



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0571** Product Size: **NPS 16 STD** Production Date: **November 26, 2012**

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/SA106-2011 Grade B/C NDE, A/SA53-2012 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/SA106 GR B/C A/SA53 GR B NPS 16 STD HEAT BSM-0571 (PIPE # LENGTH MASS) 62.58lb/ft NDE 1140 PSI SMLS NACE MR0175 2012/11 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Test Type	NPS	Wall Thickness	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0571	Heat	16	STD	35	DRL	62.58	µR/hr	Gauss	Insp.	Pass	Pass	Pass	Pass	1140 psi/5s	Condition
							<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	37.5° Bevel

Steelmaking Method		Chemical Analysis (wt%)														
Heat	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	TI	Nb	B	CE	CE
BSM-0571		0.18	0.96	0.002	0.003	0.24	0.03	0.08	0.01	0.04	-	-	-	0.0003	-	-
		0.20	0.97	0.012	0.005	0.23	0.03	0.08	0.01	0.04	0.003	0.002	0.002	0.0002	0.38	0.38

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rp0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
BSM-0571	Heat	Ferrite & Pearlite	HRBW	Pass	50mm GL	psi	psi	psi	(Rt0.5/Rm)	%
			78		Transverse: 38.1mm x WT	44,600	44,100	73,500	0.61	43
					Longitudinal: 38.1mm x WT	44,200	44,200	72,000	0.61	43

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/SA106-2011, 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, 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:

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

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