

Product:

Seamless Carbon Steel Pipe

## Mill Test Certificate

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Product Heat Number: BSM-1684 Product Size: NPS 14 TRUE 40 Production Date: Mar 04, 2014

Production Method: Hot Expansion **Product Heat Treatment:** ThermoMechanical Formed Certificate No.: MTR- 002062

Product Standards: ASME B36.10M-2015, 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 14 TRUE 40 0.438 INCHWT SMLS 2014/03 NDE

HEAT BSM-1684 (PIPE # LENGTH MASS) 63.67lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

		Product: Details							N	Non-Destructive Testing	ive Testing			
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	d0	TU	UT	ET	HydroTest	End
					lb/ft	μR/hr	Gauss	Insp.		TW	ASTM E213 ASTM E309	ASTM E309		Condition
BSM-1684	Heat	NPS 14 TRUE 40 0.438in. WT	11	DRL	63.67	ç,	410	Pass	Pass	Pass	Pass	Pass	1	33° Bevel
					Ch	Chemical Analysis (wt%)	ysis (wt%)							

			3SM-1684	Heat
			Blast Furnace; EAF; Ladle Refining; Vacuum Degas: Fully Killed	Steelmaking Method
		Product	Heat	Test Type
	1	0.21	0.18	С
	ı	0.91	0.91	Mn
		0.91 0.012 0.008	0.012	P
Mechanio	,	0.008	0.012	S
Mechanical Properties		0.24	0.23	Si
ties	1	0.03	0.03	Cr
	1	0.07	0.06	Cu
	L	0.01	0.01	Мо
	1	0.04	0.04	<u>Z</u>
	100	0.003	-	<
		0.001		Ti
	1	0.001	-	Nb
	t	0.0003	0.0005	В
	1	0.37	0.35	CE(IIW)
	1	0.38	0.35	CE(CSA)

BS

42	0.60	72,000	42,900	Longitudinal; 1.5 in. x WT	Pass	77 HRBW	Ferrite & Pearlite	Heat	BSM-1684
%	(Rt0.5/Rm)	psi	psi	2 in. GL					
Elongation (A)	Υ/Τ	Tensile (Rm)	Yield (Rt0.5)	Tension Test	Flattening Test	Hardness	Microstructure	Test Type	Heat

Heat	lest	Impact Test	Temp		Impact	Energy			% Shear	near			Lateral Expansion	xpansion	
	Standard	Sample Details	ဂိ	_	_	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-1684	ı	≥ <b>t</b> ⊗		.1	1			,	ì	-	ь	1	,	ı	1

## 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, API Q1, and PED 97/23/EC.

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 , and NACE MR0103-2012 Section 2.1

Tonya Lam, C.E.T.

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No weld repairs have been performed on this product.

 $\checkmark$  This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.

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

Assistant QA Manager