



# Mill Test Certificate

Bri-Steel Manufacturing Inc.  
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0294** Product Size: **NPS 18 STD** Production Date: **April 19, 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 18 STD ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0294 (PIPE # LENGTH MASS) 70.59lb/ft NDE 1030PSI NACE MR0175 2012/04 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-0294	Heat	18	STD	15	DRL	70.59	µR/hr	Gauss	Insp.	Pass	Pass	ASTM E213	ASTM E309	1030 psi/5s	Condition
							<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	CE	
		Blast Furnace; EAF; Ladle	Refining; Vacuum Degas																0.22
BSM-0294	Heat																		

Mechanical Properties														
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)			
					HRBW	Pass						50mm GL; 38mm x WT	Transverse	psi
BSM-0294	Heat	Ferrite & Pearlite	78	Pass	Longitudinal	44,800	44,400	75,000	0.60	46,900	74,500	0.63	40	42

**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.

Mill Test Certificate approved by:

*Kenton Dechant*  
 2012 May 2  
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 Kenton Dechant, P.Eng.  
 Manager of Quality and R&D