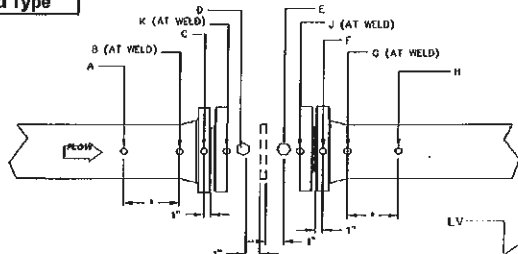


Meter Tube Calibration Record

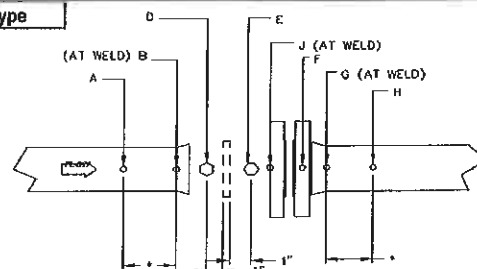
General Specifications

Customer:	RJV Gasfield Services	Date:	December 12, 2012
Location:		P.O. Number:	125597
Serial No.	11262616201	Work Order No.	112626162
Assembly Part No.	9A-MR_52_0064C	Part No.	40552-33221
Orifice Fitting:	2" 600# SCH. 80 DUAL CHAMBER	Meter Tube Type No.	2
Straightening Vane / Flow Conditioner	Yes	X	No

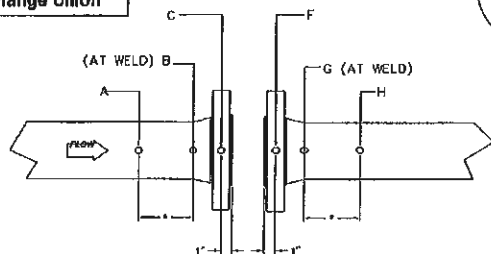
Type 1 Flanged Type



Type 2 Flangeweld Type



Type 3 Orifice Flange Union

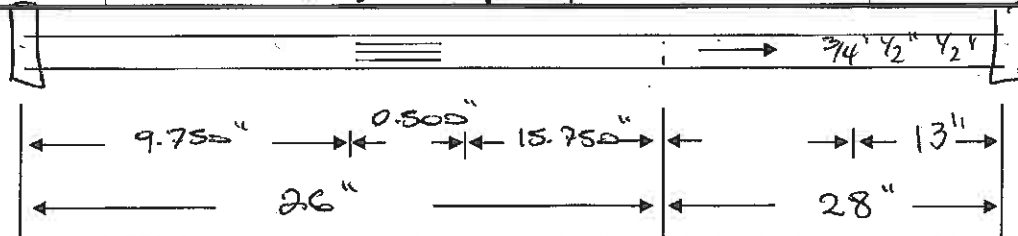


Type 4 weldneck Type Valve or Door

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	1.944	1.937		1.939		1.938	1.930	1.948	1.950	1.944
LV	1.945	1.941		1.938		1.939	1.936	1.944	1.946	1.944
RV	1.945	1.944		1.937		1.938	1.933	1.946	1.948	1.943
H	1.946	1.937		1.937		1.937	1.934	1.948	1.946	1.940
Average	1.945	1.940		1.938		1.938	1.933	1.947	1.948	1.943
Upstream Mean Average to Stamp on I.D. Plate	1.938					Downstream Mean Average to Stamp on I.D. Plate	1.938			



AGA/API Figure	3 (2000)	BETA	0.07	Meter Tap Location	Upstream	Downstream
Remarks:	68°F			Inspector:	Chris Robertson	



the pressure equipment safety authority

Certificate of Authorization Permit

Quality Management System

Expiry Date: **December 9, 2013**

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

This is to certify that:

**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:

Manufacture Category 'F' Fittings in accordance with CSA B51

at the above SHOP address.



Dated at Edmonton, this 7th day of December, 2010

Chief Inspector and Administrator

Certificate No.: 7735

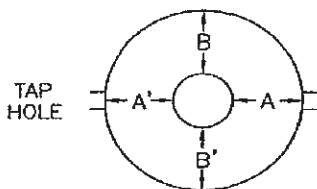
**Cameron Measurement Systems**

3707 - 97th Street

Edmonton, Alberta, Canada T6E 6J2

**QUALITY CONTROL
INSPECTION REPORT**

Customer: R/V Gas Field Svcs Date: December 13, 2012
Location: _____ Purchase Order No.: 125597
Serial No.: 11262616201 Orifice Fitting: 2" 600# sch 80 Dual Chamber Meter Run
Assembly No.: 9A-MR_52_0064C Hydrostatic Test Pressure: 2225
Meter Tube Design Standard API 14.3 Duration: 15 Minutes

ECCENTRICITYHorizontal $(A - A')/2$Vertical $(B - B')/2$

0.003	0.004
0.002	0.003

Measurement Instrument: _____

Mitutoyo Dial Indicator**PRESSURE TAP HOLE VARIATION**

Distance from Plate & Hole Diameter

Upstream	Hole	Downstream	Hole
1.001	0.375	0.998	0.375

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

94
92
54
70

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 #: 112626162Lorne Dagg/ Leigha Jarvis

**NUFLO™ DUAL CHAMBER
ORIFICE FITTING**

PART NO. **40552-33221**
 SERIAL NO. **11262616201**
 SIZE **2.0** BORE **1.939**
 SWP **1480** FLG **600**
 TRIM **SWEET**

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.

9A-MR_52_0064C

SERIAL NO. **11262616201**

US DIA. **1.938**

DIS DIA. **1.938**

PIPE SIZE **2.0**

SCH **80**

RATING **600**

AGATA **3 (2000)**

MATL **WCB**

DATE **12/12**

W.O. NO. **112626162**

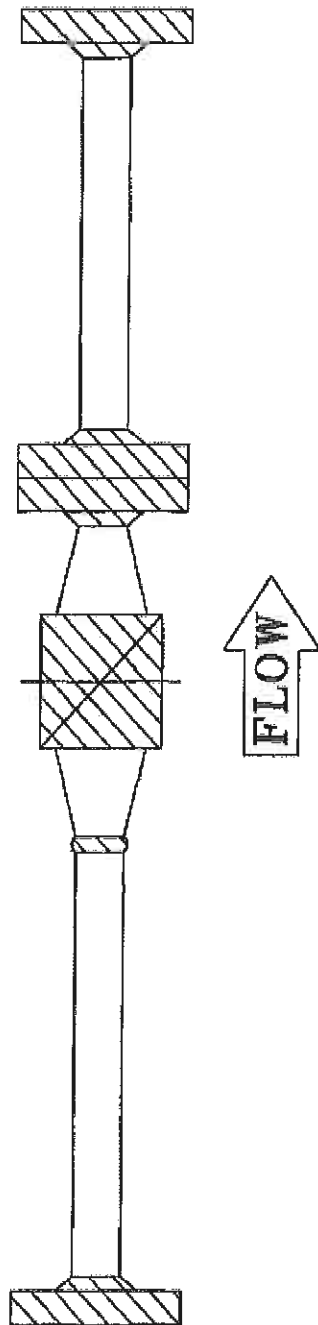
CALIBRATION:
CERTD BY

CAMERON

CRN (ASME CODE) 0F01120-2C

 **CAMERON**
 EDMONTON, ALBERTA, CANADA

WELD AND RADIOGRAPHY IDENTIFICATION MAP



Description: 2" 600# sch 80 Dual Chamber Meter Run

Serial No.: 11262616201

Customer: RJV Gasfield Services

P/O No.: 125597 TAG No.: N/A

W/O No.: 112626162 End User:

Radiography Unit: N/A

Welder: Alejandro Soto File No.: W-13945

Date: 12/13/2012 Lorne Dagg

Symbol: D Quality Assurance Inspector

CAMERON
Measurement Systems

7944 - 10th Street NE

Calgary, Alberta

T2E 8W1

**LUDWIG ASSOCIATES LTD.**

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

Materials and Welding Consulting

WELDER PERFORMANCE QUALIFICATION CARDName: **Alejandro Soto**ABSA File No. **W - 13945**

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

April 20, 2012

Date of Test

Signature of Welder or Machine Operator

Colin Burnette

Welding Examiner

Card No. **01292****PERFORMANCE QUALIFICATION****01292**

Process(es)	GMAW	8MAW	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.	0.572 in.	Position(s) Qualified	F6: SP 0-45° F4: Flat
Backing	With or Without	With	Backing Gas	With or Without
Progression	Downhill	N/A		

April 20, 2014

P.Q. Expiry Date

Welding Examiner Signature

E-00391

Examiner File No.

**LUDWIG ASSOCIATES LTD.**

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

Materials and Welding Consulting

WELDER PERFORMANCE QUALIFICATION CARDName: **Alejandro Soto**ABSA File No. **W - 13945**

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

April 20, 2012

Date of Test

Signature of Welder or Machine Operator

Colin Burnette

Welding Examiner

Card No. **01293****PERFORMANCE QUALIFICATION****01293**

Process(es)	FCAW	Materials (P.No)	P1
Filler Metal Group (F.No)	F6	Min. Outside Diameter	2.875 in. O.D.
Max. Deposited Weld Metal	MAX	Position(s) Qualified	Flat & Horizontal
Backing	With	Backing Gas	With or Without
Progression	N/A		

April 20, 2014

P.Q. Expiry Date

Welding Examiner Signature

E-00391

Examiner File No.

Alberta

08289

the pressure equipped safety authority

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

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

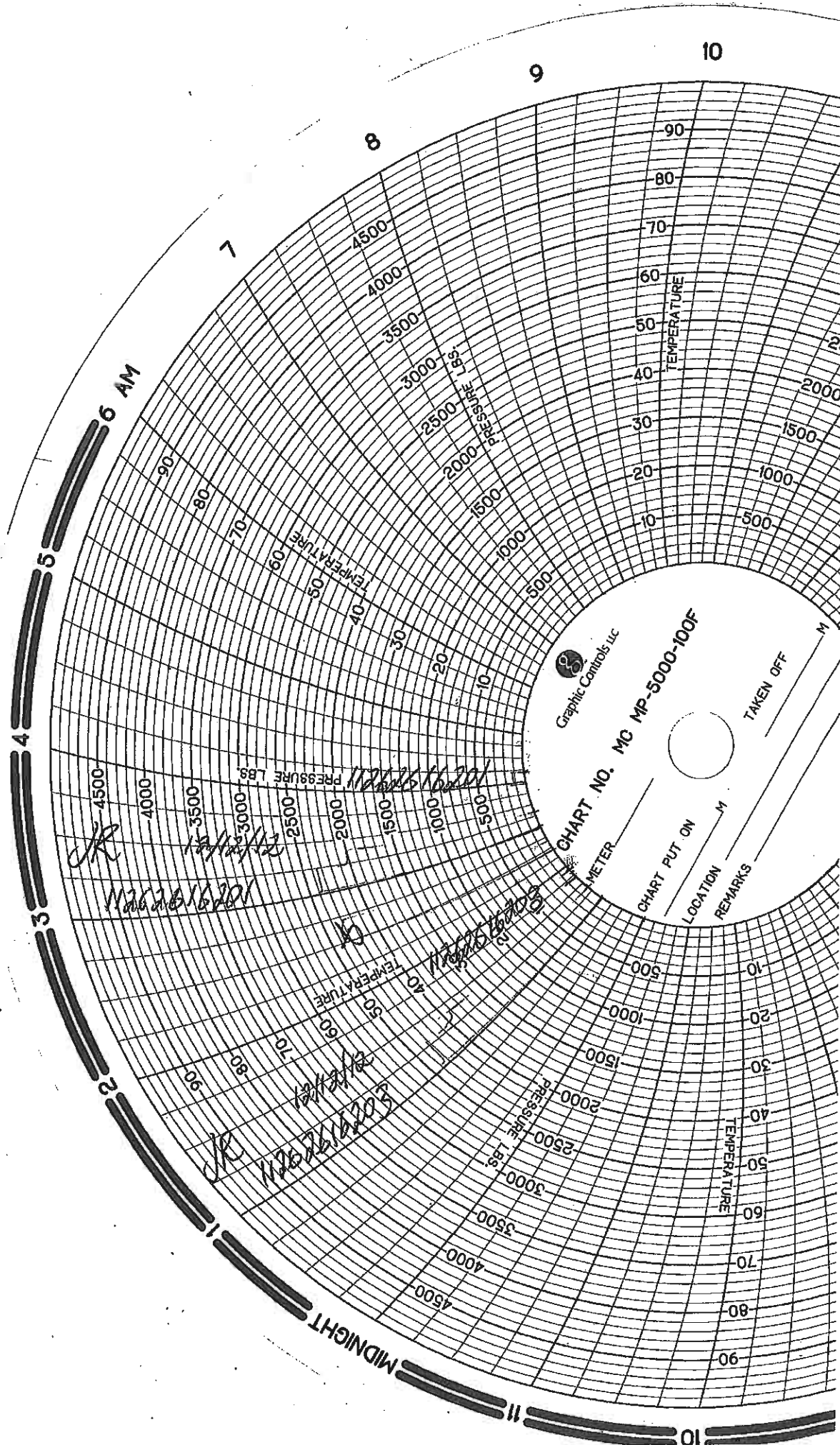
Dated at Edmonton
September 19, 1994



W-13945

File no.

Chief Inspector and Administrator



MST1201
9/22/11

Highland Foundry Ltd.
CHEMICAL AND PHYSICAL ANALYSIS

Page 1
10:02:24

Product# . . . : 40552-026 Order/Item# . . : 35510 / 6
Customer Part#: 40552-026 Customer P.O.#: 4502938084
Customer . . . : CAMERON MEASUREMENT SYSTEMS
 ACCOUNTS PAYABLE
 5003 - 93RD STREET
 EDMONTON AB T6E 5S9
 CANADA


Approved by: Shauna Puchniak
Quality Assurance Technician

Melt#	Quantity	Date	Heat Treat	BATCH #	Specification
3-10591	24	8/26/11	4AY	-	ASTM A216 WCB

C H E M I C A L S			
+C :.2370	MN:.9980	SI:.4550	P :.0154
S :.0044	NI:.0540	CR:.2380	MO:.0384
CU:.0754	V :.0200		

P H Y S I C A L S			
YIELD KSI	56.3	TENSILE KSI	88.7
ELONGATION %	28	RED OF AR. %	59
IMPACT FT LB		IMPACT FT LB	
IMPACT FT LB		TEST TEMP.	

CE = .47



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	4502938084
Part Number & Description	40552-026 2" Dual CH.Body 150#-900#	Order Number	35510/6
Material Specification	ASTM A216 Gr WCB	Date	09/22/11
Inspection Method	ASTM E10	Qty	70

Equipment Used: Portable King Brinell Tester

Type of Ball: Regular ☒ Carbide ☐

Load: 3000 kg

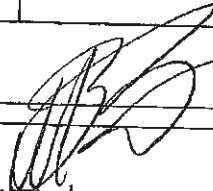
Holding Time: 10 sec

Hardness Required: 237 Max Brinell ☒ Rockwell ☐

Heat No. / Batch No.	% of Batch Tested	Hardness Obtained
4-10143/3AY	per heat	179, 179, 179
3-10591/4AY	per heat	179, 170, 187
5-10656/5AY	per heat	163, 163, 163

Remarks:

Tested By:


Max Zanazovsky
Inspector

MST1201
3/30/11

Highland Foundry Ltd.
CHEMICAL AND PHYSICAL ANALYSIS

Page 1
11:19:08

2" D/c H10

Product# . . . : 40701-052
Customer Part#: 40701-052
Customer . . . : CAMERON MEASUREMENT SYSTEMS
ACCOUNTS PAYABLE
5003 - 93RD STREET
EDMONTON AB T6E 5S9
CANADA

Order/Item# . . : 34965 / 4
Customer P.O.#: 4502773688

Approved by: *Shauna Puchniak*
Shauna Puchniak
Quality Assurance Technician

Melt#	Quantity	Date	Heat Treat	BATCH #	Specification
2-10015	42	3/11/11	YW8	-	ASTM A216 WCB

C H E M I C A L S			
C : .1900	MN : .8200	SI : .5100	P : .0180
S : .0240	NI : .0300	CR : .1900	MO : .0400
CU : .1400	V : .0200		

P H Y S I C A L S			
YIELD KSI	50.0	TENSILE KSI	75.9
ELONGATION %	33	RED OF AR. %	62
IMPACT FT LB		IMPACT FT LB	
IMPACT FT LB		TEST TEMP.	

CE = .46



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	4502773688
Part Number & Description	40701-052 2" Dual CH. LID	Order Number	34965/4
Material Specification	ASTM A216 Grade WCB	Date	03/29/11
Inspection Method	ASTM E10	Qty	210

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
1-4764/YW5	10%	170 170 183 183
2-10013/YW6	10%	183 187 170 187
2-10013/YW7	10%	174 183 187 183
2-10015/YW8	10%	179 179 179 183
2-10015/YW9	10%	179 179 170 183

Remarks:

Tested By:

Kulvinder Sandhu
Kulvinder Sandhu
CGSB 48.9712, Level 2, Reg# 10783

w/o 17660-001

1/2

ASCOMETAL

DOCUMENT DE CONTROLE

Inspection Documents / Prüfbescheinigungen



Département Métallurgie Qualité
Unité des Documents - Boîte postale 11
59111 Dunkerque Cedex 2
Téléphone : 03 20 29 60 60
Télécopie : 03 20 29 60 63

Inspection Certificate 3.1
N° EN 10204 : 10204
N° EN 10204 : 10204
N° EN 10204 : 10204

Livraison : 50162405 / 000007
N° Contrôle : 035090174588

Date : 21.04.2011
Date d'édition : 17.05.2011

ORDRE DE FABRICATION : 112081AB	COULÉE : 112001	DESTINATAIRE DOCUMENT : 1
AFFAIRE SUIVIE PAR : ORPHEE GINETTE		
N° REFERENCE : 50162405 / 000010 (70047195)		
VINCEANCE : SOC-13240 527102640 (5497		
QUANTITE : 21.12.2010		
PRODUIT : 6,673 TO		
PRODUIT : A105 RON ECR 6,750 IN NOIR		
SPECIFICATION CLIENT : CORUS 0676-010R		
END : SANS	DATE : 06.11.2002	CCI : D000002218
SPECIFICATIONS SUPP. : SANS		

Analyse chimique de coulée / Ladle analysis / Schmelzanalyse

Éléments (%)	Éléments	Tout	C	Mn	Si	Cr	Mo	Al	Cu	P	S	As
Éléments	Éléments	Unité										
Min	Spec min	Min	0,170	0,590	0,150							
Max	Spec max	Max	0,240	1,350	0,360	0,140	0,125	0,033	0,150	0,010	0,010	0,034
Éléments	Éléments	Tout	V	Co								
Min	Spec min	Min	0,004	0,0000								
Max	Spec max	Max	0,020	0,0200								

Contraintes groupées

Éléments	Min	Max
Cr-Mn	0,423	0,450
Si-Cr-Mn-Cu	0,426	1,560
Cr-Mn	0,171	0,325

Caractéristiques mécaniques / Mechanical properties / Mechanische Kennwerte

Traction / Tensile test / Zugversuch

Nappe / Batch number / Los number : N431

Diameter of test specimen (in) : 0.50

Modulus of elasticity

Longitudinal test

Tensile test temperature (°F)

70

Éléments	Éléments	Test	Ys 25%	UTS	E (in)	RA
Unité	Unité	Modulus	PSI	PSI	%	%
Min	Spec min	Min	45000	76000	22,0	30
Max	Spec max	Max	46500	73300	30,9	64

Résonance / Impact test / Kerbschlagprüfung

Nappe / Batch number / Los number : N431

Notch test 10 x 10

Modulus of elasticity

Charpy V notch

Longitudinal test

Impact test temperature (°F)

-50

Éléments	Éléments	Test	FuLbs	FuLbs	FuLbs	% shear	% shear	% shear	Mils LE	Mils LE	Mils LE
Unité	Unité	Modulus	PSI	PSI	PSI	%	%	%	MILLS	MILLS	MILLS
Min	Spec min	Min	15.0	15.0	15.0	1.0	1.0	1.0	15.0	15.0	15.0
Max	Spec max	Max	93.5	103.5	98.0	100.0	100.0	100.0	53.3	56.7	55.7

Notations : Les données sont en unités américaines
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Les données sont en unités américaines
Les données sont en unités américaines

ASCOMETAL
SA à direction et conseil de surveillance
au capital de 65 385 436 EUR
131 045 132 RCS Nanterre

Siège social : Immeuble Le Cohère - Avenue de Thion, Frouberg de l'Arche, 92419 COURBEVOIE Cedex

P102640 I-549763 117#42081 R109259

2711

ASCOMETAL

DOCUMENT DE CONTROLE
Inspection Documents / Prüfungszeugnisse



Attestation d'acceptation Qualité
Attestation de Qualité - Dotation de Qualité
19971121 - 19971121
Téléphone : 05 11 18 00 00
Télécopieur : 05 11 18 00 00

2/2

Inspection Certificate 3.1
N° EN 10204 : 2004
N° EN 10204 : 2004
N° EN 10204 : 2004

Livraison : 30103405 / 020607
N° Contrôle : 030609171854

Date : 21.04.2011
Date d'édition : 17.06.2011

ORDRE DE FABRICATION : H2031AB		COULEE : 10381		DESTINATAIRE DOCUMENT :	
APPAIRE SCHEMIE PAR : ORPHEE CINETTE		COULEE : 10381		REQUISIT :	
NUMEROUS : 501050004 / 000010 (700-47195)				Société	
NUMEROUS : 501050004 / 000010 (700-47195)				ENCORE METALS	
VIREREFERENCE : 50C-13240 F37P102640 (5407				EDMONTON	
NUMEROUS : 21.12.2010				ALBERTA T6E 6A1	
QUANTITE : 8.675 TO		NUANCE : A105		Canada	
PRODUIT : A105 RON ECR 6,750 IN NOR				MARQUE :	
SPECIFICATION CLIENT : CORUS 0876-010R					
IND : SANS		DATE : 06.11.2002		CCU : D080501223N	
REF : SANS		DATE : 06.11.2002			
SPECIFICATIONS SUPP. : SANS					

Traitement thermique / Heat treatment / Wärmebehandlung					
Traitement	T Min	T	T Max	Durée	Refroidissement
Norm. temp.		1652 °F		3.30 hrs	Normalized air cooled

Dureté de surface sur barres / Bars surface hardness / Stäbe Oberflächen					
Éléments	Éléments	Tot	BHN 10p		
Min	Spec min	Min			
Valeur	Actual	Werte	163		
Max	Spec max	Max	187		

Autres résultats / Other results / Andere Prüfergebnisse					
Éléments	Min	Valeur	Max		
Grain size M-Qualité Eln	3	7	8		
Electric furnace - vacuum deaerated					
Conforms to NACE MR 01-73					
Ultrasonic testing 100% satisfactory					
Conforms to ASTM A103 - A350LF2					
Conforms to ASTM A996 gr C - ASME SA996 gr C					
Conforms to API 6A type 4SK - PSL1-3 c11					
Conforms to ASME SA 105/SA350LF2					
LJN					
Produit en France / Product of France / In Frankreich hergestellt					
M031					

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

A. Fasquelle

Notas certifica que los productos sometidos han sido inspeccionados y
verificados de la manera indicada, respetando la directiva y el estándar
ISO 9001 de 1994 y el estándar de la norma de
inspección de la industria de la construcción.

ASCOMETAL
SA à direction et conseil de surveillance
au capital de 65 285 430 EUR
331 048 132 RCS Nanterre

We hereby certify that the inspected products are acceptable and
the order is complete, as inspected by the standards, ISO 9001-
2001/ISO 9001 - European standard, and have a customer report of which
contains several that present in the various cases.

Siege social : Immeuble Le Collège - 8, avenue de l'Éche, F-93119 COURBEVOIR Cedex

Wir bestätigen hiermit dass die übergebenen Erzeugnisse den
Bestandards entsprechen, der EU-Normen 2000/ISO 9001
entsprechen 100% zufriedenstellend und die geprüften Produkte keine
Rückmeldung hat, die 100% für die meisten Fälle der Industrie
entsprechen.



SAN ENG STEEL FORGING CO. LTD.
311, Jen Hsin Road, Jen Wu District
Kaohsiung, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712823
URL: www.saneng.com.tw
E-mail: saneng@kbs.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1.B(DIN50049/3.1.B)
Customer: SEYBOLD INTERNATIONAL CORP.
Order No.: Z004594(S)-VL

Certificate No.: SE-4594E
Date: 07/02/2012
Page: 1 OF 1

PRODUCT			MATERIAL SPECIFICATIONS			DIMENSIONAL SPECIFICATIONS												
FORGED CARBON STEEL FLANGES			ASTM A105-11a/ASME SA105-11a			ASME B16.5-09 CSA Z245.12												
Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)										CE(%)				
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N			
1	4616-106S	150 WNRFS XS(ID=4'-0.00"MAX) 2" A105N	1,200 PCE	0.350 0.320	0.100 0.350	0.600 1.150	0.035 0.019	0.040 0.005	0.400 0.008	0.300 0.000	0.400 0.010	0.120 0.003	0.090 0.010	0.020 0.001	0.005 0.005	0.417 0.417		
3	4601-106S	600 WNRFS XS(ID=4'-0.00"MAX) 2" A105N	1,100 PCE	0.190	0.210	1.080	0.011	0.009	0.050	0.110	0.040	0.020	0.001	0.001	0.008	0.404		
4	4551-105S	600 WNRFS XS(ID=4'-0.00"MAX) 2" A105N	100 PCE	0.212	0.100	1.050	0.011	0.013	0.018	0.045	0.046	0.005	0.037	0.005	0.005	0.408		
5	4931-105	600 WNRFS S160 2" A105N	247 PCE	0.210	0.220	1.160	0.014	0.005	0.006	0.010	0.010	0.002	0.003	0.001	0.007	0.407		
6	4931-105	600 WNRFS S160 2" A105N	48 PCE	0.210	0.220	1.160	0.014	0.005	0.006	0.010	0.010	0.002	0.003	0.001	0.007	0.408		
7	24118-106	300 WNRFS XS 2" A105N	30 PCE	0.212	0.250	1.050	0.011	0.013	0.018	0.045	0.046	0.005	0.037	0.005	0.005	0.408		
8	4814-105	300 WNRFS XS 10" A105N	25 PCE	0.220	0.220	1.130	0.017	0.005	0.007	0.020	0.010	0.003	0.005	0.001	0.003	0.415		
8	4336-105	300 SORF 18" A105N	20 PCE	0.180	0.120	1.110	0.021	0.003	0.008	0.200	0.010	0.002	0.004	0.001	0.007	0.407		
10	4650-105	150 WNRFS XS 24" A105N	10 PCE	0.190	0.210	1.110	0.012	0.005	0.120	0.130	0.110	0.020	0.005	0.001	0.008	0.421		
Item No.	Heat No.	T.S.(ksi) (MPa)	Y.S.(ksi) (MPa)	E.L.(%)	Hardness (HRC)	R.A.(%)	Impact Test Temp: Minimum: Joule		Material Supplier	HEAT TREATMENT(°C)		REMARKS						
							1	2		N	N	N	N	N				
1	4553940	531.0	352.0	33.4	159/151	68.8			ACOMINAS	880°CX3HRS	CONFORMS WITH NACE MR0103-10 AND NACE	CONFORMS WITH Z245.12 CAT 1 GR 248 SOUT SERVICE-09 FOR USE AS WELDING NECK AND BLIND FLANGES ONLY						
3	280143	529.0	344.0	35.6	159/151	66.8			UBE STEEL	MR0175/ISO 15158 2-09								
4	4553940	531.0	352.0	33.4	159/151	68.8			NTMK	CONFORMS WITH Z245.12 CAT 1 GR 248 SOUT SERVICE-09 FOR USE AS WELDING NECK AND BLIND FLANGES ONLY								
5	21379	513.9	354.0	34.2	152/150	68.8			ACOMINAS	880°CX3HRS								
6	4522508	520.0	383.0	36.4	152/150	71.3			NTMK	CONFORMS WITH Z245.12 CAT 1 GR 248 SOUT SERVICE-09 FOR USE AS WELDING NECK AND BLIND FLANGES ONLY								
7	21379	513.9	354.0	34.2	152/150	68.8			ACOMINAS	880°CX3HRS								
8	4490555	545.2	399.1	36.6	158/154	70.4			NTMK	CONFORMS WITH Z245.12 CAT 1 GR 248 SOUT SERVICE-09 FOR USE AS WELDING NECK AND BLIND FLANGES ONLY								
9	4316236	601.1	327.5	37.4	150/147	74.5			ACOMINAS	880°CX3HRS								
10	450526	503.1	363.5	34.8	150/148	73.8			GODO STEEL	CONFORMS WITH Z245.12 CAT 1 GR 248 SOUT SERVICE-09 FOR USE AS WELDING NECK AND BLIND FLANGES ONLY								
*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.																		



VL QA Approved



Manufacturers of Piping and Pressure Vessel Components

4407 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 #: 227,018

PO #: CI-12-213

Sales Order #: C001203284

Date: 03/23/2012

Certified Material Test Report

Heat Code: 58627

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
8	500	36 - 3/4 X 1/2 3M THP A/SA105N IAW NACE MR0175/ISO 15156-2009

Chemical Composition

Ladle	C	CR	CU	MN	MO	NB	NI	P
	0.220	0.03	0.050	1.05	0.000	0.013	0.02	0.006
S	SI	V						
	0.020	0.21	0.003					
Carbon Equivalency:	Ladle			0.41				

Product	Tensile PSI	Yield PSI	Elong %	RA %	Hardness	
Normalized	81,500	53,500	31.00	56.00	163 BHN	163 BHN

Marie Dehmer

Quality Assurance Representative



Manufacturer of Piping and Pressure Vessel Components
 4407 Haygood St - Houston, TX 77022
 Phone: 713-695-3633 Fax: 713-695-3528
 A Bunnay Forge Company

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

MTR #: 216,196
 PO #: CI-11-571

Sales Order #: C001112723 Date: 10/03/2011

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: 58425

Material: A/SA105N-09

Item 8 Description
 36 - 3/4 X 1/2 3M THP
 A/SA105N

Chemical Composition

Ladle	C	CR	CU	NI	MO	NB	NI	P
	0.200	0.05	0.110	1.02	0.010	0.600	0.64	0.008
	0.019	0.18	0.004					
Carbon Equivalency:	Ladle 0.39							

Product	Tensile PSI	Yield PSI	Elong %	RA %	Hardness
Normalized	76,250	51,875	30.80	63.95	137 BHN
					139 BHN

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

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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.

Certified Material Test Report

Heat Code: 58847

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					141 BHN

IAW NACE MR0175/ISO 15156-2009

Marie Dehmer
 Quality Assurance Representative



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

Material Test Report

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

Customer Order No: 4503249229

Scot Order No:

760008.02 Country of Origin: FRANCE

CAMERON MEASUREMENT SYSTEMS
5003-93RD STREET

Material Supplier:
Part Number: 9A-C1609-016-04200
Scot Rec. No: 10108319

EDMONTON AB T6E-5S9

Heat Number: 9011769772 Grade:
Scot Spec: MS- ASTM Spec: A106-B
Description: CDS NORMALIZED STEEL TUBING

Dimensions: 2.375" OD 1.939" ID X 25R30
Other Spec: MS00022

Chemical Analysis

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	CE
0.17	0.754	0.009	0.003	0.195	0.134	0.067	0.193	0.051	0.3579

Mechanical Test Results

Yield Strength:(PSI)	Tensile Strength:(PSI)	Elongation:(%) in 2" G.L	ROA:(%)	Hardness
51053	71938	34.45		

Charpy Impact Energy

Temp	1	2	3	Avg	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
02/17/12