

Laboratory **Indian Oil Corporation Limited, Kandla Laboratory, Foreshore Terminal, Kandla, Kutch, Gujarat**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6340 (in lieu of T-1214)**

Page 1 of 3

Validity **01.11.2017 to 31.10.2019**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	PETROLEUM AND PRODUCTS			
1.	JETA-1/JP-5 /ATF K - 60	Total Acidity	IS :1448 (P:113)/IP:354 /ASTM D3242	0.000 to 0.100mg KOH/g
2.	HSD/LSHF	Total Acidity	IS :1448 (P:2) /IP:1 ASTM D974	0.0 to 0.5mg KOH/g
3.	HSD/SKO/FO	Acidity Inorganic	IS :1448 (P:2) /IP:182	Qualitative
4.	FO	Acid Number	IS :1448(P:1) /IP:177 ASTM D664	0 to 150 mg KOH/g
5.	JET A-1	Aniline Point	IS: 1448(P:3) /IP:2 ASTM D611	40 °C to 80 °C
6.	JET A-1/Naptha / MS/HSD	Aromatics & Olefins	IS :1448 (P:23) /IP:156 - ASTM D1319	5% to 99% v/v – A 0.3% to 55% v/v -O
7.	HSD/LDO/FO	Ash Content	IS: 1448 (P:4) /IP:4 ISO 6245/ASTM D 482	0.001% to 0.18 % wt
8.	Lube/2T/4T/ 20W40	Ash Content (Sulphated)	IS: 1448 (P:4) /IP:163 ISO 6245/ASTM D 874	0.005% to 1.2% wt
9.	FO	Ashphaltene Content	IS :1448(P : 22) /IP:143 ASTM D 6560	0.5% to 30% m/m
10.	HSD/LDO/FO	Carbon Residue (Ramsbottom)	IS 1448 (P :8) / IP 14 ASTM D 524	0.01% to 30% m/m
11.	LDO/FO	Conderson Carbon Residue	IS :1448 (P:122) /IP 13 / ASTM D 189	0.01% to 30% m/m
12.	HSD/LSHF	Cetane Index, (Calculated)	ASTM D 4737 / IP 380	40 to 65
13.	MS/HSD/SKO/LSHF/ ATF	Cu Strip Corrosion	IS:1448(P-15) / IP 154 ASTM D 130	1a to 4c unit
14.	SKO/JET A-1 NAPHTHA	Colour, Saybolt	IS:1448 (P-14) ASTM D 156	16 to 30
15.	HSD/LSHF/LUBE	Colour, ASTM	ASTM D : 1500 IS:1448(P-12) IP 196 – 97(2011)	0 to 8.0

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16.	NAPHTHA/LSHF/HS D/LDO/FO	Gross Calorific Value	IS:1448(P-7) ASTM D 4868	9000 kcal/kg to 12000 kcal/kg, Min
17.	MS/HSD/SKO/LDO/FO/ATF	Density @15° C	IS:1448(P-16) ASTM D1298/ IP 160	0.660 gm/ml to 1.00 gm/ml
18.	MS/HSD/SKO/ NAPHTHA/ JETA-1/JP5/LSHF	Distillation	IS:1448(P-18) ASTM D86 IP123	Temp-30°C to 400°C Vol. 1% to 99% v/v
19.	ATF	Doctor Test	IS:1448(P-19) IP 30-07 ASTM D 4952	+ve to -ve
20.	MS/ATF / NAPHTHA	Existent Gum	IS:1448(P-29) IP131 ASTM D381	0 to 40 g/m ³
21.	ATF	Electrical conductivity	IS:1448(P-148 IP274 ASTM D 2624	20 pS/m to 1000 pS/m
22.	ATF	Freezing Point	IS:1448(P-11) ASTM D 2386	(-)70°C to 0 °C
23.	SKO/HSD/ATF	Flash Point (Abel)	IS:1448(P-20) IP 170	19°C to 70°C
24.	HSD/LDO/FO/ LSHF	Flash Point (Pensky Marten)	IS:1448(P-21) ASTM D93 IP 34-2003	40°C to 300°C
25.	LUBRICANTS	Flash Point (COC)	ASTM D : 92 IS:1448(P-69) IP 36	80°C to 400°C
26.	ATF HSD FO Lube	Kinematic Viscosity @ -20/40/50/100°C	IS:1448(P-25) ASTM D445 IP 71 (Sec.1)-97	0.50 cSt to 400 cSt
27.	ATF	Mercaptan Sulphur	IS:1448(P-109 IP 342	0.003% to 0.01% m/m
28.	ATF	Naphthalene	IS:1448(P-118) ASTM D1840	0 to 5% m/m

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Convenor

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Program Director

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29.	NAPHTHA	Non Volatile Residue	IS:1448 (P:64)	0.1 mg to 10 mg
30 .	HSD/LDO/LUBE/ LSHF	Pour Point	IS:1448(P-10) ASTM D 97 IP 15	(-)36°C to 21°C
31.	HSD/LDO/FO/ LSHS	Sediments	IS:1448(P-30) IP 53 ASTM D 473	0 to 10 % by mass
32.	ATF	Silver Strip Corrosion	IP 227	0 to 4
33.	ATF/SKO	Smoke point	IS:1448(P-31) ASTM D 1322 IP 57-95	10mm to 30mm
34.	MS/ NAPHTA HSD SKO/LDO/ATF/ LSHF FO	Sulphur,	IP336 ISO20847 ASTM D4294 P:153/ISO 13032	0 to 3000 mg/kg & 0 to 1.5% m/m
35.	ATF	Specific energy	ASTM D 3338	30 MJ/kg to 60 MJ/kg
36.	MS/NAPHTA	Vapour Pressure(Reid)	IS:1448(P-39 ASTM D 323 IP 69	0.2 kg/cm ² to 1.06 kg/cm ²
37.	HSD/LDO/FO/ /LSHF/LUBE	Water Content	IS:1448(P-40) IP 74-2000 ASTM D 95	0 to 25 % by Vol.
38.	ATF	Water reaction	IS:1448(P-42) ASTM D 1094-07 IP 289-06	Qualitative