




Mill Test Certificate

Bri-Steel Manufacturing
 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-1313 Product Size: NPS 18 TRUE 80 Production Date: Oct 10, 2013
 Production Method: Hot Expansion Product Heat Treatment: As Rolled Certificate No.: MTR- 000522
 Product Standards: ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012
 Product Markings
 NPS 18 TRUE 80 0.938 INCHWT SMLS 2013/10 NDE
 HEAT BSM-1313 (PIPE # LENGTH MASS) 170.8lb/ft ASTM/ASME A/SA106 GR B/C/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 μ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest	End Condition	
BSM-1313	Heat	NPS 18 TRUE 80 0.938in. WT	4	DRL	170.8	<5	<10	Pass	Pass	Pass	N12.5 Pass	-	*	Plain End	

Heat	BSM-1313	Steelmaking Method Blast Furnace: EAF, Ladle Refining: Vacuum Degass: Fully Killed	Chemical Analysis (wt%)																																	
			Test Type		C		Mn		P		S		Si		Cr		Cu		Mo		Ni		V		Ti		Nb		B		CE(IIW)		CE(IIIW)Max		CE(CSA)	
			Heat	Product	0.22	0.22	0.90	0.92	0.012	0.015	0.002	0.004	0.32	0.32	0.05	0.04	0.06	0.06	0.01	0.01	0.02	0.03	0.002	0.003	0.002	0.001	0.001	0.001	0.0003	0.39	0.39	-	-	0.40	0.40	
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-1313	Heat	Ferrite & Pearlite	79 HRBW	Pass	Longitudinal: 0.75 in. x WT	49 300	70 500	0.70	48

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy Min. (J) (3 Tests) AVG	Impact Energy (J) (3 Tests) AVG	Shear (%) (3 Tests) AVG	Lateral Expansion (mm) (3 Tests) AVG
BSM-1313	-	-	-	-	-	-	-

- 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/SA106-2013, 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 (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 MR0103-2012 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 1000 psi for 5 seconds.

Mill Test Certificate approved by:


 2010 Mar 18

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