



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.brichemsteel.com

Product: Seamless Carbon Steel Pipe

Product Heat Number: BSM-0389

Product Size: NPS 20 TRUE80

Production Date: July 3, 2012

Production Method: Hot Expansion

Product Heat Treatment: As-rolled

Product Standards: ASTM/ASME A/SAA106-2011 Grade B/C, A/SAS3-2012 Grade B Type S, NACE MR0175-2009

Product Markings: .BRI-STEEL MFG NPS 20 TRUE80 ASTM/ASME A/SAA106 GR B/C A/SAS3 GR B HEAT BSM-0389 (PIPE # LENGTH MASS) 208.9lb/ft NDE 1000PSI NACE MR0175 2012/07 MADE IN CANADA.

Product Details				Non-Destructive Testing										
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Geiger	Res.Mag.	Visual	OD	UT	ET	HydroTest	End
BSM-0389	Heat	20	TRUE80	1	DRL	208.90	µR/hr	Gauss	Insp.	Pass	Pass	Pass	Pass	Condition
							<5	<20	Pass	Pass	Pass	Pass	Pass	Plain End

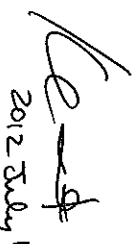
		Steelmaking Method		Chemical Analysis (wt%)															
Heat	Test Type	Blast Furnace; EAF; Ladle		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE	
BSM-0389	Heat	Refining; Vacuum Degas		0.15	1.01	0.021	0.006	0.23	0.04	0.07	0.01	0.03	0.005	0.002	0.001	0.0001	0.34	(IIW)	(CSA)
																		0.32	

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	V/T	Elongation (A)
BSM-0389	Heat	Ferrite & Pearlite	HRBW	Pass	50mm GL; 38mm x WT	Transverse	psi	psi	psi	(Rt0.5/Rm)	%
			70		Longitudinal		52,000	46,500	70,000	0.74	57
							48,500	48,400	67,500	0.72	58

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/SAA106-2011, A/SAS3-2012 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ This pipe product meet 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 no mercury contamination.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:


2012 July 11
Kenton Dechant, P.Eng.
Manager of Quality and R&D