



**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-1075** Product Size: **NPS 16 SCH 100** Production Date: **April 24, 2013**

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

Product Standards: **ASME B36.10-2004, ASTM/ASME A/SA106-2011 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009, MR0103-2010**

Product Markings: **BRI-STEEL MFG ASTM/ASME A/SA106 GR B/C A/SA53 GR B NPS 16 SCH 100 1.031 inchWT HEAT BSM-1075 (PIPE # LENGTH MASS) 164.8lb/ft NDE SMIS NACE MR0175 2013/04 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	WT	UT	UT	ET	HydroTest	End Condition
BSM-1075	Heat	NPS 16 SCH 100 1.031 in. WT	1	DRL	164.80	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	---	Plain End

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-1075	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.20	0.93	0.011	0.002	0.32	0.05	0.07	0.01	0.02	0.002	0.002	0.001	0.0003	-	-
		Product	0.20	0.92	0.015	0.003	0.31	0.05	0.09	0.01	0.03	0.002	0.002	0.001	0.0002	0.37	0.38

Mechanical Properties													
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (RT0.5)	Tensile (Rm)	Y/T	Elongation (A)			
					50mm GL	Longitudinal; 19.1mm x WT					psi	psi	(RT0.5/Rm)
BSM-1075	Heat	Ferrite & Pearlite	HRBW 75	Pass	Pass	49,400	70,500	0.70	51				
Heat	Test	Impact Test	Temp	Impact Energy			Lateral Expansion						
				qC	J	J	%	mm	mm	mm	AVG		
BSM-1075	Standard	Sample Details	-	-	-	-	-	-	-				

**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 meets 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 not come into contact with mercury during the Bri-Steel Manufacturing processes.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

2013 JUL 15  
 Paul Sowden, T.T.  
 Assistant QA Manager