

# Certificate of Authorization Permit

## Quality Management System

Expiry Date: **December 9, 2016**

Reg. No.: **AQP-5046**

### CAMERON MEASUREMENT SYSTEMS DIVISION

7944 - 10 STREET N.E.  
CALGARY, ALBERTA

having complied with the provisions of the SAFETY CODES ACT, is hereby authorized to perform the activities identified in the following table:

	<u>Construction</u>	<u>Repair</u>	<u>Alter</u>
<b>Fittings</b>			
Category F	Shop	Shop	Shop



*As a condition of this permit, the holder is required to participate in interim audits by a safety codes officer to verify that the quality management system is being maintained in a manner acceptable to a safety codes officer.*

Dated at Edmonton, this 6th day of December, 2013



Chief Inspector and Administrator

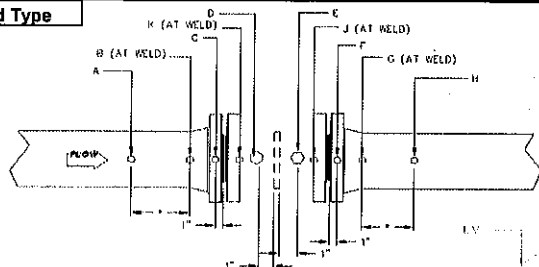
**Certificate No.: 9601**

### Meter Tube Calibration Record

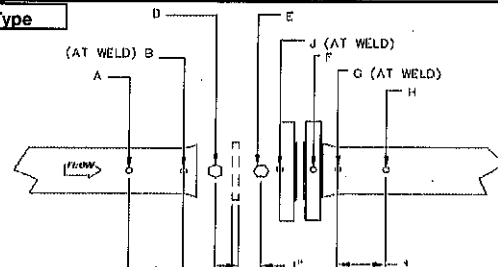
#### General Specifications

Customer:	RJV Gas Field Services	Date:	January 7, 2014
Location:	Husky Oil Operations	P.O. Number:	130524
Serial No.	12016646510	Work Order No.	120166465
Assembly Part No.	9A-MR_53_0128C	Part No.	40553-33221
Orifice Fitting:	3" 600# Sch 80 Dual Chamber Meter Run	Meter Tube Type No.	2
Str. Vane / Flow Cond.:		Yes	X No

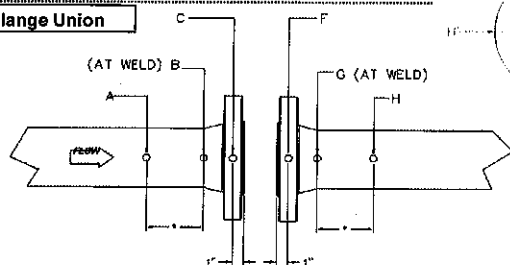
#### Type 1 Flanged Type



#### Type 2 Flangeweld Type



#### Type 3 Orifice Flange Union

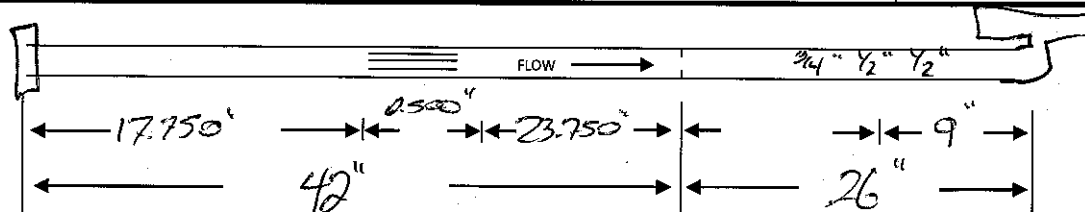


#### Type 4 weldneck Type Valve or Door

Check Location Point A-B-D on Upstream Tube,  
Point E-G-H on Downstream Tube

\*Cross section 'A' and 'H' shall be one pipe diameter  
except if such Cross Section falls within the lifting or weld  
it shall be made 1' inside the pipe

Location	Upstream Meter Tube					Downstream Meter Tube				
	A	B	C	D	K	E	F	G	H	J
V	2.900	2.900		2.899		2.899	2.912	2.908	2.902	2.897
LV	2.900	2.905		2.898		2.898	2.914	2.905	2.900	2.894
RV	2.899	2.898		2.900		2.903	2.915	2.915	2.903	2.897
H	2.901	2.891		2.902		2.900	2.915	2.897	2.898	2.901
Average	2.900	2.899		2.900		2.900	2.915	2.906	2.901	2.897
Upstream Mean Average to Stamp on I.D. Plate			2.900			Downstream Mean Average to Stamp on I.D. Plate			2.900	



AGA/API Figure	3 (2000)	Meter Tap Location	Upstream	N/A	Downstream	N/A
Remarks:	68*	Inspector:	Chris Robertson			

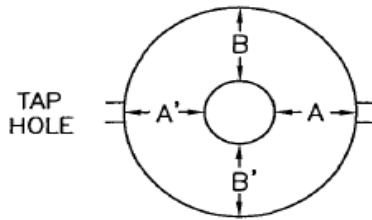
**Cameron Measurement Systems**

3707 - 97th Street

Edmonton, Alberta, Canada T6E 6J2

**QUALITY CONTROL  
INSPECTION REPORT**Customer: RJV Gas Field Svcs.Date: January 31, 2014Location: Husky Oil OperationsPurchase Order No.: 130524Serial No.: 12016646510Orifice Fitting: 3" 600# Sch 80 Dual Chamber Meter RunAssembly No.: 9A-MR\_53\_0128CHydrostatic Test Pressure: 2225

Meter Tube Design Standard API 14.3

Duration: 15 Minutes**ECCENTRICITY**Horizontal  $(A - A')/2$ .....

0.003"

0.005"

Vertical  $(B - B')/2$ .....

0.002"

0.003"

Measurement Instrument: Mitutoyo Dial Indicator**PRESSURE TAP HOLE VARIATION**

Distance from Plate &amp; Hole Diameter

Upstream	Hole	Downstream	Hole
1.004"	0.374"	1.001"	0.377"

Measurement Instrument: PAV Electronic Depth Gauge**SURFACE ROUGHNESS****Roughness Measurement Location**

Upstream Tube, One Pipe Diameter from Weld

Upstream at Pressure Tap Hole

Downstream at Pressure Tap Hole

Downstream 1" from End of Flange

Microinches

44
54
102
101

Measurement Instrument: Mitutoyo 212 Surftester**DIFFERENTIAL TEST**Water Hydrostatic Method at 50 psiDuration 5 Minutes Minimum

Visual: No Leaks

Measurement Instrument: McDaniels Gauge 0 -100 psiWork Order #: 120166465Lorne Dagg / Fiona O'Neill

## NUFLO™ DUAL CHAMBER ORIFICE FITTING

PART NO.   
SERIAL NO.   
SIZE  BORE   
SWP  FLG   
TRIM

CRN (ASME CODE) 0F01120.2C

 **CAMERON**  
EDMONTON, ALBERTA, CANADA

### TO REMOVE PLATE FROM CHAMBER

1. CLOSE ORIFICE CHAMBER (INDEX ORIFICE OUT OF OPERATION).
2. OPEN BLEED VALVE.
3. OPEN CHAMBER LID (REMOVE TWO TOP NUTS ONLY).
4. REMOVE ORIFICE PLATE (PRY ON HOLES IN RETAINER HANDLE).

### TO PLACE ORIFICE PLATE IN OPERATION

1. REPLACE ORIFICE WITH OUTLET ON PLATE AND SEAL ON RETAINER FACING UPWARD.
2. CLOSE LID.
3. CLOSE BLEED VALVE.
4. OPEN EQUALIZING VALVE.
5. OPEN ORIFICE CHAMBER (INDEX ORIFICE INTO OPERATION).
6. CLOSE EQUALIZING VALVE.

## NUFLO™ METER RUN

ASSY.  
NO.

SERIAL NO.

U/S  
DIA.

D/S  
DIA.

PIPE SIZE

SCH

RATING

AGA / API

MAT'L

DATE

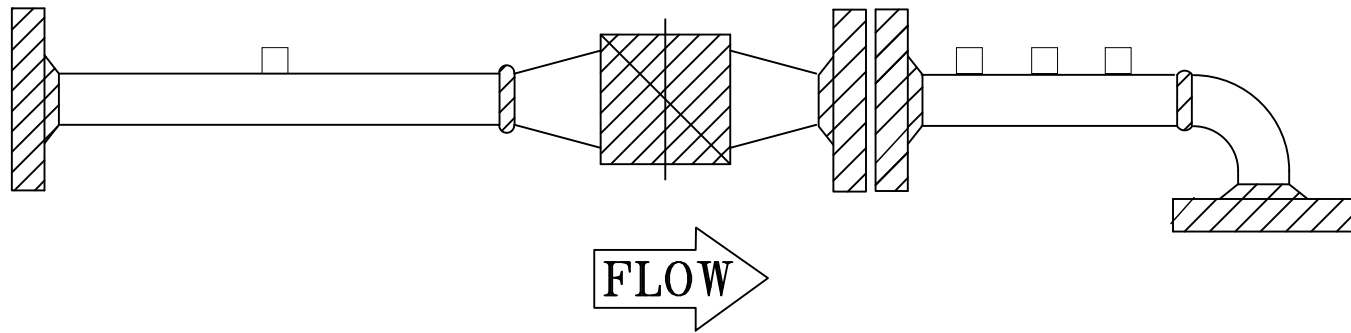
W.O. NO.

CALIBRATION  
CERT'D BY

CRN (ASME CODE) 0F01120.2C

 **CAMERON**  
EDMONTON, ALBERTA, CANADA

# WELD AND RADIOGRAPHY IDENTIFICATION MAP



DESCRIPTION: \_\_\_\_\_

SERIAL No.: \_\_\_\_\_

CUSTOMER: \_\_\_\_\_

P/O No.: \_\_\_\_\_ TAG No.: \_\_\_\_\_

W/O No.: \_\_\_\_\_ END USER: \_\_\_\_\_

RADIOGRAPHY UNIT: \_\_\_\_\_

WELDER: \_\_\_\_\_ FILE No.: \_\_\_\_\_

DATE: \_\_\_\_\_

SYMBOL: \_\_\_\_\_ QUALITY ASSURANCE INSPECTOR



**CAMERON MEASUREMENT SYSTEMS**

**7944 - 10th STREET N.E.**

**CALGARY, AB. T2E 8W1**



A.O.Q.P. No. 7106 (c)

**LUDWIG ASSOCIATES LTD.**

Materials and Welding Consulting

**WELDER PERFORMANCE QUALIFICATION CARD**Name: **Jeff Harrington**ABSA File No.: **W - 23651**

This card is issued pursuant to the Alberta Safety Codes Act and the Pressure Welders Regulation.  
The performance qualification is in accordance with ASME Section IX of the ASME Code and subject to the limitations on the reverse side.

August 10, 2012

Date of Test

Signature of Welder or Machine Operator

**Colin Burnette**

Welding Examiner

Card No.: **01758****PERFORMANCE QUALIFICATION****01758**

Process(es)	GMAW	SMAW	Materials (P.No)	P1
Filler Metal Group (F.No)	F6	F4	Min. Outside Diameter	1.0 in. O.D.
Max. Deposited Weld Metal	0.110 in.	0.672 in.	Position(s) Qualified	F6: SP 0-45°, Flat F4: Flat
Backing	With or Without	With	Backing Gas	With or Without
Progression	Downhill	N/A		

August 10, 2014

P.Q. Expiry Date

Welding Examiner Signature

E-00391

Examiner File No.

**SGS**

A.O.Q.P. No. 7106 (c)

**LUDWIG****WELDER PERFORMANCE QUALIFICATION CARD**Name: **Jeff Harrington**ABSA File No.: **W - 23651**

This card is issued pursuant to the Alberta Safety Codes Act and the Pressure Welders Regulation.  
The performance qualification is in accordance with ASME Section IX of the ASME Code and subject to the limitations on the reverse side.

November 22, 2013

Date of Test

Signature of Welder or Machine Operator

**Rob Cormier**

Welding Examiner

Card No.: **13013****PERFORMANCE QUALIFICATION****13013**

Process(es)	GMAW	FCAW	Materials (P.No)	P1
Filler Metal Group (F.No)	F6	F6	Min. Outside Diameter	1.0 in. O.D.
Max. Deposited Weld Metal	0.110 in.	MAX	Position(s) Qualified	GM: SP 0-45°, Flat FC: Flat
Backing	With or Without	With	Backing Gas	With or Without
Progression	Downhill	N/A		

November 22, 2015

P.Q. Expiry Date

Welding Examiner Signature

E-00441

Examiner File No.



19699

**Grade "B" Pressure Welder's  
Certificate of Competency**

This is to certify that **Jeff Harrington**  
having complied with provisions of the Safety Codes Act, is authorized to engage  
in pressure welding in accordance with the prescribed Regulations.

Dated at Edmonton  
April 01, 2006



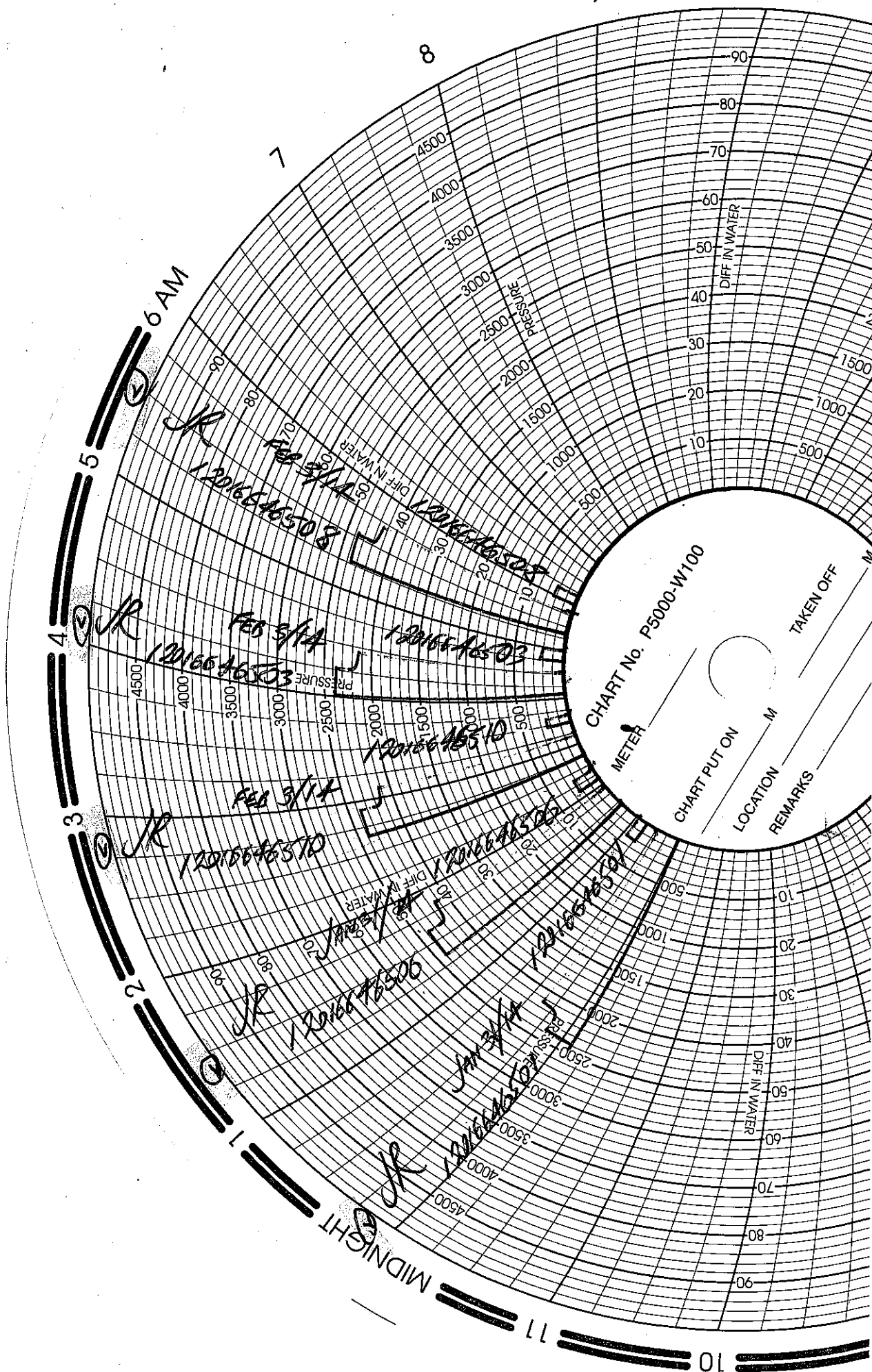
W-23651

File no

Chief Inspector and Administrator



RJV




MST1201  
11/15/13

Highland Foundry Ltd.  
CHEMICAL AND PHYSICAL ANALYSIS

Page 1  
14:53:09

Product# . . . : 40713-001  
Customer Part#: 9A-40713-001-00000  
Customer . . . : CAMERON SHARED SERVICE CENTER  
ACCOUNTS PAYABLE  
PO BOX 3312  
HOUSTON TX 77253-3312  
USA

Order/Item# . . : 38411 / 2  
Customer P.O.#: 4503940759

Approved by: Patricia Booth   
Quality Assurance Technician

Heat Treatment: 1700 Deg F, 3 Hours, Air Cool

Melt#	Quantity	Date	Heat Treat	BATCH #	:	Specification
4-11174	11	10/18/13		2MG	-	ASTM A216 GRADE WCB

C H E M I C A L S

C :.210	MN:.860	SI:.530	P :.018
S :.013	NI:.040	CR:.180	MO:.020
CU:.060	V :.010		

P H Y S I C A L S

YIELD KSI	50.0	TENSILE KSI	78.0
ELONGATION %	33	RED OF AR. %	58

CE = 0.40



MATERIAL TEST REPORT

9670-187th Street, Surrey, BC Canada V4N 3N6  
Phone 604-888-8444 Fax 604-888-3634  
www.highlandfoundry.com

ISO 9001 CERTIFIED



# Hardness Test Report



OUR REPUTATION IS STAINLESS®

Customer	Cameron Measurement Systems	PO Number	4503940759
Part Number Description & other ID	40713-001 3" DUAL CH. BODY	Order Number	38411 / 2
Material Specification	ASTM A216 Grade WCB	Date	11/18/13
Inspection Method	ASTM E10	Qty	36

Equipment Used: Portable King Brinell Tester

Type of Ball: Regular ☐ Carbide ☒

Load: 3000 kg

Holding Time: 10 sec

Hardness Required: 237 Max Brinell ☒ Rockwell ☐

Heat No. / Batch No.	% of Batch Tested	Hardness Obtained
1-11731 / 1MG	10%	167, 163
4-11174 / 2MG	10%	156, 159
3-11684 / 4MM	10%	167, 167
1-11676 / 7LU	10%	156, 163

Remarks:

Tested By:

Max Zanazovsky  
Inspector

MST1201  
8/22/13

Highland Foundry Ltd.  
CHEMICAL AND PHYSICAL ANALYSIS

Page 1  
13:39:21

Product# . . . : 40703-005  
Customer Part#: 9A-40703-005-00000  
Customer . . . : CAMERON MEASUREMENT SYSTEMS  
ACCOUNTS PAYABLE  
5003 - 93RD STREET  
EDMONTON AB T6E 5S9  
CANADA

Order/Item# . . : 38059 / 3  
Customer P.O.#: 4503825550

Approved by: Shyan Smith  
Quality Assurance Technician

Heat Treatment: 1700 Deg F, 4 Hours, Air Cool

Melt#	Quantity	Date	Heat Treat	BATCH #	:	Specification
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2-11309	52	7/05/13	4LC	-	-	ASTM A216 WCB
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C H E M I C A L S

C :.230	MN:.700	SI:.450	P :.020
S :.010	NI:.090	CR:.200	MO:.020
CU:.100	V :.010		

P H Y S I C A L S

YIELD KSI	49.9	TENSILE KSI	78.7
ELONGATION %	32	RED OF AR. %	57

CE = .41



MATERIAL TEST REPORT

9670-187th Street, Surrey, BC Canada V4N 3N6  
Phone 604-888-8444 Fax 604-888-3634  
www.highlandfoundry.com

ISO 9001:2008

# Hardness Test Report



OUR REPUTATION IS STAINLESS™

Customer	Cameron Measurement Systems	PO Number	4503825550
Part Number & Description	40703-005 3" Dual Ch. Lid	Order Number	38059 / 1
Material Specification	ASTM A216 Grade WCB	Date	08/22/13
Inspection Method	ASTM E10	Qty	52

Equipment Used: Portable King Brinell Tester

Type of Ball: Regular ☐ Carbide ☒

Load: 3000 kg

Holding Time: 10 sec

Hardness Required: 237 Max Brinell ☒ Rockwell ☐

Heat No. / Batch No.	% of Batch Tested	Hardness Obtained
2-11309 / 4LC	10%	163, 163, 163
		163, 163, 163

Remarks:

Tested By:

Dustin Bain  
Inspector

7# 20221-001

# ASCOMETAL



Département Métallurgie Qualité  
Case des Doms - Boîte postale 41  
59411 Dunkerque Cedex 2  
Téléphone 03 28 29 60 00  
Téléfax 03 28 29 60 03

## DOCUMENT DE CONTROLE

Inspection Documents / Prüfbescheinigungen

Inspection Certificate 3.1  
NF EN 10204  
2004

Livraison  
N° Contrôle 80175838 / 000005  
030000211705

Date 18.04.2012  
Date d'édition 22.05.2012

ORDRE DE FABRICATION WORKS ORDER NUMBER AFAIRE SUIVIE PAR YOUR CONTACT IS : DEARBEITER N/REFERENCE ASCOMETAL ORDER WORKS/STELLUNG V/REFERENCE YOUR ORDER : IHMI ZERNIG QUANTITE QUANTITY / MENGE PRODUIT PRODUCT DESCRIPTION : HER/IRRHUNG SPECIFICATION CLIENT SPECIFICATION - SPEZIFIKATION IND REV. ENTREE SPECIFICATIONS SUPP.	H5855AE ORPHEE GINETTE 501203504 / 000010 (70047196) SOC-13504 76P10S174 ( 5497) 06.02.2012 8,971 TO A105 ROL. ROUNDS CLESS TURN 6,750 IN NORMALISED CORUS 0876-010R SANS DATE 06.11.2002 DATA DATUM SANS	COULÉE H5855 CAST - SCHÜTZER	DESTINATAIRE DOCUMENT DOCUMENT FOR SUPPLIER Société ENCORE METALS EDMONTON ALBERTA T6E 0A1 Canada MARQUE
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### Analyse chimique de coulée / Ladie analysis / Schmelzeanalyse

Elément (%)	Elément	Teil	C	Mn	Si	Cr	Ni	Mo	Cu	P	S	Al
Mini	Spec min	Min		0,600	0,150							
Valeur	Actual	Werte	0,180	1,167	0,201	0,238	0,089	0,024	0,092	0,005	0,022	0,020
Maxi	Spec max	Max	0,270	1,350	0,300	0,300	0,400	0,120	0,400	0,035	0,040	
Elément	Elément	Teil	V	Cb								
Mini	Spec min	Min										
Valeur	Actual	Werte	0,044	0,0130								
Maxi	Spec max	Max	0,080	0,0200								
Contraintes groupées												
Elément			Mini	Valeur	Maxi							
CEq				0,448	0,450							
Ni+Cr+Mo+Cu				0,443	1,000							
Cr+Mo				0,262	0,320							

### Caractéristiques mécaniques / Mechanical properties / Mechanische Kennwerte

Traction / tensile test / Zugversuch  
Nappe / Batch number / Los number : 1853  
Diameter of test specimen (in)  
mid radius tested  
Longitudinal test  
Tensile test temperature (°F)

0,50

70

Elément	Elément	Teil	Ys 2%	UTS	E (2in)	RA
Unité	Unit	Meinheit	PSI	PSI	%	%
Mini	Spec min	Min	45000	70000	22,0	30
Valeur	Actual	Werte	51925	78924	31,2	69
Maxi	Spec max	Max		95000		

Résilience / Impact test / Kerbschlagproben  
Nappe / Batch number / Los number : 1853  
notch test 10 x 10  
Mid radius testing  
Charpy V notch  
Longitudinal test  
Impact test temperature (°F)

-50

Elément	Element	Teil
Unité	Unit	Meinheit
Mini	Spec min	Min
Valeur	Actual	Werte
Maxi	Spec max	Max

HEAT # H5855AE  
P.O.# P105174  
R# R115089  
ITEM # 549763

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande, respectent la directive européenne 2009/51/CE du 18 septembre 2009 et présentent un niveau de radioactivité au plus égal à la radioactivité ambiante.

We hereby certify, the above mentioned products are compliant with the order requirements, are respectful of the September, 18th 2009 - 2009/51/CE - european directive, and have a radioactivity level which does not exceed that present in the environment.

Wir bestätigen hiermit dass die oben genannten Fertigerzeugnisse den Bestehungsanforderungen, der EU-Richtlinie 2009/51/CE vom 18. September 2009 entsprechen und die gefertigten Produkte keine Radioaktivität, die Höher ist als natürliche Strahlung der Umwelt, aufweisen.

ASCOMETAL SAS  
au capital de 63 285 430 EUR

Siège social : Immeuble le Collisée - 8, avenue de l'arche, Faubourg de l'Arche, 92419 COURBEVOIE Cedex

331 048 132 RCS Nanterre



Département Métallurgie Qualité  
 Usine des Dunes - Boite postale 41  
 59941 Dunkerque Cedex 2  
 Téléphone : 03 28 29 60 00  
 Télécopie : 03 28 29 60 03

## DOCUMENT DE CONTROLE

Inspection Documents / Prüfbescheinigungen

### Inspection Certificate 3.1

DATE	TIME	LOCATION	WIND	WAVE	SEA	TEMP	WIND	WAVE	SEA	TEMP
10/20/74	10:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	11:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	12:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	13:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	14:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	15:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	16:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	17:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	18:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	19:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	20:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	21:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	22:00	10N 102W	10	2	3	20	10	2	3	20
10/20/74	23:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	00:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	01:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	02:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	03:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	04:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	05:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	06:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	07:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	08:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	09:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	10:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	11:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	12:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	13:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	14:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	15:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	16:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	17:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	18:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	19:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	20:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	21:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	22:00	10N 102W	10	2	3	20	10	2	3	20
10/21/74	23:00	10N 102W	10	2	3	20				

ISO R 414  
2004

**Livraison**  
**N° Contrôle**

80179838 / 000005  
030000211705

Date d'édition

18.04.2012  
22.05.2012

<b>ORDRE DE FABRICATION</b> <small>WORKS ORDER / MISHER - WERKSTÄTTENUNG</small>		<b>H585SAE</b> <b>CAST SCHMELZE</b>		<b>COULEE</b> H5855		<b>DESTINATAIRE DOCUMENT</b> <small>DOCUMENT FOR - EMPFÄNGER</small>	
<b>A FAIRE SUIVIE PAR</b> <small>YOUR CONTACT IS: BEARBEITER</small>		<b>ORPHEE GINETTE</b>		<b>Société</b> <b>ENCORE METALS</b> <b>EDMONTON</b> <b>ALBERTA T6E 0A1</b> <b>Canada</b>			
<b>NREFERENCE</b> <small>AS COMETAL ORDER - WERKSTELLUNG</small>		<b>S01203504 / 000010 (70047196)</b>					
<b>VREFERENCE</b> <small>YOUR ORDER / IHRE BESTELLE</small>		<b>SOC-13504 76P105174 ( 5497)</b> <b>06.02.2012</b> <b>8,971 TO NUANCE A105</b> <small>GRADE - BEWERTUNG</small>					
<b>QUANTITE</b> <small>QUANTITY / MENGE</small>		<b>A105 ROL. ROUNDS CLESS TURN 6,750 IN NORMALISED</b>					
<b>PRODUIT</b> <small>PRODUCT DESCRIPTION - BESCHREIBUNG</small>		<b>CORUS 0876-010R</b>					
<b>SPECIFICATION CLIENT</b> <small>SPECIFICATION - SPEZIFIKATION</small>		<b>SANS</b>		<b>DATE</b> 06.11.2002		<b>CCU</b> D000002218	
<b>IND</b> <small>REV. ENTWERF</small>		<b>SANS</b>		<b>DATE / DATUM</b>			
<b>SPECIFICATIONS SUPP.</b>		<b>SANS</b>					

<b>Traitement thermique / Heat treatment / Wärmbehandlung</b>							
<b>Traitement</b> <b>Norm. temp.</b>		<b>T Min</b>		<b>T</b> <b>1652 °F</b>		<b>T Max</b>	
						<b>Durée</b> <b>3,50 hrs</b>	
						<b>Refroidissement</b> <b>Normalized air cooled</b>	

<b>Dureté de surface sur barres / Bars surface hardness / Stäbe Randhärte</b>							
<b>Elément</b> <b>Mini</b> <b>Maxi</b>		<b>Element</b> <b>Spec min</b> <b>Spec max</b>		<b>Teil</b> <b>Min</b> <b>Max</b>		<b>BHN top</b>  <b>167</b> <b>187</b>	

<b>Autres résultats / Other results / Andere Prüfergebnisse</b>							
<b>Elément</b> <b>Grain size M-Quind Ehn</b>		<b>Mini</b> <b>5</b>		<b>Valeur</b> <b>7</b>		<b>Maxi</b> <b>8</b>	
<div style="background-color: yellow; padding: 5px;">           Electric furnace - vacuum degassed            Conforms to NACE MR 01-75            Ultrasonic testing 100% satisfactory            Conforms to ASTM A105 - A350LF2            Conforms to ASTM A696 gr C - ASME SA696 gr C            Conforms to API 6A type 4SK - PSI-1-3 cl I.            Conforms to ASME SA 105/SA350LF2         </div>							
<b>Continuous cast</b> <b>Produit en France / Product of France / In Frankreich hergestellt</b>							

*Visa du chef de service*  
*Stamp of inspection supervisor*  
*Der Werkssachverständige*  
**Anne Fasquelle**

A. Fejery

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande, respectant la directive européenne 2000/53/CE du 18 septembre 2000 et présentant un niveau de radioactivité au plus égal à la radioactivité ambiante.

**ASCOMETAL SAS**  
au capital de 65 385 430 EUR

331 048 132 RCS Nanterre

We hereby certify the above mentioned products are complying with the order requirements, are respectful of the September, 18th 2000 - 2000/53/CE - european directive, and have a radioactivity level which does not exceed that present in the environment.

**Siège social : Immeuble le Colisée - 8, avenue de l'Arche, Faubourg de l'Arche, 92419 COURBEVOIE Cedex**

Wir bestätigen ferner, dass die oben genannten Ergebnisse den Bestimmungsvorschriften der EU-Richtlinie 2000/53/EC vom 18. September 2000 entsprechen und die gelieferten Produkte keine Radioisotope, die höher ist als natürliche Strahlung der Umwelt, aufweisen.



CLIENTE / Customer / Client

CCTF CORPORATION (EDMONTON)  
5407 - 53 AVENUE NW  
EDMONTON, AB T6B 3G2  
CANADA

# CERTIFICADO DE INSPECCION

Inspection Certificate - Certificat de Réception

DIN EN 10204 / 3.1  
ISO 10474 / 3.1

FECHA:  
Date:

06/09/2013

N.º  
No.

159617

HOJA:  
Page:

1



Management Systems certified by LRQA

ULMA FORJA, S.COOP.

PRODUCTO  
Article - Produit

FLANGES

SU PEDIDO N.º

Your Order No. 4893119-00

Votre Cde. N.º

DE

of. - de 31/05/2013

Certified acc. FED 97/23/EC+AD2000-W0  
by TÜV Rheinland  
N.º 01 202 E/Q 02 7443

Bº Zubillaga, 3 - Apdo. 14  
20560 ONATI (Gipuzkoa) SPAIN  
Tel.: 34 - 943 780552  
Fax: 34 - 943 781808  
E-mail: ulma@ulmapiping.com

NORMAS APLICABLES  
Requirements - Normes Applicables

ASME B16.5-13

MATERIAL CORRESPONDIENTE ASME SA105-10 add.11, ASTM A105N-12

Material Correspondent - Qualité

MODO DE FUSION (\*)

Steel Making - Elaboration de l'acier

E = Elec. Y = Oxígeno básico

NACE MR0175/ISO15156-2-09 & MR0103-12

Clause 7.2.1.4, Annex A.2 and SSC Region 3.

CSA-Z245.12-09 Gr.248 CAT I-S8 (WN & BLIND FLANGES ONLY)

MARCA DEL FABRICANTE  
Mark of factory  
Marque du fabricant



Packing List: 104607

DEPARTAMENTO QUALITY ASSURANCE  
Section  
Département

PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	OBSERVACIONES Remarks Observations (*)	COLADA N.º Heat No N.º Coulée	RESISTENCIA T.Strength Resist Rupt N/mm2	LIMITE ELAST. Y.Strength 0.2 % N/mm2	ALARGAM. Elongation Lo: 4 d %	ESTRICCION Red. Area Striction %	RESILIENCIA Impact test Résilience Joules	CHARPY V 10x10mm MEDIA Average Moyenne °C	DUREZA Hardness Dureté HBW
21 7530250	420	WN 3 600LB XS/80 RF A105N	NE	B29T3	516	320	33,20	52,90			154 159
21 7530250	580	WN 3 600LB XS/80 RF A105N	NE	B30T3	519	309	31,70	53,40			152 157
22 7530277	288	WN 6 600LB XS/80 RF A105N	NE	B28T3	508	315	31,80	52,60			147 153
30 7531079	72	BLIND 6 600LB RF A105N	NE	B02T3	507	303	29,70	56,90			150 155

COLADA N.º Heat No N.º Coulée	COMPOSICION QUIMICA - STEEL MAKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE														
	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	N %	CEq %
B02T3	0,210	0,160	0,890	0,012	0,012	0,050	0,130	0,018	0,006	0,001	0,290	0,000	0,000	0,000	0,400
B28T3	0,210	0,160	0,860	0,014	0,013	0,060	0,130	0,022	0,004	0,001	0,270	0,000	0,000	0,000	0,397
B29T3	0,200	0,150	0,910	0,013	0,012	0,060	0,090	0,019	0,006	0,001	0,340	0,000	0,000	0,000	0,396
B30T3	0,190	0,160	0,880	0,012	0,012	0,080	0,110	0,032	0,008	0,002	0,360	0,000	0,000	0,000	0,391

- Las dimensiones y la condición superficial se hallaron satisfactorias.  
- Dimension and surface condition were found acceptable.  
- Les dimensions et états de surface sont satisfaisants.

- Los materiales citados cumplen las normas aplicables.  
- Manufacturing requirements are satisfied.  
- Les normes applicables sont respectées.

EL INSPECTOR  
Works Inspector - L'Inspecteur



ULMA FORJA S. COOP.  
Dpto. de Garantía de calidad  
Quality Assurance Dept.

(\*) OBSERVACIONES:  
Remarks  
Observations

N\_NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR



# INSPECTION CERTIFICATE

(MILL TEST)

CHUP HSIN ENTERPRISE CO., LTD.

Customer: TRANS AM PIPING PRODUCTS LTD.  
Product : SEAMLESS CARBON STEEL BUTT WELD FITTINGS  
Spec : ASME SA/ASTM A234 WPB-05a  
CSA Z245.11-96 Gr241 CAT.1 NACE MR 0175-2003\*\*

17, TUNG LI ROAD HSIAO KANG  
KAHSIUNG, TAIWAN R.O.C.  
TEL: (07) 831-9157  
FAX: (07) 831-2942, 821-7500

Certificate No : 09900095-0401  
Order No : CT-11-458  
Date : 2011/11/22

Specification for Raw Material				Specification for Inspection				Visual Examination				Dimensional Inspection							
ASTM A106 GR.B				ASME B16.9-2003				GOOD				GOOD							
Item	Description			Quantity			Heat ID.		Heat No.		Raw Material Mfg		Raw Certificate NO.						
12	45 E L/R STD SEAMLESS	10					4590		014590		TIANJIN		11081006						
12	45 E L/R STD SEAMLESS	10					5413		1015413		SUMITOMO		WYYL7675						
13	45 E L/R STD SEAMLESS	14					A410		1133410		HENG YANG		2011-01-0624-4.						
33	90 E S/R STD SEAMLESS	16					5455		205455		TIANJIN		11031120						
36	180 E L/R STD SEAMLESS	3					A740		314740		BAOSHAN		1105300002400						
66	90 E L/R XS SEAMLESS	3					6044		316044		BAOSHAN		1108050015200						
Specifi cation	Chemical Composition %												Tension Test			HARD NESS TEST	Heat  Treatment	Magnetic Particle Exam.	Remark
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	C.E.	Y.S.	TS	E				
	×100	×100	×100	×1000	×1000	×100	×100	×100	×100	×1000	×1000	×100	P.S.I	P.S.I	%				
	MIN		10	29									35000	60000	30				
MAX	30		106	50	58	40	40	40	15	80	20	50		95000		197			
12	17	23	105	12	3	7	3	8	3	0	0	36	49334	74000	45	136	620°C TO 980°C HOT FORMED		[DIN 50049/3.1B] EN10204 3.1 **& ISO 15156- 2009
12	19	20	86	12	8	2	1	3	0	0	0	33	44300	64500	40	135			
13	15	22	85	11	8	7	2	3	1	3	1	30	51511	67500	51	136			
33	15	23	68	6	4	7	3	3	2	<1	<1	27	39177	66000	48	134			
36	19	23	55	8	3	6	4	5	3	<1	<1	29	43240	71500	33	134			
66	18	25	55	8	3	4	3	4	2	<1	<1	28	42224	67600	36	138			

C.E.=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

We hereby certify that the material herein described has been manufactured, sampled, tested and inspected in accordance with the requirements of above specifications and purchaser's order.

Chief of Quality Assurance Section

L. S. Tsai



Manufacturer of Piping and Pressure Vessel Components

4404 Haygood St - Houston, TX 77022

Phone: 713-695-3633 Fax: 713-695-3528

A Bonney Forge Company

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Sold To: TRANS AM PIPING PRODUCTS  
 LTD  
 9335 ENDEAVOR DRIVE S.E.  
 CALGARY AB T3S 0A1

MTR #: 238,725

PO #: CI-12-523

Sales Order #: C001213717

Date: 09/25/2012

This product has not come in direct contact with mercury or any of its compounds, nor with any mercury-containing device employing a single boundary of containment. No welding performed.

We certify that the contents of this report are correct and accurate, and that all test results and operations performed by WFI or its subcontractors are in compliance with the material specification and requirements of the referenced code or standard, and that the material conforms to the dimensional requirements of the order. This document is in accordance with EN10204 3.1.

Material: A/SA105N 09

Item	Quantity	Description
4	1,000	36 - 1 1/2 X 3/4 3M THP ← A/SA105N
17	2,500	36 - 1 1/2 X 3/4 3M SWP A/SA105N

#### Chemical Composition

Ladle	C	CR	CU	MN	MO	NB	NI	P
	0.201	0.06	0.140	0.97	0.007	0.012	0.03	0.012
	S	SI	V					
	0.019	0.18	0.004					

Carbon Equivalency: Ladle 0.39

Product	Tensile PSI	Yield PSI	Elong %	RA %	Hardness
	73,500	47,200	29.00	59.00	141 BHN

Normalized

IAW NACE MR0175/ ISO 15156- 2009



Manufacturer of Piping and Pressure Vessel Components

4404 Haygood St - Houston, TX 77022

Phone: 713-695-3633 Fax: 713-695-3528

A Bonney Forge Company

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Sold To: TRANS AM PIPING PRODUCTS  
 LTD  
 9335 ENDEAVOR DRIVE S.E.  
 CALGARY AB T3S 0A1

MTR #: 258,027

PO #: CI-13-444

Sales Order #: C001311061

Date: 07/26/2013

This product has not come in direct contact with mercury or  
 any of its compounds, nor with any mercury-containing  
 device employing a single boundary of containment. No  
 welding performed.

We certify that the contents of this report are correct and  
 accurate, and that all test results and operations performed  
 by WFI or its subcontractors are in compliance with the  
 material specification and requirements of the referenced  
 code or standard, and that the material conforms to the  
 dimensional requirements of the order. This document is in  
 accordance with EN10204 3.1.

### Certified Material Test Report

Heat Code: 59065

Material: A/SA105N 09

Item	Quantity	Description
3	750	36 - 3/4 X 1/2 3M THP A/SA105N

#### Chemical Composition

Ladle	C	CR	CU	MN	MO	NB	NI	P
	0.200	0.11	0.060	1.07	0.012	0.013	0.02	0.007
S	SI	V						
	0.019	0.19	0.004					

Carbon Equivalency: Ladle 0.41

Product	Tensile PSI	Yield PSI	Elong %	RA %	Hardness
	79,500	49,500	28.00	66.00	163 BHN

Normalized

IAW NACE MR0175/ ISO 15156- 2009

Marie Dehmer

Quality Assurance Representative



Manufacturer of Piping and Pressure Vessel Components

4404 Haygood St - Houston, TX 77022

Phone: 713-695-3633 Fax: 713-695-3528

A Bonney Forge Company

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Sold To: TRANS AM PIPING PRODUCTS  
 LTD  
 9335 ENDEAVOR DRIVE S.E.  
 CALGARY AB T3S 0A1

MTR #: 246,756

PO #: CI-13-124

Sales Order #: C001300902

Date: 02/05/2013

This product has not come in direct contact with mercury or  
 any of its compounds, nor with any mercury-containing  
 device employing a single boundary of containment. No  
 welding performed.

We certify that the contents of this report are correct and  
 accurate, and that all test results and operations performed  
 by WFI or its subcontractors are in compliance with the  
 material specification and requirements of the referenced  
 code or standard, and that the material conforms to the  
 dimensional requirements of the order. This document is in  
 accordance with EN10204 3.1.

### Certified Material Test Report

Heat Code: 58962

Material: A/SA105N 09

Item	Quantity	Description
4	34	36 - 3/4 X 1/2 3M THP A/SA105N

#### Chemical Composition

Ladle	C	CR	CU	MN	MO	NE	NI	P
	0.200	0.04	0.070	1.05	0.005	0.012	0.02	0.009
	S	SI	V					
	0.019	0.20	0.004					

Carbon Equivalency: Ladle 0.39

	Tensile PSI	Yield PSI	Elong %	RA %	Hardness	
Product	79,000	47,700	28.00	63.00	159 BHN	163 BHN

Normalized

IAW NACE MR0175/ISO 15156-2009





3020 FORON RD.  
1121 HARRISON AV PMB 293  
CENTRALIA WA 98531

# Material Test Report

Manufactured by:  
Salzgitter Mannesmann PreciS  
BP77 ZI VITRY MAROLLES  
Vitry-le-Francois  
(Vitry) FRANCE, 51303

Customer Order No: 4503903181

Scot Order No: 786478.02

CAMERON MEASUREMENT SYSTEMS 5003-93RD STREET EDMONTON AB T6E 5S9	Material Supplier: Part Number: Scot Rec. No:	99129.00 9A-C1609-024-04200 10124154
--	---	--

Heat Number: 9012973946	Grade:	Dimensions: 3.500" OD 2.900" ID X 25R30
Scot Spec: MS-	ASTM Spec: A106-B	Other Spec: MS00022-H

Description: CDS NORMALIZED STEEL TUBING

Chemical Analysis	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	CE
	0.159	0.763	0.013	0.004	0.201	0.13	0.084	0.165	0.053	0.002	0.3448

## Mechanical Test Results

Yield Strength:(PSI)	Tensile Strength:(PSI)	Elongation:(%) in 2" G.L.	ROA:(%)	Hardness
46952	70728	37.51	( )	

## Charpy Impact Energy

Energy ( )		Shear Area (%)		
Temp	1	2	3	Avg

The reported analysis and test results are certified to be the same as furnished to us by our supplier.  
All records and test reports covering the above materials are on file at Scot Industries and may be examined by your personnel or by any agent authorized by you.

Eddy Current
OK

*Young Woo Lee*  
Quality Assurance

07/19/13