



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-0115** Product Size: **NPS 18 STD** Production Date: **2011 Nov 24**

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 18 STD ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0115 (PIPE # LENGTH MASS) NDE 1030PSI NACE MR0175 2011/11 MADE IN CANADA.**

Product Details						Non-Destructive Testing								
Heat	Test Type	NPS	SCH	Pieces	Length	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0115	Heat	18	STD	1	DRL	µR/hr	Gauss	Insp.	Pass	Pass	ASTM E213	ASTM E309	1030 psi/5s	Condition
					2824 LB	<5	<20	Pass	Pass	Pass	---	Pass	Pass	37.5° Bevel

Steelmaking Method		Chemical Analysis (wt%)														
Heat	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0115	Heat	0.21	0.88	0.012	0.010	0.21	0.03	0.10	0.01	0.03	0.003	0.001	0.001	0.0001	0.37	0.38
		Blast Furnace; EAF; Ladle Refining; Vacuum Degas														

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
BSM-0115	Heat	Ferrite & Pearlite	HRBW	Pass	50mm GL, 38mm x WT	Transverse	psi	psi	psi	0.68	41
			77		Longitudinal		45,700	47,100	74,000	0.62	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/SA106-2010, 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.
- ✓ 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.

Mill Test Certificate approved by:


 2011 Dec 2
 Kenton Dechant, P.Eng.
 Manager of Quality and R&D