

Lakes Oil N.L.  
Level 11  
500 Collins Street  
MELBOURNE VIC 3000  
Australia



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Accreditation No 2013

**Attention:** Jack Mulready

**Project** 04PEAD08795  
**Client Ref:** Data Transmittal

Customer Sample ID	Wombat-1	Wombat-2	Trifon-2
Sample Type	Water	Water	Water
Date Sampled	28/08/2004	01/09/2004	29/08/2004
Time Sampled			2200 h
Description			Post Frac

**WATER ANALYSIS**

Test/Reference	Unit			
<b>PROPERTIES:</b> APHA 20th Ed				
pH at Measured Temp.*		6.5	6.1	6.6
Measured Temp.*	°C	19.2	19.2	19.2
Electrical Conductivity @ 25°C*	µS/cm	24800	27500	25200
Resistivity @ 25°C*	M.Ohm	0.40	0.36	0.40
<b>ANIONS mg/L</b> APHA 20th ed				
Hydroxide as OH*	mg/L	<1	<1	<1
Carbonate as CO3*	mg/L	<1	<1	<1
Bicarbonate as HCO3*	mg/L	384	288	132
Chloride as Cl*	mg/L	11183	12663	12328
Nitrate as NO3*	mg/L	<0.1	<0.1	<0.1
Sulphate as SO4*	mg/L	68	160	92
Total Anions*	mg/L	11635	13111	12552
<b>ANIONS meq/L</b> APHA 20th ed				
Hydroxide as OH*	meq/L	<0.01	<0.01	<0.01
Carbonate as CO3*	meq/L	<0.01	<0.01	<0.01
Bicarbonate as HCO3*	meq/L	6.29	4.72	2.16
Chloride as Cl*	meq/L	315.01	356.70	347.27
Nitrate as NO3*	meq/L	<0.01	<0.01	<0.01
Sulphate as SO4*	meq/L	1.42	3.33	1.92
Total Anions*	meq/L	322.73	364.76	351.35
<b>CATIONS mg/L</b> APHA 20th ed				
Potassium as K*	mg/L	671	1449	620
Sodium as Na*	mg/L	5040	4500	3330
Calcium as Ca*	mg/L	1491	2220	3555
Magnesium as Mg*	mg/L	10	42	10
Total Cations*	mg/L	7212	8211	7515
<b>CATIONS meq/L</b> APHA 20th ed				
Potassium as K*	meq/L	17.16	37.06	15.86
Sodium as Na*	meq/L	219.23	195.74	144.85
Calcium as Ca*	meq/L	74.40	110.78	177.40
Magnesium as Mg*	meq/L	0.82	3.46	0.82
Total Cations*	meq/L	311.61	347.03	338.92
<b>DERIVED PARAMETERS</b> APHA 20th ed				
Ion balance (Diff * 100/Sum)*	%	1.75	2.49	1.80
Acceptance Criteria*	%	5	5	5

Customer Sample ID	Wombat-1	Wombat-2	Trifon-2
Sample Type	Water	Water	Water
Date Sampled	28/08/2004	01/09/2004	29/08/2004
Time Sampled			2200 h
Description			Post Frac

**WATER ANALYSIS**

Test/Reference	Unit			
Satisfactory*		Yes	Yes	Yes
Total Alkalinity (calc as CaCO <sub>3</sub> )*	mg/L	315	236	108
Total Cations + Anions*	mg/L	18847	21322	20067
Hardness (calc as CaCO <sub>3</sub> )*	mg/L	3764	5716	8918
Calculated Total Dissolved Solids	mg/L	15872	17600	16128

Customer Sample ID	Wombat-2
Sample Type	Condensate
Date Sampled	01/09/2004
Description	1469-1476m, Post Frac

### LIQUID ANALYSIS

Test/Reference		Unit	
<b>Liquid Analysis</b>			
-88.6°C	Ethane*	Mol %	0.44
-42.1°C	Propane*	Mol %	1.35
-11.7°C	I-Butane*	Mol %	0.89
-0.5°C	N-Butane*	Mol %	2.40
27.9°C	I-Pentane*	Mol %	2.43
36.1°C	N-Pentane*	Mol %	3.38
36.1-68.9°C	Hexane; C-6*	Mol %	9.60
80.0°C	Benzene*	Mol %	0.53
80.7°C	Cyclohexane*	Mol %	7.55
68.9-98.3°C	Heptane; C-7*	Mol %	14.94
100.9°C	MCH*	Mol %	13.29
110.6°C	Toluene*	Mol %	1.95
98.3-125.6°C	Octane; C-8*	Mol %	12.88
136.1-144.4°C	Ethylbz + Xyls*	Mol %	2.48
125.6-150.6°C	C-9*	Mol %	9.29
150.6-173.9°C	C-10*	Mol %	7.62
173.9-196.1°C	C-11*	Mol %	4.27
196.1-215.0°C	C-12*	Mol %	2.16
215.0-235.0°C	C-13*	Mol %	1.32
235.0-252.2°C	C-14*	Mol %	0.56
252.2-270.6°C	C-15*	Mol %	0.29
270.6-287.8°C	C-16*	Mol %	0.13
287.8-302.8°C	C-17*	Mol %	0.10
302.8-317.2°C	C-18*	Mol %	0.08
317.2-330.0°C	C-19*	Mol %	0.04
330.0-344.4°C	C-20*	Mol %	0.02
344.4-357.2°C	C-21*	Mol %	0.01
357.2-369.4°C	C-22*	Mol %	< 0.01
369.4-380.0°C	C-23*	Mol %	< 0.01
380.0-391.1°C	C-24*	Mol %	< 0.01
391.1-401.7°C	C-25*	Mol %	< 0.01
401.7-412.2°C	C-26*	Mol %	< 0.01
412.2-422.2°C	C-27*	Mol %	< 0.01
>422.2°C	C-28+*	Mol %	< 0.01
Total*		Mol %	100.00

### Calculated Parameter

Ave Molecular Wt of C-8 (calc)*	g/mol	125
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### Liquid Analysis

-88.6°C	Ethane*	Weight %	0.12
-42.1°C	Propane*	Weight %	0.55
-11.7°C	I-Butane*	Weight %	0.48
-0.5°C	N-Butane*	Weight %	1.30
27.9°C	I-Pentane*	Weight %	1.64
36.1°C	N-Pentane*	Weight %	2.28
36.1-68.9°C	Hexane; C-6*	Weight %	7.71
80.0°C	Benzene*	Weight %	0.38
80.7°C	Cyclohexane*	Weight %	5.93
68.9-98.3°C	Heptane; C-7*	Weight %	13.98

Customer Sample ID	Wombat-2
Sample Type	Condensate
Date Sampled	01/09/2004
Description	1469-1476m, Post Frac

#### LIQUID ANALYSIS

Test/Reference		Unit	
100.9°C	MCH*	Weight %	12.16
110.6°C	Toluene*	Weight %	1.68
98.3-125.6°C	Octane; C-8*	Weight %	13.72
136.1-144.4°C	Ethylbz + Xyls*	Weight %	2.45
125.6-150.6°C	C-9*	Weight %	11.11
150.6-173.9°C	C-10*	Weight %	10.11
173.9-196.1°C	C-11*	Weight %	6.22
196.1-215.0°C	C-12*	Weight %	3.42
215.0-235.0°C	C-13*	Weight %	2.28
235.0-252.2°C	C-14*	Weight %	1.03
252.2-270.6°C	C-15*	Weight %	0.57
270.6-287.8°C	C-16*	Weight %	0.28
287.8-302.8°C	C-17*	Weight %	0.21
302.8-317.2°C	C-18*	Weight %	0.19
317.2-330.0°C	C-19*	Weight %	0.09
330.0-344.4°C	C-20*	Weight %	0.06
344.4-357.2°C	C-21*	Weight %	0.03
357.2-369.4°C	C-22*	Weight %	0.01
369.4-380.0°C	C-23*	Weight %	< 0.01
380.0-391.1°C	C-24*	Weight %	0.01
391.1-401.7°C	C-25*	Weight %	< 0.01
401.7-412.2°C	C-26*	Weight %	< 0.01
412.2-422.2°C	C-27*	Weight %	< 0.01
>422.2°C	C-28+*	Weight %	< 0.01
Total*		Weight %	100.00

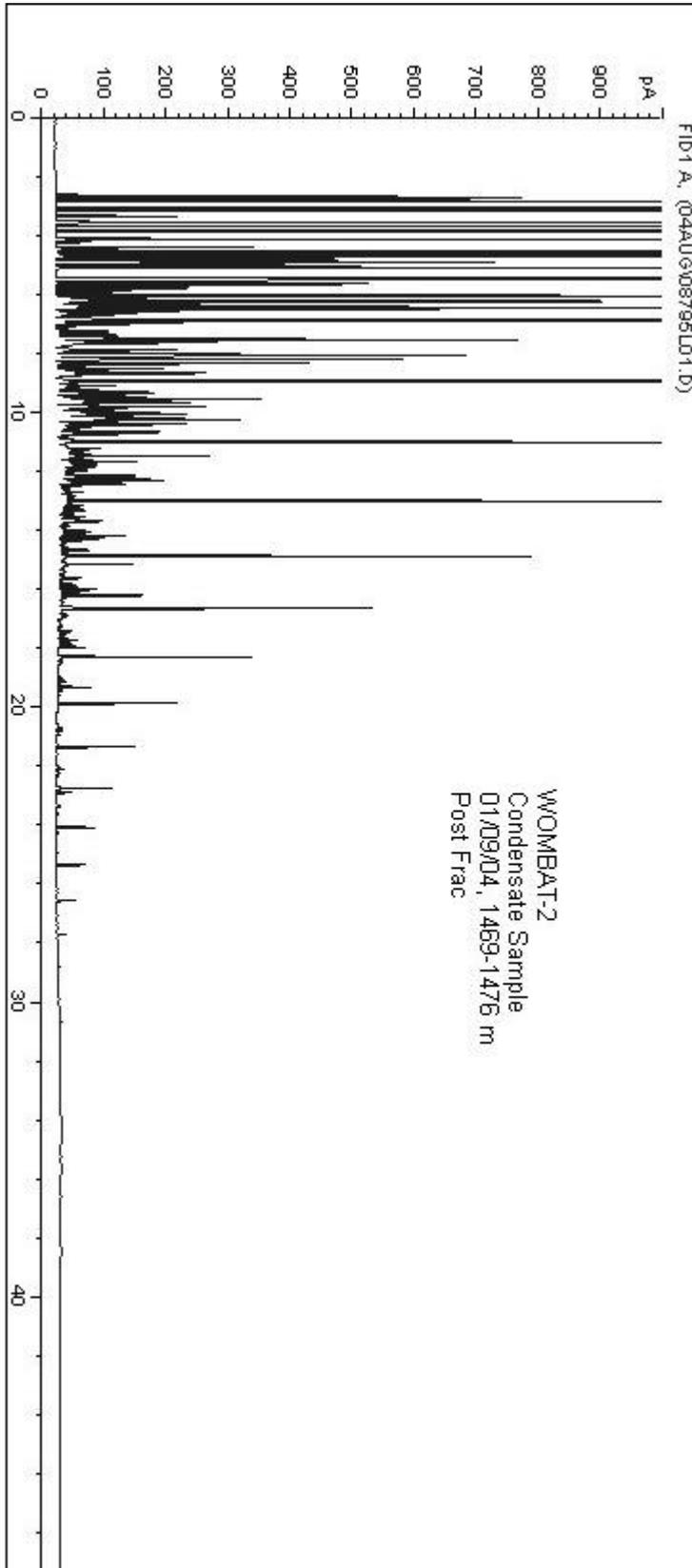
#### DERIVED PARAMETERS

If the ion balance in this sample is unsatisfactory it is most likely due to a component or components of the sample that is not within the scope of this analysis.

#### Liquid Analysis

The above boiling ranges refer to the normal paraffin hydrocarbon boiling in that range. Aromatics, branched hydrocarbons, naphthenes and olefins may have higher or lower carbon numbers but are grouped and reported according to their boiling points.

Wombat-2



**Authorised By:** Valentina Pavlovic  
**Petroleum Chemist**

**Signature:**



**Authorised by:** Carmelina Valente  
**Petroleum Chemist**

**Signature:**



Accreditation No 2013

### Final Report

- Indicates Not Requested

\* Indicates NATA Accredited Test

*Samples will be discarded after 30 days unless otherwise notified.*

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*The samples were not collected by Amdel staff.*