

Ht# 59097

Pot# 131518

## CERTIFIED MILL TEST REPORT



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Page 1 of 2

BONNEY FORGE CORPORATION

P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330

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CUSTOMER: MRC CANADA ULC

DATE 08/29/2013

CUSTOMER

BONNEY ORDER NO. B000151283

ORDER NO.: S759226900

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       | 9        | 59031   | 2X1 3M A105N THRD T   | SA/A105N   |
| 18C13297 |          |         | Al 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       | 116      | 59097   | 2X1 3M A105N THRD T   | SA/A105N   |
| 18C13297 |          |         | Al 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       | 75       | 58917   | 10 -3 X 3/4 6000 A105N SOCK S   | SA/A105N   |
| 18C13474 |          |         | 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   |  |
|          |          | 58854   | 10 -3 X 3/4 6000 A105N SOCK S   | SA/A105N   |
| 18C13474 |          |         | 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.

by

Meloney Specht  
QUALITY PROCESS MANAGER

CMTR: REV2

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Page 2 of 2

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CUSTOMER: MRC CANADA ULC

DATE 08/29/2013

CUSTOMER

BONNEY ORDER NO. B000151283

ORDER NO.: S759226900

SHIP TO: MRC CANADA ULC - BRCH 759

502-25 AVENUE

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Canada

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 A105N WAS NORMALIZED IN ACCORDANCE WITH ASTM A105 HEAT TREATING REQUIREMENTS.
4. THE MATERIAL SUPPLIED AS A105N 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 A105 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.

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by Meloney Specht

Meloney Specht  
QUALITY PROCESS MANAGER

CMTR: REV2