

**BSL****SPECTRO LAB****METALLURGICAL TESTING CENTRE**

(A Unit of BSL Castings Pvt. Ltd.)

(NABL ACCREDITED LAB)

**TEST REPORT****WORKS & OFFICE :**

PLOT NO. 263, SECTOR-24

FARIDABAD-121005 (INDIA)

Fax No. : +91-129-4065535

Ph. No. : 4065531, 4065532

E-mail : castings@bsltd.net

CERTIFICATE NO.  
T - 1452 & T- 1453

BSL/SPECTRO/5.10F-01/01/00

Issued to :	M/s. Nov Sara India (P) Ltd. 7/1, Pritam Road, Unit - II, Dehra Dun - 248001	Report No.	143783	D.O.T. :	18.05.2010
Sample Description	Sample No. - 4768, Heat No. - S-481,	Ref. No.	Nil	D.O.R. :	15.05.2010
				J.O. No. :	44221

**RESULTS****Chemical Analysis**

Sample ID; J.O.No. - 44221

By Spectrometer (ASTM E1507;1998)

<u>Element</u>	<u>%</u>
Carbon	0.100
Silicon	0.141
Sulphur	0.024
Phosphorus	0.025
Manganese	0.499
Nickel	0.062
Chromium	0.138
Molybdenum	<0.05
Vanadium	<0.04
Copper	0.040
Tungsten	<0.02
Cobalt	<0.03
Aluminium	0.027
Magnesium	<0.01
Titanium	<0.02
Iron	98.91

Checked By

  
**Authorised Signatory**  
 ( Q.M. / T.M. )

- Note :
1. The result listed refer only to the tested samples and applicable parameters, Endorsement of product is neither inferred nor implied.
  2. Total Liability of our Laboratory is limited to the invoiced amount. No liability will be accepted after the sample is taken back.
  3. \*Not Covered under NABL Scope.
  4. This report can not be used as an evidence in a court of law.
  5. Samples will be destroyed after 15 days.
  6. Any Complaints about this report should be communicated within 7 days of issue of this report.
  7. This report shall not be reproduced except in full, without the written permission of the Laboratory.



\*\*\*\*\*



# SHARU STEELS (P) LTD.

B-48 & D-251, Phase-VII, Focal Point, LUDHIANA - 141 010.  
 E-mail : sharusteels@connect2.dsl.net  
 AN ISO - 9001 : 2000 CERTIFIED COMPANY  
 QUALITY ASSURANCE DEPARTMENT  
 METALLURGICAL TEST REPORT

F-QCD-03  
  
 ISO-9001 : 2000  
 REG. NO. : R91/1413

Customer Address : NOV SARA INDIA PRIVATE LIMITED  
 DEHRADUN UTTARAKHAND

Date : 22-10-2009

## TEST RESULTS

CERTIFICATE NO. :  
 GRADE :  
 SIZE :  
 SAMPLE NO. :  
 HEAT NO. :  
 COLOUR CODE :  
 QTY/NO. OF BARS  
 MULTIPLE/FIX LENGTH

1639/10-2009  
 SAE 1008  
 40 MM  
 1  
 S 481  
 ORANGE

### A. CHEMICAL ANALYSIS :

	C	Mn	S	P	Si	Ni	Cr	Mo	V	Al	Cu	Ti	B
Spec : Low-High	-	-	-	-	-	-	-	-	-	-	-	-	-
Obtained	0.10	0.45	0.026	0.035	0.15		0.08			0.022			

### B. METALLOGRAPHIC CHARACTERISTICS :

Inclusion Rating : (In accordance with IS : 4163)	A Thin Thick	B Thin Thick	C Thin Thick	D Thin Thick
	2.0	1.5	1.0	2.0

Grain Size : (In accordance With IS : 4748)	High	Low
	7	

C. MACRO RESULTS : OK  
 (In accordance With ASTM E-381)

### D. JOMINY HARDENABILITY : (In accordance with IS : 3848)

E. OTHER SPECIAL TESTS :

### F. MECHANICAL PROPERTIES :

Tensile Strength	Yield Strength	% Elongation	% Area Reduction	Impact Horizontal/ Vertical	Hardness High/ Low
------------------	----------------	--------------	------------------	--------------------------------	-----------------------

8465 M7

REMARKS :