

5984

WIRE DRAG SURVEY.

U. S. COAST & GEODETIC SURVEY
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5984

WIRE DRAG SURVEY.

Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

WIRE DRAG
~~Topographic~~
~~Hydrographic~~

Sheet No. 13

State California

LOCALITY
California Coast

One Mile South of Morro Rock to
Two Miles West of Sycuos
Constantine Rock

193 5

CHIEF OF PARTY
F. H. Hardy

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY
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REG. NO.
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WIRE DRAG
~~HYDROGRAPHIC~~ 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. 13

5984

REGISTER NO. **H5984**

State California

General locality California Coast

Locality One Mile South of Morro Rock to ^{Constantine Rock} Two Miles West of Cayucos

Scale 1:10,000 Date of survey Sept. 20-Oct. 9, 1935

Vessel Chartered Launches FLORENCE (Guide Launch POINT REYES (End Launch))

Chief of Party F. H. Hardy

Surveyed by G. C. Jones

Protracted by G. A. Kester

Soundings penciled by C. J. Beyma

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

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by C. J. Beyma

Inked by C. J. Beyma

Verified by J. McCormick

Instructions dated May 5, 1935

Remarks: Dual Control Wire Drag. Positions by Visual fixes.

DESCRIPTIVE REPORT
to accompany
WIRE DRAG SHEET FIELD NO. 13
Project No. HT 206
California Coast
U.S.C. & G.S.S. GUIDE
1935

INSTRUCTIONS: Instructions for the wire drag on this sheet were authorized by telegram dated May 5, 1935, to continue wire drag work as per instructions of May 31, 1934.

CHARACTER OF WORK: This work includes that portion from two miles west of Cayucos to one mile south of Morro Rock, and from approximately one third mile offshore to approximately two miles offshore.

The area of the work on this sheet is 15 square statute miles.

The scale of this sheet is 1:10,000.

The position interval was usually five minutes with supplemental positions at radical changes in course and speed.

The effective depth range is from 12 to 80 feet.

CONTROL: Control for the wire drag on this sheet was by means of visual fixes.

Dual control was used for all this work.

Control consisted of hydrographic signals over triangulation stations on the 1932 scheme plotted on the North American 1927 Adjusted Datum.

The shoreline from the southern end of this sheet to Morro Rock was transferred from Sheet T-4925; shoreline and signals from Morro Rock to the wharf in Cayucos were transferred from Topographic Sheet Field Letter "L" 1934; shoreline and signals from the wharf to the northern limits of this sheet were transferred from Topographic Sheet Field Letter "K" 1934.

DATES OF SURVEY: Nine days work was done on this sheet between September 20 and October 9, 1935.

TIDAL REDUCERS: Tidal reducers for the work on this sheet were obtained from San Simeon Bay and Port San Luis Bay Portable Automatic Tide Gages.

For further information on this subject see Season's Tidal Report.

4-5985

JUNCTIONS: The south end of this sheet joins Wire Drag Sheet Field No. 15, 1935. The drag strips are continued from this sheet to Wire Drag Sheet Field No. 15, 1935. The north end of this sheet joins Wire Drag Sheet Field No. 12, 1935. The inner drag strip is continued to this sheet from Sheet No. 12, 1935. The intermediate drag strip is continued from this sheet to Sheet No. 12, 1935. The offshore strip on this sheet makes a good junction with the offshore strip on Sheet No. 12, 1935. *Approximately 1 mile N.W. of Torre Rock and in a general north west direction this sheet joins Wire Drag Sheet 5692.*

4-5983

In the vicinity of the Standard Oil Loading Station in Latitude 35° 24.5, Longitude 120° 53.0, the inshore area was dragged as close as practicable around the Standard Oil Co. mooring buoys. Part of this area was dragged in 1933, Sheet 5264. The limits of that survey are shown on this sheet. A good overlapping junction between the survey on Sheet 5264 and this sheet *off the east of Torre Rock* was not obtained because of the numerous mooring buoys in this area.

LOCATION OF DOCK:

In the spring of 1935 the Standard Oil Company constructed a small dock at their loading station.

The dock was located by sextant angles taken at the end of the dock. (See Tender Record, Page 6, for its location). The dock is 14 feet wide, and bears S 72°- 47' W. This bearing and width was obtained from Standard Oil Company blueprints, which were authorized by the War Department.

From each of the submarine loading lines there is a return submarine pipe line leading to the dock.

This dock is not for public use.

GROUNDINGS:

Pes.No. Letter Day	Latitude & Longitude	Grounded Effective Depth Feet	Least Sounding Depth Fms	Cleared Effective Depth Feet	Depth Plotted Fms	Remarks
3 d	35 26.17 120 55.89		6 1/6	15	6 1/6	When drag was set out ground wire fouled on rock. area sounded and least depth recorded.
12 D	35 26.15 120 55.01	19-23	2 4/6	13	2 4/6	
26 D	35 26.17 120 53.95	21	2 5/6	Not Cleared	2 5/6	
6 d	35 26.10 120 53.97		2 2/6	Not Cleared	2 2/6	Small kelp patch investigated and least sounding obtained.
16 A	35 25.93 120 55.68	29-39	6	31	6	Grounded on sloping section from 29 to 39 feet. Practically on 39 foot upright. Least sounding depth plotted.

*23786
27786*

GROUNDINGS (Contd):

Pos.No. Letter Day	Latitude & Longitude	Grounded Effective Depth	Least Sounding Depth	Cleared Effective Depth	Depth Plotted	Remarks
	o	Foot	Fms	Feet	Fms	
16 A	35 25.82 120 55.47	39 ✓	6 4/6 No sounding	35 ✓	6 1/2 ✓	Upright length plotted. ✓ effective depth ✓
7 E	35 25.93 120 54.42	31-37 ✓	5 4/6 ✓	28 ✓	5 4/6 ✓	Grounded on sloping section from 31 to 37 feet. ✓ Practically on 37 foot upright. Least sdg. plotted. ✓
16 E	35 25.77 120 53.56	22 ✓	5/6 ✓	Not Cleared ✓	5/6 ✓	✓
26 E	35 25.42 120 53.39	24 ✓	5 1/2 ✓	21 ✓	4 ✓	Upright length plotted. ✓
1 F	35 24.94 120 52.79	21 ✓	2 1/2 ✓	12 ✓	2 1/2 ✓	Drag grounded before any area covered. Line rejected. ✓
40 E	35 24.79 120 52.86	28 ✓	4 1/6 ✓	21 ✓	4 1/6 ✓	✓
23 G	35 22.68	42 ✓	6 4/6 ✓	34 ✓	6 4/6 ✓	✓
29 G	120 52.58					

COMPARISONS WITH PREVIOUS SURVEYS:

The following comparisons are based on Sheets H-57⁵⁰ and H-5692. - H-5708.

The 6 1/6 fathom sounding in Latitude 35° 26'17, Longitude 120° 55'89, falls in surrounding depths of 7 1/2 fathoms. Soundings in this vicinity are irregular. ✓

The 2 4/6 fathom sounding in Latitude 35° 26'15, Longitude 120° 55'01, falls in the vicinity of 8 1/4 fathoms. Surrounding soundings show no indication of an existing shoal. ✓

The 2 5/6 fathom sounding in Latitude 35° 26'17, Longitude 120° 53'95, falls on a 5 2/6 fathom sounding. Soundings in this vicinity are irregular. ✓

The 2 2/6 fathom sounding in Latitude 35° 26'10, Longitude 120° 53'97, falls in depths of 5 2/6 fathoms. Surrounding soundings in this vicinity show no indication of a shoal. Shoal is marked by small patch of kelp. ✓

The 6 fathom sounding in Latitude 35° 25'93, Longitude 120° 55'68, falls in depths of 8 3/4 to 9 1/2 fathoms. Soundings in this vicinity are irregular. ✓

The 6 1/2 fathom effective upright length in Latitude 35° 25'82, Longitude 120° 55'47, is in surrounding depths of 8 1/4 fathoms. ✓

The $5 \frac{4}{6}$ fathom sounding in Latitude $35^{\circ} 25'.93$, Longitude $120^{\circ} 54'.42$, falls near a $7 \frac{1}{4}$ fathom sounding. Surrounding depths in this vicinity are irregular. ✓

The $5 \frac{5}{6}$ fathom sounding in Latitude $35^{\circ} 25'.77$, Longitude $120^{\circ} 53'.56$, falls in depths of $5 \frac{4}{6}$ fathoms. Surrounding soundings in this vicinity show no indication of any shoaling. ✓

The 4 fathom effective upright length in Latitude $35^{\circ} 25'.42$, Longitude $120^{\circ} 53'.39$, falls in depths of $6 \frac{4}{6}$ fathoms. ✓

The $2 \frac{1}{2}$ fathom sounding in Latitude $35^{\circ} 24'.94$, Longitude $120^{\circ} 52'.79$, falls a few meters north of a $3 \frac{1}{6}$ fathom sounding. ✓

The $4 \frac{1}{6}$ fathom sounding in Latitude $35^{\circ} 24'.79$, Longitude $120^{\circ} 52'.86$, falls a few meters north of a $4 \frac{4}{6}$ fathom sounding found on Sheet H-5264 (1933) Wire Drag. ✓

The $6 \frac{4}{6}$ fathom sounding in Latitude $35^{\circ} 22'.68$, Longitude $120^{\circ} 52'.58$, falls on a $7 \frac{3}{4}$ fathom shoal. ✓

COMPARISONS WITH CHART NO. 5302:

The following comparisons are based on Chart No. 5302 corrected to March 7, 1936.

The $6 \frac{1}{6}$ fathom sounding in Latitude $35^{\circ} 26'.17$, Longitude $120^{\circ} 55'.89$, is charted as 6 fathoms. ✓

The $2 \frac{4}{6}$ fathom sounding in Latitude $35^{\circ} 26'.15$, Longitude $120^{\circ} 55'.01$, is charted as $2 \frac{3}{4}$ fathoms. ✓

The $2 \frac{2}{6}$ fathom sounding in Latitude $35^{\circ} 26'.10$, Longitude $120^{\circ} 53'.97$, is charted as $2 \frac{1}{4}$ fathoms. 130 meters north of this charted sounding there is a $2 \frac{5}{6}$ fathom sounding found by this survey. Because of the scale of this chart it is impractical to chart the $2 \frac{5}{6}$ fathom sounding.

The effective upright depth of $6 \frac{1}{2}$ fathoms in Latitude $35^{\circ} 25'.82$, Longitude $120^{\circ} 55'.47$, is charted as $6 \frac{3}{4}$ fathoms. The least sounding depth obtained on this shoal was $6 \frac{4}{6}$ fathoms. 380 meters northwest of the charted $6 \frac{3}{4}$ fathom sounding there is a shoal of 6 fathoms. Because of the scale of the chart the 6 fathom sounding in Latitude $35^{\circ} 25'.93$, Longitude $120^{\circ} 55'.68$, should be charted in lieu of the $6 \frac{3}{4}$ fathom sounding.

The $5 \frac{4}{6}$ fathom sounding in Latitude $35^{\circ} 25'.93$, Longitude $120^{\circ} 54'.42$, is charted as $5 \frac{3}{4}$ fathoms. ✓

The $5 \frac{5}{6}$ fathom sounding in Latitude $35^{\circ} 25'.77$, Longitude $120^{\circ} 53'.56$, is charted as 1 fathom. ✓

The 4 fathom upright length in Latitude $35^{\circ} 25'.42$, Longitude $120^{\circ} 53'.39$, is charted as 4 fathoms.

The $2 \frac{1}{2}$ fathom sounding in Latitude $35^{\circ} 24'.94$, Longitude *not charted* $120^{\circ} 52'.79$, is not charted.

The $4 \frac{1}{6}$ fathom sounding in Latitude $35^{\circ} 24'.79$, Longitude $120^{\circ} 52'.86$, is charted as $4 \frac{1}{2}$ fathoms.

The $6 \frac{4}{6}$ fathom sounding in Latitude $35^{\circ} 22'.68$, Longitude *not charted* $120^{\circ} 52'.58$, is not charted.

PERSONNEL AND LAUNCHES:

Lieutenant-Commander G. C. Jones was in charge of this work, also in charge of the Guide Launch. Lieutenant (j.g.) W. J. Chovan was in charge of the End Launch.

The launches used were the chartered launches FLORENCE (Guide Launch) and POINT REYES (End Launch).

Respectfully submitted,

Chester J. Beyma.
Chester J. Beyma,
Aid,
C. & G. Survey.

Forwarded, approved:

F. H. Hardy

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

A split occurs in the vicinity of the $5 \frac{1}{6}$ fth
sounding developed on Sheet #5692 in approx lat $35-23'N$ -
long $120-53'W$. This shoal was cleared on sheet #5692
with an effective depth of 28 ft. By failing to cover this
shoal this year a greater effective depth was obtained
close to the shoal & more area covered. O.K.

LIST OF SIGNALS
to accompany
WIRE DRAG SHEET FIELD NO. 13
1935

TRIANGULATION

<u>Hydrographic Name</u>	<u>Location</u>
POI	Point 2, 1916-32
CON	Concrete Tank N.W. of Cayucos, 1933.
WEST	Cayucos West Gable of Warehouse, 1933.
DEN	Wooden Water Tank 1 Mile South of Cayucos, 1933.
WHALE	Whale Rock, 1933.
STAN	Standard 1932-33
DARD	House South of Standard Chimney 1932.
LU	Lu 2, 1932.
CHIM	House South of ON 2, Chimney, 1933.
MOR	Morro 2, 1919-32
HILL	Hill, 1916-32
SAN	San, 1919-32
UP	Up, 1919-33.

TOPOGRAPHIC

Located on Topographic Sheet Field Letter "K", 1934.

WHY	
ZEE	DUB
WAT	FRY
CAT	MILL

Located on Topographic Sheet Field Letter "L", 1934.

CAD	LIT
GO	POD
ECHO	RAT
ILL	

TIDAL DATA
to accompany
WIRE DRAG SHEET FIELD NO. 13
1935

H5984

Tidal reducers were obtained from records of the San Simeon Bay and Port San Luis Bay Portable Automatic Tide Gages.

A minus five minute time correction was applied to the San Simeon Bay records and a plus five minute time correction was applied to the Port San Luis Bay records. It was not necessary to correct for range.

M.L.L.W. = 2.2 feet San Simeon Bay Staff.

M.L.L.W. = 3.6 feet Port San Luis Bay Staff.

STATISTICS
TO ACCOMPANY
WIRE DRAG SHEET NO. 13

Date 1935	Day Letter	Volume	Statute Miles	Positions	Drag Length Feet	TENDER	
						Soundings	Positions
Sept. 20	A	1	1.0	16	6000	3	3
21	B	1	3.0	19	9500	-	3
23	C	1	5.8	36	9500	-	-
24	D	1	3.4	26	7200and6000	6	6
25	E	1	4.9	40	6000	7	10
26	F	1	0.5	12	2400	1	5
Oct. 6	G	1	4.0	29	7200and6000	6	12
7	H	2	3.2	18	7200	-	-
9	J	2	3.2	12	8000	-	-
Total			29.0	208		23	39

AREA 15 SQUARE STATUTE MILES

STATEMENT
to accompany
WIRE DRAG SHEET FIELD NO. 13
1935

The plotting and protracting of buoy positions
was done by C. A. Kester, Surveyor.

The drag areas were subdivided and inked by
Ensign C. J. Beyma.

The completed smooth sheet has been inspected
and is approved.

F. H. Hardy

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 7, 1936.

Division of Hydrography and Topography:

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

Tide Reducers are approved in
4 volumes of sounding/records for
and wire drag

HYDROGRAPHIC SHEET 5984

Locality One mile south of Morro Rock to Constantine Rock, California coast.

Chief of Party: F. H. Hardy in 1935
Plane of reference is Mean lower low water reading
2.2 ft. on tide staff at San Simeon
20.9 ft. below B.M. 1
3.6 ft. on tide staff at Port San Luis
14.4 ft. below B. M. 2

Height of mean high water above plane of reference is 4.5 feet.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

GEOGRAPHIC NAMES
 Survey No. **H5984**

Name on Survey	On Chart No. 5302		On previous survey No. T1663		On U. S. Quadrangle Maps		From local information #1670		On local Maps T4912		P. O. Guide or Map		Rand McNally Atlas H5700		U. S. Light List K DECISIONS		US B G W	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
<u>Morro Rock</u>	*																	1
<u>Cayucos Pt</u>	*	X		.	✓	✓	✓											2
<u>Constantine Rk.</u>	*			✓									✓					3
																		4
																		5
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																		27

Names underlined in red approved
 by *[Signature]* on 5/5/36

Remarks

Decisions

	Remarks	Decisions
1		
2	old sheet has "Cayucas" T1663	<u>Cayucas</u>
3		
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27		

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO **H5984**

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

Number of positions on sheet ²⁴⁷
Number of positions checked ²⁴
Number of positions revised ⁰
Number of soundings recorded ²³
Number of soundings revised ⁰
Number of signals erroneously plotted or transferred ⁰

Date: *May 14, 1936*

Verification by *J. A. Mc Cormick*

Review by *S. P. Seeger*

Time: *9 hrs.*

Time: *2 1/2 hrs.*

HYDROGRAPHIC SURVEY NO. H5984 Wire Drag

Smooth Sheet yes

Boat Sheet 2

Sounding Records 1 Vols. 3 Drag

Descriptive Report yes

Title Sheet yes

List of Signals yes

Landmarks for Charts (Form 567) no

Statistics yes

Approved by Chief of Party yes

Recoverable Station Cards (Form 524) no

Special Chart for Lighthouse Service no
(Circular Nov. 30, 1933)

Remarks _____

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H5984 Wire Drag
~~NO. H5984~~

received April 16, 1936
 registered May 5, 1936
 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	
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C. K. Green

May 4 - '36

Verifier's Report on H-5984 (Wire Drag)

Records:

Records are satisfactory. ✓

Drafting:

Field drafting is excellent. ✓

Control: Shoreline and signals are from ✓

T-4912, T-4916 and T-4925.

Junctions: This sheet is joined on the north ✓
by H-5983 (Wire Drag) and on the south ✓
by H-5985 (Wire Drag) Junctions are
satisfactory.

Limits of drag work done on H-5692 ✓
and H-5708 are shown in the conventional
manner. Shoal sounding obtained by
drag on H-5692 was transferred to this
sheet. Field party left two sizable
spots and ~~one~~ one scantily covered
spot which were covered by the ✓
drag work on H-5692.

Drag work was also done in this
area on H-~~5268~~ 5264. Field party has ✓
shown the limits of this sheet in pencil.
Verifier did not go into the work on
H-5264.

Remarks:

Shoal soundings obtained were transferred ✓
to H-5708 and H-5692.

Dock and pipelines located by the drag ✓
party were transferred to H-5692 and T-4916.

Attention is called to the plotting of
F day which is in the vicinity of the ✓
Standard Oil Dock. The field interpretation
of the area covered is undoubtedly O.K.
but the question arises as to whether or
not a grounding* should be plotted at
Buoy 6 on position 2 F. Attention is also
called to the note on 12 F which says,
"Fouled on S.O. Co. markers." ±

* 19 ft. grounding plotted on the sheet at Buoy No. 6
± Records incomplete regarding markers. Criticism
in review Par. 1 (Condition of Records). G.R.

It has been noticed that this party seldom, if ever, uses the bottom characteristic "Rk." Rocky shoals are invariably "rky" * even though the sounding obtained is of considerably shallower depth than the surrounding depths and is probably a pinnacle rock. Occasionally vague references are made in the remarks column of the records or in the descriptive report to "pinnacles" but the bottom characteristic is "rky." A good example is the $\frac{5}{6}$ fathom sounding at Lat. 35-25.8 Long. 120-53.6 which is surrounded by 5 to 6 fathoms of water.

* All outstanding rocky shoals marked "rky" have been changed to "RK," "GR."

May 14, 1936.

Submitted,

J. A. Mc Cormick

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5984 W.D. (1935) FIELD NO. 13

One mile South of Morro Rock to Constantine Rock, California Coast, Cal.

Surveyed in Sept. - Oct. 1935

Instructions dated May 31, 1934 (GUIDE) May 5, 1935

Wire Drag with Hand Lead Soundings.

Dual Control on Shore Signals.

Chief of Party - F. H. Hardy.

Surveyed by - G. C. Jones.

Protracted by - C. A. Kester.

Subdivision of wire dragged areas by - C. J. Beyma.

Inked by - C. J. Beyma.

Verified by - J. A. McCormick.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual and S. P. 118, except that the Standard Oil Company's markers referred to in Guide Launch record No. 1, page 47, pos. 12F, were not located. The record states "Fouled on S. O. Co.'s Markers".

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

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey comply with the instructions for the project. This survey is well executed and such matters as overlaps, proper speed, and determination of lift have been given careful attention. Presence of numerous mooring buoys prevented a closer approach to the Standard Oil Co. Dock.

3. Shoreline and Signals.

The shoreline and topographic signals are from T-4912 (1934), T-4916 (1934), and T-4925 (1934-35).

4. Junctions with Wire Drag Surveys.

The junction with H-5983 (1935) on the north is satisfactory, two of the drag strips continuing from one sheet to the other.

The junction with H-5985 (1935) on the south is satisfactory, the drag strips continuing from one sheet to the other.

The wire drag strips on the hydrographic survey H-5692 (1935) fall in the area of the present survey.

A satisfactory junction is also made with the drag work on H-5264 (1933) in the vicinity of the Standard Oil Co. pipe lines. Except for an area in the vicinity of the mooring buoys, the work falls

entirely within the limits of the present drag work.

5. Comparison with Latest Hydrographic Surveys.

H-5264 (1933), H-5566 (1933), H-5692 (1934), H-5708 (1934),
H-5750 (1934), and H-5774 (1934).

The present survey covers portions of the above hydrographic surveys and the effective drag depths are consistent with the depths shown on these surveys.

6. Comparison with Chart 5302 (New Print dated Feb. 25, 1936).

a. Hydrography.

None of the soundings on the chart conflict with the effective depths of the drag.

The following shoals found on the present survey were charted from advance information (Chart letter No. 85 and 844 of 1935). They should be revised where necessary to agree in depth and position with the present survey:

- (1) The 6 fathom sounding in latitude $35^{\circ}26.15'$, longitude $120^{\circ}55.89'$. The actual depth is $6-1/6$ fathoms.
- (2) The $2-3/4$ fathom sounding in latitude $35^{\circ}26.15'$, longitude $120^{\circ}55'$. The actual depth is $2-4/6$ fathoms.
- (3) The $2-1/4$ fathom sounding in latitude $35^{\circ}26.1'$, longitude $120^{\circ}53.97'$. The actual depth is $2-2/6$ fathoms.
- (4) The $6-3/4$ fathom sounding in latitude $35^{\circ}25.82'$, longitude $120^{\circ}55.47'$. The actual effective upright depth is $6-1/2$ fathoms.
- (5) The $5-3/4$ fathom sounding in latitude $35^{\circ}25.92'$, longitude $120^{\circ}54.42'$. The actual depth is $5-4/6$ fathoms.
- (6) The 1 fathom sounding in latitude $35^{\circ}25.75'$, longitude $120^{\circ}53.56'$. The actual depth is $5/6$ fathoms.
- (7) The 4 fathom depth in latitude $35^{\circ}25.42'$, longitude $120^{\circ}53.39'$. The actual effective upright depth is 4 fathoms.
- (8) The $4-1/2$ fathom sounding in latitude $35^{\circ}24.79'$, longitude $120^{\circ}52.86'$. The actual depth is $4-1/6$ fathoms.

- (9) The 5 fathom sounding in latitude $35^{\circ}23.04'$, longitude $120^{\circ}53.09'$. The actual depth is $5-1/6$ fathoms. This shoal was found by the wire drag work on H-5692 (1935). It has been carried forward to the present survey.

b. Aids to Navigation.

- (1) Spar buoy in latitude $35^{\circ}24.8'$, longitude $120^{\circ}53.3'$ was located approximately 120 meters north of its charted position.
- (2) The two mooring buoys (shown in black) in approximate latitude $35^{\circ}24.6'$, longitude $120^{\circ}52.8'$ are privately maintained and are not charted.

7. Field Plotting.

The plotting, protracting, and subdivision of dragged areas were well done.

8. Results of Survey.

a. Shoals discovered and clearance depths obtained.

The shoals noted below fall on H-5708 (1934), and H-5692 (1934) in greater depths as follows:

- (1) The $6-1/6$ fathoms in latitude $35^{\circ}26.17'$, longitude $120^{\circ}55.89'$, in depths of $7-1/2$ to $8-1/4$ fathoms, but about 200 meters outside of a long protuberance in the 5 fathom curve. Cleared by 15 foot drag.
- (2) The $2-4/6$ fathoms in latitude $35^{\circ}26.15'$, longitude $120^{\circ}55.01'$, in depths of $8-1/4$ to $8-1/2$ fathoms. Cleared by 13 foot drag.
- (3) The $2-5/6$ fathoms in latitude $35^{\circ}26.17'$, longitude $120^{\circ}53.95'$ in depths of $4-5/6$ to $5-1/2$ fathoms with a kelp-marked shoal of $2-4/6$ fathoms about 150 meters southward. These fall fairly close inshore and could not be cleared.
- (4) The 6 fathoms in latitude $35^{\circ}25.93'$, longitude $120^{\circ}55.68'$, in depths of $9-1/4$ fathoms. Cleared by 31 foot drag.
- (5) The $6-1/2$ fathom grounding in latitude $35^{\circ}25.82'$, longitude $120^{\circ}55.47'$, in depths of $8-1/4$ fathoms. Cleared by 35 foot drag.
- (6) The $5-4/6$ fathoms in latitude $35^{\circ}25.93'$, longitude $120^{\circ}54.42'$ in depths of $7-1/4$ to 8 fathoms. Cleared by 28 foot drag.

- (7) The 5/6 fathom in latitude 35°25.77', longitude 120°53.56', in depths of 5-4/6 to 5-5/6.
- (8) The 4 fathom grounding in latitude 35°25.42', longitude 120°53.39', in depths of 6-1/2 to 6-4/6 fathoms. Cleared by 21 foot drag. This appears to be a pinnacle rock. The actual sounding taken on it is 5-1/2 fathoms which is considerably deeper than the grounding effective depth and is noted in the sounding record as "Rock too small to get with lead". Because of the large difference between the grounding depth and the actual sounding obtained, another drag strip slightly deeper than 24 feet should have been carried across the shoal to verify the first grounding.
- (9) The 2-1/2 fathom in latitude 35°24.94', longitude 120°52.79', in depths of 3-1/6 fathoms. Cleared by 12 foot drag.
- (10) The 4-1/6 fathom in latitude 35°24.79', longitude 120°52.86', in depths of 6 fathoms. Cleared by 21 foot drag.
- (11) The 6-4/6 fathom in latitude 35°22.68', longitude 120°52.58', in depths of 8-1/4 fathoms. Cleared by 34 foot drag depth.
- (12) The 3-1/6 fathom grounding in latitude 35°24.73', longitude 121°52.61', in depths of 4 to 4-1/6 fathoms. Not cleared by the drag because of its proximity to the shore.

b. Effective depths.

The effective depths of the various drag strips are sufficient to insure safety to surface navigation in the normal steamer lanes from 3/4 of a mile offshore at the southern limit to more than a mile offshore at the northern limits of the sheet.

c. Splits and insufficient overlaps.

The splits on the present survey in latitude 35°24.6', longitude 120°53.8', and in latitude 35°23', longitude 120°53.1', are adequately covered by the wire drag work on H-5692 (1935).

9. Additional Field Work Recommended.

While it would have been desirable to have cleared several of the shoals noted in par. 8a, as well as the surrounding depths with a slightly deeper drag, these shoals and areas are probably outside the normal steamer lanes for large draft vessels and no additional work is therefore deemed necessary at this time.

10. Note to Compiler.

The Standard Oil Dock and the return submarine pipe lines in the vicinity of latitude 35°24.5', longitude 120°52.5', originate with the present survey and are noted on page 6, Vol. 3 of the drag records.

11. Reviewed by - G. Risegari, May 20, 1936.

Inspected by - A. L. Shalowitz.

Examined and approved:

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