Purchase Order No. 1503385P
Work Order No.

FORM R-1 REPORT OF REPAIR

in accordance with the provisions of the *National Board Inspection Code*

1. Work performed by **Mechanical Technologies, Inc.** (name of repair organization) — **52** (Form Registration No.)
   701 Morley Road, Green Bay, Wisconsin, 54303 (address) — **1502356P** (Po No.,Job No.,etc.)
2. Owner **ST. Paper LLC** (name)
   106 E CENTRAL AVE, Oconto Falls, Wisconsin, 54154 (address)
3. Location of installation **ST. Paper LLC** (name)
   106 E CENTRAL AVE, Oconto Falls, Wisconsin, 54154 (address)
4. Item identification **Boiler** (boiler, pressure vessel or piping) Name of original manufacturer **Hurst Boiler and Welding**
5. Identifying nos.: **HYB9750-200-1** (mfg. serial no.) | **14245** (National Board No.) | **B0088276** (Jurisdiction No.) | **N/A** (other) | **2008** (year built)
6. NBIC Edition / Addenda: **2007** (edition) **N/A** (addenda)
   Original Code of Construction for Item: **ASME section 1** (name/ section/ division) **2007/** (edition/ addenda)
   Construction Code Used for Repair Performed: **ASME section 1** (name/ section/ division) **2013/** (edition/ addenda)
7. Repair Type: ☑ Welded ☐ Graphite Pressure Equipment ☐ FRP Pressure Equipment
8. Description of work: ☐ Form R4 Supplemental Sheet is attached ☐ FFSA Form (NB-403) is attached
   Replace 1 - 3" SA178 .105 wall tube in the 3rd pass by mechanically expand and bead tube ends into tube sheet. Plug 2 - 3" tubes in the 2nd pass by installing plugs on each end and seal weld plug to tube.
   Hydrostic Pressure Test, if applied **190 psi** **MAWP** **200 psi**
9. Replacement Parts. Attached are Manufacturer's Partial Data Reports or Form R-3s properly completed for the following items of this report:
   N/A
   (name of part, item number, data report type or Certificate of Compliance, mfg. name, and identifying stamp)
10. Remarks: **** REPAIR OF ROUTINE NATURE--DOES NOT REQUIRE INSPECTION BY AUTHORIZED INSPECTOR ****

CERTIFICATE OF COMPLIANCE

I, **Thomas Arnoldi**, certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Repair conforms to the *National Board Inspection Code*.
National Board "R" Certificate of Authorization No. **6276** expires on **May 21, 2015**,

Date **03/19/2015**, **Mechanical Technologies, Inc.** (name of repair organization) Signed T Arnoldi (authorized representative)

CERTIFICATE OF INSPECTION

I, **Mark F. VanCampenhout**, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency, where required, issued by the Jurisdiction of **WI, MI** and employed by **HSB Global Standards** of **Hartford, CT** have inspected the work described in this report on **April 1, 2015** and state that to the best of my knowledge and belief this work complies with the applicable requirements of the *National Board Inspection Code*.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date **April 1, 2015** Signed M. F. VanCampenhout (inspector) Commissions **13264, WI1048636, MI300540** (National Board and Jurisdiction No.)

FORM P-2 MANUFACTURERS' DATA REPORT FOR ALL TYPES OF BOILERS EXCEPT WATERTUBE AND ELECTRIC

50 H.P.

As Required by the Provisions of the ASME Code Rules, Section I

1. Manufactured by Hurst Boiler and Welding Company Inc. 21971 US HWY. 319 N., COOLIDGE, GA. 31738
(Name and address of Manufacturer)

2. Manufactured for SPIRIT CONSTRUCTION SERVICES, INC.; 3131 MARKET STREET; GREEN BAY, WI. 54304
(Name and address of purchaser)

3. Location of installation ST PAPER - OCONTO FALLS TISSUE; 106 E. CENTRAL AVE.; OCONTO FALLS, WI. 54154
(Name and address)

4. Type: HYBRID (HRT, etc.) Boiler No. HYB9750-200-1 (Mfr's. Serial No.) NA (CRN) 0700142 (Drawing No.) 14,245 (Nat'l. Board No.) Year Built 2008

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to Section I of the ASME Boiler and Pressure Vessel Code 2007 (year)

Addenda to NONE (Date), and Code Cases NONE (Numbers).

Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors are attached for the following items of this report:

NONE
(Name of part, item number, mfr's name and identifying stamp)

6. Shells or drums: 1 (no.) SA-516-70 (mat'l. spec., gr.) 3/4" [thickness (in.)] 120" [dia. (ID)] 268.25" (length, inside) NA [dia. (ID)] NA (length, inside)

Joints: WELDED [long. (seamless, welded)] 100% [efficiency (as compared to seamless)] WELDED [girth (seamless, welded)] 3 (no. of shell courses)

Heads: SA-516-70 7/8" THK. FLAT NA
(Material Specification No.: Thickness - Flat, Dished, Ellipsoidal - Radius of Dish)

Tubesheet: SA-516-70 7/8" THK. (Mat'l. Spec., Grade, Thickness) Tube Holes: 3" (Dia)

7. Tubes: No. (546) SA-178-A (Mat'l. Spec., Grade) STRAIGHT (Straight or Bent)

Dia 3" Length 272-1/2" (if various, give max & min) Gauge 12 (or thickness)

8. Furnace No. NA Size NA (O.D. or W x H) Length, each section NA Total NA

Type NA
(Plain, Adamson, Ring Reinforced, Corrugated, Combined, or Stayed)

NA (Mat'l. Spec., Grade, Thickness) Seams: Type NA (Seamless, Welded)

9. Staybolts: No. 32 Size 2" SA-675-70 100.54" SQ.
(Dia. Mat'l., Spec., Grade, Size Telltale, Net Area)

Pitch 12.75" (Hor. and Vert.) MAWP 200 psi.

10. Stays or braces:

Location	Material Spec. No.	Type	No. & Size	Max. Pitch	Fig. PFT-32 L/I	Dist. Tubes to Shell	MAWP, psi.
(a) F.H. above tubes	SA-675-70	DIAG.	(16) 2"	12.75"	13	46"	200
(b) R.H. above tubes	SA-675-70	DIAG.	(16) 2"	12.75"	13	46"	200
(c) F.H. below tubes	NA						
(d) R.H. below tubes	NA						
(e) Through stays	NA						
(f) Dome braces	NA						

11. Other parts 1. MEMBRANE TUBES 2. MEMBRANE HEADERS 3. MEMBRANE HEADERS
(Brief Description - i.e., Dome, Boiler Piping, etc.)

1. (124) 2-1/2" X .105", SA-178-A BENT BOILER TUBES,12 GAUGE, 200 P.S.I.
2. (3) 10" SCH 40, SA-106-B PIPES, T. & B. MEMBRANE HEADERS, - (2) 10" STD. WELD TEE'S, SA234 GR WPB, 200 P.S.I.
3. (3) 10" 300# R.F., BLIND FLGS., SA-105 - (3) 10" 300# R.F., W.N. FLGS., SA-105, 200 P.S.I.
(Mat'l. Spec., Grade, Size, Material Thickness, MAWP)

FORM P-2 MANUFACTURERS' DATA REPORT FOR ALL TYPES OF BOILERS EXCEPT WATERTUBE AND ELECTRIC

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7. Tubes: No. (546) SA-178-A (Mat'l. Spec., Grade) STRAIGHT (Straight or Bent)

Dia 3" Length 272-1/2" (if various, give max & min) Gauge 12 (or thickness)

8. Furnace No. NA Size NA (O.D. or W x H) Length, each section NA Total NA

Type NA
(Plain, Adamson, Ring Reinforced, Corrugated, Combined, or Stayed)

NA (Mat'l. Spec., Grade, Thickness) Seams: Type NA (Seamless, Welded)

9. Staybolts: No. 32 Size 2" SA-675-70 100.54" SQ.
(Dia. Mat'l., Spec., Grade, Size Telltale, Net Area)

Pitch 12.75" (Hor. and Vert.) MAWP 200 psi.

10. Stays or braces:

Location	Material Spec. No.	Type	No. & Size	Max. Pitch	Fig. PFT-32 L/ I	Dist. Tubes to Shell	MAWP, psi.
(a) F.H. above tubes	SA-675-70	DIAG.	(16) 2"	12.75"	13	46"	200
(b) R.H. above tubes	SA-675-70	DIAG.	(16) 2"	12.75"	13	46"	200
(c) F.H. below tubes	NA						
(d) R.H. below tubes	NA						
(e) Through stays	NA						
(f) Dome braces	NA						

11. Other parts 1. MEMBRANE TUBES 2. MEMBRANE HEADERS 3. MEMBRANE HEADERS
(Brief Description - i.e. , Dome, Boiler Piping, etc.)

1. (124) 2-1/2" X .105", SA-178-A BENT BOILER TUBES,12 GAUGE, 200 P.S.I.
2. (3) 10" SCH 40, SA-106-B PIPES, T. & B. MEMBRANE HEADERS, - (2) 10" STD. WELD TEE'S, SA234 GR WPB, 200 P.S.I.
3. (3) 10" 300# R.F., BLIND FLGS., SA-105 - (3) 10" 300# R.F., W.N. FLGS., SA-105, 200 P.S.I.

(Mat'l. Spec., Grade, Size, Material Thickness, MAWP)

Atmr 4-1-15

H.V.A.C. SYSTEMS SERVICE INC.

ASME PQR

Procedure Qualification Record No.: 311-SM-O-E60/70 PQR **Date** 4/10/98

Supporting WPS No.(s) 311-SM-O-E60/70

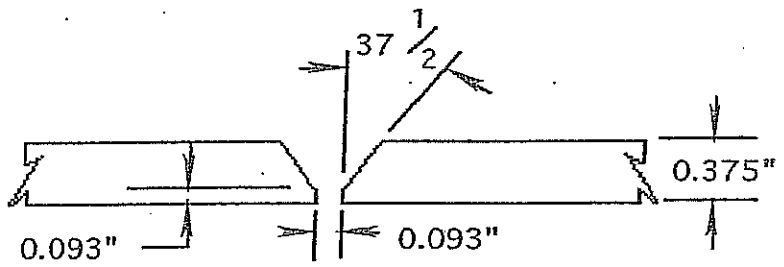
Welding Processes Shielded Metal Arc Welding (SMAW)

Type (Manual, Automatic, Semi-auto) Manual

Joints (QW-402)

Actual Deposit Thickness of Each Filler & Process used Must Be Recorded;

Process	Thickness
(F-No. 3)	0.125"
(F-No. 4)	0.250"



Base Metals (QW-403)

Material: SA 106 to SA 106

Type or Grade GR B to GR B

P-No. 1 Group-No. ___ to P-No. 1 Group-No. ___

Thickness of Test Coupon 0.375" (machined)

Diameter of Test Coupon 2" NPS

Other

Filler Metals (QW-404)

SFA Spec. SMAW, 5.1

AWS Class E6010 & E7018

Filler Metal F-No. E6010, F-No.3 E7018, F-No. 4

Weld Metal Analysis A-No.: 1

Size of Filler Metal

(F-No. 3)	(F-No. 4)
1/8"	3/32"

Position (QW-405)

Position of Groove 6G

Weld Progression (uphill, downhill) Uphill

Other

Preheat (QW-406)

Preheat Temperature 65° F (ambient)

Interpass Temperature Not recorded

Other

Post Weld Heat Treatment (QW-407)

Temperature None performed

Time

Other

Gas (QW-408)

	Gas(es)	Mixture	Flow Rate
Shielding	N/A		CFH
Backing	N/A		CFH
Trailing	N/A		CFH

Electrical Characteristics (QW-409)

	(F-No. 3)	(F-No. 4)	
Current	Direct (DC)	Direct (DC)	
Polarity	Reverse	Reverse	
Amps	75	97 - 105	
Volts	not recorded	not recorded	

Tungsten Electrode Type & Size N/A

Orifice Size

Technique (QW-410)

	Travel Speed - IPM	String/Weave
(F-No. 3)	not recorded	String
(F-No. 4)	not recorded	String

Single or Multipass (per side) Multipass

Single or Multiple Electrodes Single

Other

AIC Inv 94775

CERTIFIED MILL TEST REPORT

TEKtube
4150 South Elwood
Tulsa OK 74107

Phone: 918 446-4561
FAX:

MTR No: 20131634
MTR Date: 11/8/2013
Sales Order No: 20131634
Customer PO No: CB0762

CUSTOMER
Chicago Tube & Iron

TUBE: Tube 3.00 OD x .105 MW

ASME SA-178-A ERW 2010 EDITION, 2011 ADDENDA
ALUMINUM KILLED STEEL

HEAT NO.	C.	Mn.	P.	S.	Si.	Al.	Cu.	HRB.	Yield	Tensile	Elong.
JA1386											
235932	0.070	0.47	0.007	0.001	0.030	0.040	.130	58 / 59			
236545 JA 1309	0.070	0.47	0.006	0.001	0.030	0.030	.140	59 / 60			
236546 JA1323, JA1351 ~~JA1379, JA1386~~ JA1400	0.070	0.49	0.007	0.001	0.030	0.030	.140	58 / 59			

TESTING FLANGE, FLATTENING, FLARE, REVERSE FLATTENING, U.T. TEST ON WELD AREA PER E273 AND ASME, 100% FULL PERIPHERY (ENCIRCLING COIL) EDDY CURRENT TEST IN ACCORDANCE WITH ASME SA-450 AND SE-309, 2010 EDITION, 2011 ADDENDA USING 0.024" DIAMETER DRILLED HOLE (-.000 / + .002) ARE SATISFACTORY.

COMMENTS: TAG INFO: JA1323; JA1351; JA1379; JA1386; JA1400; JA1304

We certify that each lot has been manufactured, sampled, tested, and inspected in accordance with above specifications and meets all of the specification requirements. Tubes manufactured in USA.

Signature: David Chambers Date: 11/8/2013

AE MVC 4/7/15

MECHANICAL TECHNOLOGIES, INC.
701 Morley Road
Green Bay, WI 54303

MATERIAL RECEIVING INSPECTION REPORT

Date Received: 4-24-14

Project: Stock

Purchase Order No: 49248

Vendor / Supplier: Chicago Tube & Iron

Carrier: Chicago Tube & Iron

Quality Control Manager Approval:

ITEM	QUAN.	DESCRIPTION	HEAT, LOT OR SERIAL NO.	THICKNESS MEASUREMENTS	A- ACCEPT / R-REJECT .1	.2	.3	.4	.5	Q.C. RELEASE
1	25	2" OD X 12 GA X 26' SA178A Welded Tubes	134482..	26'	A	A	A	A		
2	35	2 1/2" OD X .105 SA178A Welded Tubes	58875D	20'	A	A	A	A		
3	25	3" OD X .105 WALL SA178A Welded Tubes	236546..	25'	A	A	A	A		

INSPECTIONS

.1 The required documentation has been received. The markings and identification on the products agree with the identification described on the documentation. For plate, pipe and bar, verified markings are recorded under "DESCRIPTION" above.

.2 Products received agree with the description on the Purchase Order, items are properly marked and in good condition (no shipping damage).

.3 C of Cs (or mill markings) and MTRs have been reviewed - characteristics required to be reported by the material specification and Purchase Order have been reported. have been reviewed against the respective ASME material specification(s) and test results are acceptable (sign and date MTR).

.4 Material's have been physically inspected to determine the absence of manufacturing defects (such as lamination). Dimensional inspections have been made and thicknesses, diameters and other critical dimensions are acceptable (thickness readings have been recorded above).

.5 Formed heads have been checked for dish and knuckle radii. If applicable, UCS.79(d) criteria has been met and recorded. Minimum thickness after bending has been reported.

If any of the above attributes are not applicable, enter "N/A".

FORM DATED 04/10/03

GERDAU

CERTIFIED MATERIAL TEST REPORT

US-ML-ST PAUL
1678 RED ROCK ROAD
SAINT PAUL, MN 55119
USA

CUSTOMER SHIP TO

CUSTOMER BILL TO

GRADE: A36

SHAPE / SIZE: Round Bar / 2"

LENGTH: 20'00"

WEIGHT: 3,400 LB

HEAT / BATCH: 62132168/04

SALES ORDER: 525556/000010

CUSTOMER MATERIAL N°: HR200

CUSTOMER PURCHASE ORDER NUMBER: 01454749

BILL OF LADING: 1332-0000007008

DATE: 08/22/2013

SPECIFICATION / DATE or REVISION
1-ASTM A6/A6M-11
2-A36/36M-08
3-A709-11 AASHTO M270-11
4-ASME SA36-USA

CHEMICAL COMPOSITION

C %	Mn %	P %	S %	Si %	Cu %	Ni %	Cr %	Mo %	V %	Nb %	Sn %
0.16	0.71	0.008	0.027	0.23	0.29	0.17	0.12	0.038	0.002	0.000	0.011

MECHANICAL PROPERTIES

Elong %	G/L Inch	UTS PSI	UTS KSI	UTS MPa	YS PSI
26.90	8.000	67500	67.5	465	44900
26.20	8.000	67200	67.2	463	44600

MECHANICAL PROPERTIES

YS KSI	YS MPa
44.9	310
44.6	308

GEOMETRIC CHARACTERISTICS

R:R
9.74

HARDENABILITY
DI A255
Inch
0.57

COMMENTS / NOTES

Material 100% melted and rolled in the USA. Manufacturing processes for this steel, which may include scrap melted in an electric arc furnace and hot rolling, have been performed at Gerdau St. Paul Mill, 1678 Red rock Rd, St. Paul, Minnesota, USA. All products produced from strand cast billets. Silicon killed (deoxidized) steel. No weld repairment performed. Steel not exposed to mercury or any liquid alloy which is liquid at ambient temperatures during processing or while in Gerdau St. Paul Mill#s possession. Any Modification to this certification as provided by Gerdau # St. Paul Mill without the expressed written consent of Gerdau St. Paul Mill negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdau St. Paul Mill. Gerdau St. Paul Mill is not responsible for the inability of this material to meet specific applications.
Roll batch 62132168/04 roll dtd 8/20/2013

AJmr 4-1-15

Inspected and Approved
AUG 23 2013

The above figures are certified chemical and physical test records as contained in the permanent records of company. This material, including the billets, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

Bhaskar
BHASKAR YALAMANCHILI
QUALITY DIRECTOR

ALEA BRANDENBURG
QUALITY ASSURANCE MGR

MTi
701 Morley Road
Green Bay, WI 54303

WPS

REFERENCE ASME GENERAL WELDING PROCEDURE
WITH THIS SPECIFICATION ASME 4-1-15

Welding Procedure Specification - ASME Sect. IX - QW-201.1

WPS No.31/10C-SM-O Page 1 of 2

Supporting PQR No.(s) 31/10C-SM-O PQR

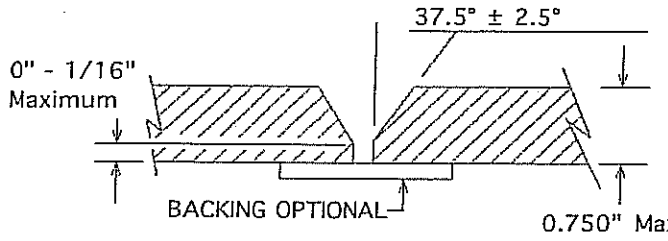
Welding Processes Shielded Metal Arc Welding Type Manual

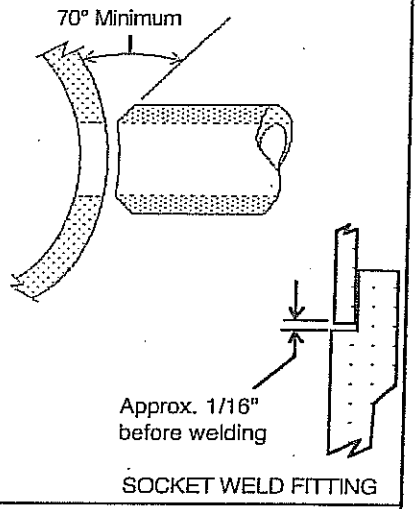
Title: Shielded Metal Arc Welding P-No. 1 to P-No. 10C Materials in Compliance With ASME B31.1, B31.3, ASME Section I and VIII, Div. 1

Approved By: Date 5/27/14

Joints (QW-402) *See Engineering Drawings for additional Joint Designs*

Joint Design; "V" Groove, Fillet and Socket Welds.
Qualified without backing, backing with Same "P-No." material is optional.
Root Spacing: "V" Groove, open butt, 1/16" to 3/16"
Root Spacing: "V" Groove, with backing, 1/8" to 1/4"
Maximum Mismatch: 1/16" (Groove joints)





Base Metals (QW-403)

P-No. 1 Group No. 1 & 2 to P-No. 10C Group No. 1

Thickness Range
Base Material;
Groove 0.0625" to 0.750" Maximum Fillet Unlimited

Deposited Weld metal
Groove F-No. 3, 0.186" Maximum Fillet 0.500 Maximum Throat Thickness
Groove F-No. 4, 0.564" Maximum Fillet 0.500 Maximum Throat Thickness
Groove - - - - - Fillet - - - - - -

Pipe Diameter Range Unlimited Fillet Unlimited

Filler Metals (QW-404)

SFA Spec. 5.5 Filler Metal F-No. 3 (E8010-P1) and 4 (E8018-C3)

AWS Class E8010-P1* and/or E8018-C3** E8010-P1 A-No.: N/A
E8018-C3 A-No.: 10

* E8010-G may be substituted for E8010-P1.
** E8018-C1 may be substituted for E8018-C3.

Size of Filler Metals See Table on page 2 of 2

Position (QW-405)

Position of Groove All
Weld Progression (uphill, downhill) Uphill
Other

Post Weld Heat Treatment (QW-407)

Temperature None
Time
Other

Preheat (QW-406) See page 2 of 2 for additional notes

Material Thickness	Minimum Temperature (°F)	Maximum Interpass Temperature (°F)
≤0.500"	50 ° F *	650 ° F
>0.500" **	175° F	650 ° F

Preheat Maintenance
Continuous to completion of the weld.
* Preheat of 175° F required for NBIC repair welds.
** Preheat required for all base materials over 1/2".

MTi
701 Morley Road
Green Bay, WI 54303

WPS

WPS No.: 31/10C-SM-O

Gas (QW-408)	Gas(es)	Mixture	Flow Rate
Shielding	N/A		
Backing	N/A		
Trailing	N/A		

Electrical Characteristics (QW-409)

Tungsten Electrode Size and Type: N/A

Mode of Transfer for GMAW: N/A Wire Speed Feed Range: N/A

Weld Layer No.	Welding Process	Filler Metal * Class	Filler Metal * Diameter	Type Polarity	Current Range Amp Range	Current Range Volt Range	Recommended Travel Speed - IPM
Open butt root**	SMAW	E8010-P1	0.093"	DC-Reverse	45 - 90	21 - 26	1" Minimum
		E8010-P1	0.125"	DC-Reverse	70 - 125	23 - 28	1.5" Minimum
Fill	SMAW	E8018-C3	0.093"	DC-Reverse	70 - 110	21 - 25	1" Minimum
		E8018-C3	0.125"	DC-Reverse	100 - 150	21 - 26	2" Minimum
		E8018-C3	0.156"	DC-Reverse	130 - 190	21 - 27	2.5" Minimum

* Alternate filler metal of same F-No may be used with above parameters. ** E8010-P1 may be omitted if backing is used.

Technique (QW-410)

Cleaning Prior to Welding - File or machine all scale / oxide to provide a clean bright surface for a min. of one inch from the anticipated toe of the weld. Complete cleaning with an approved solvent to assure complete removal of all harmful contaminates from both sides of the base metal. Precautions must be taken to prevent subsequent contamination of material surfaces. Incomplete cleaning can contribute to weld discontinuities.

Interpass Cleaning - Chip, file, grind or brush as required to remove all slag and discontinuities from the weld surface which would be detrimental to the satisfactory completion of the weld.

Arc Strikes - Arc Strikes outside of the area to be welded shall be avoided. Inadvertent arc strikes on the unwelded surfaces shall be repaired by blending to clean metal by mechanical means taking care to maintain thickness req'd.

Orifice size: N/A

Single or Multipass (per side): Multipass

Single or Multiple Electrodes: Single

String/Weave: Root String, Remainder either stringer or weave.

Deposit Thickness: No pass shall exceed 0.250" in thickness

Contact Tube to Work Distance: N/A Peening: None permitted

Method of Backgouging;
Required for joints welded two sides; backgouge to sound metal by thermal or mechanical means and clean of all foreign material prior to welding the second side.

NOTES;
1) E8010-P1 electrodes are limited to root passes when welding open butt joints.
2) Filler metals may vary in size, and sequence used, to provide for physical configurations encountered.
3) Preheat should be monitored by pyrometer, temperature indicating crayons or other approved means.
4) Fillet welds to pressure parts require minimum of 175° F. preheat when thickness of the pressure part exceeds 3/4".

Date 4-1-15

UA / NCPWB

Joint Welder Testing Program

Welder Qualification Test Record

Welder's Name: Paul W Anderson SSN or UA card number: 398862668 Stamp No: PW A
Welder's Home Local: Test Location: UA Local 434 Training City: Camp Douglas State: WI
UA Test Assembly ID No: 02PWA2668

Testing Conditions and Ranges Qualified

Identification of WPS followed during welding of test coupon: UA-2, NCPWB (WPS 1-12-1)
Specification of Test Coupon Base Metal: A/SA-106 Grade B or A/SA-53 Grade B Thickness(in.): 0.280

Welding Variables	Actual Values	Range Qualified
Welding Process(es) used:	SMAW	SMAW
Type of welding (manual, semi-automatic):	Manual	Manual
Base Metal P or S-Number 1 to P or S-number	1	1 through 11
☐ Plate ☒ Pipe (enter diameter if pipe or tube):	NPS 6, Sch 40 (0.280")	2-7/8 in. OD and over
Backing (metal, weld metal, backwelded, etc):	None / Weld metal	F-3 Opt., F-1, 2, 4 Req'd
Filler Metal (SFA) Specification(s) (info. only):	5.1	
Filler Metal or Electrode Classification(s) (info. only):	E6010 / E7018	
Filler Metal or Electrode F-Number:	3 / 4	1 through 4
Solid, Metal Cored or Flux Cored wire for GTAW:	N/A	N/A
Consumable Insert for GTAW or PAW:	N/A	N/A
Deposit Thickness for each process and variation (in.):	0.093 / 0.187	F-4, 0.374/F-1/3, 0.560max
Position (2G, 6G, 3F, etc.):	6G	All
Progression (uphill, downhill):	Uphill	Uphill
Fuel Gas for OFW, Backing Gas for GTAW, PAW, GMAW:	N/A	N/A
GMAW Transfer Mode (short circuiting, spray, etc.):	N/A	N/A
GTAW Current Type/Polarity (AC, DCEP, DCEN):	N/A	N/A

* Indicates that at least 3 layers of weld metal were deposited

Testing and Results

Visual Examination of Completed Weld: Acceptable **Date of Test:** June 8 2011

Bend Test ☐ Transverse Root and Face (QW-462.3(a)) ☐ Side (QW-462.2)

Type	Result	Type	Result	Type	Result

Radiographic Examination Results: Acceptable Lab Test No.:
Film or Specimens Evaluated By: [signature] Title: RT Tech Company: AET
Contractor/Fabricator's Supervisor: [signature] Title: Rep Company: Tweet Garot

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

National Certified Pipe Welding Bureau Chapter Number: 5
Secretary:
Date: June 8 2011

United Association Authorized Testing Representative
Name: Ken Thompson
Date: June 8 2011

Mike Rattle/Tweet Garot
Contractor/Fabricator Name
Signature: [signature]
Date: June 8 2011

Mechanical Technologies, Inc.

701 Morley Road
Green Bay, WI 54303

WELD PLAN
WELD PROCESS TRAVELER

JOB NO.	INITIATED BY (PLANNER):	DATE
1502256P	Tom Arnoldi	3/15/2015

NAME OF A.I. NOTIFIED / RELEASE	DATE	TIME	BY
Mark Vancampenhout	3/10/2015	☐ AM ☐ PM	

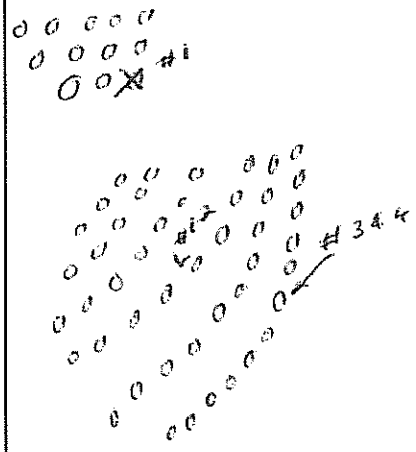
PRIORITY	SCHEDULE DATE	QC APPROVED	RELEASE DATE

EQUIPMENT DESCRIPTION	COMPONENT I.D.	MANUFACTURER	YEAR BUILT
Boiler		Hurst Boiler	2008

MANUFACTURER'S SERIAL NUMBER	NATIONAL BOARD NUMBER
HYB9750-200-1	

MAWP	MDMT (IF APPLICABLE)
200 PSI AT °F	°F at psi

EXCAVATION AND / OR WELD JOINT DETAILS



DESCRIPTION OF REPAIR
Remove & replace 1 - 3" tube in the 3rd pass. Plug - 2 - 3" tubes in the 2nd pass and sealweld plug in place

IDENTIFICATION OF MATERIAL TO BE WELDED

KEY	SPECIFICATION	GRADE / TYPE	P-NO.	THICKNESS
1-4	SA36		1	

WELD NO	WELD / REPAIR LOCATIONS (E.G. TUBE BANK & NUMBER)
WELD #1 - 4	Seal weld - 4 - 3" tappered plugs
WELD	
WELD #	

WPS NO.	PROCESS	FILLER METAL CLASSIFICATION	PREHEAT	INTERPASS
311-SM-O-E60/70	SMAW		°F	°F

REPAIR WELDING AND INSPECTION OPERATIONS Check applicable instructions, use "N/A" if not applicable	Weld #1- 4		Weld #		Weld #	
	QC	AI	QC	AI	QC	AI
☐ DEFECT EXCAVATION INSPECTION ☐ PRE-WELD INSPECTION OF SURFACE CONDITION ☑ VISUAL INSP. ☐ PT ☐ RT ☐ MT ☐ UT	☑ 3-15-15 Tom Arn					
☐ FIT-UP AND ALIGNMENT CHECK						
☐ ROOT INSPECTION ☐ INTERPASS INSPECTIONS ☐ VISUAL INSP. ☐ PT ☐ RT ☐ MT ☐ UT						
☑ FINAL WELD VISUAL	☑ 3-15-15 Tom Arn					
☐ FINAL WELD EXAMINATION ☐ PT ☐ RT ☐ MT ☐ UT						
WELDERS IDENTIFICATION NUMBER	PWA					
OTHER						

REPAIR COMPLETE AND CHECKED BY / DATE 3-15-15 Tom Arn

AUTHORIZED INSPECTOR 4-1-15

COMPLETED REPAIR PLANS ARE TO BE REVIEWED BY THE QUALITY CONTROL MANAGER WITH THE AUTHORIZED INSPECTOR DURING HIS REGULARY SCHEDULED VISITS TO THE PLANT. ORIGINAL REPAIR PLAN TO BE MAINTAINED IN THE EQUIPMENT FILE.

FORM DATED 04/16/03

Mechanical Technologies, Inc.
701 Morley Road
Green Bay, WI 54303

REPORT OF PRESSURE TEST

RIMR 4-6-15

JOB NUMBER 1502356P

PRIORITY

PREPARED BY / DATE
3/11/2015

COMPONENT I.D. AND DESCRIPTION: _____ MAWP: 200 psig @ _____ °F

TEST BOUNDARY: Boiler

☐ Refer To Drawing No.

TYPE OF TEST (and test parameters):

☒ HYDROSTATIC — TEST MEDIUM: — TEMPERATURE (° F): ☐ AMBIENT

☐ PNEUMATIC — SOAP SOLUTION:

✓
☐ STATIC HEAD ALLOWANCE: psig
☐ STATIC HEAD INSIGNIFICANT

TEST PRESSURE: psig EXAMINATION PRESSURE: psig

☐ ASME SECTION I ☐ ASME SECTION VIII, DIVISION 1 ☐ ASME B31.1 ☐ OTHER

SPECIAL INSTRUCTIONS / SPECIFICATIONS:

PRETEST CHECKLIST:

	✓	
1. Modifications complete, including the isolation or removal of devices that will not withstand test pressure.	☐	N/A
2. Pressure test gauge installed and visible to operator: RANGE: 0 - 5000 psig		
SERIAL NO: 7679001001 CALIBRATION DUE: 9/24/2015	☐	N/A
3. Temperature instrument installed: SERIAL NO:_____ CALIBRATION DUE:_____	☐	N/A
4. Pressure relief/regulating device installed: SETTING:_____ psig	☐	N/A
5. Drains and vents installed and used during filling operation.	☐	N/A
6. All boundary valves checked and closed (check valves installed in correct direction)	☐	N/A
7. All through valves checked and open.	☐	N/A
8. Test item thoroughly checked - no visible defects or damage.	☐	N/A

TEST CONDUCT:

TEST DATE: 3/11/2015 TEST PRESSURE AT GAUGE: 186 psig TEST PRESSUE _____ °F

HOLDING TIME: 10 min. PRESSURE AT GAUGE DURING EXAMINATION: 186 psig

TEST RESULTS (REMARKS) _____

ITEM/SYSTEM RESTORED TO OPERATING CONDITION/CONFIGURATION - VERIFIED BY: _____

DATE: _____

CONDUCTED BY: _____ QUALITY CONTROL APPROVED: _____

AUTHORIZED INSPECTOR ACCEPTANCE: _____

WITNESSED: _____ TITLE: _____ COMPANY: _____

WITNESSED: _____ TITLE: _____ COMPANY: _____

MECHANICAL TECHNOLOGIES, INC.
701 Morley Road
Green Bay, WI 54303

WELDER PERFORMANCE CONTINUITY RECORD 2014

AS MUC 4-1-15

WELDERS NAME & ID NUMBER	PROCESS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Paul PWA Anderson	SMAW	5368 2	5308 4	5419 3	5455 6	5420 3	5557 4	1406781 3	5530 4	5455 3			
Paul PWA Anderson	GTAW SMAW	5308 6	5358 2	5308 5	1409657 2	5372 1	1409972 3	1406788 3	1407892 1	1409974 3			

When updating this record, the job number and date are entered in the box for the month welding was performed. The welder's qualifications shall expire if no welding is performed for the six (6) months.

FORM DATED 04/10/03