encountered on this sheet are on the attached list.

Pos.No. & Day Letter	Latitude & Longitude	Grounded Eff. Depth	Least Sdg. Depth	Cleared Eff. Depth	Depth Plotted	Remarks
Ship's lchs.	o ' "	Feet	Fms.	Feet	Fms.	
1-A-a green	42 42.98 124 28.68	41	No Sdg.	(on C day) 30	6 5/6	Wire slipped off grounding after foll- owing along wire. ✓ See para. 7(a)
1,2,3a green	42 42.68 124 28.78	Did not ground	5 5/6	(on C day) 30	5 5/6	Sdgs. on kelp patches shoalest sdg at 3a. ✓ See para. 7(a)
1,2,3,4, 5b	42 43.15 124 28.53	40	5	(on G day) 26	5	5 sdgs taken shoalest sdgs. at Pos. 4 & 5a. ✓ See para. 7(b)
6b	42 43.06 124 28.52	Did not ground	6 1/6	(on G day) 26	6 1/6	Sdg. taken on kelp patch. See para. 7(b) ✓
1,2,3,4,5 6,11,12c	42 43.44 124 28.76	32	2 5/6	(on G day) 14	2 5/6	Pos. 5c least depth. ✓ See para. 7(c).
7,8,9, 10c	42 42.66 124 28.81	30	4 4/6	(on J day) 26	4 4/6	Pos. 10c least depth. ✓ Cleared with 24 ft. on C Day & 26 ft. on J day See para. 7(c) ✓
1 d	42 40.58 124 28.38	63	10	(on E day) 53	10	See para. 7(d) ✓ ✓
2 d	42 43.85 124 29.35	40	6 2/6	? 35 (on E day) 25 (on F day)	6 2/6	The drag on E day with 35 ft. depth ran aground about 35 m. farther to the east of this pos. The bight of the drag passed over this shoal & about 30 m. from it. So overlaps it only about 1/5 section. However on "F" day it was cleared with 25 ft. <i>Para. 7d</i> ✓
3-4-5 6 d	42 43.85 124 29.10	34 (Dday) 16 (Eday)	3	(on G day) 14	2 4/6	Plotted upright depth. Least depth by sdg. on Pos. 6d-3fms. See para. 7(d) ✓
1 e	42 43.99 124 29.23	31	3 1/2	(on G day) 13	3 1/2	See para. 7(e) ✓
2, 3 e	42 43.93 124 29.14	Not grounded	3 5/6	(on E day) 16	3 5/6	Sdgs. on kelp patch. ✓ Least depth Pos. 3e. See para 7(e)
4, 5 e	42 43.98 124 29.16	28	2 2/6	10 (H day) 10 (E day) 2 2/6	2 2/6	Covered with deeper depth, but. Pos. of sdg. is so close to "N" path that a slight displacement of position would put shoal outside buoy path. Also Covered with 10 ft. on "H" day. See para. 7(e) See boat sheet. ✓

Pos.No. & Day Letter	Latitude & Longitude	Grounded Eff. Depth	Least Sdg. Depth	Cleared Eff. Depth	Depth Plotted	Remarks
	° ' "	Feet	Fms.	Feet	Fms.	
6 e	42° 43.84' ✓ 124° 29.27' ✓	16	No sdg.	22' & 25(F day)		This position is at what was believed the grounding. Too rough to find shoal. Pos. 3f shows 26 ft. This is probably least depth as on F day a 22 & 25 ft. drag in opposite directions covers spot. May also have been deadhead which sunk. See Paragraph 7e
7 e						See Pos. 6d, Para. 7e. ✓
1, 2, 3 f	42° 43.85' ✓ 124° 29.31' ✓	30	4 2/6	25(F day)	4 2/6	See note Page 17 tender record. See para. 7(f). Least depth found Pos. 3f - 4 2/6 fms. ✓
lg to 9g, incl.	42° 44.3' ✓ 124° 29.5' ✓	No grounding				Numerous sdgs. taken on kelp patches. See para. 7(g) ✓
lh to 5h, incl.	42° 44.28' ✓ 124° 29.72' ✓	No grounding				Fixes taken of Mooring buoy during grounding of drag or buoy. See para. 7(h) ✓
1 j	42° 44.25' ✓ 124° 30.01' ✓	No grounding			2 1/2	Taken on patch of kelp. See para. 7(j) ✓
2 j	42° 44.22' ✓ 124° 30.10' ✓	No grounding			3 2/6	-ditto- ✓
1 k	42° 42.25' ✓ 124° 28.16' ✓	No grounding			6	-ditto- See para. 7(k) ✓
2 k	42° 43.47' ✓ 124° 28.69' ✓	29 26	5 2/6	Not cleared	5 2/6	Aground on inclined section on B day 29 to 35 ft. also on G day, 26 ft. This area is heavily covered with kelp could not take drag over. So plotted least sdg. obtained. This is 5 fms on Sheet H-4814, 1928. See para. 7(k). ✓
3k to 9k, incl.	42° 42.0' ✓ 124° 28.2' ✓	No grounding				Numerous sdgs. taken on kelp patches near Red Fish Rocks. See para. 7(k). ✓
Chartered Launches						
lc, blue	42° 39.93' ✓ 124° 28.32' ✓	86	No sdg.	Not Cleared	14 2/6	See para. 7(q). See note Page 6 tender record. ✓
1 e, blue	42° 40.39' ✓ 124° 28.40' ✓	49	6 5/6	37	6 5/6	See para. 7(s) ✓
2e, blue	42° 40.40' ✓ 124° 28.37' ✓	49	7 1/6	37	7 1/6	Near shoal 1e, (s) ✓ See para. 7. (s) ✓

Pos.No. & Day Letter	Latitude & Longitude	Grounded Eff. Depth	Least Sdg. Depth	Cleared Eff. Depth	Depth Plotted	Remarks.
	o ' "	Feet	Fms.	Feet	Fms.	
No.Pos. blue	42 42.27 124 28.95	53	No Sdg.	45	8 5/6	Aground on 10 fm. spot shown on chart. See para. 7(r)
Sheet 1-A 1-1 (l)	42 44.33 124 29.72	21	16 ft.	Cleared	16 ft.	Pinnaole. See para. 7 (1)
2-1 (l)	42 44.37 124 29.8	21	14 ft.	Cleared	14 ft.	-ditto-
6-1 (l)	42 44.32 124 29.75	21	22 ft.	21 ft.	22 ft.	Grounding due to sag as cleared with 21ft. previously. See para 7-1.
4,5,7-1-1 incl. 12-m, 124 13m, 5n	42 44.33 124 29.8	21	16 ft	Cleared	16 ft.	In this small area several pinnacle heads were found with deep water between. Shoalest depth only shown. Lumber Co. is reputed to have blown these up as they were menaces to ships coming in to dock. See para. 7(m) and 7(n). See Chart Letter 654 of 1937.

(9) SPLITS: There is a small split in Latitude 42° 43.5', Longitude 124° 28.7', due to a very heavy kelp field. A little development was done here feeling around but the shoalest depth found was 5 2/6 fathoms. Sheet H-5814, 1928 shows 5 fathoms here, which is probably the least depth. The grounding of 19G day may have been due to the kelp. The undragged area in the vicinity of and inshore from Redfish Rocks, Latitude 42° 42', Longitude 124° 28', is due to a field of heavy kelp which precluded any possibility of dragging. There is also a small split due to the mooring buoy southeast of the dock at Port Orford. No other splits occurred on this sheet.

(10) COMPARISON WITH PREVIOUS SURVEYS AND CHARTS: No soundings were noticed on the chart or on previous hydrographic sheets which were shallower than the effective depths dragged.

(11) PERSONNEL AND EQUIPMENT: The inshore portion of this sheet was done by the motorsailers of the Ship GUIDE. Lieutenant I. E. Rittenburg in charge of guide launch and lieutenant W. H. Bainbridge in charge of end launch. This work is inked in green day letters. The offshore portion of this sheet was done by the chartered wire drag launches, Lieutenant W. D. Patterson in charge of guide launch, Lieutenant (j.g.) W. J. Chovan end launch. Standard wire drag equipment was used throughout.

Respectfully submitted,

I. E. Rittenburg
I. E. Rittenburg,
H & G Engineer, C. & G. S.

Approved & forwarded:
F. H. Hardy
F. H. Hardy,
Chief of Party, C. & G. S.,
Commanding Ship GUIDE.

STATISTICS
TO ACCOMPANY
WIRE DRAG SHEET FIELD NO. 1

Date 1937	Day Letter	Volume	Statute Miles	Number of G.L. & E.L. Positions	Drag Length Feet.	Tender Sdgs.	Pos.
<u>Ship's launches</u>							
July	20	A	1	1.9	46	3,000	3 4
	21	B	1	1.2	50	3,000	6 6
	24	C	1	2.7	109	3,000	10 10
	25	D	1	1.25	38	3,000	6 6
	26	E	1	1.25	32	2,500	5 7
	27	F	1	2.1	45	2,000	3 3
	28	G	1 & 2	3.2	96	3,000	9 9
	29	H	2	1.7	41	1,600	- 5
	30	J	2	3.2	86	3,000	2 2
	31	K					9 9
Aug.	3	N	2	2.8	79	3,000	- -
TOTALS				21.3	622		53 61
<u>Chartered launches</u>							
July	24	A	3	6.7	130	10,000	- -
	25	B	3	1.8	35	6,400	- -
	26	C	3	0.4	11	7,200	- 1
	29	D	3	2.7	44	7,200	- -
	31	E	3	5.9	103	7,200 & 4,000	2 2
Aug.	2	F	3	2.0	42	4,000	- -
TOTALS				19.5	365		2 3
<u>Sheet 1-A</u>							
Aug.	1	L	2	0.1	23	500,300,200	44 24
	2	M	2				48 13
	3	N					5 5
TOTALS				0.1	23		97 42
GRAND TOTALS				40.9	1010		152 106

AREA 17 SQUARE STATUTE MILES.

LIST OF SIGNALS
for
WIRE DRAG SHEET FIELD NO. 1

TRIANGULATION

<u>Hydrographic Name</u>	<u>Location</u>
REYX	Kleequah Rock, 1869
HEADS	Heads-2, 1928
LOOK	C.G. Lookout Tower, 1937
TIC	Tichenor Rock, 1869
RITZ	Ritz, 1937
HUM	Humbug-2, 1937
LAN	Lan, 1937
ISLE	Island Rock, 1937

TOPOGRAPHIC

Location of Topographic Sheet Field Letter. A-B-C, 1937

BOY	DIP	HUB	NIB	REX ROCK	RED	WAT
BRU	DOG	INK	NIX	ROT	TIP	YES
CAN	DOT	JET	PAT	SEA	TRI	ZED
CAT	F.P.	KIN	POD	TAL	UP	TIC
CON	FOG	MAT	QUE	TANK	VIX	
	GOO					

HYDROGRAPHIC SIGNALS

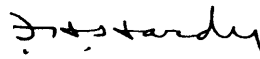
BOT
NEW
PAC
PIT

STATEMENT
to accompany
WIRE DRAG SHEET FIELD NO. 1, 1937

The plotting and protracting of buoy positions was done by Lieutenant (j.g.) Walter J. Chovan, (Sheet 1); Lieutenant (j.g.) Harry F. Garber, (Sheet 1-A).

The drag areas were subdivided and inked by the same officers.

The completed wire drag sheet has been inspected and approved.



F. H. Hardy,
Chief of Party, C. & G. S.,
Commanding Ship GUIDE.

Verification of Wire Drag Survey 6240a and b (1937)
Island Rock to Port Orford
Oregon

Chief of Party F. H. Hardy.

1. Condition of Records:

- (a) The Descriptive Report is very complete and satisfactorily covers all matters of importance. ✓
- (b) The depth diagrams are consistent with the recorded changes in effective depth and the plotting on the sheet. ✓
- (c) Check angles to positions on shoals were not obtained in all cases. ✓
- (d) The topographic signals, Klooqueth - Lat. $42^{\circ}44.52'$ Long. $124^{\circ}31.29'$ and Tichenor Rock - Lat. $42^{\circ}43.87'$ Long. $124^{\circ}30.5'$ were shown on the smooth sheet as 1869 triangulation stations. They were established as topographic stations on the 1928 topographic survey (see descriptions) and are not listed in the S. P. No. 31 of Oregon as triangulation stations. It was noticed that these same points were shown correctly as topographic signals on H-6238 W D which overlaps this survey sufficiently to include the above signals. Consequently the triangulation point designations have been removed and the topographic signal designation substituted therefor. ✓
- (e) No topographic features are shown at the Hydrographic signals PAC, PIT, NEW and BOT in approximate Lat. $42^{\circ}40.4'$ to $42^{\circ}40.52'$; Long. $124^{\circ}26.6'$ to $124^{\circ}27'$. Although these are apparently bare rocks they can not be identified with any degree of certainty on the 1928 Topographic survey (T-4363 - scale 1:20,000). See par. 1b, review. ✓

2. Control and Shoreline.

The control for H-6240a is from T-6566 a and b (1937) and T-4362 (1928), T-4363 (1928); ^{as/so} Hydrographic signals PAC, PIT, NEW and BOT for record of cuts see index of Volume 3. The Topographic and Hydrographic signals were transferred and plotted ^{checked} by W. J. Chovan and M. G. Ricketts, November 1 to 10, 1937. ✓

For the control of H-6240b see paragraph 7-1, pages 4 and 5 of Descriptive Report. ✓

The shoreline for H-6240a and b is from the above 1928 topographic surveys except for the dock and very short section at Port Orford, which is from T-6566a and the shoreline of the rock in Lat. $42^{\circ}40.19'$ Long. $124^{\circ}28.58'$ on which triangulation station LAN 1937 is located, was determined by sextant cuts. ✓
See recommendation in regard to charting in paragraph 3 page 2 of the Descriptive Report and index of Vol. 3 for record of the cuts.

The low water line and boulders very close inshore have not been transferred to the wire drag survey. ✓

3. Aids to Navigation.

The Port Orford bell buoy (Lat. $42^{\circ} 43.3'$, Long. $124^{\circ} 30.65'$) was located ^{by sextant fix} July 29, 1937. (See page 32 of Vol. 3). ✓

4. Junctions with Contemporary Wire Drag Surveys.

- (a) The junction with H-6238 (1937) WD on the north is satisfactory. ✓
- (b) South of the dock at Port Orford there is a gap between the drag work on the a and b sheets. This was caused by the mooring buoy. ✓
- (c) There is, at this writing, no contemporary wire drag survey on the south. ✓

5. Field Plotting.

- (a) The overlap of strips in Lat. $42^{\circ} 41.1'$ Long. $128^{\circ} 29.2'$ and Lat. $42^{\circ} 40.65'$ Long. $124^{\circ} 29.1'$ is slightly less than one section, 400 feet, but since the strips are running straight it is believed that the overlap is, in this case, satisfactory. Satisfactory.
- (b) The plotting of the depth changes at 300 and 430 (green) and at 20N (green) appear to be correct, but would be less complicated if plotted in accordance with the rules in "Wire Drag Notes". ✓
 The lift used on the first strip run on B day (green) was, in part, that of the preceeding day and the strip following. See note on page 9, Vol. 1. ✓
 The location of the grounding in Lat. $42^{\circ} 39.94'$, Long. $124^{\circ} 28.33'$ is only approximate. Note in tender record Vol. 5, page 6, also states "allow 2 ft. lift throughout drag". In volume 3 page 22 a 4 foot lift was applied, this was probably done because the length of the shortest upright was 55 feet. The depth and position should be studied in connection with prior surveys and proper disposition made by the reviewer. Field plotting accepted.
 The grounding in Lat. $42^{\circ} 42.27'$ Long. $124^{\circ} 28.95'$ is on a charted 10 fathom spot according to paragraph 7 (r) of the Descriptive Report. However, the grounding appears to be about 100 meters NW of the charted position. Since no fix (as explained in the Descriptive Report) was obtained this grounding has been left in pencil until final action is taken by the reviewer. Field plotting satisfactory.
- (c) The depth change on the strip 1 to 19G (green) as plotted shows a little more ground covered at 36 feet (Lat. $42^{\circ} 43.08'$, Long. $124^{\circ} 28.85'$) than would ordinarily be plotted, but since an effective depth of 41 feet covers the area, a revision here is not necessary. ✓

Verified By



Mar. 29, 1938.

Leo S. Straw

Field Records Section (Charts).

HYDROGRAPHIC SHEET NO. H6240ab W.D.

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	..111.6
Number of positions checked	..76
Number of positions revised	...0
Number of soundings recorded	..152
Number of soundings revised	...2
Number of signals erroneously plotted or transferred	...0

Date: *Mar. 29, 1938.*

Verification by

W. D. Straw

Time: *5 1/4 hr.*

Review by *J. A. Mc Cormick, April 15, 1938*

Time: *34 hr.*

HYDROGRAPHIC SURVEY NO. H-6240ab W. D.

Smooth Sheet Two (One for H-6240a W. D. & One for H-6240b W. D.)

Boat Sheet Five (Four for " & One for ")

Sounding Records 2 Vols. _____
Wire Drag " 3 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals In D. R.

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service None
(Circular Nov. 30, 1933)

Remarks _____

HYDROGRAPHIC
Total Days 13

August 3, 1937.

Remarks

Decisions

	Remarks	Decisions
1	<i>For Title only</i>	<i>see H-6240 a</i>
2		" "
3		
4		
5		
6		
7		
8		
9		
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27		

GEOGRAPHIC NAMES

Survey No. H-6240b W. D.

Name on Survey	On Chart No. 5952 On previous survey No. On U. S. quadrangl. Maps From local information On local Maps P. O. Guide or Map Rand McNally Atlas U. S. Light List										
	A,	B,	C,	D,	E,	F,	G,	H,	K,		
<u>Port Orford</u>	✓										1
<u>Graveyard Point</u>	✓										2
											3
											4
											5
											6
											7
											8
											9
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											25
											26
											27

Names underlined in red approved

Names underlined in red approved
 by *[Signature]* on *3/28/58*

Remarks

Decisions

1	"Ewing Harbor" on T-347	
2		
3		see H-6238
4		" "
5		" "
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18	<i>Need not be inked on this sheet</i>	
19	<i>Creek does not exist according to T-4362</i>	
20		
21		
22		
23		
24		
25		
26		
27		

GEOGRAPHIC NAMES

Survey No. H-6240a W. D.

Name on Survey	Sources										
	A	B	C	D	E	F	G	H	K		
	On Chart No. 5952	On previous survey No.	On U. S. quadrangle Port Maps Orford	From local information	M ^{rs} Arthur Orford Maps Oregon Names	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List			
<u>Port Orford</u>	✓	T-1133			✓						1
<u>Island Rock</u>	✓	T-1133	✓								2
<u>The Heads</u>	✓		✓								3
<u>Kloogueh Rock</u>	✓										4
<u>Tichenor Rock</u>	✓										5
<u>Nelly Cove</u>	✓	T-4362									6
<u>Nelly Point</u>	✓	T-4362									7
<u>Graveyard Point</u>	✓	T-4362									8
<u>Fort Point</u>	✓	T-4362									9
<u>Battle Rock</u>	✓	T-1133									10
<u>Rocky Point</u>	✓	T-4362	✓								11
<u>Redfish Rocks</u>	✓	T-4362	✓								12
<u>Coal Point</u>	✓	T-1133 Rocky Pt	✓								13
<u>Hubbard Creek</u>	✓	T-1133 Hubbard's Cr.	✓								14
<u>Brush Creek</u>	✓	T-1133	✓								15
<u>Humbug Mt.</u>	✓	T-1133	✓		✓						16
Island Rock ^{see above}	✓										17
<u>Port Orford (village)</u>	✓	T-4362	✓			✓					18
Gold Rock		T-1133									19
											20
											21
											22
											23
											24
Names underlined in red approved											25
by <u>JHE</u> on <u>2/28/38</u>											26
											27

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~



No. H-6240ab W. D.
~~NO. 1~~

{ received Feb. 21, 1938
 registered Feb. 28, 1938
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
----	------------



TIDE NOTE FOR HYDROGRAPHIC SHEET

March 5 1938.

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis.

Plane of reference
~~Tide Reducers~~ approved in
9 volumes of sounding records for and wire drag

HYDROGRAPHIC SHEET 6240 ab; W.D.

Locality Island Rock to Port Orford and Port Orford Dock,
South Oregon Coast.

Chief of Party: F. H. Hardy in 1937
Plane of reference is mean lower low water reading
1.9 ft. on tide staff at Port Orford
19.5 ft. below B.M. 1

Height of mean high water above plane of reference is 6.6 feet.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

1938
KTA

80-LEF

May 23, 1938.

To: Commanding Officer,
U. S. Coast and Geodetic Survey,
Ship GUIDE,
P. O. Box 1197,
Oakland, California.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Wire Drag Survey No. H-6240a (1937).

There is forwarded to you, under separate cover, a photostat of a section of wire drag survey No. H-6240a (1937), on which you will note four hydrographic signals PAC, PIT, NEW and BOT which were located by the hydrographic party and noted as being on rocks which are bare at high water. These four rocks differ in position from similar features on T-4363 (1928) by 30 to 100 meters and the question has come up as to whether they are rocks which were missed on the 1928 survey or common features more accurately located on the present survey.

It is thought possible that the officers who located the rocks may be able to furnish this information from memory or that there may be air photographs of that area in the San Francisco Field Station from which the information can be obtained.

(Signed) J. H. HAYLICK

Acting Director.

POST-OFFICE ADDRESS: P. O. Box 1197, Oakland, Calif.

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

1938 JUN 15 AM 12 20

Handwritten initials and scribbles

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY
Steamer GUIDE, Oakland, Calif.,
June 10, 1938.

To: The Director, U. S. Coast and Geodetic Survey,
Washington, D. C.

From: The Commanding Officer, U.S.C. & G.S.S. GUIDE.

Subject: Wire Drag Survey No. H-6240a (1937)

Reference: Your letter of May 23, 1938, No. 80-LEF.

This will acknowledge receipt of above reference. In reply you are advised that evidently the topographic features south of Signal TAL were sketched in, as the topography around this point does not lend itself readily to traverse.

It is believed that signals PAC, PIT and BOT are common features with those on T-4363 (1928) more accurately located in 1937. Signal NEW evidently is a new feature which was missed in the 1928 survey. It is a guana covered rock about 15 feet in height.

The photostat of a section of wire drag survey No. H-6240a (1937) is returned with suitable notes pertaining to the above.

F. H. Hardy
F. H. Hardy,
Chief of Party, C. & G. S.,
Commanding Ship GUIDE.



Δ HUMBUG 2 1937
 HUMBUG MT.

WIDE DIAG SHEET FIELD STATION
 PROJECTION BY
 TRANSFORMATION
 POPULATION
 HEADS 2 1937
 LAT
 LONG

with Michael W.W.

OBRU
 M. BRUSH CR.

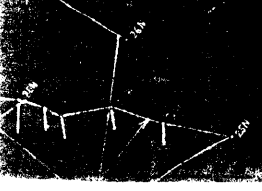
TIP

TAL

NEW BOT

PAC BOT

Δ HEADS 2 1937
 LAT
 LONG



Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6240 a & b (1937) W. D. FIELD
NO. 1 and 1A

- a. Island Rock to Port Orford, Port Orford, Oregon.
 - b. Port Orford Dock, Port Orford, Oregon.
- Surveyed in July-August, 1937, Scale a. 1:10,000.
b. 1:2,500.

Instructions dated May 31, 1934; May 2, 1936 and March 6, 1937 (GUIDE)

Wire Drag.

Dual Control on shore signals.

Chief of Party - F. H. Hardy.
Surveyed by - W. D. Patterson and I. E. Rittenburg.
Protracted by - W. J. Chovan and H. F. Garber.
Subdivision of wire dragged areas by - W. J. Chovan and H. F. Garber.
Inked by - W. J. Chovan and H. F. Garber.
Verified by - L. S. Straw.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual and of S. P. 118 except as follows:

- a. Position numbers and day letters were entered on the cover labels and title pages in different colors than those used in the records. This was corrected in the office.
- b. Topographic features were not shown for four hydrographic signals located on the present survey in approximate latitude $42^{\circ} 40.5'$, longitude $124^{\circ} 26.9'$. From notes on the boat sheet they are known to be on bare rocks but they differ in position from similar features on T-4363 (1928) by 30 to 100 meters. The hydrographic signals have been noted in the office as bare rocks and should be charted as such but additional investigation is being recommended to determine whether they are rocks which were missed on the 1928 survey or common features more accurately located on the present survey.

The Descriptive Report is complete and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project except as noted in paragraph 1b and 9b, this review.

3. Shoreline and Signals.

- a. Shoreline on the present survey originates with T-4362 (1928), T-4363 (1928) and T-6566a (1937).
- b. Topographic signals originate with T-6566 a & b (1937).

See letter dated June 10, 1938 and attached photostat from C. O. GUIDE regarding these 4 rocks. (Letter photostat attached to DR.)

- c. Hydrographic signals originate with the present survey, the cuts being recorded and indexed in the drag records.

4. Junctions with Wire Drag Surveys.

The junction with H-6238 (1937) W. D. on the north is satisfactory. There are no other wire drag surveys adjoining the present survey.

5. Comparison with Latest Hydrographic Surveys.

H-4505 (1925), 1:40,000; H-4814 (1928), 1:10,000; H-4815 (1928), 1:40,000; H-4817 (1928), 1:20,000.

The present survey covers portions of the above surveys. Effective drag depths are consistent with the depths shown.

6. Comparison with Chart 5951 (New Print dated October 23, 1934).
Chart 5952 (New Print dated July 19, 1937).

a. Hydrography.

The charts contain no soundings which conflict with the effective drag depths on the present survey. Several soundings added as hand corrections from advance information based on the boat sheet of the present survey and reported in Chart Letters 526, 533 and 566 of 1937 differ slightly in position or depth from those on the smooth sheet. The information in the chart letters should be superseded by the present survey.

- (1) The wreck in latitude $42^{\circ}44.35'$, longitude $124^{\circ} 29.50'$ on the present survey originates with T-4362 (1928) but apparently was overlooked when that survey was applied to the charts. There is no evidence in the files that the wreck has broken up or been removed subsequent to 1928. It should be added to the charts.
- (2) The location and outline of the small rocky islet in latitude $42^{\circ}40.2'$, longitude $124^{\circ} 28.6'$ as redetermined on the present survey differ slightly from the charted delineation which originates with T-4363 (1928). The delineation on the present survey is considered the more accurate (see descriptive report, page 2) and should supersede for charting purposes.

b. Aids to Navigation.

The charted position of Bell Buoy "1" in latitude $42^{\circ} 43.3'$, longitude $124^{\circ} 30.6'$ is in substantial agreement with the position determined on the present survey.

7. Field Plotting.

The field plotting, protracting and subdivision of dragged areas were satisfactory.

8. Results of Survey.a. Shoals discovered and clearance depths obtained.

- (1) 3-1/2 fathom sounding in latitude 42° 43.99', longitude 124° 29.24' falling in depths of 7 fathoms on H-4814 (1928). Cleared with an effective depth of 13 feet.
- (2) 2-2/6 fathom sounding in latitude 42° 43.96', longitude 124° 29.15' falling in depths of 7-1/4 fathoms on H-4814 (1928). Cleared with an effective depth of 10 feet.
- (3) 2-4/6 fathom grounding in latitude 42° 43.83', longitude 124° 29.10' falling in depths of 8-1/4 fathoms on H-4814 (1928). Least depth obtained by sounding 3 fathoms. Cleared with an effective depth of 14 feet.
- (4) 4-2/6 fathom sounding in latitude 42° 43.85', longitude 124° 29.32' falling in depths of 8-3/4 to 9-1/4 fathoms on H-4814 (1928). Cleared with an effective depth of 25 feet.
- (5) 5-2/6 fathom sounding in latitude 42° 43.47', longitude 124° 28.70' falling in depths of 6-5/6 fathoms on H-4814 (1928). Not cleared.
- (6) 2-5/6 fathom sounding in latitude 42° 43.43', longitude 124° 28.77' falling in depths of 3-4/6 to 9-1/4 fathoms on H-4814 (1928). Cleared with an effective depth of 14 feet.
- (7) Two 5 fathom soundings in latitude 42° 43.15', longitude 124° 28.55' falling in depths of 8-1/4 to 11 fathoms on H-4814 (1928). Cleared with an effective depth of 26 feet.
- (8) 6-1/6 fathom sounding in latitude 42° 43.06', longitude 124° 28.52' falling in depths of 10 fathoms on H-4814 (1928). Cleared with an effective depth of 26 feet.
- (9) 6-5/6 fathom grounding in latitude 42° 42.97', longitude 124° 28.70' falling in depths of 11 to 12 fathoms on H-4814 (1928). Cleared with an effective depth of 30 feet.
- (10) 4-4/6 fathom sounding in latitude 42° 42.67', longitude 124° 28.81' falling in depths of 14 fathoms on H-4814 (1928). Cleared with an effective depth of 26 feet.
- (11) 8-3/4 fathom grounding in latitude 42° 42.27', longitude 124° 28.94' falling in depths of 10 to 17 fathoms on H-4814 (1928). Cleared with an effective depth of 45 feet.

- (2) A technical split exists at Bell Buoy "1" in latitude 42° 43.3', longitude 124° 30.6'. The drag was drawn up tight against the buoy on F day (blue) reducing the split to the smallest possible dimensions. The buoy, however, was not lifted.
- (3) There is a split between the drag work on H-6240a (1937) and H-6240b (1937), the two sheets not actually joining because of the mooring buoy in latitude 42° 44.27', longitude 124° 29.74'.

9. Additional Field Work Recommended.

The following additional work is required in order to complete the survey:

- a. The area covered by H-6240b (1937) should be redragged in order to verify the reported blasting out of pinnacles discovered near the end of the pier (see paragraph 8a (18), this review). Other shoals in this area should be cleared if possible (see paragraph 8a (15) and 8a (16), this review) and the size of the split at the junction with H-6240a (1937) reduced to a minimum (see paragraph 8c(3), this review).
- b. The 6-1/6 fathom sounding and the 6-5/6 fathom grounding in latitude 42° 43.06', longitude 124° 28.52' and latitude 42° 42.97', longitude 124° 28.70 should be cleared with effective depths more commensurate with the depths found (see paragraph 8a (8) and 8a (9), this review).
- c. The four bare rocks in latitude 42° 40.5', longitude 124° 26.9' located on the present survey for use as hydrographic signals should be examined in the field and their shape and relation to similar features on T-4363 (1928) with which they do not check determined (see par. 1b, this review).

See Note on P. 1 this review

10. Note to Compiler.

The compiler's attention is called to paragraph 1b, 6a(1) and 6a(2), this review relative to a wreck omitted from the charts, a new location of a rocky islet and treatment of four bare rocks located for use as hydrographic signals.

11. Area and Depth Sheet.

An area and depth tracing has been prepared for this sheet in the office.

12. Reviewed by - J. A. McCormick, April 15, 1938.

Inspected by - A. L. Shalowitz.

- (12) 10 fathom sounding in latitude $42^{\circ} 40.57'$, longitude $124^{\circ} 28.38'$ falling in depths of 20 fathoms on H-4817 (1928). Cleared with an effective depth of 53 feet.
- (13) $6\text{-}5/6$ fathom sounding in latitude $42^{\circ} 40.38'$, longitude $124^{\circ} 28.40'$ falling in depths of 21 to 22 fathoms on H-4817 (1928). Cleared with an effective depth of 37 feet.
- (14) 14 fathom grounding in latitude $42^{\circ} 39.94'$, longitude $124^{\circ} 28.34'$ falling in depths of 20 to 29 fathoms on H-4817 (1928). Not cleared. This grounding is close to Island Rock.
- (15) $2\text{-}2/6$ fathom sounding in latitude $42^{\circ} 44.38'$, longitude $124^{\circ} 29.80'$ falling in a sounded area of $3\text{-}1/2$ to $4\text{-}1/2$ fathoms on the present survey. Not cleared.
- (16) $2\text{-}4/6$ fathom sounding in latitude $42^{\circ} 44.35'$, longitude $124^{\circ} 29.73'$ falling in depths of $4\text{-}1/2$ to 5 fathoms on H-4814 (1928). Not cleared.
- (17) $3\text{-}4/6$ fathom sounding in latitude $42^{\circ} 44.33'$, longitude $124^{\circ} 29.77'$ falling in depths of 5 to $5\text{-}1/6$ fathoms on H-4814 (1928). Cleared with an effective depth of 21 feet.
- (18) A 3 fathom and three $2\text{-}4/6$ fathom soundings in latitude $42^{\circ} 44.35'$, longitude $124^{\circ} 29.80'$ falling in depths of $4\text{-}1/2$ to $5\text{-}1/6$ fathoms on H-4814 (1928). Not cleared. These pinnacles are reported to have been blasted off subsequent to the survey to an effective depth of 26 feet (see Chart Letter 654 of 1937) and should not be charted. Additional drag work is being recommended, however, for the purpose of verifying the report (see paragraph 9a, this review).
- (19) Several kelp patches outside the limits of the drag were investigated and in most cases shoaler depths obtained than those shown on the latest hydrographic surveys.

b. Effective Depths.

The effective depths of the various drag strips are sufficient to insure safety to surface navigation to within $1/4$ mile of the kelp line.

c. Splits and insufficient overlaps.

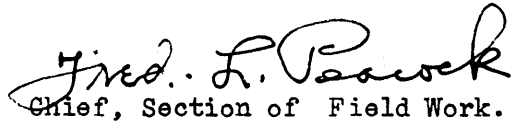
- (1) A small split exists in latitude $42^{\circ} 43.47'$, longitude $124^{\circ} 28.70'$ in a depth of $5\text{-}2/6$ fathoms because of the difficulty in dragging through the kelp.

Examined and approved:



T. B. Reed,
Chief, Field Records Section.

K.T. Adams
Chief, Division of Charts.



Fred. L. Pawek
Chief, Section of Field Work.

Chief, Division of H. & T.

appended to Old 2951-⁵⁹⁵²~~2952~~. July 1938 H.S.