

PARAMOUNT RESOURCES LIMITED

PARAMOUNT HB et al CAMERON J-62
N.W.T.

A.O.F. TEST REPORT

February, 1981

MICROFILM
SUPER MICROFILM



INTERNATIONAL ASSOCIATION OF OIL & GAS PRODUCERS
PETROLEUM CONSULTANTS



PARAMOUNT RESOURCES LIMITED

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N.W.T.

A.O.F. TEST REPORT

February, 1981

**MICROFILMED
SUR MICROFILM:**

FARRIES ENGINEERING (1977) LTD.
Petroleum Consultants
Second Floor, 630 - 6 Avenue S. W.
Calgary, Alberta
T2P 0S8

TABLE OF CONTENTS

WELL DATA

TEST SUMMARY

GRAPHS: A.O.F.
 Build-up

CALCULATIONS: Flow Rates
 Back Pressure Test Analysis
 Pseudo Pressures - Imperial
 Pseudo Pressures - S.I.
 Build-up

FIELD NOTES

FLUID ANALYSIS

PRESSURE SURVEY

PARAMOUNT RESOURCES LIMITED
#1800, 717 - 7 Avenue S. W.
Calgary, Alberta
T2P 0Z3

COMPLETION REPORT
for
PARAMOUNT HB et al CAMERON J-62
N.W.T.

Sulphur Point Gaswell

WELL DATA

Well Name: Paramount HB et al Cameron J-62

Location: Northwest Territories
Unit J, Section 62
Latitude: 60° 01' 31.00" North, 60.0253° North
Longitude: 117° 26' 50.00" West, 117.4472° West

Elevations: K.B.: 755.00 metres
Ground: 751.94 metres

Total Depth: 1,605 metres K.B.

Plug Back Total Depth: 1,481.75 metres K.B.

Surface Casing: 244.5 mm, 48.1 kg/m, set at 524.00 metres K.B.

Production Casing: 139.7 mm, 23.10 kg/m, J-55, set at 1,605 metres K.B.

Tubing: 73.0 mm, 9.67 kg/m, J-55, EUE, 8rd thd., set in a
packer at 1,375.52 metres K.B.
Tubing bottom at 1,381.56 metres K.B.

Perforations: 1384.5 - 1389.0 m. KB using a 38.7 mm thru tubing
gun @ 13 JSPM.

Wellhead: 244.5 mm x 139.7 mm x 73.0 mm, 13790 kPa W.P.

Nipples: Baker 'F' at 1,379.03 m. KB, I.D. 58.72 mm.
Baker 'R' at 1,381.17 m. KB, I.D. 57.15 & 55.80 mm.

Packer: Baker Model FB-1 permanent retainer production packer
set on wireline at 1,375.52 metres K.B.

Sliding Sleeve: Baker Model 'L' at 1,372.19 m. KB, I.D. 58.72 mm.

...continued

PARAMOUNT RESOURCES LIMITED

COMPLETION REPORT

for

PARAMOUNT HB et al CAMERON J-62

N.W.T.

Sulphur Point Gaswell

WELL DATA, continued

Status: Shut-in Sulphur Point Gaswell

A.O.F. = 2.22 MMCF/D, $62.54 \times 10^3 \text{ m}^3/\text{day}$
n = 1.2888
c = 0.17018×10^{-7}

Stimulations: None

TEST SUMMARY

INTRODUCTION

The Paramount HB et al Cameron J-62 well was drilled in February, 1980 to a total depth of 1,605 metres. The well encountered 10 metres (30 feet) of porosity (maximum 16%) in the Sulphur Point from 1,384 metres to 1,395 metres K.B. A drill stem test over the interval 1,383 metres to 1,395 metres yielded gas to surface in 2-1/2 minutes, and near the end of the five hour flow period the well was producing sour gas at a rate of $64.853 \times 10^3 \text{ m}^3$ per day (2.302 MMCF/D) through a 1/2" bottom hole choke. A fine spray of water was present throughout the flow period. The drill pipe recovery consisted of 12 metres of ammonia water and 28 metres (7.3 bbls.) of sulphurous salt water, with a salinity of 26800 ppm. The initial and final shut-in pressures were 9620 kPag (1395.2 psig) and 9495 kPag (1377.1 psig), after a ten hour shut-in period for build-up. Casing was run to total depth (1,605 metres) and the well remained suspended until January, 1981.

A service rig was moved onto the well on January 28, 1981, and a permanent packer was set on wireline on January 31, 1981 at a depth of 1,375.52 metres K.B. Tubing (73 mm), a seal assembly and a sliding sleeve were run in and the wellhead installed. The well was perforated in an underbalanced condition over the interval 1,384.5 metres to 1,389.0 metres at 13 JSPM. A shut-in tubing pressure of 931 kPa was recorded immediately after the gun fired.

The well was flowed to clean it up for a total of 15 hours at rates of $52.39 \times 10^3 \text{ m}^3/\text{D}$ (1.86 MMCF/D) and $43.92 \times 10^3 \text{ m}^3/\text{D}$ (1.56 MMCF/D). The well did not appear to be producing any water spray at the end of the clean-up period.

A.O.F. TEST

Following the clean-up period, the well was shut-in for a period of 156.75 hours. Near the end of the shut-in period a bottom pressure and gradient was run, and gave a pressure of 9609.2 kPag. Bottom hole bombs, using 180 hour clocks, were run in the hole and recorded the final 19-1/2 hours of the build-up prior to starting the A.O.F. test. The maximum pressure recorded by these bombs prior to the start of the test was 9551.7 kPag.

A four-point modified isochronal A.O.F. test commenced at 0900 hours on February 8, 1981, and consisted of four 2-hour flow periods and three 2-hour shut-in periods. The extended rate commenced at 2300 hours on February 8, 1981, and the well was shut-in at 2310 hours on February 10, 1981.

The surface test equipment consisted of a 750,000 BTU choke heater, a three-phase separator, and the required liquid and gas meters. A wellhead safety shut-down valve was used during the test. Liquid production was piped to a 63.6 m^3 tank and gas was flared through a 4 metre vertical riser. All flow from the well was up the tubing, and bottom hole pressure bombs were in place during the test. A total of 97 hours of pressure build-up after the flow test was recorded on the bombs before they were pulled on February 16, 1981. A final shut-in pressure of 9522.0 kPag was recorded by the extended time bombs. A static gradient run made on the same day recorded a shut-in pressure of 9510.1 kPag.

Only two of the four 2-hour flow rates were used in the calculations, as the gas meter and the wellhead above the flow tee were frozen off due to cold and wind. All surface pressure readings were obtained with a dead weight gauge. Gas and liquid samples were obtained at the end of the extended rate.

Liquid production during the test consisted of 0.32 m^3 (2 bbls.) of water and a trace of condensate. The water is likely load water, as the resistivity is about ten times the value of Sulphur Point formation water from other wells in the area. The condensate sample appears to contain a good percentage of diesel fuel, and this could be from the diesel fuel circulated into the top of the annulus to prevent freezing.

Flow rates were calculated using a computer program and the surface recorded pressures, along with the gas analysis. A hydrogen sulphide content of 0.68% was used, as this was the value obtained by an on-site Tutwiler analysis at 1400 hours on February 10, 1981.

The A.O.F. was calculated by the conventional method, and gave a value of 2.22 MMCF/D or $62.535 \times 10^3 \text{ m}^3$ per day. Only the first two flow rates and the extended rate were used in the calculation due to meter freezing problems on Rate No. 3 and No. 4. Hydrate formation in the tubing and wellhead was experienced on both the clean-up and extended rate flow periods. At an A.O.F. of 2.22 MMCF/D, the inverse slope of the line has a value of 1.2888. If this slope is reduced to 1.000 (45 degrees), then the A.O.F. is reduced slightly to 2.05 MMCF/D.

The total gas production from the well consisted of 28.82 10^3 m^3 (1.023 MMCF) during the 15 hour clean-up period and 91.25 10^3 m^3 (3.24 MMCF) during the 56 hour flow test period.

BUILD-UP

A Horner type buildup plot was prepared using the pressure recorded by the bottom hole bombs. The final extrapolated pressure from this plot was 9701.3 kPaa (1407 psia), and this compares closely with pressures of 9644.2 kPaa (1398.7 psia), and 9701.7 kPaa (1407.1 psia) recorded before the test. These figures also compare closely with the initial shut-in pressure of 9712.5 kPaa (1408.6 psia) recorded on the drill stem test run on March 7, 1980.

CONCLUSION

Flowing conditions at this well could likely be improved by an acid stimulation. No stimulation was employed prior to the A.O.F. test. The design of the treatment, however, should also consider the possibility of initiating some water production.

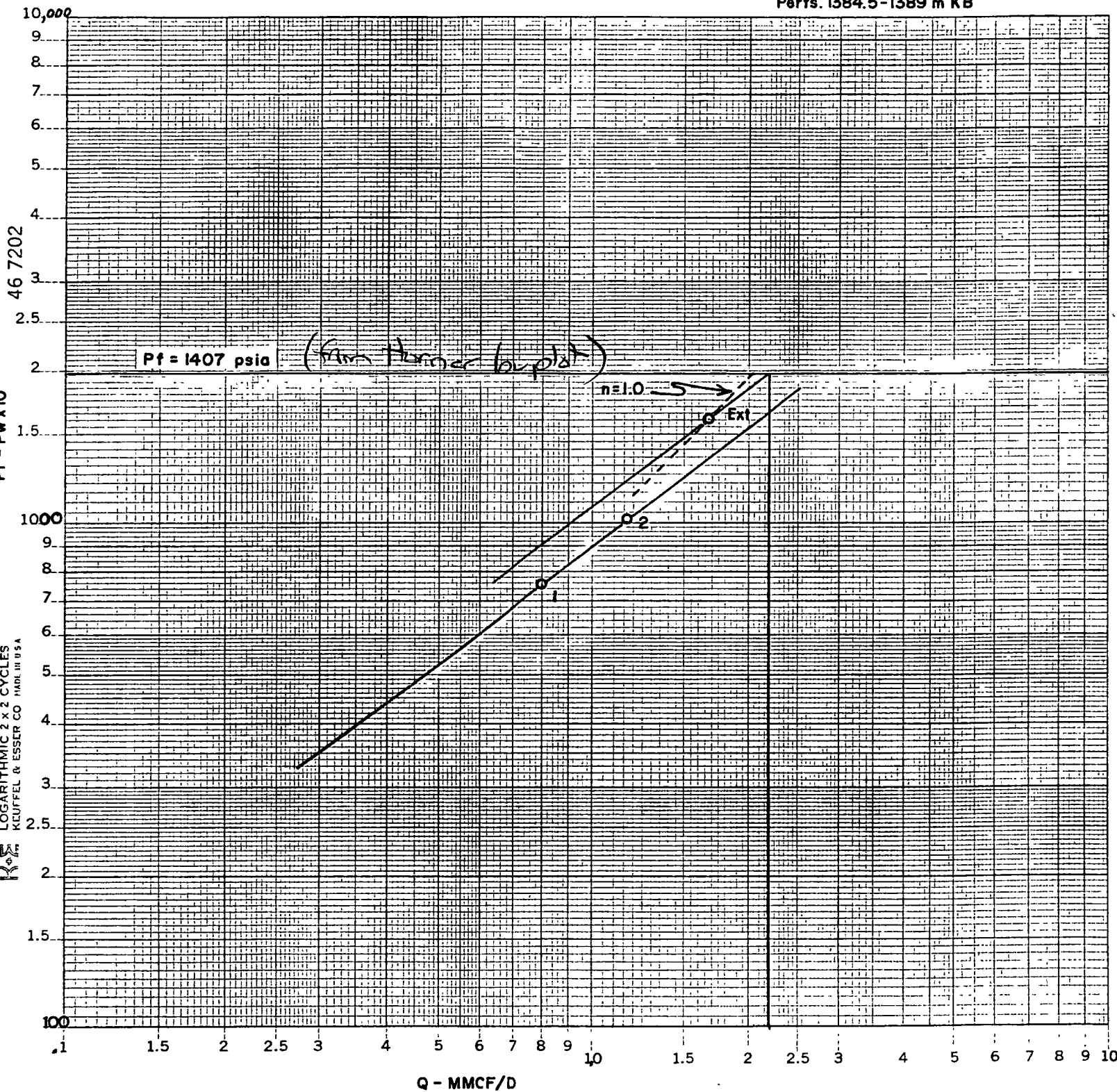
The well is presently suspended due to lack of a market. A plug is set in the tubing string at 1,378.99 metres, and both the tubing and casing are filled with inhibited water with diesel fuel on top.

PARAMOUNT RESOURCES LTD.
PARAMOUNT HB ET AL CAMERON J-02
N.W.T.

SULPHUR POINT

Feb. 1981

Perfs. 1384.5-1389 m KB



AOF 2.22 MMCF/D
 $62.535 \times 10^3 \text{ M}^3/\text{D}$
 $-n = 1.2888$
 $c = 0.17018 \times 10^{-7}$

46 4972

SENSE-A-RITE
KEUFFEL & ESSER CO. MADE IN U.S.A.
2 CYCLES 70 DAYS

100

PARAMOUNT RESOURCES LTD.
PARAMOUNT HB ET AL CAMERON J-02
N.W.T.
SULPHUR POINT
Feb. 1981
Perfs. 1384.5-1389 m KB

$\frac{T_f + \Delta t}{\Delta t}$

BUILD-UP AFTER AOF TEST

Pi = 1407 psia

1700 LRA
1384.5-1389 m KB

10

9

8

7

6

5

4

3

2

1.0

2

1.5

1.2

1.0

1.0

1700

1750

1800

1850

1900

1950

2000

$Pf^2 \times 10^3$ psia

 *
 * P R O G R A M *
 * G A S F L O W *
 *

PARAMOUNT RESOURCES LIMITED
 PARAMOUNT HB ET AL CAMERON J-62, N.W.T.
 TEST RUN FEBRUARY, 1981
 J-62 ADF TEST
 ORIFICE METER
 INPUT IN S.I., OUTPUT IN S.I.
 ORIFICE METER

ORIFICE METER CALCULATIONS

NO.	SIZE MM	ORIFICE DIA MM	TEMPR. DEG. C	STATIC PRESS. KPA	DIFF'T'L KPA	CPRIME C'	FLOW RATE Q E03 M3/D
1	73.660	25.400	42.0	1859.01	16.0	252.75	22.5022
2	73.660	25.400	40.0	1652.01	38.0	253.81	32.8280
3	73.660	34.900	40.0	1963.01	17.0	491.61	46.3600 Error
4	73.660	38.100	40.0	1411.01	17.0	591.46	47.2984

O R I F I C E F A C T O R S

NO.	BASIC FB	SP. GRAV FG	FL TEMPR FTF	REY. NO FR	EXPNSION Y	SUPERCMP FPV	MANOMETR FM
1	204.04	1.2639	0.9572	1.0003	1.0015	1.0151	1.0000
2	204.04	1.2639	0.9602	1.0002	1.0041	1.0138	1.0000
3	395.20	1.2639	0.9602	1.0003	1.0014	1.0164	1.0000
4	477.36	1.2639	0.9602	1.0004	1.0019	1.0117	1.0000

NOTE: ORIFICE FACTORS ARE IN IMPERIAL FORM

PARAMOUNT RESOURCES LIMITED
PARAMOUNT HB ET AL CAMERON J-62, N.W.T.
FEBRUARY 1981, SULPHUR POINT

*
* BACKPRESSURE TEST ANALYSIS *
* OF SWEET OR SOUR GAS WELLS *
*

RESERVOIR TEMPERATURE, DEG.F	.....	132.0800
GAS GRAVITY	.....	0.6260
PSEUDO-CRITICAL PRESSURE, PSIA	.....	677.7614
PSEUDO-CRITICAL TEMP., DEG.R	.....	352.8000
MOLE PERCENT - HYDROGEN SULPHIDE	.....	0.6800
MOLE PERCENT - CARBON DIOXIDE	.....	3.5300
MOLE PERCENT - NITROGEN	.....	4.4500
WELL DEPTH, FEET	.....	0.3281
TUBING LENGTH, FEET	.....	0.3281
INTERNAL TUBING DIAMETER, INCHES	.....	2.4410
RELATIVE ROUGHNESS	.....	0.0002

GAS FLOW MMCF/D	WELLH TEMP. DEG.F	WELLH PRESS. PSIA	SANDF. PRESS. PSIA	FORM. PRESS. PSIA
0.7987	32.00	1099.	1099.	1399.
1.1652	33.80	953.	953.	1383.
1.6784	50.00	620.	620.	1407.

CONVENTIONAL P - SQUARED ANALYSIS

LEAST SQUARES CORREL. COEFF.	1.00007
INVERSE SLOPE *N*	1.2888
COEFFICIENT *C*	0.17018E-07
CALCULATED A O F P MMCF/D	2.22

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*                                     *
*   P R O G R A M                   *
*   P S E U D O P                   *
*                                     *
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PARAMOUNT RESOURCES LIMITED
PARAMOUNT HB ET AL CAMERON J-62
N.W.T.

TEST RUN FEBRUARY, 1981
J-62 AOF TEST

CONVERT FIFLD MEASURED PRESSURES TO PSEUDO-PRESSURES
VISCOSITY AND Z-FACTOR VALVES OBTAINED FROM
INTERNAL CORRELATIONS
INPUT IN S.I., OUTPUT IN IMP

GAS TEMPERATURE, DEG.F	132.0800
GAS GRAVITY	0.6260
PSEUDO-CRITICAL TEMP., DEG.R	352.8000
PSEUDO-CRITICAL PRESSURE, PSIA	677.7614
MOLE PERCENT - HYDROGEN SULPHIDE	0.6800
MOLE PERCENT - CARBON DIOXIDE	3.5300
MOLE PERCENT - NITROGEN	4.4500

PRESSURE	VISCOSITY	Z-FACTOR	COMPRES-	PSEUDO-
PSIA	CP		SIBILITY	PRESSURE
			1/PSIA	PSIA**2/CP
72.5	0.0121	0.9930	0.013886	0.437001E+06
145.0	0.0122	0.9861	0.006991	0.174991E+07
217.6	0.0123	0.9792	0.004692	0.393959E+07
290.1	0.0124	0.9725	0.003542	0.700349E+07
362.6	0.0125	0.9659	0.002851	0.109355E+08
435.1	0.0126	0.9595	0.002390	0.157270E+08
507.6	0.0127	0.9531	0.002060	0.213789E+08
580.2	0.0129	0.9470	0.001813	0.278701E+08
652.7	0.0130	0.9409	0.001619	0.351820E+08
725.2	0.0131	0.9351	0.001464	0.433221E+08
797.7	0.0133	0.9294	0.001336	0.522630E+08
870.2	0.0135	0.9239	0.001229	0.619738E+08
942.7	0.0137	0.9187	0.001138	0.724539E+08
1015.3	0.0139	0.9136	0.001060	0.836936E+08
1087.8	0.0141	0.9088	0.000991	0.956714E+08
1160.3	0.0142	0.9042	0.000930	0.108374E+09
1232.8	0.0145	0.8998	0.000876	0.121779E+09
1305.3	0.0147	0.8957	0.000827	0.135861E+09
1377.9	0.0149	0.8918	0.000783	0.150595E+09
1450.4	0.0151	0.8883	0.000743	0.165965E+09

INTERPOLATION FOR MEASURED PRESSURES

PRESSURE PSIA	PSEUDO-PRESS. PSIA**2/CP
-----	-----
1385.4	0.152185E+09
1085.3	0.952642E+08
1369.5	0.148904E+09
939.6	0.719970E+08
1367.3	0.148453E+09
696.5	0.400986E+08
1382.4	0.151554E+09
650.4	0.349539E+08
606.7	0.305448E+08
1381.0	0.151272E+09


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*                               *
*   P R O G R A M             *
*   P S E U D O P             *
*                               *
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PARAMOUNT RESOURCES LIMITED
PARAMOUNT HB ET AL CAMERON J-62
N.W.T.

TEST RUN FEBRUARY, 1981
J-62 AOF TEST

CONVERT FIFLD MEASURED PRESSURES TO PSEUDO-PRESSURES
VISCOSITY AND Z-FACTOR VALUES OBTAINED FROM
INTERNAL CORRELATIONS
INPUT IN S.I., OUTPUT IN S.I.

GAS TEMPERATURE, DEG.C	55.6000
GAS GRAVITY	0.6260
PSEUDO-CRITICAL TEMP., DEG.K	196.0000
PSEUDO-CRITICAL PRESSURE ,KPA	4673.0000
MOLE PERCENT - HYDROGEN SULPHIDE	0.6800
MOLE PERCENT - CARBON DIOXIDE	3.5300
MOLE PERCENT - NITROGEN	4.4500

PRESSURE	VISCOSITY	Z-FACTOR	COMPRES- SIBILITY	PSEUDO- PRESSURE
KPA	UPA.S		1/MPA	KPA**2/UPA.S
500.0	12.1193	0.9930	2.014048	0.207740E+05
1000.0	12.1780	0.9861	1.013948	0.831865E+05
1500.0	12.2635	0.9792	0.680495	0.187279E+06
2000.0	12.3594	0.9725	0.513687	0.332930E+06
2500.0	12.4766	0.9659	0.413524	0.519849E+06
3000.0	12.6023	0.9595	0.346669	0.747626E+06
3500.0	12.6955	0.9531	0.298837	0.101631E+07
4000.0	12.8821	0.9470	0.262884	0.132488E+07
4500.0	13.0213	0.9409	0.234839	0.167247E+07
5000.0	13.1497	0.9351	0.212322	0.205943E+07
5500.0	13.3455	0.9294	0.193816	0.248446E+07
6000.0	13.5335	0.9239	0.178309	0.294609E+07
6500.0	13.6975	0.9187	0.165104	0.344429E+07
7000.0	13.8789	0.9136	0.153699	0.397860E+07
7500.0	14.0659	0.9088	0.143730	0.454800E+07
8000.0	14.2491	0.9042	0.134921	0.515185E+07
8500.0	14.4548	0.8998	0.127063	0.578909E+07
9000.0	14.6617	0.8957	0.119994	0.645852E+07
9500.0	14.8870	0.8918	0.113587	0.715896E+07
10000.0	15.0965	0.8883	0.107741	0.788959E+07

INTERPOLATION FOR MEASURED PRESSURES

PRESSURE KPA	PSEUDO-PRESS. KPA**2/UPA.S
-----	-----
9551.7	0.723450E+07
7483.0	0.452864E+07
9442.6	0.707855E+07
6478.2	0.342257E+07
9427.3	0.705711E+07
4802.0	0.190620E+07
9531.2	0.720455E+07
4484.4	0.166163E+07
4182.9	0.145203E+07
9522.0	0.719110E+07

WELL: PARAMOUNT HB ET AL CAMERON J-62, N.W.T.
 DATE: FEBRUARY 1981
 TEST: 4 POINT ISOCHRONOL AOF TEST

TF (HOURS) FLOW TIME SINCE LAST SHUT IN 45.00
 MUE(CP) VISCOSITY 0.015
 ZA COMPRESSIBILITY FACTOR 0.092
 TA (DR) AVERAGE TEMPERATURE 592.
 Q (MMCFD) GAS FLOW RATE 1.670
 H (FT) PAY THICKNESS 36.000
 PP (PSIA) PREVIOUS MEASURED PRESSURE 1450.

SHUT IN TIME HOURS	MEAS. PRESS PSIA	EST PRESS PSIA	DEVIAT. IN PERCENT	2 -3 PRESS*10 PSIA 2	(TF+DT)/DT
-----	-----	-----	-----	-----	-----
1.0	1307.4				
2.0	1340.3				
4.0	1332.4				
6.0	1338.1				
8.0	1345.0				
10.0	1349.6				
14.0	1357.1				
18.0	1361.9				
26.0	1368.9	1368.3	0.05	1874.0	2.7
34.0	1374.7	1374.6	0.01	1889.8	2.3
42.0	1378.5	1379.0	-0.04	1900.2	2.1
50.0	1381.5	1382.4	-0.06	1908.5	1.9
58.0	1384.9	1385.0	-0.00	1918.1	1.8
66.0	1387.2	1387.1	0.01	1924.2	1.7
74.0	1388.8	1388.8	0.00	1928.9	1.6
82.0	1389.5	1390.2	-0.05	1930.8	1.5
90.0	1390.7	1391.5	-0.06	1934.0	1.5
97.0	1394.4	1392.4	0.14	1944.4	1.5

CURVE FITTED COLUMN 5 AND LN OF COLUMN 6 TO
 $Y=A+B*LN(X)$ WHICH RESULTED IN:

INDEX OF DETERMINATION 0.99

COEFFICIENT A 1979.5204

SLOPE B -106.8519

SLOPE IF USING ALOG (BASE 10) OF INVERSE TIME VALUE 246080.

PERMEABILITY PAY KH 9.05 MD-FT

EXTRAPOLATED PRESSURE P^* = 1407. PSIA

Y FUNCTION CORRELATION $Y(U)/2.303 =$ 0.4998

U = 0.3617

TESTMASTER

TESTMASTER PRODUCTION SERVICES LTD.

1007D - 55th AVENUE N.E.

CALGARY, ALBERTA, CANADA T2E 6W1

PHONE (403) 274-5777



Paramount Resources Limited

Paramount H.B. et al Cameron

J-62-N.W.T.

4 Point Extended Rate

February 7th - 11th, 1981

Testmaster Production Services Ltd.

TESTMASTER

TESTMASTER PRODUCTION SERVICES LTD.

1007D - 55th AVENUE N.E.

CALGARY, ALBERTA, CANADA T2E 6W1

PHONE (403) 274-5777

METRIC CONVERSIONS

<u>Field Unit</u>	<u>Multiplication Factor</u>	<u>Units</u>	<u>Symbols</u>
Barrel (35 Imp. Gal.)	.159	Cubic Meter	m ³
Gallon	.004546	Cubic Meter	m ³
MMCF	28262.31	Cubic Meter	m ³
PSI	6.895	Kilopascal	kPa
Differential	.249	Kilopascal	kPa
Inches	25.4	Millimeter	mm
Degree (°F)	(°F-32)x.555	Degrees Celcius	°C

Meter Run Size - Upstream - 73.79 mm.
- Downstream - 73.53 mm.

H.P. Meter Size - 2000 PSI (13790 kPa)
- 0 - 200 Inches (0 - 50 kPa)

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE _____ L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE

OTHER _____

[illegible]

REMARKS	GAS PRODUCTION (24 hr.)	LIQUID PROD. BALANCE	TANK NO. 1		TANK NO. 2	
			Cond.	Water	Cond.	Water
	GAS PRODUCTION CUMULATIVE	OPENING GAUGE				
	LIQUID PRODUCTION (24 hr.)	PLUS PRODUCTION				
	Condensate/Oil Water	TOTALS				
	LIQUID PRODUCTION CUMULATIVE	MINUS SHIPPING				
	Condensate/Oil Water	EQUALS CLOSING GAUGE				

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE _____ L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 8/81 TIME	WELLHEAD DATA				H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure	Choke Size	STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond Prod.	Cumul. Water Prod.			
					or Prover									_____ per _____								
					Recorder	D.W.G.								_____	_____							
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
0845	8400				Shut in pressure																	
0855					Pressure test flow line																	
0900	8400			4.76	Open well on 4.76mm choke through separator																	
					on 1st Rate of 4 Point test.																	
0905	7500																					
0910	7000																					
0915	6550	-7		4.76	1241		16	44	25.4											19.78x10 ³		
0930	5510	-5			1654		17	44												23.17x10 ³		
0945	5750	-3			1654		15	39												22.04x10 ³		
1000	6000	-1			1758		15	38												22.89x10 ³		
1030	6220	-2			1758		16	38												22.61x10 ³		
1100	6450	-2			1758		16	42		End of 1st Rate Shut in for 2 hr. Build-ups										23.03x10 ³		
1105	6710																					

REMARKS

GAS PRODUCTION (24 hr.)	LIQUID PROD. BALANCE	TANK NO. 1		TANK NO. 2	
GAS PRODUCTION CUMULATIVE	OPENING GAUGE	Cond.	Water	Cond.	Water
LIQUID PRODUCTION (24 hr.)	PLUS PRODUCTION				
Condensate/Oil _____ Water _____	TOTALS				
LIQUID PRODUCTION CUMULATIVE	MINUS SHIPPING				
Condensate/Oil _____ Water _____	EQUALS CLOSING GAUGE				

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE _____ L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 8/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond. Prod.	Cumul. Water Prod.			
					or Prover									_____ per _____								
					Recorder	D.W.G.								_____ cm	_____ m3							
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Inc	Barrels	Fi-Inc	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
1110	6980																					
1115	7220																					
1130	8220																					
1145	8265																					
1200	8275																					
1230	8280																					
1300	8285																					
1305	7200	-2		Open well through separator on 7.14mm choke to start Second Rate.																		
1310	5700	-2																				
1315	5050	-1		7.14	1655		35	33	25.4											35.89x10 ³		
1330	4885	0			1655		32	20												31.65x10 ³		
1345	5000	0			2172		24	42	Back pressure valve malfunctioning											31.09x10 ³		

REMARKS

GAS PRODUCTION (24 hr.)

GAS PRODUCTION CUMULATIVE

LIQUID PRODUCTION (24 hr.)

Condensate/Oil _____ Water _____

LIQUID PRODUCTION CUMULATIVE

Condensate/Oil _____ Water _____

LIQUID PROD. BALANCE

OPENING GAUGE

PLUS PRODUCTION

TOTALS

MINUS SHIPPING

EQUALS CLOSING GAUGE

TANK NO. 1
Cond. Water

TANK NO. 2
Cond. Water

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE _____ L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 8/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond. Prod.	Cumul. Water Prod.			
					or Prover									_____ per _____								
					Recorder	D.W.G.								Fi-Ins	Barrels	Fi-Ins	Barrels					
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
1400	5115	1		7.14	1862		32	40	25.4											33.63x10 ³		
1430	5270	1			1551		36	42												33.07x10 ³		
1500	5145	1			1551		38	40		End of Second Rate										33.91x10 ³		
1505	6030																					
1510	7600																					
1515	7800																					
1530	8090																					
1545	8120																					
1600	8140																					
1630	8190																					
1700	8200				Third Rate on 34.9mm orifice plate																	
					Open well through separator on 9.53mm choke																	
1705	4000																					

REMARKS

GAS PRODUCTION (24 hr.)

GAS PRODUCTION CUMULATIVE

LIQUID PRODUCTION (24 hr.)

Condensate/Oil _____ Water

LIQUID PRODUCTION CUMULATIVE

Condensate/Oil _____ Water

LIQUID PROD. BALANCE

OPENING GAUGE

PLUS PRODUCTION

TOTALS

MINUS SHIPPING

EQUALS CLOSING GAUGE

TANK NO. 1
Cond. Water

TANK NO. 2
Cond. Water

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T.

PIPELINE _____

OTHER _____

DATE Feb. 8/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond Prod.	Cumul. Water Prod.			
					or Prover									ft-ins	Barrels	ft-ins	Barrels					
					Recorder	D.W.G.														<u>1</u> cm	<u>.104</u> m3	
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	ft-ins	Barrels	ft-ins	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
1710	3250	1		9.53					34.9													
1715	3175	1			1715		16	41		Methanol pump freezing										42.39x10 ³		
1730	3400	2			1586		17	40												45.22x10 ³		
1745	3450	2			1586		17	38												45.22x10 ³		
1800	3700	2			1551		18	38		Liquid to surface										45.22x10 ³		
1830		2			1862		17	40		Unable to dump water										48.05x10 ³		
1900		2			2930		17	40		Dump lines frozen from separator to dump										59.92x10 ³		
										By-pass dump also frozen				END of Rate # 3								
										Meter freezing (Approx. water made 150m ³)												
										Unable to get tubing pressures. Wellhead frozen from 1800 hrs to 2200 hrs.												
2115		-5			Open well to flow through separator on 12.7mm choke					Flow Rate # 4												
2130		-4			with 38.1mm orifice plate					Pumping methanol										56.52x10 ³		
2200	3050	-2			2275			40														
2230	2525	5						32		Take off for repairs												
										Unable to get meter readings frozen												

REMARKS

Estimated flow rate for 4 Point
24 hr. production 13.65x10³xm³

GAS PRODUCTION (24 hr.)

GAS PRODUCTION CUMULATIVE

LIQUID PRODUCTION (24 hr.)

Condensate/Oil _____ Water _____

LIQUID PRODUCTION CUMULATIVE

Condensate/Oil _____ Water _____

LIQUID PROD. BALANCE

OPENING GAUGE

PLUS PRODUCTION

TOTALS

MINUS SHIPPING

EQUALS CLOSING GAUGE

TANK NO. 1
Cond. Water

TANK NO. 2
Cond. Water

CUSTOMER Paramount Resources Ltd. TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 8/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond Prod.	Cumul. Water Prod.			
					or Prover									Fi-Ins	Barrels	Fi-Ins	Barrels					
					Recorder	D.W.G.																
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
2300	3200	3		9.53				33	38.1	Cut choke back for extended rate to 9.53mm choke												
2330	3770	4						39														
2400	3800	3						40														
February 9th, 1981					Meter replaced and in service.																	
0030	3655	3			2069		13	39														
0100	3690	1			2275		12	41												52.00x10 ³		
0115	7100							41		Safety shut down valve closed,												
0135	7995							42														
0140	7800	-6						43		Back pressure valve stuck open use manual block valve,												
0145	5200	1						42														
0200	3835	2			1241		23	45												54.26x10 ³		
0215	3850	3			1310		20	43														

REMARKS	GAS PRODUCTION (24 hr.)				LIQUID PROD. BALANCE				TANK NO. 1		TANK NO. 2	
	GAS PRODUCTION CUMULATIVE				OPENING GAUGE				Cond	Water	Cond	Water
	LIQUID PRODUCTION (24 hr.)				PLUS PRODUCTION							
	Condensate/Oil _____ Water _____				TOTALS							
	LIQUID PRODUCTION CUMULATIVE				MINUS SHIPPING							
	Condensate/Oil _____ Water _____				EQUALS CLOSING GAUGE							

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 9/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond. Prod.	Cumul. Water Prod.			
					or Prover									<u>1</u> cm	per <u>.104</u> m3	_____	per _____					
					Recorder	D.W.G.																
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
0230	3875	1		9.53	1310		20	42	38.1													
0300	3950	3			1310		19	42												50.9x10 ³ /		
0330	3930	1			1276		20	41														
0400	3860	2			1241		20	37												50.9x10 ³ /		
0430	4235	1			1276		19	37														
0500	5195	-3			1138		14	42		Possible ice plug in flowing tubing												40.98x10 ³
0530	5330	-5			1034		14	42														
0600	5630	-8			827		14	42												35.89x10 ³		
0630	5340	-8			1241		13	42														
0700	5500	-10			1138		12.5	42												38.15x10 ³		
0730	5535	-10			1103		12	42														
0800	5585	-12			1034		11.5	41		Approx. water made .075m ³												35.33x10 ³

REMARKS _____

GAS PRODUCTION (24 hr.)	14.93m ³	LIQUID PROD. BALANCE		TANK NO. 1		TANK NO. 1	
GAS PRODUCTION CUMULATIVE		OPENING GAUGE		Cond.	Water	Cond.	Water
LIQUID PRODUCTION (24 hr.)		PLUS PRODUCTION					
Condensate/Oil _____ Water _____		TOTALS					
LIQUID PRODUCTION CUMULATIVE		MINUS SHIPPING					
Condensate/Oil _____ Water _____		EQUALS CLOSING GAUGE					

CUSTOMER Paramount Resources Ltd. TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 9/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond Prod.	Cumul. Water Prod.			
					or Prover									<u>1</u> cm	per <u>.104</u> m3	_____	per _____					
					Recorder	D.W.G.																
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	ft-lbs	Barrels	ft-lbs	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
0830	5585	-11		9.53	896		11	43	38.1													
0900	5550	-13			862		11.5	43												32.50x10 ³		
0930	5500	-12			965		12	43														
1000	5500	-12			1103		12	43												37.87x10 ³		
1030	5450	-10			1034		12	43														
1100	5450	-10			1034		12	43												36.74x10 ³		
1130	5530	-9			965		12	43		Ice plug in flow line let go.												
1200	4120	+4			1172		20	35		Liquid to surface										49.46x10 ³		
1230	3715	+3			1172		18	42														
1300	3680	+3			1241		20	44												50.87x10 ³		
1330	3680	+3			1207		21	44		750 ppm H ² S												
1400	3675	3			1207		21	44												52.28x10 ³		

REMARKS

GAS PRODUCTION (24 hr.)

GAS PRODUCTION CUMULATIVE

LIQUID PRODUCTION (24 hr.)

Condensate / Oil _____ Water _____

LIQUID PRODUCTION CUMULATIVE

Condensate / Oil _____ Water _____

LIQUID PROD. BALANCE

OPENING GAUGE

PLUS PRODUCTION

TOTALS

MINUS SHIPPING

EQUALS CLOSING GAUGE

TANK NO. 1
Cond. Water

TANK NO. 2
Cond. Water

CUSTOMER Paramount Resources Ltd. TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T.

PIPELINE _____

OTHER _____

DATE Feb. 9/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond Prod.	Cumul. Water Prod.			
					or Prover									Ft-In	Barrels	Ft-In	Barrels					
					Recorder	D.W.G.														<u>1</u> cm	<u>.104</u> m3	
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Ft-In	Barrels	Ft-In	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
1430	3695	3		9.53	1207		21	44	38.1													
1500	3700	4			1207		21	45												52.28x10 ³		
1530	3700	3			1207		22	45														
1600	3650	3			1207		20	45												49.46x10 ³		
1630	3650	3			1172		21	43														
1700	3640	4			1138		21	41												49.46x10 ³		
1730	3570	4			1138		21	41														
1800	3585	7			1138		21	40												49.46x10 ³		
1830	3585	7			1138		21	38														
1900	3585	8			1138		21	38												49.46x10 ³		
1930	3585	9			1138		21	38														
2000	3585	10			1138		21	43												49.46x10 ³		

REMARKS _____

GAS PRODUCTION (24 hr.) _____

LIQUID PROD. BALANCE

GAS PRODUCTION CUMULATIVE _____

OPENING GAUGE

LIQUID PRODUCTION (24 hr.) _____

PLUS PRODUCTION

Condensate/Oil _____ Water _____

TOTALS

LIQUID PRODUCTION CUMULATIVE _____

MINUS SHIPPING

Condensate/Oil _____ Water _____

EQUALS CLOSING GAUGE

TANK NO. 1
Cond. Water

TANK NO. 2
Cond. Wa

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 9/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond. Prod.	Cumul. Water Prod.			
					or Prover									1 cm	per <u>.104</u> m3	_____ per _____						
					Recorder	D.W.G.										Barrels	Barrels					
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
2030	3575	9		9.53	1138		20	42	38.1													
2100	3580	9			1172		20	43												49.46x10 ³		
2130	3580	9			1172		20	43														
2200	3580	9			1241		19	43												49.46x10 ³		
2230	3570	9			1241		19	42														
2300	3565	9			1172		20	42												48.33x10 ³		
2330	3565	8			1172		19	42														
2400	3565	9			1207		19	43												48.89x10 ³		
February 10th, 1981																						
0030	3565	9			1207		19	43														
0100	3565	9			1207		19	43												48.33x10 ³		
0130	3565	10			1207		19	43														

REMARKS	GAS PRODUCTION (24 hr.)		LIQUID PROD. BALANCE		TANK NO. 1		TANK NO. 2	
	Cond.	Water	Cond.	Water	Cond.	Water	Cond.	Water
	GAS PRODUCTION CUMULATIVE		OPENING GAUGE					
	LIQUID PRODUCTION (24 hr.)		PLUS PRODUCTION					
	Condensate/Oil _____ Water _____		TOTALS					
	LIQUID PRODUCTION CUMULATIVE		MINUS SHIPPING					
	Condensate/Oil _____ Water _____		EQUALS CLOSING GAUGE					

CUSTOMER Paramount Resources Ltd. TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 10/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION						GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		Cumul. Oil, Cond. Prod.	Cumul. Water Prod.			
					or Prover									CAP <u>1</u> <u>cm</u> per <u>.104</u> <u>m3</u>	CAP _____ _____ per _____					
					Recorder	D.W.G.														
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day
0200	3560	9		9.53	1207		19	43	38.1											48.05x10 ³
0230	3560	9			1241		18	44												
0300	3560	10			1241		18	44												48.05x10 ³
0330	3555	10			1276		18	44												
0400	3550	9			1310		18	44												48.61x10 ³
0430	3550	9			1276		18	44												
0500	3550	9			1241		18	44												48.05x10 ³
0530	3550	9			1241		18	43												
0600	3550	9			1379		17	44												48.61x10 ³
0630	3545	10			1276		18	45												
0700	3545	9			1310		18	44												48.61x10 ³
0730	3545	9			1310		18	43												

REMARKS

GAS PRODUCTION (24 hr.)

GAS PRODUCTION CUMULATIVE

LIQUID PRODUCTION (24 hr.)

Condensate/Oil _____ Water _____

LIQUID PRODUCTION CUMULATIVE

Condensate/Oil _____ Water _____

LIQUID PROD. BALANCE

OPENING GAUGE

PLUS PRODUCTION

TOTALS

MINUS SHIPPING

EQUALS CLOSING GAUGE

TANK NO. 1
Cond. Water

TANK NO. 2
Cond. Water

CUSTOMER Paramount Resources Ltd. TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T.

PIPELINE _____

OTHER

[illegible]

REMARKS

GAS PRODUCTION (24 hr.) 47.60x10³m³

GAS PRODUCTION CUMULATIVE 62.53x10³

LIQUID PRODUCTION (24 hr.)

Condensate/Oil _____ Water

LIQUID PRODUCTION CUMULATIVE

Condensate/Oil _____ Water _____

LIQUID PROD. BALANCE

OPENING GAUGE

	PLUS PRODUCTION
--	------------------------

	TOTALS	
--	--------	--

MINUS SHIPPING	
----------------	--

EQUALS CLOSING GAUGE

TANK NO. 1
 Cond. _____ Walls _____

--	--

TANK NO. 3
Cond. _____ W _____

--	--

A blank coordinate grid with x and y axes. The x-axis is horizontal and the y-axis is vertical, intersecting at the origin (0,0). The grid consists of a series of small squares, with the axes labeled 'x' and 'y' at their respective ends.

--	--

--	--

--	--

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T. PIPELINE _____

OTHER _____

DATE Feb. 10/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond Prod.	Cumul. Water Prod.			
					or Prover									per <u>104</u>	per _____							
					Recorder	D.W.G.										cm	m3					
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day		
SI Units	Pgs kPa	°C	Pgs kPa	mm	Pgs kPa	Pgs kPa	kPa	°C	mm	Pgs kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day		
0830	3545	10		9.53	1345		17	44	38.1													
0900	3535	10			1345		17	44												48.61x10 ³		
0930	3535	10			1310		18	43														
1000	3545	10			1358		18	43												49.46x10 ³		
1030	3545	10			1358		17	43														
1100	3545	10			1345		18	43												49.46x10 ³		
1130	3545	10			1310		18	43														
1200	3545	10			1345		18	44												49.46x10 ³		
1230	3545	10			1345		18	44														
1300	3545	10			1358		18	44												49.46x10 ³		
1330	3560	10			1379		17	44														
1400	3555	10			1448		17	44												50.87x10 ³		
REMARKS _____										GAS PRODUCTION (24 hr.) _____				LIQUID PROD. BALANCE				TANK NO. 1		TANK NO. 2		
										GAS PRODUCTION CUMULATIVE _____				OPENING GAUGE				Cond.	Water	Cond.	Water	
										LIQUID PRODUCTION (24 hr.) _____				PLUS PRODUCTION								
										Condensate/Oil _____ Water _____				TOTALS								
										LIQUID PRODUCTION CUMULATIVE _____				MINUS SHIPPING								
										Condensate/Oil _____ Water _____				EQUALS CLOSING GAUGE								



TESTMASTER PRODUCTION SERVICES LTD.

TEST UNIT NO.

One

TYPE OF TEST

4 Point Extended Rate

PAGE

14 OF 16

CUSTOMER Paramount Resources Ltd.TEST OPERATOR S. Barkhouse & B. McConnellREP. BY M. MaddocksNO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPaWELL Paramount H.B. et al Cameron GAS TO FLARE XCHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____LOCATION J-62-N.W.T.

PIPELINE _____

OTHER _____

DATE Feb. 10/81 TIME	WELLHEAD DATA				Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure	STATIC PRESSURE or Prover		Recorder	D.W.G.	Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP <u>64m3</u>		CAP _____		Cumul. Oil, Cond. Prod.	Cumul. Water Prod.			
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Fi-Ins	Barrels	Fi-Ins	Barrels	Barrels	Barrels	ft3/day			
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	C m	m3	m	m3	m3	m3	m3/day			
1430	3565	10		25.4	1448		17	47	38.1														
1500	3520	10			1448		17	46												50.87x10 ³			
1530	3490	10			1276		18	45		Salinity	26,800 ppm												
1600	3475	10			1241		19	43		0.68% H ² S				ON SITE ANALYSIS						49.46x10 ³			
1630	3480	10			1379		16	41		Reset back pressure													
1700	3575	10			1379		17	43		Sample from separator trace of	Condensate									49.46x10 ³			
1730	3545	10			1379		17	44															
1800	3510	10			1345		17	43												48.33x10 ³			
1830	3470	10			1345		17	42															
1900	3470	10			1310		17	41												48.05x10 ³			
1930	3470	10			1310		17	42															
2000	3475	10			1310		17	42															

REMARKS

GAS PRODUCTION (24 hr.)

GAS PRODUCTION CUMULATIVE

LIQUID PRODUCTION (24 hr.)

Condensate/Oil _____ Water _____

LIQUID PRODUCTION CUMULATIVE

Condensate/Oil _____ Water _____

LIQUID PROD. BALANCE

OPENING GAUGE

PLUS PRODUCTION

TOTALS

MINUS SHIPPING

EQUALS CLOSING GAUGE

TANK NO. 1

Cond.

Water

TANK NO. 2

Cond.

Water

CUSTOMER Paramount Resources Ltd.

TEST OPERATOR S. Barkhouse & B. McConnell

REP. BY M. Maddocks

NO. 1 HEATER .75m BTU H.P. METER SIZE 73.53^{mm} DIFF. RANGE 0-50 kPa

WELL Paramount H.B. et al Cameron GAS TO FLARE X

CHOKE 25.4mm L.P. METER SIZE _____ DIFF. RANGE _____

LOCATION J-62-N.W.T.

PIPELINE _____

OTHER _____

DATE Feb. 10/81 TIME	WELLHEAD DATA			Choke Size	H.P. SEP. GAS METERING					COND or L.P. SEP GAS METERING				LIQUID PRODUCTION								GAS PRODUCTION
	TUBING Pressure	Flow Temp	CASING Pressure		STATIC PRESSURE		Diff.	Temp	Orifice Plate Size	Static Pressure	Diff.	Temp	Orifice Plate Size	CAP _____		CAP _____		Cumul. Oil, Cond. Prod.	Cumul. Water Prod.			
					or Prover									Ft-Ins _____ per _____	Barrels _____ per _____							
					Recorder	D.W.G.																
IMP. Units	PSIG	°F	PSIG	Inches	PSIG	PSIG	Inches	°F	Inches	PSIG	Inches	°F	Inches	Ft-Ins	Barrels	Ft-Ins	Barrels	Barrels	Barrels	ft ³ /day		
SI Units	Pga kPa	°C	Pga kPa	mm	Pga kPa	Pga kPa	kPa	°C	mm	Pga kPa	kPa	°C	mm	m	m ³	m	m ³	m ³	m ³	m ³ /day		
2030	3495	10		25.4	1310		17	40	38.1													
2100	3500	10			1310		17	41												48.6x10 ³ /		
2130	3495	10			1310		17	40														
2200	3495	10			1310		17	39												48.6x10 ³ /		
2230	3495	10			1310		17	39														
2300	3495	10			1310		17	40												48.6x10 ³ /		
2310	3495	10			1310		17	40		Shut well in Take samples Two H.P. Gas 866,107.1									48.6x10 ³ /			
2315	4950																					
2320	6570																					
2325	7370																					
2330	7630																					
2345	7910																					

REMARKS _____

GAS PRODUCTION (24 hr.) _____

GAS PRODUCTION CUMULATIVE _____

LIQUID PRODUCTION (24 hr.) _____

Condensate/Oil _____ Water _____

LIQUID PRODUCTION CUMULATIVE _____

Condensate/Oil _____ Water _____

LIQUID PROD. BALANCE

OPENING GAUGE

PLUS PRODUCTION

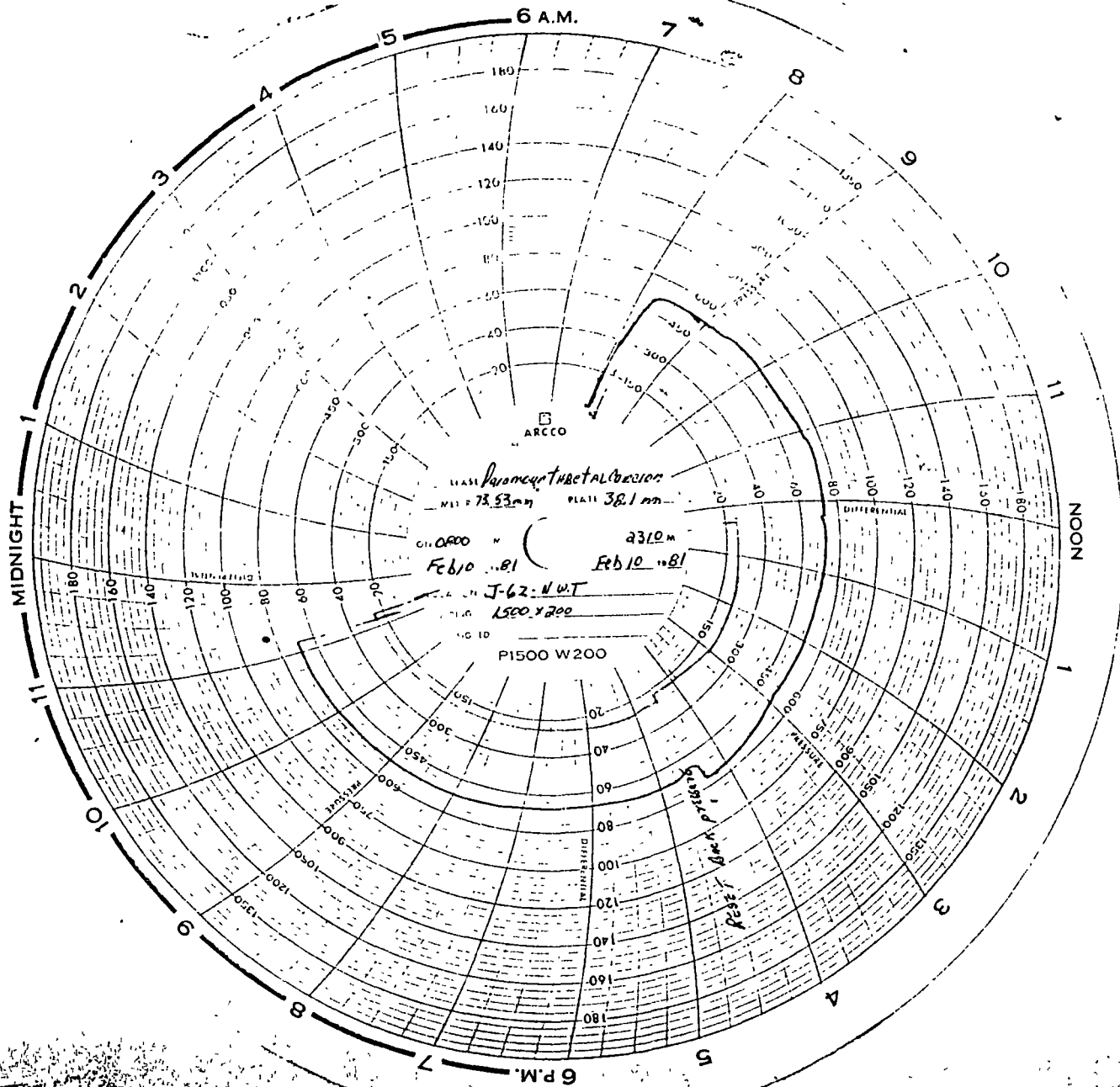
TOTALS

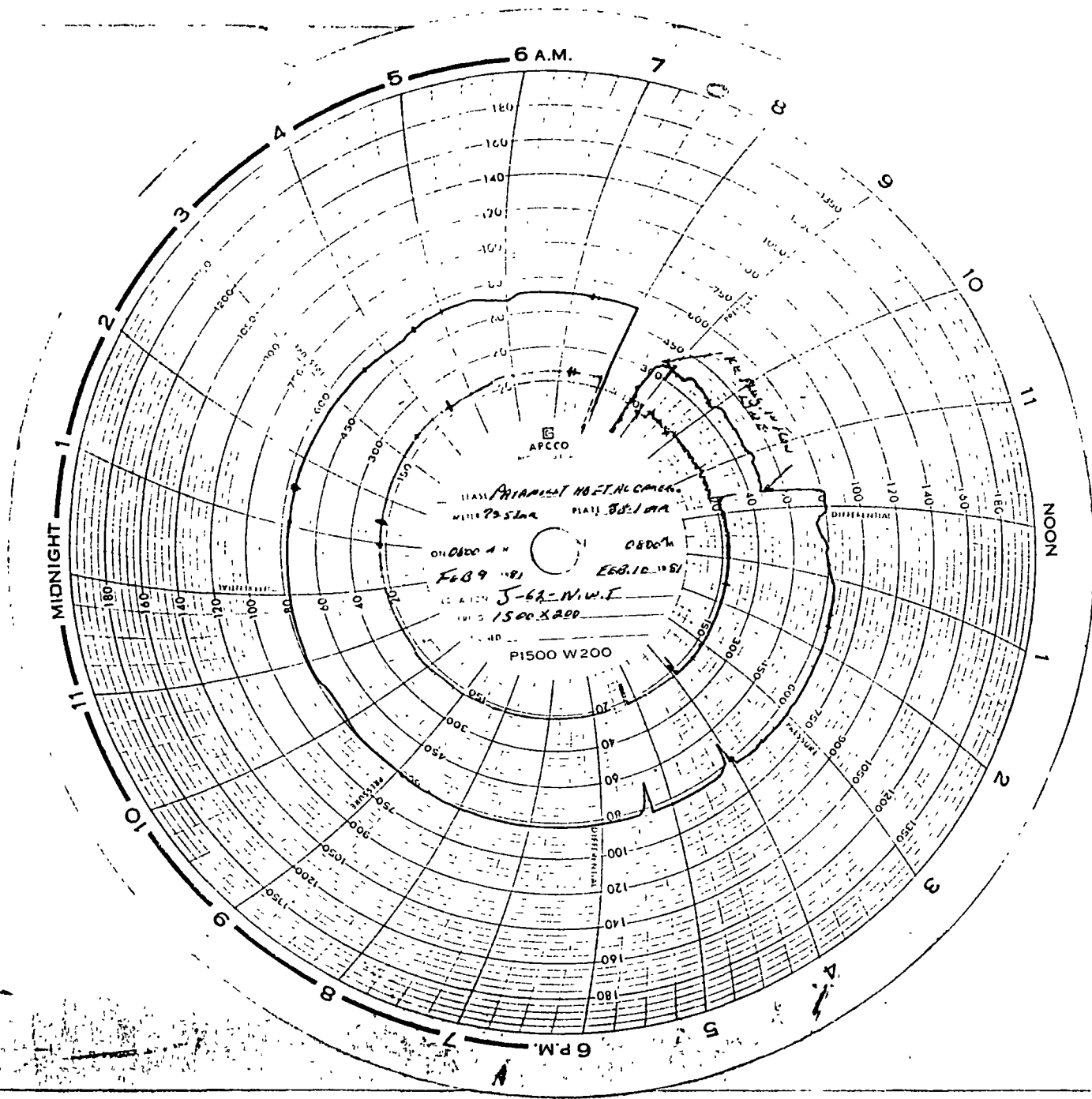
MINUS SHIPPING

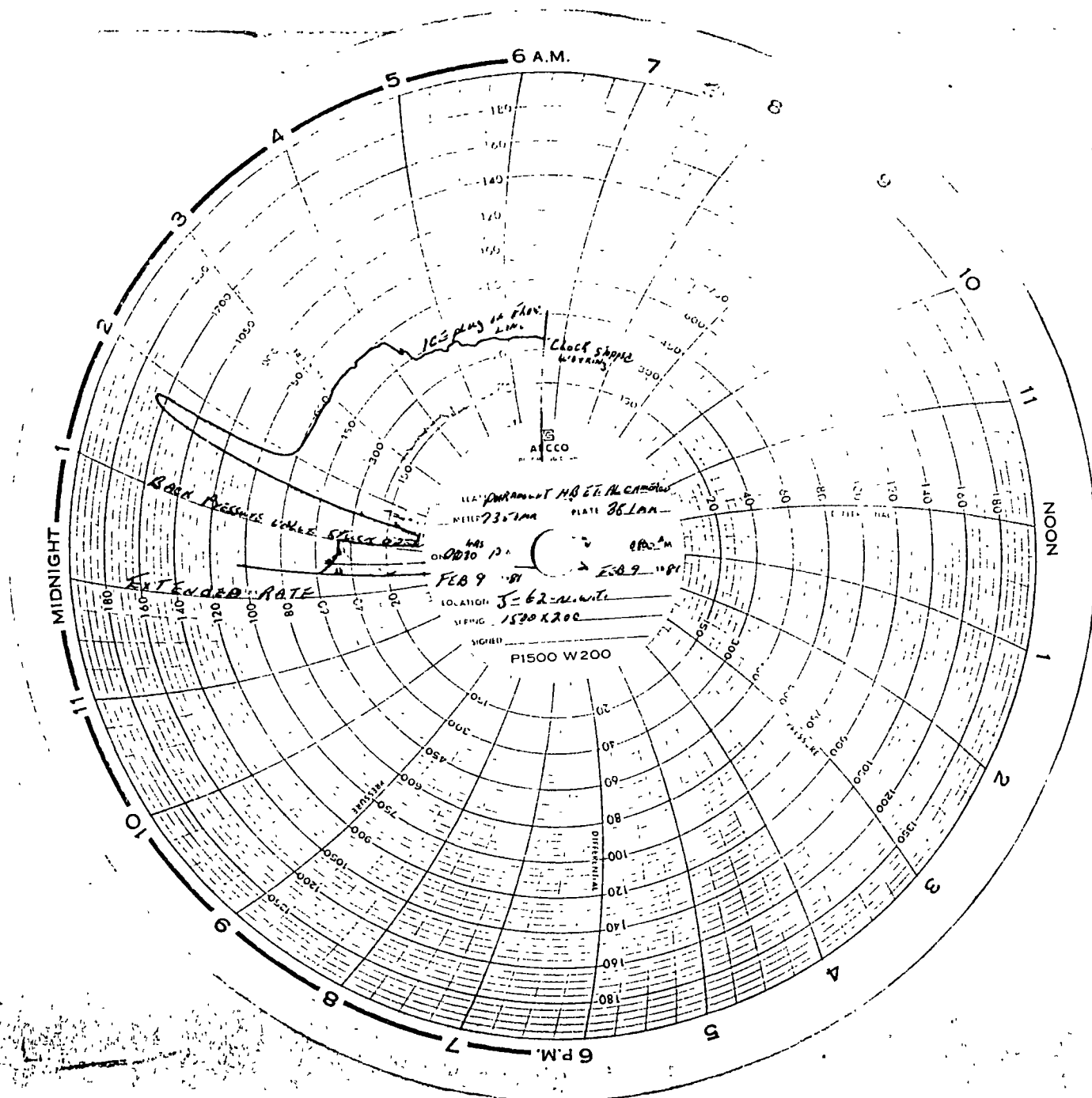
EQUALS CLOSING GAUGE

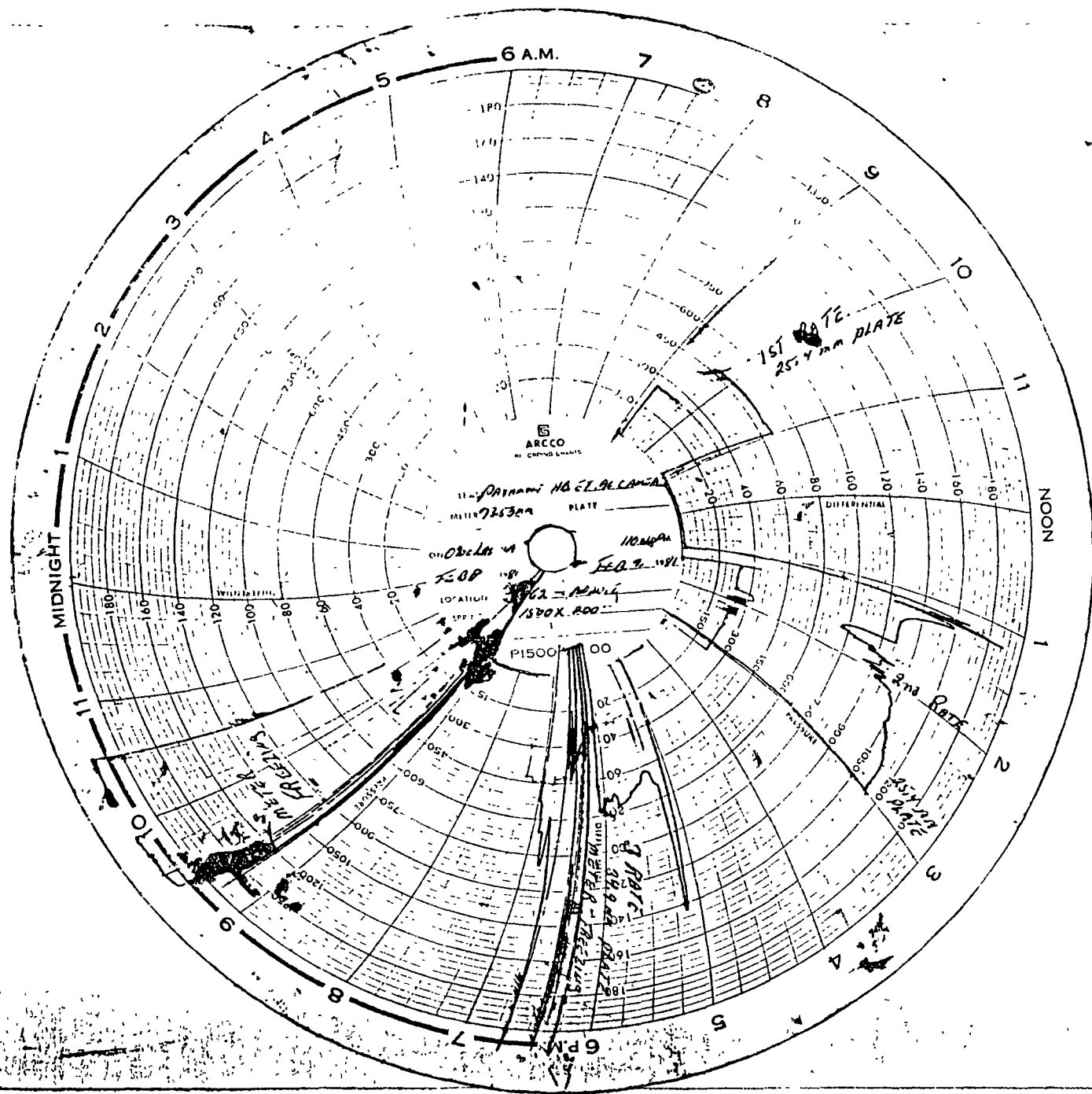
TANK NO. 1
Cond. Water

TANK NO. 2
Cond. Water









CONTAINER IDENTITY

866

GAS ANALYSIS

LABORATORY NUMBER

9076-4-2543/1

LICENCE NO.

OPERATOR NAME AND ADDRESS

PARAMOUNT RESOURCES LTD.

CPA NUMBER

WELL NAME

PARAMOUNT HB ET AL CAMERON J-62-NWT

KB ELEVATIONS METRES GRD
755.00 751.94

FIELD OF AREA

POOL OR ZONE

NAME OF SAMPLER

COMPANY

CAMERON LAKE HILLS

SULPHUR POINT

S. BARKHOUSE

TESTMASTER

TEST RECOVERY

TEST TYPE NO

MULTIPLE RECOVERY

TEST INTERVAL FROM

TO

PERFORMATIONS FROM

TO

TO

SAMPLING POINT METER RUN

AMT & TYPE OF CUSHION

MUD RESISTIVITY @25°C

TYPE OF PRODUCTION
PUMPING ☐ FLOWING ☒ GAS LIFT ☐ SWAB ☐

PRODUCTION RATES

WATER TRACE m³/d OIL TRACE m³/d GAS 48.6 10³m³/d

GAUGE PRESSURE - kPa

TEMPERATURES °C

SEPARATOR 190/310 TREATER RESERVOIR 90/40

DATE SAMPLED

DATE RECEIVED

DATE REPORTED

ANALYST

1981-02-10

1981-02-19

1981-01-19

G. HOWE

COMP	MOL FRACTION AIR FREE AS REC'D	MOL FRACTION AIR FREE ACID GAS FREE	LIQUID VOLUME mL m ³ AIR FREE AS REC'D
H ₂	0.0000	0.0000	
He	0.0008	0.0008	
N ₂	0.0445	0.0461	
CO ₂	0.0353	0.0000	
H ₂ S	0.0000	0.0000	
C ₁	0.8944	0.9273	
C ₂	0.0137	0.0142	
C ₃	0.0056	0.0058	20.49
IC ₄	0.0009	0.0009	3.91
nC ₄	0.0018	0.0019	7.54
IC ₅	0.0006	0.0006	2.92
nC ₅	0.0007	0.0007	3.37
C ₆	0.0008	0.0008	4.30
C ₇	0.0009	0.0009	5.41
C ₈			
C ₉			
C ₁₀			
TOTAL	1.0000	1.0000	47.94

GROSS HEATING VALUE
MJ m⁻³ @ 15°C AND 101.325 kPa

(MOISTURE AND ACID GAS FREE)

MEASURED

CALCULATED

DEW POINT

VAPOUR PRESS
PENTANES PLUS
63.000

RELATIVE DENSITY

MOISTURE FREE AS SAMPLED

MOISTURE AND ACID GAS FREE

MEASURED

CALCULATED

MEASURED

CALCULATED

PSEUDO CRITICAL PROPERTIES (CALCULATED)

AS SAMPLED

ACID GAS FREE

pPc

pTc

pPc

pTc

4673.0 kPa

196.0 °K

4573.0 kPa

192.0 °K

REMARKS

ON-SITE H₂S ANALYSIS BY TUTWILER
WAS 0.68% @ 1400K FEB 10 1981

DETERMINATIONS TO C7+ ONLY



CONTAINER IDENTITY

PLASTIC BOTTLE

LABORATORY NUMBER

9076-4-2543/3

LICENCE NO

OPERATOR NAME AND ADDRESS

PARAMOUNT RESOURCES

CPA NUMBER

WELL NAME

PARAMOUNT HB ET AL CAMERON J-62-NWT

KB ELEVATIONS METRES GRD
755.00 751.94

CAMERON LAKE HILLS

POOL OR ZONE

SULPHUR POINT

NAME OF SAMPLER

STAN BARKHOUSE

COMPANY

TEST MASTER

TEST RECOVERY

TEST TYPE NO.

MULTIPLE RECOVERY

TEST INTERVAL FROM

TO

PERFORATIONS FROM

TO

SAMPLING POINT

SEPARATOR

AMT & TYPE OF CUSHION

MUD RESISTIVITY

@25°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER TRACE m³/d

OIL TRACE m³/d

GAS 48.6 10³m³/d

GAUGE PRESSURE - kPa

SEPARATOR

TREATER

RESERVOIR

TEMPERATURES °C

SEPARATOR

TREATER

RESERVOIR

DATE SAMPLED

DATE RECEIVED

DATE REPORTED

ANALYST

1981-02-10

1981-02-19

1981-02-19

G. HOWE

COMP	MOL FRACTION	MASS FRACTION	VOLUME FRACTION
N ₂	0.0000	0.0000	0.0000
CO ₂	0.0000	0.0000	0.0000
H ₂ S	0.0000	0.0000	0.0000
C ₁	0.0000	0.0000	0.0000
C ₂	0.0003	0.0001	0.0001
C ₃	0.0017	0.0005	0.0007
IC ₄	0.0010	0.0004	0.0005
nC ₄	0.0033	0.0012	0.0016
IC ₅	0.0051	0.0024	0.0029
nC ₅	0.0067	0.0031	0.0037
C ₆	0.0267	0.0149	0.0168
C ₇₊	0.9552	0.9774	0.9737
C ₈			
C ₉			
C ₁₀			
C ₁₁			
C ₁₂			
TOTAL	1.0000	1.0000	1.0000

PROPERTIES OF RESIDUE AT 15°C

RELATIVE DENSITY

ABSOLUTE DENSITY

RELATIVE MOLECULAR MASS

OBSERVED

CALCULATED

kg m⁻³
CALCULATED

OBSERVED

CALCULATED

0.792

791

158

PROPERTIES OF TOTAL SAMPLE AT 15°C

RELATIVE DENSITY

ABSOLUTE DENSITY

RELATIVE MOLECULAR MASS

OBSERVED

CALCULATED

kg m⁻³
CALCULATED

OBSERVED

CALCULATED

0.788

788

155

REMARKS

SAMPLE APPEARS TO CONTAIN GOOD PERCENTAGE DIESEL FUEL

DETAILED COMPONENT SUMMARY

PROJECT NO. 9076-4-2543/3
NAME PARAMOUNT RESOURCES
LOCATION PARAMOUNT HB ET AL CAMERON J-62-NWT
SAMPLE POINT SEPARATOR

COMPONENT	BOILING POINT(C)	MOLE FRACTION	MASS FRACTION	VOLUME FRACTION
NITROGEN	-196	0.0000	0.0000	0.0000
CARBON DIOXIDE	-79	0.0000	0.0000	0.0000
HYDROGEN SULPHIDE	-60	0.0000	0.0000	0.0000
METHANE	-162	0.0000	0.0000	0.0000
ETHANE	-89	0.0003	0.0001	0.0001
PROPANE	-42	0.0017	0.0005	0.0007
ISO-BUTANE	-12	0.0010	0.0004	0.0005
N-BUTANE	-1	0.0033	0.0012	0.0016
ISO-PENTANE	28	0.0051	0.0024	0.0029
N-PENTANE	36	0.0067	0.0031	0.0037
HEXANES	69	0.0267	0.0149	0.0168
HEPTANES	98	0.0369	0.0241	0.0265
OCTANES	126	0.0595	0.0434	0.0465
NONANES	151	0.0396	0.0323	0.0338
DECANES	174	0.0918	0.0819	0.0844
UNDECANES	196	0.0980	0.0943	0.0958
DODECANES	216	0.1270	0.1315	0.1322
TRIDECANES	236	0.1130	0.1241	0.1234
TETRADECANES	253	0.1174	0.1364	0.1347
PENTADECANES	271	0.0813	0.0993	0.0972
HEXADECANES	287	0.0466	0.0596	0.0580
HEPTADECANES	302	0.0309	0.0422	0.0409
OCTADECANES	317	0.0138	0.0199	0.0191
NONADECANES	331	0.0082	0.0124	0.0119
EICOSANES	344	0.0048	0.0079	0.0076
HENEICOSANES	357	0.0022	0.0037	0.0036
DOCOSANES	369	0.0024	0.0042	0.0040
TRICOSANES	380	0.0021	0.0037	0.0035
TETRACOSANES	391	0.0013	0.0025	0.0023
PENTACOSANES	402	0.0008	0.0015	0.0014
HEXACOSANES	412	0.0005	0.0010	0.0009
HEPTACOSANES	422	0.0002	0.0005	0.0005
OCTACOSANES	432	0.0001	0.0002	0.0002
NONACOSANES	441	0.0001	0.0001	0.0001
TRIACONTANES+	449	0.0001	0.0001	0.0001
BENZENE	49	0.0005	0.0002	0.0002
TOLUENE	111	0.0083	0.0050	0.0043
XYLENE	139	0.0416	0.0285	0.0246
1,2,4-TRIMETHYLBENZENE	171	0.0062	0.0050	0.0043
CYCLOPENTANE	49	0.0003	0.0001	0.0001
METHYL CYCLOPENTANE	72	0.0034	0.0019	0.0019
CYCLOHEXANE	81	0.0046	0.0025	0.0024
METHYL CYCLOHEXANE	101	0.0117	0.0074	0.0073
TOTALS		1.0000	1.0000	1.0000

CALGARY
2021 - 41 Avenue N E
Calgary, Canada T2E 6P2
(403) 278 9627
Telex 038-25541

CHEMEX
LABS (ALBERTA) LTD.

EDMONTON
8112 Davies Road
Edmonton, Canada T6E 4T
(403) 485-9877
Telex 037-41808

CONTAINER IDENTITY
PLASTIC BOTTLE

OIL ANALYSIS

LABORATORY NUMBER
9076-4-2543/4

LICENCE NO

OPERATOR NAME AND ADDRESS

PARAMOUNT RESOURCES LTD.

CPA NUMBER

WELL NAME

PARAMOUNT HB ET AL CAMERON J-62-NWT

ELEVATION
KB 755.00
METERS 751.94

FIELD OF AREA

POOL OR ZONE

NAME OF SAMPLER

COMPANY

CAMERON LAKE HILLS

SULPHUR POINT

STAN BARKHOUSE

TEST MASTER

TEST RECOVERY

TEST TYPE NO

MULTIPLE RECOVERY

TEST INTERVAL

FROM

TO

PERFORATIONS

FROM

TO

SAMPLING POINT

SEPARATOR

AMT & TYPE OF CUSHION

MUD RESISTIVITY

PUMPING

FLOWING

TYPE OF PRODUCTION

GAS LIFT

SWAP

PRODUCTION RATES

WATER

TRACE

m³/d

OIL

TRACE

m³/d

GAS

48.6

10³ m³/d

GAUGE PRESSURE kPa

SEPARATOR

1310

TREATER

RESERVOIR

SEPARATOR

40

TREATER

RESERVOIR

DATE SAMPLED

Y M D H M

81 02 10

DATE RECEIVED

Y M D

81 02 19

DATE REPORTED

Y M D

81 02 19

ANALYST

G. HOWE

SAMPLE PROPERTIES

COLOR OF CLEAN OIL

BLACK

WATER

BS

TOTAL BS & W

DENSITY

RELATIVE

ABSOLUTE kg m⁻³

AS RECEIVED

AFTER CLEANING

AS RECEIVED

AFTER CLEANING

0.794

793

TOTAL SULPHUR
MASS FRACTION

0.002

TOTAL SALT
g m⁻³

POUR POINT °C

USBM

ASTM

CARBON RESIDUE

CONRADSON

RAMSBOTTOM

RVP

1.40

VISCOSITY

TEMP °C

DYNAMIC mPa s

KINEMATIC mm² s⁻¹

DISTILLATION

METHOD

D-86

BAROM PRESS kPa

92.79

ROOM TEMP °C

21

INITIAL BOIL PT °C

47

DISTILLATION SUMMARY
VOLUME FRACTION

204 °C NAPHTHA

0.53

274 °C KEROSENE

0.88

343 °C LIGHT GAS/OIL

0.92

RECOVERED

0.92

RESIDUE

0.05

DISTILLATION LOSS

0.03

RELATIVE DENSITY

DISTILLATE

RESIDUE

BASE TYPE

CHARACTERIZATION
FACTOR

VOLUME FRACTION DISTILLED	TEMP °C
.05	105
.10	125
.15	140
.20	150
.25	160
.30	170
.35	177
.40	185
.45	192
.50	200
.55	208
.60	215
.65	223
.70	230
.75	238
.80	245
.85	260
.90	282
.92	288
FBP	
CRACKED	

REMARKS

CALGARY
221 - 41 Avenue N E
Calgary, Canada T2E 8P2
(403) 276-9827
Telex 038-25541

CHEMEX
LABS (ALBERTA) LTD.

EDMONTON
8112 Davies Road
Edmonton, Canada T6E 4M9
(403) 486-9877
Telex 037-41598

CONTAINER IDENTITY

PLASTIC

WATER ANALYSIS

LABORATORY NUMBER

9076-4-2543/2

LICENCE NO

OPERATOR NAME AND ADDRESS

PARAMOUNT RESOURCES

CPA NUMBER

WELL NAME

PARAMOUNT H.B. ET AL CAMERON J-62-N.W.T.

ELEVATIONS
KB METRES QAD

735.00 751.94

FIELD OF AREA

CAMERON HILLS

POOL OR ZONE

SULPHUR POINT

NAME OF SAMPLER

STAN BARKHOUSE

COMPANY

TESTMASTER

TEST RECOVERY

TEST TYPE NO

MULTIPLE RECOVERY

TEST INTERVAL

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SAMPLING POINT
SEPARATOR

AMT & TYPE OF CUSHION

MUD RESISTIVITY

25°C

TYPE OF PRODUCTION

PUMPING

FLOWING

GAS LIFT

SWAB

PRODUCTION RATES

WATER TRACE m³/d

OIL TRACE m³/d

GAS 48.6 10³ m³/d

GAUGE PRESSURE - kPa

TEMPERATURES °C

SEPARATOR

TREATER

RESERVOIR

SEPARATOR

TREATER

RESERVOIR

DATE SAMPLED

DATE RECEIVED

DATE REPORTED

ANALYST

1310
Y M D H M
1981-02-10

Y M D
1981-02-19

Y M D
1981-02-20

R.S & G.R

ION	C g.m ⁻³	MASS FRACTION	C mol.m ⁻³
Na	2300		100
K	2900		74
Ca	520		22
Mg	180		8
Br			
	2		<1

ION	C g.m ⁻³	MASS FRACTION	C mol.m ⁻³
Cl	7000		197
Br			
I			
HCO ₃	1552		25
SO ₄	2150		22
CO ₃			<1
OH			<1
H ₂ S	PRESENT		

TOTAL SOLIDS C/g.m⁻³

BY EVAPORATION

BY EVAPORATION

@ 110° C

@ 180° C

AT IGNITION

CALCULATED

15945

16604

RELATIVE DENSITY

REFRACTIVE INDEX

1.012 @ 21 °C

1.340 @ 25 °C

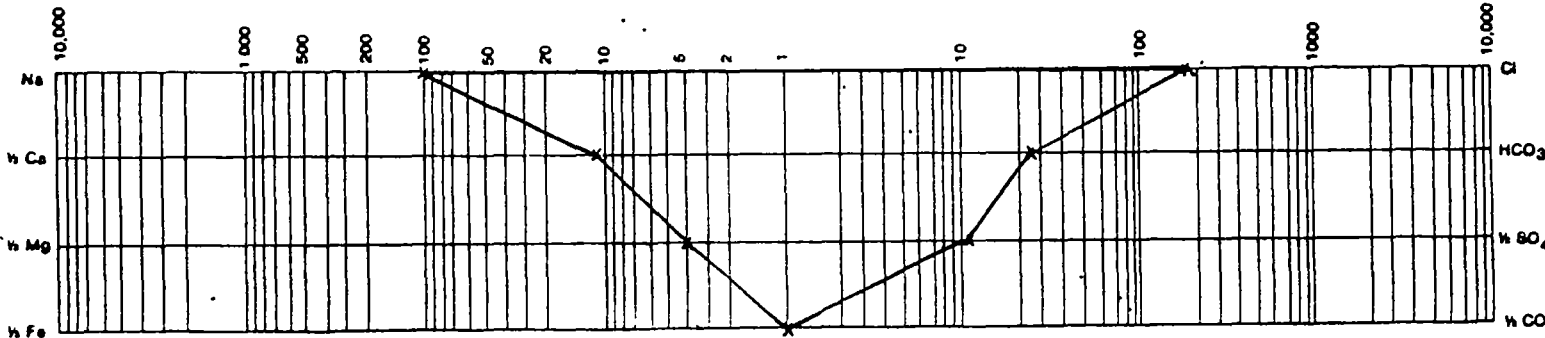
OBSERVED PH

RESISTIVITY Ω.m

7.8 @ 21 °C

0.666 @ 25 °C

LOGARITHMIC PATTERN C/mol.m⁻³



REMARKS

Well file

COMPANY
WELL

Paramount Resources Ltd. ↓
Paramount HB et al Cameron J-62

PAGE 1 of 1
FILE 7011-81-77
DATE 1981 02 16

Sampled From: Separator Gas
Date Sampled: 1981 02 10

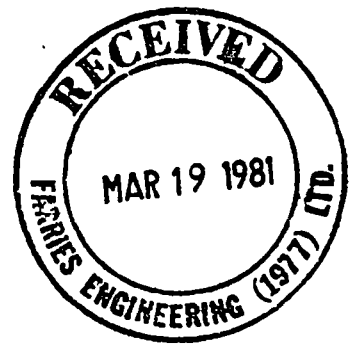
Analysis

on site

Hydrogen Sulphide = 0.0068 mole fraction

Remarks

Hydrogen sulphide determined by Tutwiler.



PARAMOUNT RESOURCES LTD.

PARAMOUNT H.B.

J-62

February 7-16, 1981

ALMECH SUB-SURFACE TOOLS LTD.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD.
 ADDRESS : CALGARY, ALBERTA.
 FIELD & POOL : SULFER POINT
 TYPE OF TEST : GRADIENT
 PROD. INT CF : 1381.4 to 1385.9
 ELEV. (CF) : 751.9 (KB) : 755
 POOL DATUM :

WELL NAME : PARAMOUNT H.B. J-62
 LOCATION : J-62
 STATUS : GAS
 DATE OF TEST : FEBRUARY 7, 1981.
 PROD. THROUGH : TUBING
 MID-POINT OF PROD. INT. CF : 1383.65
 DATUM DEPTH OF WELL CF : 0.00

STATIC TEST

TUBING PRES : 8384 KPAG
 CASING PRES : N/A
 RUN DEPTH TOP CF : 1381.7
 TEMPERATURE AT RUN DEPTH : 59.6 C
 GRAD. AT RUN DEPTH TOP : 2.980
 PRES. AT RUN DEPTH TOP : 9603.3

SHUT-IN TIME : N/A 2015 hrs Feb 7/81
 ON BOTTOM/OFF BOTTOM : 12:01 - 12:06
 SURFACE TEMPERATURE :
 PRES. AT MID-POINT OF PERF. : 9609.2
 DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in metres cf; Pressure in KPAG)

ELEMENT SERIAL NO. : 18121N

RANGE : 0 - 16200

CLOCK RANGE : 3 HOURS

CAL. EQUATION : $320.81 * Defl. + 10.17$ LATEST CALIBRATION : 19/11/80

TOP RECORDER DEPTH (m-cf)	DEFLECTION mm	CALCULATED PRESSURE KPAG	CORRECTION P + PC KPAG	CORRECTED PRESSURE KPAG	GRADIENT KPAG/m
-1.8	26.085	8378.4	1.0	8379.4	0.000
607.8	27.765	8917.4	-0.4	8917.0	.882
1217.4	29.272	9400.8	-1.6	9399.2	.791
1290.2	29.466	9463.1	-1.8	9461.3	.853
1320.7	29.552	9490.7	-1.9	9488.8	.902
1351.2	29.626	9514.4	-1.9	9512.5	.776
1381.7	29.910	9605.5	-2.2	9603.3	2.980

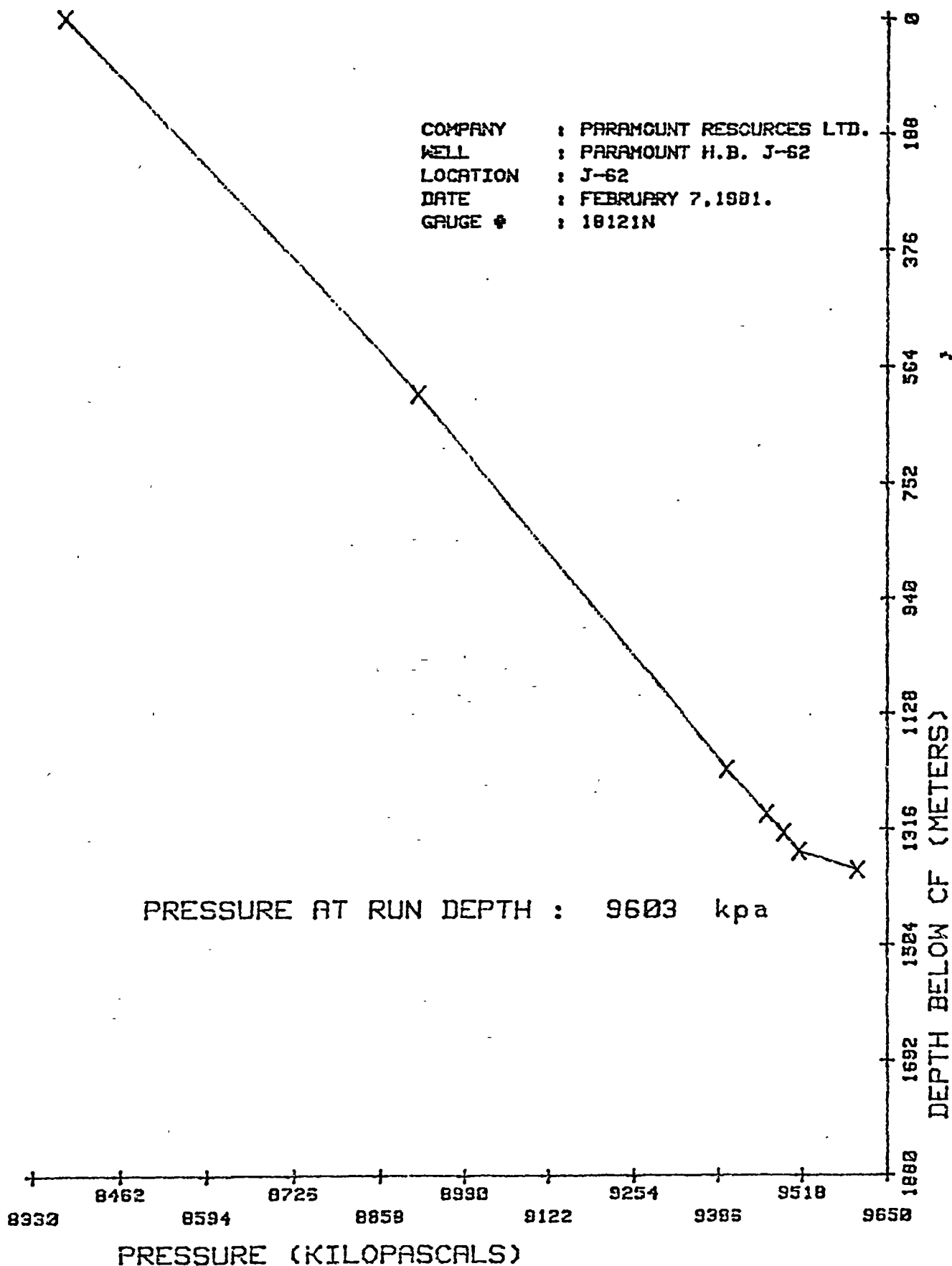
REMARKS :

NO TOP CHART DUE TO CLOCK FAILURE.

SURVEY COMPANY : ALMECH SUBSURFACE TOOLS (1976) LTD. TEST BY : D.B.

INTERPRETATION BY : E. S. KYLE INSTRUMENT LTD.

COMPANY : PARAMOUNT RESOURCES LTD.
WELL : PARAMOUNT H.B. J-62
LOCATION : J-62
DATE : FEBRUARY 7, 1981.
GAUGE # : 18121N



SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD. WELL NAME : PARAMOUNT H.B. J-62
 ADDRESS : CALGARY, ALBERTA. LOCATION : J-62
 FIELD & POOL : SULFUR POINT STATUS : GAS
 TYPE OF TEST : FOUR POINT DATE OF TEST : FEBRUARY 7 - 16, 1981
 PROD. INT CF : 1381.4 to 1385.9 PROD. THROUGH : TUBING
 ELEV. (CF) : 751.9 (KB) : 755 MID-POINT OF PROD. INT. CF : 1383.65
 POOL DATUM : DATUM DEPTH OF WELL CF : 0.00

STATIC TEST

TUBING PRES : 8384 KPAG SHUT-IN TIME : FEB. 10 2310h, 1981
 CASING PRES : 0 KPAG ON/OFF BOT. : 7/2-1342h - 16/2-1105h
 RUN DEPTH CF : 1368.2 SURFACE TEMP. :
 TEMPERATURE AT RUN DEPTH : 55.6 C PRES. AT MID-POINT OF PERF. : 29.0
 PRES. AT RUN DEPTH : 0.0 DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in metres cf; Pressure in KPAG)

ELEMENT SERIAL NO. : 18121N
 RANGE : 0 - 16200 CLOCK RANGE : 180 HOURS
 CAL. EQU. : $320.81 * \text{Defl.} + 10.17$ LATEST CALIBRATION : 19/11/80

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG			
			----- CALC	CORR	CORRECTED	MIDPNT
Depth : 1368.2 m-cf						
ON BOTTOM	0.00	29.650	9522.1	-1.9	9520.2	9549.2
FEB. 7 1342h.	4.00	29.653	9523.1	-1.9	9521.1	9550.1
	8.00	29.653	9523.1	-1.9	9521.1	9550.1
	12.00	29.653	9523.1	-1.9	9521.1	9550.1
	16.00	29.645	9520.5	-1.9	9518.6	9547.6
FEB. 8 0900h.	19.30	29.658	9524.7	-1.9	9522.7	9551.7
FLOW RATE #1	0.00	29.658	9524.7	-1.9	9522.7	9551.7
	.25	26.983	8666.5	.2	8666.7	8695.8
	.50	20.805	6684.6	2.8	6687.3	6716.3
	.75	20.722	6657.9	2.8	6660.7	6689.7
	1.00	21.764	6992.2	2.5	6994.7	7023.7
	1.50	22.659	7279.3	2.2	7281.5	7310.6
FEB. 8 1100h.	2.00	23.197	7451.9	2.0	7454.0	7483.0
SHUT IN	0.00	23.197	7451.9	2.0	7454.0	7483.0
	.25	28.445	9135.5	-1.0	9134.6	9163.6
	.50	29.052	9330.2	-1.4	9328.8	9357.8
	.75	29.231	9387.7	-1.6	9386.1	9415.1
	1.00	29.286	9405.3	-1.6	9403.7	9432.7
FEB. 8 1300h.	2.00	29.317	9415.3	-1.7	9413.6	9442.6
FLOW RATE #2	0.00	29.317	9415.3	-1.7	9413.6	9442.6

REMARKS :

GRADIENT OF 1.878 KPAG/M WAS USED TO EXTRAPOLATE TO MPP.
 GRADIENT WAS TAKEN FROM TEST DONE ON FEB. 7 1981.
 NO TOP CHART DUE TO CLOCK FAILURE.

SURVEY COMPANY : ALMECH SUBSURFACE TOOLS (1976) LTD. TEST BY : D.D.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD. WELL NAME : PARAMOUNT H.B. J-62
 OF TEST : FEBRUARY 7 - 16, 1981 LOCATION : J-62
 1368.2 SERIAL NO. : 10121N

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG			
			----- CALC	CORR	CORRECTED	MIDPNT
	.25	18.901	6073.7	3.4	6077.1	6106.1
	.50	18.634	5988.1	3.5	5991.6	6020.6
	.75	19.113	6141.7	3.3	6145.1	6174.1
	1.00	19.717	6335.5	3.1	6338.6	6367.6
	1.50	20.197	6489.5	3.0	6492.5	6521.5
FEB.8 1500h. SHUT IN	2.00	20.062	6446.2	3.0	6449.2	6478.2
	0.00	20.062	6446.2	3.0	6449.2	6478.2
	.25	28.213	9061.1	-0.8	9060.3	9089.3
	.50	29.029	9322.9	-1.4	9321.4	9350.5
	1.00	29.213	9381.9	-1.6	9380.3	9409.3
FEB.8 1700h. FLOW RATE #3	2.00	29.269	9399.9	-1.6	9398.2	9427.3
	0.00	29.269	9399.9	-1.6	9398.2	9427.3
	.25	13.641	4386.3	5.4	4391.6	4420.7
	.50	14.212	4569.5	5.1	4574.6	4603.6
	.75	14.221	4572.4	5.1	4577.5	4606.5
	1.00	14.631	4703.9	5.0	4708.9	4737.9
	1.50	14.517	4667.3	5.0	4672.3	4701.4
FEB.8 1900h. SHUT IN	2.00	14.831	4768.1	4.9	4773.0	4802.0
	0.00	14.831	4768.1	4.9	4773.0	4802.0
	.25	24.075	7733.6	1.8	7735.4	7764.4
	.50	28.540	9166.0	-1.0	9165.0	9194.0
	.75	29.283	9404.4	-1.6	9402.7	9431.7
	1.00	29.431	9451.8	-1.8	9450.1	9479.1
FEB.8 2100h. FLOW RATE #4	2.00	29.594	9504.1	-1.9	9502.2	9531.2
	0.00	29.594	9504.1	-1.9	9502.2	9531.2
	.25	11.099	3570.8	5.8	3576.6	3605.6
	.50	12.109	3920.5	5.7	3926.2	3955.2
WELL FREEZING OFF	.75	11.927	3036.4	5.7	3842.1	3871.1
	1.00	11.902	3854.1	5.7	3859.8	3888.8
	1.25	10.207	3310.3	5.0	3316.1	3345.1
EXTENDED FLOW	2.00	13.840	4450.1	5.3	4455.4	4484.4
	3.00	14.040	4514.3	5.2	4519.5	4548.5
	3.50	13.677	4397.8	5.3	4403.2	4432.2
	3.75	13.617	4378.6	5.4	4384.0	4413.0
	4.00	23.918	7683.2	1.8	7685.0	7714.1
	4.50	28.445	9135.5	-1.0	9134.6	9163.6
	5.00	14.408	4632.4	5.1	4637.4	4666.4
	6.00	14.567	4683.4	5.0	4688.4	4717.4
	7.00	14.508	4664.4	5.0	4669.5	4698.5
	8.00	18.977	6104.5	3.4	6107.9	6136.9

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD. WELL NAME : PARAMOUNT H.B. J-62
 DATE OF TEST : FEBRUARY 7 - 16, 1981 LOCATION : J-62
 DEPTH : 1368.2 SERIAL NO. : 18121N

COMMENTS	TIME hrs	DEFL mm	----- PRESSURE KPAG -----			
			CALC	CORR	CORRECTED	MIDPNT
	9.00	20.034	6437.2	3.0	6440.2	6469.2
	10.00	20.111	6461.9	3.0	6464.9	6493.9
	11.00	20.990	6746.5	2.7	6749.2	6778.2
	12.00	20.416	6559.8	2.9	6562.7	6591.7
	13.00	20.056	6444.3	3.0	6447.3	6476.3
	14.00	20.193	6488.2	3.0	6491.2	6520.2
	14.25	20.193	6488.2	3.0	6491.2	6520.2
	14.50	16.904	5433.1	4.1	5437.2	5466.2
	15.00	14.448	4645.2	5.0	4650.2	4679.3
	16.00	13.697	4404.3	5.3	4409.6	4438.6
	17.00	13.641	4386.3	5.4	4391.6	4420.7
	18.00	13.664	4393.7	5.3	4399.0	4428.0
	19.00	13.462	4328.9	5.4	4334.3	4363.3
	20.00	13.309	4279.8	5.5	4285.3	4314.3
	24.00	13.218	4250.6	5.5	4256.1	4285.1
	28.00	13.132	4223.0	5.5	4228.5	4257.6
	32.00	13.068	4202.5	5.6	4208.0	4237.1
	36.00	13.027	4189.3	5.6	4194.9	4223.9
	40.00	13.107	4215.0	5.5	4220.5	4249.5
	44.00	13.069	4202.8	5.6	4208.4	4237.4
	48.00	12.874	4140.2	5.6	4145.9	4174.9
	50.17	12.899	4148.3	5.6	4153.9	4182.9
	0.00	12.899	4148.3	5.6	4153.9	4182.9
	.25	22.504	7229.6	2.3	7231.9	7260.9
	.50	26.680	8569.3	.5	8569.8	8598.8
	.75	27.664	8885.0	-.3	8884.7	8913.7
	1.00	27.690	8893.3	-.3	8893.0	8922.0
	1.25	28.464	9141.6	-1.0	9140.6	9169.7
	1.50	28.532	9163.4	-1.0	9162.4	9191.4
	1.75	28.514	9157.7	-1.0	9156.6	9185.7
	2.00	28.399	9120.8	-.9	9119.8	9148.9
	2.50	28.313	9093.2	-.8	9092.3	9121.3
	3.00	28.192	9054.4	-.7	9053.6	9082.6
	4.00	28.228	9065.9	-.8	9065.1	9094.1
	5.00	28.288	9085.2	-.8	9084.3	9113.3
	6.00	28.353	9106.0	-.9	9105.1	9134.1
	8.00	28.500	9153.2	-1.0	9152.2	9181.2
	10.00	28.600	9185.2	-1.1	9184.2	9213.2
	14.00	28.762	9237.2	-1.2	9236.0	9265.0
	18.00	28.865	9270.3	-1.3	9269.0	9298.0

FEB. 10 2310h.
 SHUT IN

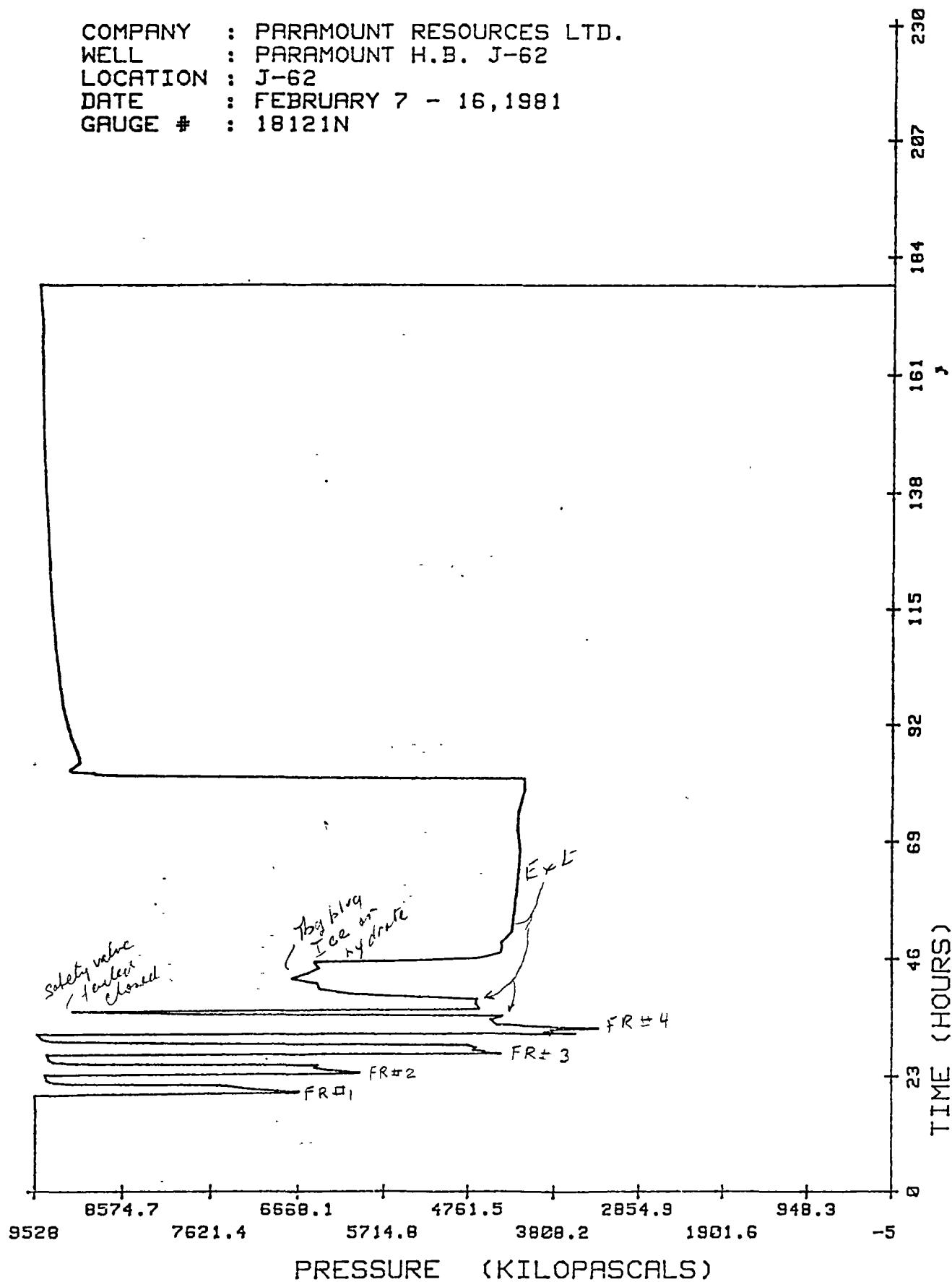
*1610 - vs 151.9m = 13.41 psi
 2467 = 92.5 kPa*

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD. WELL NAME : PARAMOUNT H.B. J-62
DATE OF TEST : FEBRUARY 7 - 16, 1981 LOCATION : J-62
DEPTH : 1368.2 SERIAL NO. : 18121N

COMMENTS	TIME hrs	DEFL mm	PRESSURE KPAG			
			----- CALC	CORR	CORRECTED	MIOPNT
	26.00	29.016	9318.7	-1.4	9317.3	9346.3
	34.00	29.140	9358.5	-1.5	9357.0	9386.0
	42.00	29.222	9384.8	-1.6	9383.2	9412.2
	50.00	29.287	9405.6	-1.6	9404.0	9433.0
	58.00	29.361	9429.4	-1.7	9427.7	9456.7
	66.00	29.409	9444.8	-1.7	9443.0	9472.0
	74.00	29.445	9456.3	-1.8	9454.6	9483.6
	82.00	29.460	9461.1	-1.8	9459.4	9486.4
	90.00	29.485	9469.2	-1.8	9467.4	9496.4
	97.00	29.565	9494.8	-1.9	9493.0	9522.0
CLOCK EXPIRED						
OFF BOTTOM	0.00	0.000	10.2	-10.2	0.0	29.0
FEB.16 1105h.	0.00	0.000	10.2	-10.2	0.0	29.0

COMPANY : PARAMOUNT RESOURCES LTD.
WELL : PARAMOUNT H.B. J-62
LOCATION : J-62
DATE : FEBRUARY 7 - 16, 1981
GAUGE # : 18121N



SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : PARAMOUNT RESOURCES LTD. WELL NAME : PARAMOUNT H.B. J-62
 ADDRESS : CALGARY, ALBERTA. LOCATION : J-62
 FIELD & POOL : SULFER POINT STATUS : GAS
 TYPE OF TEST : GRADIENT DATE OF TEST : FEBRUARY 16, 1981.
 PROD. INT CF : 1381.4 to 1385.9 PROD. THROUGH : TUBING
 ELEV.(CF) : 751.9 (KI) : 755 MID-POINT OF PROD. INT. CF : 1383.65
 POOL DATUM : DATUM DEPTH OF WELL CF : 0.00

STATIC TEST

TUBING PRES : 8384 KPAG
 CASING PRES : 0 KPAG SHUT-IN TIME : FEB. 10 2310h. 1981
 RUN DEPTH TOP CF : 1381.7 ON BOTTOM/OFF BOTTOM : 13:46 - 13:51
 TEMPERATURE AT RUN DEPTH : 55.6 C SURFACE TEMPERATURE :
 GRAD. AT RUN DEPTH TOP : 1.416 PRES. AT MID-POINT OF PERF. : 9510.1
 PRES. AT RUN DEPTH TOP : 9507.4 DATUM DEPTH PRESS. : 0.0

NOTE : All above units in metric (Depth in metres cf; Pressure in KPAG)

ELEMENT SERIAL NO. : 18121N
 RANGE : 0 - 16200 CLOCK RANGE : 3 HOURS
 CAL. EQUATION : $320.81 * Defl. + 10.17$ LATEST CALIBRATION : 19/11/80

TOP RECORDER DEPTH (m-cf)	DEFLECTION MM	CALCULATED PRESSURE KPAG	CORRECTION P + PC KPAG	CORRECTED PRESSURE KPAG	GRADIENT KPAG/M
-1.8	26.047	8366.2	1.0	8367.2	0.000
607.8	27.640	8877.3	-0.3	8877.0	.036
1217.4	29.147	9360.7	-1.5	9359.2	.791
1290.2	29.333	9420.4	-1.7	9418.7	.818
1320.7	29.401	9442.2	-1.7	9440.5	.713
1351.2	29.475	9465.9	-1.8	9464.2	.776
1381.7	29.610	9509.3	-1.9	9507.4	1.416

REMARKS :

NO TOP CHART DUE TO CLOCK FAILURE.

SURVEY COMPANY : ALMECH SUBSURFACE TOOLS (1976) LTD. TEST BY : D.B.

INTERPRETATION BY : E. S. KYLE INSTRUMENT LTD.

COMPANY : PARAMOUNT RESOURCES LTD.
WELL : PARAMOUNT H.B. J-62
LOCATION : J-62
DATE : FEBRUARY 16, 1981.
GAUGE : 18121N

