




# Mill Test Certificate

Bri-Steel Manufacturing  
 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-2519      Product Size: NPS 36 STD      Production Date: Sep 10, 2015  
 Production Method: Hot Expansion      Product Heat Treatment: Thermomechanical Formed      Certificate No.: MTR- 001938  
 Product Standards: ASME B36.10-2004, API 5L-45th Ed. GradeB/X42 PSL1, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012  
 Product Markings:  <API & L/C No. > API SPEC 5L NPS 36 STD 0.375 INCHWT GRB/X42 PSL1 SMLS 2015/09 NDE 790PSI  
 HEAT BSM-2519 (PIPE # LENGTH MASS) 142.7lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details				Non-Destructive Testing											
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Gelger	Res. Mag.	Visual Insp.	OD	UT WT	UT	ET	HydroTest	End Condition	
BSM-2519	Heat	NPS 36 STD 0.375in. WT	7	DRL	142.7	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	Plain End	

Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-2519	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Product	0.18	1.25	0.013	0.005	0.29	0.02	0.01	0.01	0.01	0.053	0.003	0.002	0.0004	0.41	0.41
		Product	0.16	1.23	0.014	0.004	0.28	0.03	0.01	0.01	0.01	0.053	0.003	0.001	0.0004	0.38	0.38

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
					2 in. GL	Longitudinal; 1.5 in. x WT				
BSM-2519	Heat	Ferrite & Pearlite	78 HRBW	Pass			54,000	74,000	0.73	45

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy			% Shear			Lateral Expansion			
				J	J	J	%	%	%	mm	mm	mm	AVG
BSM-2519	-	-	-	-	-	-	-	-	-	-	-	-	-

**Additional Details:**

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with API 5L-45th Ed., ASTM/ASME A106-2014/SA106-2013, A53-2012/SA53-2013, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 and API Q1.

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2012 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:

*T. Lam* Sept 15/2015

Tonya Lam, C.E.T.  
 Assistant QA Manager



# Mill Test Certificate

Bri-Steel Manufacturing  
 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-2519    Product Size: NPS 36 STD    Production Date: Sep 10, 2015  
 Production Method: Hot Expansion    Product Heat Treatment: ThermoMechanical Formed    Certificate No.: MTR- 001938  
 Product Standards: ASME B36.10-2004, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012  
 Product Markings: NPS 36 STD 0.375 INCH WT SMLS 2015/09 NDE 790PSI  
 HEAT BSM-2519 (PIPE # LENGTH MASS) 142.7lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA



Product: Details				Non-Destructive Testing											
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Gelger HR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 790 PSI/ 5 s	End Condition	
BSM-2519	Heat	NPS 36 STD 0.375in. WT	7	DRL	142.7	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	Plain End	

Heat	Steelmaking Method	Test Type	Chemical Analysis (wt%)														
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-2519	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.18	1.22	0.012	0.005	0.32	0.02	0.01	0.01	0.01	0.050	0.001	0.001	0.0005	0.40	0.41
		Product	0.18	1.25	0.013	0.005	0.29	0.02	0.01	0.01	0.01	0.053	0.003	0.002	0.0004	0.41	0.41
			0.16	1.23	0.014	0.004	0.28	0.03	0.01	0.01	0.053	0.003	0.001	0.0004	0.38	0.38	

Heat	Test Type	Microstructure	Hardness	Flattening Test	Mechanical Properties		Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
					Tansion Test 2 in. GL	Longitudinal: 1.5 in. x WT				
BSM-2519	Heat	Ferrite & Pearlite	78 HRBW	Pass			54,000	74,000	0.73	45

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion					
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	mm	AVG	
BSM-2519				-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Additional Details:**

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME A106-2014/SA106-2013, A53-2012/SA53-2013, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 and API Q1.

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2012 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:

*T. Lam*    *Sept 15/2015*

Tonya Lam, C.E.T.  
 Assistant QA Manager