



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

Production Date: May 26, 2014

Certificate No.: MTR- 001143

MR0175-2009 MR0103-2010

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)
BSM-1855	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.19	0.85	0.020	0.011	0.28	0.07	0.01		0.04					-	-
		Product	0.22	0.90	0.021	0.011	0.30	0.08	0.01	0.01	0.01	0.04	0.003	0.003	0.001	0.00004	0.39

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by BR-Steel Manufacturing Inc. in accordance with ASTM/AISME 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.

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

Tilman May 29, 2014



Mill Test Certificate

Bri-Steel Manufacturing Inc.
2125-64 Avenue, Edmonton, AB Canada T6P 1Z4
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1855 Product Size: 18XS Production Date: May 26, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001143
Product Standards: ASME B36.10-2004, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings NPS 18 XS 0.500 INCHWT SMLS 2014/05 NDE
BRI-STEEL
HEAT BSM-1855 (PIPE # LENGTH MASS) 93.45lb/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	Geiger $\mu R/hr$	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest	End Condition
BSM-1855	Heat	NPS 18 XS 0.500in. WT	2	DRL	93.45	<5	<10	Pass	Pass	Pass	Pass	Pass	-	32.5° Bevel

Chemical Analysis (wt%)														
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb
			Heat	0.19	0.85	0.020	0.011	0.28	0.07	0.01	0.04	0.003	0.003	0.001
BSM-1855	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Product	0.22	0.90	0.021	0.011	0.30	0.08	0.01	0.01	0.04	0.003	0.003	0.001

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GI	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-1855	Heat	Ferrite & Pearlite	80 HRBW	Pass	Longitudinal; 38.1 mm x WT	43,100	73,000	0.59	45

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion			
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-1855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Additional Details:
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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.

T. Lam
Tonya Lam, C.E.T.
Assistant QA Manager
May 29, 2014



Mill Test Certificate

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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1855 Product Size: 18XS Production Date: May 26, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001142
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 5L NPS 18 XS 0.500 INCHWT GR B PSL1 SMLS 2014/05 NDE 1300PSI
HEAT BSM-1855 (PIPE # LENGTH MASS) 93.45lb/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	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest 1300PSI/ 5 s	End Condition
BSM-1855	Heat	NPS 18 XS 0.500in. WT	2	DRL	93.45	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	32.5" Bevel

Chemical Analysis (wt%)														
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb
			Heat	0.19	0.85	0.020	0.011	0.28	0.07	0.01	0.01	0.04	0.003	0.003
BSM-1855	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Product	0.22	0.90	0.021	0.011	0.30	0.08	0.01	0.01	0.04	0.003	0.003	0.001

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Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion			
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-1855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.

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

T. Lam May - 29 - 2014