

Laboratory	Quality Assurance Laboratory, GAIL (India) Ltd, LPG Recovery Plant, GIDC Industrial Area, Vaghodia, Gujarat		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	30.06.2014
Certificate Number	T-0758	Valid Until	29.06.2016
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	PETROLEUM			
1.	Feed Natural Gas	Composition	ASTM D 1945-2003	
		Methane (C ₁)		65 – 98%
		Ethane (C ₂)		1.0 – 15%
		Propane (C ₃)		1.0 – 10%
		i Butane (iC ₄)		0.01 – 2.0%
		n Butane (nC ₄)		0.01 – 2.0%
		i Pentane (iC ₅)		0.01 – 1.0%
		n Pentane (nC ₅)		0.01 – 1.0%
		Hexane (C ₆₊)		0.01 – 1.0%
		Carbon dioxide (CO ₂)		0.01 – 10%
		Nitrogen (N ₂)		0.01 – 1.0%
		Specific Gravity	ISO - 6976-1995	0.6000 – 0.8000
		Calorific Value	ISO - 6976-1995	6000 – 12000 kcal/sm ³

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Lean Natural Gas	Composition	ASTM D 1945-2003	
		Methane (C ₁)		65 – 98%
		Ethane (C ₂)		1.0 – 15%
		Propane (C ₃)		1.0 – 10%
		i Butane (iC ₄)		0.01 – 2.0%
		n Butane (nC ₄)		0.01 – 2.0%
		i Pentane (iC ₅)		0.01 – 1.0%
		n Pentane (nC ₅)		0.01 – 1.0%
		Hexane (C ₆ +))		0.01 – 1.0%
		Carbon dioxide (CO ₂)		0.01 – 10%
		Nitrogen (N ₂)		0.01 – 1.0%
		Specific Gravity	ISO - 6976-1995	0.5500 – 0.7500
		Calorific Value	ISO - 6976-1995	6000 –12000 kcal/sm ³

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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	Liquefied Petroleum Gas (LPG)	Composition		
		Ethane (C ₂)	ASTM D 2163-2007	0.1-10 %
		Propane (C ₃)		30-80 %
		i Butane (iC ₄)		10-30 %
		n Butane (nC ₄)		10-30 %
		I Pentane (iC ₅)		0.01-5 %
		n Pentane (nC ₅)		0.01-5 %
		Vapour Pressure@40 °C	ISO - 8973-1997	800-1300 (kpa)
		Density @ 15 °C, kg/m ³	ISO - 8973-1997	0.450-0.600 gm/ml
		Copper strip corrosion for 1 hr at 38 °C	ASTM D 1838 -07	1 No. - 4 No.
Mercaptan	IS 4576:1999 Note-5	Positive/Negative		

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