



# 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-3096      Product Size: NPS 30 XS  
 Production Method: Hot Expansion      Product Heat Treatment: Normalizing Forming      Certificate No.: MTR- 003266  
 Production Standards: ASME B36.10M-2015, API 5L-45th Ed. GradeB/X42 PSL1, ASTM/ASME A333-2016/SA333-2015 Grade 6 LT(M45C) A106-2014/SA106-2015 Grade B/C NDE, A53-2012/SA53-2015  
 Grade B Type S, NACE MR0175/ISO 15156-2:2009 MR0103/ISO 17495:2015  
 Production Date: Apr 04, 2017  
 Product Markings: <API & L/C No.> API SPEC 5L NPS 30 XS 0.500 INCHWT GRB/X42 PSL1 SMLS 2017/04 NDE 1260PSI  
 HEAT BSM-3096 (PIPE # LENGTH MASS) 157.68lb/ft ASTM/ASME A/SA333 GR 6 LT(M45C) 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. Gauss	Visual Insp.	OD	UT (WT)	UT	ET	HydroTest	End Condition
BSM-3096	Heat	NPS 30 XS 0.500in. WT	11	DRL	157.68	<5	<10	Pass	Pass	ASTM E114	ASTM E213	ASTM E309	1260PSI/ 5s	35° Bevel

Heat	Steelmaking Method	Test Type	Chemical Analysis (wt%)															
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(IW)Max	CE(CSA)
			0.18	1.28	0.017	0.008	0.34	0.09	0.01	0.01	0.04	0.003	0.002	0.0006	0.42	-	-	0.43
BSM-3096	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed (at TPCCO China)	Heat	0.17	1.29	0.017	0.006	0.35	0.10	0.01	0.00	0.04	0.004	0.001	0.0005	0.42	-	-	0.42
		Product	0.17	1.29	0.014	0.005	0.36	0.10	0.01	0.00	0.04	0.004	0.001	0.0005	0.42	-	-	0.42

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-3096	Heat	Ferrite & Pearlite	82 HRBW	Pass	Longitudinal: 1.5 in. x WT Longitudinal: 1.5 in. x WT	53 500	78 000	0.69	47
				Pass		55 000	76 500	0.72	48

Heat	Test Standard	Result	Impact Test Sample Details	Temp °C	Impact Energy Min. (J)	Impact Energy Results (J)	Shear (%)	Lateral Expansion (mm)
BSM-3096	ASTM A333	Pass	CVN Long 10 x 10 mm	-45	(14/14/14) 18	(3 Tests) AVG (90/95/113) 99	(3 Tests) AVG (20/20/25) 22	(3 Tests) AVG (1.47/1.51/1.71) 1.56

- Additional Details:
- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with GRX42 ASTM/ASME A333-2016/SA333-2015, A106-2014/SA106-2015, A53-2012/SA53-2015, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 (APIQR-1584), API Q1, and PED 2014/68/EU.
  - ✓ 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/ISO 17495:2015 Section 13.1
  - ✓ 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* APR 11 2017

Tonya Lam, P. Tech (Eng.)  
 Assistant QA Manager