

Head No. B065

| Sample Result Name | Type         | Measure Date            | Recalculation Date | Origin                        | Method Name | Method Version    | Operator Name | Correction Type         | Type Corr Sample Name |
|--------------------|--------------|-------------------------|--------------------|-------------------------------|-------------|-------------------|---------------|-------------------------|-----------------------|
| SAQA               | Unknown      |                         | 5/23/2013 10:00 AM | Measured                      | P-10340     |                   | SAQA          | None                    |                       |
| Check Type         | Check Status | Grade Verification Name |                    | Grade Verification Similarity |             | Grade Search Name |               | Grade Search Similarity |                       |
| SAQA               | Not Found    |                         |                    | 0.0                           |             |                   |               | 0.0                     |                       |
| Sample Name        | Grade Nom    | Grade                   |                    |                               |             |                   |               |                         |                       |
|                    | SAQA         |                         |                    |                               |             |                   |               |                         |                       |

Elements Conc.

|          |         |         |         |         |        |        |       |        |         |        |
|----------|---------|---------|---------|---------|--------|--------|-------|--------|---------|--------|
| Meas.    | C       | Si      | Mn      | P       | S      | Cr     | Mo    | Ni     | Al      | Co     |
|          | %       | %       | %       | %       | %      | %      | %     | %      | %       | %      |
| Cal. Min | Conc.   | Conc.   | Conc.   | Conc.   | Conc.  | Conc.  | Conc. | Conc.  | Conc.   | Conc.  |
| <x>      | 0.005   | 0.005   | 0.004   | 0.003   | 0.002  | 0.005  | 0.003 | 0.005  | 0.003   | 0.002  |
| Cal. Max | 0.11    | 0.078   | 0.47    | 0.008   | 0.003  | 0.066  | 0.005 | 0.046  | 0.017   | 0.006  |
| Mean     | 1.80    | 24.00   | 2.76    | 0.16    | 0.30   | 10.10  | 10.20 | 6.48   | 2.40    | 2.52   |
|          | 0.11    | 0.078   | 0.47    | 0.008   | 0.003  | 0.066  | 0.005 | 0.046  | 0.017   | 0.006  |
| Meas.    | Cu      | Nb      | Ti      | V       | W      | Pb     | Sn    | As     | Zr      | Ca     |
|          | %       | %       | %       | %       | %      | %      | %     | %      | %       | %      |
| Cal. Min | Conc.   | Conc.   | Conc.   | Conc.   | Conc.  | Conc.  | Conc. | Conc.  | Conc.   | Conc.  |
| <x>      | 0.002   | 0.003   | 0.0010  | 0.002   | 0.030  | 0.010  | 0.002 | 0.005  | 0.003   | 0.0005 |
| Cal. Max | 0.070   | 0.003   | <0.0010 | <0.002  | <0.030 | <0.010 | 0.005 | <0.005 | 0.003   | 0.002  |
| Mean     | 1.44    | 0.39    | 1.20    | 1.32    | 3.72   | 0.31   | 0.18  | 0.17   | 0.28    | 0.016  |
|          | 0.070   | <0.006  | <0.0008 | <0.001  | <0.043 | <0.001 | 0.005 | <0.004 | <0.0006 | 0.002  |
| Meas.    | Ce      | B       | Zn      | La      | Fe     |        |       |        |         |        |
|          | %       | %       | %       | %       | %      |        |       |        |         |        |
| Cal. Min | Conc.   | Conc.   | Conc.   | Conc.   | Conc.  |        |       |        |         |        |
| <x>      | 0.006   | 0.0005  | 0.003   | 0.002   |        |        |       |        |         |        |
| Cal. Max | 0.006   | <0.0005 | 0.011   | <0.002  | 99.0   |        |       |        |         |        |
| Mean     | 0.66    | 0.018   | 0.036   | -0.27   | 99.2   |        |       |        |         |        |
|          | <0.0002 | <0.002  | 0.011   | <0.0004 |        |        |       |        |         |        |

95325

# SHARU STEELS (P) LTD.

B-48 & D-251, Phase-VII, Focal Point, LUDHIANA - 141 010.

Mobile : 98550-82559 E-mail : info@sharusteels.com & sales@sharusteels.com

## QUALITY ASSURANCE DEPARTMENT METALLURGICAL TEST REPORT

F-QCD-03

ISO 9001 : 2008

Certified Company

### TEST CERTIFICATE

M/S.

SARA SAE PRIVATE LIMITED UNIT NO.4  
BACK SIDE RADHA SWAMI SATSANG GHAR,  
VILLAGE MAHAL ROAD, G.T. ROAD,  
GORAYA (PUNJAB)

T.C. No.

0293

Date

23-07-2014

Invoice No.

Truck No.

PB11J/8225

| GRADE   | SIZE  | HEAT NO. | MANUFACTURING ROUTE | COLOUR CODE | SUPPLY COND.N. | QNTY.<br>M.T. | NO. OF<br>PCS. |
|---------|-------|----------|---------------------|-------------|----------------|---------------|----------------|
| SAE1008 | 40 MM | B-065    | L/BILLET            | ORANGE      | AS ROLLED      | 16015         | LOOSE          |

### CHEMICAL COMPOSITION IN PERCENTAGE

|        | C    | Mn   | S     | P     | Si   | Ni | Cr | Mo | V | Al    | Cu | Sn | Ti | B | Ca |
|--------|------|------|-------|-------|------|----|----|----|---|-------|----|----|----|---|----|
| Min.   | -    | -    | -     | -     | -    | -  | -  | -  | - | -     | -  | -  | -  | - | -  |
| Max.   | -    | -    | -     | -     | -    | -  | -  | -  | - | -     | -  | -  | -  | - | -  |
| Actual | 0.09 | 0.48 | 0.012 | 0.035 | 0.10 | -  | -  | -  | - | 0.020 | -  | -  | -  | - | -  |

### METALLURGICAL RESULTS

| INCLUSION RATING IS : 4163/JK CHART/ASTM E-45A |     |   |     |   |     |   |     |                     | Aust. Grain<br>Size<br>ASTM No.<br>(E-112) |  | Gas content<br>(ppm) |  |
|------------------------------------------------|-----|---|-----|---|-----|---|-----|---------------------|--------------------------------------------|--|----------------------|--|
| A                                              |     | B |     | C |     | D |     | Decarb.<br>(MM)     | 5/6                                        |  | O <sub>2</sub>       |  |
| T                                              | H   | T | H   | T | H   | T | H   |                     |                                            |  | N <sub>2</sub>       |  |
| STD                                            |     |   |     |   |     |   |     | Micro-<br>Structure | P+F                                        |  | H <sub>2</sub>       |  |
| MAX                                            |     |   |     |   |     |   |     |                     |                                            |  |                      |  |
| ACTUAL                                         | 1.0 |   | 1.0 |   | 1.0 |   | 1.5 | 0.5                 |                                            |  |                      |  |

### MECHANICAL PROPERTIES

|        | U.T.S. | Y.S. | EL % | RA % | Impact Value | Hardness<br>B.H.N. / Rb | MACRO | ULTRASONIC<br>TEST | MIX UP TEST |
|--------|--------|------|------|------|--------------|-------------------------|-------|--------------------|-------------|
| Reqd.  |        |      |      |      |              |                         | OK    | OK                 | OK          |
| Actual |        |      |      |      |              | 140                     |       |                    |             |

### HARDENABILITY (HRC) AS PER IS : 3848

|          |  |  |  |  |  |  |  |  |  |
|----------|--|--|--|--|--|--|--|--|--|
| Distance |  |  |  |  |  |  |  |  |  |
| Regd.    |  |  |  |  |  |  |  |  |  |
| Actual   |  |  |  |  |  |  |  |  |  |

Remarks :

CERTIFIED THAT THE TEST FINDINGS ARE CORRECT & ARE BASED ON  
ACTUAL RESULTS CARRIED OUT ON SAMPLES DRAWN AS PER Q.A.P.

PREPARED BY

AUTHORISED SIGNATORY