



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0482** Product Size: **NPS 24 STD** Production Date: **September 27, 2012**

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 NDE, A/SA53-2012 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 A/SA53 GR B NPS 24 STD HEAT BSM-0482 (PIPE # LENGTH MASS) 94.62lb/ft NDE 670PSI SMLS NACE MR0175 2012/09 MADE IN CANADA.**

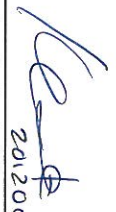
Product Details					Non-Destructive Testing										
Heat	Test Type	NPS	Wall Thickness	Pieces	Length	Mass	Gelger	Res.Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0482	Heat	24	STD	9	DRL	94.62	µR/hr	Gauss	Insp.	Pass*	Pass	Pass	Pass	670 psi/5s	Condition
							<5	<20	Pass	Pass	Pass	Pass	Pass	37.5° Bevel	

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0482	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.19	0.84	0.009	0.007	0.24	0.06	0.08	0.01	0.05	-	-	-	0.0005	-	-
		Product	0.20	0.84	0.011	0.008	0.23	0.02	0.08	0.02	0.05	0.002	0.001	0.002	0.0002	0.36	0.36

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test					Y/T	Elongation (A)
					HRBW	Pass	50mm GL	Yield (Rt0.5)	Yield (Rp0.2)		
BSM-0482	Heat	Ferrite & Pearlite	73	Pass	Transverse; 38.1mm x WT	40,700	38,800	68,000	0.60	47	
					Longitudinal; 38.1mm x WT	42,900	43,600	65,500	0.65	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 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:


 20120ct22
 Kenton Dechant, P.Eng.
 Manager of Quality and R&D