



**Bri-Steel Manufacturing Inc.**  
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## Mill Test Certificate

Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0744** Product Size: **NPS 24 STD** Production Date: **February 25, 2013**

Production Method: **Hot Expansion** Product Heat Treatment: **As-rolled**

Product Standards: **ASME B36.10-2004, API SL-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> SL-0898 API SL GR B PSL1 ASTM/ASME A/SA106 GR B/C A/SA53 GR B NPS 24 STD 0.375 inch WT HEAT BSM-0744 (PIPE # LENGTH MASS) 94.62lb/ft NDE 740 PSI SMIS NACE MR0175 2013/02 MADE IN CANADA.**

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Gelger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0744	Heat	NPS 24 STD 0.375 in. WT	1	DRL	lb/ft	uR/hr	Gauss	Insp.	Pass	Pass	Pass	Pass	740 psi/5s	Condition
					94.62	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	37.5° Bevel

Heat	Steelmaking Method	Analysis	Chemical Analysis (wt%)														
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0744	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.20	0.90	0.013	0.004	0.24	0.04	0.08	0.01	0.04	-	-	-	0.0003	-	-
		Product	0.20	0.90	0.012	0.005	0.25	0.04	0.09	0.01	0.04	0.003	0.003	0.001	0.0003	0.37	0.38

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
					HRBW	50mm GL				
BSM-0744	Heat	Ferrite & Pearlite	76	Pass	Transverse; 38.1mm x WT	44,800	42,800	71,500	0.63	48
					Longitudinal; 38.1mm x WT	48,500	48,800	71,000	0.68	47

**Additional Details:**

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API SL-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*  
 2013 Feb 28

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