




# Mill Test Certificate

Bri-Steel Manufacturing  
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Product: Seamless Carbon Steel Pipe      Product Heat Number: BSM-2838      Production Date: Jul 13, 2016  
 Production Method: Hot Expansion      Product Heat Treatment: Normalizing Forming      Certificate No.: MTR- 002921  
 Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2015 Grade B NDE, A53-2012/SA53-2015 Grade B Type S, NACE MR0175/ISO 15156-2:2009 MR0103/ISO 17495:2015  
 Product Markings:  NPS 22 SCH 60 0.875 INCHWT SMLS 2016/07 NDE 1800PSI  
 HEAT BSM-2838 (PIPE # LENGTH MASS) 197.4lb/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 $\mu$ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 1800PSI/ 5 s	End Condition
BSM-2838	Heat	NPS 22 SCH 60 0.875in. WT	2	DRL	197.4	<5	<20	Pass	Pass	Pass	N12.5 Pass	-	Pass	Plain End

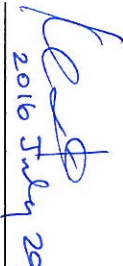
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IIW)Max	CE(CSA)
BSM-2838	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.18	1.15	0.016	0.004	0.25	0.03	0.01	0.01	0.01	0.050	0.002	0.001	0.0001	0.39	-	0.39
		Product	0.18	1.12	0.015	0.007	0.26	0.05	0.01	0.01	0.01	0.059	0.001	0.001	0.0002	0.39	-	0.39

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-2838	Heat	Ferrite & Pearlite	80 HRBW	Pass	Longitudinal; 0.5 in. Round Bar	50 500	76 500	0.66	34

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Results (J)		Shear (%)	Lateral Expansion (mm)
					(3 Tests) AVG	(3 Tests) AVG		
BSM-2838	-	-	-	-	-	-	-	-

Additional Details:  
 ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME A106-2014/SA106-2015, A53-2012/SA53-2015, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 (APIQR-1584), API Q1, and PED 97/23/EC.  
 ✓ 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/ISO 17495:2015 Section 13.1  
 ✓ 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:

  
 2016 July 29

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