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Exova

Gas Analysis

Lot Number: **855343**
Report Number: 1716006
Reference Sample ID: 3947160

Well License No.	Operator: Prairie Petro-Chem Ltd.	Container Identity: Tedlar x2/EX10482
Location: 10-23-009-28	Well Name: Tundra Oil & Gas 10-23-9-28	KB Elev, m / GR Elev, m
Field/Area	Pool/Zone	Sampler: Todd Leslie / Company: P. P. C

Test Type: Multiple Recovery — No: n/a

Test Recovery:

Test Interval, m

Perforations, m

Sample Point: Casing — Meter # / Sample ID

Type of Production: Pumping / Flowing / Gas Lift / Swab

Production Rates: Water ____ m³/d Oil ____ m³/d Gas ____ 10³ m³/d

	Source	Sampled	Received
Gauge Pressure, kPa			243
Temperature, °C			20

Date On / Date Off

Date Sampled (Y-M-D)	Time Sampled	Date Received (Y-M-D)	Date Reported (Y-M-D)	Other Information
2012-02-07		2012-02-15	2012-02-16	

Comp.	Mole Fraction (Air Free) As Received	Mole Fraction (Air Free) Acid Gas Free	Petroleum Liquid Content mL/m³
H2	0.0040	0.0043	
He	0.0004	0.0005	
N2	0.1812	0.1953	
CO2	0.0712	0.0000	
H2S	0.0011	0.0000	
C1	0.1783	0.1922	
C2	0.3152	0.3395	1120.1
C3	0.1776	0.1915	652.6
iC4	0.0201	0.0217	87.8
nC4	0.0368	0.0397	154.8
iC5	0.0062	0.0067	30.3
nC5	0.0052	0.0056	25.2
C6	0.0019	0.0021	10.4
C7	0.0007	0.0008	4.3
C8	0.0001	0.0001	0.7
C9	Trace	Trace	0.0
C10+	0.0000	0.0000	0.0
Total	1.0000	1.0000	2086.2

Gross Heating Value - Moisture Free MJ/m³ @15°C, 101.325 kPa

AGA #5 As Received	AGA #5 Acid Gas Free	GPA 2172 As Received
53.80	57.93	53.75

Pseudocritical Properties

Pressure, kPa	Temperature, K
4525	271.5

Density - Moisture Free, As Sampled

Ideal Gas (AGA #5) Absolute, kg/m³	Ideal Gas (AGA #5) Relative	Real Gas (GPA 2172) Absolute, kg/m³	Real Gas (GPA 2172) Relative
1.387	1.132	1.396	1.140

Relative Molecular Mass Total Gas	Relative Molecular Mass C7+	Hydrogen Sulfide g/m³	Vapour Pressure Pentanes Plus, kPa
32.80	101.96	1.56	112

- H2S was determined by GC/SCD: 1080 ppm (mol/mol)
- H2S analysis was corrected for 5 % air content.

Approved by: S Montgomery

Sara Montgomery, B.Sc
Quality Officer

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

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Methodology and Notes

Bill To:	Prairie Petro-Chem Ltd.	Project:	
Report To:	Prairie Petro-Chem Ltd.	ID:	
	738 - 6 Street	Name:	Tundra Oil & Gas 10-23-9-28
	Estevan, SK, Canada	Location:	
	S4A 1A4	LSD:	10-23-009-28
Attn:	Brent Frehlick	P.O.:	
Sampled By:	Todd Leslie	Acct code:	
Company:	P. P. C		

Lot ID:	**855343**
Control Number:	
Date Received:	Feb 15, 2012
Date Reported:	Feb 16, 2012
Report Number:	1716006

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Natural Gas - C7/10 Composition	GPA	*	Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography, GPA 2261-00	16-Feb-12	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	16-Feb-12	Exova Edmonton
Total Reduced Sulfur Analysis of Natural Gas	ASTM	*	Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Chemiluminescence, D 5504-08	15-Feb-12	Exova Edmonton

** Reference Method Modified*

References

ASTM	Annual Book of ASTM Standards
GPA	Gas Processors Association

Comments:

- Sample 855343-1; 3947160 H2S was determined by GC/SCD: 1080 ppm (mol/mol)
- Sample 855343-1; 3947160 H2S analysis was corrected for 5 % air content.

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Report Transmission Cover Page

Bill To:	Prairie Petro-Chem Ltd.	Project:		Lot ID:	**855343**
Report To:	Prairie Petro-Chem Ltd.	ID:		Control Number:	
	738 - 6 Street	Name:	Tundra Oil & Gas 10-23-9-28	Date Received:	Feb 15, 2012
	Estevan, SK, Canada	Location:		Date Reported:	Feb 16, 2012
	S4A 1A4	LSD:	10-23-009-28	Report Number:	1716006
Attn:	Brent Frehlick	P.O.:			
Sampled By:	Todd Leslie	Acct code:			
Company:	P. P. C				

Contact & Affiliation	Address	Delivery Commitments
Brent Frehlick Prairie Petro-Chem Ltd.	738 - 6 Street Estevan, Saskatchewan S4A 1A4 Phone: (306) 634-5808 Fax: (306) 634-6694 Email: brent.frehlick@petrochem.ca	On [Lot Verification] send (COA) by Email - Single Report On [Report Approval] send (COC, Test Report) by Email - Merge Reports On [Lot Approval and Final Test Report Approval] send (Invoice) by Email - Merge Reports
Jocelyn Griffin Prairie Petro-Chem Ltd.	738 - 6 Street Estevan, Saskatchewan S4A 1A4 Phone: (306) 634-5808 Fax: (306) 634-6694 Email: labservices@petrochem.ca	On [Report Approval] send (COC, Test Report) by Email - Merge Reports On [Lot Approval and Final Test Report Approval] send (Invoice) by Email - Single Report
Accounts Payable Prairie Petro-Chem Ltd.	738 - 6 Street Estevan, Saskatchewan S4A 1A4 Phone: (306) 634-5808 Fax: (306) 634-6694 Email: payables@petrochem.ca	On [Lot Approval and Final Test Report Approval] send (Invoice) by Email - Merge Reports

Notes To Clients:

- Sample 855343-1; 3947160 H2S was determined by GC/SCD: 1080 ppm (mol/mol)
- Sample 855343-1; 3947160 H2S analysis was corrected for 5 % air content.

No Chain of Custody Available.