



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-0795** Product Size: **NPS 16 STD** Production Date: **March 27, 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 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 A/SA53 GR B NPS 16 STD 0.375 inchWT HEAT BSM-0795 (PIPE # LENGTH MASS) 62.58lb/ft NDE 1140 PSI SMLS NACE MR0175 2013/03 MADE IN CANADA.**

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	UT	UT	ET	HydroTest	End	
BSM-0795	Heat	NPS 16 STD 0.375 in. WT	6	DRL	lb/ft 62.58	µR/hr <5	Gauss <20	Insp. Pass	OD Pass	WT Pass	ASTM E213 Pass	ASTM E309 Pass	1140 psi/5s Pass	Condition 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-0795	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	Product	0.18	0.93	0.008	0.004	0.25	0.04	0.08	0.01	0.04	-	-	-	0.0003	-	-
				0.21	0.94	0.012	0.006	0.25	0.04	0.09	0.01	0.04	0.003	0.001	0.001	0.0002	0.39	0.39

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	V/T	Elongation (A)
BSM-0795	Heat	Ferrite & Pearlite	HRBW 75	Pass	50mm GL	38.1mm x WT	psi	psi	psi	0.56	43
					Longitudinal; 38.1mm x WT	43,200	42,800	71,000	0.61	40	

Test Standard		Impact Test Sample Details		Temp	Impact Energy			% Shear			Lateral Expansion					
BSM-0795	-	-	-	9C	J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
					-	-	-	-	-	-	-	-	-	-	-	-

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:

2013 Apr 2
 Kenton Dechant, P.Eng.
 Manager of Quality and R&D