



Container Identification PB-3		Laboratory Number O42149C												
Operator Name PARAMOUNT RESOURCES LTD.														
Unique Well Identifier	Well Name PARAMOUNT et al FORT LIARD F-36			Elevation KB m GRD m										
Field or Area FORT LIARD		Pool or Zone		Sampler's Company AGAT										
Test Type	Test No.	Test Recovery		Name of Sampler										
Test Interval or Perfs		Sampling Point TEST SEPARATOR		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">Separator</td> <td style="width:15%;">Reservoir</td> <td style="width:15%;">Source</td> <td style="width:15%;">Sampled</td> <td style="width:15%;">Received</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	Separator	Reservoir	Source	Sampled	Received					
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Date Sampled Aug 23, 1999	Date Received Aug 27, 1999													
Date Reported Aug 31, 1999	Analyst V,J													
Other Information														

Sample Properties

Colour of Clean Oil	Colour Number ASTM D-1500
Colorless	L-1 A.S.T.M.

B.S. & W. (Volume Fraction)

Water	Sediment	Total
Trace	Trace	Trace
Free Sediment		
2.3 vol%		

Density - After Cleaning

API Gravity @ 15°C	Relative
45.09	0.8013
	Absolute kg/m³
	800.6

Total Sulphur Mass Fraction	Pour Point / °C (A.S.T.M. D-97)
0.000090	-48

Viscosity

Temp °C	Absolute mPa·s	Kinematic mm²/s-1
25	1.11	1.40
38	0.97	1.23
50	0.85	1.09

Distillation

Volume Fraction	Temp / °C
0.05	106.3
0.10	123.5
0.15	135.6
0.20	144.7
0.25	152.8
0.30	161.9
0.35	170.0
0.40	178.1
0.45	186.2
0.50	193.3
0.55	199.3
0.60	208.4
0.65	215.5
0.70	224.6
0.75	233.7
0.80	243.8
0.85	257.0
0.90	272.2
0.95	311.6
F.B.P.	312.6

Method
A.S.T.M. -D86*

Initial Boiling Point
70.9

Absolute Barometric Pressure (kPa)
88.6

Room Temp (°C)
16.0

Characterization Factor
11.7

200 °C Naptha	275 °C Kerosene	350 °C Light Gas Oil
0.56	0.91	0.96
Recovered	Residue	Distillation Loss
0.96	0.02	0.02

Remarks:

The distillation temperatures have been corrected to 101.3 kPa (abs).
BS&W PERFORMED ON OIL PORTION ONLY.



3650 - 21st STREET N.E.
CALGARY, ALBERTA
CANADA T2E 6V6

AGAT[®] Laboratories



TEL: (403) 299-2000
FAX: (403) 299-2010
www.agallabs.com

Certificate of Analysis

CLIENT NAME: PARAMOUNT RESOURCES LTD.

AGAT WORK ORDER 99C42149

ATTENTION: Wayne Tomm

VOC Analysis - Gas

SAMPLE TYPE:		Gas		DATE SAMPLED:		Aug 23, 1999	
SAMPLE ID:		40030C		DATE RECEIVED:		Aug 27, 1999	
SAMPLE DESCRIPTION:		F-36 Paramount etal Fort Liard (F-36) TEST SEPARATOR		DATE REPORTED:		Aug 30, 1999	
PARAMETER		RESULTS	UNITS	M.D.L.	DATE ANALYZED	INITIALS	DATE PREPARED
Benzene		23	ppm (v/v)	1	Aug 27, 1999	KW	Aug 27, 1999
Toluene		39	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999
Ethylbenzene		<10	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999
Xylenes		19	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999

COMMENTS:

M.D.L. - Method Detection Limit
Quantification based on ideal gas law.

Certified By:

G. Warday

AGAT CERTIFICATE OF ANALYSIS

Accredited by the Standards Council of Canada, in cooperation with Canadian Association for Environmental Analytical Laboratories (SCC/CAEAL)

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VOC Analysis - Gas

SAMPLE TYPE:	Gas	DATE SAMPLED:	Aug 19, 1999			
SAMPLE ID:	40032B	DATE RECEIVED:	Aug 27, 1999			
SAMPLE DESCRIPTION:	F-36 Paramount etal Fort Liard (F-36) TEST SEPARATOR	DATE REPORTED:	Aug 30, 1999			
PARAMETER	RESULTS	UNITS	M.D.L.	DATE ANALYZED	INITIALS	DATE PREPARED
Benzene	27	ppm (v/v)	1	Aug 27, 1999	KW	Aug 27, 1999
Toluene	49	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999
Ethylbenzene	<10	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999
Xylenes	19	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999

COMMENTS:

M.D.L. - Method Detection Limit
Quantification based on ideal gas law.

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SWanday

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ATTENTION: Wayne Tomm

VOC Analysis - Gas

SAMPLE TYPE:		Gas	DATE SAMPLED:		Aug 14, 1999		
SAMPLE ID:		TBAG1	DATE RECEIVED:		Aug 27, 1999		
SAMPLE DESCRIPTION:		F-36 Paramount etal Fort Liard (F-36) FLOW LINE		DATE REPORTED:		Aug 30, 1999	
PARAMETER		RESULTS	UNITS	M.D.L.	DATE ANALYZED	INITIALS	DATE PREPARED
Benzene		33	ppm (v/v)	1	Aug 27, 1999	KW	Aug 27, 1999
Toluene		51	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999
Ethylbenzene		<10	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999
Xylenes		17	ppm (v/v)	10	Aug 27, 1999	KW	Aug 27, 1999

COMMENTS:

M.D.L. - Method Detection Limit
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