




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-1884 Production Date: Jun 10, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001174
Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010
Product Markings:  <API & L/C No.> API SPEC SL NPS 18 SCH 60 0.750 INCH WT GR B PSL1 SMLS 2014/06 NDE 2000PSI
HEAT BSM-1884 (PIPE # LENGTH MASS) 138.2lb/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	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-1884	Heat	NPS 18 SCH 60 0.750in. WT	8	DRL	138.2	<5	<15	Pass	Pass	Pass	Pass	Pass	Pass	Condition
														Plain End

Chemical Analysis (wt%)														
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb
BSM-1884		Heat	0.18	0.90	0.011	0.006	0.22	0.05	0.01		0.04			
		Product	0.21	0.93	0.013	0.011	0.23	0.05	0.01	0.01	0.04	0.002	0.002	0.001
														0.0004
														0.38

Mechanical Properties										Elongation (A)	
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5)	Tensile (Rm)	Y/T			
BSM-1884	Heat	Ferrite & Pearlite	78 HRBW	Pass	Longitudinal; 38.1 mm x WT	47,900	72,500	0.66		47	

Heat	Test	Impact Test	Temp	Impact Energy				% Shear				Lateral Expansion			
BSM-1884	Standard	Sample Details	°C	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-45th Ed., ASTM/ASME A/SA106-2013 Grade B/C A/SA53-2012, and the purchase order requirements, and that the results meet the corresponding requirements.

Mill Test Certificate approved by:

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2010 Section 2.1

T. Lam June 16, 2014

✓ No weld repairs have been performed on this product.

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

✓ 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.



Tel: 001 (780) 469-6603
Fax: 001 (780) 469-6986
www.bri-steel.com

ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

0175/MR0103 MADE IN CANADA

Chemical Analysis (wt%)																		
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)	
		Heat	0.18	0.90	0.011	0.006	0.22	0.05	0.01		0.04						-	-
		Product	0.21	0.93	0.013	0.011	0.23	0.05	0.01	0.01	0.04	0.002	0.002	0.001	0.0004	0.38	0.38	

[illegible]

Mill Test Certificate approved by:

✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2010 Section 2.1

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

✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Tilman June. 16, 2014



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-1884 Product Size: 18S60 Production Date: Jun 10, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001174
Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings



<API & L/C No.> API SPEC SL NPS 18 SCH 60 0.750 INCHWT GR B PSL1 SMLS 2014/06 NDE 2000PSI
HEAT BSM-1884 (PIPE # LENGTH MASS) 138.2lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product: Details

Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Gelger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest 2000PSI/ 5 s	End Condition
BSM-1884	Heat	NPS 18 SCH 60 0.750in. WT	8	DRL	138.2	<5	<15	Pass	Pass	Pass	Pass	Pass	Pass	Plain End

Chemical Analysis (wt%)

Heat	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1884	Heat	0.18	0.90	0.011	0.006	0.22	0.05	0.01								
	Product	0.21	0.93	0.013	0.011	0.23	0.05	0.01	0.01	0.04	0.002	0.002	0.001	0.0004	0.38	0.38

Mechanical Properties

Mechanical Properties													
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %				
BSM-1884	Heat	Ferrite & Pearlite	78 HRBW	Pass	Longitudinal; 38.1 mm x WT	47,900	72,500	0.66	47				
Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear			Lateral Expansion		
				J	J	J	AVG	%	%	%	AVG	mm	mm
BSM-1884	-	-	-	-	-	-	-	-	-	-	-	-	-

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-45th Ed., ASTM/ASME A/SA106-2013 Grade B/C A/SA53-2012, and the purchase order requirements, and that the results meet the corresponding requirements.

Mill Test Certificate approved by:

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

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

Tony Lam
June 16, 2014