



**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

## Mill Test Certificate

Product: **Seamless Carbon Steel Pipe**      Product Heat Number: **BSM-0030A**      Product Size: **NPS 24 SCH 40**      Production Date: **2011 Sept 14**

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

Product Standards: **ASTM/ASME A/SA106-2010 Grade B, A/SA53-2010 Grade B Type S, NACE MR0175-2003**

Product Markings: **.BRI-STEEL MFG NPS 24 SCH 40 ASTM/ASME A/SA106 GR B HEAT BSM-0030A (PIPE # LENGTH MASS) NDE 1300 PSI NACE MR0175-03 2011/09 MADE IN CANADA.**

Product Details				Non-Destructive Testing										
Heat	Test Type	NPS	SCH	Pieces	Length	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 1300 psi/5s	End Condition
BSM-0030A	Heat	24	SCH 40	1	19 ft	<5	<20	Pass	Pass	Pass	---	Pass	Pass	37.5° Bevel

Chemical Analysis (wt%)															
Heat	Test Type	Steelmaking Method										CE (IIW)	CE (CSA)		
		Blast Furnace; EAF; Ladle Refining; Vacuum Degass													
BSM-0030A	Heat	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	0.39	0.39
		0.20	1.02	0.012	0.002	0.22	0.05	0.02	0.01	0.02	0.003	0.001	0.006	0.0001	0.39

Mechanical Properties								
Heat	Test Type	Microstructure	Hardness HRB	Flattening Test	Tension Test			Elongation (A) %
					Transverse; 50mm GL; 38mm x WT			
BSM-0030A	Heat	Ferrite & Pearlite	79	Pass	Yield (R <sub>0.5</sub> ) psi	Yield (R <sub>p0.2</sub> ) psi	Tensile (R <sub>m</sub> ) psi	45
					60500	60500	75500	

**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 15156-2003 Annex A2 for Region 3 Sour Service, and NACE MR0103-2004 Para. 2.1.

Mill Test Certificate approved by:

*Kenton Dechant*  
 2012 May 3

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.



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## Mill Test Certificate

Product: **Seamless Carbon Steel Pipe**    Product Heat Number: **BSM-0030**    Product Size: **NPS 24 0.750**    Production Date: **2011 Sept 14**  
 Production Method: **Hot Expansion**    Product Heat Treatment: **As-rolled**  
 Product Standards: **ASTM/ASME A/SA106-2010 Grade B, A/SA53-2010 Grade B Type S, NACE MR0175-2003**  
 Product Markings: **.BRI-STEEL MFG NPS 24 0.750 ASTM/ASME A/SA106 GR B HEAT BSM-0030 (PIPE # LENGTH MASS) NDE 1300 PSI NACE MR0175-03 2011/09 MADE IN CANADA.**

Product Details				Non-Destructive Testing									
Heat	Test Type	NPS	SCH	Pieces	Length	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 1300 psi/5s	End Condition
BSM-0030	Heat	24	0.750	4	27-30FT	<5	<20	Pass	Pass	---	Pass	Pass	37.5° Bevel

Chemical Analysis (wt%)																	
Heat	Test Type	Steelmaking Method			C	Mn	P	S	Si	Cr	Cu	Ni	V	Ti	Nb	CE (IIW)	CE (CSA)
		Blast Furnace; EAF; Ladle	Refining; Vacuum Degas	Refining													
BSM-0030	Heat				0.20	1.02	0.012	0.002	0.22	0.05	0.02	0.02	0.003	0.001	0.006	0.0001	0.39

Mechanical Properties							
Heat	Test Type	Microstructure	Hardness HRB	Flattening Test	Tension Test		
					Yield (Rt0.5) psi	Elongation (A) %	
BSM-0030	Heat	Ferrite & Pearlite	79	Pass	60500	75500	45

**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 15156-2003 Annex A2 for Region 3 Sour Service, and NACE MR0103-2004 Para. 2.1.

Mill Test Certificate approved by:

2011 Sept 22

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

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