



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-0007** Product Size: **NPS 24 XH** Production Date: **2011 Aug 10**

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

Product Standards: **ASTM/ASME A/SA106-2011 Grade B/C, A/SA53-2012 Grade B Type S, NACE MR0175-2009**

Product Markings: **.BRI-STEEL MFG NPS 24 XH ASTM/ASME A/SA106 GR B HEAT BSM-0007 NDE 970 PSI NACE MR0175-03 2011/09 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0007	Heat	24	XH	4	DRL	125.50	µR/hr	Gauss	Insp.	Pass	Pass	Pass	Pass	970 psi/5s	Condition
							<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-0007	Heat	0.18	0.83	0.016	0.012	0.23	0.04	0.10	0.02	0.03	0.002	0.001	0.003	0.0001	0.34	(IIW)	(CSA)
															0.34		0.34

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rp0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
BSM-0007	Heat	Ferrite & Pearlite	HRBW	Pass	50mm GL, 38mm x WT	Transverse	psi	psi	psi	(Rt0.5/Rm)	%
			76		Longitudinal		56,500	56,500	75,500	0.75	39
							47,100	47,100	74,500	0.63	44

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/SA53-2012 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:


 2012 June 4
 Kenton Dechant, P. Eng.
 Manager of Quality and R&D