



# 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-1038      Production Date: Jul 03, 2014

Production Method: Hot Expansion      Product Heat Treatment: As-rolled      Certificate No.: MTR- 001234

Product Standards: ASME B36.10-2004, ASTM/ASME A/SA106-2013 Grade B NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings: NPS 24 X 0.650 INCHWT SMLS 2014/07 NDE



HEAT BSM-1038 (PIPE # LENGTH MASS) 162.1lb/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	Gelger $\mu$ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest	End Condition	
BSM-1038	Heat	NPS 24 X 0.650in. WT	6	DRL	162.1	<5	<10	Pass	Pass	Pass	Pass	Pass	-	Plain End	

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1038	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.20	0.96	0.002	0.007	0.35	0.06	0.09	0.09	0.03	0.006	0.002	0.003	0.0002	-	-
		Product	0.21	0.94	0.019	0.011	0.28	0.05	0.05	0.01	0.03	0.004	0.001	0.001	0.0002	0.38	0.38

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-1038	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal; 38.1 mm x WT	44,500	69,500	0.64	46

Heat	Test Standard	Impact Test Sample Details	Temp $^{\circ}$ C	Impact Energy			% Shear			Lateral Expansion			
				J	J	AVG	%	%	AVG	mm	mm	AVG	
BSM-1038	-	-	-	-	-	-	-	-	-	-	-	-	-

**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/SA106-2013 Grade B 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-2009 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:

*Tonya Lam*      *Tonya Lam*      July 14, 2014

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