



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0385** Product Size: **NPS 20 TRUE80** Production Date: **July 2, 2012**
 Production Method: **Hot Expansion** Product Heat Treatment: **As-rolled**
 Product Standards: **ASTM/ASME A/SAIL06-2011 Grade B/C, A/SAS3-2012 Grade B Type S, NACE MR0175-2009**
 Product Markings: **.BRI-STEEL MFG NPS 20 TRUE80 ASTM/ASME A/SAIL06 GR B/C A/SAS3 GR B HEAT BSM-0385 (PIPE # LENGTH MASS) 208.9lb/ft NDE 1000PSI NACE MR0175 2012/07 MADE IN CANADA.**

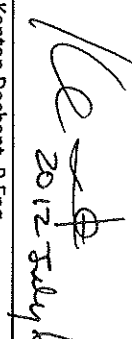
| Product Details | | | | Non-Destructive Testing | | | | | | | | | | | |
|-----------------|-----------|-----|--------|-------------------------|--------|--------|--------|-----------|--------|------|------|-----------|-----------|-------------|-----------|
| Heat | Test Type | NPS | SCH | Pieces | Length | Mass | Geiger | Res. Mag. | Visual | OD | UT | UT | ET | HydroTest | End |
| BSM-0385 | Heat | 20 | TRUE80 | 2 | DRL | 208.90 | µR/hr | Gauss | Insp. | Pass | Pass | ASTM E213 | ASTM E309 | 1000 psi/5s | Condition |
| | | | | | | | <5 | <20 | Pass | Pass | Pass | --- | Pass | Pass | Plain End |

| | | Chemical Analysis (wt%) | | | | | | | | | | | | | | | | |
|----------|-----------|---|--|------|------|-------|-------|------|------|------|------|------|-------|-------|-------|--------|------|------|
| Heat | Test Type | Steelmaking Method | | C | Mn | P | S | Si | Cr | Cu | Mo | Ni | V | Ti | Nb | B | CE | CE |
| BSM-0385 | Heat | Blast Furnace; EAF; Ladle Refining; Vacuum Degass | | 0.16 | 1.01 | 0.018 | 0.005 | 0.24 | 0.06 | 0.06 | 0.01 | 0.03 | 0.004 | 0.003 | 0.001 | 0.0002 | 0.35 | 0.34 |

| Mechanical Properties | | | | | | | | | | | |
|-----------------------|-----------|--------------------|----------|-----------------|--------------------|------------|---------------|---------------|--------------|------|----------------|
| Heat | Test Type | Microstructure | Hardness | Flattening Test | Tension Test | | Yield (Rp0.5) | Yield (Rp0.2) | Tensile (Rm) | V/T | Elongation (A) |
| BSM-0385 | Heat | Ferrite & Pearlite | HRBW | Pass | 50mm GL, 38mm x WT | Transverse | psi | psi | psi | 0.73 | % |
| | | | 74 | | Longitudinal | | 53,000 | 50,500 | 72,500 | 0.70 | 53 |
| | | | | | | | 49,100 | 48,700 | 70,000 | | 51 |

- Additional Details:
- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with ASTM/ASME A/SAIL06-2011, A/SAS3-2012 and the purchase order requirements, and that the results meet the corresponding requirements.
 - ✓ This pipe product meet the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2010 Section 2.1.
 - ✓ No weld repairs have been performed on this product. This product has no mercury contamination.
 - ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:


 2012 July 6
 Kenton Dechant, P.Eng.
 Manager of Quality and R&D