



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-0671** Product Size: **NPS 24 STD** Production Date: **January 29, 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/SAIL06-2011 Grade B/C NDE, A/SAS3-2012 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/SAIL06 GR B/C A/SAS3 GR B NPS 24 STD HEAT BSM-0671 (PIPE # LENGTH MASS) 94.62lb/ft NDE 740 PSI SMIS NACE MR0175 2013/01 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Test Type	NPS	Wall Thickness	Pieces	Length	Mass	Geliger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End Condition
BSM-0671	Heat	24	STD	1	DRL	94.62	µR/hr	Gauss	Insp.	Pass	Pass	Pass	Pass	740 psi/5s	37.5° Bevel


Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0671	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.20	0.94	0.010	0.004	0.23	0.04	0.07	0.01	0.03	-	-	-	0.0004	-	-
		Product	0.21	0.96	0.009	0.005	0.23	0.03	0.07	0.01	0.01	0.001	0.001	0.002	0.0003	0.38	0.39

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
					50mm GL						
BSM-0671	Heat	Ferrite & Pearlite	HRBW	Pass	Transverse; 38.1mm x WT	Longitudinal; 38.1mm x WT	psi	psi	psi	0.63	45
			80				46,700	46,200	74,500	0.70	44

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/SAIL06-2011, A/SAS3-2012 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 Jan 31
 Kenton Dechant, P.Eng.
 Manager of Quality and R&D