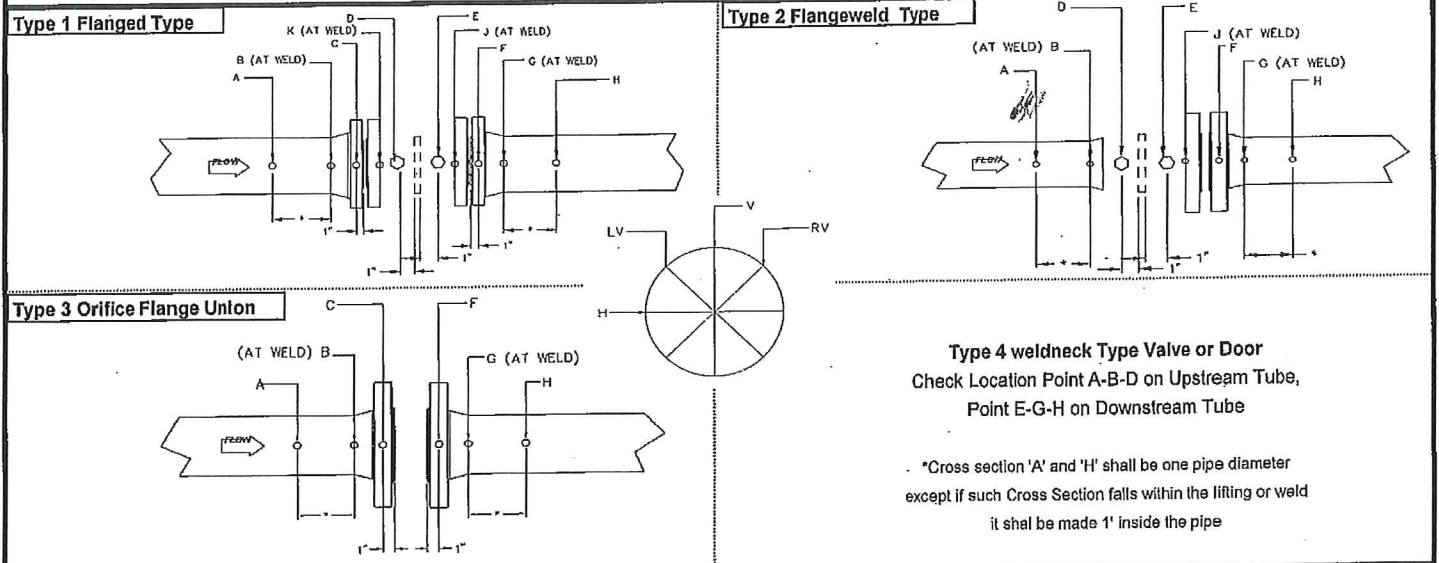


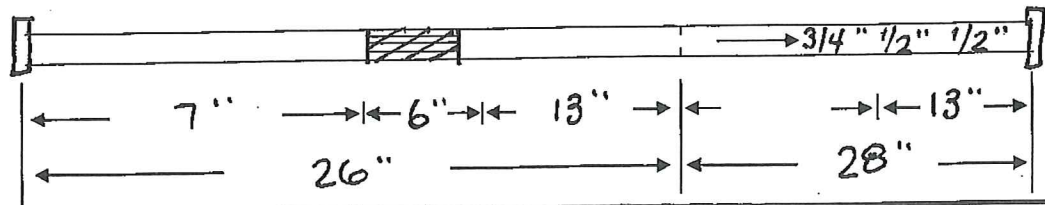
Meter Tube Calibration Record

General Specifications

Customer:	RJV GASFIELD SERVICES	Date:	06/27/2011
Location:	HUSKY	P.O. Number:	118106
Serial No.:	11209214609	Work Order No.:	112092146
Assembly Part No.:	9A-MR-52-0168E	Part No.:	40552-34221
Orifice Fitting:	2" 600# SCH. 80 DUAL CHAMBER	Meter Tube Type No.:	2
Straightening Vane:		Yes	X No



Location	Upstream Meter Tube					Downstream Meter Tube				
	A	B	C	D	K	E	F	G	H	J
V	1.934	1.930		1.937		1.937	1.948	1.944	1.940	1.936
LV	1.934	1.932		1.937		1.937	1.948	1.940	1.938	1.934
RV	1.935	1.931		1.940		1.940	1.949	1.942	1.931	1.941
H	1.935	1.935		1.940		1.940	1.950	1.940	1.928	1.938
Average	1.935	1.932		1.939		1.939	1.949	1.942	1.934	1.937
Upstream Mean Average to Stamp on I.D. Plate				1.939		Downstream Mean Average to Stamp on I.D. Plate				1.939



AGA/API Figure	BETA	Meter Tap Location			
3C(1991)	0.70	Upstream	1"	Downstream	1"

Remarks: 108°F Inspector:

Certificate of Authorization Permit

Quality Management System

Expiry Date: **January 19, 2013**

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

This is to certify that:

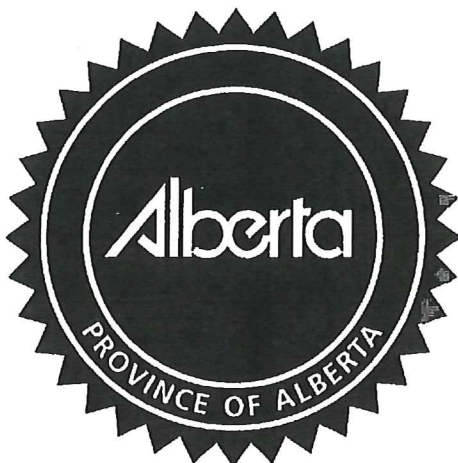
**CAMERON
MEASUREMENT SYSTEMS DIVISION
3707 - 97 STREET
EDMONTON, ALBERTA**

having complied with the provisions of the SAFETY CODES ACT, is hereby authorized to:

Manufacture Category 'F' Fittings in accordance with CSA B51

Alter Category 'C' Fittings in accordance with CSA B51

at the above SHOP address.



Dated at Edmonton, this 1st day of February, 2010

A handwritten signature in black ink, appearing to read "Shan", written over a horizontal line.

Chief Inspector and Administrator

Certificate No.: 7277

**NUFLO™ DUAL CHAMBER
ORIFICE FITTING**

PART NO. **40552-34221**
 SERIAL NO. **11209214609**
 SIZE **2.0** BORE **1.939**
 SWP **1480** FLG **600**
 TRIM **SWEET**

CRN (ASME CODE) 0F01120.2C



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-52-0168E

SERIAL NO. **11209214609**
 PIPE SIZE **2.0**
 AGA / API **3C (1991)**
 W.O. NO. **112092146**

U/S DIA. **1.939** D/S DIA. **1.939**
 SCH **80** RATING **600**
 MAT'L. **WCB** DATE **06/10**

CALIBRATION CERT'D BY

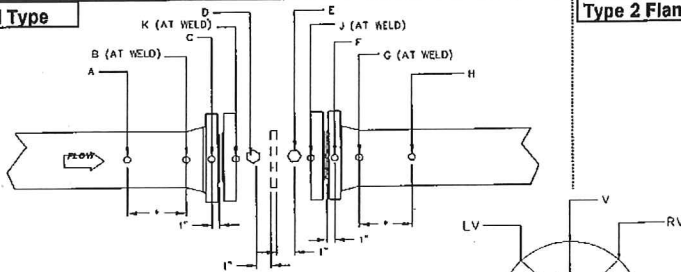
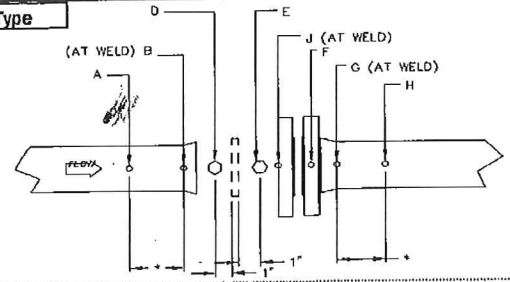
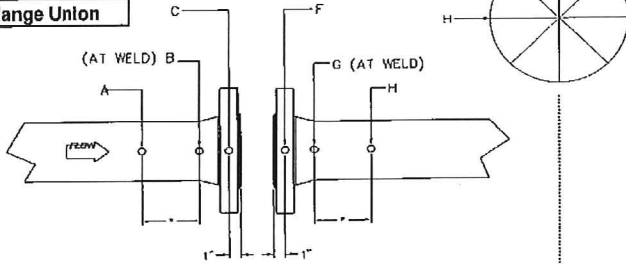
CAMERON

CRN (ASME CODE) 0F01120.2C



Meter Tube Calibration Record
General Specifications

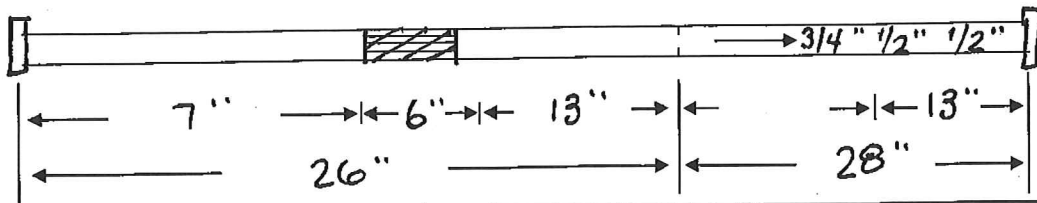
Customer:	RJV GASFIELD SERVICES	Date:	06/27/2011
Location:	HUSKY	P.O. Number:	118106
Serial No.	11209214609	Work Order No.	112092146
Assembly Part No.	9A-MR-52-0168E	Part No.	40552-34221
Orifice Fitting:	2" 600# SCH. 80 DUAL CHAMBER	Meter Tube Type No.	2
Straightening Vane:		Yes	X No

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	1.934	1.930		1.937		1.937	1.948	1.944	1.940	1.930
LV	1.934	1.932		1.937		1.937	1.948	1.940	1.938	1.934
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Average	1.935	1.932		1.939		1.939	1.949	1.942	1.934	1.937
Upstream Mean Average to Stamp on I.D. Plate				1.939		Downstream Mean Average to Stamp on I.D. Plate				1.939



AGA/API Figure	BETA	Meter Tap Location		
3C(1991)	0.70	Upstream	Downstream	1"
Remarks:	Inspector:			
108°F				



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

LUDWIG ASSOCIATES LTD.

Materials and Welding Consulting

WELDER PERFORMANCE QUALIFICATION CARD

Name: Colin Welby

ABSAP File No.: W-17591

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

February 14, 2011
Date of Test

Colin Welby
Signature of Welder or Machine Operator

Taylor Mason
Welding Examiner

Card No.: 05392



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

LUDWIG ASSOCIATES LTD.

Materials and Welding Consulting

WELDER PERFORMANCE QUALIFICATION CARD

Name: Colin Welby

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

February 14, 2011
Date of Test

Colin Welby
Signature of Welder or Machine Operator

Taylor Mason
Welding Examiner

Card No.: 05393

PERFORMANCE QUALIFICATION

05392

Processes	GMAW	SMAW	Materials (PNo) P1 to P1
Filler Metal Group (FNo)	F6	F4	Min. Outside Diameter 1.0 in.
Max. Deposited Weld Metal	0.110 in.	Max. to be Welded	Position(s) Qualified GMAW SP 045° & Flat SMAW Flat
Backing	With or Without	With	Backing Gas With or Without
Progression	Downhill	N/A	

February 14, 2013
P.Q. Expiry Date

Taylor Mason
Welding Examiner Signature

E-00329
Examiner File No.

PERFORMANCE QUALIFICATION

05393

Processes	GMAW	FGAW	Materials (PNo) P1 to P1
Filler Metal Group (FNo)	F6	F6	Min. Outside Diameter 1.0 in.
Max. Deposited Weld Metal	0.110 in.	Max. to be Welded	Position(s) Qualified GMAW SP 045° & Flat FGAW Flat
Backing	With or Without	With	Backing Gas With or Without
Progression	Downhill	N/A	

February 14, 2013
P.Q. Expiry Date

Taylor Mason
Welding Examiner Signature

E-00329
Examiner File No.

Alberta
LABOUR

ABSA

**Grade B Pressure Welders
Certificate of Competency**

This is to Certify that **Colin Welby**
having complied with provisions of the Safety Codes Act, is authorized to engage in pressure welding in accordance with the prescribed Regulations



W- 17591

File No

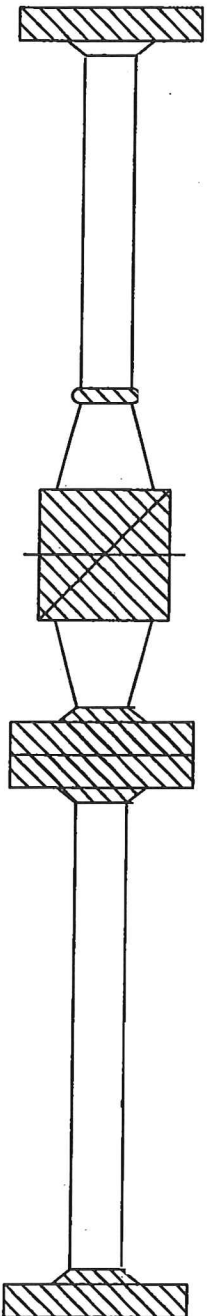
Dated at Edmonton this
April 8, 1999

Taylor Mason
Chief Inspector and Administrator

Form No AB-117 Rev (96/10)

No 12052

WELD IDENTIFICATION MAP



DESCRIPTION: 2" 600# SCH 80 DUAL CHAMBER METER RUN

SERIAL No.: 11209214609

CUSTOMER: RJV GASFIELD SERVICES

P/O No.: 118106

TAG No.: _____

W/O No.: 112092146

END USER: HUSKY

WELDER: COLIN WELBY

FILE No.: W-17591

DATE: JUNE 27/ 2011

Bryan O'Neill

SYMBOL: V

INSPECTOR



Cameron

Measurement Systems

5003 - 93rd Street

Edmonton, Alberta, Canada

T6E 5S9

Product# . . . : 40552-026
Customer Part# : 40552-026
Customer . . . : CAMERON MEASUREMENT SYSTEMS
ACCOUNTS PAYABLE
7944 10TH STREET N.E
CALGARY AB T2E 8W1
CANADA

Order/Item# . . . 29051 / 1
Customer P.O.# XP62140

2" DUAL CHAMBER BODY

Approved by: Shyan Smith
Quality Assurance Technician



Melt#	Quantity	Date	Heat Treat	BATCH #	Specification
6-8768	34	1/31/07		GB2 - -	ASTM A216 GRADE WCB

C H E M I C A L S

C .2000	MN:.7500	SI:.4700	P .0150
S .0120	NI:.0900	CR:.1200	MO:.0300
CU .0800	V : 0110		

P H Y S I C A L S

YIELD KSI	49.3	TENSILE KSI	74.7
ELONGATION %	32	RED OF AR. %	55

CE: 0.3685

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



MATERIAL TEST REPORT

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

ISO 9001:2000

Hardness Test Report



OUR REPUTATION IS STAINLESS™

Customer	Cameron Measurement Systems	PO Number	XP62140
Part Number & Description	40552-026 2" Dual Ch. Body 150# - 900#	Order Number	29051 / 1
Material Specification	ASTM A216 Grade WCB	Date	02/21/07
Inspection Method	ASTM E10	Qty	71 pcs

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
6-8768 / GB2	10%	152, 156, 156
4-8153 / GB3	10%	156, 156, 156
6-8759 / FW1	10%	152

Remarks:

Tested By:

Mischa Dominato
Mischa Dominato
CGSB 48.9712, Level 2, Reg# 12895

2" O/c H10

MST1201
3/30/11

Highland Foundry Ltd.
CHEMICAL AND PHYSICAL ANALYSIS

Page 1
11:19:08

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

9A-40552-039 -0300 02 w/o 17041 002

CERTIFICATE OF ANALYSIS & TESTS

DATE: 5.4.2011
CUSTOMER PO #: B101403
CUSTOMER PART #:

DESCRIPTION

HEAT NO: MM09100827
MILL: NUCOR
QTY: 5 PCS
SIZE: 5 1/4" OD X 120-1/2" RLS

GRADE: ASME SA105/SA350-LF-2 CLASS 1
SPEC.: ASME SA105/SA350 LF-2/ASTM A350 LF-2/A105
NACE MR01-75; BS EN10204.3.1
FINISH: HT

CHEMICAL PROPERTIES

C.	Mn.	P.	S.	Si.	Ni.	Cr.	Mo.	Cu.
.19	1.10	.007	.004	.16	.05	.10	.02	.16
Al.	V.	Nb.	Sn.	N.	B.	Ti.		
.026	.004	.001	.009	.0069	.0002	.002		

MECHANICAL PROPERTIES

YIELD ST.: 46000
TENSILE ST.: 74000
EL %: 36
RED OF AREA: 62
HARDNESS: 149-149 HBW
GRAIN:

CHARPIES: -50 DEG. F LCVN 84/96/94 FT./LBS.
LATERAL EXPANSION: 36/49/46
SHEAR FRACTURE: 40/40/40
Unless otherwise stated, specimens are full size: 10mm x 10 mm

CE=.41

HEAT TREATMENT

PRODUCT:
NORMALIZED AT 1650 DEG F FOR 11.75 HOURS, AIR COOLED

PAZMAC
MAY 18 2011
APPROVED

TEST BAR: Size: 3 X 6 X 6

HARDNESS: 156-156 HBW (CKED IN 2 PLACES)

Unless otherwise stated, yield stress is .2% stress is .2% offset. Gauge length is 2" for 1/2" specimen or 1" for 1/4" specimen.

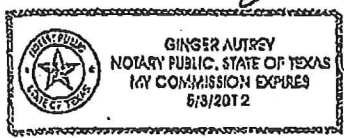
Sworn & Subscribed before me this
4TH Day of MAY, 2011

We hereby certify that the above is the same as
the data furnished us by our suppliers or resulting
from tests performed in a recognized laboratory.

Ginger Autrey
Notary

By *[Signature]*
Representative

Management Systems Registered to ISO 9001:2008





PRODOTTI INDUSTRIALI S.P.A.
SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2008 =

TRANS AM PIPING PRODUCTS LTD
3935 ENDEAVOR DRIVE S.E.
T5S 0A1 CALGARY, ALBERTA

CA
Fattura / Invoice N.
DDT / Del Note N.
No. Ord. / Ord. Ref. N.

Certif. N. 2919
Del/Dated 07/05/2011
Del/Dated
Del/Dated

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Table with columns: COD. COL. COLATA, HEAT CODE HEAT, POS. ITEM, VS. ORDINE YOUR REFERENCE, DESCRIZIONE DESCRIPTION, DIM. IN ACC. A DIM. ACCORDANCE TO, VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY

Table with columns: COD. COL. COLATA, HEAT CODE HEAT, POS. ITEM, VS. ORDINE YOUR REFERENCE, DESCRIZIONE DESCRIPTION, DIM. IN ACC. A DIM. ACCORDANCE TO, VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY

Table with columns: COD. COL. COLATA, HEAT CODE HEAT, POS. ITEM, VS. ORDINE YOUR REFERENCE, DESCRIZIONE DESCRIPTION, DIM. IN ACC. A DIM. ACCORDANCE TO, VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY

NOTE MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION
MATERIAL IN ACCORDANCE WITH NACE NMR-01/02/2007
UFFICIO CONTROLLO QUALITA' QUALITY CONTROL DEPARTMENT
ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY
MARCHIO PRODUZIONE MANUFACTURERS SYMBOL



Manufacturer of Piping and Pressure Vessel Components
 4407 Haygood St - Houston, TX 77022
 Phone: 713-693-3633 Fax: 713-693-3328
 A Bonney Forge Company

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

MTR #: 200,085

PO #: CI-10-527

Sales Order #: C001013323

Date: 12/17/2010

Certified Material Test Report

Heat Code: 58184

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	Description
7	36 - 3/4 X 1/2 3M THP A/SA105N

Chemical Composition

Ladle	C	CR	CU	MN	MO	NB	NI	P
	0.220	0.04	0.070	1.03	0.000	0.01	0.02	0.008
	S	SI	V					
	0.019	0.26	0.00					
Carbon Equivalency:	Ladle				0.41			

Product	Tensile PSI	Yield PSI	Elong %	RA %	Hardness
	75,000	49,900	29.00	66.00	144 BHN
					144 BHN

Normalized

1. IN ACCORDANCE WITH NACE SPEC MR0175-2002



Manufacturer of Piping and Pressure Vessel Components

4407 Haygood St - Houston, TX 77022
 Phone: 713-695-3633 Fax: 713-695-3528
 A Bonney Forge Company

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

MTR #: 203,925
 PO #: CI-11-165

Sales Order #: C001101776 Date: 03/08/2011

Certified Material Test Report

Heat Code: 58266

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	Description
11	36 - 1 1/2 X 3/4 3M THP A/SA105N

Chemical Composition

Ladle	C	CR	CU	MN	MO	NB	NI	P
	0.200	0.03	0.150	1.01	0.010	0.01	0.04	0.007
	S	SI	V					
	0.017	0.20	0.00					

Carbon Equivalency: Ladle 0.39

Product	Tensile PSI	Yield PSI	Elong %	RA %	Hardness
	74,500	51,000	30.00	68.00	143 BHN
					143 BHN

Normalized

1. IN ACCORDANCE WITH NACE SPEC MR0175-2002



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

Material Test Report

Manufactured by:
ZHANGJIAGANG City Precision Pi

Customer Order No: 4502700013
Scot Order No: 742150.01
Country of Origin: CHINA

CAMERON MEASUREMENT SYSTEMS
5003-93RD STREET
EDMONTON AB T6E-5S9

Material Supplier: 9687.00
Part Number: 9A-C1609-016-04200
Scot Rec. No: 10071119

Heat Number: 30706-0802
Grade: ASTM Spec:A106-B /A333-6
Dimensions: 2.375" OD 1.939" ID X 25R30
Scot Spec: MS-
Description: CDS NORMALIZE STEEL TUBING

Chemical Analysis	C	Mn	P	S	Si	Cu	Ni	Cr
	0.22	0.44	0.012	0.004	0.23	0.01	0.01	0.02

Mechanical Test Results			
Yield Strength:(PSI)	Tensile Strength:(PSI)	Elongation:(%) in 2" G.L	Hardness
56564	66717	38	()

Charpy Impact Energy	Size			Avg	Shear Area (%)	Avg
	1	2	3			
Temp						

Eddy Current
OK

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.

Sheng hoo Lee
Quality Assurance
12/30/10

MIDNIGHT

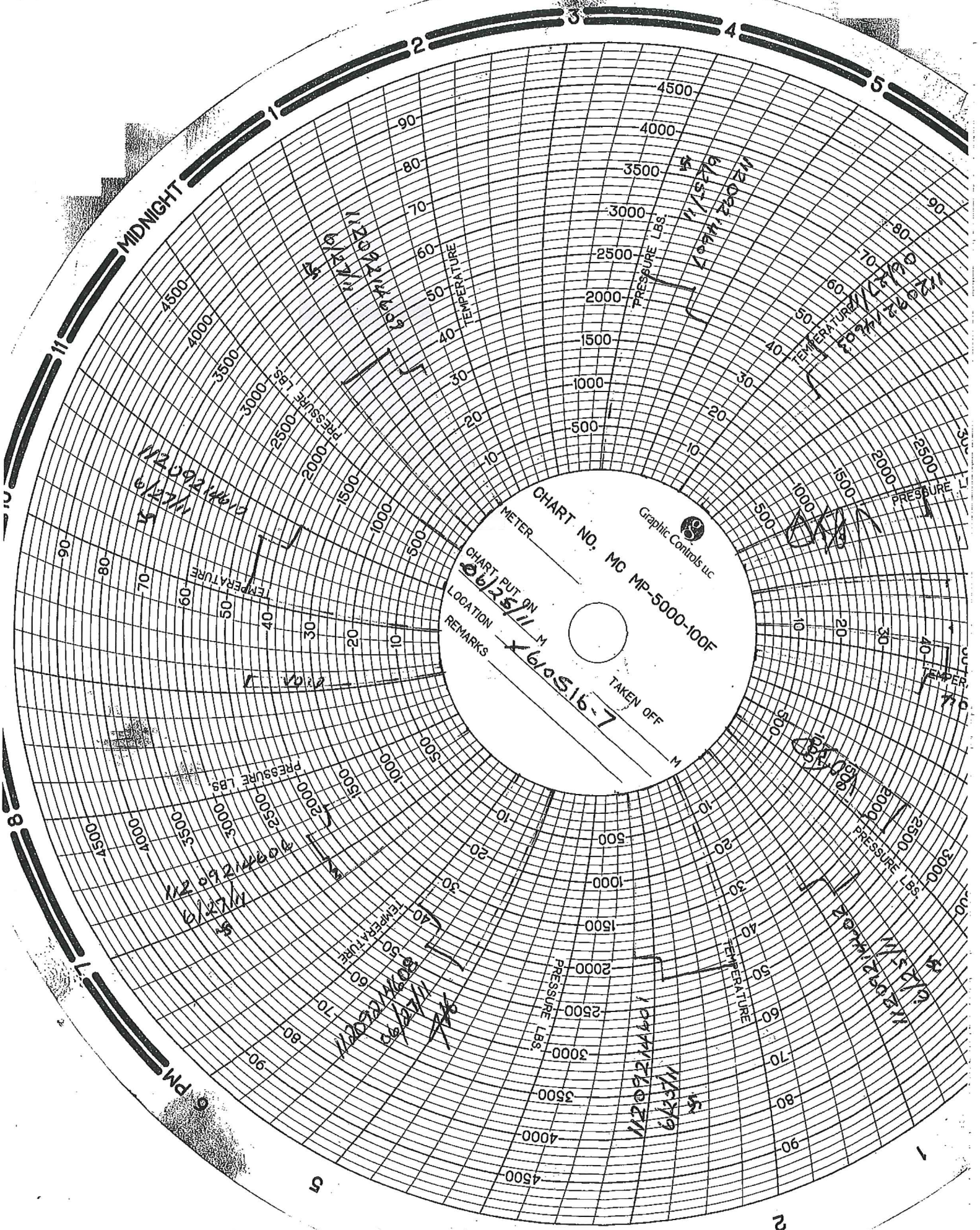


CHART NO. MC MP-5000-100F
 METER
 CHART PUT ON M 06/25/11
 LOCATION
 REMARKS X610515-7
 TAKEN OFF M



5 2