



# Mill Test Certificate

**Bri-Steel Manufacturing Inc.**  
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0792** Product Size: **NPS 14 STD** Production Date: **March 26, 2013**

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

Product Standards: **ASME B36.10-2004, 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 ASTM/ASME A/SA106 GR B/C A/SA53 GR B NPS 14 STD 0.375 inchWT HEAT BSM-0792 (PIPE # LENGTH MASS) 54.57lb/ft NDE SMIS NACE MR0175 2013/03 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-0792	Heat	NPS 14 STD 0.375 in.WT	12	DRL	lb/ft	µR/hr	Gauss	Insp.	Pass	Pass	ASTM E213	ASTM E309	Pass	37.5° Bevel
					54.57	<5	<20	Pass	Pass	Pass	Pass	Pass		

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0792	Blast Furnace; FAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.20	0.87	0.012	0.004	0.23	0.04	0.06	0.01	0.04	-	-	-	0.0003	-	-
	Product	Product	0.20	0.88	0.011	0.005	0.23	0.04	0.07	0.02	0.04	0.003	0.001	0.001	0.0002	0.37	0.37

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rp0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
					HRBW	Pass					
BSM-0792	Heat	Ferrite & Pearlite	76	Pass	Pass	Pass	44,500	43,400	71,500	0.62	44
							45,100	45,100	71,500	0.63	43

**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/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:

*[Signature]*  
 2013 Apr 1

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