7217 Roper Road NW Edmonton, Alberta T6B 3J4, Canada T: +1 (780) 438-5522 F: +1 (780) 434-8586 E: Edmonton@exova.com W: www.exova.com





## **Gas Analysis**

Lot Number: **915914**Report Number: 1799128
Reference Sample ID: 4289249

**Pseudocritical Properties** 

Temperature, K

Pressure, kPa

Reference Sample ID: 4289249 Bonavista Petroleum Ltd. EX00287 Well License No. Operator Container Identity b-046-L/094-A-12 Blueberry b-046-L/094-A-12 Facility KB Elev, m GR Elev, m Location Blueberry S. Busche Sampler Field/Area Pool/Zone Company Test Recovery: Test Type No Multiple Recovery n/a Test Interval, m Sales Line Sample Point Meter # / Sample ID Type of Production: Pumping Flowing Gas Lift Swab Oil Production Rates: Water m³/d m³/d Gas 103 m3/d Perforations, m Gauge Pressure, kPa 930 883 Temperature, °C 20 Source Sampled Received Date On Date Off <u>2013-01-2</u>5 2013-01-13 11:00 <u> 2013-01-21</u> Date Sampled (Y-M-D) Time Sampled Other Information Date Received (Y-M-D) Date Reported (Y-M-D)

Comp.	Mole Fraction (Air Free)		Petroleum Liquid Content mL/m³		Gross Heating Value - Moisture Free MJ/m³ @15°C, 101.325 kPa		
_	As Received	Acid Gas Free		AGA #5	AGA #5	<b>GPA 2172</b>	
H2	0.0001	0.0001		As Received	Acid Gas Free	As Received	
He	0.0001	0.0001		46.14	46.20	46.14	
N2	0.0020	0.0020			De	nsity - Moisture	
CO2	0.0012	0.0000		Ideal Gas (AGA #5)		•	
H2S	0.0000	0.0000		Absolute, kg/m³ Relative		Relative	
C1	0.8184	0.8194		0.858	}	0.700	
C2	0.1019	0.1020	362.1	Pola	tive Molecular	Macc	
C3	0.0449	0.0449	165.0	Total G		C7+	
iC4	0.0087	0.0087	38.0	20.29	)	103.33	
nC4	0.0135	0.0135	56.8				
iC5	0.0037	0.0038	18.1				
nC5	0.0029	0.0029	14.0				
C6	0.0017	0.0017	9.3				
C7	0.0007	0.0007	4.3				
C8	0.0002	0.0002	1.4				
C9	Trace	Trace	0.0				
C10+	Trace	Trace	0.0				
Total	1.0000	1.0000	669.0				

46.20	46.14	4580	218.0		
Der	nsity - Moistu	re Free, As Sampled			
Ideal Gas (AGA #5)			Real Gas (GPA 2172)		
g/m³ F	Relative	Absolute, kg/m <sup>3</sup>	Relative		
	0.700	0.861	0.703		
	eal Gas (AGA # g/m³ F	Density - Moistu al Gas (AGA #5)	Density - Moisture Free, As Sampled eal Gas (AGA #5) Real Gas g/m³ Relative Absolute, kg/m³		

Relative Mol	ecular Mass	Hydrogen Sulfide	Vapour Pressure
Total Gas	C7+	g/m³	Pentanes Plus, kPa
20.29	103.33	0.00	101

Approved by:

Robert Lessard, BSc

Consulting Scientist - Reservoir Fluids

Note: Physical constants used in calculations from GPA Standard 2145-09

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## **Methodology and Notes**

Bill To: Bonavista Petroleum Ltd.

Project:

Lot ID: 915914

Report To: Bonavista Petroleum Ltd.

ID:

Control Number:

10511 - 100 Avenue

Name: Blueberry b-046-L/094-A-12 Location: Blueberry

Date Received: Jan 21, 2013

Fort St. John, BC, Canada

Location: LSD: Date Reported: Jan 25, 2013

V1J 1Z1

Attn: Karen Demers

Report Number: 1799128

Sampled By: S. Busche

P.O.: Acct code:

Company:

Method of Analysis				
Method Name	Reference	Method	Date Analysis Started	Location
Natural Gas - C7/10 Composition	GPA	<ul> <li>* Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography, 2261-00</li> </ul>	22-Jan-13	Exova Edmonton
Natural Gas - C7/10 Composition	GPA	Calculation of Gross Heating Value, Relative Density and Compressibility Factor for Natural Gas Mixtures from Compositional Analysis, 2172-09	22-Jan-13	Exova Edmonton
		* Reference Method Modified		

b-046-L/094-A-12

References

GPA Gas Processors Association

## Comments:

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.

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## **Report Transmission Cover Page**

Bill To: Bonavista Petroleum Ltd. Project:

Lot ID: 915914

Report To: Bonavista Petroleum Ltd.

Control Number:

10511 - 100 Avenue Fort St. John, BC, Canada

Blueberry b-046-L/094-A-12 Name: Location: Blueberry

Date Received: Jan 21, 2013 Date Reported: Jan 25, 2013

V1J 1Z1

LSD: b-046-L/094-A-12

ID:

Report Number: 1799128

Attn: Karen Demers

P.O.: Sampled By: S. Busche Acct code:

Company:

Contact & Affiliation	Address	Delivery Commitments
E-Services Bonavista Petroleum Ltd.	10511 - 100 Avenue Fort St. John, British Columbia V1J 1Z1 Phone: (250) 785-1354 Fax: null Email: bonavista.analysisresults@bonavistaenerg	On [Report Approval] send  (Test Report) by Email - Multiple Reports  On [Report Approval] send  (Test Report) by Email - Multiple Reports  Gy.COn [Report Approval] send  (Test Report) by Email - Multiple Reports  On [Report Approval] send  (Test Report) by Email - Multiple Reports  On [Report Approval] send  (Test Report) by Email - Multiple Reports
Karen Demers Bonavista Petroleum Ltd.	10511 - 100 Avenue Fort St. John, British Columbia V1J 1Z1 Phone: (250) 261-5359 Fax: null Email: karen.demers@bonavistaenergy.cc	On [Lot Approval and Final Test Report Approval] send  (Invoice) by Email - Single Report

# **Notes To Clients:**