V-1

FORM U-1A MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

Alternate Form for Single Chamber Completely Shop Fabricated Vessels Only
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

HP-4-G

1. Manufactured by MASTER TANK & WELDING, INC., DALLAS, TEXAS
(Name and address of Manufacturer)

2. Manufactured for Foster Wheeler Corporation, Houston, Texas
(Name and address of Purchaser)

3. Type Horiz. (Horiz. or Vert.) Vessel No. (D-1073) (Mfrs. Serial) ( ) (State & State No.) Natl. Bd. No. 4729 Yr. Built 1972

4. SHELL: Matl. SA-516-70 (Kind and Spec. No.) T.S. 70,000 (Flg. or F.B. & Spec. Min. T.S.) Nom. Thk. .8125 In. Corr. Allow .125 In. Diam. 12 Ft. 0 In. Length I.D. 39 Ft. 8 In. S/S

5. SEAMS: Long Dbl.Butt Welded (Welded, Dbl., Single, Lap, Butt) H.T. No. (Yes or No)[1] R.T. Comp (Spot or Complete) Sectioned No (Yes or No) Efficiency 100 %

Girth Dbl.Butt Welded H.T. No R.T. Comp Sectioned No No. of Courses 4

If riveted or brazed describe seams fully under remarks.

6. HEADS: (a) Material SA-516-70 T.S. 70,000 (b) Material SA-516-70 T.S. 70,000

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a) End	.8125			2:1				Concave
(b) End	.8125			2:1				Concave

If removable, bolts used (Material, Spec. No., T.S., Size, Number) Other fastening (Describe or Attach Sketch)

Full Vac. &

7. Constructed for max. allowable working press.[2] 155 psi at max. temp. 650 °F. Min. temp. (when less than −20°) °F. Hydrostatic / Pneumatic or / Combination Test Press 294 psi.

8. SAFETY OR RELIEF VALVE OUTLETS: Number 1 Size 3" Location shell

9. NOZZLES: (*Additional nozzles listed below)

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Manway	1	20"	L.W.N.	SA-181-1	1-9/16"	SA-515-70	Welded
Vent	1	2"	S.O.F.	SA-106-B	Sch.160		Welded

10. INSPECTION OPENINGS: Manholes, No. 1 Size 20" Location shell; Handholes, No. Size Location; Threaded, No. Size Location

11. SUPPORTS: Skirt No (Yes or No) Lugs (Number) Legs (Number) Other (2) saddles (Describe) Attached Welded to shell (Where & How)

12. REMARKS: S/O # 9809 Dwg. # C-9809 Item # V-1 Treater Feed Surge Drum

*Steam Out	1	2"	S.O.F.	SA-106-B	Sch.160	Welded
*Outlet	1	8"	S.O.F.	SA-106-B	X-Stg. SA-515-70	Welded
*Drain	1	2"	S.O.F.	SA-106-B	Sch.160	Welded
*Ll and LR	2	2"	S.O.F.	SA-106-B	Sch.160	Welded
*Feed Inlet	1	6"	S.O.F.	SA-106-B	X-Stg. SA-515-70	Welded
*PSV	1	3"	S.O.F.	SA-106-B	Sch.160 SA-515-70	Welded
*Recycle Inlet	1	2"	S.O.F.	SA-106-B	Sch. 160	Welded

(Brief description of purpose of the vessel as Air Tank, Water Tank, L.P.G., Etc.—State Contents.)

[1] If postweld heat-treated.
[2] List other internal or external pressures with coincident temperature when applicable.

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

Date May 10, 1972 19 Signed MASTER TANK & WELDING, INC. Tom Faulkner
(Manufacturer)

Certificate of Authorization Expires 12/31/73

NOT FOR NUCLEAR OR LETHAL SERVICE

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY MASTER TANK & WELDING, INC. DALLAS, TEXAS

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province TEXAS & Penn. and employed by HARTFORD STEAM BOILER INSP. & INS. of HARTFORD, CONN. have inspected the pressure vessel described in this manufacturer's data report on May 10 19 72 and state that to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code.

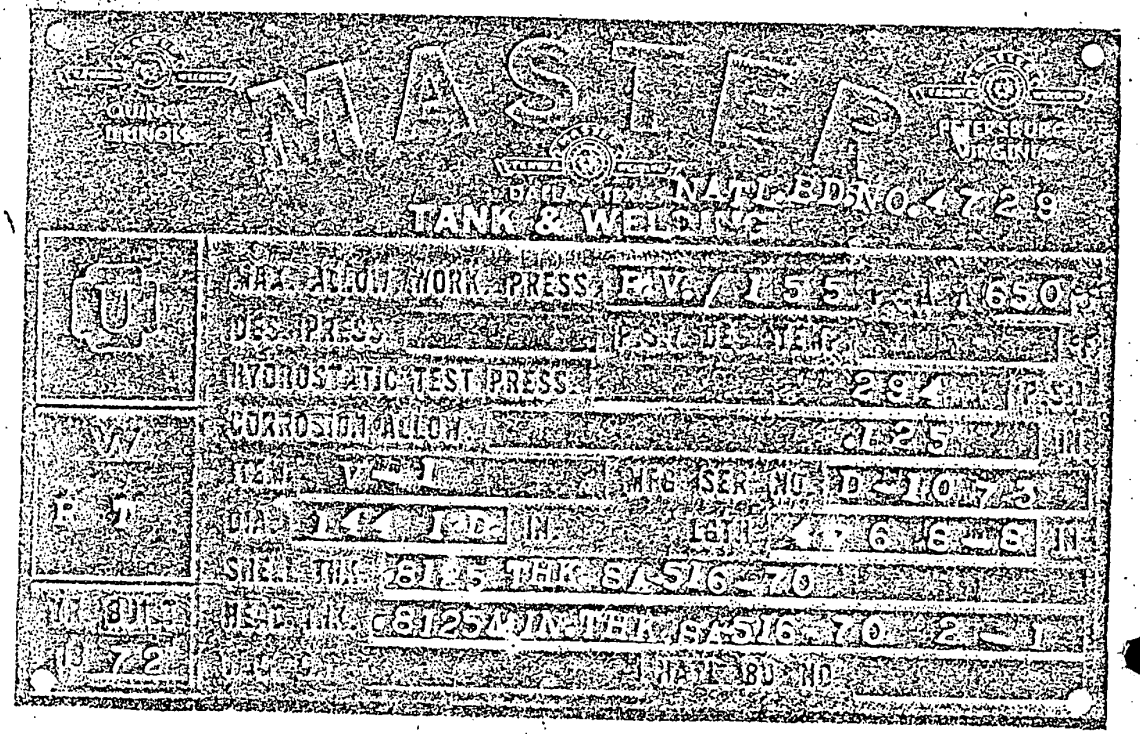
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this manufacturer's data report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date May 10 1972 19 N.B. #3072 Penn. #WC-997

Inspector's Signature Commissions A. J. Dutton-Tex. #13
Nat'l Board, State, or Province and No.

Printed in U.S.A. (9/68) This Form is obtainable from the ASME, 345 E. 47th St., New York, N.Y. 10017

V-1
NE-9-6



NAME PL RUBOFF

MASTER TANK & WELDING DALLAS, TEX. QUINCY ILL.	ITEM V-1	
	P.O. PH-2-111-107C	JOB NO. 114941
CUSTOMER FOSTER WHEELER	REF. DWG. C-9809	
	S/O 9809	DATE 5-16-72
	SER. NO. D-1073-NB# 4729	

EQUIPMENT DATA

SERVICE TREATER FEED SURGE DRUM — P&ID EQUIP. NO. V-1
MFR. MASTER TANK & WELDING, INC. — REFINERY EQUIP. NO. 5957
MFR. SERIAL NO. D-1073 — ORDER NO. AFE G-6944
CODE ASME (& PENNA) SECTION VIII, DIV. I EDITION 1971 — YEAR BUILT 1972
VESSEL SETTING HORIZONTAL
DESIGN SHEET NO. FW # 1070-A-11-12D

DRAWING NUMBERS	COMPANY	MFR.
MFR. DATA REPORT		--
COMPANY ASSEMBLY	1070-A-11-12-D	--
MFR. ASSEMBLY		C-9809

DATA ON SHELL AND HEADS

SECTION	MATERIAL	I.D.	CODE OR NOM. TH.	MEAS. TH. ('75)	LENGTH OR FORM
HEADS	SA-516-70	ELLIP. 2:1	13/16 (.812)	.830	2:1 ELL
SHELL	SA-516-70	12'-0"	13/16 (.812)	.820	39'-8"

R.T. COMPLETE — REASON FOR R.T. PER CODE
PWHT NONE — REASON FOR PWHT N/A
JOINT EFF. 100 % — TEST PRESS. NEW 294 psig — TESTED IN SHOP OR FIELD SHOP
MAX. ALLOW PRESS. NEW & COLD 196 psig — LIMITED BY SHELL

INTERNALS: TRAYS, PACKINGS LINING, ETC.
SPECIAL DESIGN CONSIDERATIONS OR UNUSUAL FEATURES

OPERATING LIMITS OF THE EQUIPMENT

(CONSULT DESIGNS ENGINEER BEFORE EXCEEDING THESE LIMITS)

MAX. ALLOW. WORKING PRESS AT TOP — INT. 155 psig AT 650 °F — EXT. 15 psig AT 650 °F
MAX. EXT. PRESS. (STM. OUT) 15 psig AT 650 °F
FIELD TEST AT TOP OF VESSEL 215 psig
MAX. ALLOW. OPER. TEMP. 650 °F — LIMITED BY DESIGN METAL TEMPERATURE
MIN. PRESSURIZING TEMP. +20 °F — AT LOWER METAL TEMPS. PRESS. SHALL NOT EXCEED 62 psig
PROTECTED BY S.V. NO. 4136 (PSV-5) — SET AT 155 psig — LOCATED ON SHELL

MINIMUM THICKNESS AND CORROSION ALLOWANCE DATA

SECTION	DESIGN PRESS (psig)	DESIGN TEMP (F)	t_m (IN.)	C.A. (IN.)	BASIS FOR t_m
HEADS	155	650	0.642	0.170	INTERNAL
SHELL	155	650	0.642	0.170	PRESSURE

SAFETY PRECAUTIONS

REFER TO THE SIS GUIDELINES IN THE PRESSURE VESSEL MANUAL FOR GENERAL RECOMMENDATIONS.
NOTE BELOW SPECIAL HAZARDS, RECOMMENDATIONS, INSPECTIONS OR TESTS PECULIAR TO THE ABOVE EQUIPMENT.

APPLICABLE SA NO.: NONE — USER ORIGINAL SPECIFIED
HF SERVICE: NONE — MINIMUM CORROSION ALLOWANCE: 1/8"

P.O. # PH2-114-1070
DWG # FW 1070-1-50-2

DATE 10/22/90 PREPARED BY BSP APPROVED: ENG. [signature] OPER. [signature]

COLUMNS AND VESSELS SAFETY INSTRUCTION SHEET

PHILADELPHIA REFINERY (Location) — HF ALKYLATION UNIT 433 (Plant)

DWG. NO. G-24-229
Sheet 1 of 4

PRINTED IN U.S.A.
PVM-EF-786 (3-

STATE REG. #407,095; NB-4129; SER. D-1015

UNFIRED PRESSURE VESSEL DATA SHEET

GULF 7018 B

PHILA REFINERY

NAME TREATER FEED SURGE DRUM, V-1. EQUIPMENT NO. HF-9-G

SIZE 12'-0" ID. x 39'-8" T-T IN SERVICE 12-5-73 LOCATION NO. 433 UNIT

ORDER NO. AFE G-6944 CODE ASME & PA X-R. COMP. S. R. NO EFF. 100%

DESIGN DWG. NO. FW. #1070-4-11-12D DESIGN PRESS. 155 PSI & FV. MAT'L SPEC. SA-516-70; 70,000 TS.

FAB'R'S. DWG. NO. C-9809 FABRICATOR MASTER TANK & WELDING, INC.

TO HANDLE _____ TESTED TO 294 PSI LMTD. BY _____

SAFETY VALVES ONE 3"x4" #4136 LIFT LEVER _____

LINING NONE

POINT	NOMINAL THICKNESS	OPERATING PRESSURE PSI				OPERATING TEMPERATURE DEGREES F				SAFETY VALVE SETTING PSI			
		128				110				155			
HEADS	.812"												
SHELL	.812"												
DATE OF RECORD													

HEADS	ELLIPTIC INS. DIMS.
2:1	MAJOR AXIS _____ INS.
	MINOR AXIS _____ INS.
	MAJOR AXIS _____ INS.
	MINOR AXIS _____ INS.

HEADS	DISHED OUTS. DIMS.
	CROWN RAD. _____ INS.
	KNUCKLE R. _____ INS.
	CROWN RAD. _____ INS.
	KNUCKLE R. _____ INS.

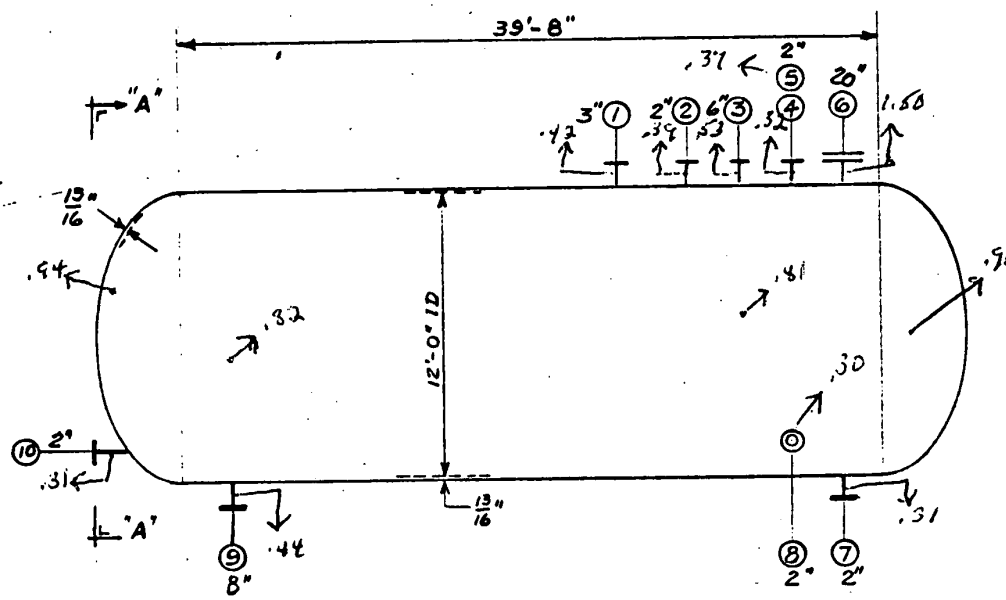
SHELL	OUTSIDE DIAMETER
	145.625 INS.
	INS.
CONE	COS. -

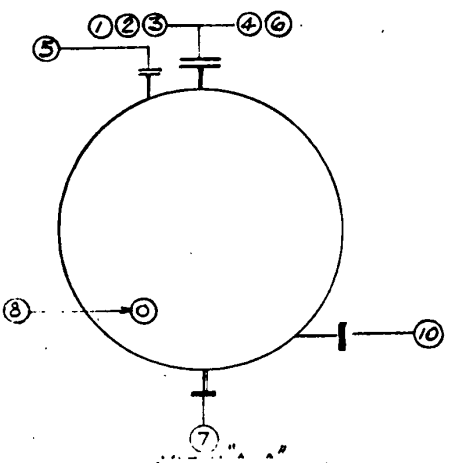
FLANGES ALL 300# RF. SO.

CORR. ALLOW. .125"

NOZZLE SCHED.

NO	SIZE	WALL	SERVICE
1	3"	.438	PSV.
2	2"	.344	RECYCLE INLET
3	6"	.432	FEED INLET
4&8	2"	.344	LI. & LR.
5	2"	.344	VENT W/BLIND
6	20"	1.562	MANWAY
7	2"	.344	DRAIN
9	8"	.500	OUTLET
10	2"	.344	STEAM OUTLET





REV.	DATE	BY	DESCRIPTION

MADE BY WB DATE 12-3-73

REFER. FW. DWG. 1070-4-11-12D

CALCULATION SHEET

CALC. NO. _____ REV. NO. _____

ORIGINATOR BSP DATE 10/22/91 CHECKED _____ DATE _____

PROJECT 515 JOB NO. _____

SUBJECT TREATER FEED SURGE DRUM (433) V-1 SHEET NO. 2/4

L = SHELL LENGTH
= 39'-8" = 476 IN
D = SHELL DIAMETER, Internal
= 144 IN
R = SHLL RADIUS = 144/2
= 72 IN
t_s = Actual Minimum or Nominal Shell Thickness
= 13/16" (0.8125 IN)
t_h = Actual Minimum or Nominal Head Thickness
= 13/16" (0.8125 IN) - TOP & BOTTOM Heads
C = Corroson Allowance
= 1/8" (0.125 IN)
S_A = Maximum Allowable stress at 100°F (SA-516-70)
= 17500 psi
S = Maximum allowable stress at 650°F (Design Temp)
= 17500 psi
E = Joint Efficiency
= 100%
P = Design Pressure
= 155 psig

SFP-22530

CALCULATION SHEET

CALC. NO. _____ REV. NO. _____

ORIGINATOR BSP DATE _____ CHECKED _____ DATE _____

PROJECT _____ JOB NO. _____

SUBJECT TREATER FEED SURGE DRUM V-1 SHEET NO. 3/4

MINIMUM THICKNESS (tm)

SHELL

$$t_m = \frac{P(R+C)}{SE - 0.6P} = \frac{155(72 + 0.125)}{17500 \times 1.0 - 0.6 \times 155}$$

$$= 0.6422 \text{ IN}$$

HEADS

$$t_m = \frac{P(D+2C)}{2SE - 0.2P} = \frac{155(144 + 2 \times 0.125)}{2 \times 17500 \times 1 - 0.2 \times 155}$$

$$= 0.6417 \text{ IN}$$

FIELD TEST PRESSURE AT TOP OF VESSEL

= 1.5 x Design Press - Hydrostatic test head

$= 1.5 \times 155 - [39\frac{8}{12}' \times 0.4331 \times 1.0]$

= 215.3 psi > Design Press.

= 215 psig

SFP-22530

CALCULATION SHEET

CALC. NO. _____ REV. NO. _____

ORIGINATOR BSP DATE 10/22/90 CHECKED _____ DATE _____

PROJECT SIS JOB NO. _____

SUBJECT TREATER FEED SURGE DRUM V-1 SHEET NO. 4/4

MAX ALLOWABLE PRESS., NEW & COLD (P_{NTC})

SHELL

$$P_{NTC} = \frac{S_A E t_s}{R + 0.6 t_s} = \frac{17500 \times 1.0 \times 0.8125}{72 + 0.6 \times 0.8125} = 196.15$$

$= 196$ psi

HEADS - TOP & BOT.

$$P_{NTC} = \frac{2 S_A E t_h}{D + 0.2 t_h} = \frac{2 \times 17500 \times 1.0 \times 0.812}{144 + 0.2 \times 0.8125} = 197.26$$

$= 197$ psi

SFP-22530

MASTER TANK & WELDING

ANOTHER MASTER PRODUCT

MASTER TANK & WELDING

CUSTOMER:	Foster Wheeler Corporation
LOCATION:	Houston, Texas
P. O. NO.	PH-2-114-1070
ITEM NO.	V-1
MFG. SERIAL NO.	D-1073
MFG. S/O NO.	9809
NATL. BD. NO.	4729
DESCRIPTION:	Treater Feed Surge Drum

1600 SINGLETON BOULEVARD, DALLAS, TEXAS, U.S.A. 75222

PHONE
747-2441

P. O. BOX
5146

BETHLEHEM STEEL CORPORATION
METALLURGICAL DEPARTMENT

20671 (Rev.D 6-70)

DATE SHIPPED	SHIPMENT NO.	CARRIER: INITIAL AND NO.	PLANT
	673-72	TRUCK	SPARROWS POINT

SOLD TO: EASTER TANK AND WELDING INC

SHIPPED TO: HOUSTON TEXAS

#702

REPORT OF MECHANICAL AND CHEMICAL TESTS

Customer's Order No.	Section Slab or Mill Order No.	Heat No.	Pcs.	Gauge	Width	Length	Yield Point	Tensile Strength	Elong. 8t%	Red. %	Bends	CHEMICAL ANALYSIS C	Mn	P	S	Si	Specifications or Remarks
A1423	H133	421E7641	1	13/16 MIN.	144"	ID	49800	79400	23		OK	.24	1.03	.015	.018	.25	ASME SA516 GR 70 PVQ
	E7051	421E1481	1	"	"		49700	74000	25		OK	.19	1.01	.021	.025	.24	
	H132	421E7641	1	7/8 MIN.	"		50700	79500	25		OK	.24	1.03	.015	.018	.25	
FD124-5587C																	
	MC QUAID MIN TEST GRAIN SIZE 7-8 BOTH HEATS																

RECEIVED
FEB 3 1972
EASTER TANK & WELDING

I certify the above results to be correct as contained in the records of the company.

Per.....

#602

BETHLEHEM STEEL CORPORATION
METALLURGICAL DEPARTMENT

20671 (Rev.D 6-70)

DATE SHIPPED	SHIPMENT NO.	CARRIER: INITIAL AND NO.	PLANT
11/2/70	160-9731	CNW 47601	Sparrows Point

SOLD TO Master Tank and Welding Inc.

SHIPPED TO Houston, Texas

REPORT OF MECHANICAL AND CHEMICAL TESTS Grade 70 PVQ Steel Plates

Customer's Order No.	Section Slab or Mill Order No.	Heat No.	Pcs.	Gauge	Width	Length	Yield Point	Tensile Strength	Elong. 8 %	Red. %	Bends	CHEMICAL ANALYSIS C	Mn	P	S	Si	Specifications or Remarks
A9114	B59740	480B1941	1	5/8	103	489½	51600	76400	26		ok	.20	1.13	.009	.031	.22	ASME SA 516
	B55772	479B1181	1	"	"	"	45700	80600	27		"	.23	1.08	.009	.019	.24	GRADE 70
	B56870	411B6821	1	"	"	"	53000	80300	23		"	.24	1.06	.016	.019	.24	Pressure
	B55771	479B1181	1	"	"	"	54600	79500	22		"	.23	1.08	.009	.019	.24	Vessel
	B55773	"	2	"	"	"	55200	80700	24		"						Quality
24-4517A	B56794	421B2811	1	"	"	"	52500	76200	25		"	.19	1.10	.012	.018	.22	To A300 CLI
57-052601	B56795	"	1	"	"	"	52900	75000	24		"						
	MC QUAID EHN GRAIN SIZE 480B1941 7-8 479B1181 7-8 411B6821 7-8 421B2811 7-8																
	PLATES & TEST PCS. NORMALIZED AT 1650°F & HELD FOR 1/2 HOUR PER INCH OF THICKNESS																
	LONGITIDINAL CHARPY V NOTCH IMPACT TESTS TO MEET 35 FT. LB. AT PLUS 30°F																Spec-to meet Long. V Notch of 35 Ft. Lbs. at +30°F
					#1	#2	#3	Avg.		Test	Size						
	B59740	480B1941	5/8		73	75	79	75-2/3	10	x 10	MM						
	B55772	479B1181	"		69	68	79	72	10	x 10	MM						
	B56870	411B6821	"		92	93	84	90	10	x 10	MM						
	B55771	479B1181	"		83	90	83	85-1/3	10	x 10	MM						
	B55773	479B1181	"		84	89	88	85-2/3	10	x 10	MM						
	B56794	421B2811	"		99	94	99	97-1/3	10	x 10	MM						
	B56795	"	"		92	101	107	100	10	x 10	MM						

RECEIVED NOV 27 1970 MASTER TANK & WELDING

I certify the above results to be correct as contained in the records of the company.

J. J. Linke
CHIEF METALLURGIST

Per

CONFIDENTIAL BUSINESS INFORMATION

PES-ATF-000017

BETHLEHEM STEEL CORPORATION
METALLURGICAL DEPARTMENT

20671 (Rev.D 6-70)

DATE SHIPPED	SHIPMENT NO.	CARRIER: INITIAL AND NO.	PLANT
	673-72	TRUCK	SPARROWS POINT

SOLD TO: MASTER TANK AND WELDING INC

SHIPPED TO: HOUSTON TEXAS

#702

REPORT OF MECHANICAL AND CHEMICAL TESTS

Customer's Order No.	Section Slab or Mill Order No.	Heat No.	Pcs.	Gauge	Width	Length	Yield Point	Tensile Strength	Elong. 8t%	Red. %	Bends	CHEMICAL ANALYSIS C	Mn	P	S	Si	Specifications or Remarks
1423	H133	421E7641	1	13/16 MIN.	144"	ID	49800	79400	23		OK	.24	1.03	.015	.018	.25	ASME SA516 GR 70 PVQ
	E7051	421E1481	1	"	"		49700	74000	25		OK	.19	1.01	.021	.025	.24	
	H132	421E7641	1	7/8 MIN.	"		50700	79500	25		OK	.24	1.03	.015	.018	.25	
D124-5587C																	
	MC QUAID EHN TEST GRAIN SIZE 7-8 BOTH HEATS																

RECEIVED FEB 8 1972 MASTER TANK & WELDING

I certify the above results to be correct as contained in the records of the company.

CHIEF METALLURGIST

Per

PRODUCTION DEPARTMENT — METALLURGICAL

United States Steel Corporation

149

EPORT OF PLATES

TEXAS U.S.S. ORDER NO. AD77770 LOAD TALLY OR INVOICE NO. 324-01010

ER ORDER NO. A-1427

RUCK NO. Z52-389 SHIPPER NO. & DATE T61860 2/10/72

MASTER TANK & WELDING INC
PO BOX 5248
DALLAS TEXAS 75222

SHIP TO

MASTER TANK & WELDING INC
1612 SINGLETON BLVD
DALLAS TEXAS

RECEIVED FEB 21 1972 EASTER TANK & WELDING

CARBON PLATE ASME SA-516-70 GRADE 70 PRESSURE VESSELQUALITY

MILL CERT TR LADLE TEST RESULTS PER SPEC 300

THIS IS TO CERTIFY THAT THE CHEMICAL ANALYSIS AND/OR TESTS SHOWN IN THIS REPORT ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

SIGNATURE S.L. NORWOOD, CH. MET.

DATE 2/16/72

CM O.	HEAT NO.	TEST OR PIECE IDENTITY NO.	MATERIAL DESCRIPTION NO. PCS.	THICKNESS OR SECTION	WIDTH, DIA. OR FT. WT.	LENGTH	WEIGHT	YIELD PT. PSI.	TENSILE STR. PSI.	ELONGATION % IN 8"	ELONGATION % IN 2"	% RED. OF AREA	BEND
5	66B148	14-S1 (1pc)	1	13/16	120	456	12596	* 50400	80100	24.0			B

* YIELD POINT AT .0050 EUL

EN SIZE TESTED ACCORDING TO COMPANY RECORDS CONFORMS TO THE REQUIREMENTS OF THE SPECIFICATION LISTED ABOVE

* B OR H INDICATE COMPLIANCE OF BEND OR HOMO TESTS, RESPECTIVELY

HEAT NO.	TYPE	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	N	V	B	Ti	Cb	Co
66B148		22	1 02	014	017	18												

GRAIN SIZE 5 OR FINER

M G-20831 REV. 1165 02.000.0448

W

PRODUCTION DEPARTMENT — METALLURGICAL

United States Steel Corporation

REPORT OF PLATES

TEXAS U.S.S. ORDER NO. AD77770 LOAD TALLY OR INVOICE NO. 324-01689

ER ORDER NO. A-1427

TRUCK NO. CTR SHIPPER NO. & DATE T63810 3/3/72

MAR 6 1972 MASTER TANK & WELDING

1-8

MASTER TANK & WELDING INC
PO BOX 5146
DALLAS TEXAS 75222

SHIP TO

MASTER TANK & WELDING INC
1612 SINGLETON BLVD
DALLAS TEXAS

CARBON PLATE ASME SA-516-70 GRADE 70 PRESSURE VESSEL QUALITY

MILL CERT TR LADLE TEST RESULTS PER SPEC 300

THIS IS TO CERTIFY THAT THE CHEMICAL ANALYSIS AND/OR TESTS SHOWN IN THIS REPORT ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

SIGNATURE S. L. NORWOOD, CH. MT.

DATE 3/6/72

EM NO.	HEAT NO.	TEST OR PIECE IDENTITY NO.	MATERIAL DESCRIPTION NO. PCS.	THICKNESS OR SECTION	WIDTH, DIA. OR FT. WT.	LENGTH	WEIGHT	YIELD PT. PSI.	TENSILE STR. PSI.	ELONGATION % IN 8"	ELONGATION % IN 2"	% RED. OF AREA	BEND
5	66B148	14-S2 (1pc)	2	13/16	120	456	25192	* 50100	80700	27.0			B
		15-S2 (1pc)						* 50800	80900	29.0			B
5	H21508	11-1A (1pc)	1	13/16	120	456	12596	* 47600	75800	22.0			B

* YIELD POINT AT .0050 EUL

AEN SIZE TESTED ACCORDING TO COMPANY RECORDS CONFORMS TO THE REQUIREMENTS OF THE SPECIFICATION LISTED ABOVE

* B OR H INDICATE COMPLIANCE OF BEND OR HOMO TESTS, RESPECTIVELY

HEAT NO.	TYPE	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	N	V	B	Ti	Cb	Co
6B148		22	1 02	014	017	18												
H21508		23	1 04	009	020	19												

GRAIN SIZE 5 OR FINER

GRAIN SIZE 5 OR FINER

FORM G-20831 REV. 1165 02.000.0441

W

Division of [USS] United States Steel Corporation

595 #595

TEST REPORT

CUST. ORDER NO. A1610 OUR ORDER NO. 68761 DATE 12-14-66

S
O T MASTER TANK & WELDING CO LTD
L O P O BOX 5146
D DALLAS TEXAS

BETHLEHEM STEEL CORP

Description & Specification:

HR PLT A516 GRADE 70 A-300 CL 1

1/2 x 96 x 240

Heat 478N2302 Slab N101599 Lot

Color Identification

Chemistry

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Other				G/S
18	98	010	018	23									

Mechanical Properties

TENSILE STRENGTH PSI	YIELD POINT PSI	YIELD STRENGTH PSI	ELONG. %	ELONG. IN.	PER CENT RED. AREA	HARDNESS	BEND TEST	HOMO-GENEITY
70400	49000		27.0	2			OK	OK
70600	48400		28.0	2				

End Quench Hardenability – 16ths Inches

	1	2	3	4	5	6	8	10	12	14	16	18	20	24	28	32
Guaranteed Min-RC																
This Heat-RC																

SPECIAL TESTS

Corrosion Macro. Hardenability– Special

Decarb. Other PLATES & TEST PIECES NORMALIZED AT 1650°F. LONG. CHARPY KEYHOLE TEST

UNLESS OTHERWISE INDICATED THE ABOVE TEST RESULTS CONFORM TO THE REQUIREMENTS OF THE LISTED SPECIFICATION.

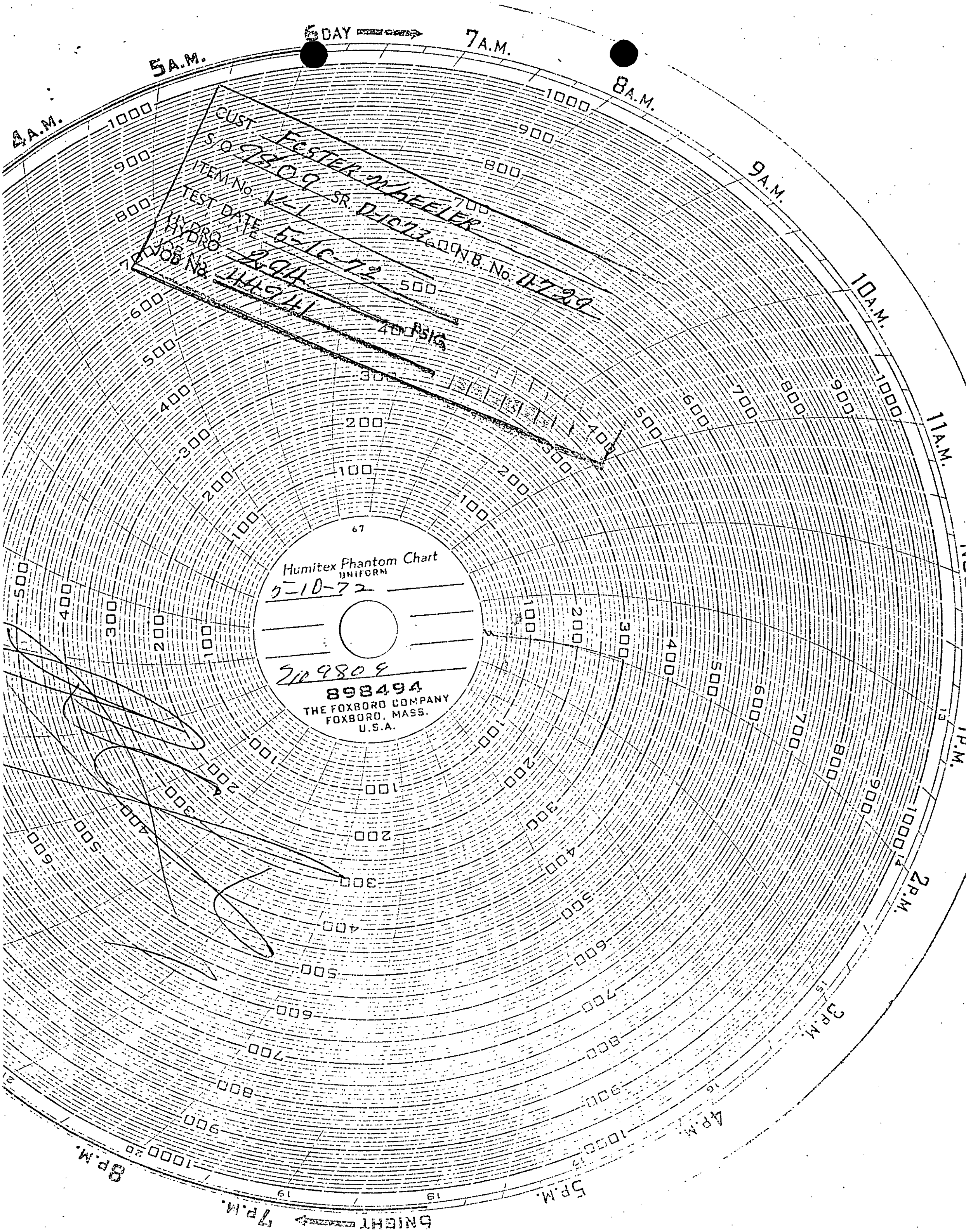
RECEIVED DEC 19 1966 MASTER TANK & WELDING

WE HEREBY CERTIFY THAT THE ABOVE DATA IS AS CONTAINED IN OUR RECORDS.

United States Steel Supply

By Eva Johnson

USD 138 5-59 REV.


DAY
NIGHT
CUST. FOSTER WHEELER
S.O.
ITEM No.
SR.
TEST DATE 5-10-72
N.B. No.
HYDRO
JOB No.
PSIG
Humitex Phantom Chart
UNIFORM
5-10-72
898494
THE FOXBORO COMPANY
FOXBORO, MASS.
U.S.A.

52-664A

UNFIRED PRESSURE VESSEL INSPECTION REPORT

PHILADELPHIA REFINERY

VESSEL Treater Feed Surge Drum V-1
LOCATION Alky 433
EQUIPMENT NO.
DATE OF INSPECTION 5/5/84

WAS INTERIOR WALL THOROUGHLY CLEANED FOR INSPECTION? Yes

(a) SHELLS—GENERAL CONDITION OK WERE ANY CRACKS NOTED? No
WAS ANY UNUSUAL OR LOCAL CORROSION NOTED? Slight

(b) HEADS—GENERAL CONDITION OK WERE KNUCKLES INSPECTED? None
WERE ANY CRACKS NOTED? No ANY DISTORTION? No

(c) JOINTS—CONDITION OF WELDING OK CONDITION OF RIVETS None
WERE ANY CRACKS NOTED? No

(d) NOZZLES & OPENINGS—(NOTE WALL THICKNESS IN SPACE PROVIDED)
CONDITION OF JOININGS OK CONDITION OF LINERS None

(e) LINING—GENERAL CONDITION None WAS ENTIRE LINING EXAMINED? —

(f) WAS HYDROSTATIC TEST MADE? No TEST PRESSURE
RESULTS

(g) WERE SAFETY VALVES EXAMINED? Yes (tested & set at
DATE LAST TESTED 1/24/84 CONDITION OF DISCHARGE LINES OK

CONDITION (h) INSULATION None (i) SUPPORTS OK (j) FIREPROOFING OK

REMARKS. Vessel was opened + cleaned for inspection. there was slight corrosion but U. meter Reflected very little metal loss V.S.

WALL THICKNESS OF NOZZLES (MIN. CALIBRATION)

NO.	THICKNESS	NO.	THICKNESS	NO.	THICKNESS	NO.	THICKNESS	NO.	THICKNESS	NO.	THICKNESS
1	.42	6	1.50								
2	.39	7	.31								
3	.53	8	.30								
4	.32	9	.44		—						
5	.37	10	.31								

VESSEL THICKNESS AT CRITICAL POINTS	DESCRIPTION OF LOCATION	MAX. WORK. TEMP.	ALLOW. STRESS	JOINT EFF.	MAX. WORK. PRESS.
.94	Heads				
.82	Shell				

TOTAL NO. HOURS IN SERVICE NEXT INSPECTION 10 YEARS