



# 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.bri-steel.com

Product: Seamless Carbon Steel Pipe      Product Heat Number: BSM-1815      Product Size: 20S140      Production Date: May 05, 2014  
Production Method: Hot Expansion      Product Heat Treatment: As-rolled      Certificate No.: MTR- 001645  
Product Standards: ASME B36.10-2004, ASTM/ASME A106-2014/SA106-2013 Grade B NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012

## Product Markings



NPS 20 SCH 140 1.750 INCHWT SMLS 2014/05 NDE  
HEAT BSM-1815 (PIPE # LENGTH MASS) 341.1lb/ft ASTM/ASME A/SA106 GR B A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product Details					Non-Destructive Testing									
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest	End Condition
BSM-1815	Heat	NPS 20 SCH 140 1.750in. WT	1	DRL	341.1	<5	<10	Pass	Pass	Pass	Pass	Pass	*	Plain End

Steelmaking Method		Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1815	Blast Furnace: EAF; Ladle Refining: Vacuum Degass; Fully Killed	Heat	0.21	0.93	0.012	0.008	0.29	0.04	0.08	0.01	0.02	0.001	0.002	0.001	0.0004	-	-
		Product	0.20	0.89	0.009	0.006	0.29	0.05	0.06	0.01	0.03	0.003	0.001	0.001	0.0002	0.36	0.36

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-1815	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal: 25.4 mm x WT	37,200	65,500	0.57	40

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion			
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-1815	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## 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 A106-2014/SA106-2013 Grade B A53-2012/SA53-2013, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 and API Q1.

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2012 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.

\* Note that this product was hydrotested to 1100 psi for 5 seconds.

Mill Test Certificate approved by:

Tonya Lam, C.E.T.  
Assistant QA Manager

*Tonya Lam* *March 19/2015*