



# Mill Test Certificate

**Bri-Steel Manufacturing Inc.**  
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-1056** Product Size: **NPS 18 STD** Production Date: **July 8, 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/SA106-2011 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 18 STD 0.375 inchWT HEAT BSM-1056 (PIPE # LENGTH MASS) 70.59lb/ft NDE 1000 PSI SMIS NACE MR0175 2013/07 MADE IN CANADA.**

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-1056	Heat	NPS 18 STD 0.375 In.WT	1	DRL	70.59	<5	Gauss	Insp.	Pass	Pass	Pass	Pass	Pass	32.5° Bevel

Heat	Steelmaking Method	Chemical Analysis (wt%)														
		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
BSM-1056	Blast Furnace; EAF; ladle Refining;	0.19	0.88	0.007	0.016	0.23	0.05	0.10	0.01	0.07	-	-	-	0.0003	-	-
	Vacuum Degass; Fully Killed	0.21	0.86	0.010	0.019	0.22	0.05	0.10	0.01	0.07	0.003	0.001	0.001	0.0003	0.38	0.38

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test		Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
					50mm GL	Longitudinal; 38.1mm x WT				
BSM-1056	Heat	Ferrite & Pearlite	72	Pass		42,900	70,000	0.61	44	

Heat	Test Standard	Impact Test	Sample	Temp °C	Impact Energy		% Shear		Lateral Expansion				
					J	J	%	%	mm	mm	mm	mm	
BSM-1056	-	-	-	-	-	-	-	-	-	-	-	-	-

**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.

Mill Test Certificate approved by:

*Handwritten signature*

2013 JUL 10

Paul Sowden, T.T.  
 Assistant QA Manager

✓ 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.