



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0268** Product Size: **NPS 18 XS** Production Date: **March 22, 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 XS ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0268 (PIPE # LENGTH MASS) 93.45lb/ft NDE 1370PSI NACE MR0175 2012/03 MADE IN CANADA.**

Product Details						Non-Destructive Testing									
Heat	Test Type	NPS	SCH	Pieces	Length	Mass lb/ft	Gelger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT	ET	HydroTest	End Condition
BSM-0268	Heat	18	XS	12	DRL	93.45	<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			
		Blast Furnace; EAF; Ladle Refining; Vacuum Degas	0.19	0.89	0.010										0.006	0.22	0.04
BSM-0268	Heat																

Mechanical Properties																		
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test		Yield (Rt0.5) psi	Yield (Rp0.2) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %							
					Ferrite & Pearlite	74						Pass	50mm GL; 38mm x WT	Transverse	Longitudinal	43,600	42,400	70,000
BSM-0268	Heat																	

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 Apr 2

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