



**OIL INDIA LIMITED**  
**(A Government of India Enterprise)**  
**GMS Department**  
**P.O. Duliajan, Pin - 786602**  
**Dist-Dibrugarh, Assam**

**EOI No. EOI/GMS/CNG-LNG/01/2024 dated 21.09.2024**

**EXPRESSION OF INTEREST(EOI)**

**for**

***“Utilization of Natural Gas available in Remote Locations in the oilfields of Oil India Limited (OIL) by converting it to CNG/LNG, transporting the produced CNG/LNG to consumption centres / Depressurization/Re-gasification facilities and injecting the same into Main Gas Network at location identified by OIL”.***

**Expression of Interest:**

Expression of Interest is invited by Oil India Limited (OIL) from Turnkey Solution / Service Providers (TSP) / Technology Providers for offering suitable service/solution package to tap stranded natural gas in the order of 5,000 to 30,000 standard cubic metre per day (SCMD) in three tentatively selected remote production locations/installations in OIL's operational area in Assam. The job includes primarily setting up of a CNG/LNG plant and related facilities like CNG/LNG Cascade Storage, Cascades / Cryogenic Tankers for transportation of CNG/LNG, provision for transportation of other intermediate fractions produced during the compression/liquefaction process. For utilization of this natural gas recovered as CNG/LNG at source, the contract shall involve installation of Disposal (Feeding) Facility / Pressure Reduction Station/ Re-gasification Plant etc. at location(s) identified by OIL. Thus, the produced CNG/LNG will need to be transported to a maximum distance of about 30 to 100 KM to reach this Disposal (Feeding) Facility / Pressure Reduction Station /Re-gasification Station / Consumption Centre(s).

**1.0 Preamble:**

Oil India Limited (OIL), a national oil company of India, engaged in exploration, drilling, production & transportation of crude oil & natural gas and production of LPG, intends to hire the services of a competent Turnkey Service Provider (TSP) / Technology Providers / Eligible Indian or Global Companies having their subsidiaries in India for tapping stranded natural gas in the order of 5,000 to 30,000 standard cubic metre per day (SCMD) with an objective to monetize it by converting it to CNG/LNG, transporting CNG/LNG by Cascades/Cryogenic Tankers to Disposal (Feeding) Facility / Consumption Centre / Pressure Reduction Station/Re-gasification Site to subsequently inject the same into OIL's main gas network for delivering to internal/external entities/consumers. OIL has dedicated gas collection and distribution grids including compression facilities to supply natural gas to

various downstream industries like Power Sector, Fertilizer sector, Refinery, Petrochemical sector, Tea Sector and as fuel for commercial and domestic uses, and for supplying to various other external and internal consumers.

## **2.0 Background :**

OIL has been carrying out its exploration and development activities in various areas in the state of Assam and Arunachal Pradesh. Many of the discoveries are in remote areas. The crude oil produced in these areas is transported through bowsers but due to the non-availability of local consumers as well as time taken in laying pipeline evacuation facilities, the natural gas produced in these areas may not be put in to proper use immediately. Hence, alternate arrangements are required to be planned for gainful utilization of such valuable energy source. OIL, looking for a suitable solution in order to utilize/monetize this gas, intends to establish commercially viable and proven Compressed Natural Gas/ Liquefied Natural Gas (CNG/LNG) plant including related facilities like CNG/LNG storage, CNG/LNG Transportation along with depressurization / re-gasification plant / disposal facility at location(s) identified by OIL. This concept of conversion of gas to CNG/LNG is considered as one of the options for monetization/utilization of this stranded gas.

## **3.0 Project Overview :**

OIL has a sizeable reservoir of oil and gas in some of its satellite fields like Location : DIAN, Mechaki, Lakwagaon at a distance of 30 – 100 KM from its Field Head Quarter at Duliajan, Assam. At present around 5,000 to 30,000 SCMD associated gas produced from each of these locations is available for utilization.

OIL is planning to utilize this gas by converting to CNG/LNG and then transporting the produced CNG/LNG to consumption centres / Depressurization/Re-gasification facilities and injecting the same into Main Gas Network at location identified by OIL.

As per present plan, the CNG/LNG facility, which needs to be fully modular in nature will initially be set-up tentatively in Locations DIAN, Mechaki, Lakwagaon and transferrable to other suitable production locations of OIL where sizeable quantity of stranded natural gas is available at present or shall be available in the near future.

The typical gas composition of the produced gas in different locations of OIL is tabulated below with corresponding tentative ranges of the main components of natural gas:

<b>Component</b>	<b>% v/v</b>
Methane	84.60 – 93.37
Ethane	7.24 – 1.81
Propane	3.37 – 0.66
Iso-Butane	1.15 – 0.13
Normal-Butane	1.50 – 0.18
Iso-Pentane	0.60 – 0.07
Normal-Pentane	0.41 – 0.03
Hexane+	0.77 – 0.30
Nitrogen	0.16 – 0.05
Oxygen	NIL
Carbon Dioxide	0.20 – 7.30
Water	Saturated

The gas composition indicated above is on dry basis. However, the gas is saturated with water with occasional carryover of oil. Moreover, the gas composition is typical and is subject to variation.

**Data relating to the composition of this currently produced stranded gas in the tentatively shortlisted locations DIAN, Mechaki and Lakwagaon are enclosed in Annexure-I.**

#### **4.0 Scope of Work for the Project :**

Under the Project Scheme, Turnkey Solution / Service provider / Manufacturer is expected to set-up a CNG/LNG mini plant on BOO (Build, Own and Operate) Basis to produce CNG/LNG transport the produced CNG/LNG by Cascades / Cryogenic Tankers to consumption centres/locations identified by OIL within a distance of 100 KMs, Depressurize / Re-gasify the CNG/LNG and then inject the gas into existing main gas network of OIL. Provision for transfer of other intermediate fractions (produced during the compression/liquefaction process) to consumption centres/locations identified by OIL within a distance of 100 KMs will also have to be made.

The plant(s) will be fully modular and portable and will be required to be shifted to different locations at a distance within 150 KM, based on gas availability.

Interested Parties are requested to offer to carry out the job on **Build, Own & Operate (BOO)** concept by supplying and commissioning the Plant & accessories / related facilities and subsequently providing operation & maintenance services for an agreed period of 5 - 6 years on yearly/monthly rental basis or the prospective vendors may also propose their commercial terms for consideration. Under this option, the party will undertake all activities

as listed below but not limited to:

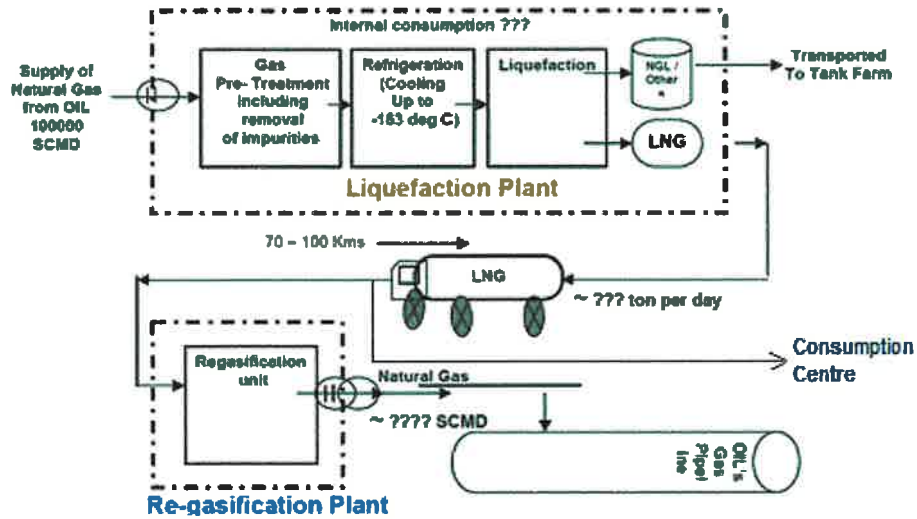
- a) Land Acquisition & Development (if required) for Production & Re-gasification Plant or for CNG/LNG Production Plant. However, OIL shall be willing to discuss and facilitate providing land near the site of stranded gas, to the willing entities for ease of setting up of the CNG/LNG Production Plant. The CNG/LNG production plants should be located within 500 metre of the site where OIL's stranded gas for production of CNG/LNG is available. Similarly, the depressurization / re-gasification sites should be located within 500 metre of OIL's main Gas network in the location identified by OIL.
- b) Design, Supply, Erection & Commissioning of CNG/LNG Production Plant, Re-gasification / Depressurization Plant.
- c) Construction of pipeline from OIL's production centre to CNG/LNG plant and from depressurization / re-gasification facility to OIL's gas network.
- d) Installation of gas filtration / dehydration / conditioning facilities for the inlet gas to the CNG/LNG plant as per requirement.
- e) Production of CNG/LNG from natural gas supplied by OIL.
- f) Transportation of CNG/LNG, other intermediate fractions to Consumption Centre / Depressurization Facility/ Re-gasification Plant at locations identified by OIL
- g) Depressurization/Re-gasification of CNG/LNG and injection into Main Gas distribution network at the location identified by OIL.
- h) Creation of CNG /LNG storage facilities as required both at source of production as well as disposal.
- i) O&M of all facilities and plants under the purview of this BOO contract.
- j) Security of all facilities and plants.
- k) Creation of requisite utilities & arrangement of required accessories.
- l) Compliance to all statutory rules & regulations.
- m) Provision for transfer of the modular Plant & accessories / related facilities to OIL's other satellite field/location as and when required.

Tentative locations and capacity required are provided below:

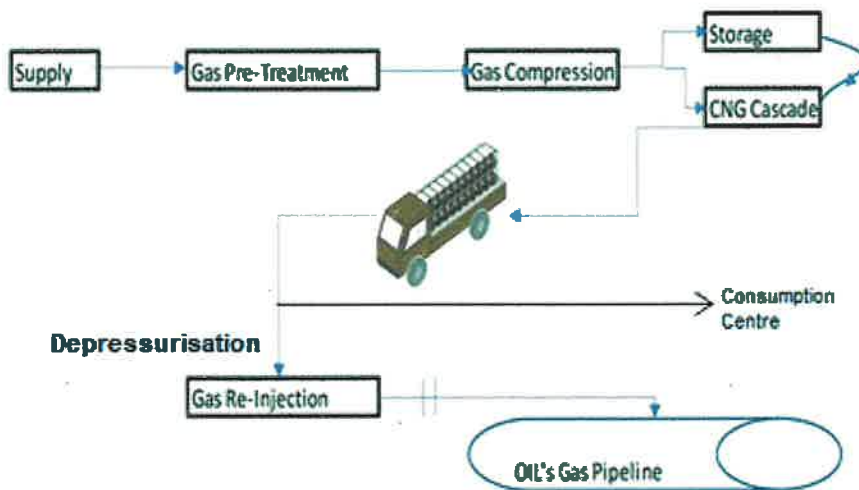
<b>OIL Location</b>	<b>Stranded Natural Gas Pressure (Kg/cm<sup>2</sup>)</b>	<b>Stranded Natural gas Volume (SCMD)</b>	<b>CNG/LNG Capacity (required) in SCMD</b>	<b>Maximum Distance from Consumption Centre/Offloading location identified by OIL (Km)</b>
DIAN	1.5 – 3	5000 – 20000	10000	30
Mechaki	1.5 – 3	10000 - 30000	20000	60
Lakwagaon	1.5 - 3	10000 - 30000	20000	90

#### 4.1 a) Tentative Schematic: LNG

**The Tentative Schematic**



#### b) Tentative Schematic: CNG



## 5.0 Site Conditions:

Details of the tentative locations are given below :

<b>Details</b>	<b>Mechaki</b>	<b>Lakwagaon</b>	<b>DIAN (Chabua)</b>
Ambient Conditions	Tropical		
Ambient Temperature	05 to 42 Deg C		
Altitude	97 m asl.	97 m asl.	97 m asl.
Longitude & Latitude	27.74° N, 95.64° E	27.14° N, and 94.77° E	27.48° N, 95.24° E
Nature of topsoil	Usually Clay/Alluvium/ Unconsolidated		
Average annual rainfall	250 / 300 cm (Rains for 7-8 months/year)		
Humidity	Max. 98%		
Nearest Port of Entry	Kolkata, India		
Distance from National Highway (NH-37) approx..	3 Km	2 Km	5 Km
Distance from District Head Quarter	Tinsukia: 55 Km	Sivasagar: 35 Km	Dibrugarh: 25 Km

## 6.0 Qualification Criteria for the Parties :

Interested parties must fulfil the following criteria to become eligible for the proposed project:

### A. Minimum one of the following:

- (i) The Party should be a Manufacturer of CNG/LNG production plant and must have supplied and commissioned at least 1(one) no. small scale CNG/LNG production Plant and the accessories/ facilities as explained above in last 10 years in any part of the world.
- (ii) The party should be a Solution/Service provider who has the experience of undertaking and completing minimum 1(one) no. similar project successfully in respect of small-scale CNG/LNG production plant as explained above in any part of the world in the last 10 years.
- (iii) The party should have the experience of providing at least one BOO / BOOT Service earlier to any reputed organization in crude oil and natural gas sector in the last 10 years and should have tie up with any manufacturer of CNG/LNG production plant.
- (iv) The party who do not possess the above experience as indicated for carrying out all functions independently, but have experience in any one or more such functions in matters of cryogenic plant activities and/or cryogenic transportation activities and/or providing services for E&P activities (Construction and/or Operation &

Maintenance of 'crude oil and natural gas production facility, crude oil and natural gas processing/(separation, distribution and metering facility), natural gas compression facility'; Supply & Operation of 'drilling rig, work over rig, coil tubing unit') may also show interest on the strength of collaboration with manufacturer of CNG/LNG production plant to cover the shortfall of relevant experience as mentioned above. The kind of collaboration shall be through a pretender bi-partite agreement or MoU between the primary interested party and collaborator well documented.

For clarifications, if any, interested parties may send queries to the following e-mail addresses:

1. [poranbaruah@oilindia.in](mailto:poranbaruah@oilindia.in)
2. [hriday@oilindia.in](mailto:hriday@oilindia.in)
3. [prateek\\_baruah@oilindia.in](mailto:prateek_baruah@oilindia.in)

## 7.0 Requisite Documents / Details:

Interested parties meeting above requirements must forward their Expression of Interest along with initial proposal and relevant supportive documents meeting the qualifications given above. The parties are required to submit their Expression of Interest clearly detailing how they wish to carry out the job and their execution plan.

Interested parties are requested to positively include the following documents and details in the Expression of Interest along with the details:

### (i) Technical

- a. Power generation system.
- b. Instrument air system.
- c. In case of offering LNG system –
  - i. Gas dehydration and pre-treatment for reaching suitable composition for liquefaction.
  - ii. Liquefaction: Technology offered and advantage/disadvantage w.r.t competing technologies.
  - iii. Separation, storage, transfer facility for NGL.
  - iv. Boil-off gas handling system
  - v. On-site cryogenic tanks for LNG storage connected to a truck loading point.
  - vi. Arrangement to load LNG onto tank trucks that can transport and deliver it to off-site customers. No. and size of trailers from identified sites to Duliajan considering road condition.
  - vii. Modules to deliver from the LNG trailers as (i) LNG (ii) re-gasification facility for injecting to Main Gas network at location identified by OIL.
- d. Similar relevant information in case of offering CNG system.
- e. PESO and other relevant approval status of the equipment offered
- f. Safety provisions.

- (ii) HSE Systems:
  - Existing HSE Management System of the company.
- (ii) Company information as under:
  - b. Name, Address, Phone, E-mail of the company that would execute the Contract.
  - c. Name, Address, Phone, E-mail address of the collaborator.
  - d. Organizational Structure.
- (iii) Company's Financial Performance Documents i.e. Audited Balance Sheets, Profit and Loss Account & Cash Flow Statements for the preceding 03 (three) financial/accounting years reckoned from the original EOI publication date & following details separately:
  - a. Company Turnover based on last 3 (Three) audited Financial statements.
  - b. Company's Net Worth based on last 3 (Three) audited Financial statements.
  - c. Working Capital based on last 3 (Three) audited Financial statements.
- (iv) Experience:
  - a. List of projects successfully executed in the last 10 (ten) years or currently under execution in India or abroad meeting the requirements detailed under **Para 6.0** (Qualification Criteria for the Parties), with completion certificate(s) as applicable.
  - b. Details of current commitments including percentage completion of the ongoing works.
- (v) Manpower & Infrastructure Details:
  - a. Details of Key Members who shall be involved in the Project execution including their experience levels.
  - b. Detail of logistical infrastructure owned by the Company relevant to execution of the job.
- (vi) Quality / Other Systems:
  - a. Copy of current ISO Certificate or other certifications as applicable.
  - b. Certification of the Companies QA system by an accredited certification body, if applicable.
  - c. QMS of the Company, if applicable.
  - d. Copy of registration certificate (Labour Law, EPF etc. as applicable).

## 9.0 Note :

- (i) Interested Agency/Firm/Vendor/Contractor/Service Provider must write clearly the EOI number and EOI Description on their EOI.
- (ii) All documents submitted with the EOI must be self certified by the vendor's authorized person. However, OIL reserves the right to verify the original documents.

- (iii) All the copies of document submitted along with the EOI should be clear and legible.
- (iv) OIL INDIA LIMITED (OIL) reserves the right to physically check the original documents/certificates, copies of which are submitted along with the EOI.
- (ii) The EOI is liable to be ignored in case of submission of any misleading/false representation by the vendor in the form of statements and attachments.

#### **10.0 Contact Person of The Service Provider:**

- a) Name :
- b) Position :
- c) Telephone Number :
- d) Address :
- e) E-mail :

#### **11.0 Undertaking By Service Provider**

The following undertaking shall be provided by the intending Service Provider: -

*"The information provided in the support of qualification criteria is factually correct and the company meets the pre-qualification criteria".*

## **12.0 Submission of EOI:**

1. Interested Parties/Vendors/Contractors/Agencies/Firms/Service Providers having relevant experience and expertise are invited to submit their EOI(s) at our e-mail ids: [poranbaruah@oilindia.in](mailto:poranbaruah@oilindia.in) / [hriday@oilindia.in](mailto:hriday@oilindia.in) / [prateek baruah@oilindia.in](mailto:prateekbaruah@oilindia.in) within **10th October, 2024** or hard copies of the same in sealed envelopes super-scribing **Expression of Interest (EOI) NO. EOI/GMS/P/CNG-LNG/01/2024** dated 21.09.2024 for "Utilisation of Natural Gas available in Remote Locations in the oilfields of Oil India Limited (OIL) by converting it to CNG/LNG; transporting the produced CNG/LNG to consumption centres / Depressurization/Re-gasification facilities and injecting the same into Main Gas Network at location identified by OIL." through courier/post to the following address:

**CHIEF GENERAL MANAGER (GMS & LPG)  
OIL INDIA LIMITED  
GMS DEPARTMENT  
P.O. DULIAJAN-786602  
DIST.DIBRUGARH, ASSAM, INDIA**

Vendor/Contractor/ Service Provider may also upload their offer in their file sharing portal and the link(s) may be provided to us at our e-mail within above specified period.

- 13.0** Oil India Limited reserves the right to (a) either accept or reject any / all EOI(s) (b) cancel the process, without assigning any reason whatsoever.
- 14.0** It is to be noted that this EOI is not an invitation for bid. Responding Parties will be shortlisted based on their EOIs submitted and will be called for a pre-tender meeting where they will get an opportunity to give a presentation of their tentative technical cum commercial proposal with completion timeline along with their technical capabilities, credential etc.
- 15.0** Exact Date & Venue for the Pre-Tender meeting, which is expected to be held in October/November, 2024, shall be intimated separately.

----- X -----

## Annexure-I [ Gas compositions of the tentative locations (3 nos.) ]

### A) Mechaki (Gas Composition)



ऑयल इंडिया लिमिटेड  
Oil India Limited  
Chemical Laboratory  
(An ISO 9001:2015 Certified Laboratory)  
Duliajan, Dibrugarh, 786602, Assam  
Email- chemical@oilindia.in

(FOR INTERNAL USE ONLY).

Ref.No.: Chem/Gas/Rep/NGA/190/2024.

Date : 14.08.2024

#### ED (Production)

Attn.: Nilutpal Saikia, Sr. Engineer - GMS

#### CHROMATOGRAPHIC ANALYSIS OF NATURAL GAS (As per ASTM D 1945)

Memo Ref. No.	GF/CHEM/AUGUST/2024/232 of 14.08.2024	
SAP lot no.	890000078266	
Source	Tx-Mechaki	
Perforation range (m)	-	
Date of collection	13.08.2024	
Collection time	01:30 PM	
Collection Pressure,	8.5 KSC	
Date received at Laboratory	14.08.2024	
Date of analysis	14.08.2024	
Cylinder No/Pressure, psi	-	
Components	Composition % (mol)	
Methane	88.56	
Ethane	1.81	
Propane	1.06	
i-Butane	0.14	
n-Butane	0.20	
i-Pentane	0.08	
n-Pentane	0.05	
Hexane +	0.26	
Nitrogen	0.54	
Carbon dioxide	7.30	
Oxygen	0.00	
H <sub>2</sub> S (ppm)	0.0052	
Density ( kg/m <sup>3</sup> )	0.8099	
Gas Gravity	0.6608	
Gross Calorific value (Kcal/SCUM)	8774.9	
Net Calorific value (Kcal/SCUM)	7915.3	

Remarks: 1. Samples were collected by Gas Field Section (GMS).  
2. Calculation of calorific value is done as per ISO 6976 standard.

N.B : Please collect your gas samplers from our laboratory.

Analysed by: RK/PB

Distribution :CGM(GMS)/ED(P-C)/SM(CA)/File-01-Gas Section.

Format ChemLab/Gas/Rep/NGA/01

*Ishani Goswami*  
(Ms. Ishani Goswami)  
Suptdg. Chemist (Lab)  
For DGM-Chemical (Lab & Res)  
For GM-Chemical (HoD)

## B) Lakwagaon (Gas Composition)



ऑयल इंडिया लिमिटेड  
Oil India Limited  
Chemical Laboratory  
(An ISO 9001:2015 Certified Laboratory)  
Duliajan, Dibrugarh, 786602, Assam  
Email- chemical@oilindia.in

(FOR INTERNAL USE ONLY).

Ref.No.: Chem/Gas/Rep/NGA/202/2024

Date : 23.08.2024

### GM-Moran (WA)

Attn :: Suptdg. Engineer (P-WA) -Moran

### CHROMATOGRAPHIC ANALYSIS OF NATURAL GAS (As per ASTM D1945)

Memo Ref. No.	GAS/MRN/08/24 of 23.08.2024	
SAP lot no.		89000007782
Source		LOC - MGJ
Date of collection		22.08.2024
Collection time		-
Collection Pressure,		8.5 KSC
Date received at Laboratory		23.08.2024
Date of analysis		23.08.2024
Cylinder No/Pressure, psi		-
Components	Composition % (mol)	
Methane		89.71
Ethane		5.18
Propane		1.99
i-Butane		0.74
n-Butane		0.53
i-Pentane		0.25
n-Pentane		0.13
Hexane +		0.43
Nitrogen		0.12
Carbon dioxide		0.92
Oxygen		0.00
Density ( kg/m3 )		0.7908
Gas Gravity		0.6452
Gross Calorific value (Kcal/SCUM)		10054.5
Net Calorific value (Kcal/SCUM)		9089.1

Remarks: 1. Samples were collected by Western Asset.  
2. Calculation of calorific value is done as per ISO 6978 standard.

N.B. : Please collect your gas samplers from our laboratory.

Analyzed by: RK/PB

Distribution: Suptdg. Engr.(P-WA)/GMS/File-01-Gas Section.

Format: Chem/Lab/Gas/Rep/NGA/01

*Ishani Goswami*

(Ms. Ishani Goswami)  
Suptdg. Chemist (Lab)

For DGM-Chemical (Lab & Res)

For GM - Chemical (HoD)

## C) DIAN (Gas Composition)



ऑयल इंडिया लिमिटेड  
Oil India Limited  
Chemical Laboratory  
(An ISO 9001:2015 Certified Laboratory)  
Duliajan, Dibrugarh, 786602, Assam  
Email- chemical@oilindia.in

(FOR INTERNAL USE ONLY).

Ref.No.: Chem/Gas/Rep/NGA/219/2024

Date : 06.09.2024

### ED (Production)

Attn.: Nilutpal Saikia, Sr. Engineer- GMS

### CHROMATOGRAPHIC ANALYSIS OF NATURAL GAS.(As per ASTM D 1945 )

Memo Ref. No.	GF/CHEM/SEPTEMBER/2024/257 of 04.09.2024	
SAP lot no.	89000078406	89000078408
Source	DIAN L.P. Flare Line	Mechaki H.P. Flare Line
Date of collection	03.09.2024	03.09.2024
Collection time	12:20 PM	4:00 PM
Collection Pressure,	3.0 KSC	10.07 KSC
Date received at Laboratory	04.09.2024	04.09.2024
Date of analysis	04.09.2024	04.09.2024
Components	Composition % (mol)	
Methane	89.69	89.79
Ethane	3.89	1.71
Propane	2.20	0.79
i-Butane	0.63	0.13
n-Butane	1.00	0.19
i-Pentane	0.41	0.07
n-Pentane	0.33	0.06
Hexane +	0.52	0.21
Nitrogen	0.96	0.13
Carbon dioxide	0.57	6.92
Oxygen	0.00	0.00
Density ( kg/m3 )	0.8022	0.7972
Gas Gravity	0.6546	0.6505
Gross Calorific value (Kcal/SCUM)	10138.1	8779.3
Net Calorific value (Kcal/SCUM)	9168.4	7916.9

Remarks: 1. Samples were collected by Gas Field Section.  
2. Calculation of calorific value is done as per ISO 6976 standard.

N.B. : Please collect your gas samplers from our laboratory.

Analyzed by: RK/PB

Distribution: CGM(GMS)/ED(P-C)/SM(CA)/File-01-Gas Section.

Format: ChemLab/Gas/Rep/NGA/01

(Ms. Ishani Goswami)

Suptdg Chemist (Lab)

For DGM - Chemical (Lab & Res)

For GM - Chemical (HoD)