



# 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.brihemsteel.com

Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-1163** Product Size: **NPS 14 STD** Production Date: **August 21, 2013**

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

Product Standards: **ASME B36.10-2004, API 5L-44th Ed. Grade B PSL1, 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 <API> 5L-0898 API 5L GR B PSL1 ASTM/ASME A/SA106 GR B/C A/SA53 GR B NPS 14 STD 0.375 inchWT HEAT BSM-1163 (PIPE # LENGTH MASS) 54.57lb/ft NDE 1140 PSI SMLS NACE MR0175 2013/08 MADE IN CANADA.**

Product Details				Non-Destructive Testing									
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger uR/hr	Res. Mag. Gauss	Visual Insp.	UT	UT	ET	HydroTest	End Condition
BSM-1163	Heat	NPS 14 STD 0.375 in. WT	2	DRL	54.57	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass
									ASTM E213	ASTM E309	ASTM E309	1140 psi/5s	32.5" Bevel

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
BSM-1163	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.18	0.96	0.002	0.003	0.24	0.03	0.08	0.01	0.04	-	-	-	0.0003	-	-
		Product	0.20	0.96	0.010	0.004	0.24	0.03	0.08	0.01	0.04	0.003	0.002	0.001	0.0001	0.38	0.38

Mechanical Properties																	
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test Pass	Tension Test		Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %	Impact Energy			Lateral Expansion			
					50mm GL	38.1mm x WT					J	J	J	AVG	%	mm	mm
BSM-1163	Heat	Ferrite & Pearlite	77	Pass	Longitudinal: 38.1mm x WT	47,800	73,500	0.65	44								
	Test Standard	Impact Test Sample Details															
BSM-1163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Additional Details:**

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API 5L-44th Ed., 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 AUG 23

Paul Sowden, T.T.  
 Assistant QA Manager