

TESTING

This Section Includes the Following Documents IF Applicable

SMITHCO TEST DOCUMENTS:

- U-1A Report
- Shop Run Test
- Plant Inspection Report
- NDE Reports – Magnetic Particle, Liquid Penetrate, Hardness Test Certificates, Etc.
- Hydrostatic Test
- Name Plate Rubbing

SUPPLIERS TEST & CERTIFICATION DOCUMENTS:

- Mill Test Reports
- Material Test Reports
- Inspections & Certifications
- Heat Treatment Reports

QUALITY CONTROL DATA

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by SMITHCO Engineering, Inc., 6211 S. 39th W. Avenue, Tulsa, Oklahoma 74132
(Name and address of manufacturer)
2. Manufactured for ENGINEERING TECNOLOGY IN Tulsa, OK 74136
(Name and address of purchaser)
3. Location of installation ETI unknown
(Name and address)
4. Type Horiz(Non-Cir) 2010B-3391-A ----- 2010B-3391 12213 2010
(Horiz. or vert. tank) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)
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 ASME Rules, Section VIII, Division 1 2007 Year
to 2009 ADD Addenda (Date)
6. Shell: Tube & Plug Sheets: SA-516 GR-70 N Fr 2.250/*Bk 1.000 .0625 Fr 0' 9.1250"/Bk 0' 3.9375" 10' 0.5625"
(Matl. (Spec. No., Grade)) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft. & in.)) (Length (overall) (ft. & in.))
7. Seams: Corner Joint ----- 100 1150 75min. ----- 1
(Long. (Welded, Dbl., Sngl., Lap, Butt)) (R.T. (Spot or Full)) (Eff. (%)) (H.T. Temp. (°F)) (Time (hr)) (Girth (Welded, Dbl., Spot, Lap, Butt)) (R.T. (Spot, Partial or Full)) (No. of Courses)
8. Heads: (a) Matl. (a) Covers: SA-516 GR-70 N (b) Matl. (b) Ends: SA-516 GR-70 N
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Fr/Bk	0.875/0.750	0.0625	--	--	--	--	--	3.5000/3.5000 x 120.5625	Flat
(b)	Fr/Bk	0.625/0.500	0.0625	--	--	--	--	--	3.5000/3.5000 x 8.6875/3.3125	Flat

If removable, bolts used (describe other fastenings) N/A
(Matl., Spec. No., Gr., Size, No.)
9. MAWP 1100 ----- psi at max. temp 650 ----- °F
(internal) (external) (internal) (external)
Min. design metal temp. -20 °F at 1100 psi. Hydro., pneu., or comb. test pressure 1650 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
Inlet/Outlet	1/1	4"600/XS	RFWN	SA-105/SA-106B	0.337	Integral	UW-16.1(a)	Front Head
Vent/Drain	3	1.0	6000CPLG	SA-105		Integral	UW-16.1(a)	Fr/Bk Head

11. Supports: Skirts No (Yes or No) Lugs ----- (No.) Legs 4 (No.) Other ----- (Describe) Attached Welded to covers (Where and how)
12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:

(Name of part, item number, Mfg's name and identifying stamp)

Impact testing exempt per: UG-20(f) Item: AC-8180 Service: REGEN GAS COOLER

Tubes: SA-179 SMLS- 206 x 1.00" x .083" x 26.0000'-Straight

* Top & Bottom

Constructed in conformance with appendix 28

CERTIFICATE OF SHOP/FIELD COMPLIANCE

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. "U" Certificate of Authorization No. 4175 expires February 28th, 2012.
Date 08-03-2010 Co. name SMITHCO Engineering, Inc. Signed [Signature]
(Manufacturer) (Representative)

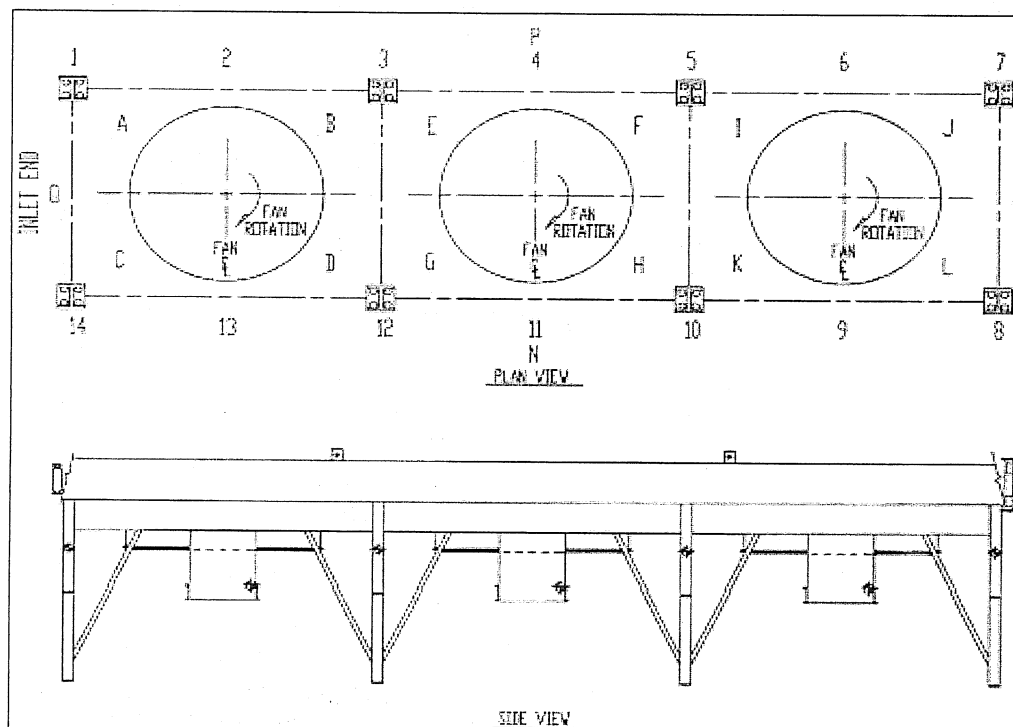
CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by SMITHCO Engineering, Inc. at Tulsa, Oklahoma

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Province of Oklahoma and employed by Seneca Insurance Company of Texas

have inspected the component described in this Manufacturer's Data Report on 8/3 20 10, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. 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 loss of any kind arising from or connected with this inspection.

Date 8/4/10 Signed [Signature] Commissions NB12736 A OK914
(Authorized Inspector) (Nat'l Board (incl. endorsements), State, Prov. and No.)



♦ DENOTES READING POINTS

DISPALCEMENT READINGS (MILS) NOT TO EXCEED 6 MILS.

1. <u>.7</u>	8. _____
2. <u>.5</u>	9. _____
3. <u>1.0</u>	10. <u>2.0</u>
4. <u>.7</u>	11. <u>1.9</u>
5. <u>1.2</u>	12. <u>.7</u>
6. _____	13. <u>3.7</u>
7. _____	14. <u>1.2</u>

AMPERAGE READINGS (PER LEG)

1st MOTOR 1. <u>23.12</u>	2. <u>21.41</u>	3. <u>21.50</u>
2nd MOTOR 1. <u>22.00</u>	2. <u>21.60</u>	3. <u>22.11</u>
3rd MOTOR 1. _____	2. _____	3. _____

RATED AMPERAGE

1st MOTOR: <u>25</u>
2nd MOTOR: <u>25</u>
3rd MOTOR: <u>+</u>

TEMPERATURE AT TIME OF TEST: 102°TIME STARTED: 2:00 P.m.TIME STOPPED: 3:00 P.m.

NOISE LEVELS (dBA) LOCATION (AS REQUIRED)

A. _____	G. _____	M. _____
B. _____	H. _____	N. _____
C. _____	I. _____	O. _____
D. _____	J. _____	P. _____
E. _____	K. _____	
F. _____	L. _____	

MAX NOISE LEVEL (WHEN SPECIFIED): _____ (dBA)

DISTANCE FROM FAN(ft): _____ FAN RING(ft) _____

COMMENTS: _____

Jim P. Smith
SMITHCO QUALITY CONTROL

C. Malcoh
CUSTOMER REPRESENTATIVE

DATE

8/12/10

DATE


Smithco Engineering Company

P.O. BOX 571300 PHONE: (918) 446-4406
TULSA, OKLAHOMA 74157-1330 FAX: (918) 445-2857

NOTE -- This drawing is the property of Smithco Engineering Co., and is not to be reproduced in whole or in part, nor used for any purpose other than that for which it is specifically furnished without the approval of Smithco Engineering Co.

TITLE

SHOP RUN IN INSPECTION REPORT

JOB

NO.

10B339

CUSTOMER

ENGINEERING TECNOLOGY IN

Customer ENNEINTEOLY Customer Inspector ETI
TBA

Notification Time
5555 E. 71st Street STE8 5 days before fabrication start
Tulsa, OK 74136 5 days before hydrostatic test
Acct Payable

Location: unknown P.O.No.: D12197
Design Pressure 1100. Test Pressure 1650. PSI for 60.00 MIN. Design Temp 650. Corr.Allow.0.0625

MAWP 1100. PSI at 650. Deg F.

MDMT -20. Deg F. at 1100. PSI

Item AC-8180 Service REGEN GAS COOLER

Customer report requirements Copies

ASME U-1 **
Material mill test report **
Name plate rubbing **
Hydrostatic test/Temp. chart **

Customer Inspection Requirements

Code - ASME Section VIII Div.1 2007 /A09 Appendix 13

Stamp - NATL BD

Radiograph EACH HEAD (1)END (1)COVER

MDMT Charpy impact testing exempt as per UG-20(f)

NOTE: All plate must be normalized

Fan Test/Run-in Required

Description	Material Designation	Corroded Actual Calculated Stress					Heat No./Slab No.	Control or P.O. No.
		Span	Thick	Corner	Midpoint	MBR Manufacturer		
Tube Sheet-front	SA-516 GR-70	9.1250	2.2500	4453.	23723.	1844. mittal	r3472	3635
Length-120.5625							3	
-back	SA-516 GR-70	3.9375	1.0000	20583.	12478.	3000. ssab	w9h754	1647
Length-120.5625							b04	
Plug Sheet-front	SA-516 GR-70	9.1250	2.2500	4453.	23723.	1844. mittal	r3472	3635
							3	
-back	SA-516 GR-70	3.9375	1.0000	20583.	12478.	3000. ssab	w9h754	1647
							b04	
Cover -front	SA-516 GR-70	3.9375	0.8750	25086.	6643.	6177. ssab	e0e020	1418
							a58	
-back	SA-516 GR-70	3.9375	0.7500	13758.	11276.	4302. ssab	m9j684	1231
							c07	
End Plate -front	SA-516 GR-70	3.9375	0.6250		16267.	ssab	e0c058	1094
							a60	
-back	SA-516 GR-70	3.7500	0.5000		18010.	mittal	812e36920	0830
							b031658	
Nozzles-flange	SA-105	4.00/ 4.00"	600. RF	xs	/xs			J27486
-pipe(in)	SA-106B	4.0000	0.3370		0.2036	INTERPIPE	P824948	J27487
(out)	SA-106B	4.0000	0.3370		0.2036	"	"	J27487
-vent	SA-105	1-6000						
-drain	SA-105	1-6000						
Tubes	SA-179 SMLS	1.0000	0.0830		0.0831	Webco	H108-A-482	J27107
Plugs (412)	SA1051822/1838							

Date: 08-03-2010 Plant inspection requirements
& material report for ASME code vessel

Fintube bundle design No.2010B3391A
Qty- 1 Serial No.

TEST CERTIFICATE

SHIP TO: ARCELORMITTAL PLATE LLC
METALSUSA
TRACK 747
PORT OF MUSKOGEE
MUSKOGEE OK 74402

PAGE NO: 01 OF 02
FILE NO: 5203-03-03
MILL ORDER NO: 35142-001
MELT NO: R3472
SLAB NO: 3
DATE: 11/26/09

SOLD TO: METALS USA PLATES&SHAPES S CTL
INC.
PLATES & SHAPES - MUSKOGEE
P O BOX 917
MUSKOGEE OK 74402

SEND TO:

01-C

PLATE DIMENSIONS / DESCRIPTION

TOTAL QTY	GAUGE	WIDTH	LENGTH	DESCRIPTION	PIECE WEIGHT
1	2-1/4"	96"	480"	RECTANGLE	29404#

CUSTOMER INFORMATION

CUSTOMER PO: MUS-230336

PART NO. 001

SPECIFICATION(S)

THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS AND SPECIFICATION(S).

ASME SA516 REV ED YR 04 GR 70
ASME SA516 05A GR 70 & ASTM A516 04 GR 70
THE MANAGEMENT SYSTEMS FOR MANUFACTURE OF THIS PRODUCT ARE CERTIFIED TO ISO 9001:2000 (CERTIFICATE NO. 30130) AND ISO 14001 (CERTIFICATE NO. 006928).

CHEMICAL COMPOSITION

MELT:R3472	C	MN	P	S	CU	SI	NI	CR	MO
	.22	1.09	.016	.001	.11	.23	.07	.12	.02
MELT:R3472	V	TI	AL	CB					
	.001	.002	.020	.001					

MANUFACTURE

MCQUAID-EHN GRAIN SIZE PER E112 - 7-8

HEAT TREAT CONDITION

MATL OR TEST	HEAT TREAT DESCRIPTION	NOM TEMP	HOLD MINS	COOL MTHD
PL/TEST	NORMALIZE	1650F	55	AIR COOL

WE HEREBY CERTIFY THE ABOVE INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
QUALITY ASSURANCE LABORATORY
139 MODENA ROAD
COATESVILLE, PA 19320

Q.A. APPROVED

By MLF Date 1-21-10

Elinore Zaplitny
SUPERVISOR - TEST REPORTING
ELINORE ZAPLITNY

TEST CERTIFICATE

PAGE NO: 02 OF 02
 FILE NO: 5203-03-03
 MILL ORDER NO: 35142-001
 MELT NO: R3472
 SLAB NO: 3
 DATE: 11/26/09

TENSILE PROPERTIES

SLAB NO.	LOC	DIR	YIELD STRENGTH PSI X 100	TENSILE STRENGTH PSI X 100	ELONGATION GAGE LGTH %
3	BOT.	TRANS.	493	801	2.00" 26.0

CHARPY V-NOTCH IMPACT RESULTS

SLAB	LOC	DIR	TEMP	SIZE	FT. LBS.
3	BOT.	LONG.	-30F	FULL	32 45 48

GENERAL INFORMATION

ALL STEEL HAS BEEN MELTED AND MANUFACTURED IN THE U.S.A.
 TEST CERTS. ARE PREPARED IN ACCORD. WITH PROCEDURES
 OUTLINED IN EN 10204:2004 TYPE 3.1.

B/L #77790 BVRV 63021

WE HEREBY CERTIFY THE ABOVE
 INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
 QUALITY ASSURANCE LABORATORY
 139 MODENA ROAD
 COATESVILLE, PA 19320

Q.A. APPROVED

By MLP Date 1-21-10

Elinore Zaplitny
 SUPERVISOR - TEST REPORTING
 ELINORE ZAPLITNY

PO#J27454

W9H754 B04 ID#1647

SSAB**Test Certificate**

12400 Highway 43 North, Axis, Alabama 36505

Form TC1: Revision 1: Date 31 Oct 2000

Customer: METALS USA PLATES & SHAPES SOU P.O. BOX 3528 101 EAST ILLINOIS ENID OK 73702		Customer P.O. No.: MUS-230169		Mill Order No.: 41-250168-04		Shipping Manifest : AR076002															
		Product Description: ASME SA516-70/SA516-65/SA516-60(07ED.) ASTM A516-70/A516-65/A516-60(06) LCVN 15/12 FT.LBS @ -60F/A673-P NORMALIZED				Ship Date: 15 Sep 09 Cert Date: 15 Sep 09		Cert No: 081187256 (Page 1 of 1)													
		Size: 1.000 X 120.0 X 480.0 (IN)																			
Tested Pieces			Tensiles					Charpy Impact Tests													
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB) 1 2 3 Avg				% Shear 1 2 3 Avg				Tst Temp	Tst Dir	Tst Siz (mm)	BDWTT Tst %Shr
W9H754	B04	0.997 X 120.0 (DISCRT)	L	49000	72000		28	T		158	183	111	150.7					-60F	L	10.	
W9H754	B05	0.998 X 120.0 (DISCRT)	L	50000	72000		27	T		142	135	143	140.0					-60F	L	10.	
Heat Id		Chemical Analysis															ORGN				
		C	Mn	P	S	Si	Tot Al	Sol Al	Cu	Ni	Cr	Mo	Cb	V	Ti	CEV					
W9H754		.17	1.17	.018	.003	.21	.027	.025	.28	.12	.15	.04	.004	.006	.012	.43	USA				
MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT CEV (IIW) = C + MN/6 + (CR+MO+V)/5 + (NI+CU)/15 100% MELTED AND MANUFACTURED IN THE USA. MTR DIN EN10204 TYPE 3.1 COMPLIANT. NORMALIZED PLATES. HEATED AT 1650F FOR 41 MINUTES. W9H754 B04 6133377 PCES: 1, WGT: 16383 W9H754 B05 6133375 PCES: 1, WGT: 16416 W9H754 B04 6133374 PCES: 1, WGT: 16369																					
										C.A. APPROVED By <u>MLE</u> Date <u>10-2-10</u>											
Cust Part # :										WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION Jason Thomas SENIOR METALLURGIST											

GLOBE X-RAY SERVICES, INC.

8441 South Union Tulsa, Ok. 74132

Certification # 44648

Report of Ultrasonic Examination

Customer: PORT CITY P.O. 73931 Job# _____
Address: _____
Test Instrument: KBI USN 52 S/N 620507
Search Unit: 1" x 2.25 MHZ S/N 01W3Y7
Surface Condition: SMOOTH Procedure NO: GXSTI-D+B Rev. 1-70
Couplant: Exoson 30 Search unit cable: RG-174 Co-Axial, 6 ft. long with BNC to BNC Connectors
Technique: Contact, Manual Scan Calibration Reference: Back wall Reference Level: 36 Db
Scanning Pattern: 100% Scanning Surface: One major surface Beam Angle: 0 Degrees

The plates listed below have been ultrasonically examined and comply with the acceptance criteria of the indicated specifications. Unless otherwise noted by an * following the plate number, there were no recordable indications Observed.

☒ ASTM/ASME A-578/SA-578 Level A(1) ☒ ASTM/ASME A-435/SA-435
☒ ASTM/ASME A-578/SA-578 Level B(2) ☐ Wheatley-Gasso Sep 6.6.2 Rev. C
☒ ASTM/ASME A-578/SA-578 Level C(3) Other: AM 203.2

In addition to the above ultrasonic examination, the material has been hardness tested and meet the requirements of ANSI/NACE Standard MR0175. Hardness value does not exceed HRC.

Plate No.	Mat'l Spec.	Thickness	Dimensions	Heat No.	Slab No.	Hardness
	516-70 MT	7/8"	96x480	E0E020	A58	
	516-70 MT	3/4"	96x60	E0C138	B18	
	516-70 MT	5/8"	23x44	E0C058	A60	
	516-70 MT	5/8"	23x39	E8C143	A18	
	516-70 MT	1/4"	120x35	W78743	A51	
	516-70 MT	1"	120x150	W9H754	B04	

Examination By: Colter Moyer Qualification Level: II

Date: 6-18-10 Time: N/A AM/PM

O.A. APPROVED

By MLE Date 6-23-10

GLOBE X-RAY ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE STRUCTURE OR FOR ANY LOSSES OF ANY KIND DUE TO ANY KIND OF INTERPRETATION



CERTIFICATE OF COMPLIANCE

DATE: 24 JUNE, 2010
SUBJECT: NACE

GENTLEMEN:

I HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH PRESCRIBED METHODS IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING DOES CONFORM TO THE BHN REQUIREMENT OF NACE MR 01-75.

PLATE: ASTM A516-70N AND ASME SA516-70N LATEST EDITION.

SIZE: 1" NOMINAL

MILL CERTIFIED: SSAB

HEAT: W9H754

SLAB: B04

Specification: NACE MR 01-75

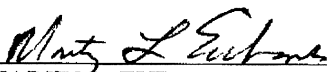
Hardness, HRC

Results

Hardness, BHN

Results
158, 155, 166

WE HEREBY CERTIFY THE ABOVE INFORMATION IS CORRECT.



MARTY L. EUBANKS
QUALITY ASSURANCE MANAGER
(918) 583-2222

GLOBE X-RAY SERVICES, INC.

8441 South Union Tulsa, Ok. 74132

Certification # 41921

Report of Ultrasonic Examination

Customer: PORT CITY P.O. 73933 Job# _____
Address: _____
Test Instrument: KBL USN 52 S/N 620807
Search Unit: 1" 2.25 MHz S/N DW 577
Surface Condition: SMOOTH Procedure NO: GYSH-D Rev. 1-16
Couplant: Exogen 30 Search unit cable: RG-174 Co-Axial, 6 ft. long with BNC to BNC Connectors
Technique: Contact, Manual Scan Calibration Reference: Back wall Reference Level: 36 Db
Scanning Pattern: 100% Scanning Surface: One major surface Beam Angle: 0 Degrees

The plates listed below have been ultrasonically examined and comply with the acceptance criteria of the indicated specifications. Unless otherwise noted by an * following the plate number, there were no recordable indications Observed.

☒ ASTM/ASME A-578/SA-578 Level A(1) ☒ ASTM/ASME A-435/SA-435
☒ ASTM/ASME A-578/SA-578 Level B(2) _____ Wheatley-Gasso Sep 6.6.2 Rev. C
☒ ASTM/ASME A-578/SA-578 Level C(3) Other: AM 203.2

In addition to the above ultrasonic examination, the material has been hardness tested and meet the requirements of ANSI/NACE Standard MR0175. Hardness value does not exceed _____ HRC.

Plate No.	Mat'l Spec.	Thickness	Dimensions	Heat No.	Slab No.	Hardness
	S16.70N	1/2"	96x48	812E36A20	B034658	
	S16.70N	3/4"	95x56	E0C138	B18	
	S16.70N	1"	32x17	W9H754	B04	
	S16.70N	1 1/8"	36x36	W0B714	B22	
	S16.70N	1 3/8"	130x87	W0E557	C70	

Examination By: CALVIN MOYER Qualification Level: II

Date: 6-23-10 Time: 11/4 AM/PM

O.A. APPROVAL

By ME Date 6-29-10

GLOBE X-RAY ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE STRUCTURE OR FOR ANY LOSSES OF ANY KIND DUE TO ANY KIND OF INTERPRETATION

GLOBE X-RAY SERVICES, INC.

8441 South Union Tulsa, Ok. 74132

Certification # 41923

Report of Ultrasonic Examination

Customer: PORT CITY P.O. 73935 Job# _____

Address: _____

Ultrasonic Examination

Test Instrument: KBI USN 52 S/N 620807

Surface Condition: SMOOTH Procedure NO: GXS II-A Rev. 1-10

Couplant: Exoson 30 Search unit cable: RG-174 Co-Axial, 6 ft. long with BNC to BNC or BNC to MD Connectors

Technique: Contact, Manual Scan

Beam Angle#1: 0 Degrees Search Unit 1" x 2.25 MHz S/N 01Y352

Scanning Pattern: 100% Reference Level: 36 Db Calibration Reference: B/W

Scanning Surface(s) 1 FLAT + 1 EDGE

_____ One direction ☒ Two perpendicular directions

2nd angle for rings and hollow forgings

Beam Angle#2: 45 Degrees Search Unit _____ S/N _____

Scanning Pattern: _____ Reference Level: _____ Db Calibration Reference: _____

Scanning Surface(s): _____

_____ Two directions circumferentially _____ Two directions axially

Reference Standard: ☒ ASTM/ASME A-388/SA388 Acceptance: ASME sec VIII, App 20

Other: _____

Item #	Part Identification	GRADE	SLAB	Heat Number/Code	Accept	Reject
2 pcs	1/2" THK x 9.1875" x 91.375"	5K70N	B031658	812E36920	✓	
2 pcs	1/2" THK x 3.0625" x 90.3125"		↓	↓	✓	
1 pc	1/2" THK x 3.75" x 91.625"		↓	↓	✓	
2 pcs	3/4" THK x 9.1875" x 90.0625"		B18	E0C138	✓	
2 pcs	1" THK x 3.3125" x 10"		B04	W9H754	✓	
2 pcs	1 1/8" THK x 9.4375" x 10.5"		B22	W08714	✓	
2 pcs	1 3/8" THK x 10.5" x 92.875"		C70	W0E557	✓	
2 pcs	1 3/8" THK x 10 x 92.875"	↓	↓	↓	✓	

Unless otherwise noted by an * following the item number, there were no recordable indications observed.

Examination By: C. Moyer Qualification Level: II

Date: 6-24-10 Time: N/A AM/PM

O.A. APPROVED

By MLK Date 6-29-10

GLOBE X-RAY ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE STRUCTURE OR FOR ANY LOSSES OF ANY KIND DUE TO ANY KIND OF INTERPRETATION.

PO#J27454

E0E020 A58 ID#1418

SSAB**Test Certificate**

Form TC1: Revision 1: Date 31 Oct 2000

12400 Highway 43 North, Axis, Alabama 36505

Customer: METALS USA PLATES & SHAPES SOU P.O. BOX 3528 101 EAST ILLINOIS ENID OK 73702				Customer P.O. No.: MUS-230994				Mill Order No.: 41-265418-02				Shipping Manifest: AR092336							
				Product Description: ASME SA516-70/SA516-65/SA516-60(09A) ASTM A516-70/A516-65/A516-60(06) LCVN 15/12 FT.LBS @ -60F/A673-P NORMALIZED								Ship Date: 19 May 10 Cert Date: 19 May 10				Cert No: 001222384 (Page 1 of 1)			
				Size: 0.875 X 96.00 X 480.0 (IN)															
Tested Pieces				Tensiles						Charpy Impact Tests									
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in Dir	Average Hardness	Abs. Energy(FTLB) 1 2 3 Avg				% Shear 1 2 3 Avg			Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT Tmp %Shr
E0E020	A58	0.883 X 96.00 (DISCRT)	L	53000	72000		27 T		54	72	88	71.3				-60F	L	10.	
Chemical Analysis																			
Heat Id	C	Mn	P	S	Si	Tot Al	Sol Al	Cu	Ni	Cr	Mo	Co	V	Ti	CEV	ORGN			
E0E020	.18	1.13	.010	.002	.21	.025	.023	.26	.16	.07	.06	.003	.005	.017	.43	USA			
MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT CEV (IIW) = C + MN/6 + (CR+MO+V)/5 + (NI+CU)/15 100% MELTED AND MANUFACTURED IN THE USA. MTR DIN EN10204 TYPE 3.1 COMPLIANT. NORMALIZED PLATES. HEATED AT 1650F FOR 37 MINUTES. E0E020 A58 6167796 PCES: 1, WGT: 11681 E0E020 A58 6167795 PCES: 1, WGT: 11676 E0E020 A58 6167794 PCES: 1, WGT: 11693																			
C.I.A. APPROVED By <u>MUE</u> Date <u>6-18-10</u>																			
Cust Part #:								WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION								Jason Thomas SENIOR METALLURGIST			

GLOBE X-RAY SERVICES, INC.

8441 South Union Tulsa, Ok. 74132

Certification # 44648

Report of Ultrasonic Examination

Customer: PORT CITY P.O. 73931 Job# _____
 Address: _____
 Test Instrument: KBI USN 52 S/N 620807
 Search Unit: 1" x 2.25 MHz S/N 0112317
 Surface Condition: SMOOTH Procedure NO: CXSTI-D-8 Rev. 1-10
 Couplant: Exoson 30 Search unit cable: RG-174 Co-Axial, 6 ft. long with BNC to BNC Connectors
 Technique: Contact Manual Scan Calibration Reference: Back wall Reference Level: 36 Db
 Scanning Pattern: 100% Scanning Surface: One major surface Beam Angle: 0 Degrees

The plates listed below have been ultrasonically examined and comply with the acceptance criteria of the indicated specifications. Unless otherwise noted by an * following the plate number, there were no recordable indications Observed.

✓ ASTM/ASME A-578/SA-578 Level A(1) ✓ ASTM/ASME A-435/SA-435
 ✓ ASTM/ASME A-578/SA-578 Level B(2) Wheatley-Gasso Sep 6.6.2 Rev. C
 ✓ ASTM/ASME A-578/SA-578 Level C(3) Other: AM 203.2

In addition to the above ultrasonic examination, the material has been hardness tested and meet the requirements of ANSI/NACE Standard MR0175. Hardness value does not exceed HRC.

Plate No.	Mat'l Spec.	Thickness	Dimensions	Heat No.	Slab No.	Hardness
	516-70 MT	7/8"	96x480	EDE020	A58	
	516-70 MT	3/4"	96x60	E0C138	B18	
	516-70 MT	5/8"	23x44	E0C058	A60	
	516-70 MT	5/8"	23x39	E8C143	A18	
	516-70 MT	1/4"	120x35	W7B743	A51	
	516-70 MT	1"	120x150	W9H754	B04	

Examination By: Colter Moyer Qualification Level: II

Date: 6-18-10 Time: N/A AM/PM

Q.A. APPROVED

By ME Date 6-23-10

GLOBE X-RAY ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE STRUCTURE OR FOR ANY LOSSES OF ANY KIND DUE TO ANY KIND OF INTERPRETATION

PO#J27454

E0C058 A60 ID#1094

SSAB**Test Certificate**

Form TC1: Revision 1: Date 31 Oct 2000

12400 Highway 43 North, Axis, Alabama 36505

MII Order No.: 41-263382-82

Shipping Manifest: AR000173

Customer:
METALS USA PLATES & SHAPES SOU
P.O. BOX 3528
181 EAST ILLINOIS
ENID
OK 73702

Customer P.O. No.: MUS-230005

Product Description: **ASME SA516-70/SA516-65/SA516-60(09A)**
ASTM A516-70/A516-65/A516-60(06)
LCVN 15/12 FT.LBS @ -60F/A673-P
NORMALIZED

Ship Date: 17 Mar 10
 Cert Date: 17 Mar 10

Cert No: 001212386
 (Page 1 of 1)

Size: 0.625 X 120.0 X 480.0 (IN)

OK 73702			Size: 0.625 X 120.0 X 480.0 (IN)						Charpy Impact Tests												
Tested Pieces			Tensiles																BDWTT		
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB)				% Shear				Tst Temp	Tst Dir	Tst Siz (mm)	%Shr
										1	2	3	Avg	1	2	3	Avg				
E0C058	A60	0.627 X 120.0 (DISCRT)	L	52000	75000		24	T		56	79	128	87.7					-60F	L	10.	

Heat Id	Chemical Analysis														CEV	ORGN
	C	Mn	P	S	Si	Tot Al	Sol Al	Cu	Ni	Cr	Mo	Ch	V	Ti		
E0C058	.18	1.14	.012	.002	.20	.027	.025	.27	.14	.09	.04	.003	.005	.013	.42	USA

MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT

CEV (IIW) = $C + \frac{Mn}{6} + \frac{(Cr+Mo+V)}{5} + \frac{(Ni+Cu)}{15}$

100% MELTED AND MANUFACTURED IN THE USA. MTR DIN EN10204 TYPE 3.1 COMPLIANT.

NORMALIZED PLATES. HEATED AT 1650F FOR 28 MINUTES.

E0C058 A60 6157018 PCES: 1, WGT: 10286

E0C058 A60 6157016 PCES: 1, WGT: 10299

E0C058 A60 6157017 PCES: 1, WGT: 10286

Q.A. APPROVEDBy mtc Date 4-29-10

Cust Part # :

WE HEREBY CERTIFY THAT THIS MATERIAL WAS
 TESTED IN ACCORDANCE WITH, AND MEETS THE
 REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION

Jason Thomas
 SENIOR METALLURGIST

GLOBE X-RAY SERVICES, INC.

8441 South Union Tulsa, Ok. 74132

Certification # 44648

Report of Ultrasonic Examination

Customer: PORT CITY P.O. 73931 Job# _____
Address: _____
Test Instrument: KBI USN 52 S/N 620807
Search Unit: 1" X 2.25 MHz S/N 01123Y7
Surface Condition: SMOOTH Procedure NO: EXSTI-D28 Rev. 1-70
Couplant: Exoson 30 Search unit cable: RG-174 Co-Axial, 6 ft. long with BNC to BNC Connectors
Technique: Contact Manual Scan Calibration Reference: Back wall Reference Level: 36 Db
Scanning Pattern: 1008 Scanning Surface: One major surface Beam Angle: 0 Degrees

The plates listed below have been ultrasonically examined and comply with the acceptance criteria of the indicated specifications. Unless otherwise noted by an * following the plate number, there were no recordable indications Observed.

✓ ASTM/ASME A-578/SA-578 Level A(1) ✓ ASTM/ASME A-435/SA-435
✓ ASTM/ASME A-578/SA-578 Level B(2) Wheatley-Gasso Sep 6.6.2 Rev. C
✓ ASTM/ASME A-578/SA-578 Level C(3) Other: AM 203.2

In addition to the above ultrasonic examination, the material has been hardness tested and meet the requirements of ANSI/NACE Standard MR0175. Hardness value does not exceed HRC.

Plate No.	Mat'l Spec.	Thickness	Dimensions	Heat No.	Slab No.	Hardness
	516-70 MT	7/8"	96x480	E0E020	A58	
	516-70 MT	3/4"	96x60	E0C138	B18	
	516-70 MT	5/8"	23x44	E0C058	A60	
	516-70 MT	5/8"	23x39	E8C143	A18	
	516-70 MT	1/4"	120x35	W78743	A51	
	516-70 MT	1"	120x150	W9H754	804	

Examination By: Colter Moyer Qualification Level: II

Date: 6-18-10 Time: N/A AM/PM

O.A. APPROVED

By MLE Date 6-23-10

GLOBE X-RAY ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE STRUCTURE OR FOR ANY LOSSES OF ANY KIND DUE TO ANY KIND OF INTERPRETATION

PO#J27454

812E36920 B031658 ID#0830

ArcelorMittal Burns Harbor Plate

SHIPMENT NO 803-05885		DATE SHIPPED 04-29-09		CAR OR VEHICLE NO IHB-DOLTN-UP		LMIC 036356		PAGE 1	
METALS USA PLATES & SHAPES S CTL PLATES & SHAPES - MUSKOGEE PO BOX 917 MUSKOGEE OK 74402					METALS USA PLATES & SHAPES S CTL IN TRACK 747 PORT OF MUSKOGEE MUSKOGEE OK				

SERIAL NUMBER	PAT NO	HEAT NUMBER	NO PCS	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED
				THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.
 PLATES - ASTM A516-06 GR 70 PVQ, ASME SA516
 GR 70 PVQ 2007 EDITION 2008 ADD,
 CH-V A20S5 PLT L 15/12 FTLBS AT
 -50F --- PLT NORMALIZED & COOLED IN
 STILL AIR --- TEST CERTS ARE
 PREPARED IN ACCORD WITH PROCEDURES
 OUTLINED IN EN 10204:2004 PARA 3.1
 NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)
 MFST - MFST MILL SERIAL# MFST TEST CERTS ARE PREPARED
 IN ACCORD WITH PROCEDURES OUTLINED IN EN MFST
 10204:2004 PARA 3.1
 - LIFT MAX 25 TON UNLDG
 OH-CHAIN-SLING LOAD MAX 185000 #
 CO# MUS-229478 GH 816-2451A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL

B031658 812E36920 1 .5 120 480 8168 58500 81300 8 23
 N 1650 DEG F - 26 MIN
 (M55)MFST REF#:002

B031668 813E62230 1 .5 120 480 8168 51500 74500 8 27
 N 1650 DEG F - 26 MIN
 (M55)MFST REF#:002

J-JENICH TEMPERATURE

T-TEMPERATURE

N-NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT NO	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT								
										ENERGY FT LBS			SHEAR(%)			LA EXP MILS		
B031658		812E36920			.500	V	FULL L	-50	112	103	108	1	2	3	1	2	3	
B031668		813E62230			.500	V	FULL L	-50	88	89	120							

HEAT NUMBER	CHEMICAL ANALYSIS																MQUAD GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	T	Al	B	Cb	N	Sn	
812E36920	.18	1.13	.015	.004	.347	.228	.17	.05	.008	.002	.002	.034	.0003	.002	.006	.002	
813E62230	.16	1.04	.009	.004	.328	.256	.17	.04	.008	.001	.002	.038	.0002	.002	.006	.002	

Q.A. APPROVED

By MUC Date 6-15-10

certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

BHM-1 (RPT TIF)

SUPV. QUALITY ASSURANCE

D. W. ELWOOD PER WNK



CERTIFICATE OF COMPLIANCE

DATE: 24 JUNE, 2010

SUBJECT: NACE

GENTLEMEN:

I HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH PRESCRIBED METHODS IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING DOES CONFORM TO THE BHN REQUIREMENT OF NACE MR 01-75.

PLATE: ASTM A516-70N AND ASME SA516-70N LATEST EDITION.

SIZE: 1/2" NOMINAL

MILL CERTIFIED: MITTAL

HEAT: 812E36920

SLAB: B031658

Specification: NACE MR 01-75

Hardness, HRC

Results

Hardness, BHN

Results

155, 163, 163

WE HEREBY CERTIFY THE ABOVE INFORMATION IS CORRECT.



MARTY L. EUBANKS
QUALITY ASSURANCE MANAGER
(918) 583-2222

GLOBE X-RAY SERVICES, INC.

8441 South Union Tulsa, Ok. 74132

Certification # 41921

Report of Ultrasonic Examination

Customer: PORT CITY P.O. 73933 Job# _____
 Address: _____
 Test Instrument: KBI USN 52 S/N 620807
 Search Unit: 1" x 2.25 MHz S/N 0111347
 Surface Condition: SMOOTH Procedure NO: GYSH-D Rev. 1-10
 Couplant: Exoson 30 Search unit cable: RG-174 Co-Axial, 6 ft. long with BNC to BNC Connectors
 Technique: Contact Manual Scan Calibration Reference: Back wall Reference Level: 36 Db
 Scanning Pattern: 100% Scanning Surface: One major surface Beam Angle: 0 Degrees

The plates listed below have been ultrasonically examined and comply with the acceptance criteria of the indicated specifications. Unless otherwise noted by an * following the plate number, there were no recordable indications Observed.

☒ ASTM/ASME A-578/SA-578 Level A(1) ☒ ASTM/ASME A-435/SA-435
☒ ASTM/ASME A-578/SA-578 Level B(2) _____ Wheatley-Gasso Sep 6.6.2 Rev. C
☒ ASTM/ASME A-578/SA-578 Level C(3) Other: AM 203.2

In addition to the above ultrasonic examination, the material has been hardness tested and meet the requirements of ANSI/NACE Standard MR0175. Hardness value does not exceed _____ HRC.

Plate No.	Mat'l Spec.	Thickness	Dimensions	Heat No.	Slab No.	Hardness
	S16-70N	1/2"	96x48	812E31A20	B031658	
	S16-70N	3/4"	95x56	E0C138	B18	
	S16-70N	1"	32x17	W9H754	B04	
	S16-70N	1 1/8"	36x36	W08714	B22	
	S16-70N	1 3/8"	130x87	W08557	C70	

Examination By: COCTER MOYER Qualification Level: II

Date: 6-23-10 Time: N/A AM/PM

O.A. APPROVED

By ME Date 6-29-10

GLOBE X-RAY ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE STRUCTURE OR FOR ANY LOSSES OF ANY KIND DUE TO ANY KIND OF INTERPRETATION

GLOBE X-RAY SERVICES, INC.

8441 South Union Tulsa, Ok. 74132

Certification # 41923

Report of Ultrasonic Examination

Customer: PORT CITY P.O. 73935 Job# _____
Address: _____

Ultrasonic Examination

Test Instrument: KBI USN 52 S/N 620807

Surface Condition: SMOOTH Procedure NO: GXS II-A Rev. 1-10

Couplant: Exoson 30 Search unit cable: RG-174 Co-Axial, 6 ft. long with BNC to BNC or BNC to MD Connectors

Technique: Contact, Manual Scan

Beam Angle#1: 0 Degrees Search Unit 1" x 2.25 MHz S/N 01Y352

Scanning Pattern: 100% Reference Level: 36 Db Calibration Reference: BLW

Scanning Surface(s) FLAT & EDGE
_____ One direction ☒ Two perpendicular directions

2nd angle for rings and hollow forgings

Beam Angle#2: 45 Degrees Search Unit _____ S/N _____

Scanning Pattern: _____ Reference Level: _____ Db Calibration Reference: _____

Scanning Surface(s): _____
_____ Two directions circumferentially _____ Two directions axially

Reference Standard: ☒ ASTM/ASME A-388/SA388 Acceptance: ASME sec. VIII, App. 20

Other: _____

Item #	Part Identification	GRADE	SLAB	Heat Number/Code	Accept	Reject
2 pcs	1/2" THK x 9.1875" x 91.375"	51670N	B031658	812E36920	☒	
2 pcs	1/2" THK x 3.0625" x 90.3125"		↓	↓	☒	
1 pc	1/2" THK x 3.75" x 91.625"		↓	↓	☒	
2 pcs	3/4" THK x 9.1875" x 90.0625"		B18	E0C138	☒	
2 pcs	1" THK x 3.3125" x 10"		B04	W9H754	☒	
2 pcs	1 1/8" THK x 9.4375" x 10.5"		B22	W08714	☒	
2 pcs	1 3/8" THK x 10.5" x 92.875"		C70	W0E557	☒	
2 pcs	1 3/8" THK x 10 x 92.875"	↓	↓	↓	☒	

Unless otherwise noted by an * following the item number, there were no recordable indications observed.

Examination By: C. Moyer Qualification Level: II

Date: 6-24-10 Time: N/A AM/PM

Q.A. APPROVED

By MLK Date 6-29-10

GLOBE X-RAY ASSUMES NO RESPONSIBILITY FOR THE INTEGRITY OF THE STRUCTURE OR FOR ANY LOSSES OF ANY KIND DUE TO ANY KIND OF INTERPRETATION.

PO#J27454

M9J684 C07 ID#1231

SSAB**Test Certificate**

Form TC1: Revision 1: Date 31 Oct 2000

12400 Highway 43 North, Axis, Alabama 36505

Customer: METALS USA PLATES & SHAPES SOU P.O. BOX 3528 101 EAST ILLINOIS ENID OK 73702				Customer P.O. No.: MUS-230339				Mill Order No.: 41-253652-04				Shipping Manifest : AR078978									
				Product Description: ASME SA516-70/SA516-65/SA516-60(09B) ASTM A516-70/A516-65/A516-60(06) LCVN 15/12 FT.LBS @ -60F/A673-P NORMALIZED								Ship Date: 02 Nov 09 Cert Date: 02 Nov 09				Cert No: 081193312 (Page 1 of 1)					
				Size: 0.750 X 120.0 X 480.0 (IN)																	
Tested Pieces				Tensiles								Charpy Impact Tests									
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT Tmp %Shr
M9J684	C07	0.750 X 120.0 (DISCRT)	T	53000	76000		22	T		81	57	55	64.3					-60F	L	10.	
Chemical Analysis																					
Heat Id	C	Mn	P	S	Si	Tot Al	Sol Al	Cu	Ni	Cr	Mo	Cb	V	Ti	CEV	ORGN					
M9J684-C07	.18	1.20	.006	.001	.19	.028	.026	.25	.14	.10	.03	.004	.008	.017	.22		USA				
MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT CEV (IIW) = C + MN/6 + (CR+MO+V)/5 + (NI+CU)/15 100% MELTED AND MANUFACTURED IN THE USA. MTR DIN EN10204 TYPE 3.1 COMPLIANT. NORMALIZED PLATES. HEATED AT 1650F FOR 32 MINUTES. M9J684 C07 6136365 PCES: 1, WGT: 12234 M9J684 C07 6136364 PCES: 1, WGT: 12237 M9J684 C07 6136363 PCES: 1, WGT: 12237 M9J684 C07 6136362 PCES: 1, WGT: 12227																					
(9) Cust Part # :				WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION												Jason Thomas SENIOR METALLURGIST C.A. APPROVED					

By ME Date 12-2-09

PO#J27454

ArcelorMittal Burns Harbor Plate

812E36920 B031658 ID#0830

SHIPMENT NO 803-05885		DATE SHIPPED 04-29-09		CAR OR VEHICLE NO IHB-DOLTN-UP		LMIC 036356		PAGE 1	
METALS USA PLATES & SHAPES S CTL PLATES & SHAPES - MUSKOGEE PO BOX 917 MUSKOGEE OK 74402				METALS USA PLATES & SHAPES S CTL IN TRACK 747 PORT OF MUSKOGEE MUSKOGEE OK					

SERIAL NUMBER	PAT NO	HEAT NUMBER	NO PCS	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	ELONG.	RED
				THICKNESS	WIDTH OR DIA	LENGTH	WEIGHT				

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.

PLATES - ASTM A516-06 GR 70 PVQ, ASME SA516

GR 70 PVQ 2007 EDITION 2008 ADD,

CH-V A2085 PLT L 15/12 FTLBS AT
-50F --- PLT NORMALIZED & COOLED IN

STILL AIR --- TEST CERTS ARE

PREPARED IN ACCORD WITH PROCEDURES

OUTLINED IN EN 10204:2004 PARA 3.1

NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

MFST - MFST MILL SERIAL# MFST TEST CERTS ARE PREPARED

IN ACCORD WITH PROCEDURES OUTLINED IN EN MFST

10204:2004 PARA 3.1

- LIFT MAX 25 TON UNLDG

OH-CHAIN-SLING LOAD MAX 185000 #

CO# MUS-229478 GH 816-2451A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL

B031658	812E36920	1	.5	120	480	8168	58500	81300	8	23
			N	1650 DEG F	- 26 MIN					

(M55)MFST REF#:002

B031668	813E62230	1	.5	120	480	8168	51500	74500	8	27
			N	1650 DEG F	- 26 MIN					

(M55)MFST REF#:002

H-HEAT TREATMENT

T-TEMPERATURE

N-NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT NO	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT										
										ENERGY FT LBS			SHEAR(%)			LA" EXP MILS				
B031658		812E36920			.500	V FULL	L -50		112	103	108	1	2	3	1	2	3	1	2	3
B031668		813E62230			.500	V FULL	L -50		88	89	120									

HEAT NUMBER	CHEMICAL ANALYSIS																MQUAD GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	T	Al	B	Cb	N	Sn	
812E36920	.18	1.13	.015	.004	.347	.228	.17	.05	.008	.002	.002	.034	.0003	.002	.006	.002	
813E62230	.16	1.04	.009	.004	.328	.256	.17	.04	.008	.001	.002	.038	.0002	.002	.006	.002	

Q.A. APPROVED

By MHC Date 6-15-10

I certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

B441 (RPT) T6

SUPV QUALITY ASSURANCE

D. W. ELWOOD PER WNK



CERTIFICATE OF COMPLIANCE

DATE: 24 JUNE, 2010

SUBJECT: NACE

GENTLEMEN:

I HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH PRESCRIBED METHODS IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING DOES CONFORM TO THE BHN REQUIREMENT OF NACE MR 01-75.

PLATE: ASTM A516-70N AND ASME SA516-70N LATEST EDITION.

SIZE: 1/2" NOMINAL

MILL CERTIFIED: MITTAL

HEAT: 812E36920

SLAB: B031658

Specification: NACE MR 01-75

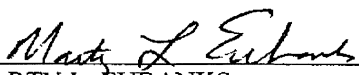
Hardness, HRC

Results

Hardness, BHN

Results
155, 163, 163

WE HEREBY CERTIFY THE ABOVE INFORMATION IS CORRECT.



MARTY L. EUBANKS
QUALITY ASSURANCE MANAGER
(918) 583-2222

07/08/2010 From: MATTSCO SUPPLY CO.

To: SMITHCO ENGINEERING

Our# : 39178

Line# : 1

QTY: : 2

To: : SMITHCO ENGINEERING

CPO# : J27487

ИНТЕРПАЙП
НИКО ТЬЮБОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ
"ИНТЕРПАЙП НИКО ТЬЮБ"
Украина, г. Никополь, пр. Трубников, 56
Тел./факс +38 (05662) 2-10-70ИНСПЕКЦИОННЫЙ СЕРТИФИКАТ
INSPECTION CERTIFICATE
EN 10204:2004/ 3.1Заказчик
CustomerСертификат №
Certificate №

5554

Страна
Country USA
№ транспортного средства
№ vehicleКонтракт № NORTH. 08-1941
Contract № (3-3 08-1463)
Лист Листов
Sheet 1 Sheets 1ТРЕБОВАНИЯ
REQUIREMENTSAPI 5L-2004 (PSL1)/ASTM A106/A 106M-2006/
ASME SA106-2007/ASTM A53/A 53M-2007/
ASME SA53-2005/NACE MR 0175-2002Класс поставки PSL-1
Class of deliveryВид труб
Type of tubesHOT FINISHED SEAMLESS
STEEL PIPESСостояние поставки (поверхность)
Delivery condition (surface)
PIPES HAVE CAPS.
PIPES ARE COATED WITH BLACK VARNISH

№ п/п	Марка стали Steel grade		Позволя Heats numbers	Помары Лоты numbers	Размеры Dimensions						Количество Quantity						
	категор сбон. nol designate on	груп матери для material number			диаметр diameter		толщина стенок wall thickness		длина length		шт. QTY. pcs.	метраж metreage		масса weight			
					мм mm	дюйм inch	мм mm	дюйм inch	мм mm	фут ft		м m	фут ft	кг kg	фунт lb	брутто gross	нетто net
1	Gr.B/X42		P824948	5395	114,3 NPS 4	4.500	8,6 SCH 80	0.337	DRL	42	491,16	1 611.0	11 075	11 045	24 416	24 350	
2	"		P825037	5379	88,9 NPS 3	3.500	5,5 SCH 40	0.216	DRL	52	611,00	2 005.0	7 000	6 980	15 432	15 388	
3	Gr.B/X42		P825071	5481	88,9 NPS 3	3.500	7,6 SCH 80	0.300	DRL	224	2 632,00	8 635.0	40 685	40 575	89 695	89 453	
TOTAL:										318	3 734,16	12 251.0	58 760	58 600	129 543	129 191	
BUNDLES:										16							

SMITHCO ENGINEERING, INC.
QUALITY CONTROL

APPROVED BY

DATE

7/12/10

INTERPIPE
NIKO TUBELIMITED LIABILITY COMPANY
"INTERPIPE NIKO TUBE"
UKRAINE, Nikopol, 56, Trubnikov ave. Tel./fax +38 (05662) 2-10-70

07/08/2010 From: MATTSCO SUPPLY CO.

To: SMITHCO ENGINEERING

Our# : 39178

Line# : 1

QTY: : 2

To: : SMITHCO ENGINEERING

CPO# : J27487

Сертификат №
Certificate № 5554Лист
Sheet 1Листов
Sheets 1

ХИМИЧЕСКИЙ СОСТАВ % - CHEMICAL COMPOSITION %

номера плавов Numbers of Heats	C x100	Si x100	Mn x100	S x1000	P x1000	Cr x100	Ni x100	Ti x1000	Mo x1000	Cu x100	V x1000	Nb x1000	CE max 0,43%	з.д. постав- щик
1.P825071	22	25	60	19	15	2	2	0	0	4	0	0	0,33	ДМК
2.P825071	23	24	57	23	15	2	2	2	2	4	0,9	1	0,33	
3.P825071	23	24	57	23	15	2	2	2	2	4	0,7	1	0,33	
1.P825057	21	24	53	12	17	2	1	0	0	2	0	0	0,37	ДМК
2.P825057	22	21	54	20	22	2	1	2	2	3	0,8	1	0,38	
3.P825057	22	22	54	20	22	2	1	2	2	3	0,8	1	0,38	
1.P824948	20	25	45	20	19	2	2	0	0	3	0	0	0,28	ДМК
2.P824948	24	27	54	17	19	2	2	3	2	4	0,7	1	0,34	
3.P824948	24	28	55	17	18	2	2	3	3	4	0,7	1	0,34	

1. Heat analysis acc.to the manufacturer certificate.
2.3.-control analysis of pipes.

РЕЗУЛЬТАТЫ ИСПЫТАНИЙ - TEST RESULTS

Механические свойства - Mechanical properties						Примечания Note
Номер позиции Position №	Номер партии Lots numbers	Условный предел текущей Conventional yield strength	Предел прочности на растягивание Tensile strength	Относительное удлинение Percent elongation	Испытания на твердость NACE MR-0175-02	
		H/mm ² /N/mm ² PSI	H/mm ² /N/mm ² PSI	%	Hardness Test Acc.to NACE MR- 0175-02	
		min 290 min 42 000	min 415 min 60 000		max 22HRC	
1.	5395	293 42 000	479 69 000	38,0	< 22HRC	
	Heat P824948	324 47 000	499 72 000	34,0		
2.	5379	364 53 000	509 74 000	30,0	< 22HRC	
	Heat P825057	351 51 000	511 74 000	28,0		
3.	5481	408 59 000	526 76 000	26,0	< 22HRC	
	Heat P825071	358 56 000	522 76 000	29,0		

Longitudinal stripe sample, 25,4mm/ 1" width
Calculated length 50,8 mm/2"Трубы испытаны согласно требованиям API 5L-2004 (PSL1)/ASTM A106/A 106M-2006/ASME SA106-2007/ASTM A53/A 53M-2007/ASME SA53-2005/NACE MR 0175-2002, результаты удовлетворительные.
Tubes test according to requirements API 5L-2004 (PSL1)/ASTM A106/A 106M-2006/ASME SA106-2007/ASTM A53/A 53M-2007/ASME SA53-2005/NACE MR 0175-2002, result satisfactory.Термообработка: НЕТ
Heat treatment: NOГерметичность: ГИДРОИСПЫТАНИЕ УДОВЛЕТВОРИТЕЛЬНО, ИСПЫТАТЕЛЬНОЕ ДАВЛЕНИЕ
20,7МПа/3000PSI ВРЕМЯ ВЫДЕРЖКИ НЕ МЕНЕЕ 5 СЕКУНДLeak-proofness: HYDROSTATIC TEST SATISFACTORY MINIMUM HYDRO-PRESSURE
20,7MPa/3000PSI DURATION NOT LESS THEN 5SEC.Технологические свойства- Technological properties
Pipes are beveled.

Pipes are flattening testing with satisfactory result.

Ремонт сваркой запрещен.
Weld repair isn't permitted.Настоящим подтверждаем, что товар, описанный выше, был испытан и соответствует требованиям заказа контракта.
We hereby certify, that the material described above has been tested and complies with the terms of the order contract.Дата
Date 21.09.2008г.Инспектор
InspectorSMITHCO ENGINEERING, INC.
QUALITY CONTROL

APPROVED BY

DATE

Y. Mintiy
Служебный печать

CERTIFICATE OF INSPECTION & TEST

ORIGINAL



ST&H CORPORATION

411-3 Shinwol-ri, Jinryemyun, Gimhae-si Gyungnam, Korea.
 Tel: 82.51.744-4680(5 line) Fax: 82.51.744-4670
 E-mail: stcorp@komet.net

(EN 10204 3.1)

We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.

Report No: MYM5427
 Date: MAR.23.2010

Customer :												Contract No. : 60153												Heat Treatment	
Spec. For Material : ASTM A105N-05/ASME SA105N(NACE MR-0175)																									
Chemical Composition (%)				C	Si	Mn	P	S	Ni	Cr	Mo	Cu	V	Nb	910°C NORMALIZED										
Heat No.		MAX	0.350	0.350	1.050	0.035	0.040	0.400	0.300	0.120	0.400	0.080													
		MIN		0.100	0.600																				
07487			0.182	0.257	0.910	0.021	0.009	0.009	0.010	0.002	0.010	0.001			Dimensional Inspection										
Tension Test												Charpy Impact Test (10x10 mm Specimen Size)												Hardness Test (HB)	
Size of Specimen(mm)			Yield Strength MPa	Tensile Strength MPa	Elongation %	Red of Area %	Individual min		Average min		Notch Type		Temp		187 137		GOOD								
Dia	Gage Length																								
12.5	50	MAX					Test Result																		
		MIN	250.000	485.000	22.000	30.000	①	②	③	Average															
12.5	50		357.240	589.110	32.100	69.620							153												
ITEM / SIZE			Q'TY	ITEM / SIZE			Q'TY	ITEM / SIZE			Q'TY	Ultrasonic Examination PASS Magnaflux Examination N/A Remarks : **CE = 0.34 (LONG FORMULAR)													
600LBS WNRF STD 2"			50	600LBS WNRF XH 4"			100	1500LBS WNRF XH 2"			200														
600LBS WNRF STD 3"			50	600LBS SWRF XH 1"			100	1500LBS WNRF S160 2"			200														
600LBS WNRF STD 4"			50	600LBS SWRF XH 1 1/2"			50	1500LBS WN RTJ XH 2"			100														
600LBS WNRF XH 2"			100	900LBS WNRF XH 3"			100	BLANK																	
600LBS WNRF XH 3"			100	900LBS WN RTJ XH 4"			20																		

NOTE :
 1MPa = 145.037 psi
 1MPa = 0.145037 ksi
 1psi = 6894.76 MPa
 1ksi = 6.89476 MPa
 W.C:Water Cool O.C:Oil Cool
 A.C:Air Cool N.A:Non Action
 N:Normalized A:Annealed
 Q.T:Quenched and Tempered
 N.T:Normalized and Tempered

- Sizes larger than 24" as specified by purchase order.
- Flanges to be painted black and all bolt holes to be spot faced.
- Flange serrations to be in accordance with MSS-SP-6.

Witnessed by

Manager of Q.A Dept.

STP-095

APPROVED BY

DATE

7/12/10

ST&H CORPORATION



MILL TEST REPORTS

Bonney Forge
14496 Croghan Pike
Mt. Union, PA 17066

CERTIFIED MILL TEST REPORT

MATTSCO SUPPLY COMPANY 07/08/10

SMITHCO ENGINEERING, INC.
QUALITY CONTROL

LOT NO.

4515

CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

1" 6M A105 Coupling Threaded

C	0.200	MN	0.980	P	0.007	S	0.022	SI	0.230
NI	0.030	CR	0.030	MO	0.010	CU	0.140	CO	0.003
V	0.004	NB	0.015						
CE(LONG FORMULA) = 0.383									
T/S 79300 Y/S 51200 EL 30.000 RA 45.000									
BRINELL HARDNESS: 156									

APPROVED BY yc
DATE 7/12/10

1. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF NACE MRO175/ISO 15156 AND MRO103-2007.
2. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT.
3. CERTIFYING ASTM A105-09 / ASME SA105-07 EDITION.

THIS DOCUMENT HAS BEEN ELECTRONICALLY SUBMITTED.



MATERIAL TEST REPORT

Page 1 of 1

Sold To: 2170000
SMITHCO ENGINEERING CO.
6211 S. 39TH WEST AVENUE
TULSA OK 74131 US

Ship To: 2170000
SMITHCO ENGINEERING CO.
6211 S. 39TH WEST AVENUE
TULSA OK 74131 US

3391

Purchase Order: J27107
Sales Order: 126279
Material: TA32010000830C A/SA 179 1.000 OD X .083 MW
Delivery: 80192874

Description: ASTM/ASME A/SA 179-90A(05) SMLS

Test: NDT ELECTRIC TESTED TO ASTM A450 OR A1016 & APPLICABLE TEST METHOD E309 OR E426.
FLARE TEST PASSED. FLATTENING TEST PASSED.

Heat Number: HI08-A-482

CARBON	Idl	0.090
MANGANESE	Idl	0.490
PHOSPHORUS	Idl	0.007
SULFUR	Idl	0.002
SILICON	Idl	0.250
NICKEL	Idl	0.020
CHROMIUM	Idl	0.100
MOLYBDENUM	Idl	0.000
COPPER	Idl	0.070
ALUMINUM	Idl	0.000

Ultimate (PSI)
Yield (PSI)
Elongation (%)
Hardness (RB) 47 / 51
Manufactured in China

SMITHCO ENGINEERING, INC.
QUALITY CONTROL

APPROVED BY YC
DATE 6/24/10

Webco Industries, Inc. certifies that the material described was manufactured and tested and/or inspected in accordance with the specification and fulfills requirements in such respect.
This document was prepared by means of electronic processing and is valid without signature.

Date: 06/18/2010

Tim Benear
Quality Manager



TULSA GAMMA RAY, INC.

1127 SOUTH LEWIS AVENUE
TULSA, OKLAHOMA 74104-3900
918 / 585-3228 • FAX 918 / 584-5598
1 - 800 - 625-9288
www.tulsagammaray.com

CUSTOMER DATA

NAME Smithco
ADDRESS _____
PHONE _____ ATTN: _____
W.O. # _____ P.O. # _____
JOB LOCATION Smithco
DESCRIPTION Spot Head MATERIAL TYPE: 316-LR2

TECHNIQUE/INSPECTION REPORT

DATE

7/20/10

DAY

Tue

DEFECT CODE

AB - ARC BURN
AI - ALIGNED INDICATION
BT - BURN THROUGH
CON - CONCAVITY
CRACK - CRACK

HB - HOLLOW BEAD
IF - INADEQUATE FUSION
IP - INCOMPLETE PENETRATION
MA - MISALIGNMENT
POR - POROSITY

SLI - SLAG INCLUSION
SLL - SLAG LINE
SURF - SURFACE INDICATION
UCE - UNDERCUT EXTERNAL
UCI - UNDERCUT INTERNAL

ABBREVIATED TERMS

SOD = SOURCE TO OBJECT DISTANCE
OFD = SOURCE SIDE OF OBJECT TO FILM DISTANCE
OD = OUTER DIAMETER
WT = WELD THICKNESS
WR = WELD REINFORCEMENT
REP = REPAIR
RES = RESHOOT
RET = RETAKE
BM = BASE MATERIAL

WELD/FILM NUMBER	JOB NUMBER	OD	BM	WR	WT	WITHIN STD'S	#	FILM	SIZE / MFG / TYPE	SOD	OFD	IQI	#	DEFECT LOCATION
						YES	NO						EXP	
1	<u>1-2</u>	<u>3391-AF</u>	<u>NA</u>	<u>1 3/8</u>	<u>.125</u>	<u>1.5</u>	<u>✓</u>	<u>1</u>	<u>3 1/2 x 10 + 80</u>	<u>7"</u>	<u>1.5</u>	<u>B</u>	<u>1</u>	
2	<u>2-3</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	
3	<u>4-5</u>		<u>✓</u>	<u>.125</u>	<u>.125</u>	<u>.75</u>	<u>✓</u>	<u>✓</u>	<u>3 1/2 x 17 - 80</u>	<u>12"</u>	<u>.75</u>	<u>B</u>	<u>3</u>	
4														
5														
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27														
28														
29														
30														

METHOD <u>RT</u>	SOURCE SIZE DIAG. <u>0150</u>	ISOTOPE <u>IR-192</u>	NO. CURIES <u>75</u>	DEV. TIME <u>5:00</u>	DEV. TEMP <u>680</u>	DENSITY <u>20-40</u>
NO. OF WELDS <u>2</u>	FT. LONG SEAMS	STANDARDS <u>ASME SEC VIII DIV I</u>	NO. OF FILM <u>3</u>	FILM/ CASSETTE <u>4</u>	EXPOSURE: DBL WALL <u>S. WALL</u>	MR/R SCREENS <u>3 Pb</u>
VIEWING: DBL WALL <u>S. WALL</u>	TRUCK NO. /	REPORT NO. <u>1 OF 1</u>	PAGE NO. <u>1 OF 1</u>	TECH. HOURS	ASST. HOURS	TRAVEL HOURS
TOTAL HOURS	MILEAGE	FILM INTERPRETER <u>Mark Falcetta</u>	ASST. NAME <u>KLIS</u>	ASNT LEVEL <u>2</u>		
COMPANY REPRESENTATIVE	NDT TECHNICIAN <u>Liana Walden</u>	ASNT LEVEL <u>II</u>				

SIGNATURE CERTIFIES TIME & MATERIALS CORRECT

SIGNATURE

TULSA GAMMA RAY, INC. ASSUMES NO RESPONSIBILITY FOR LOSSES
OF ANY KIND DUE TO INTERPRETATION

No. 56692



TULSA GAMMA RAY, INC.

1127 SOUTH LEWIS AVENUE
TULSA, OKLAHOMA 74104-3900
918 / 585-3228 • FAX 918 / 584-5598
1 - 800 - 625-9288
www.tulsagammaray.com

CUSTOMER DATA

NAME Smith CO
ADDRESS _____
PHONE _____ ATTN: _____
W.O. # _____ P.O. # _____
JOB LOCATION Smith CO
DESCRIPTION spot Head MATERIAL TYPE: SA-516-60

TECHNIQUE/INSPECTION REPORT

DATE

7/21/10

DAY

WED

DEFECT CODE

AB - ARC BURN

AI - ALIGNED INDICATION

BT - BURN THROUGH

CON - CONCAVITY

CRACK - CRACK

HB - HOLLOW BEAD

IF - INADEQUATE FUSION

IP - INCOMPLETE PENETRATION

MA - MISALIGNMENT

POR - POROSITY

SLI - SLAG INCLUSION

SLL - SLAG LINE

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OD = OUTER DIAMETER

WT = WELD THICKNESS

WR = WELD REINFORCEMENT

REP = REPAIR RET = RETAKE

RES = RESHOOT

BM = BASE MATERIAL

WELD/FILM NUMBER	JOB NUMBER	OD	BM	WR	WT	WITHIN STD'S YES NO	# FILM	FILM SIZE / MFG / TYPE	SOD	OFD	IQI S.E.	# EXP	DEFECT LOCATION
1 1-2	3391-ATB	NA	.75	.125	.875	✓	1	3 1/2 x 8 1/2 80	10"	18 1/2"	B	1	
2 2-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3 4-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4 1-2	3391-ABB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5 2-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6 4-5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7													
8													
9													
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29													
30													

METHOD <u>RT</u>	SOURCE SIZE DIAG. <u>.150</u>	ISOTOPE <u>IR192</u>	NO. CURIES <u>75</u>	DEV. TIME <u>5:00</u>	DEV. TEMP <u>680</u>	DENSITY <u>2.0-4.0</u>		
NO. OF WELDS <u>4</u>	FT. LONG SEAMS	STANDARDS <u>ASME Sec. I Div 1</u>	NO. OF FILM <u>6</u>	FILM/CASSETTE <u>1/1</u>	EXPOSURE: <u>DBL WALL</u> S. WALL	MR. SCREENS <u>3</u> <u>P6</u>		
VIEWING: <u>DBL WALL</u> S. WALL	TRUCK NO. /	REPORT NO. <u>1</u> OF <u>1</u>	PAGE NO. <u>1</u> OF <u>1</u>	TECH. HOURS	ASST. HOURS	TRAVEL HOURS	TOTAL HOURS	MILEAGE
SHOP	FILM INTERPRETER <u>[Signature]</u>	ASST. NAME <u>Kyle Bighorse</u>	ASNT LEVEL <u>2</u>					
COMPANY REPRESENTATIVE	NDT TECHNICIAN <u>Jana Saldon</u>	ASNT LEVEL <u>2</u>						

SIGNATURE CERTIFIES TIME & MATERIALS CORRECT

SIGNATURE

PRECISION HEAT TREATING
6300 S. 57TH W. AVE
TULSA, OK 74131

CHART

CUSTOMER: SMITHCO
CUST. PO#: J27491
QUANTITY

ORDER#
23072
7/29/2010

3 HEADER BOXES 3391 AF, ATB, ABB

WT# 3637

SMITHCO ENGINEERING, INC.
QUALITY CONTROL

APPROVED BY

DATE

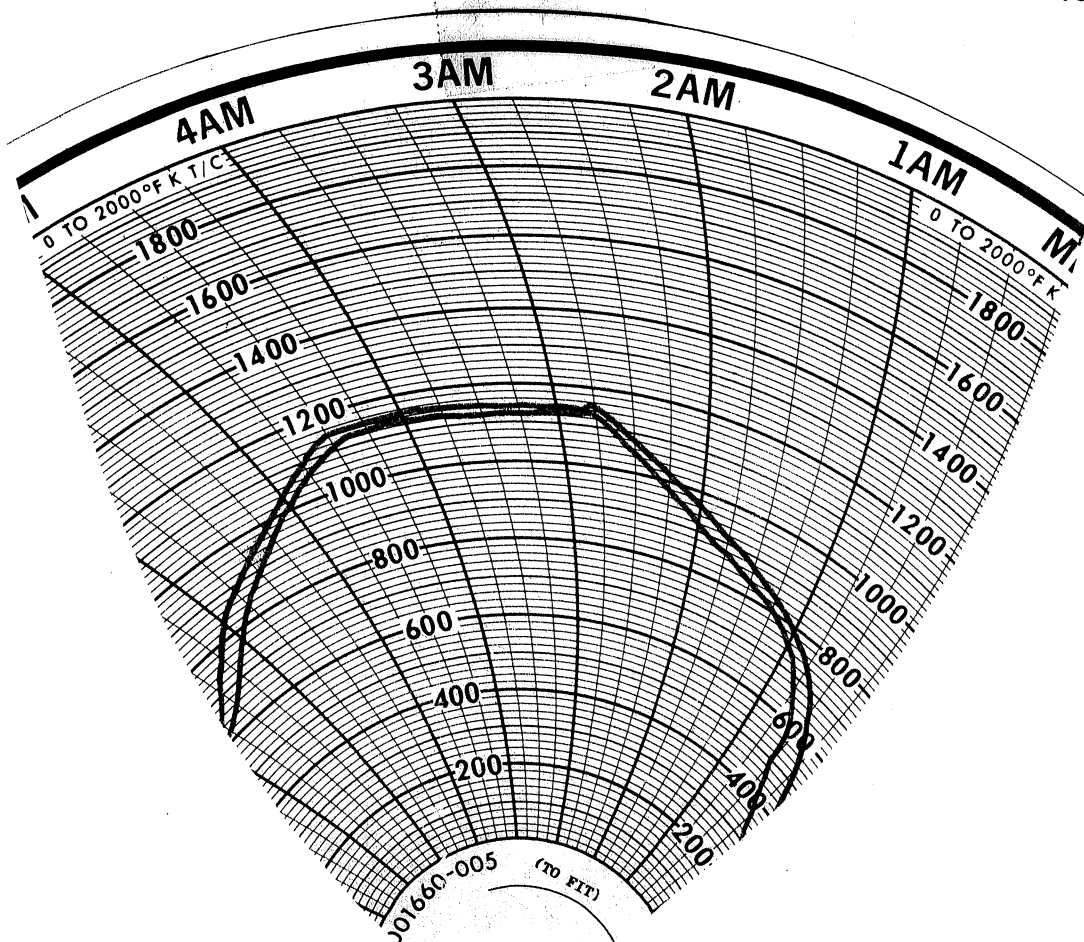
YC
7/30/10

FURNACE #SR: CALIBRATION DATE: 2-1-10

APPROVED BY: JIM MOSS

Jim Moss

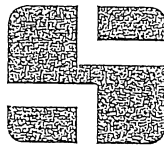
RECORDER:
15MIN





CUSTOMER: Engineer Tech DATE: 7 19 110
TIME: 7:10 Am
EQUIPMENT SERIAL NUMBER 2010B3391 AF ATB ABB

Member of HTRI



SMITHCO ENGINEERING, INC.

MAGNETIC PARTICLE TESTING REPORT

CUSTOMER: Engineering Tech. DATE: 7/22/10
TIME: 9:55 Am
No. 2 openg & WELPS

EQUIPMENT SERIAL NUMBER 2010B 3391 AF

APPLICABLE CODE: ASME SECTION V ARTICLE 7
ASME SECTION V ARTICLE 25, SE-709
ASTM E-709
ASME SECTION VIII DIV. 1, APPENDIX 6

EXAMINATION MEDIUM: DRY POWDER

COLOR OF POWDER: RED

LIGHTING EQUIPMENT USED 3cell 1) Maglight => 100fc(1000Lx)

EQUIPMENT MANUFACTURER: PARKER RESEARCH CORPORATION

MODEL NUMBER: B-100

MAGNETIZING CURRENT: AC ☒ DC ☐

DEMAGNETIZING REQUIRED: YES ☐ NO ☒

TESTED MATERIAL TYPE AND THICKNESS SA516 GR70 7/8"

NON-REJECTABLE INDICATIONS

SIZE, TYPE AND LOCATIONS: _____

ACCEPTED ☒ REJECTED ☐

ACCEPTANCE CRITERIA: ABOVE REFERENCED CODES AND STANDARDS
SMITHCO MPT PROCEDURE LATEST REVISION

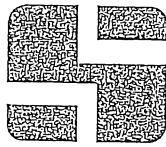
PERFORMED BY: [Signature]

LEVEL OF CERTIFICATION: [Signature]

WITNESSED OR ACCEPTED BY: _____

LEVEL OF CERTIFICATION: _____

MPT PROCEDURE - Page 4 of 4 Rev. 10 (09-11-07)



SMITHCO ENGINEERING, INC.

MAGNETIC PARTICLE TESTING REPORT

CUSTOMER: Engineering Tech DATE: 7 / 29 / 10
TIME: 8:40 AM
EQUIPMENT SERIAL NUMBER 2010B3391 AF ATB ABP *Post weld Pktz. gcs*

APPLICABLE CODE: ASME SECTION V ARTICLE 7
ASME SECTION V ARTICLE 25, SE-709
ASTM E-709
ASME SECTION VIII DIV. 1, APPENDIX 6

EXAMINATION MEDIUM: DRY POWDER

COLOR OF POWDER: RED

LIGHTING EQUIPMENT USED 3cell 1) Maglight => 100fc(1000Lx)

EQUIPMENT MANUFACTURER: PARKER RESEARCH CORPORATION
MODEL NUMBER: B-100

MAGNETIZING CURRENT: AC ☒ DC ☐

DEMAGNETIZING REQUIRED: YES ☐ NO ☒

TESTED MATERIAL TYPE AND THICKNESS SA516 GR70 2 1/4" 7' 1 3/4"

NON-REJECTABLE INDICATIONS

SIZE, TYPE AND LOCATIONS: _____

ACCEPTED ☒

REJECTED ☐

ACCEPTANCE CRITERIA: ABOVE REFERENCED CODES AND STANDARDS
SMITHCO MPT PROCEDURE LATEST REVISION

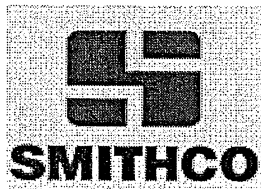
PERFORMED BY: *[Signature]*

LEVEL OF CERTIFICATION: *[Signature]*

WITNESSED OR ACCEPTED BY: _____

LEVEL OF CERTIFICATION: _____

MPT PROCEDURE - Page 4 of 4 Rev. 10 (09-11-07)



HARDNESS TEST CERTIFICATE

Machine: Kroutkramer

Serial #: Mic 10 SN 34101-5684

Date: 7-29-10

Inspector: SA

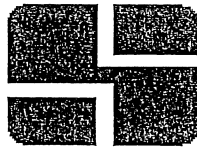
HEADER ID: 2010B3391 A

BHN

ATB	WELD	HAZ
LS	183	181
EB	185	184

BHN

	WELD	HAZ
Vent	173	171



SMITHCO

HYDROSTATIC TEST CERTIFICATE

CUSTOMER: ETI

SMITHCO SERIAL NO.: 2010B3391A

TEST GAUGE NO.: #53

RANGE: 0-3000psi

DATE CAL.: 7-19-10

TEST PRESSURE: 1650psi

DATE TESTED: 8-3-10

WE CERTIFY THE ABOVE REFERENCED AIR COOLED HEAT EXCHANGER WAS SUCCESSFULLY HYDROSTATICALLY TESTED FOR ONE (1) HOUR MINIMUM AND THE TEST GAUGE WAS CALIBRATED AS STATED.

Shawn Blanck
ASSEMBLY INSPECTOR

6 PM

MIDNIGHT

NOON

PRINTED IN U.S.A.

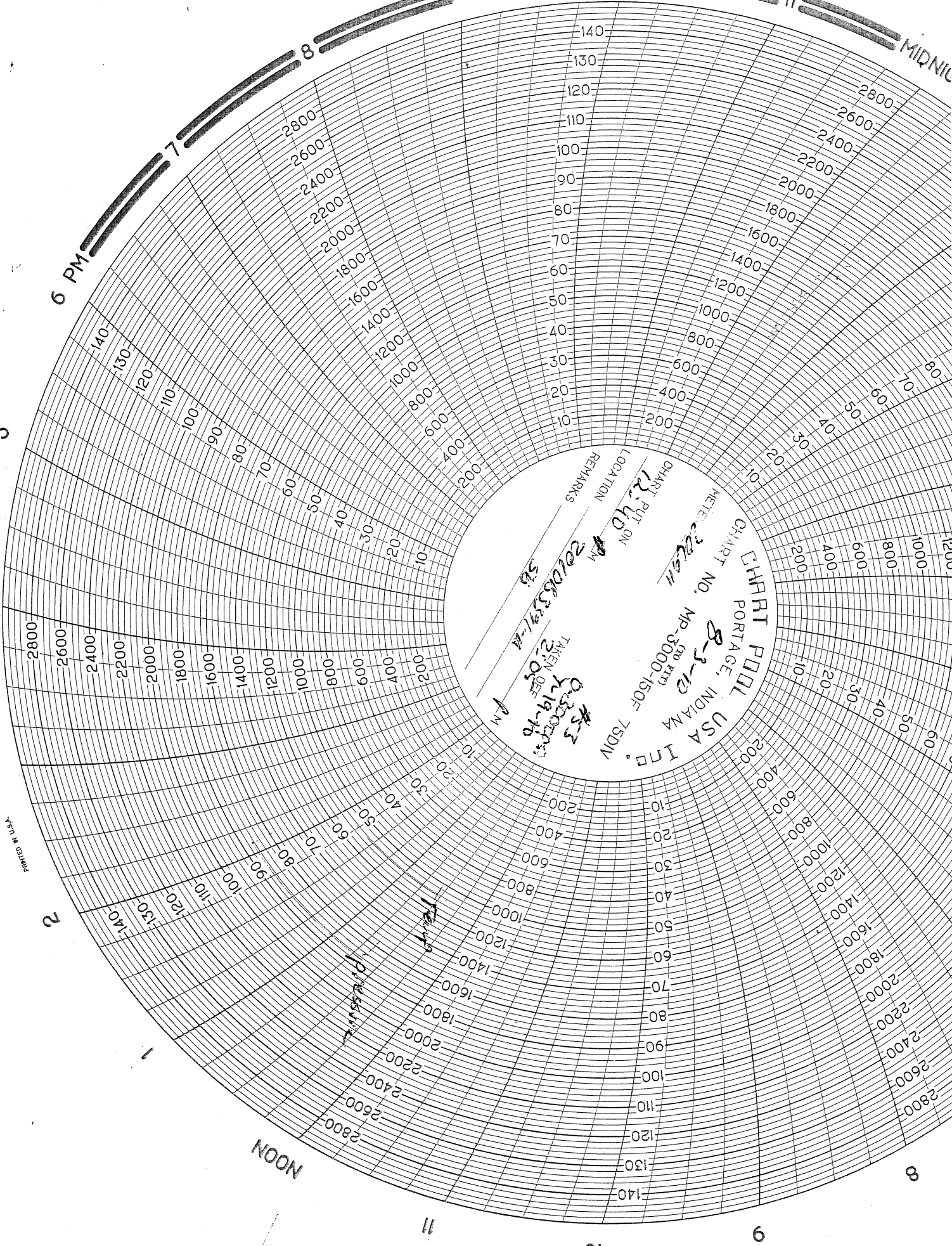


CHART PUT ON
12:40 PM
LOCATION
REMARKS
CHART NO. 8-3-12
PORTAGE, INDIANA
MP-3000-150F 75DW
TAKEN OFF
#33
2:05 PM
201083391-A
50

Temp

Pressure

NR 12213

U

CERTIFIED BY SMITHCO ENGINEERING, INC.
TULSA, OKLAHOMA

W

HT

MAWP 1100 PSIG AT 650 °F
INTERNAL INTERNAL

MAWP PSIG AT °F
EXTERNAL EXTERNAL

MDMT -20 °F AT 1100 PSIG

S/N 2010B3391A Y3 2010

TEST PRESS. 1650 PSIG MEM AC-8180

SERVICE REGEN GAS COOLER

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