



GAS ANALYSIS

CAARA37G

MaxxID

Client ID

Meter Number

C103035:ZE0333-01

Laboratory Number

CANADIAN NATURAL RESOURCES LTD.

Operator Name

01-18-017-18-W4M

LSD

Well ID

CNRL ARMADA 01-18-017-18-W4M

JS

CNRL

Well/Plant/Facility

Initials of Sampler

Sampling Company

CLARESHOLM

SALES GAS

18940,20231

Field or Area

Pool or Zone

Sample Point

Container Identity

Percent Full

Test Recovery

Interval

Elevations (m)

Other(Miscellaneous)

Sample Gathering Point

Solution Gas

Test Type No. Multiple Recovery

From:

To:

KB

GRD

Production Rates

Gauge Pressures kPa

Temperature °C

Gas

Well Fluid Status

Well Status Mode

Well Status Type

Well Type

Gas or Condensate Project

Licence No.

2021/01/11 14:30

2021/01/15

2021/01/22

2021/02/19

NHR,MM1

Date Sampled Start

Date Sampled End

Date Received

Date Reported

Date Reissued

Analyst

COMPOSITION

Component	Mole Fraction Air Free As Rec'd*	Mole Fraction Air Free Acid Gas Free	Liquid Volume mL/m ³ Air Free As Rec'd	Historical Avg. Mole Fraction (0 data points)	Tolerance Score
H ₂	Trace	Trace			
He	0.0007	0.0007			
N ₂	0.0314	0.0317			
CO ₂	0.0086				
H ₂ S	0.0000				
C ₁	0.8855	0.8932			
C ₂	0.0494	0.0498	175.45		
C ₃	0.0153	0.0154	56.23		
iC ₄	0.0028	0.0028	12.12		
nC ₄	0.0045	0.0046	19.03		
iC ₅	0.0009	0.0009	4.24		
nC ₅	0.0007	0.0007	3.25		
C ₆	0.0002	0.0002	1.38		
C ₇₊	Trace	Trace	0.79		
Total	1.0000	1.0000	272.49		

No historical data available for calculating statistical information

PROPERTIES

Calculated Molar Mass Moisture Free as Sampled	Calculated Relative Densities
18.2 Total	95.0 C ₇₊
0.629 Moisture Free as Sampled	0.622 Moisture & Acid Gas Free
	C ₇₊ Moisture Free
Calculated Pseudo Critical Properties	Calculated Vapour Pressure
As Sampled	Acid Gas Free
4581.3 pPc (kPa)	200.0 pTc (Kelvin)
4557.1 pPc (kPa)	199.1 pTc (Kelvin)
115 C ₅₊ (kPa)	
Calculated Gross Heating Value (MJ/m ³) @ 101.325 kPa & 15°C	Gas Compressibility @ 101.325 kPa & 15°C
39.37 GPA 2172	39.71 GPA 2172 Acid Gas Free
	195.00 C ₇₊ as Received
0.9976	
On Site	In Lab
<1 Gastec (ppm v/v)	Tutweiler (mole%)
	Gastec (ppm v/v)
	Tutweiler (mole%)
	<0.01 H ₂ S from GC (mole%)
Onsite analysis is required for accurate source H ₂ S content. H ₂ S degrades variably in all sample containers and is also matrix dependent.	

QC Check Std # 7540/5010 Date 2021/01/18 QC Passed Yes

*per Method GPA 2286-M

Results relate only to items tested

Remarks:

NO PROTREND CODE PROVIDED.

