

4-1/2" BOLTS IN EACH SADDLE DRILL TO  
SUIT WORK. HOLES IN BACK LUGS SLOTTED  
TO ALLOW FOR EXPANSION.

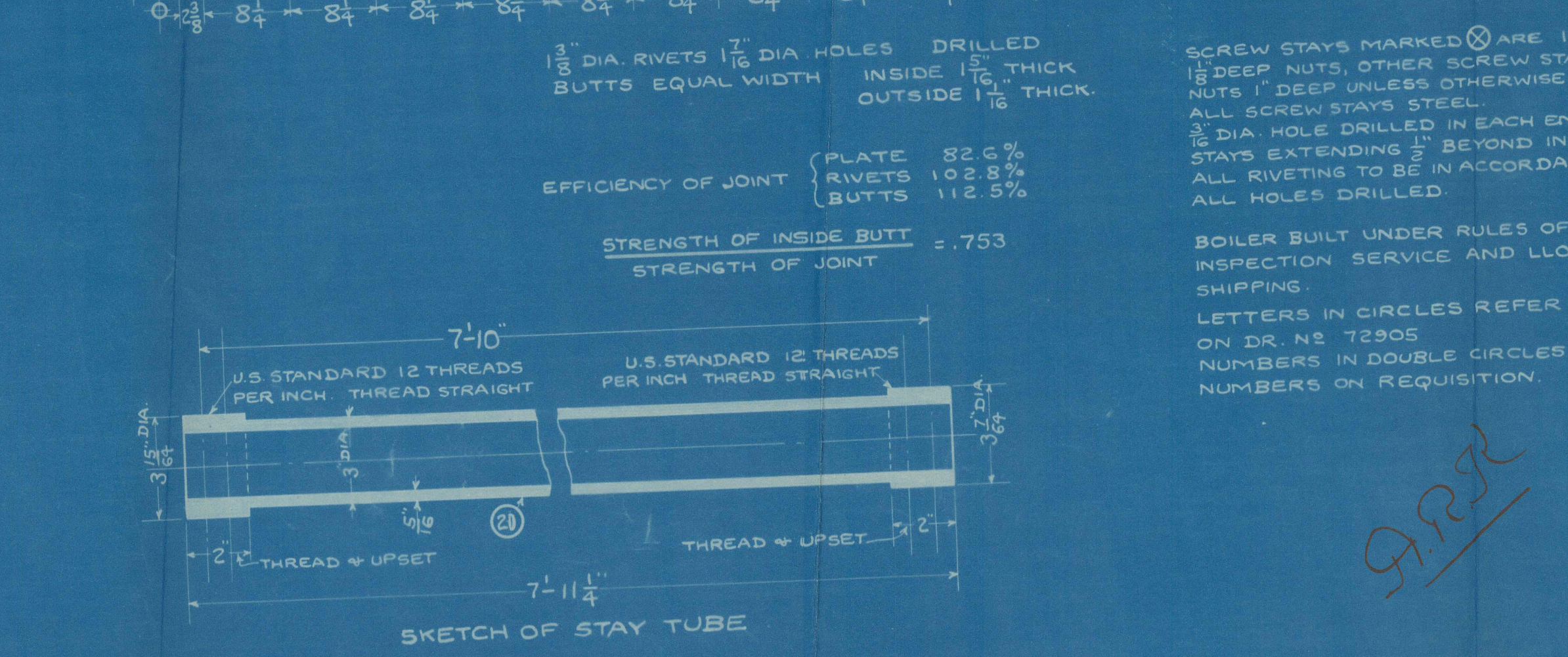
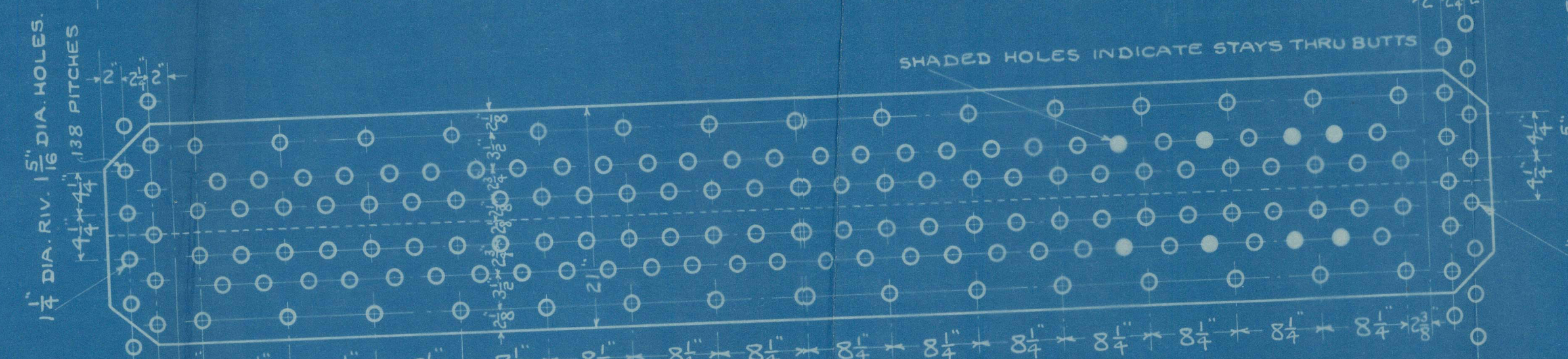
SECTION THRU MANHOLE  
FRONT OF BOILER

MATERIAL REQUIREMENTS				
MATERIAL	PART	MIN. T.S. LBS. TONS	MAX. T.S. LBS. TONS	WHERE ORDERED
O.H. STEEL	SHELL PLATES	52700#	71680#	O. REQ.
O.H. STEEL	FLANGE AND PIRE BOX PLATES	58240#	67200#	O. REQ.
O.H. STEEL	MORRISON SUSPENSION FURNACE	58240#	67000#	O. REQ.
BEST LAP WELDED CHARCOLD IRON	TUBES	—	—	O. REQ.
MILD STEEL	RIVETS	58240#	67200#	O. REQ.
O.H. STEEL TESTED	2 1/2" x 2 1/2" STAYS	62720#	71680#	O. REQ.
BEST DOUBLE REFINED IRON	WELDED STAYS	—	—	STOCK
O.H. STEEL TESTED	SCREW STAYS	58240#	67200#	O. REQ.
COLD PUNCHED WROTH IRON	SCREW STAY NUTS	26 TONS	30 TONS	O. REQ.
MEDIUM STEEL	BOLTING LUGS	—	—	MILL INSPECTION O. REQ.

MATERIAL LIST FOR (3 BOILERS) 1 SHIP				
MATERIAL	NAME OF PART	ITEM	QTY	NUMBER OF PIECES
WROTH IRON	3" DEEP 3" DIA. SPEC. NUT	(1)	1108	
WROTH IRON	2 1/2" DEEP 3" DIA. SPEC. NUT	(2)	1108	
WROTH IRON	2 1/2" DEEP 2 1/2" DIA. SPEC. NUT	(3)	54	
WROTH IRON	2" DEEP 2 1/2" DIA. SPEC. NUT	(4)	54	
MEDIUM STEEL	GIRDER CAP	(5)	144	
O.H. STEEL	CROWFOOT	(6)	1-14	12
O.H. STEEL	PAD	(7)	515	12
O.H. STEEL	PAD	(8)	591	24
BEST DOUBLE REFINED IRON	PIN	(9)	590	24
BEST DOUBLE REFINED IRON	FORK	(10)	49-11	6
O.H. STEEL	12" x 16" MANHOLE DOG	(11)	49-11	18
O.H. STEEL	11" x 15" MANHOLE DOG	(12)	384	6
WROTH IRON	12" x 16" MANHOLE BOLT	(13)	384	18
WROTH IRON	11" x 15" MANHOLE BOLT	(14)	391	3
WROTH IRON	HANDLE FOR MANHOLE	(15)	660	1
WROTH IRON	1 1/2" OPEN WRENCH	(16)	660	1
O.H. STEEL	GIRDER COMPLETE	(17)	36	
O.H. STEEL TESTED	STAYS MAIN	(18)	54	
O.H. STEEL TESTED	STAYS AUX.	(19)	27	
O.H. STEEL TESTED	STAYS AUX.	(20)	12	
BEST DOUBLE REFINED IRON	STAY TUBE	(21)	384	
O.H. STEEL TESTED	THREADING & CUTTING SCREW STAYS	(22)	73	
MEDIUM STEEL	BOLTING LUGS	(23)	12	
WROTH IRON	SCREW STAY NUTS	(24)	48	

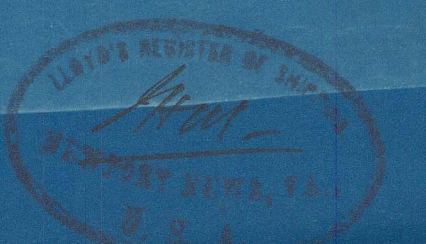
DATA	1 BOILER	3 BOILERS
LENGTH OF GRATE	6'-0"	240'
GRATE AREA	80'	240'
EXTERNAL DIA. TUBES	3"	1092
NUMBER OF TUBES	364	1092
LENGTH STAY TUBE SHEETS	7'-8"	
HEATING SURFACE OF TUBES	2205'	
HEATING SURFACE OF S.C.	327'	
HEATING SURFACE OF FURNACE	213'	
TOTAL HEATING SURFACE	2745'	8235'
H.S. P.S.S.	344'	
AREA THRU TUBES	137'	411'
S.G.T.A.	5.84	
STEAM PRESSURE	180 LBS	
WATER TEST PRESSURE	270 LBS	
HEIGHT ABOVE S.C. + I. DIA.	.28	

EVAPORATION 150# PER S.G. GRATE AREA 12000 PER HR  
AREA = 12000 x .2074 = 12.75 S  
FIT 3" TWIN = 14.14 S



MAIN SHELL		QTY
COMBUSTION CHAMBER & FURNACES	(35)	
TUBING	(36)	
STAYING, SCREW STAYS	(37)	
STAYING, MAIN STAYS	(38)	
STAYING, CROWN SHEETS	(39)	
FITTING UP MANHOLES & HAND HOLES	(40)	
HYDROSTATIC TESTS	(41)	
SET OF DETAILS AS PER MATERIAL LIST	(42)	1 1
BOILER AS DRAWN	(43)	2 2
BOILER TO OTHER HAND	(44)	1 1
NAME OF PART		ITEM
THIS NEWPORT NEWS SHIPBUILDING & DRY DOCK CO.		ORDERED
NEWPORT NEWS, VA.		DATE
ENGINEERING DEPARTMENT.		1915
MAIN BOILER		QTY
15'-9" OUTSIDE DIA. 11'-6" LONG	(45)	198
180 LBS. WORKING STEAM PRESSURE	(46)	199
SCALE 1" = 1 FT. DATE	(47)	
DRAWN BY NEASEN	(48)	
CHECKED BY L.R.A. 9-22-15	(49)	
CHECKED BY	(50)	
DRAWING NO. 72858	(51)	
APPROVED	(52)	
CHIEF ENGINEER	(53)	

19/11/15





Newport News. S & D D Co<sup>r</sup> N<sup>o</sup> 198.  
N<sup>o</sup> 199.

Npt News Rpt N<sup>o</sup> 1060.  
s/s William A. McKenney.

Main Boilers

RET AREA

RET AREA

W1308-0167



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