

Laboratory **Quality Control Laboratory, Gail (India) Limited, Post Pata, Dist. Auraiya, Uttar Pradesh**

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

Certificate Number **TC-6298 (in lieu of T-0747)**

Page 1 of 2

Validity **11.10.2017 to 10.10.2019**

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
-----	----------------------------	-------------------------	---	--

CHEMICAL TESTING

I.	PETROLEUM AND PRODUCTS			
1.	Natural Gas (Rich / Lean Gas)	Compositional Analysis by GC		
		C ₁	ASTM D1945	65.0 mole% to 99.8 mole%
		C ₂		0.2 mole% to 20.0 mole%
		C ₃		0.20 mole% to 10.0 mole%
		iC ₄		0.20 mole% to 2.0 mole%
		nC ₄		0.20 mole% to 2.0 mole%
		iC ₅		0.01 mole% to 0.50 mole%
		nC ₅		0.01 mole% to 0.50 mole%
		C ₆		0.01 mole% to 0.50 mole%
		N ₂		0.01 mole% to 2.0 mole%
		CO ₂		0.0001 mole% to 10.0 mole%
		Specific Gravity	ISO 6976	0.5200 to 0.8500
		Calorific Value	ISO 6976	8000 kCal/SM ³ to 13000 kCal/SM ³
2.	LPG	Density	ASTMD2163-14e1 (GC) & IP-432	0.4800 g/cc to 0.5600 g/cc
		Vapour pressure @ 40°C	ASTMD2163-14e1 (GC) & IP-432	520 kPa to 1050 kPa

Pooja Singh
Convenor

N. Venkateswaran
Program Director

Laboratory **Quality Control Laboratory, Gail (India) Limited, Post Pata, Dist. Auraiya, Uttar Pradesh**

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

Certificate Number **TC-6298 (in lieu of T-0747)**

Page 2 of 2

Validity **11.10.2017 to 10.10.2019**

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
		Volatility	ASTM D1837	-5°C to +5°C
		Copper strip corrosion	ASTM D1838	1a to 4c
		Hydrogen sulphide	ASTM D2420	Qualitative
		Total Volatile Sulphur	ASTM D3246	1.5 mg/kg to 300 mg/kg
		Free Water content	GAIL:PATA:DSM:QC LAB:SOP-217	-
3.	Propane	Density	ASTMD2163-14e1 (GC) & IP-432	0.4800 g/cc to 0.5600 g/cc
		Vapour pressure @ 40 °C	ASTMD2163-14e1 (GC) & IP-432	1550 kPa, gauge(Max)
		Compositional analysis by GC	ASTMD2163-14e1 (GC)	
		Propane		90 mole% to 99.9 mole%
		Ethane		0.01 mole% to 4.0 mole%
		Iso- Butane		0.01 mole% to 4.0 mole%
		n-butane		0.01 mole% to 4.0 mole%
		Iso- Pentane		0.00 mole% to 0.2 mole%
		n-Pentane		0.00 mole% to 0.2 mole%
		Copper strip corrosion	ASTM D1838	1a to 4c
		Hydrogen sulphide	ASTM D2420	Qualitative
		Total Volatile Sulphur	ASTM D3246	1.5 mg/kg to 300 mg/kg
		Free Water content	GAIL PATA:DSM:QC LAB:SOP-217	None
4.	Polyethylene (LLDPE/HDPE)	Melt Flow Index	ASTM D1238	0.05 g/10 min. to 60.0 g/10 min.
		Density	ASTM-D-1505	0.9000 g/cc to 0.9700 g/cc