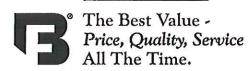
## **CERTIFIED MILL TEST REPORT**



LOG NO. F00000000047880

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**BONNEY FORGE CORPORATION** 

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906

www.bonneyforge.com

**CUSTOMER: MRC CANADA ULC** 

**DATE** 08/29/2013

**CUSTOMER** 

BONNEY ORDER NO. B000151283

ORDER NO.: \$759226900

SHIP TO: MRC CANADA ULC - BRCH 759

**502-25 AVENUE** NISKU AB T9E 0K6

Canada

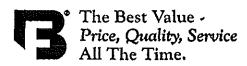
ITEM,	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
71 18C13297	9	59031	2X1 3M A105N THRD T SA/A105N  A1 0.026 C 0.200 Co 0.002 Cr 0.030 Cu 0.020 Mn 1.090 Mo 0.002 N 0.004  Nb 0.014 Ni 0.010 P 0.007 S 0.020 Si 0.190 V 0.003  CE(Long Formula) = 0.39  T/S(PSI) 71,818 Y/S(PSI) 49,969 EL(%) 35.05 RA(%) 65.64  Brinell 130 BHN 130 BHN
71 18C13297	116	59097	2X1 3M A105N THRD T SA/A105N  A1 0.018 C 0.200 Co 0.004 Cr 0.070 Cu 0.130 Mn 0.980 Mo 0.008 N 0.004  Nb 0.012 Ni 0.040 P 0.012 S 0.019 Si 0.190 V 0.003  CE(Long Formula) = 0.39  T/S(PSI) 73,000 Y/S(PSI) 49,900 EL(%) 31.00 RA(%) 63.00  Brinell 143 BHN 140 BHN
75 18C13474	75	58917	10 -3 X 3/4 6000 A105N SOCK S SA/A105N  Al 0.033 C 0.182 Co 0.003 Cr 0.040 Cu 0.050 Mn 1.030 Mo 0.006 N 0.004  Nb 0.015 Ni 0.020 P 0.008 S 0.020 Si 0.180 V 0.004  CE(Long Formula) = 0.37  T/S(PSI) 70,284 Y/S(PSI) 48,408 EL(%) 33.65 RA(%) 61.00  Brinell 132 BHN 132 BHN
18C13474		58854	10 -3 X 3/4 6000 A 105N SOCK S SA/A 105N  Al 0.024 C 0.201 Co 0.003 Cr 0.060 Cu 0.140 Mn 0.970 Mo 0.007 N 0.005  Nb 0.012 Ni 0.030 P 0.012 S 0.019 Si 0.180 V 0.004  CE(Long Formula) = 0.39  T/S(PSI) 73,500 Y/S(PSI) 47,200 EL(%) 29.00 RA(%) 59.00  Brinell 141 BHN 141 BHN

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

Meloney Specht

**QUALITY PROCESS MANAGER** 

## **CERTIFIED MILL TEST REPORT**



LOG NO. F00000000047880

Page 2 of 2

**BONNEY FORGE CORPORATION** 

P.O. BOX 330 • 14486 CROGHAN PIKE • MOUNT UNION, PA 17066-0330

(814) 542-2645 • (800) 346-7546 • FAX (814) 542-4908

www.bonneyforge.com

CUSTOMER: MRC CANADA ULC

**DATE 08/29/2013** 

**CUSTOMER** 

ORDER NO.: \$759226900

SHIP TO: MRC CANADA ULC - BRCH 759

**502-25 AVENUE** NISKU AB T9E 0K6

Canada

BONNEY ORDER NO. B000151283

ITEM QUANTITY LOT NO!

GRADE OR SPECIFICATION NO

CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:

- 1. THE FITTINGS SUPPLIED ARE IN ACCORDANCE WITH PURCHASE ORDER SPECIFICATIONS.
- 2. CERTIFYING TO ASTM A350 LF2 07 REVISION.
- 3. THE MATERIAL SUPPLIED IDENTIFIED AS A 105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A 105 HEAT TREATING REQUIREMENTS.
- 4. THE MATERIAL SUPPLIED AS A 105N MEETS THE REQUIREMENTS OF BOTH NACE MR0103-2007 AND NACE MR0175/ISO 15156-2.
- 5. CERTIFYING ASTM A105-10 / ASME SA105-10 EDITION.
- 6. THE MATERIAL OF THE FITTINGS SUPPLIED IS ASTM A350-LF2 BUT MEETS THE REQUIREMENTS OF ASME SA350-LF2.
- 7. THE CHARPY V-NOTCH IMPACT TEST WAS PERFORMED AT -50 DEGREES FAHRENHEIT IN ACCORDANCE WITH A350-LF2.
- 8. THE MATERIAL SUPPLIED AS A350 LF2 CL1 MEETS THE REQUIREMENTS OF BOTH NACE MRO103-2007 AND NACE MRO175/ISO 15156-2.
- 9. THE MATERIAL SUPPLIED WAS NORMALIZED IN ACCORDANCE WITH ASTM A350 HEAT TREATING REQUIREMENTS.
- 10. THE PRODUCT SUPPLIED WAS INSPECTED IN ACCORDANCE WITH EN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT. (EUROPEAN STANDARD)
- 11. THE MATERIAL SUPPLIED IDENTIFIED AS SA/A105-QT WAS QUENCHED AND TEMPERED IN ACCORDANCE WITH ASTM A 105 HEAT TREATING REQUIREMENTS.
- 12. THE UNIT OF MEASURE FOR TENSILE AND YIELD (0.2%) STRENGTH ARE REPORTED IN PSI.
- 13. ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

We certify that the data on this sheet is a true copy taken from our records of material fumished us by the production mill, or as obtained by additional laboratory checks.

by

Meloney Specht

**QUALITY PROCESS MANAGER** 

**CMTR: REV2**