



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-0318** Product Size: **NPS 24 STD** Production Date: **May 7, 2012**

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

Product Standards: **ASTM/ASME A/SA106-2011 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-0318 (PIPE # LENGTH MASS) 94.62lb/ft NDE 740PSI NACE MR0175 2012/05 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Gelger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0318	Heat	24	STD	8	DRL	94.62	µR/hr	Gauss	Insp.	Pass	WT	ASTM E213	ASTM E309	740 psi/5s	Condition
							<5	<20	Pass	Pass	Pass	---	Pass	Pass*	37.5° Bevel

		Chemical Analysis (wt%)														
Heat	Test Type	Steelmaking Method														
		Blast Furnace; EAF; Ladle Refining; Vacuum Degass														
BSM-0318	Heat	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
		0.21	0.87	0.013	0.006	0.25	0.05	0.12	0.04	0.04	0.003	0.001	0.002	0.0001	0.38	0.39


		Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rp0.2)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
					HRBW	Pass					
BSM-0318	Heat	Ferrite & Pearlite	78	Pass	Longitudinal	51,000	51,000	76,500	0.67		43

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with ASTM/ASME A/SA106-2011, 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.
- ✓ No weld repairs have been performed on this product. This product has no mercury contamination.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

*Pipe 001 was too short to hydrotest.

Mill Test Certificate approved by:


 2012 May 15
 Kerton Dechant, P. Eng.
 Manager of Quality and R&D