9211-P33-5-2RE

AGAT Laboratories

CALGARY — EDMONTON — GRANDE PRAIRIE

HYDROCARBON LIQUID ANALYSIS

OTTAWA COPY

CONTAINER IDENTIFICATION: 17022

LABORATORY NUMBER: CR1651A

OPERATOR NAME: PARAMOUNT RESOURCES LTD. *****

UNIQUE WELL IDENTIFIER:

WELL NAME: PARAMOUNT et al CAMERON M-73

ELEVATIONS KB m: 775.15 GRD m: 771.45

FIELD OR AREA: CAMERON

POOL OR ZONE: SULPHUR POINT

NAME OF SAMPLER:

COMPANY: NORTHLAND

TEST TYPE:

NO:

TEST RECOVERY:

TEST INTERVAL OR PERFS: 1415.5-1420.5 mKB

SAMPLING POINT: SEPARATOR

* Bubble Point

	SEPARATOR	TREATER	RESERVOIR	SOURCE	SAMPLED	RECEIVED
GAUGE PRESSURE kPa	1600			1600	1600	1380*
TEMPERATURE °C	-11			-11	-11	15*

DATE SAMPLED (Y-M-D): 91-03-24

DATE RECEIVED (Y-M-D): 91-04-15

DATE REPORTED (Y-M-D): 91-03-19

ANALYST: DR

OTHER INFORMATION: 60 10'N 117 15'W

COMP	MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
N_2	0.0007	0.0001	0.0001
CO_2	0.0082	0.0017	0.0018
H_2S	0.0023	0.0004	0.0004
C_1	0.0699	0.0053	0.0150
C_2	0.0068	0.0010	0.0023
C_3	0.0104	0.0022	0.0036
IC_4	0.0036	0.0010	0.0015
NC_4	0.0131	0.0036	0.0052
IC_5	0.0087	0.0030	0.0040
NC_5	0.0109	0.0037	0.0050
C_6	0.0247	0.0099	0.0128
C_{7+}	0.8407	0.9681	0.9483
C_8			
C_9			
C_{10}			
C_{11}			
C_{12+}			
TOTAL	1.0000	1.0000	1.0000

OBSERVED PROPERTIES OF C_7+ RESIDUE (15/15° C)

871.9 kg/m³	0.8727	30.5
DENSITY	RELATIVE DENSITY	API @ 15.5° C

244.8

RELATIVE MOLECULAR MASS

CALCULATED PROPERTIES OF TOTAL SAMPLE (15/15° C)

854.4 kg/m³	0.8552	33.8
DENSITY	RELATIVE DENSITY	API @ 15.5° C

212.6

RELATIVE MOLECULAR MASS

REMARKS:

LTFD ANALYSIS
MEASURED Ps 1380 kPa @15C

File No. : CR1651A
Company : PARAMOUNT RESOURCES LTD.
Well No. :

APR 29 1991

PROPERTIES OF C6+ FRACTION

BOILING POINT RANGE (C)	COMPONENT	MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
36.1- 68.9	HEXANES----------C6	0.0237	0.0096	0.0124
68.9- 98.3	HEPTANES----------C7	0.0296	0.0163	0.0179
98.3-125.6	OCTANES----------C8	0.0407	0.0255	0.0274
125.6-150.6	NONANES----------C9	0.0359	0.0252	0.0265
150.6-173.9	DECANES----------C10	0.0504	0.0393	0.0407
173.9-196.1	UNDECANES----------C11	0.0528	0.0452	0.0460
196.1-215.0	DODECANES----------C12	0.0546	0.0510	0.0514
215.0-235.0	TRIDECANES----------C13	0.0645	0.0652	0.0650
235.0-252.2	TETRADECANES----------C14	0.0659	0.0710	0.0713
252.2-270.6	PENTADECANES----------C15	0.0507	0.0590	0.0580
270.6-287.8	HEXADECANES----------C16	0.0451	0.0560	0.0547
287.8-302.8	HEPTADECANES----------C17	0.0402	0.0530	0.0515
302.8-317.2	OCTADECANES----------C18	0.0342	0.0477	0.0460
317.2-330.0	NONADECANES----------C19	0.0330	0.0486	0.0467
330.0-344.4	EICOSANES----------C20	0.0253	0.0393	0.0378
344.4-357.2	HENEICOSANES----------C21	0.0256	0.0415	0.0398
357.2-369.4	DOCOSANES----------C22	0.0188	0.0319	0.0305
369.4-380.0	TRICOSANES----------C23	0.0175	0.0311	0.0297
380.0-391.1	TETRACOSANES----------C24	0.0123	0.0227	0.0216
391.1-401.7	PENTACOSANES----------C25	0.0102	0.0197	0.0187
401.7-412.2	HEXACOSANES----------C26	0.0131	0.0262	0.0249
412.2-422.2	HEPTACOSANES----------C27	0.0106	0.0222	0.0211
422.2-431.7	OCTACOSANES----------C28	0.0066	0.0143	0.0135
431.7-441.1	NONACOSANES----------C29	0.0073	0.0164	0.0154
441.1 PLUS	TRIACONTANES PLUS-------C30+	0.0262	0.0607	0.0570

AROMATICS

80.0	BENZENES----------C6	0.0006	0.0003	0.0002
110.6	TOLUENE----------C7	0.0089	0.0045	0.0039
136.2	ETHYLBENZENE----------C8	0.0043	0.0024	0.0021
138.4-144.4	XYLENES----------C8	0.0208	0.0122	0.0106
168.9	1,2,4 TRIMETHYLBENZENE--C9	0.0132	0.0087	0.0075

NAPHTHENES

48.9	CYCLOPENTANE----------CC5	0.0010	0.0003	0.0004
72.2	METHYLCYCLOPENTANE------MCC5	0.0047	0.0022	0.0022
81.1	CYCLOHEXANE----------4CC6	0.0053	0.0024	0.0024
101.1	METHYLCYCLOHEXANE-------MCC6	0.0118	0.0064	0.0063

The above hexanes plus values are based upon a measured mass fraction and a calculated mole fraction, and assume a total hydrocarbon recovery from the chromatographic system.