

IMPORTANT

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F00029

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE	
DESCRIPTIVE REPORT	
Type of Survey	Field Edit
Field No.	
Registry No.	F00029
LOCALITY	
State	New York
General Locality	
Sublocality	New York City Shipyards
1941	
CHIEF OF PARTY	
LIBRARY & ARCHIVES	
DATE	

F000029

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as: FE No.1 1941

FIELD EXAMINATION

No. 1

1941

Note;

Boat sheets for this Examination will be found in a tube marked, " F.E. #1, 1941 ". This tube is filed in the miscellaneous section of the vault.

Department of Commerce
U. S. Coast and Geodetic Survey
June 6, 1941

This survey was made in compliance with a request from the Third Naval District for immediate surveys of the approaches to certain docks and wharves. It was made under the direction of and in accordance with the wishes of a naval officer who accompanied the field party. The survey is below usual Coast and Geodetic Survey standards as the overcrowded condition of the yards prevented adequate control and proper investigation.

Soundings are in feet at mean low water.

The field party inadvertently used the sheet letter number as used instead of the letter designated by the office. There was allowed to stand to avoid the possibility of error or confusion resulting from changes in the records T & D

F. E. 1 (1941)

SPECIAL REPORT.

Hydrographic Surveys of Shipyards in Vicinity of New York.

Project No. 266.

May-1941.

T.J. Maher,

N.Y. Field Station.

SPECIAL REPORT
HYDROGRAPHIC SURVEYS OF VARIOUS SHIPYARDS VICINITY OF NEW YORK CITY
PROJECT NO. 266

Work was undertaken in accordance with instruction from The Director, dated May 9, 1941. The following are the shipyards at which the surveys were made:

1. Robins Plant, Erie Basin
2. Bushey Plant
3. Sullivan Plant
4. Bethlehem-Crane
5. Bethlehem-Morse
6. Marine Basin
7. Tietjen and Lang Plant
8. Fletcher Plant
9. Federal Shipbuilding and Dry Dock Co.
10. Bethlehem-Staten Island and Brewer Plant.

Lieut. Fred A Riddell and Lieut. James N. Jones were assigned to do the work, assisted by Joe Spaulding who was temporarily detached from duty as Engineer on the Launch ELSIE III. Spaulding acted as leadsmen. John Bright was temporarily detached from the Ship LYDONIA to act as recorder. Coxswain, launch engineers and other men were supplied by the Brooklyn Navy Yard. The Brooklyn Navy Yard furnished a launch for the hydrographic work.

Each sheet is taken up separately, as follows:

ROBINS PLANT, ERIE BASIN (SHEET A)

Control for this sheet consisted of corners of the docks and off the ends of piers, which were the only objects available for use in sextant fixes to obtain the position of the launch. This is inadequate for regular work but is the best that could be obtained under the circumstances. The entrance to the shipyard was thoroughly sounded but many of the piers and docks were blocked by ships, tugs and barges and soundings in those places could not be obtained. The shipyard was visited at the close of work and was still blocked. Information was given by the shipyard officials to the effect that any ship that could come through the entrance could be taken care of. The SS MANHATTAN was in one of the docks.

BUSHEY PLANT AND SULLIVAN PLANT (SHEET B AND C)

Both these drydocks are on the same sheet. Control was inadequate and positions were obtained by estimated distances off the ends of the piers and other points. Some sextant fixes were obtained by a range on one angle when directly off the end of one of the piers. A portion of the shipyard was blocked by ships, as shown on the smooth sheet.

BETHLEHEM-CRANE (SHEET D)

Control for this sheet was obtained by estimated distances off and abeam the ends of wharves and other distinguishable points in the shipyard. Portions of the area were blocked by ships as shown. The soundings found are higher than the soundings shown in red, which were the latest depths available on the charts up to this time. One particular spot in the center of the ends of the piers, opposite Dock No. 4, in which a depth of 20 feet was shown, was investigated by feeling around for half an hour. The least depth found was 28 feet. Another area opposite the end of Drydock No. 3, in which 25-foot soundings are shown on the chart, was investigated by feeling around and 28 feet was the shallowest found in that area. These two places are noted on the sheet.

BETHLEHEM-MORSE (SHEET E)

Control for this sheet was obtained by estimated distances off and abeam of the ends of the docks and at other identifiable points. Most of the area was blocked by ships as noted on the smooth sheet. Three lines were run off the end of the piers, showing depths considerably deeper than those given on the chart.

MARINE BASIN (SHEET F)

Control was obtained inside the shipyard by estimated distances abeam ends of piers and other distinguishable points. Off the entrance, sextant fixes were obtained from three objects, as shown on the sheet. Buoys No. 5 and 6 were determined by sextant fixes and cuts were obtained to Buoys No. 3 and 4. The position of Buoys No. 1 and 2 was obtained by estimation by a ratio of the distance of 13 to 12, as shown on Chart No. 369. Three lines were run in the chanel, the least depth being 13 feet, which was in the vicinity of Buoys No. 5 and 6. A 5-foot shoal is between Buoy No. 6 and the entrance to the Yard and ships must make a slight reverse turn in entering the dock to clear this shoal. Shipyard officials informed us that the entrance had been dredged recently, but, evidently, the operations did not go quite far enough. In the shipyard are numerous launches and small boats.

TIETJEN AND LANG PLANT (SHEET G)

Control for this sheet consisted of estimated distances off and abeam the ends of piers and docks and other identifiable points. A portion of the Yard was blocked by ships.

FLETCHER PLANT (SHEET H)

Control for this sheet consisted of estimated distances off the ends of piers and other identifiable points. A portion of the area was blocked by ships, as shown.

FEDERAL SHIPBUILDING AND DRY DOCK CO. (SHEET J)

This shipyard is in the vicinity of Newark, New Jersey. Control was obtained by sextant fixes, using points which could be identified on the photograph. The center of the Yard contains shipyards where many Naval vessels are under construction. The waterfront in this area is changed from that shown on the photograph and new construction is being undertaken. The Naval officer with the party informed me that the soundings opposite this area were not desired as the shipyard always sounded this area whenever a launching was to be made. New construction is contemplated on the right side of this sheet and soundings were taken in accordance with verbal instructions from the Navy Lieutenant. On the left side of the sheet, soundings were taken into the entrance of the shipyard as shown. A portion of it was blocked by a large ship.

BETHLEHEM-STATEN ISLAND AND BREWER PLANT (SHEET K AND L)

These shipyards are in the vicinity of Elizabeth, New Jersey. Control was obtained by estimated distances off and abeam ends of piers and docks and other identifiable points. The soundings lines run off the entrance to the docks were controlled by a sextant angle when abeam the edges of the dock. Portions of the shipyard were blocked by ships, as shown on the boat sheet. The drydock was visited again on the last day of work to obtain the soundings opposite a large floating drydock which was blocked by a barge the first day the party surveyed the area.

All soundings were reduced to mean low water, using the Battery gage for Sheets A, B, C, D and E. Soundings on Sheet G and H were reduced to mean low water using the Battery gage, with a correction for Hoboken. Soundings on Sheets J, K and L were reduced to mean low water

by control from a tide staff which was set at "Bench Mark 2 (1922)", at Port Newark, Newark Bay, New Jersey, and a record obtained during soundings. The bench mark at which the tide staff was connected to was recovered without question. The soundings on Sheet F were reduced to mean low water and controlled by the Battery gage, corrected to Sandy Hook.

Lieut. Hidelman of the U. S. Navy was with the hydrographic party at all times and soundings were made in places designated by him.

Lieut. Fred A. Riddell was detached from the party on May 17th and was replaced by Lieut. John Bowie, who reported on May 19th. All work was under the direct supervision of the Inspector of the New York Field Station.

Respectfully submitted

John Bowie, Jr.,
Jr. Hyd. & Geod. Engr.

Approved and forwarded

Thos. J. Maher
Thos. J. Maher,
Inspector, New York Field Station.

*Bound in full - small &
sign. duplicate of first used
has his signature
J. Maher*

C O P Y

22 mjc
1975 NY 1

Department of Commerce
U. S. COAST AND GEODETIC SURVEY
Washington

May 9, 1941.

To: Inspector
U.S.C. & G.S. Field Station
620 Federal Office Building
90 Church Street
New York, N. Y.

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

Subject: INSTRUCTIONS, Project CS-266

1. These instructions cover hydrographic investigations to determine the available depths at the docks and piers, and in the entrances there-to, of various shipyards in the New York metropolitan area, as listed in your letter of May 6, 1941.
2. Arrangements are being made for the use of one motor sailer with pulling boat and crew of engineer, coxswain, and two hands from the Brooklyn Navy Yard. Lieutenants Riddell and Jones and a leadsmen and recorder will report to you to assist you on this project.
3. There are being prepared 1:2000 scale photographic enlargements of sections of the 1:5000 scale topographic maps covering the shipyards in question. These enlargements have been mounted on linen for use as boat sheets.
4. Since this investigation is a matter of determining depths in relation to the various docks, and must be accomplished on comparatively large scales, it is considered that the usual 3-point fix method of control will not generally be applicable to these surveys.
5. Along the faces of the piers and in the slips, it is believed that the hydrography can best be accomplished by use of a pulling boat, tape and graduated wire or bamboo pole.
6. For the areas between the pier heads and the regularly maintained channels, the work may be accomplished by locating the sounding boat's position through the use of a planetable and alidade, and range finder, stationed on dock corners and using the azimuth of the dock for orienting the table, or, if sharp ranges are established, a single sextant angle between nearby pier heads, with the boat on range, will be satisfactory. In any case the method of control shall be determined after inspecting local conditions at each yard.

7. The offshore limits of these surveys shall be the shoreward limits of the areas usually covered by the U. S. Engineers' surveys. Where available, these limits are shown on boat sheets furnished you. No planetable surveys are contemplated. However, if the work must be extended substantially more than 200 meters off the pier heads, a planetable survey shall first be accomplished to establish necessary control.

8. The instrumental equipment is being prepared for shipment from this office and from the LYDONIA.

9. The spacing of sounding lines shall be determined by you after inspecting conditions at each yard, but it is thought that the general spacing need not be less than about 10 meters in the slips and about 20 meters between the pier heads and the regularly maintained channels, except that a line of soundings shall be run about 5 meters off the faces of the piers. Indications of shoaler depths shall be further investigated for least depths.

Tides

10. The primary tide stations maintained by this Bureau at the foot of Whitehall Street, New York City, and at Sandy Hook, New Jersey, will furnish reducers for any soundings from Hoboken to Gravesend Bay. Soundings in the vicinity of Kearney Point, Hackensack River and at Mariners Harbor, Newark Bay, can be reduced by staff readings at Port Newark Terminal. The tide staff should be connected with existing bench marks as described on pages 6 and 7 of our mimeographed publication "Tidal Bench Marks, State of New Jersey", February 1938. It is desired that as many high and low waters as possible be recorded during the period of the observations.

11. Such records as may be needed from our primary gages at The Battery and Sandy Hook will be furnished from this office upon request. The primary tide stations should be visited as frequently as necessary to assure a satisfactory record during periods of sounding.

12. A report on the establishment of the tide staff shall be made in duplicate on Form 681 and both copies forwarded to this office upon completion of the installation.

13. All of the above work shall be done in accordance with instructions in Special Publication 196, "Manual of Tide Observations".

14. A copy of our mimeographed publication "Tidal Bench Marks, State of New Jersey" is being furnished under separate cover.

Page 3
Inspector, New York

15. Miscellaneous

Any extension of piers or other changes shall be shown on the survey sheets either by transfer from blueprints or from measurements made in the field.

16. If at any time during the progress of field work it appears desirable that these instructions be modified or changed in any particular, you will please notify this office promptly and submit such recommendations as you deem necessary.

17. The personnel detailed to this duty are urgently needed for other assignments and the work on this project shall therefore be strictly limited to the shipyards and their entrances.

18. You will please acknowledge the receipt of these instructions.

/Signed/

L. O. COLBERT

Director

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 12, 1941

Coastal Surveys

Division of ~~Hydrography and Topography~~

Division of Charts: Attention: Mr. H. R. Edmonston. ✓

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET A - L

Locality

Various Shipyards in the Greater New York area.

Chief of Party: T. J. Maher in 1941

Plane of reference is mean low water

2.8 ft. ~~on tide staff at~~ above the datum of the tabulations at the Battery.

19.2 ft. below B. M. 748 (B. E. & A.)

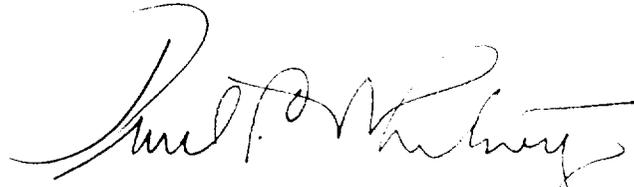
3.9 ft. on tide staff at Port Newark

10.9 ft. below B. M. 2

Note: For Marine Basin soundings at Gravesend Bay, Sandy Hook tides were used. The observed Battery tides were reduced to Sandy Hook tides by applying a time factor of 45 minutes earlier and a ratio of ranges of 1.1.

Height of mean high water above plane of reference is 4.4 feet at the Battery, and 5.0 feet at Port Newark.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

FIELD STATION

ROOM 620 FEDERAL OFFICE BUILDING

90 CHURCH STREET

NEW YORK, N. Y.

REFER TO FILE NO. T-3.

June 4, 1941.

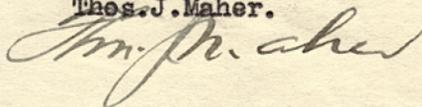
To: The Director,
U.S. Coast & Geodetic Survey,
Washington, D.C.

From: The Inspector,
New York Field Station.

Subject: Field work, Shipyards, N.Y. Area.

The work called for in connection with project 226 has been completed and the records forwarded as per transmitting letter. It is suggested that photographic reproductions of the smooth sheets be made and that these be forwarded to the Chief of Staff, Third Naval District, 90 Church St., New York. As this is a Navy project, it might appear to be desirable to turn over all the data to them, but an examination of the sheets, where new and old work overlap, will show very large discrepancies the result of dredging or other causes, but of which the Chart Division might desire to have some knowledge when the chart of that area is again revised. Filtering out of the soundings in red, might be considered, if it is thought advisable to differentiate between new and old work.

Thos. J. Maher.



20
22
40
23
ekg
1513
82
83
821

83

DEPARTMENT OF COMMERCE

U S. COAST AND GEODETIC SURVEY

FIELD STATION

ROOM 620 FEDERAL OFFICE BUILDING

90 CHURCH STREET

NEW YORK, N. Y.

REFER TO FILE NO.

Sheets to be reproduced by photography and the reproductions sent to

The Chief of Staff, U.S.N.
Third Naval District,
90 Church St.,
New York.

Advisable to have notation on each to the effect that these surveys were made in compliance with a request from the Third Naval District for immediate surveys of the approaches to certain docks and wharves. That they were made under the direction of and in accordance with the wishes of a Naval Officer who accompanied the field party; that the surveys do not meet Coast Survey specifications as the overcrowded condition of the yards prevented adequate control and proper investigation.

Thos. J. Maher
Thos. J. Maher.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

....., Director.

HYDROGRAPHIC SHEET No.

SOUNDINGS

Locality:
.....
.....

Boat

Vol. No. 3 3 Vols.

From May 26, 1941., Pos. 1j

To May 26, 1941., Pos. 58j

Statute miles of sounding lines

Number of soundings 219

Number of positions 58

19.....

Name of Vessel:
.....

Chief of Party:
.....
.....

....., U. S. C. and G. Survey.

DEVIATION TABLE

(FOR AREA COVERED BY HYDROGRAPHIC SHEET)

VESSEL

DATE

LATITUDE

LONGITUDE

VARIATION (CHART No. OR OBSERVED)

SHIP'S HEAD	DEVIATION
..... COMPASS	+ EAST
	- WEST
0	0 /
15
30
45
60
75
90
105
120
135
150
165
180
195
210
225
240
255
270
285
300
315
330
345
360

SOUNDINGS

New York

Year 19 *41*

Month *May*

Day of Month *26*

0-11-70

POSITION NUMBER	TIME MER. <i>7.4</i> P.M. <i>7.1</i>	SOUNDINGS		CORRECTIONS					REDUCED SOUNDINGS			
		<i>H.L.</i>		LEAD LINE	BOB	WIND	SEA	REF. FOR TIDE	FIELD		OFFICE	
		FEET	TENTHS	TUBES	SLOPE	CONTR.	FOR TIDE	FEET	TENTHS	FEET	TENTHS	
		FATHOMS	FEET	ECHO	FACTOR	FEET	FATHOMS	FATHOMS	FEET	FATHOMS	FEET	
<u>6</u>	9-43-50	3	4						4	18		
		4	1						4	21		
		4	2							22		
		4	4							24		
		4	5							25		
		4	3							23		
<u>7</u>	9-45-00	3	4							18		
		4	5							25		
		4	4							24		
		4	4							24		
		4	4							24		
		4	4							24		
<u>8</u>	9-46-30	5	0							26		
		4	1							21		
		4	2							22		
		4	3							23		
		3	4							18		
		3	4							18		
		3	2							16		
		3	0							14		
		3	0							12		
<u>9</u>	9-48-30	2	4							12		
		2	2							10		
<u>10</u>	9-50-20	3	2							16		
		3	5							19		
		4	1							21		
		4	3							23		
		5	3							29		
		5	5							31		
<u>11</u>	9-52-30	6	0							32		
		5	5							31		
		6	0							32		
		6	0							32		
		6	2							34		
		6	2							34		

Brewers ship yard - station *10*
 Boat used *Harvey* Boat *13001*; *10* day

BOTTOM	HEADING BY	CORRECTIONS		REMARKS
		ANGLES AND RANGES	BEARINGS	
COMPASS	LOG READINGS	ENGINE REVOLUTIONS		
		6	S. B. S.	
<i>stky.</i>	<i>soft</i>			
		7	S. B. S.	10 m. off dock.
<i>soft</i>				
		8	S. B. S.	15 m. off center of dock.
		9	Line ends - S. B. S.	
<i>stky.</i>		10	76-40	Line begins - S. B. S.
<i>soft</i>		11	00-00	
		12	63-11	S. B. S.
		13	00-00	
<i>soft</i>		14		

Note:
 Covers 7 deck mark on summit
 shot 10-11. Trip taken off edge
 of deck & marker set in
 second boat with pen boat's shot
 as summit shot was flat

Brewer ship yard - Staten Island
 Boat used *Boat* ; *Monday*

BOTTOM	HEADING BY COMPASS	ANGLES AND RANGES BEARINGS LOG READINGS ENGINE REVOLUTIONS	REMARKS	DEPTH
		00-00 (5)-(5) 62-00	S. B. S.	
		00-00 (8)-(6) 60-20	Line ends - S. B. S. L. S. L. A. L. S.	
soft		00-00 (9)-(6) 73-05	Line begins - S. B. S.	
		00-00 (6)-(4) 80-04	S. B. S.	
		70-47 (6)-(5) 00-00	S. B. S.	
soft bed.		68-35 (3)-(4) 00-00	S. B. S.	
		88-02 (1)-(15) 00-00	S. B. S. Line ends.	
soft		70-12 (1)-(1) 00-00	S. B. S. Line begins.	

SOUNDINGS *New York*
 Year 19 *41* Month *May* Day of Month *26*

POSITION NUMBER	TIME MER. <i>7.2</i> P. M.	SOUNDINGS		CORRECTIONS			REDUCED SOUNDINGS				
		FEET	FATHOMS	LEAD	ECHO	TEMP.	FIELD		OFFICE		
				LINE	TUBES	FOR	FEET	FATHOMS	FEET	FATHOMS	
		FEET	FATHOMS	FEET	FATHOMS	FEET	FATHOMS	FEET	FATHOMS	FEET	FATHOMS
<u>20</u>	10-08-40	6	0			4	32				
		6	1				33				
<u>21</u>	10-50	6	0				32				
		6	0				32				
		6	2				34				
		6	1				33				
		6	0				32				
<u>22</u>	12-00	6	0			4	32				
		6	0				32				
<u>23</u>	18-40	5	4			3	31				
		5	4				31				
		5	4				31				
		5	4				31				
<u>24</u>	20-20	5	4				31				
		5	4				31				
		5	4				31				
<u>25</u>	21-30	5	3				30				
		5	3				30				
<u>26</u>	23-50	5	2				29				
		5	4				31				
		5	5				32				
		5	5				32				

Brewer's ship yard - States & Dominion

Boat used *Halcyon* Boat *Halcyon* , *Wed. day*

BOTTOM	HEADING BY COMPASS	SIGHTING		REMARKS
		ANGLES AND RANGES BEARINGS LOG READINGS ENGINE REVOLUTIONS		
		<i>20</i> <i>(3)-(6)</i>	<i>62-40</i>	<i>S. B. S.</i>
			<i>00-00</i>	
		<i>21</i> <i>(5)-(6)</i>	<i>00-00</i>	<i>S. B. S.</i>
<i>Soft</i>			<i>63-20</i>	<i>3</i>
		<i>22</i> <i>(6)-(9)</i>	<i>00-00</i>	<i>S. B. S. Line ends.</i>
			<i>67-50</i>	
<i>Soft</i>		<i>23</i> <i>(5)-(6)</i>	<i>00-00</i>	<i>S. B. S. - Line begins.</i>
			<i>67-50</i>	
		<i>24</i> <i>(5)-(6)</i>	<i>58-05</i>	<i>S. B. S.</i>
			<i>00-00</i>	
		<i>25</i> <i>(3)-(5)</i>	<i>50-50</i>	<i>S. B. S. Line ends.</i>
			<i>00-00</i>	
<i>Soft</i>		<i>26</i> <i>(3)-(5)</i>	<i>60-35</i>	<i>S. B. S. Line begins.</i>
			<i>00-00</i>	

SOUNDINGS

New York
May

Year 19 *41*

Month *May*

Day of Month *26*

POSITION NUMBER	TIME MER. P. M.	SOUNDINGS		CORRECTIONS			REDUCED SOUNDINGS				
		FEET	FATHOMS	LEAD LINE	TUBES	ECHO	FIELD		OFFICE		
							FEET	FATHOMS	FEET	FATHOMS	
		FEET	FATHOMS	FEET	FATHOMS	FEET	FATHOMS	FEET	FATHOMS		
<u>27</u>	10-25-30	6	0					33			
		6	0					33			
		6	0					33			
<u>28</u>	27-20	6	0					33			
		6	0					33			
<u>29</u>	29-00	5	4					31			
		5	1					28			
		4	3					24			
		4	3					24			
30	30-30	4	3					24			
		4	4					25			
<u>30</u>	31-30	4	4					25			
		4	3					24			
		4	2					23			
		3	3					18			
		3	3					18			
		3	3					18			
		3	1					16			
<u>31</u>	34-40	3	0					15			

Brewer's ship yard - Staten Island

Boat used *Boat* ; *Monday*

BOTTOM	HEADING BY COMPASS	CORRECTIONS		REMARKS
		ANGLES AND RANGES BEARINGS	LOG READINGS ENGINE REVOLUTIONS	
		②-⑤	00-00 50-55	S. B. S.
		①-②	00-00 63-00	S. B. S. Line ends.
		⑤-⑥	00-00 69-35	S. B. S. Line begins.
<i>Left</i>		③-⑤	68-40 00-00	S. B. S.
<i>at bay</i>		①-③	81-55 00-00	S. B. S. Line ends.
				Reduced & reduced logs checked J.B.

SOUNDINGS *New Jersey*
 Year 19 *41* Month *May* Day of Month *24*

POSITION NUMBER	TIME MER. <i>7.5</i> <i>7</i> M.	SOUNDINGS		CORRECTIONS			REDUCED SOUNDINGS				
		<i>21.0</i>		LEAD LINE	SLOPE	RED. FOR TIDE	FIELD		OFFICE		
		FEET	FATHOMS	TUBES	ECHO	FEET FATHOMS	FEET	TENTHS	FEET	TENTHS	
		FATHOMS	FEET	FEET FATHOMS	FACTOR FATHOMS	FEET FATHOMS	FATHOMS	FEET	FATHOMS	FEET	
<u>32</u>	<i>h. m. s.</i> <i>11-03-00</i>	<i>6</i>	<i>0</i>			<i>2x</i>	<i>35</i>				
		<i>6</i>	<i>0</i>				<i>35</i>				
		<i>5</i>	<i>5</i>				<i>34</i>				
		<i>5</i>	<i>5</i>				<i>34</i>				
		<i>6</i>	<i>0</i>				<i>35</i>				
		<i>6</i>	<i>0</i>				<i>35</i>				
		<i>6</i>	<i>1</i>				<i>36</i>				
		<i>6</i>	<i>1</i>				<i>36</i>				
		<i>6</i>	<i>0</i>				<i>35</i>				
<u>33</u>	<i>06-50</i>	<i>6</i>	<i>0</i>				<i>35</i>				
<u>34</u>	<i>07-50</i>	<i>6</i>	<i>1</i>				<i>38</i>				
		<i>6</i>	<i>1</i>				<i>38</i>				
		<i>6</i>	<i>1</i>				<i>38</i>				
		<i>6</i>	<i>2</i>				<i>39</i>				
		<i>6</i>	<i>2</i>				<i>39</i>				
<u>35</u>	<i>10-10</i>	<i>6</i>	<i>1</i>				<i>38</i>				

Bayonne Terminal - N. J. Soundings
 Boat used *Wavy Boat* ; *Wed day*

BOTTOM	HEADING BY	CORRECTIONS	SOUNDINGS		REMARKS	METER	MAGNETIC
			DEPTH	TIME			
	COMPASS	ANGLE AND RANGES BEARINGS LOG READINGS ENGINE REVOLUTIONS					
<i>sthy.</i>		<i>32</i> S. B. S.			<i>Line begins 30 yards N.E. of N.E. corner of Bayonne Is.</i>		
		<i>33</i> S. B. S.			<i>Opp. block # 15 100' S. J. P.</i>		
<i>sthy.</i>		<i>34</i> S. B. S.			<i>Line begins 200' opp. post # 15</i>		
		<i>35</i> S. B. S.			<i>Line ends N.E. corner of Bayonne Is.</i>		
					<i>Dist 32-33 } 700 feet 34-35 }</i>		
					<i>Reduced to L.S.P. & W.P.P.</i>		

SOUNDINGS

New York

Year 19 *41*

Month *May*

Day of Month: *26*

POSITION NUMBER	TIME MER. P. M.	SOUNDINGS		CORRECTIONS			REDUCED SOUNDINGS					
		FATHOMS	FEET	LEAD LINE	EDWARD D. S. FOR TIDE	RED. FOR TIDE	FIELD		OFFICE			
				TUBES	NO. OF TUBES	NO. OF TUBES	FEET	TENTHS	FEET	TENTHS		
		FATHOMS	FEET	ECHO	FACTOR FATHOMS	FEET	FATHOMS	FEET	FATHOMS	FEET		
<u>36</u>	12-16-30	✓	1			1	30					
		✓	0				29					
		4	✓				28					
		4	✓				28					
		4	✓				28					
		✓	0				29					
		✓	0				29					
		✓	2				31					
		4	2	*			25					
		6	3				38					
<u>37</u>	12-24-05	✓	1				30					
		✓	0				29					
		✓	0				29					
		✓	0				29					
		✓	0				29					
		4	✓				28					
		4	✓				28					
<u>38</u>	12-30-30	✓	2			1	32					
		✓	1				31					
		✓	2				32					
		✓	0				30					
		✓	0				30					
<u>39</u>	34-10	✓	1				31					
		✓	2				32					
		✓	1				31					
<u>40</u>	34-30	✓	1				31					
		✓	1				31					

Bethlehem Steel - 27th St. Bethlehem, Pa.

Boat used: *P. Boat* *Boat* *Boat*

BOTTOM	HEADING BY COMPASS	ANGLES AND RANGES BEARINGS LOG READINGS ENGINE REVOLUTIONS	REMARKS
<i>Soft</i>	<i>30</i>	<i>S. B. S.</i>	<i>Drift stops making various turns. In and in cross section on boat sheet.</i>
			<i>* In approx. center of 26' sq. on h. day.</i>
			<i>Note pas-36-37 at Crane Shipyard <u>WPP</u></i>
	<i>37</i>	<i>S. B. S.</i>	<i>Drift stops.</i>
			<i>Bethlehem steel ↓</i>
	<i>38</i>	<i>③④ 47-30</i>	<i>Line begins - S. B. S.</i>
		<i>00 00-00</i>	
	<i>39</i>	<i>③④ 80-00</i>	<i>S. B. S.</i>
		<i>00 00-00</i>	
	<i>40</i>	<i>③④ 86-10</i>	<i>S. B. S. Line ends.</i>
		<i>00 00-00</i>	

SOUNDINGS

New York

Year 19: 41

Month *May*

Day of Month *26*

POSITION NUMBER	TIME MER. P. M.	SOUNDINGS		CORRECTIONS					REDUCED SOUNDINGS			
		FEET	FATHOMS	LEAD	TEMP.	REF.	FIELD	Yd	OFFICE			
				LINE	FOR	NOTES			FEET	TENTHS		
				TUBES	FOR	TIDE						
ECHO	WIND	WAVE	FEET	FATHOMS	FATHOMS	FEET						
<u>41</u>	12-36-00	5	0					0	30			
		5	1						31			
		4	5						28			
		5	0						29			
									30			
<u>42</u>	37-40	4	2						26			
		5	1						31			
		5	0						29			
		5	0						29			
		4	4						28			
		4	2						26			
<u>43</u>	40-00	4	2						26			
<u>44</u>	43-00	5	0									
		5	0									
<u>44</u>	42-45-00	4	5									
		4	5									
		4	0									
<u>45</u>	46-10	5	1									
		5	1									
		5	0									
<u>44</u>	12-51-10	5	2					0	32			
		5	2						32			
<u>45</u>	52-00	5	0						30			
		5	1						31			
		5	1						31			

Bethlehem Steel - 27th St., Broadly, 1927
 Boat used: Navy Boat

BOTTOM	HEADING BY COMPASS	CORRECTIONS		REMARKS
		ANGLES AND RANGES	LEAD LINE	
		67-25	Line begins - S. B. S.	
		00-00		
		54-20	S. B. S.	
		00-00		
		45-35	Line ends - S. B. S.	
		00-00		
		26-34	Line begins - S. B. S.	
		00-00		
stly		00-00	Line begins - S. B. S.	
		27-05		
stly		00-00	S. B. S.	
		44-07		
		88-34	Line begins - S. B. S.	
		00-00		
		91-20	S. B. S.	
		00-00		

SOUNDINGS

New York

Year 19. 41

Month *May*

Day of Month *12*

11-740

POSITION NUMBER	TIME Mer. 7 ^{1/2} M.	SOUNDINGS		CORRECTIONS			REDUCED SOUNDINGS				
		FATHOMS	FEET	LEAD LINE TUBES	SOMAR	CORRECTION FOR TIDE	RED. FOR TIDE	FIELD		OFFICE	
								FEET	TENTHS	FEET	TENTHS
		FATHOMS	FEET	FEET FATHOMS	FACTOR FATHOMS	FEET FATHOMS	FATHOMS	FEET	FATHOMS	FEET	
		✓	0			0	30				
		✓	0				30				
<u>46</u>	12-54-10	✓	1				31				
		✓	1				31				
		✓	1				31				
<u>47</u>	55-30	✓	0				30				
<u>48</u>	58-40 85	✓	✓								
<u>48</u>	13-00-50	✓	✓				28				
		✓	0				30				
		✓	1				31				
		✓	0				30				
		✓	1				31				
<u>49</u>	02-50	✓	0				30				
<u>50</u>	08-15	✓	✓								
<u>50</u>	13-20	✓	✓				29				
		✓	3				27				
		✓	✓				29				
<u>51</u>	14-40	✓	✓				29				
		✓	0				30				
		✓	✓				29				

Bethlehem Steel - 27th 19, Brooklyn, Conn.
 Boat used: Navy Boat, Atlantic, Sunday

BOTTOM	HEADING BY COMPASS	ANGLES AND RANGES BEARINGS LOG READINGS ENGINE REVOLUTIONS	REMARKS
		00-00	S. B. S.
		00-00	
		76-30	
		23-45	Line ends - S. B. S.
		00-00	
		41-30	S. B. S. - Line begins.
		00-00	
		40-10	S. B. S. - Line begins.
		00-00	
		48-10	S. B. S. - Line ends.
		00-00	
		0	S. B. S. Line begins.
			S. B. S. - Line begins.
			5 m. off from corner of dock.
		S. A. S.	15 m. off end of pier. Line leads left. Bay alongside.

SOUNDINGS *New York*
 Year 19 *41* Month *May* Day of Month *26*

POSITION NUMBER	TIME MER. P. M.	SOUNDINGS		CORRECTIONS			REDUCED SOUNDINGS				
		FEET	TENTHS	LEAD LINE TUBES ECHO	SLOPE CORRECTION	TEMP. CORRECTION	FIELD		OFFICE		
							FEET	TENTHS	FEET	TENTHS	
		FATHOMS	FEET	FEET	FATHOMS	FEET	FATHOMS	FEET	TENTHS		
<u>52</u>	13-15-50	✓	0			0	30				
		4	✓				29				
		✓	0				30				
		✓	0				30				
<u>53</u>	17-40	4	4				28				
		4	4				28				
		✓	0				30				
		✓	0				30				
<u>54</u>	19-10	4	✓				29				
		4	✓				29				
		4	✓				29				
		✓	1				31				
		✓	0				30				
		✓	0				30				
<u>55</u>	21-15	3	✓				19				
<u>56</u>	23-30	✓	0				30				
		4	✓				29				
		✓	0				30				
		4	✓				29				
		✓	0				30				
<u>57</u>	25-20	4	✓				29				
		4	✓				28				
		4	✓				28				
		4	✓				28				
		4	✓				28				
<u>58</u>	27-00	4	✓				29				

Reduced Sounding ✓ correct

Bethlehem Steel - 27th St., Philadelphia, Pa.

Boat used: *Wing Boat* *11/20/09*

BOTTOM	HEADING BY COMPASS	ANGLES AND RANGES BEARINGS LOG READINGS ENGINE REVOLUTIONS	REMARKS
		52 S. B. S.	Line leads right 5m off end of pier
		53 S. B. S.	L. B. Left 10m off end of pier
		54 S. B. S.	L. B. Right 5m off end of pier
		55 S. B. S.	20m from end of pier Line ends
Left		56 00-00	Line begins - S. B. S.
		56-50	
		57 00-00	
		57-35	S. B. S.
		58 00-00	
		58 00-00	
		58 105-00	S. B. S. Line ends. Day ends.
		58 00-00	
219 slips this day.			

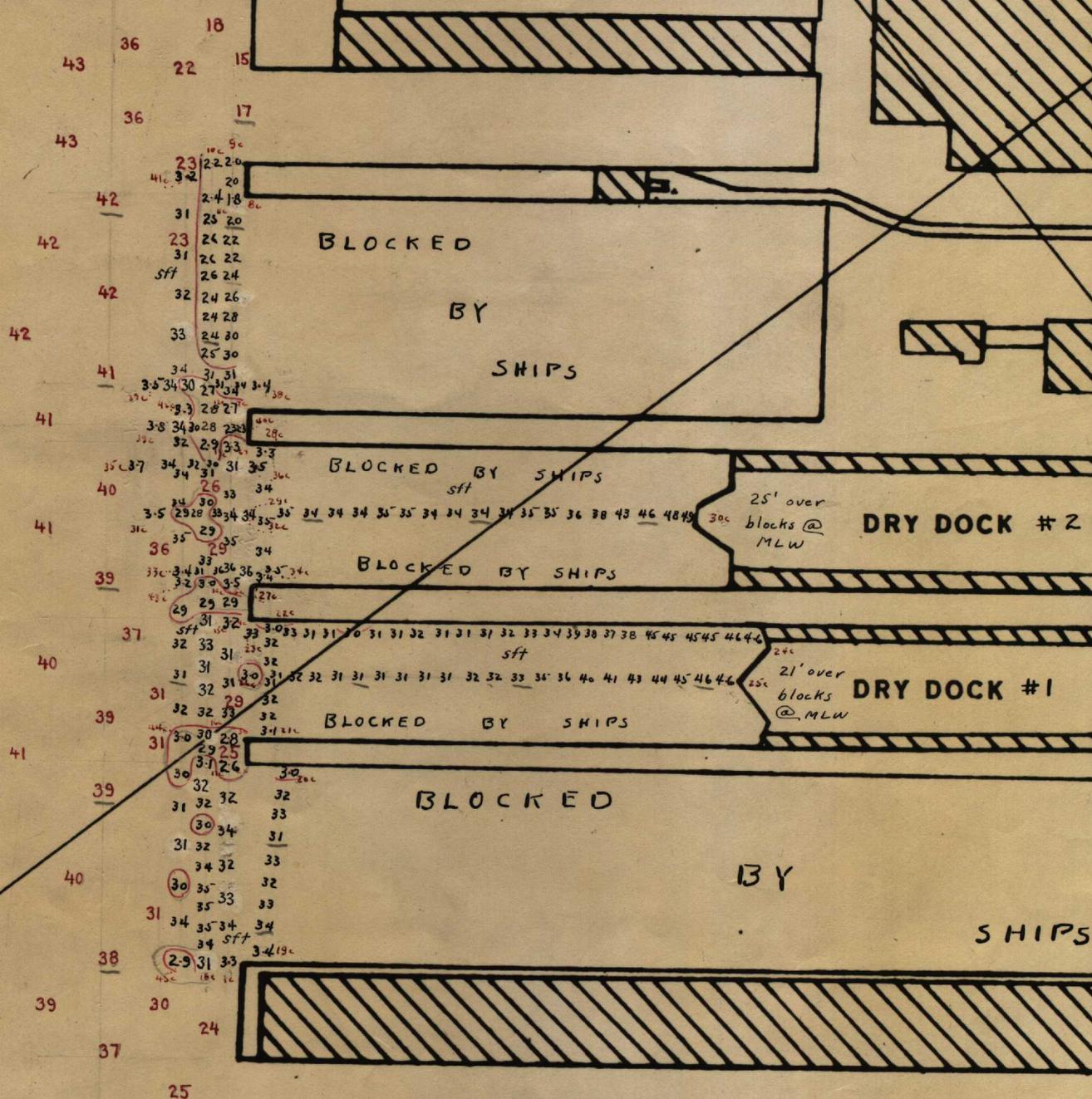
Soundings in feet @ MLW. 27

33

Soundings in red from U. S.
Engineers blueprint - 1938.
U. S. Eng. File No. 1118763
C. & G. S. Bp. No. 32316

Bethlehem Morse
Air Photo Compilation T-5461 F.E.1-1941

PIER NO. 4



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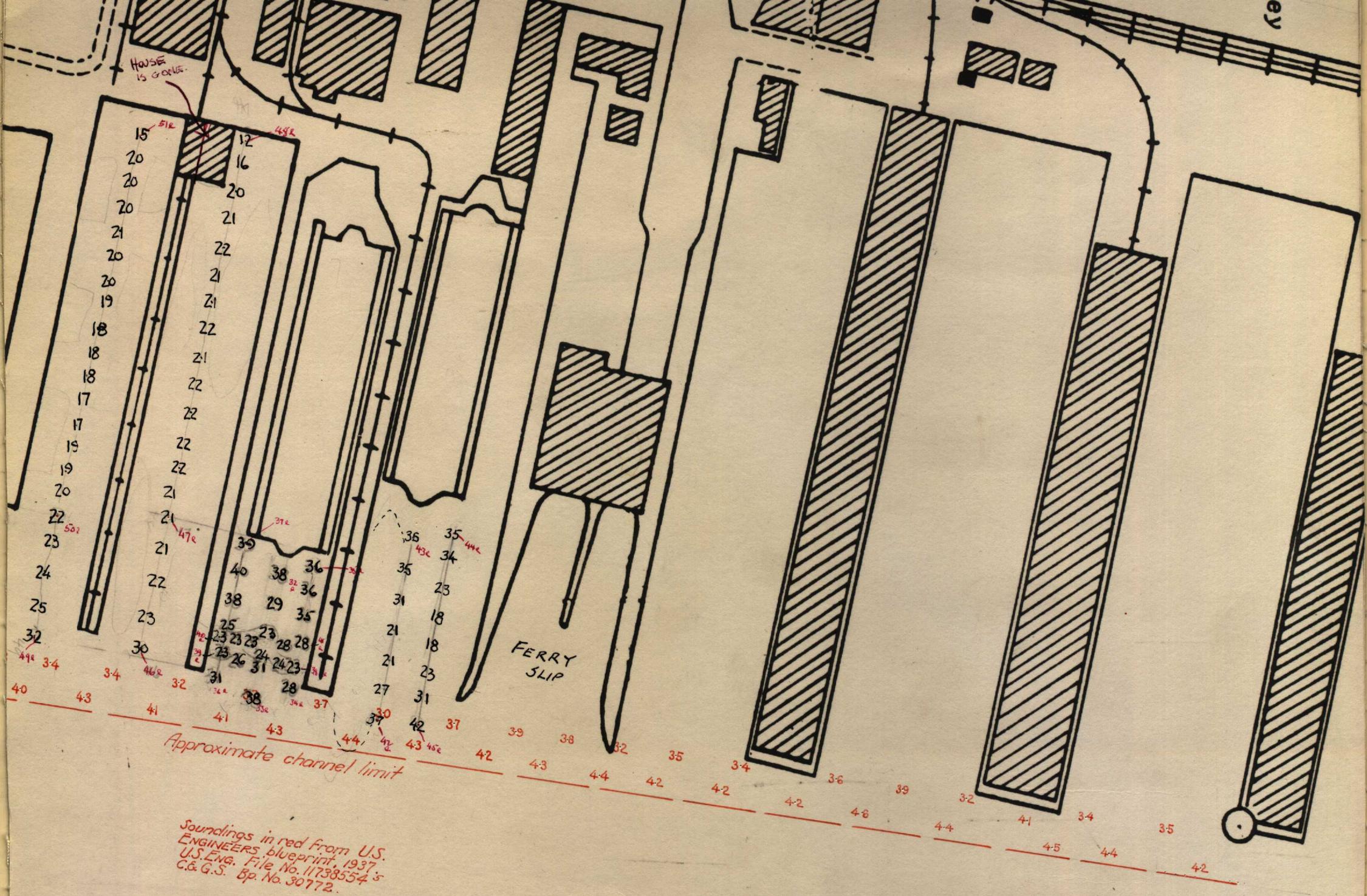
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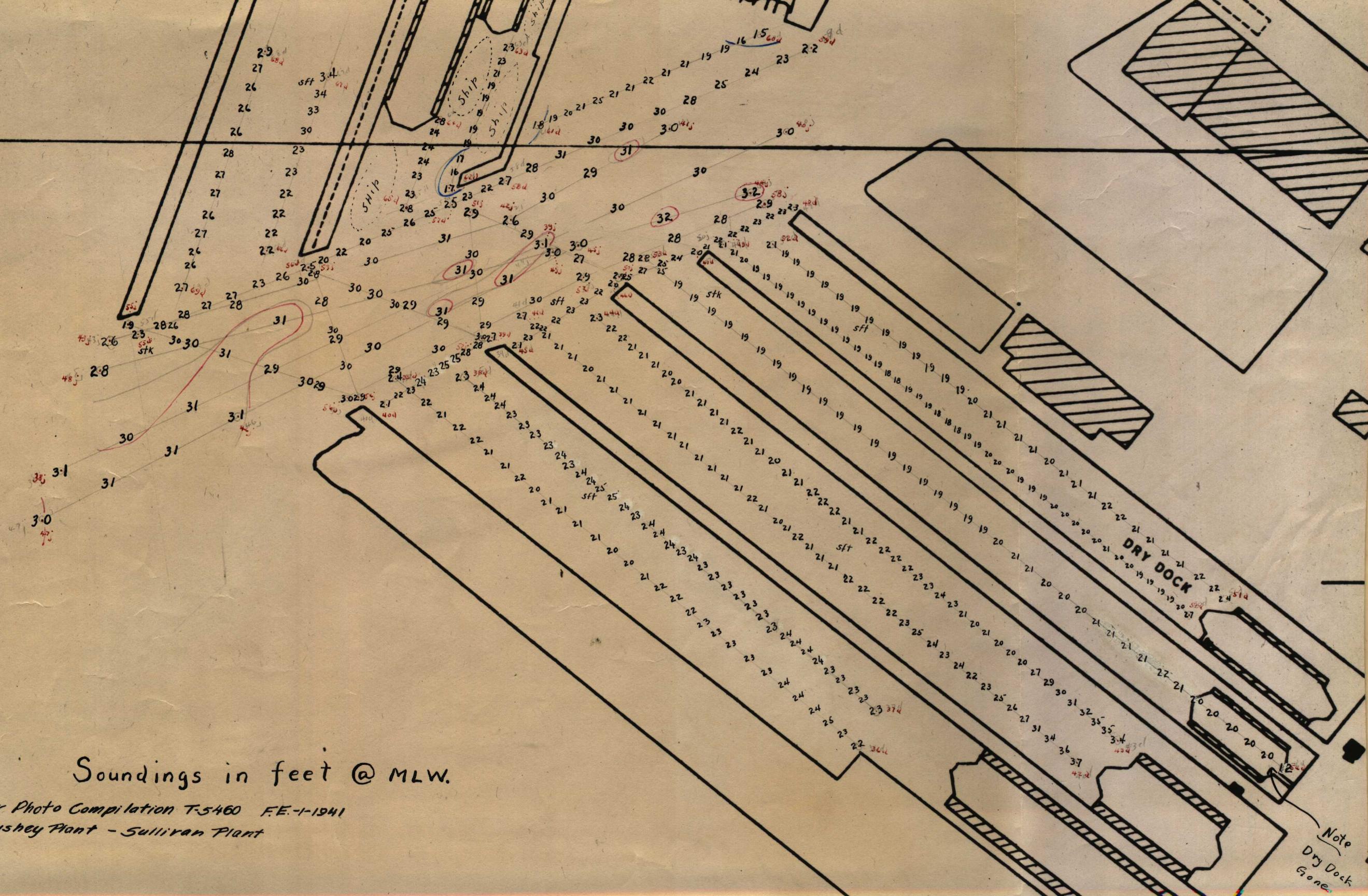
21' over
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DRY DOCK #1

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Air Photo Compilation T-5450 F.E.-1-1941
 Bethlehem, Fletcher, Hoboken

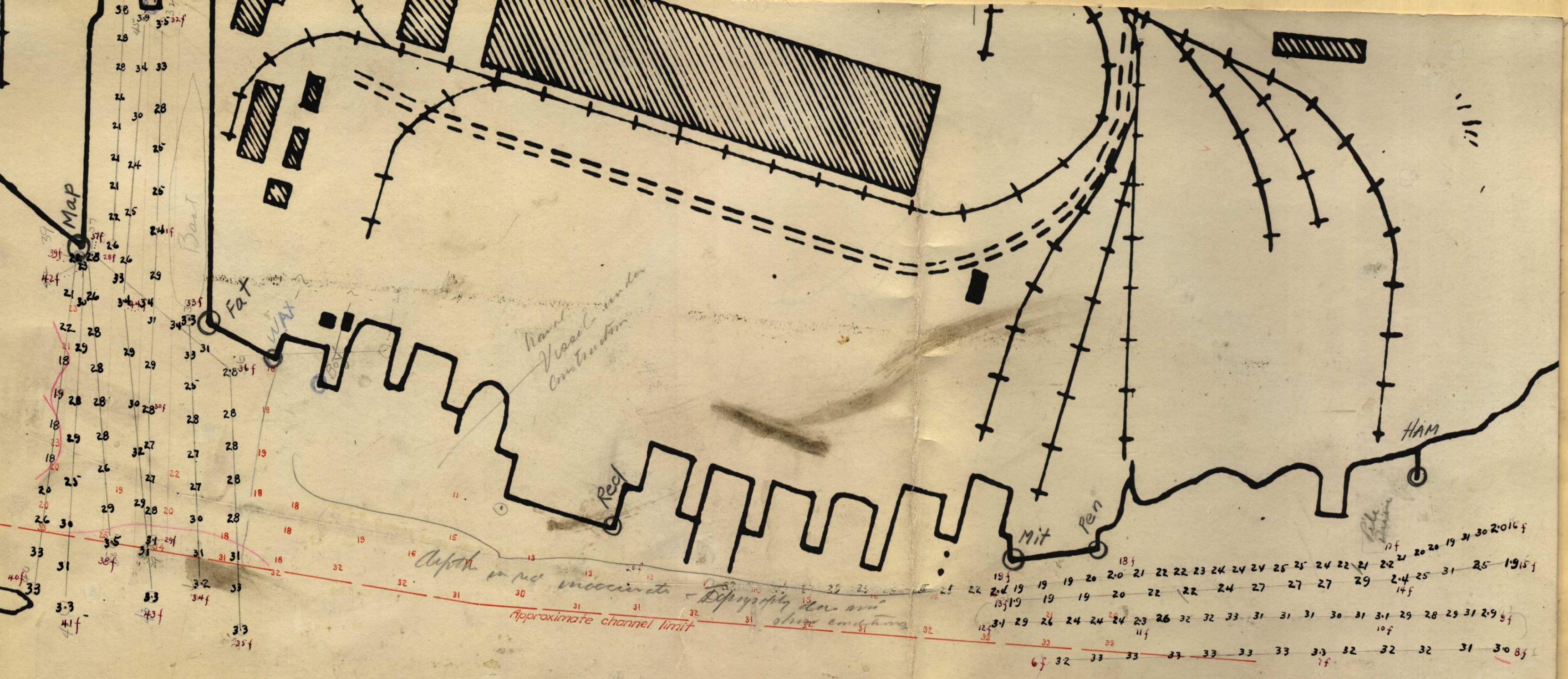
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Soundings in feet @ MLW.

Air Photo Compilation T-5460 F.E.-1-1941
 Bushey Plant - Sullivan Plant

Note
 Dry Dock
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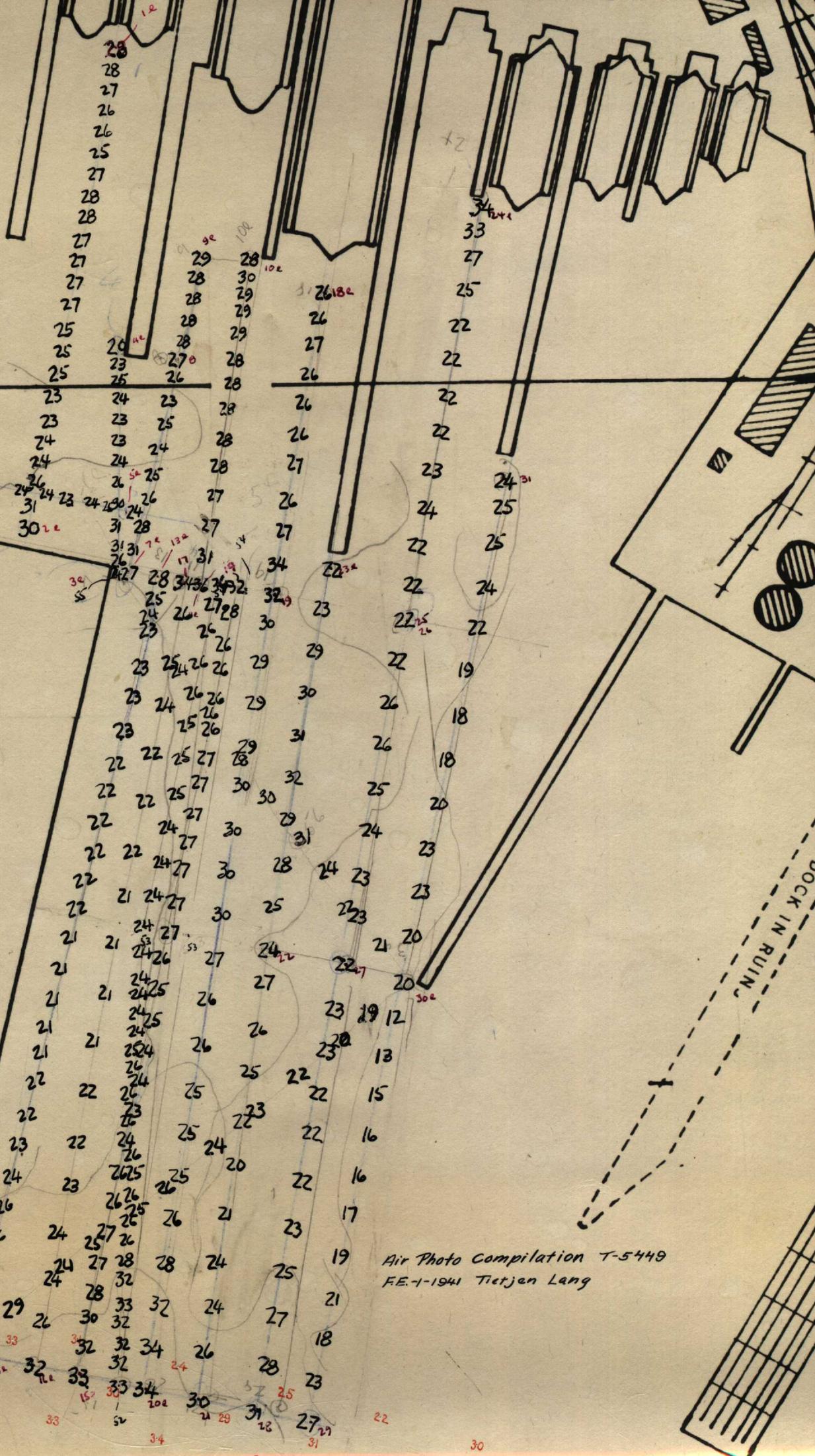


Air Photo Compilation T-5277 FE-1-1941 Federal Plant

Soundings in red from U.S. ENGINEERS blueprint, 1930. U.S. Eng. File No. 14. C & G.S. Ep. No. 23305

Soundings in red from U.S. ENGINEERS blueprint, 1937 U.S. ENG. File No. 1173 85545 C. & G.S. Bp. No. 30772

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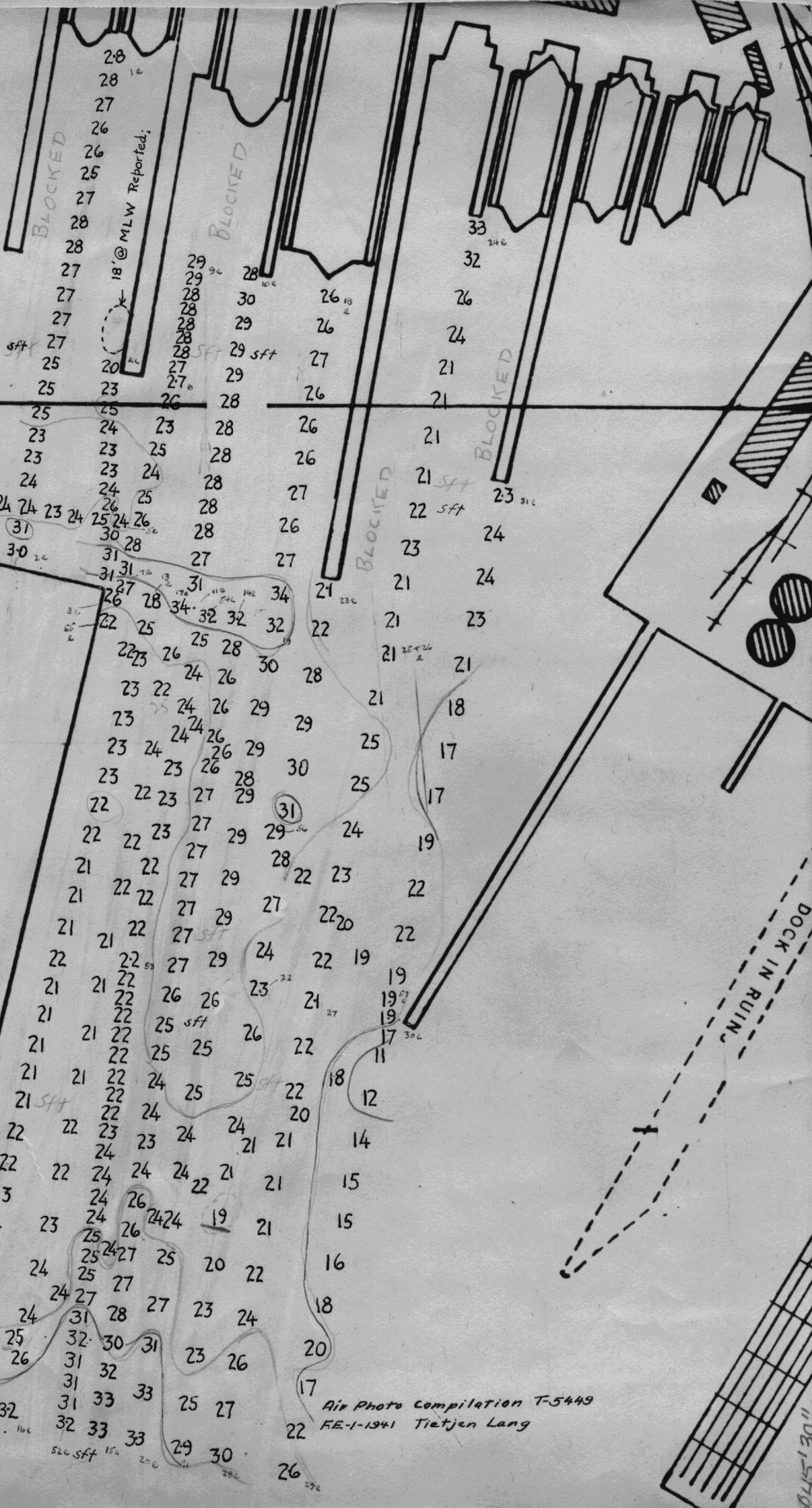
Air Photo Compilation T-5449
F.E.-1-1941 Tietjen Lang

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PIER 16 HOBOKEN

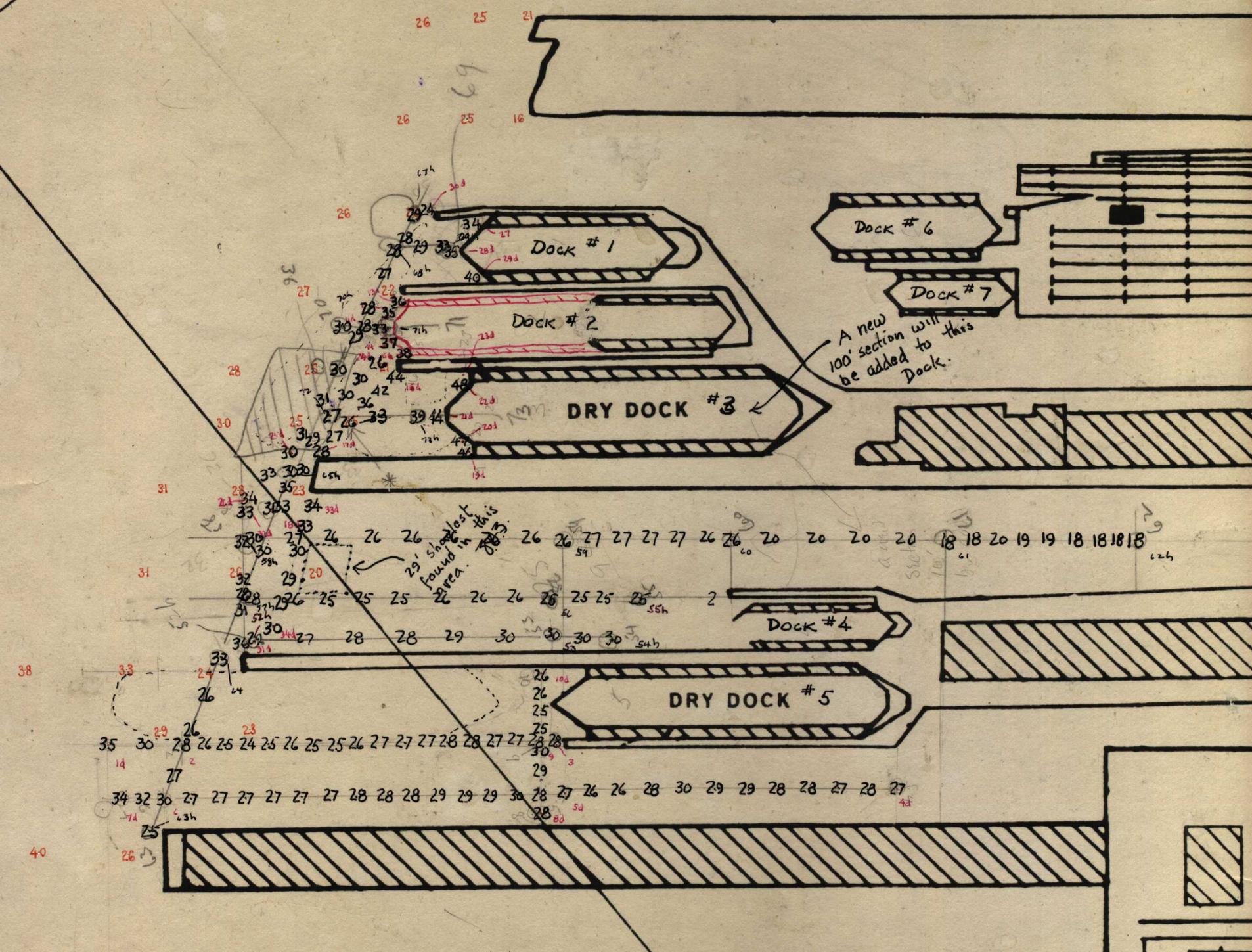
DOCK IN RUIN

Air Photo Compilation T-5449
FE-1-1941 Tietjen Lang

80°45'30"

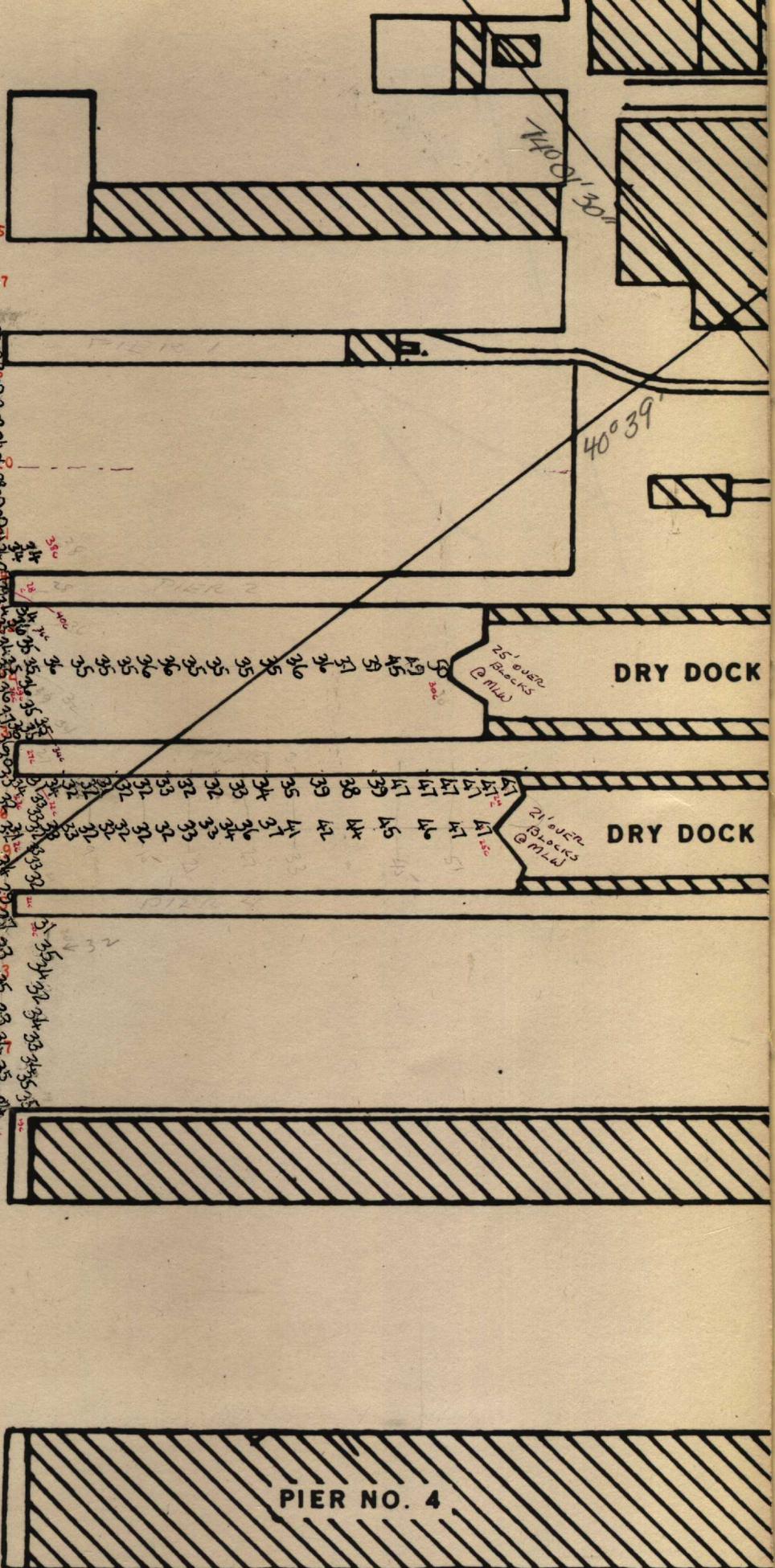
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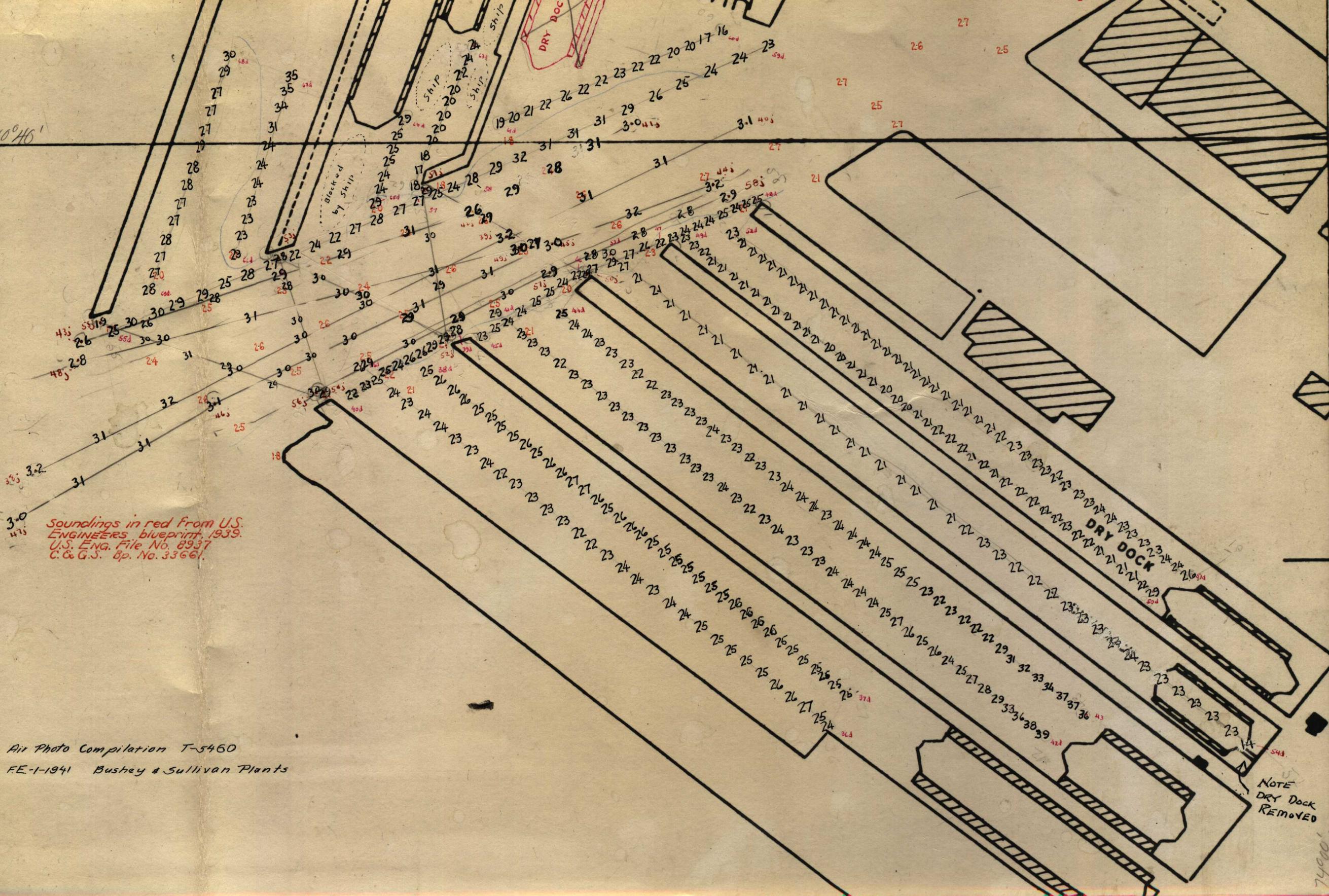
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Soundings in red from U.S.
 ENGINEERS blueprint - 1938.
 U.S. Eng. File No. 1118763
 C.&G.S. Op. No. 32316.

Air Photo Compilation T-5461
 FE-1-1941 Bethlehem Morse

40°46'



Soundings in red from U.S. ENGINEERS blueprint, 1939. U.S. ENG. File No. 8937 C. & G.S. 8p. No. 33661.

Air Photo Compilation T-5460
FE-1-1941 Bushey & Sullivan Plants

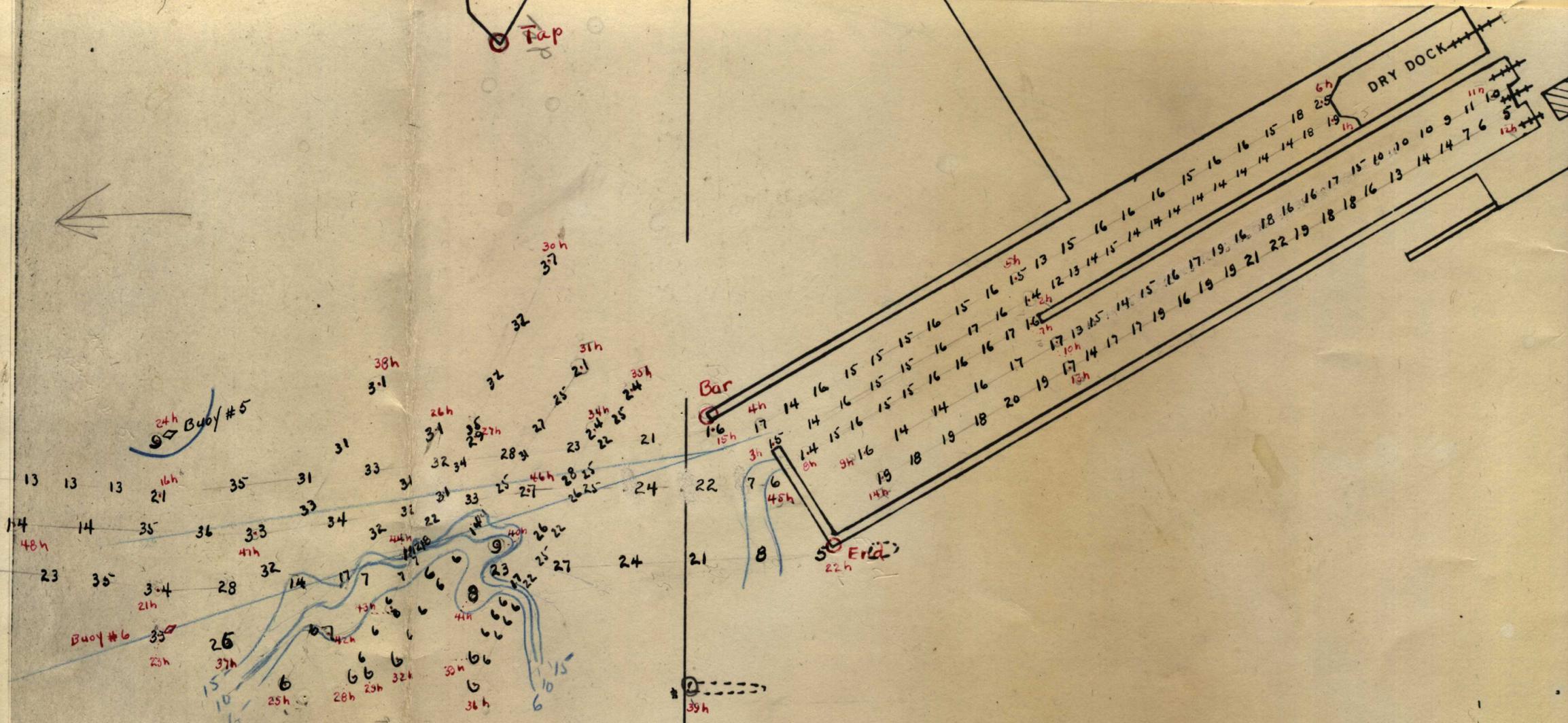
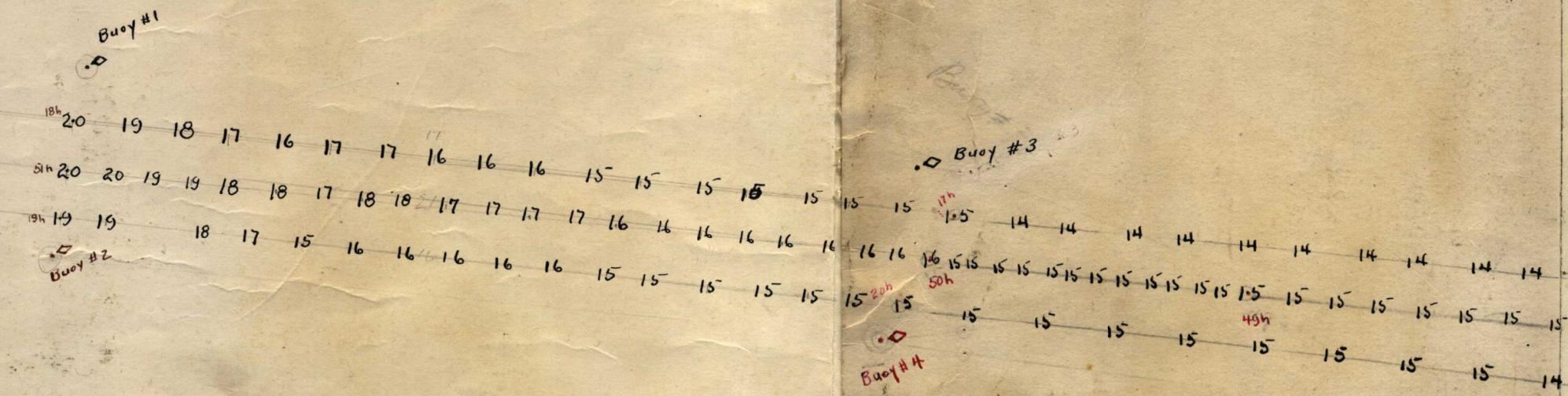
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LIBRARY AND ARCHIVES

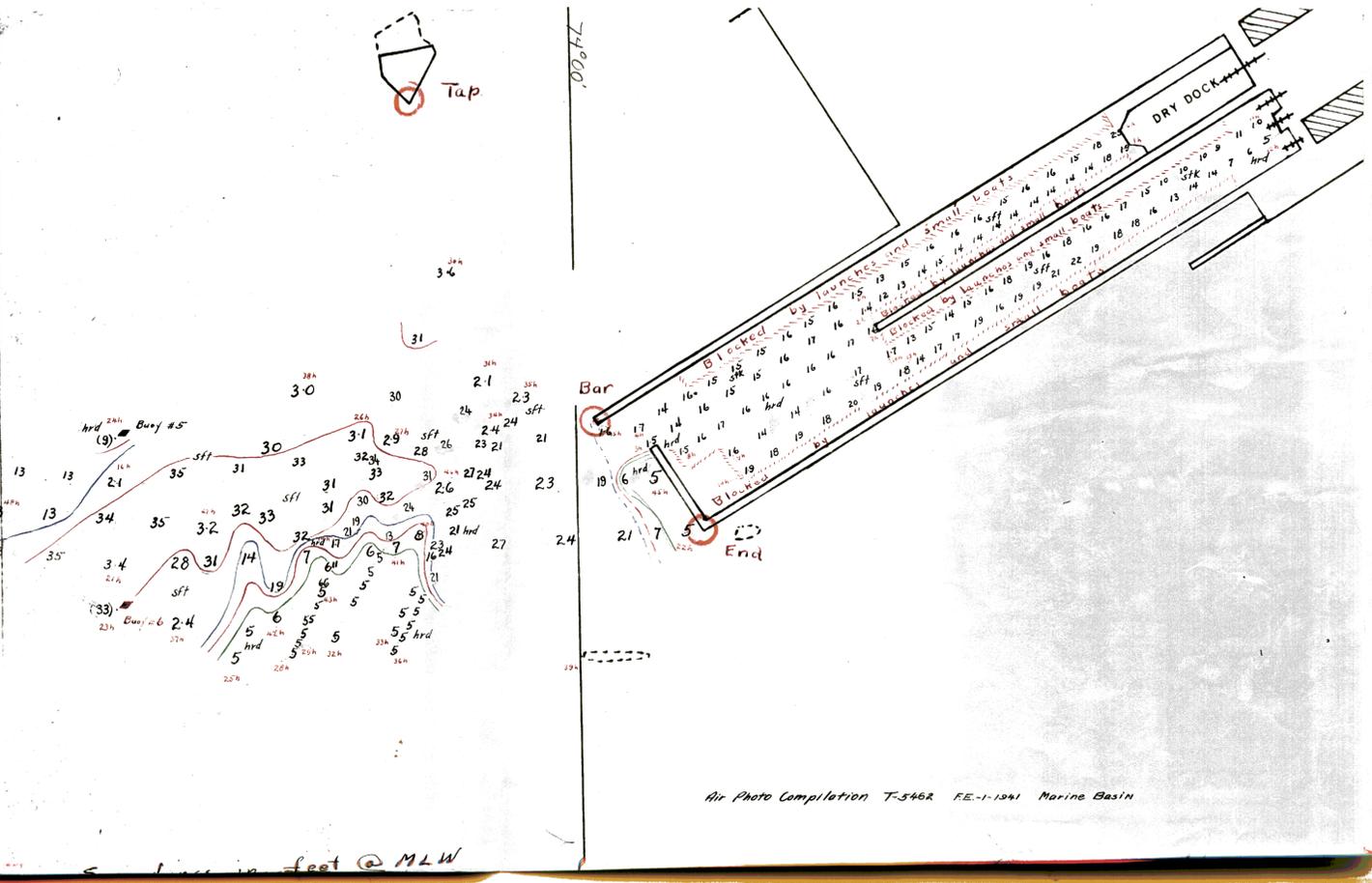




No recent soundings, sufficiently accurate, for use.
 Air Photo Compilations T-5462
 Marine Basin F.E.-1-1941



Positions of buoys 1-6
 noted in straight line from
 Nos 3, 4, 5, 6 with distance
 ratio of 13:12 as per
 scaled stereo show.
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Air Photo Completion T-5462 FE-1-1941 Marine Basin

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PART OF THE ORIGINAL DOCUMENT. IT SHOWS DETAIL MISSING FROM
THE ORIGINAL DOCUMENT PAGE 56 SCAN.

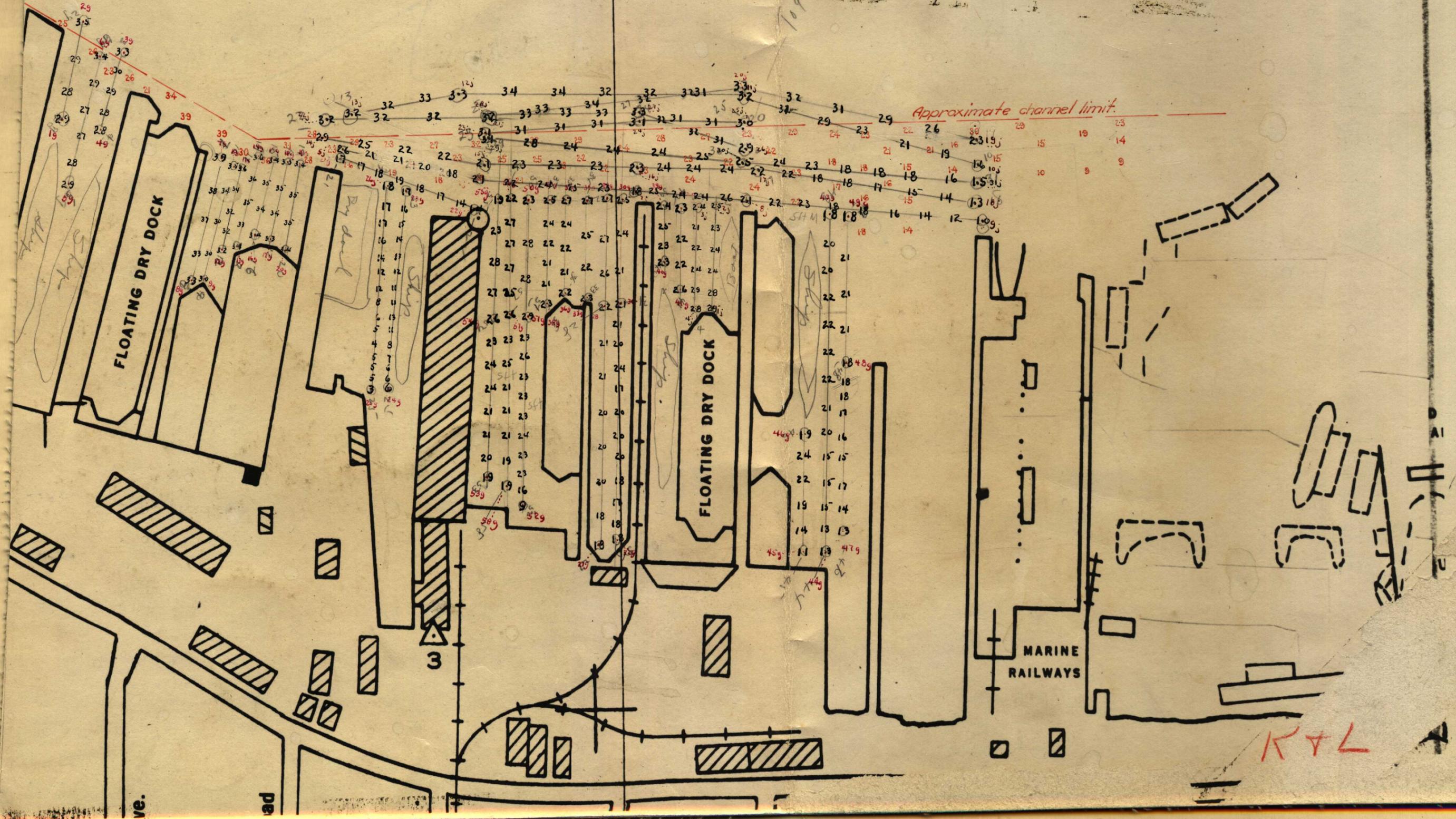
Note ↓

Positions of buoys Nos 1 & 2
plotted in straight line from
Nos 3, 4, 5, 2 with distance
ratio of 13:12 as per
scaled distance shown
on Chart 369

Soundings in red from U.S.
ENGINEERS blueprint, 1937.
U.S. Eng. File No. 452.
C. & G.S. Sp. No. 30859.

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Approximate channel limit.



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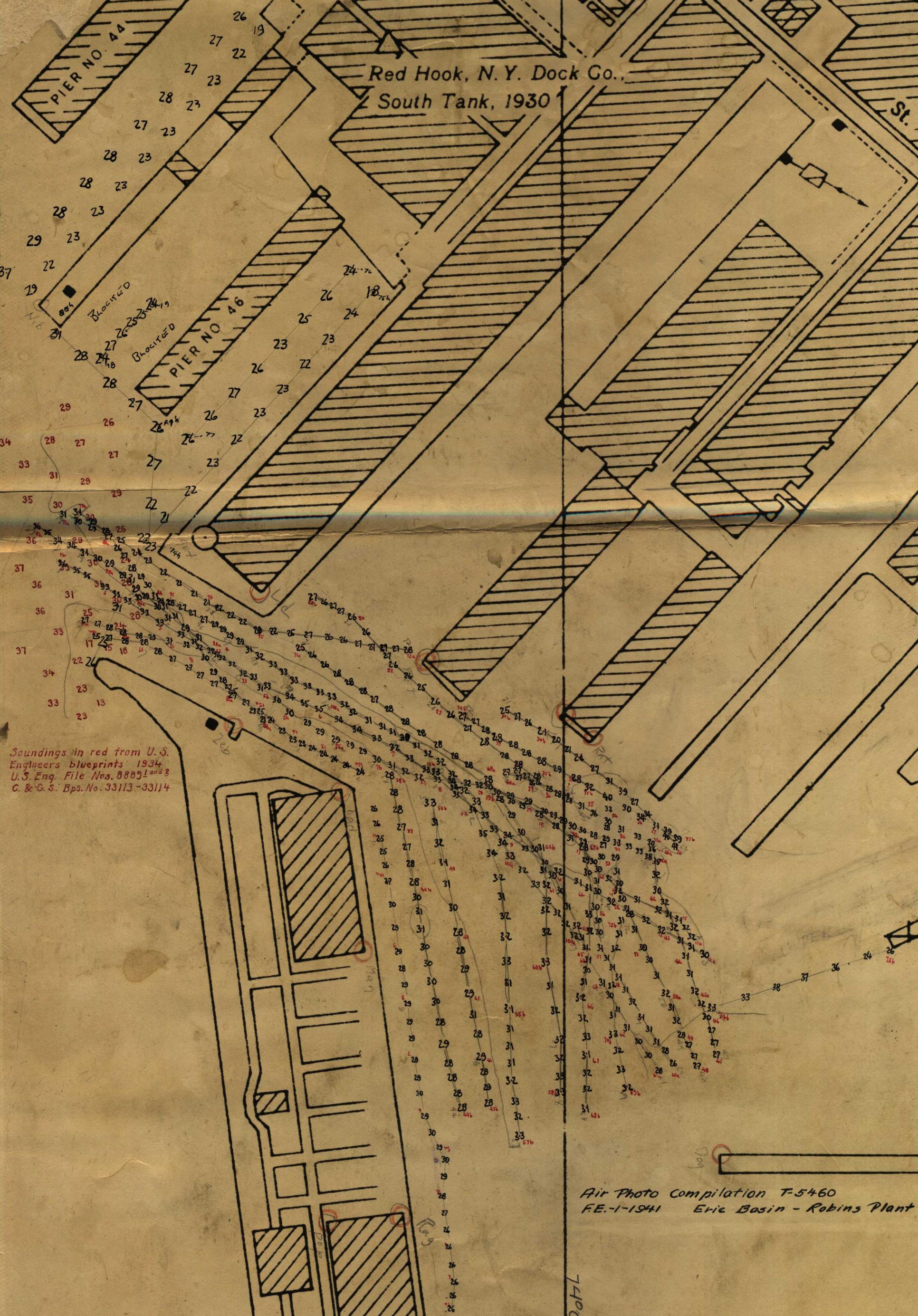
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Red Hook, N. Y. Dock Co.,
South Tank, 1930

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Soundings in red from U.S.
Engineers blueprints 1934
U.S. Eng. File Nos. 88091 and 2
C. & G. S. Bps. No. 33113 - 33114

Air Photo Compilation T-5460
FE-1-1941 Eric Basin - Robins Plant

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