



Mill Test Certificate

Bri-Steel Manufacturing Inc.
 2125-64 Avenue, Edmonton, AB Canada T6P 1Z4
 Tel: 001 (780) 469-6603
 Fax: 001 (780) 469-6986
 www.brichemsteel.com

Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0085** Product Size: **NPS 24 STD** Production Date: **2011 Nov 3**

Production Method: **Hot Expansion** Product Heat Treatment: **As-rolled**

Product Standards: **ASTM/ASME A/SA106-2010 Grade B/C, A/SA53-2010 Grade B Type S, NACE MR0175-2009**

Product Markings: **.BRI-STEEL MFG NPS 24 STD ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0085 (PIPE # LENGTH MASS) NDE 740PSI NACE MR0175 2011/11 MADE IN CANADA.**

Product Details					Non-Destructive Testing										
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Gelger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 740 psi/5s	End Condition
BSM-0085	Heat	24	STD	1	DRL	3123 LB	<5	<20	Pass	Pass	Pass	---	Pass	Pass	37.5° Bevel

		Chemical Analysis (wt%)																
Heat	Test Type	Steelmaking Method		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
		Blast Furnace; EAF; Ladle	Refining; Vacuum Degass	0.21	0.85	0.017	0.006	0.21	0.03	0.13	0.02	0.04	0.003	0.001	0.001	0.0002	0.37	0.38
BSM-0085	Heat																	

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test		Yield (Rt0.5) psi	Yield (Rp0.2) psi	Tensile (Rm) psi	Elongation (A) %
					50mm GL; 38mm x WT	Transverse				
BSM-0085	Heat	Ferrite & Pearlite	76	Pass	Longitudinal		48,600	46,800	74,500	39

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected in accordance with ASTM/ASME A/SA106-2010, A/SA53-2010 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ This pipe product meet the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2010 Section 2.1.

Mill Test Certificate approved by:

2011 Nov 16

Kenton Dechant, P. Eng.
 Manager of Quality and R&D

- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.