

NORTH PAARATTE 5

PRODUCTION TEST REPORT

*Prepared by: Joe Parvar
September 1999*

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- Attachment A Surface and Downhole Data
- Attachment B Gas Composition Data

INTRODUCTION

North Paaratte 5 was spudded on 22 March 1999. North Paaratte Gas Field is located within the production licence PPL 1 in Otway Basin in Western Victoria (Figure 1). North Paaratte 5 successfully encountered a 25 metre gas column within the Waarre "C" unit (Figure 2). The well intersected a gas water level at 1548.5 mkb (1354.3 TVD SS) suggesting that the contact has risen by 10.7 metres (Figure 3 shows a composite log display of the well). Figure 4 shows the field depth structure map.

The well reached a total depth of 1603.0 mkb (MD) and was cased with a 7", 26.0 ppf string (plugged back at 1580.5 mkb). North Paaratte 5 was completed with a packerless string as a gas producer in early April 1999. The completion string is a 4 ½", EUE, 12.7 ppf, J55 tubing (Figure 5). ~~Figure 6 illustrates the wellhead schematic.~~

The interval between 1521.5 to 1527.5 mkb was perforated under balanced with a 4 ½" TCP gun (12 spf, 45 degree phasing and 21.3 grams charges).

During a post completion clean up flow the well flowed for 3 hours at a rate of 15.0 mmscf/day at a flowing wellhead pressure of 1490 psig on 40/64" choke.

SUMMARY

Interpretation of the test indicates the following parameters for North Paaratte 5:

Flow capacity		= 226800.0 md.ft
Ave. Permeability		= 2800.0 md
Total skin		= 42.0
Mechanical skin		= 8.6
Rate dependent skin coefficient		= 0.00283 / MSCFD
Distance to barrier		= 276.0 ft
Reservoir pressure	- (gauge depth)	= 1915.9 psia
	- (top perforation)	= 1945.3 psia
AOF		= 400.0 MMSCFD

DISCUSSION

A production test comprised of main flow, main build-up and a four points back pressure test (multi-rates test) was conducted at North Paaratte 5 (after the completion of North Paaratte 4 testing). Figure 6 shows a graphical presentation of the test plan.

The objectives of the North Paaratte 5 Production test were as follows:

- To determine reservoir parameters (permeability, skin, etc).
- To determine reservoir pressure.
- To determine well productivity and deliverability constraints.
- To collect fluid samples for analysis.
- To detect reservoir heterogeneities and boundaries.

A PRODUCTION TEST DETAILS

Testing equipment and personnel were mobilised to North Paaratte 4 and 5 sites on 15 April 1999 to carry out the planned test programs. After the completion of North Paaratte 4 production test, the testing equipment was lined up to conduct North Paaratte 5 production test. The well had been cleaned up on 1 April 1999 during a 3 hour clean-up flow after the perforation.

Two quartz gauges (EMP-Q2123 top gauge and EMPQ-2209 bottom gauge) were hung at XN nipple located at 1498.3 mkb (1308.7 TVD-MSS) and used to measure the bottom hole pressure.

A.1 Main Flow and Build-up Tests

The well was opened on a $40/60$ " choke on 19 April 1999 but the choke was changed to $32/64$ " after 0.2 hours due to unfavourable wind direction. The flow period was cut back to 2.4 hours, from the planned duration of 6.0 hours, in order to meet the time constraints of the day-light flow. The well flowed through a heater and test separator before being directed to flare pit. During the main flow period the well flowed gas a rate of 11.8 mmscf/day. The average condensate and water production ratios during the main flow were 1.5 bbls/mmscf and 0.64 bbls/mmscf respectively. The final flowing wellhead pressure and temperature were 1675.0 psig and 87.8°F respectively. The final recorded flowing bottom hole pressure was 1907.7 psia.

The well was shut-in for 15.53 hours (overnight) before being reopened for a back pressure test. During the shut-in period the bottom hole pressure rose to 1915.9 psia.

A copy of the Expertest report (surface and down hole data) is in Attachment A. Figure 7 shows the well performance during the production test while Figure 8 shows the bottom hole pressure chart recorded by the quartz gauges. A summary of the production test result is presented in table 1.

A.2 Back Pressure Test

A back pressure test comprised of 4 two hour flow periods followed by an eight hour shut-in duration was conducted at North Paaratte 5 on 20 April 1999.

Table 1 shows a summary of the test results. Figure 7 shows the well production performance (gas flow rate, condensate ratio, water ratio and wellhead pressure) during the test. Figure 8 shows an overview of the test and pressure chart.

A copy of the Expertest report (surface and down hole data) is in Attachment A.

A.2.1 First Flow

The well was opened on a $40/64$ " and flowed through a heater and test separator to fare pit. During a 2 hour flow period the average gas production rate was 17.0 mmscf/day. The average condensate and water production ratios were 0.6 bbls/mmscf and 0.4 bbls/mmscf respectively.

The wellhead flowing pressure and temperature recorded towards the end of the 1st flow period were 1642.0 psig and 87.8°F respectively. The final flowing bottom hole pressure was 1902.7 psia.

A.2.2 Second Flow

The well flowed on a $32/64$ " inch choke through a heater and test separator for a period of 2 hours. During the second flow period the well flowed gas a rate of 12.0 mmscf/day with a condensate ratio of 1.6 bbls/mmscf. The final flowing wellhead pressure and temperature were 1677.0 psig and 87.8°F respectively. The final flowing bottom hole pressure was 1907.5 psia equivalent to a drawdown of 8.5 psi.

A.2.3 Third Flow

The well was switched to a $24/64$ " inch choke for the third 2 hour flow period. The flow was directed to a heater before passing through the test separator. The well flowed gas at a rate of 7.6 mmscf/day with a condensate ratio of 1.3 bbls/mmscf. The flowing wellhead pressure and temperature reported towards the end of the third flow period were 1699.0 psig and 86.0°F respectively. The final flowing bottom hole pressure was 1911.4 psia.

A.2.4 Fourth Flow

After completion of the third flow period the well was switched to a $16/64$ inch choke for a 2 hour flow duration. During the fourth flow period the well flowed gas at a rate of 3.7 mmscf/day. The final flowing wellhead pressure and temperature were 1706.0 psig and 82.4°F respectively. The final flowing bottom hole pressure was 1913.8 psia indicating a draw down of only 2 psi.

After the completion of the fourth flow period the well was shut-in for a build-up test. The total shut-in duration was 14.5 hours during which the wellhead shut-in pressure increased to 1709. The final recorded bottom hole pressure was 1915.4 psia.

B Reservoir Fluid Properties

Two pairs of pressurised gas and condensate samples were taken from the separator lines during the first and third flow periods. These samples have been analysed by Amdel and the details are documented in Attachment B. A summary of gas composition is presented in the following table.

Gas Composition of North Paaratte 5		
Components	First Flow (mole %)	Third Flow (mole%)
C ₁	95.96	95.93
C ₂	1.38	1.39
C ₃	0.04	0.04
IC ₄	0.05	0.05
NC ₄	0.00	0.00
IC ₅	0.01	0.01
NC ₅	0.00	0.00
C ₆	0.06	0.06
C ₇	0.19	0.19
C ₈₊	0.27	0.24
N ₂	1.68	1.74
CO ₂	0.35	0.35
TOTAL	100.00	100.00

C Test Interpretation

Two quartz gauges (EMP-Q 2209 bottom gauge and EMP-Q 2123 top gauge) were used to monitor the bottom hole pressure and temperature (Figure 9). While both the gauges functioned through out the test, the bottom gauge data (EMP-Q 2123) appears to be more stabilised and less noisy. Data from the top gauge has been used for interpretation.

C.1 Reservoir Parameters

Figure 10 to 19 show the diagnostic plots and interpretation of the transient tests.

C.1.1 Main Build up Test

- Log-log Derivative Plot of the first build up test (Figure 10) shows a short period of radial flow which appeared to be disturbed by a nearby fault (permeability barrier). The late sharp change seen on the derivative plot was not detected during the final build up test and it could be due to a non-reservoir factor.

Based on the interpretation of the log-log derivative plot the following reservoir parameters have been estimated.

Flow capacity = 234880.0 md.ft
Skin factor = 43.9

- Radial flow plot of the first build up test (Figure 11) reflects the Horner method analysis of the main build up test. Based on this analysis the following reservoir parameters have been estimated.

Flow capacity = 227534.0 md.ft
Skin factor = 42.3
Distance to nearest fault = 276.0 ft
Reservoir pressure at gauge depth = 1915.7 psia

Figure 12 shows the Cartesian plot of the first build up test

- The Pan System Simulation method was used to match the main build up test using the following parameters.

Flow capacity = 226800.0 md.ft
(permeability = 2800.0 md)
Skin factor = 42.0
Distance to nearest fault = 390.0 ft
Reservoir pressure at gauge depth = 1915.7 psia

Figure 13 (log-log derivative plot) and Figure 14 (Radial Flow Plot) show the quality of the matched model.

C.1.2 Second Build Up Test

- Figure 15 shows the log-log derivative analysis of the second build up test which suggests a flow capacity of 223072.0 md.ft and skin of 18.8.
- Figure 16 (Radial Flow Plot) demonstrates a Horner method analysis of the second build up test which suggests a flow capacity of 229866.0 md.ft and skin of 19.5.
- The Pan System Simulation method was used to match the second build up test using a flow capacity of 226800.0 md.ft, a skin of 19.2 and a distance to barrier equal to 310.0 md.ft (Figure 17).

C.1.3 Multi Drawdown Tests

Figure 18 and Figure 19 show the log-log derivative and radial plots of the Multi Drawdown tests.

C.1.4 Summary of Results

Table 2 summarises the results of the test interpretation. A summary of the recommended parameters is shown in the following table.

Flow capacity	= 226800.0 md.ft
Permeability	= 2800.0 md (using net thickness of 27.7 meter)
Total skin factor (1 st build up)	= 42.0
Mechanical skin factor	= 8.6
Rate dependent skin coefficient	= 0.00283 / MSCFD
Distance to barrier	= 276.0 ft
Reservoir pressure (at gauge depth)	= 1915.9 psia
P _r at top of the perforation	= 1945.3 psia
(using a liquid gradient of 0.4 ³ psi/ft based on two stop survey conducted while POOH)	
P _r at 1366.5 mSS	= 1950.0 psia

C.2 Well Deliverability

The back pressure test (Multi-rate test) data was used to generate a sand-face C and N plot as shown on Figure 20. The generated plot was used and a line of best fit was drawn through the points. Based on this line, the deliverability constants C and N were estimated to be 0.0057 MMSCF/D/PSIA² and 0.7379 respectively. An AOF of 400.0 MMSCF/D was also estimated using the calculated deliverability parameters.

NORTH PAARATTE #5
PRODUCTION TEST SUMMARY
1521.5 - 1527.5 M KB

<u>PERIODS</u>	<u>DURATION</u> <u>HRS</u>	<u>CHOKE</u> <u>SIZE</u> <u>INCHES</u>	<u>AVERAGE. F</u> <u>GAS</u> <u>MMSCF/D</u>	<u>COND.</u> <u>RATIO</u> <u>STB/MMSCF</u>	<u>WAT/GAS</u> <u>RATIO</u> <u>BBL/MMSCF</u>	<u>FINAL</u> <u>WHP</u> <u>PSIG</u>	<u>FINAL</u> <u>WHT</u> <u>OF</u>	<u>FINAL</u> <u>BHP</u> <u>PSIA</u>
<u>PRE-TEST</u>	-	-	-	-	-	1709.0	-	1915.9
<u>MAIN FLOW</u>	2.5	32/64	11.8	1.5	0.6	1675.0	87.8	1907.7
<u>MAIN BUILD-UP</u>	15.5	-	-	-	-	1709.0	-	1915.9
<u>1ST FLOW</u>	2.0	40/64	17.0	0.6	0.4	1642.0	87.8	1902.7
<u>2ND FLOW</u>	2.0	32/64	12.0	1.6	-	1677.0	87.8	1907.5
<u>3RD FLOW</u>	2.0	24/64	7.6	1.3	-	1699.0	86.0	1911.4
<u>4TH FLOW</u>	2.0	16/64	3.7	-	-	1706.0	82.4	1913.8
<u>FINAL BUILD-UP</u>	14.5	-	-	-	-	1709.0	-	1915.4

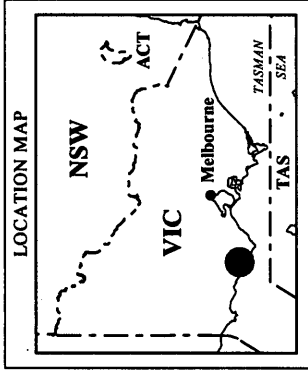
TABLE 1

NORTH PAARATTE #5
SUMMARY OF INTERPRETATIONS
1521.5 - 1527.5 M KB

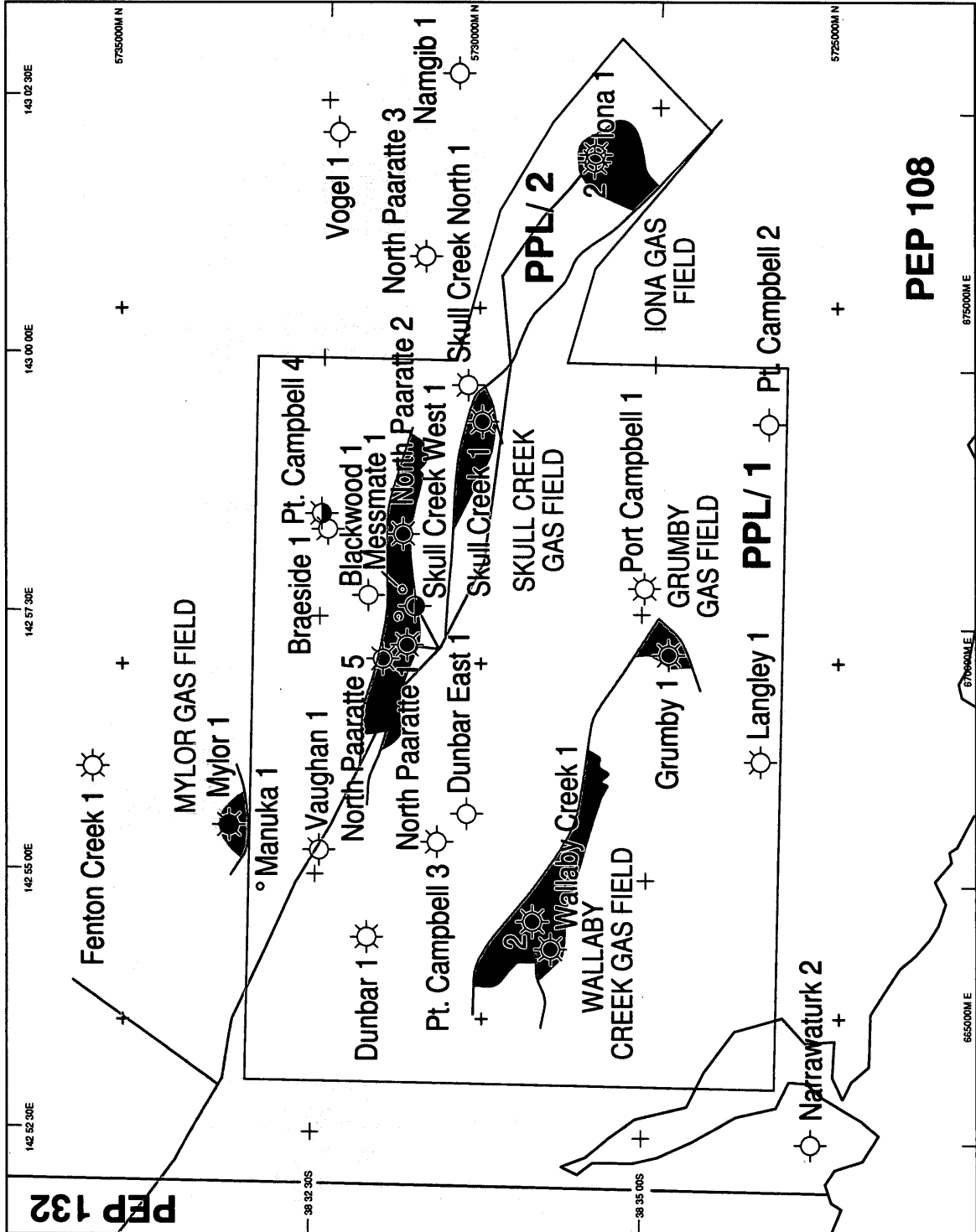
	RADIAL FLOW		Log-Log Derivative		SIMULATION METHOD		RECOMMENDED VALUE	
	BUILDUP 1	BUILDUP 2	MULTI-DRAWDOWN	BUILDUP 1	BUILDUP 2	BUILDUP 1		BUILDUP 2
FLOW CAPACITY (md.ft)	227534.0	229866.0	227812.0	234881.0	223072.0	226800.0	226800.0	<u>226800.0</u>
TOTAL SKIN	42.3	19.5	61.3	43.9	18.8	42.0	19.2	<u>42.0</u>
MECHANICAL SKIN	8.6	8.6	-	-	-	-	-	<u>8.6</u>
RES. PRESSURE (PSIA)	1915.7	1915.5	-	-	-	1915.7	1915.5	<u>1915.9</u>
DISTANCE TO BARRIER (FT)	276.0	271.0	-	-	-	390.0	310.0	<u>276.0</u>

Average permeability is estimated to be 2800.0 md assuming a net thickness of 81.0 ft.

TABLE 2

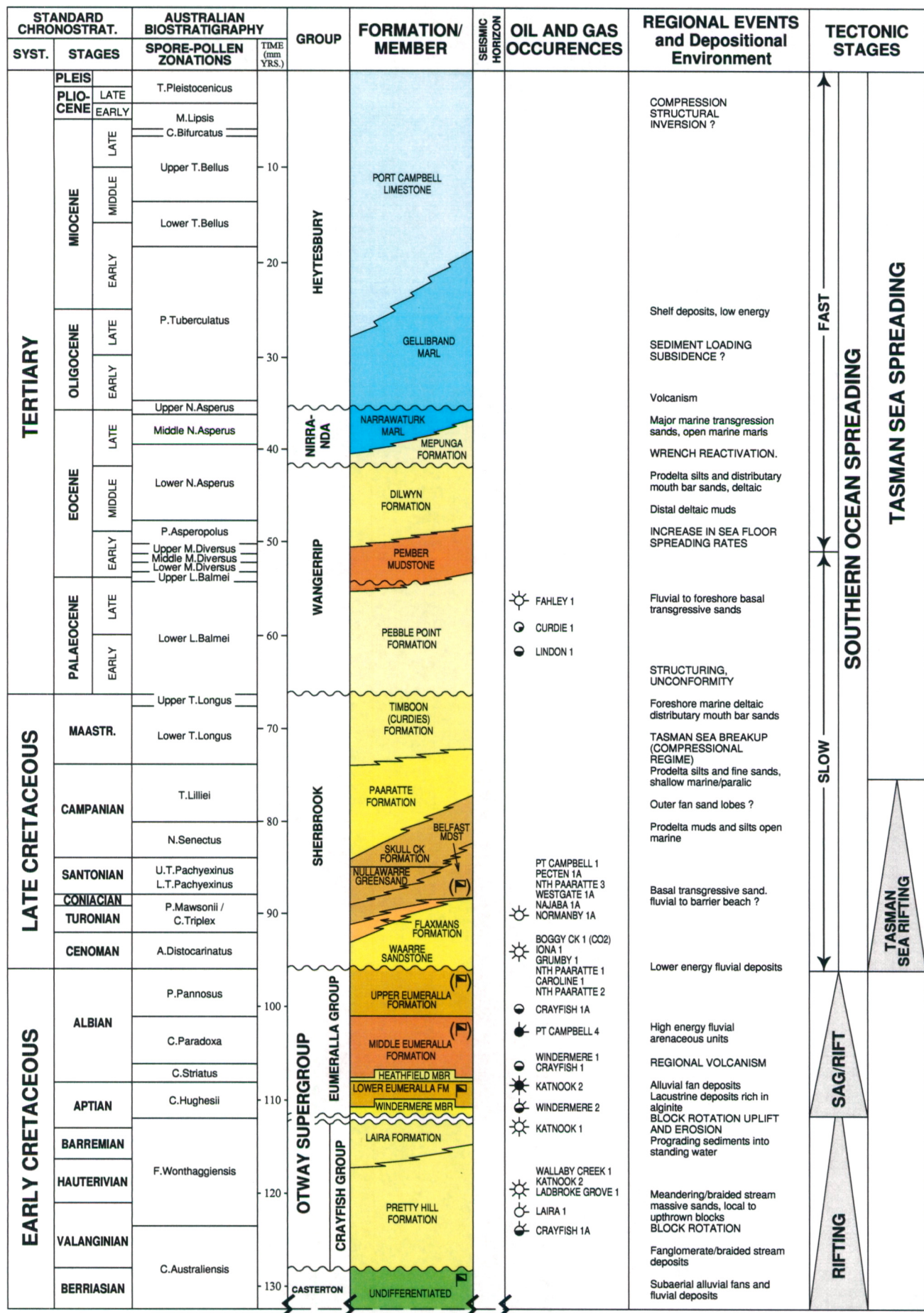


OTWAY BASIN - VICTORIA
PPL 1 - FIELDS





PEP 101/111/133, PPL 1 - OTWAY BASIN
STRATIGRAPHIC COLUMN



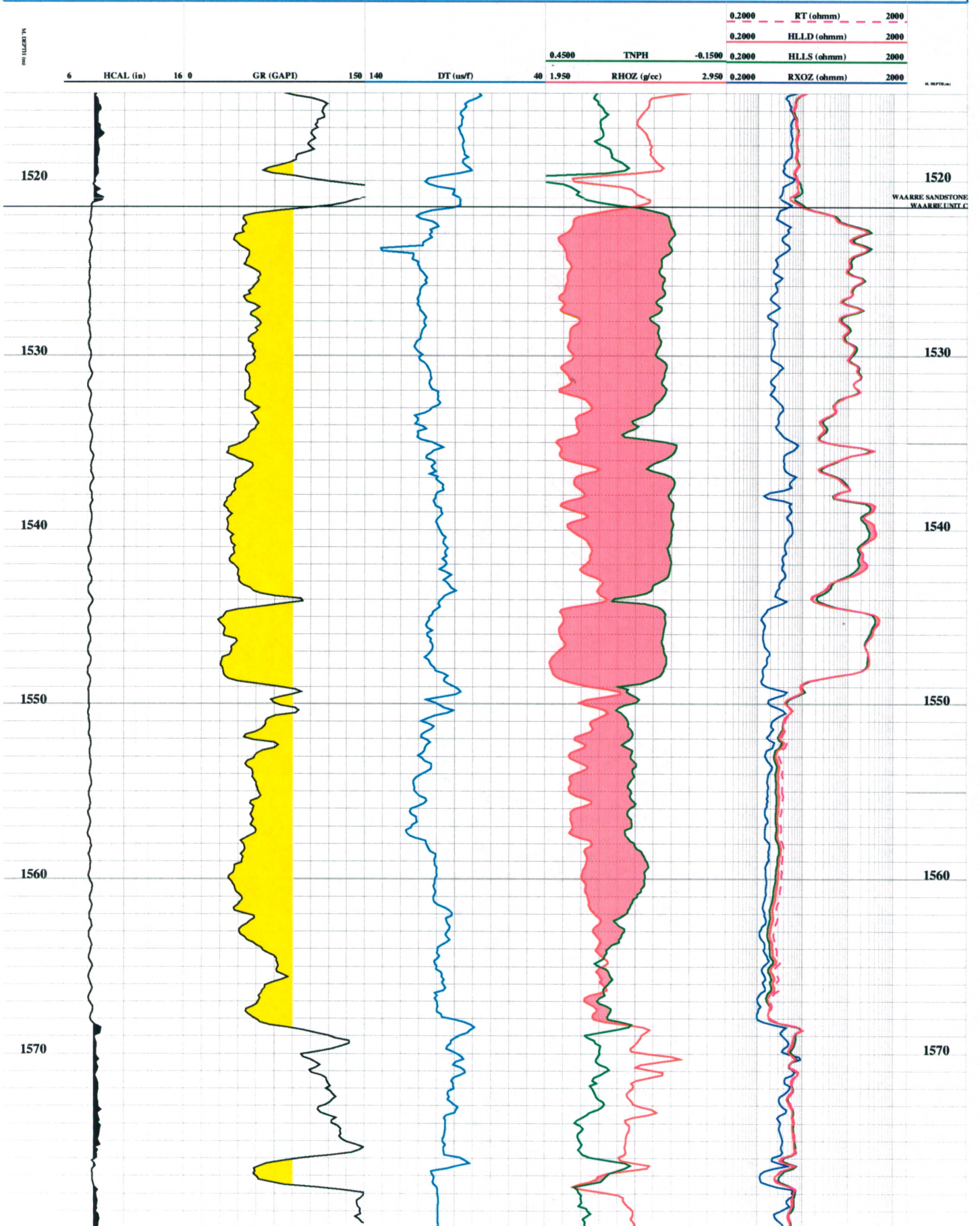
	Gas Well		Strong Oil Show		Possible contrib. Source rock
	Strong Oil Show		Weak Oil Show		Source Rock
	Weak Gas Show				

(Modified from LUXTON & EGAN, 1991)



NORTH PAARATTE 5

Fig. 3



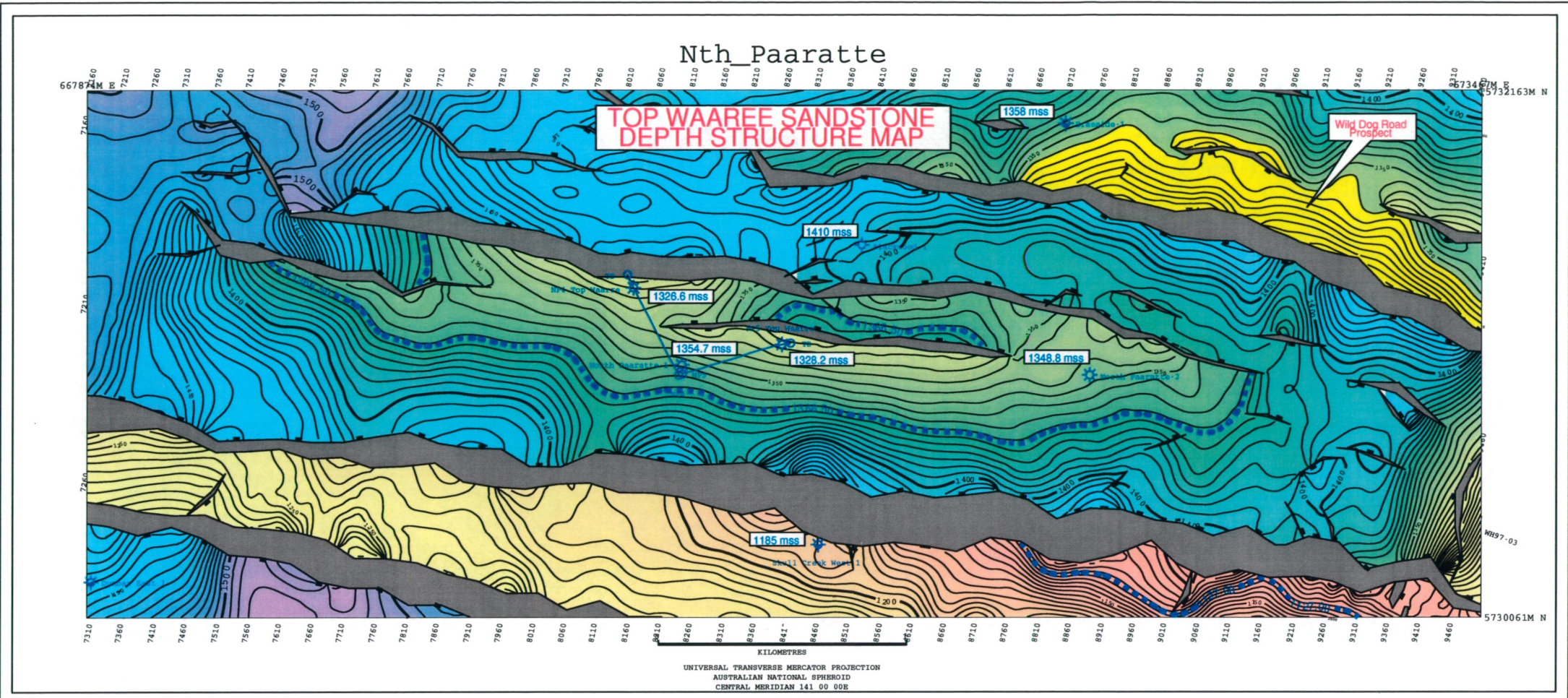


Figure 4

915077 015

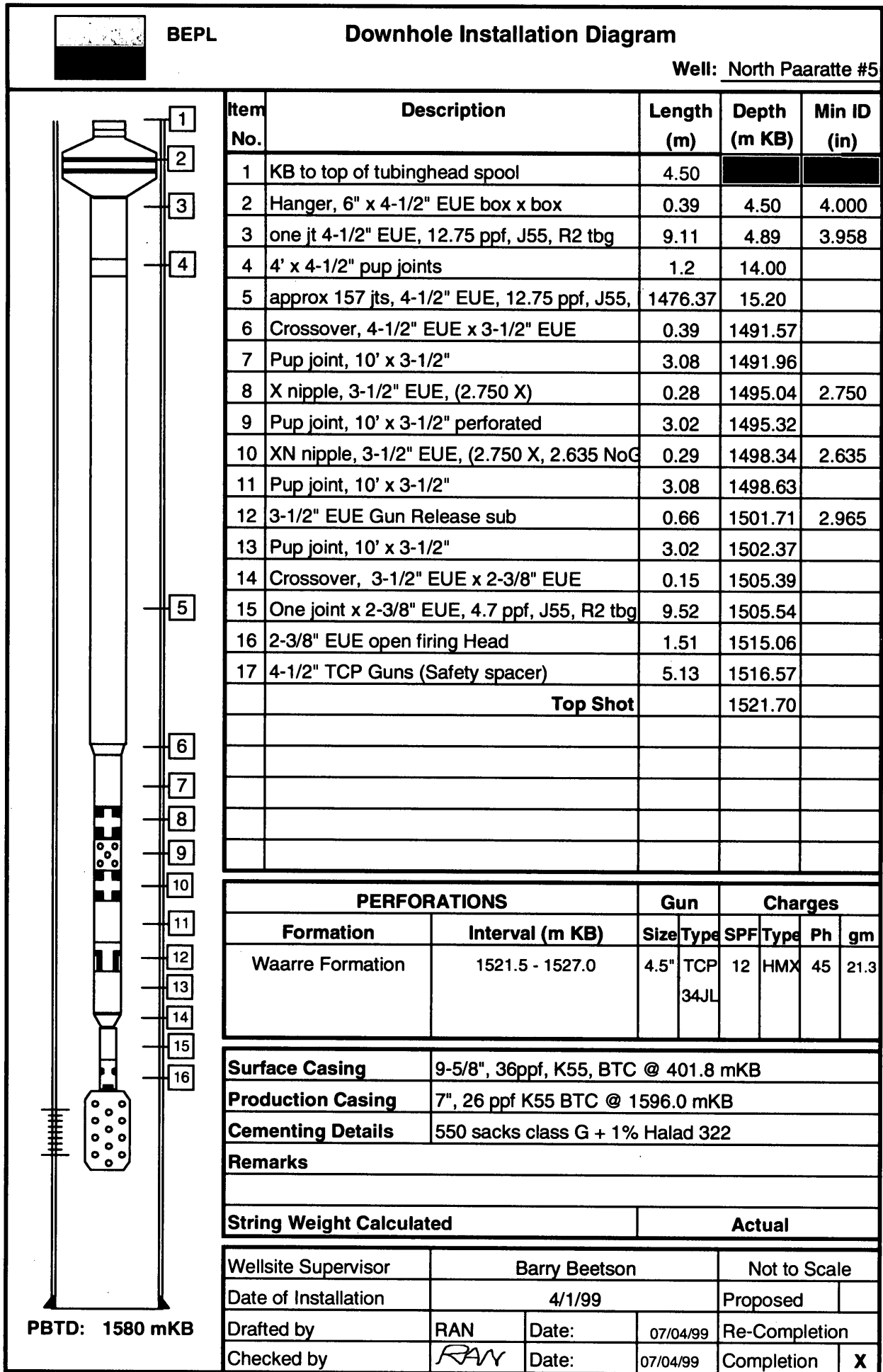


Figure 5

NORTH PAARATTE 5 PROPOSED TEST PLAN

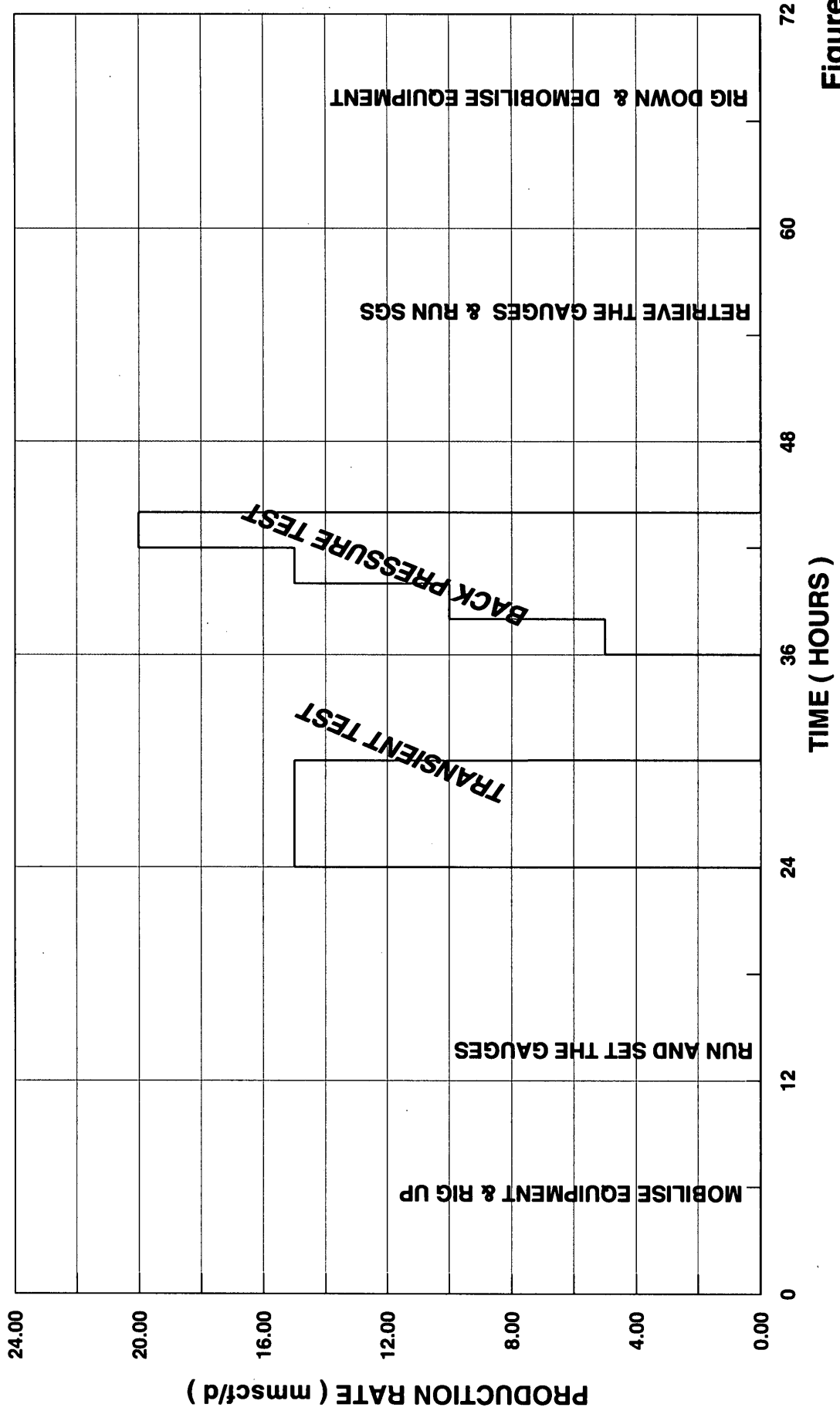


Figure 6

NP#5 PRODUCTION TEST SURFACE FLOW DATA

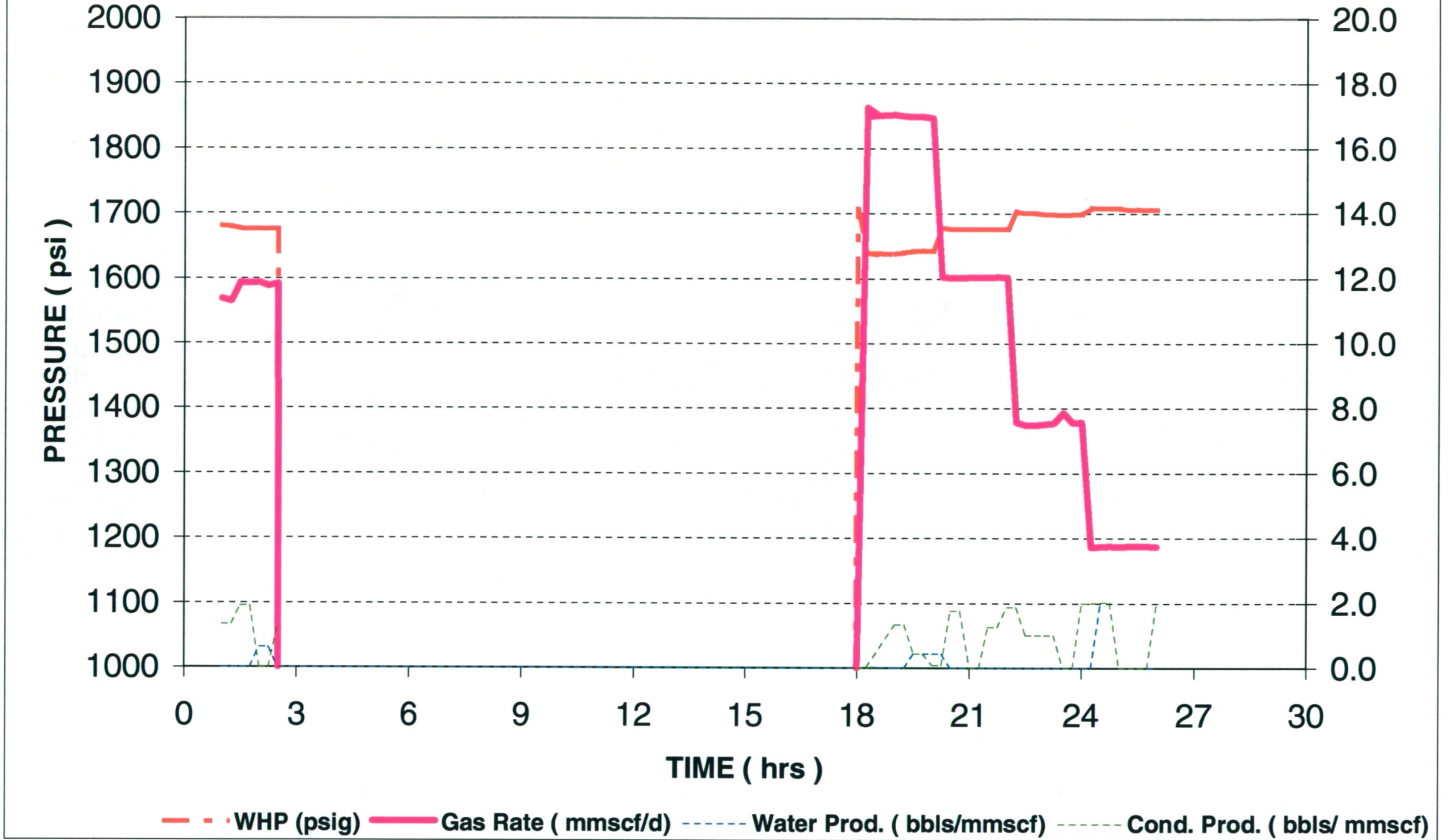


Figure 7

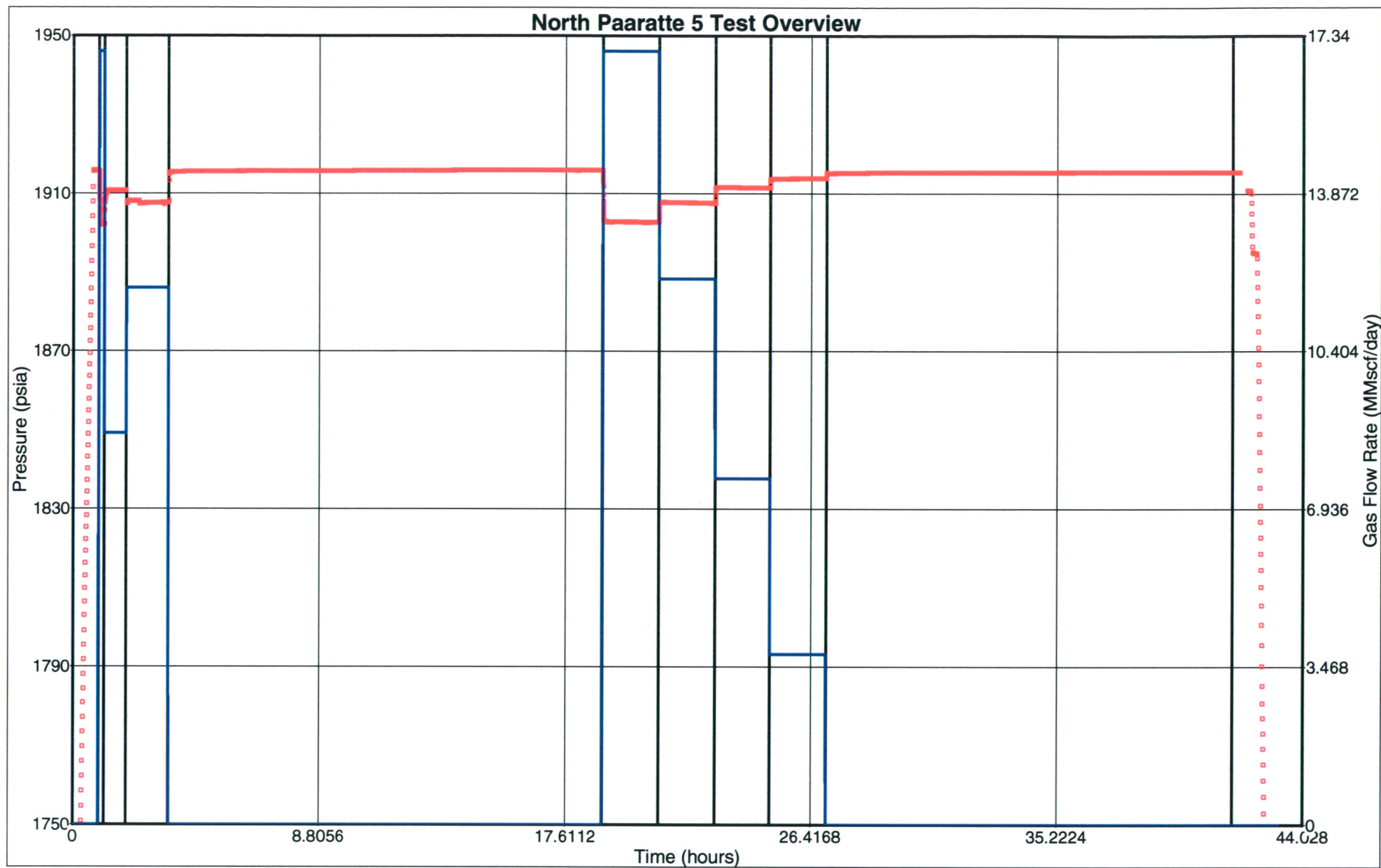


Figure 8

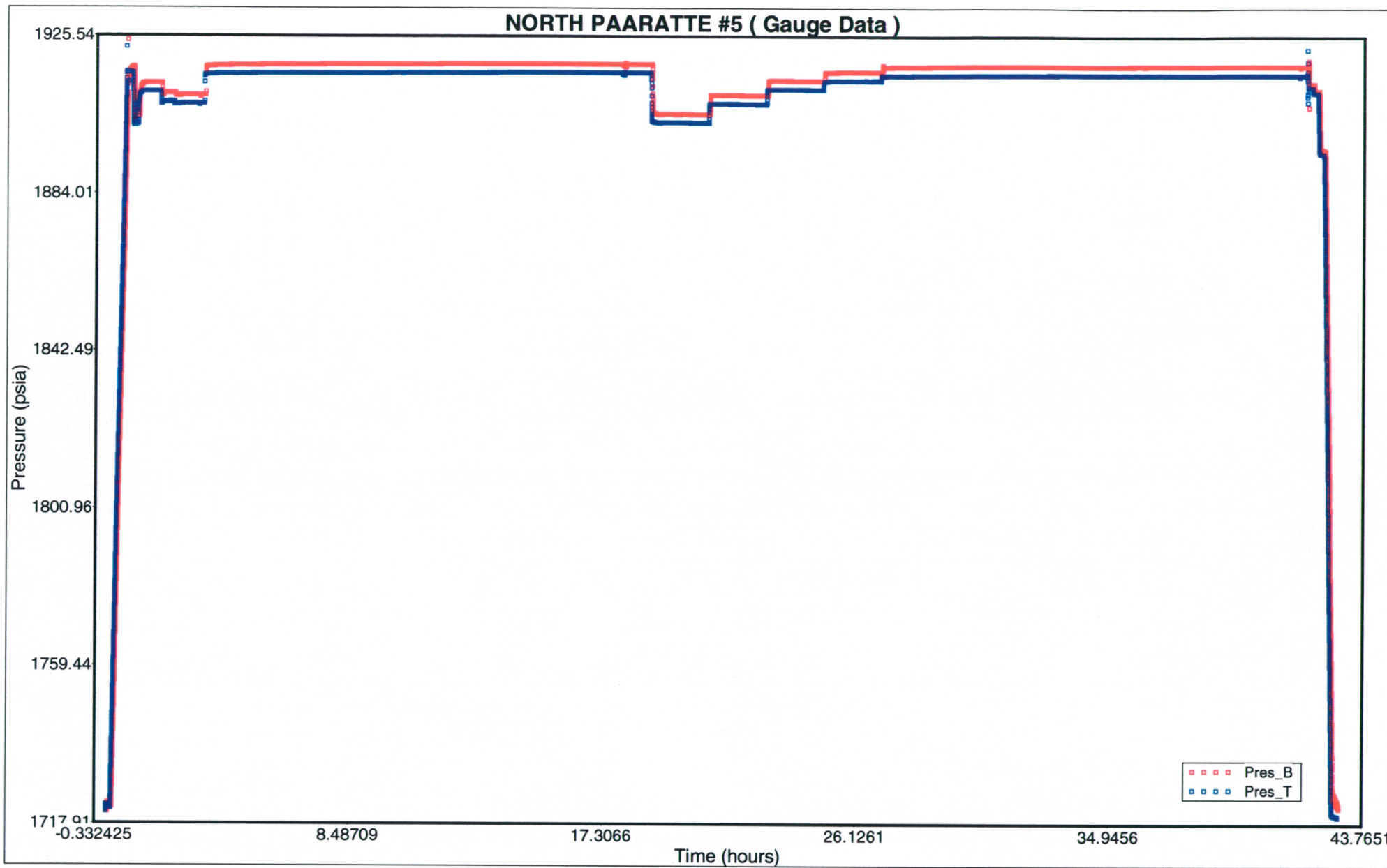


Figure 9

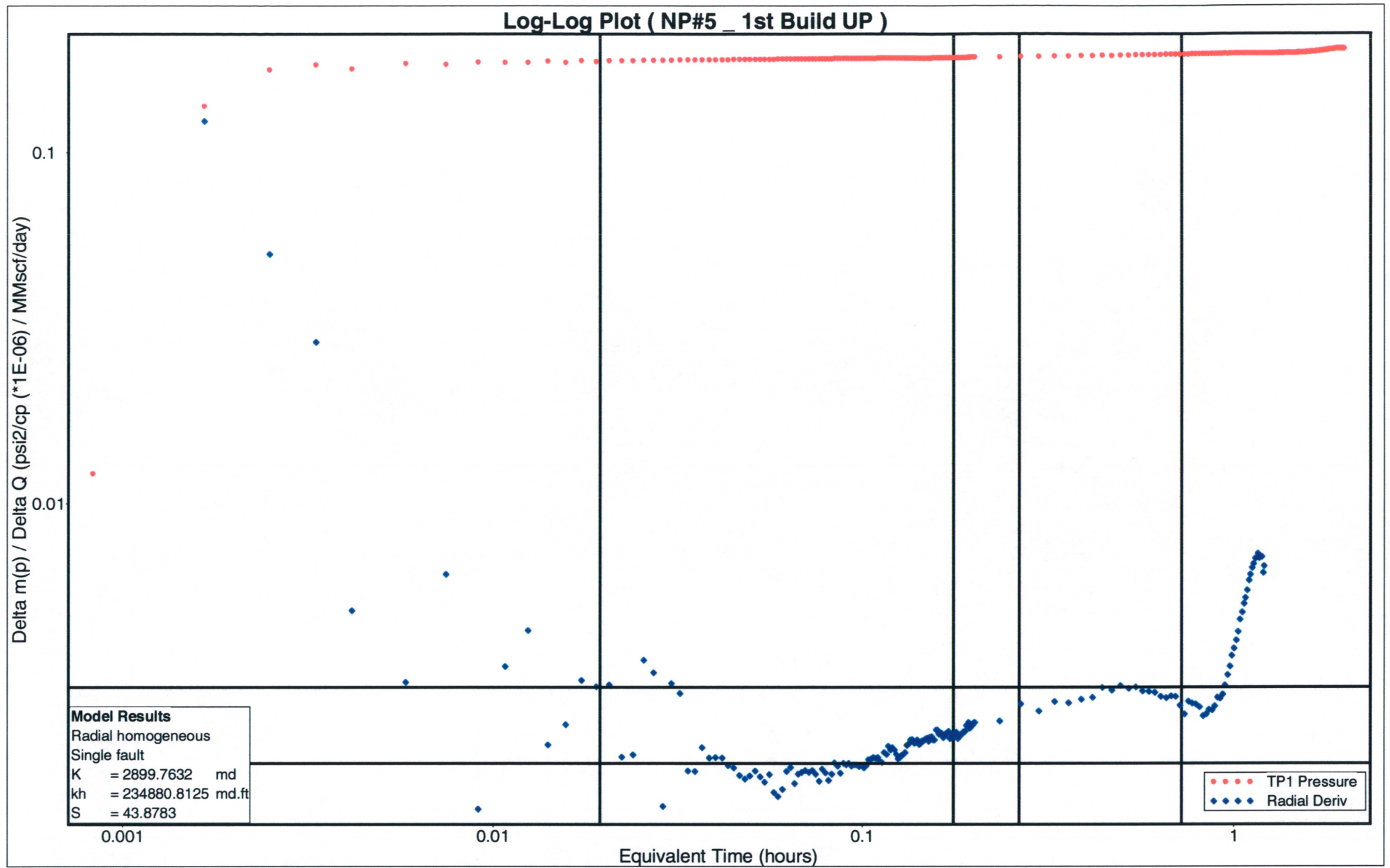


Figure 10

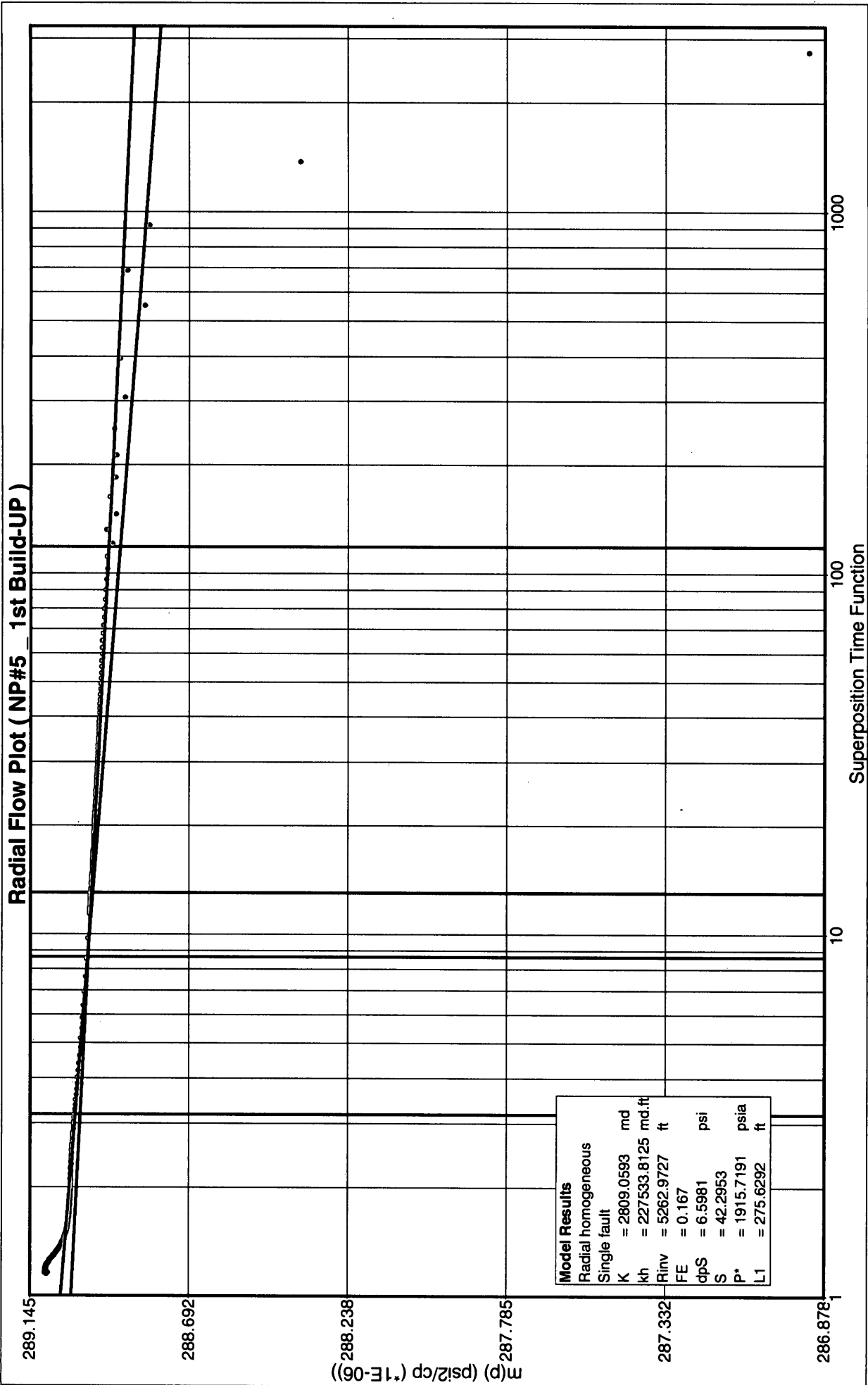


Figure 11

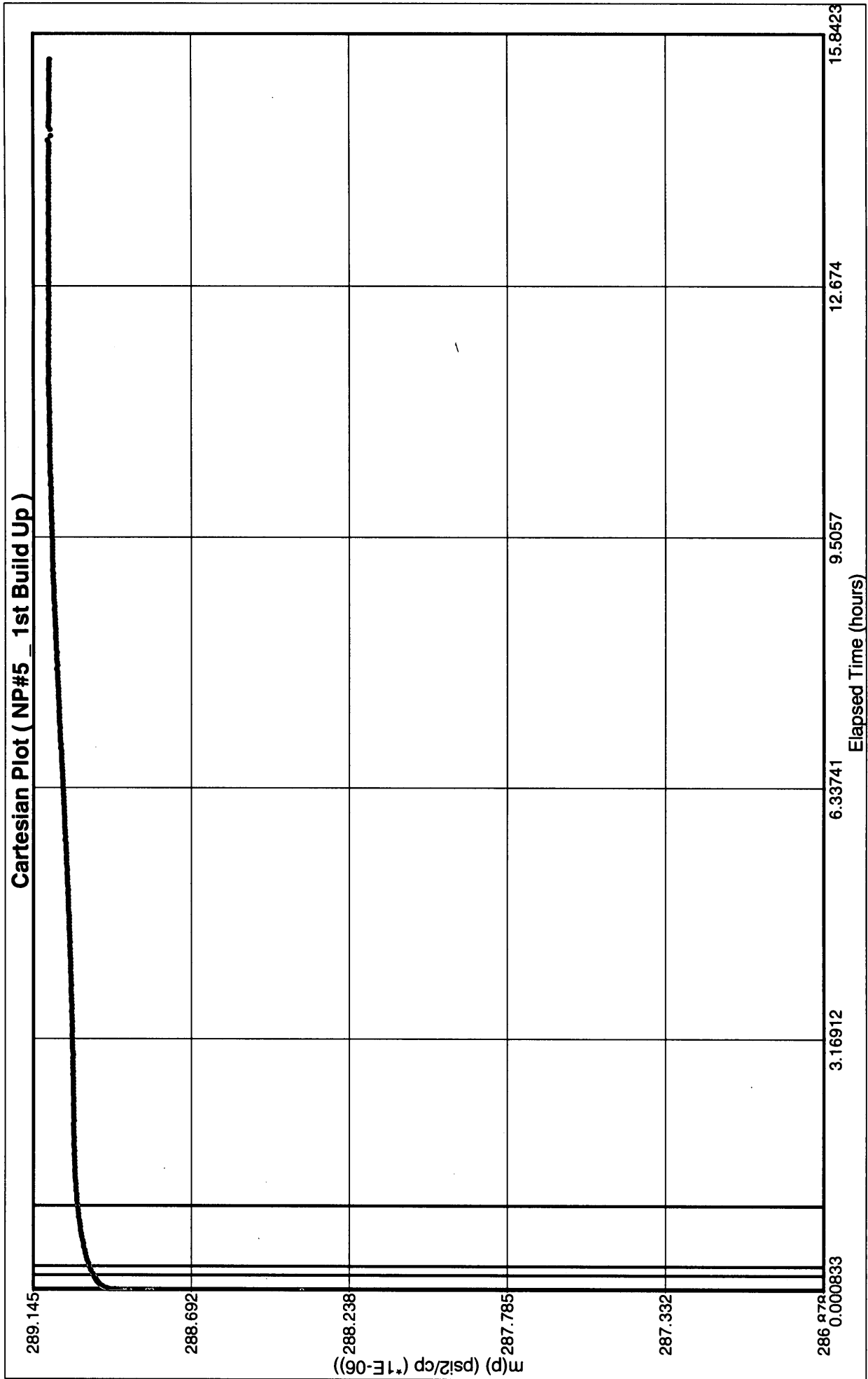


Figure 12

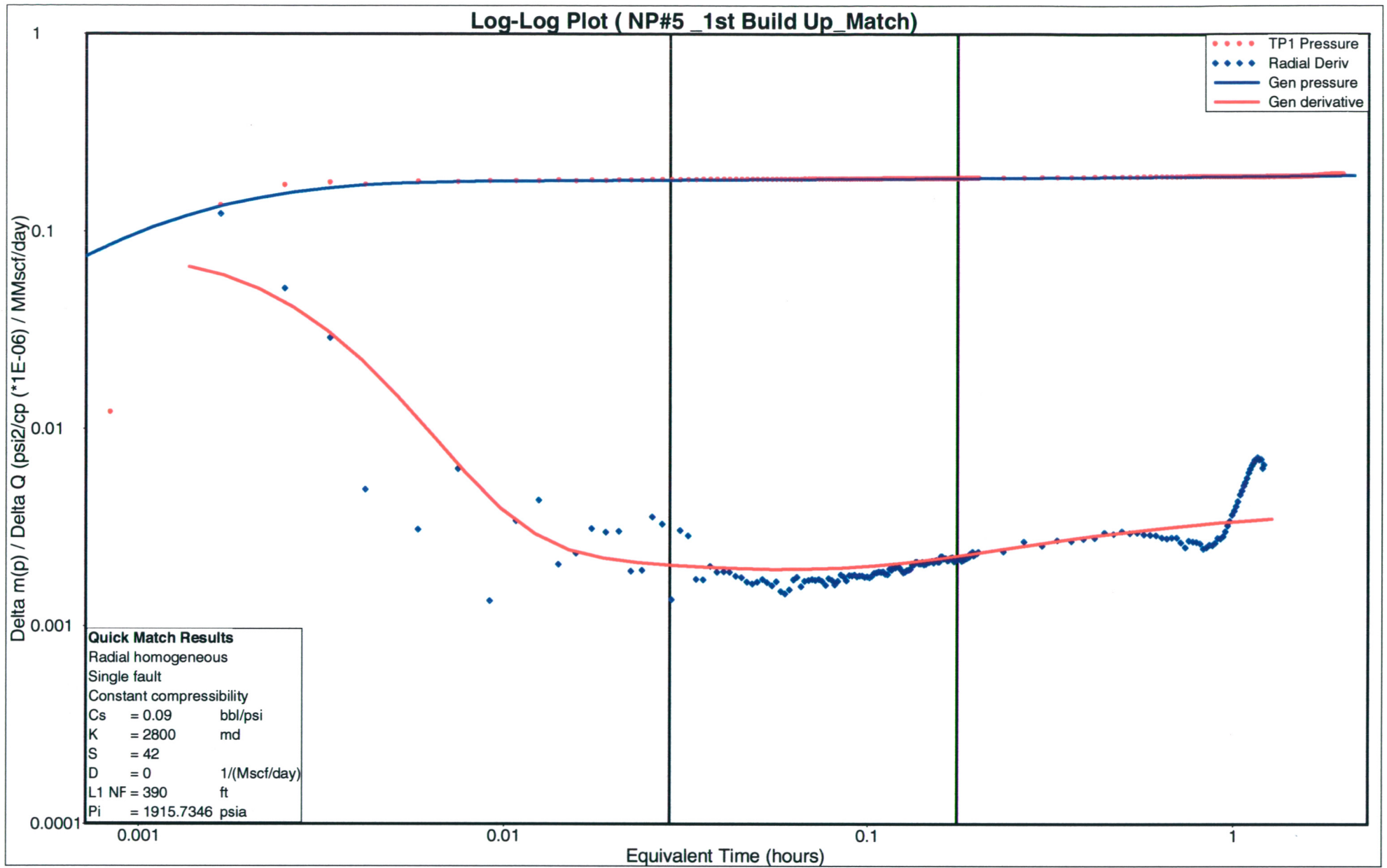


Figure 13

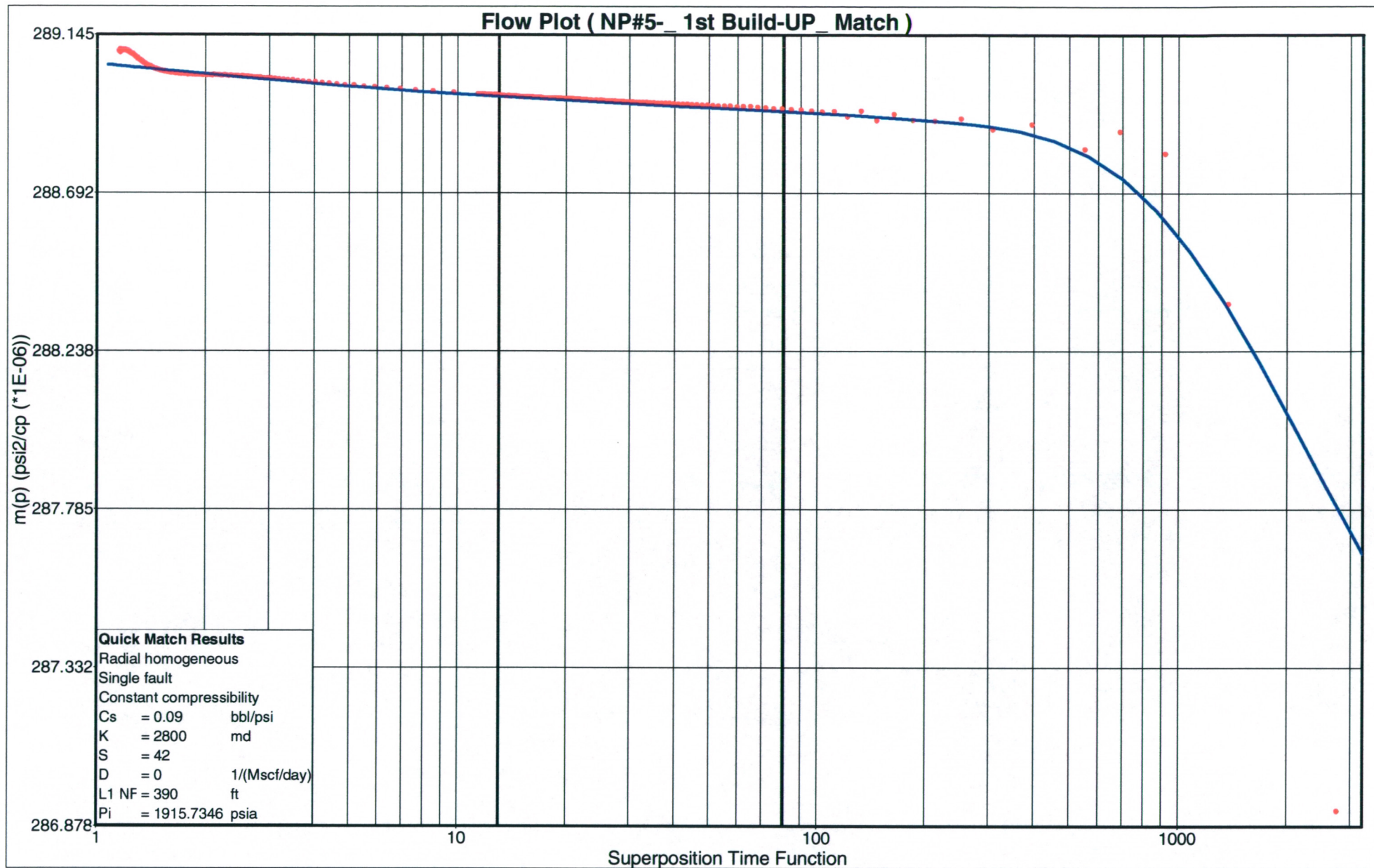


Figure 14

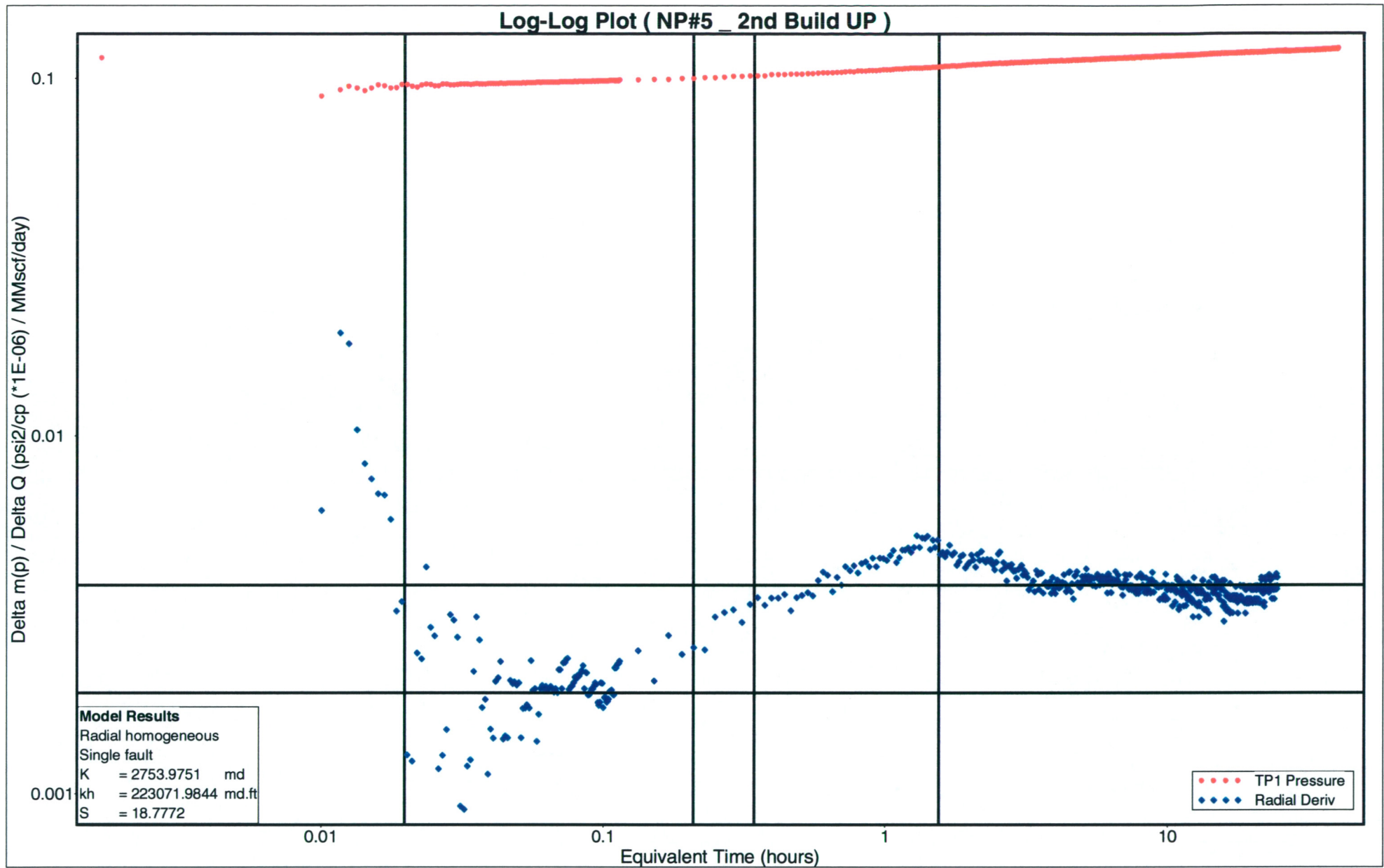


Figure 15

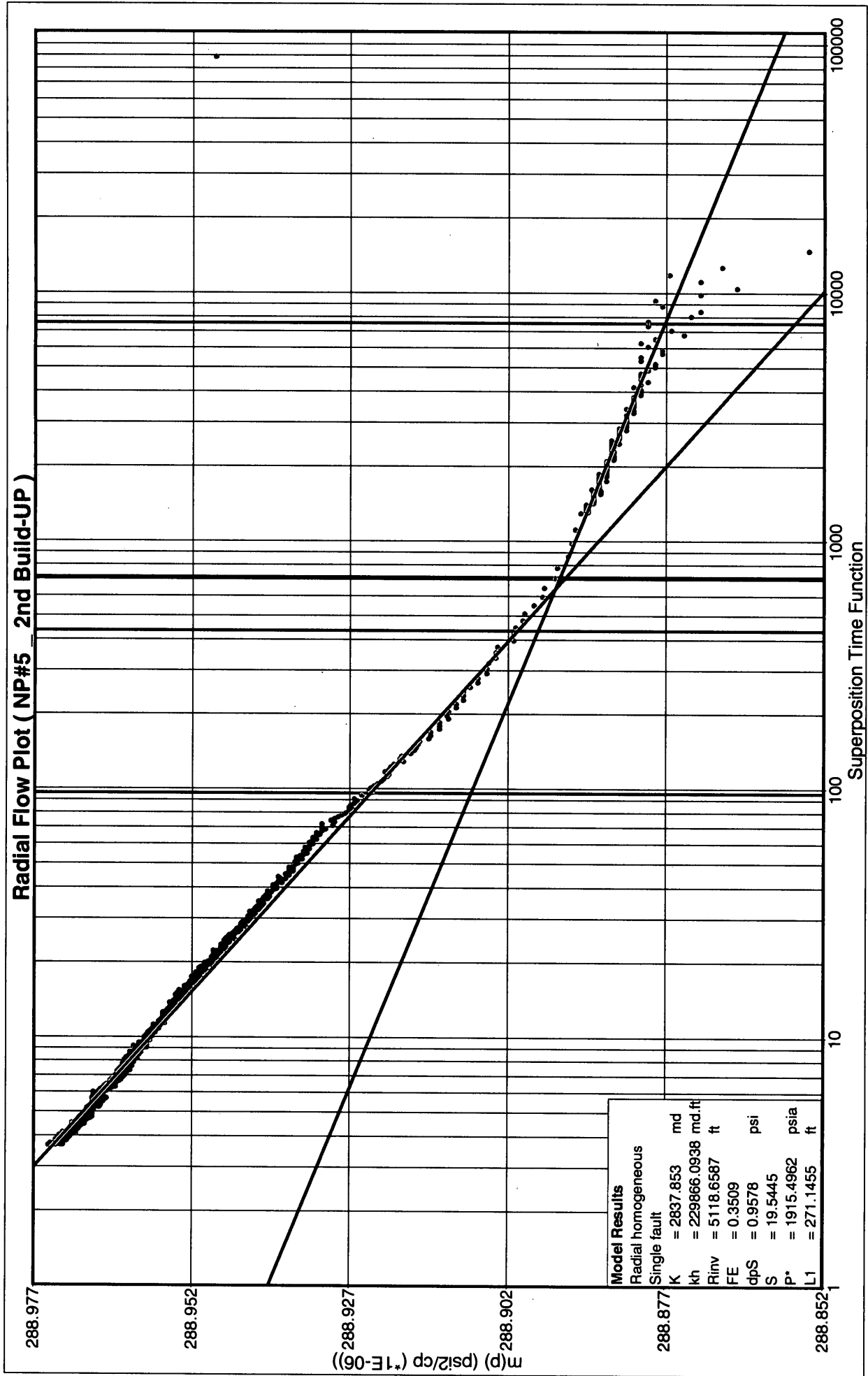


Figure 16

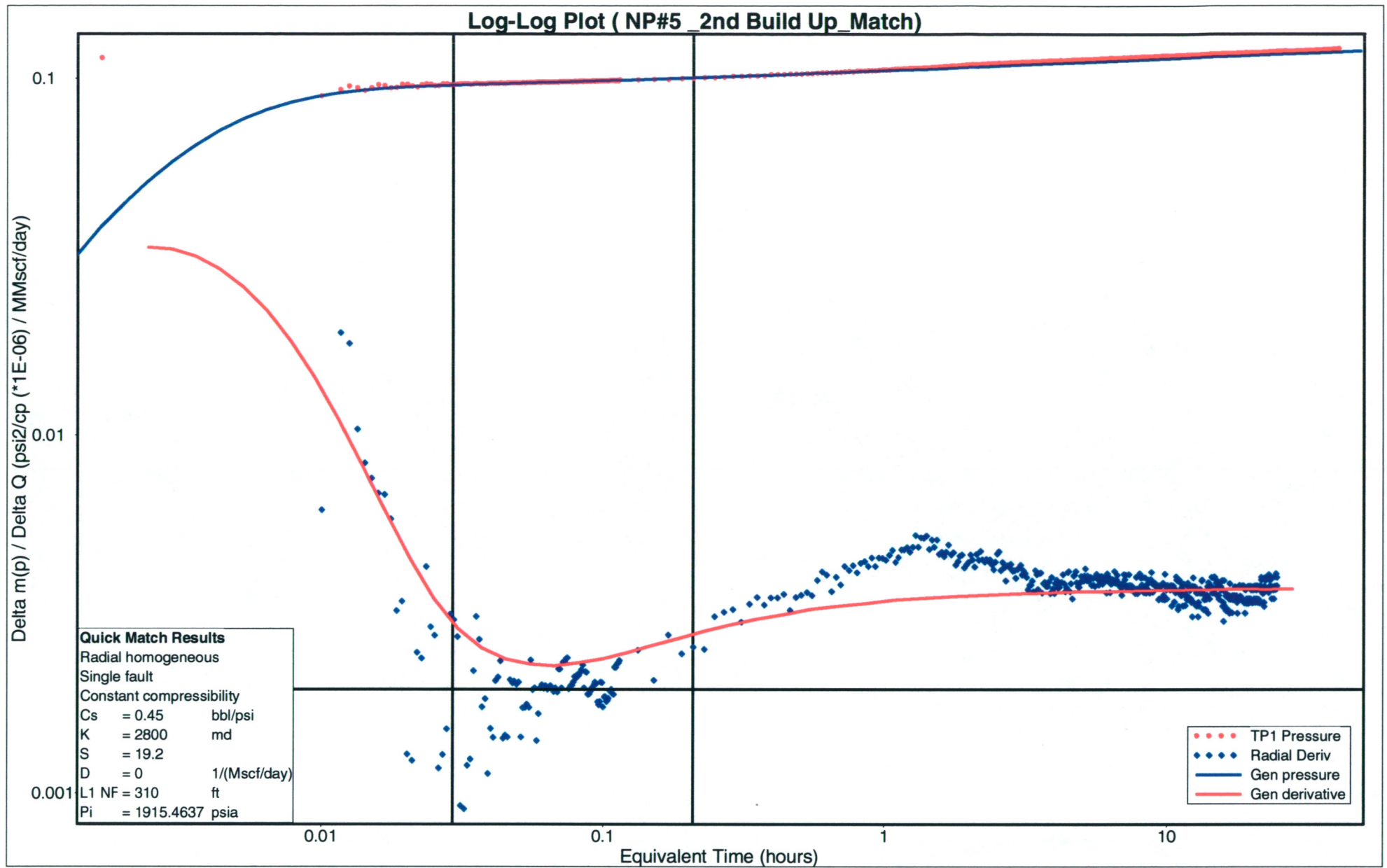


Figure 17

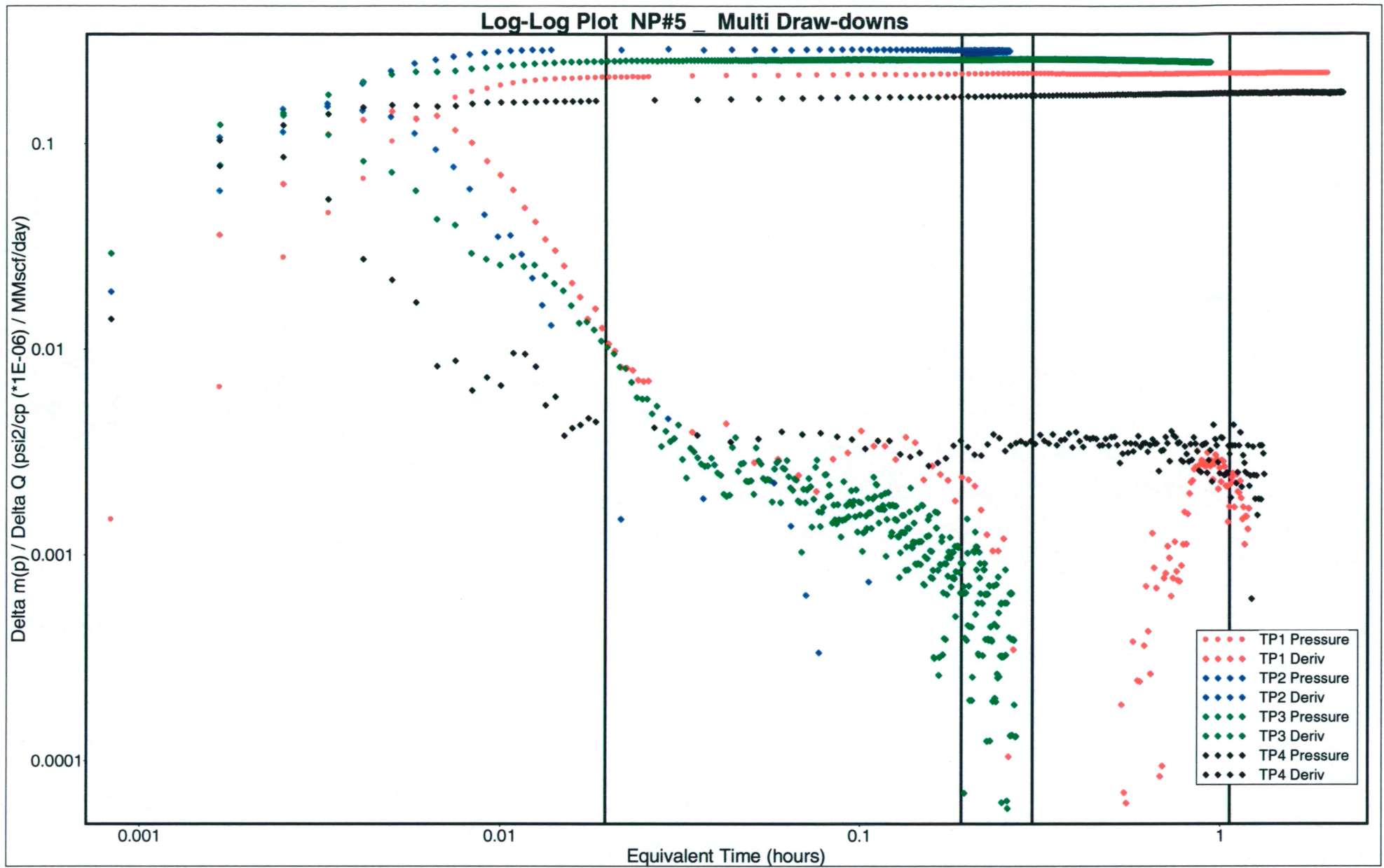


Figure 18

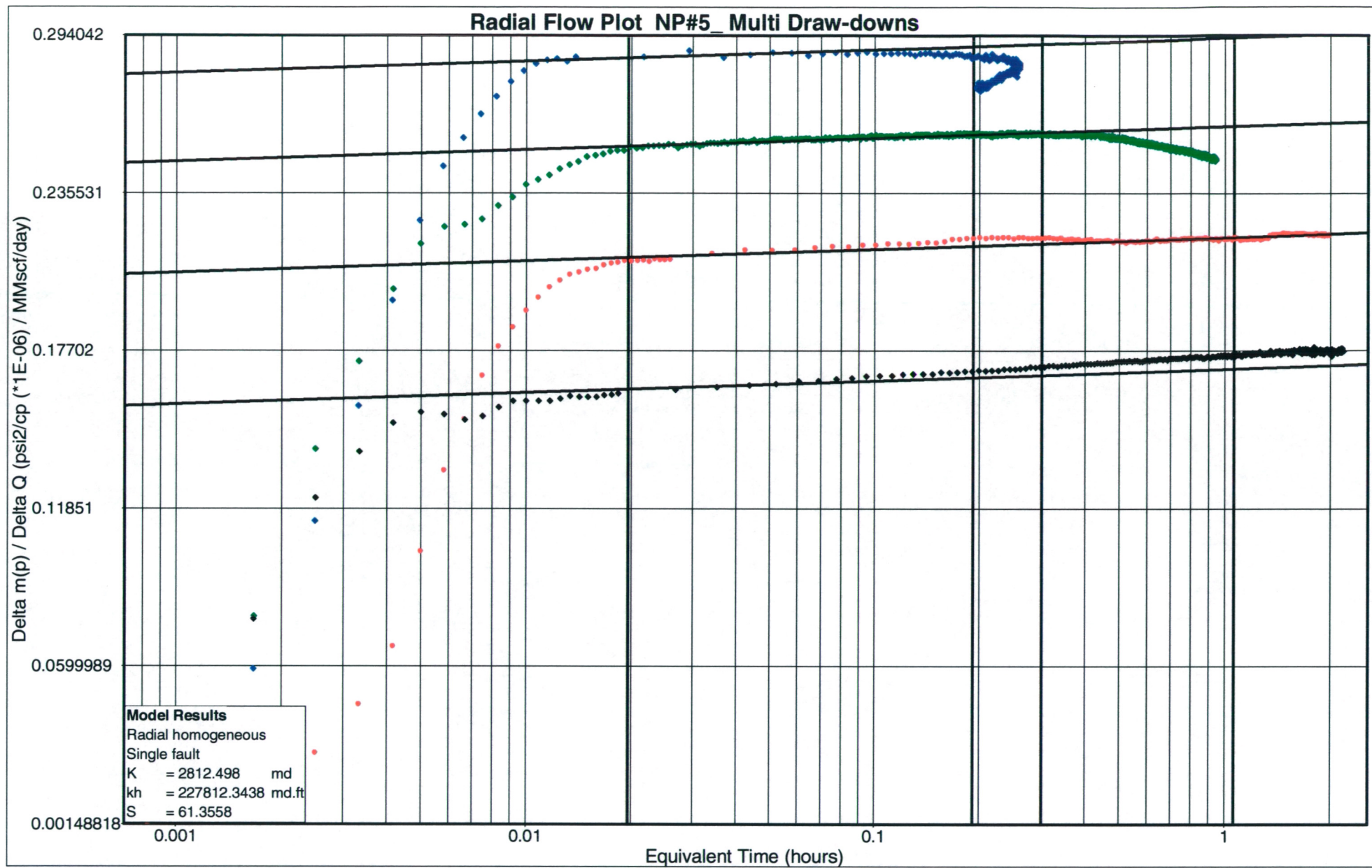


Figure 19

915077 030

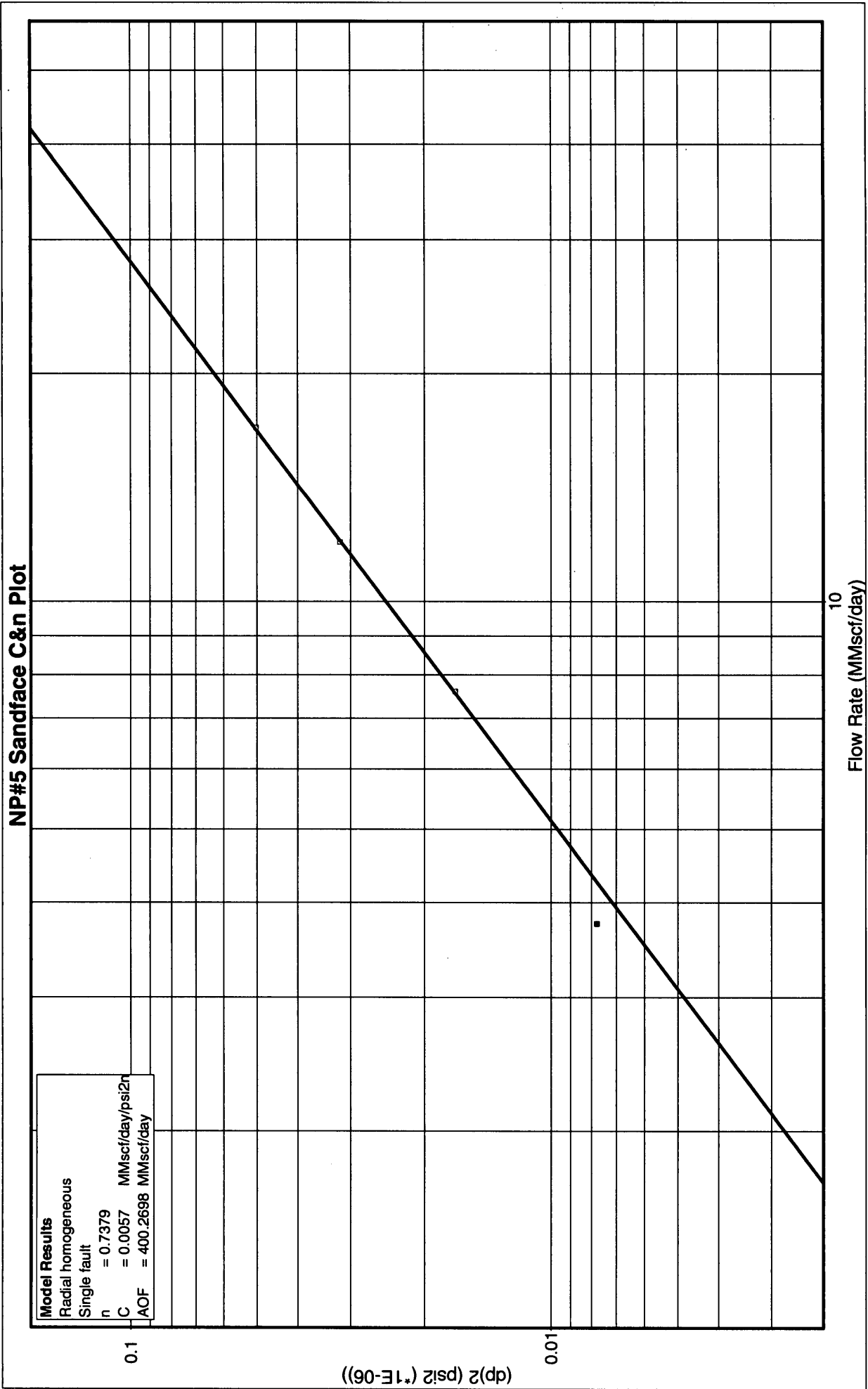
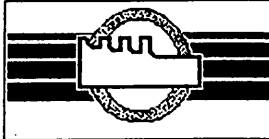


Figure 20

ATTACHMENT A
NORTH PAARATTE 5
SURFACE AND DOWNHOLE DATA

29 APR 1999

**EXPERTEST PTY. LTD.**

A.C.N. 008 034 062

**Production Testing
Report****Test Details**

Customer	Boral Energy
Well Name	North Paaratte #5
Formation	Waarre
Perforations	1521.5m-1527.m KB
Type Of Test	Production Test
Operator	N Hay
Date Of Test	19/04 - 22/04/99
Reference Date	19/04/99
Reference Time	1400
Control No.	V191904A.99

**EXPERTEST PTY. LTD.****Equipment Configuration****General**

Customer: Boral Energy
 Well Name: North Paaratte #5
 Formation: Waarre
 Perforations: 1521.5m-1527.m KB
 Type Of Test: Production Test
 Operator: N Hay
 Date Of Test: 19/04 - 22/04/99
 Control No. V191904A.99
 Ref. Date: 19/04/99
 Ref. Time: 1400

Metering


Orifice Meter Type: Daniel Senior
 Meter Run Size: 3.826 Inches

Separator

Separator No.: 75
 Static Pressure Range: 0-1500 PSIG
 Differential Pressure Range: 0-200 In. WC
 Standard Conditions: 14.73 @ 60 Deg F

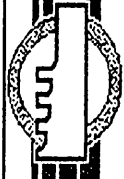
Tanks

No.	Unit No.	Capacity	Cap. Units	Scale	Scale Units
1	40	8300	Litres	1	Litres/inch
2	40	8300	Litres	1	Litres/inch
3					
4					

EXPERTEST PTY. LTD.		SEQUENCE OF EVENTS	
	Customer: Boral Energy	Well Name: North Paaratte #5	Formation: Waarre
	Perforations: 1521.5m-1527.m KB	Type Of Test: Production Test	Operator: N Hay
	Date Of Test: 19/04 - 22/04/99		Control No.: V191904A.99

Date	Time	Description Of Events
19/04/99	1050	Rig up equipment and run in hole with 2" SB pulling tool to 4900' KB and latched PX plug prong, pull out of hole.
19/04/99	1120	At surface with PX prong.
19/04/99	1200	Run in hole with 3" GS pulling tool to 4904' KB and latched PX plug.
19/04/99	1225	At surface with PX plug, set up tandem BHP Gauges.
19/04/99	1250	Connect battery on EMP-Q #2209 (Bottom Gauge).
19/04/99	1253	Connect battery on EMP-Q #2123 (Top Gauge).
19/04/99	1255	Pressure test flow line to the separator inlet and bypass valves to full well head pressure to 1709 PSI and light up the heater
19/04/99	1258	Pressure up on lubricator, set in lubricator for 10 minutes.
19/04/99	1308	Run in hole with gauges.
19/04/99	1337	Arrive on depth at 4930' KB and hang gauges.
19/04/99	1347	Arrive at surface with X-line running tool.
19/04/99	1400	Flow well on 40/64ths choke through the heater to flare
19/04/99	1405	Divert flow through the separator and trim with a 2.75" orifice plate in service
19/04/99	1410	Decrease choke to 32/64ths
19/04/99	1450	Rock the choke
19/04/99	1522	Rock the choke
19/04/99	1630	Shut well in for a build up overnight
20/04/99	0700	Arrive back on location and hold tool box safety meeting
20/04/99	0705	Pressure up the separator and light the heater
20/04/99	0800	Flow well on 40/64ths choke through the heater bypassing the separator to flare
20/04/99	0805	Divert the flow through the separator and trim with a 2.75" orifice plate in service
20/04/99	0900	Obtain 1 x 500 cc HP Gas sample #408 and 1 x 500 cc HP Condensate sample #355
20/04/99	1000	Decrease choke to 32/64ths
20/04/99	1200	Decrease choke to 24/64ths change orifice to 2.25"
20/04/99	1300	Obtain 1 x 500 cc HP Gas sample #109 and 1 x 500 cc HP Condensate sample #SS11
20/04/99	1400	Decrease choke to 16/64ths and change orifice to 1.75"
20/04/99	1600	Shut well in for build up overnight
20/04/99	1615	Depart location over night
21/04/99	0630	Arrive back on location and hold tool box safety meeting
21/04/99	0645	Rig down the test equipment ready to move
21/04/99	0720	Rig up equipment.

EXPERTEST PTY. LTD.



FIELD READINGS

Customer:	Boral Energy	Well Name:	North Paaratte #5
Performations:	1521.5m-1527.m KB	Type Of Test:	Production Test
Date Of Test:	19/04 - 22/04/99	Formation:	Waarre
		Operator:	N Hay
		Control No.:	V191904A.99

TIME		WELLHEAD DATA					SEPARATOR DATA					LIQUID PRODUCTION				
		Pressure	Well-Head Temp.	Choke Size	BS & W (%)	Orifice Plate (Inch)	Spec Grav	Static Pressure	Differential Pressure	Gas Temp	Tnk No.	Total Liquid	Oil Dip	Water Dip	Dip Units	Oil API Gravity @ 60° F
19/04/99	1400	1709	1709	PSI	40	64th					2	250.00	250.00	0.00	Ltrs	
19/04/99	1415	1692	1706	PSI	32	64th										
19/04/99	1430	1694	1708	PSI	32	64th					2	250.00	250.00	0.00	Ltrs	
19/04/99	1445	1693	1707	PSI	32	64th										
19/04/99	1500	1680	1709	PSI	27	64th					2	300.00	300.00	0.00	Ltrs	
19/04/99	1515	1679	1709	PSI	28	64th										
19/04/99	1530	1676	1708	PSI	29	64th					2	375.00	375.00	0.00	Ltrs	
19/04/99	1545	1675	1708	PSI	30	64th										
19/04/99	1600	1675	1708	PSI	30	64th					2	400.00	375.00	25.00	Ltrs	
19/04/99	1615	1675	1709	PSI	30	64th										
19/04/99	1630	1675	1709	PSI	31	64th					2	450.00	425.00	25.00	Ltrs	
19/04/99	1631	1675	1709	PSI	31	64th										
20/04/99	0755	1707	1707	PSI	12	64th										
20/04/99	0800	1707	1707	PSI	12	64th										
20/04/99	0815	1639	1703	PSI	26	64th										
20/04/99	0830	1637	1705	PSI	28	64th					2	525.00	475.00	50.00	Ltrs	
20/04/99	0815	1639	1706	PSI	30	64th										
20/04/99	0900	1638	1705	PSI	30	64th					2	600.00	550.00	50.00	Ltrs	
20/04/99	0915	1640	1707	PSI	31	64th										
20/04/99	0930	1642	1708	PSI	31	64th					2	650.00	575.00	75.00	Ltrs	
20/04/99	0945	1643	1710	PSI	31	64th										
20/04/99	1000	1642	1709	PSI	31	64th					2	680.00	580.00	100.00	Ltrs	
20/04/99	1015	1678	1711	PSI	31	64th										
20/04/99	1030	1676	1710	PSI	31	64th					2	750.00	650.00	100.00	Ltrs	
20/04/99	1045	1676	1709	PSI	31	64th										
20/04/99	1100	1676	1710	PSI	31	64th					2	750.00	650.00	100.00	Ltrs	
20/04/99	1115	1676	1710	PSI	31	64th										

EXPERTEST PTY. LTD.



FIELD READINGS

Customer:	Boral Energy	Well Name:	North Paaratte #5	Formation:	Waarre
Perforations:	1521.5m-1527.m KB	Type Of Test:	Production Test	Operator:	N Hay
Date Of Test:	19/04 - 22/04/99			Control No.:	V191904A.99

Date	Time	WELLHEAD DATA				SEPARATOR DATA				LIQUID PRODUCTION									
		Elapsed Time (Hours)	Pressures Tubing	Well-Head Temp.	Choke Size	BS &W (%)	Orifice Plate (inch)	Spec Grav	Static Pressure	Differential Pressure	Gas Temp	Tnk No.	Total Liquid	Oil Dip	Water Dip	Dip Units	Oil API Gravity @ 60°F		
20/04/99	1130	21.5000	1676	1710 PSI	31 °C	32	64th		2.750	0.575	658 PSI	64 In WC	30 °C	2	800.00	700.00	100.00	Ltrs	
20/04/99	1145	21.7500	1676	1710 PSI	31 °C	32	64th		2.750	0.575	659 PSI	64 In WC	30 °C						
20/04/99	1200	22.0000	1677	1711 PSI	31 °C	32	64th		2.750	0.575	661 PSI	64 In WC	31 °C	2	875.00	775.00	100.00	Ltrs	
20/04/99	1215	22.2500	1702	1714 PSI	31 °C	24	64th		2.250	0.575	653 PSI	69 In WC	35 °C						
20/04/99	1230	22.5000	1701	1712 PSI	30 °C	24	64th		2.250	0.575	654 PSI	68 In WC	38 °C	2	900.00	800.00	100.00	Ltrs	
20/04/99	1245	22.7500	1701	1713 PSI	30 °C	24	64th		2.250	0.575	650 PSI	68 In WC	36 °C						
20/04/99	1300	23.0000	1699	1712 PSI	30 °C	24	64th		2.250	0.575	648 PSI	68 In WC	34 °C	2	925.00	825.00	100.00	Ltrs	
20/04/99	1315	23.2500	1699	1712 PSI	30 °C	24	64th		2.250	0.575	646 PSI	68 In WC	31 °C						
20/04/99	1330	23.5000	1698	1712 PSI	30 °C	24	64th		2.250	0.575	646 PSI	68 In WC	13 °C	2	925.00	825.00	100.00	Ltrs	
20/04/99	1345	23.7500	1699	1713 PSI	30 °C	24	64th		2.250	0.575	646 PSI	68 In WC	30 °C						
20/04/99	1400	24.0000	1699	1713 PSI	30 °C	24	64th		2.250	0.575	645 PSI	68 In WC	29 °C	2	975.00	875.00	100.00	Ltrs	
20/04/99	1401	24.0167	1699	1713 PSI	30 °C	24	64th							1	250.00	125.00	125.00	Ltrs	
20/04/99	1415	24.2500	1709	1713 PSI	29 °C	16	64th		1.750	0.575	544 PSI	60 In WC	33 °C						
20/04/99	1430	24.5000	1708	1713 PSI	29 °C	16	64th		1.750	0.575	542 PSI	61 In WC	34 °C	1	300.00	150.00	150.00	Ltrs	
20/04/99	1445	24.7500	1708	1713 PSI	28 °C	16	64th		1.750	0.575	544 PSI	61 In WC	33 °C						
20/04/99	1500	25.0000	1708	1712 PSI	28 °C	16	64th		1.750	0.575	544 PSI	61 In WC	34 °C	1	300.00	150.00	150.00	Ltrs	
20/04/99	1515	25.2500	1706	1711 PSI	28 °C	16	64th		1.750	0.575	544 PSI	61 In WC	32 °C						
20/04/99	1530	25.5000	1707	1712 PSI	28 °C	16	64th		1.750	0.575	544 PSI	61 In WC	32 °C	1	300.00	150.00	150.00	Ltrs	
20/04/99	1545	25.7500	1706	1711 PSI	28 °C	16	64th		1.750	0.575	543 PSI	61 In WC	32 °C						
20/04/99	1600	26.0000	1706	1711 PSI	28 °C	16	64th		1.750	0.575	537 PSI	61 In WC	32 °C	1	325.00	175.00	150.00	Ltrs	

EXPERTEST PTY. LTD.



TEST RESULTS

Customer:	Boral Energy	Well Name:	North Paaratte #5	Formation:	Waarre
Perforations:	1521.5m-1527.m KB	Type Of Test:	Production Test	Operator:	N Hay
Date Of Test:	19/04 - 22/04/99			Control No.:	V191904A.99

Date	Time	WELLHEAD DATA				SEPARATOR			FLOW RATES			CUMULATIVE PRODUCTION				
		Elapsed Time (Hours)	Tubing Pressure (kPa)	Annulus Pressure (kPa)	Wellhead Temp (°C)	Choke Size (64th)	Pressure (kPa)	Temp (°C)	Gas Flow Rate (m ³ /D)	Oil Flow Rate (m ³ /D)	Water Flow Rate (m ³ /D)	Gas (m ³ 10 ³)	Oil (m ³)	Water (m ³)	W.G.R. (m ³ /10 ³ m ³)	O.G.R. (m ³ /10 ³ m ³)
19/04/99	1400	0.0000	11783	11783		40										
19/04/99	1415	0.2500	11666	11763	32	32	2806	26	267.654		2.79					
19/04/99	1430	0.5000	11680	11776	26	32	2606	29	243.942	0.00	5.33	0.00	0.00			
19/04/99	1445	0.7500	11673	11769	26	32	2599	29	243.616		7.87					
19/04/99	1500	1.0000	11583	11783	27	32	3434	29	321.595	2.40	11.22	0.05	0.00			7.46
19/04/99	1515	1.2500	11576	11783	28	32	3420	28	319.464		14.54					
19/04/99	1530	1.5000	11556	11776	29	32	3578	28	335.688	3.60	18.04	0.13	0.00			10.72
19/04/99	1545	1.7500	11549	11776	30	32	3585	29	335.324		21.53					
19/04/99	1600	2.0000	11549	11776	30	32	3592	29	335.659	0.00	25.03	0.13	0.03			3.58
19/04/99	1615	2.2500	11549	11783	30	32	3592	30	332.834		28.50					
19/04/99	1630	2.5000	11549	11783	31	32	3592	30	334.963	2.40	31.99	0.18	0.03			7.16
19/04/99	1631	2.5167	11549	11783	31	32	0	0	0.000	0.00	31.99					
20/04/99	0755	17.9167	11769	11769	12	32	0	0	0.000	0.00	31.99					
20/04/99	0800	18.0000	11769	11769	12											
20/04/99	0815	18.2500	11301	11742	26	40	5075	23	488.659		38.77					
20/04/99	0830	18.5000	11287	11756	28	40	5026	24	482.840	0.08	43.80	0.23	0.05	0.08		0.16
20/04/99	0815	18.2500	11301	11763	30	40	5033	26	480.943		38.79					
20/04/99	0900	19.0000	11294	11756	30	40	5040	25	482.421	3.60	53.87	0.30	0.05			7.46
20/04/99	0915	19.2500	11307	11769	31	40	5033	26	480.943		58.88					
20/04/99	0930	19.5000	11321	11776	31	40	5026	26	480.588	1.20	63.89	0.33	0.08	2.50		2.50
20/04/99	0945	19.7500	11328	11790	31	40	5026	26	480.588		68.89					
20/04/99	1000	20.0000	11321	11783	31	40	5026	27	479.478	0.24	73.89	0.33	0.10	2.50		0.50
20/04/99	1015	20.2500	11569	11797	31	32	4544	30	341.031		77.44					
20/04/99	1030	20.5000	11556	11790	31	32	4530	30	340.481	3.36	80.98	0.40	0.10			9.87
20/04/99	1045	20.7500	11556	11783	31	32	4530	30	340.481		84.53					
20/04/99	1100	21.0000	11556	11790	31	32	4537	30	340.756	0.00	88.08	0.40	0.10			

EXPERTEST PTY. LTD.



GAS FLOW CALCULATIONS

Customer: Boral Energy	Well Name: North Paaratte #5	Formation: Waaree	
Perforations: 1521.5m-1527.m KB	Type Of Test: Production Test	Operator: N Hay	
Date Of Test: 19/04 - 22/04/99		Control No.: V191904A.99	

Orifice Meter Type: Daniel Senior	Separator No: 75
Meter Run Size: 3.826 Inches	Static Pressure Range: 0-1500 PSIG
	Differential Pressure Range: 0-200 In. WC
	Stand. Conditions: 14.73 @ 60 Deg F

Date	Time	Elapsed Time (Hours)	Choke Size (64th)	Static Press P _f (PSIA)	Diff Press H _w (In. WC)	Gas Flow Temp (°F)	Gas Spec. Grav.	Orifice Plate Size (Ins)	√(P _f H _w)	C ₁ = F _B × F _{TF} × F _{FD} × Y ₂			C ₁	C = C ₁ × C ₂ Where C ₂ = √(1/SG) × Z	Gas Flow Rate Q = √(P _f × H _w) × C (MMSCFD)	
										F _B	F _{TF}	F _{FD}				Y ₂
19/04/99	1415	0.2500	32	422	64	79	0.575	2.750	164.29	1.02923	1.0062	1.0062	1818.23	57547.45	9.45439	267.654
	1430	0.5000	"	393	58	84	"	"	150.92	0.97751	1.0060	1.0060	1803.89	57093.43	8.61682	243.942
	1445	0.7500	"	392	58	84	"	"	150.73	"	1.0060	1.0060	1803.77	57089.75	8.60529	243.616
	1500	1.0000	"	513	76	84	"	"	197.40	"	1.0061	1.0061	1818.20	57546.44	11.35977	321.595
	1515	1.2500	"	511	75	82	"	"	195.72	0.97913	1.0060	1.0060	1821.71	57657.48	11.28449	319.464
	1530	1.5000	"	534	79	82	"	"	205.34	"	1.0060	1.0060	1824.50	57745.95	11.85758	335.688
	1545	1.7500	"	535	79	84	"	"	205.53	0.97751	1.0060	1.0060	1820.82	57629.38	11.84472	335.324
	1600	2.0000	"	536	79	84	"	"	205.72	"	1.0060	1.0060	1820.94	57633.09	11.85655	335.659
	1615	2.2500	"	536	78	86	"	"	204.42	0.97590	1.0059	1.0059	1817.15	57513.19	11.75676	332.834
	1630	2.5000	"	536	79	86	"	"	205.72	"	1.0060	1.0060	1817.16	57513.63	11.83198	334.963
	1631	2.5167	"	15	0	32	"	"	0.00	1.02806	1.00133	1.00000	1850.02	58553.76	0.00000	0.000
20/04/99	0755	17.9167	"	15	0	32	"	"	"	"	"	"	"	"	0.00000	0.000
	0815	18.2500	40	751	113	73	"	"	291.26	0.98736	1.05459	1.00061	1872.44	59263.14	17.26099	488.659
	0830	18.5000	"	744	112	75	"	"	288.61	0.98570	1.05336	1.00062	1867.11	59094.45	17.05546	482.840
	0815	18.2500	"	745	112	79	"	"	288.81	0.98240	1.05204	1.00061	1858.52	58822.73	16.98844	480.943
	0900	19.0000	"	746	112	77	"	"	289.00	0.98404	1.05280	1.00061	1862.98	58963.89	17.04064	482.421
	0915	19.2500	"	745	112	79	"	"	288.81	0.98240	1.05204	1.00061	1858.52	58822.73	16.98844	480.943
	0930	19.5000	"	744	112	79	"	"	288.61	"	1.05197	1.00062	1858.40	58818.86	16.97592	480.588
	0945	19.7500	"	744	112	79	"	"	"	"	"	"	"	"	16.97592	480.588
	1000	20.0000	"	744	112	81	"	"	"	0.98076	1.05129	"	1854.11	58682.99	16.93670	479.478
	1015	20.2500	32	674	64	86	"	"	207.65	0.97590	1.04469	1.00039	1832.92	58012.40	12.04630	341.031
	1030	20.5000	"	672	64	86	"	"	207.34	"	1.04456	1.00039	1832.69	58005.09	12.02689	340.481
	1045	20.7500	"	672	64	86	"	"	"	"	"	"	"	"	12.02689	340.481
	1100	21.0000	"	673	64	86	"	"	207.50	1.04463	1.00039	1.00039	1832.80	58008.75	12.03660	340.756

EXPERTEST PTY. LTD.



LIQUID PRODUCTION

Customer:	Boral Energy	Well Name:	North Paaratte #5
Perforations:	1521.5m-1527.m KB	Formation:	Waarre
Date Of Test:	19/04 - 22/04/99	Operator:	N Hay
		Control No.:	V191904A.99

Tank	Unit No.	Capacity	Cap. Units	Scale	Scale Units
1	40	8300	Litres	1	Litres/inch
2	40	8300	Litres	1	Litres/inch

Tank	Unit No.	Capacity	Cap. Units	Scale	Scale Units
3	0	0	0	0	0
4	0	0	0	0	0

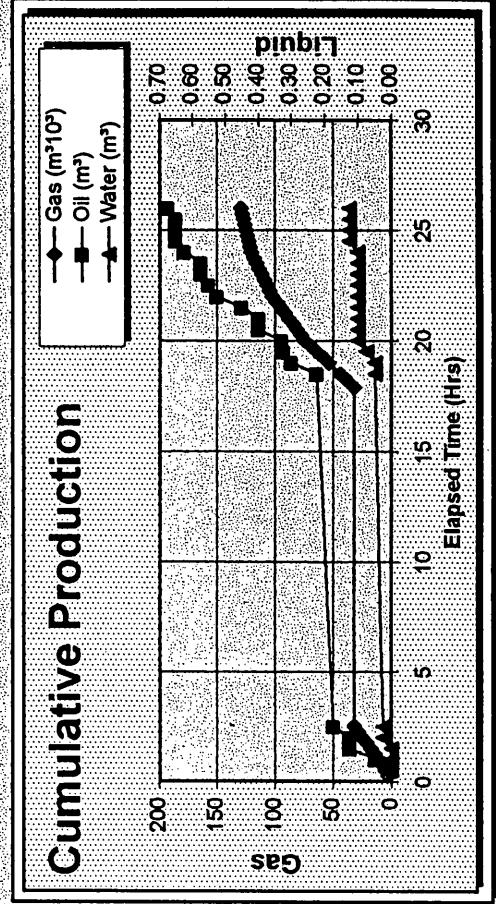
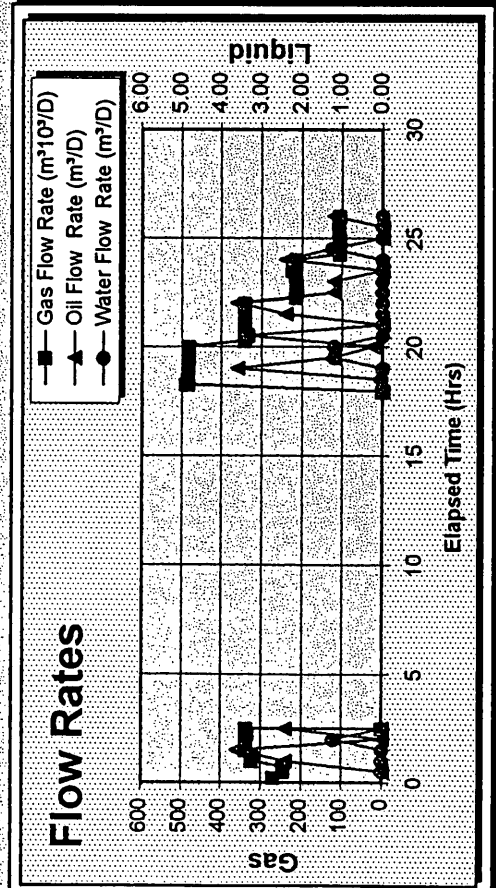
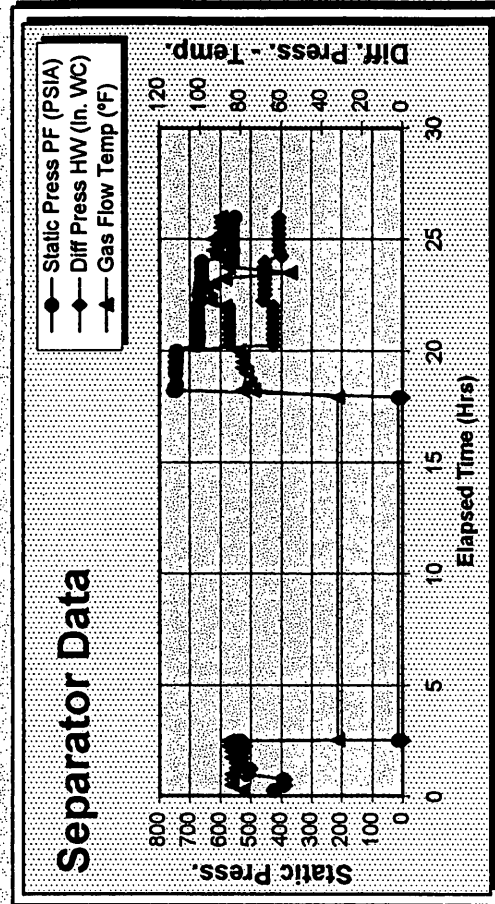
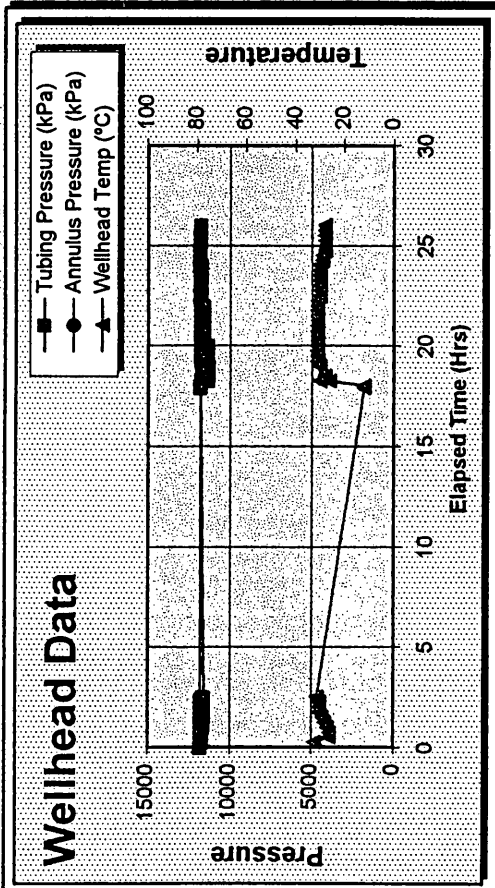
Date	Time	Elapsed Time (Hours)	Tank Used (1-4)	Total Tank Dip (Litres)	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION				
					Tank Dip (Litres)	Tank Prod. (m ³)	Flow Rate (m ³ /D)	Cum. Prod. (m ³)	Oil API Grav	Tank Dip (Litres)	Tank Prod. (m ³)	Flow Rate (m ³ /D)	Cum. Prod. (m ³)
19/04/99	1400	0.0000	2	250.000	250.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19/04/99	1430	0.5000	2	250.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19/04/99	1500	1.0000	2	300.000	0.0500	2.4000	0.0500	0.0500	0.0000	0.0000	0.0000	0.0000	0.0000
19/04/99	1530	1.5000	2	375.000	0.0750	3.6000	0.0750	0.1250	0.0000	0.0000	0.0000	0.0000	0.0000
19/04/99	1600	2.0000	2	400.000	0.0000	0.0000	0.0000	0.1250	25.000	0.0250	1.2000	0.0250	0.0250
19/04/99	1630	2.5000	2	450.000	0.0500	2.4000	0.0500	0.1750	25.000	0.0000	0.0000	0.0000	0.0250
20/04/99	0830	18.5000	2	525.000	0.0500	0.0750	0.0500	0.2250	50.000	0.0250	0.0375	0.0500	0.0500
20/04/99	0900	19.0000	2	600.000	0.0750	3.6000	0.0750	0.3000	50.000	0.0000	0.0000	0.0500	0.0500
20/04/99	0930	19.5000	2	650.000	0.0250	1.2000	0.0250	0.3250	75.000	0.0250	1.2000	0.0750	0.0750
20/04/99	1000	20.0000	2	680.000	0.0050	0.2400	0.0050	0.3300	100.000	0.0250	1.2000	0.1000	0.1000
20/04/99	1030	20.5000	2	750.000	0.0700	3.3600	0.0700	0.4000	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1100	21.0000	2	750.000	0.0000	0.0000	0.0000	0.4000	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1130	21.5000	2	800.000	0.0500	2.4000	0.0500	0.4500	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1200	22.0000	2	875.000	0.0750	3.6000	0.0750	0.5250	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1230	22.5000	2	900.000	0.0250	1.2000	0.0250	0.5500	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1300	23.0000	2	925.000	0.0250	1.2000	0.0250	0.5750	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1330	23.5000	2	925.000	0.0000	0.0000	0.0000	0.5750	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1400	24.0000	2	975.000	0.0500	2.4000	0.0500	0.6250	100.000	0.0000	0.0000	0.1000	0.1000
20/04/99	1401	24.0167	1	250.000				0.6250	125.000				0.1000
20/04/99	1430	24.5000	1	300.000	0.0250	1.2414	0.0250	0.6500	150.000	0.0250	1.2414	0.1250	0.1250
20/04/99	1500	25.0000	1	300.000	0.0000	0.0000	0.0000	0.6500	150.000	0.0000	0.0000	0.1250	0.1250
20/04/99	1530	25.5000	1	300.000	0.0000	0.0000	0.0000	0.6500	150.000	0.0000	0.0000	0.1250	0.1250
20/04/99	1600	26.0000	1	325.000	0.0250	1.2000	0.0250	0.6750	150.000	0.0000	0.0000	0.1250	0.1250

EXPERTEST PTY. LTD.



GRAPHICAL SUMMARY

Customer:	Boral Energy	Well Name:	North Paaratte #5	Formation:	Waarre
Perforations:	1521.5m-1527.m KB	Type Of Test:	Production Test	Operator:	N Hay
Date Of Test:	19/04 - 22/04/99	Control No.:	V191904A.99		

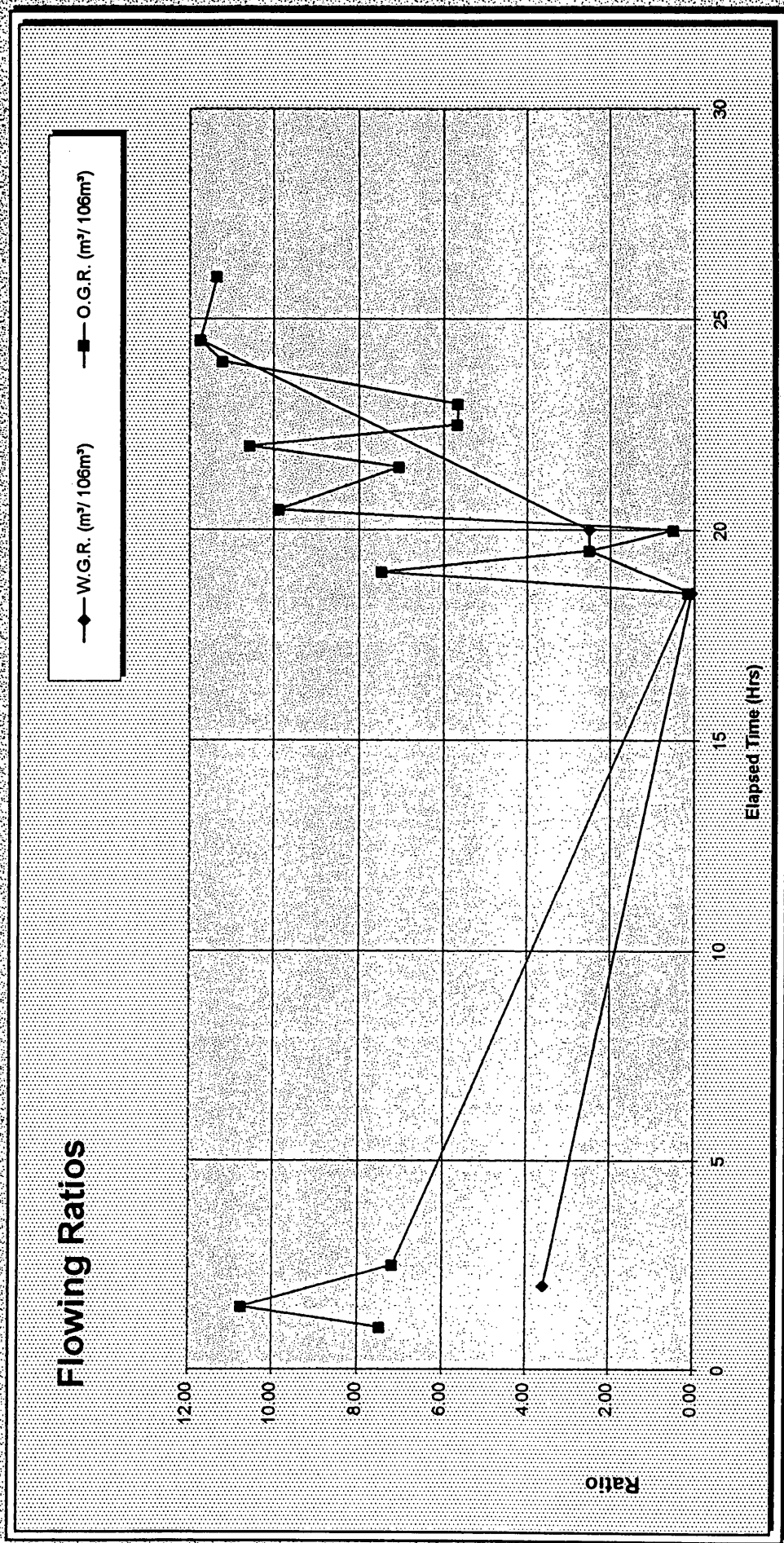


EXPERTEST PTY. LTD.



Flowing Ratio Plot

Customer:	Boral Energy	Well Name:	North Paaratte #5	Formation:	Waarre
Perforations:	1521.5m-1527.m KB	Type Of Test:	Production Test	Operator:	N Hay
Date Of Test:	19/04 - 22/04/99	Control No.:	V191904A.99		





SAMPLING DATA

Customer:	Boral Energy	Well Name:	North Paaratte #5
Perforations:	1521.5m-1527.m KB	Type Of Test:	Production Test
Date Of Test:	19/04 - 22/04/99	Formation:	Waarre
		Operator:	N Hay
		Control No.:	V191904A.99

SAMPLE # 1

Time Sample Collected	0900	Cylinder Serial Number	408	Cylinder Volume (cc)	500	Sample Type	GAS	Sampling Duration (Mins)	10	Cylinder Initially Filled With	EVACUATED	Outage (cc)		Volume of Fill Remaining with Sample (cc)		Sample Point	GAS METER RUN	Sample Press (kPa)	5040	Sample Temp (°C)	25	Ambient Press (kPa)	101	Ambient Temp (°C)					
WELLHEAD DATA												GRAVITIES				FLOW RATES				RATIOS									
Tubing Press (kPa)	11294	Wellhead Temp (°C)	30	Choke Size	40	64ths		Separator Press (kPa)	5040	Separator Temp (°C)	25	Gas Specific Gravity @ 60°F	0.575	Oil API Grav		Gas (10 ³ m ³ /D)	482.421	Oil (m ³ /D)	3.6	Water (m ³ /D)		WGR		OGR		Pressure (kPa)		Temp (°C)	
SEPARATOR DATA												GRAVITIES				FLOW RATES				RATIOS									
								FPV				Gas		Oil		Gas		Oil		Water		WGR		OGR		Pressure		Temp	

SAMPLE # 2

Time Sample Collected	0900	Cylinder Serial Number	355	Cylinder Volume (cc)	500	Sample Type	COND	Sampling Duration (Mins)	15	Cylinder Initially Filled With	BRINE	Outage (cc)	475	Volume of Fill Remaining with Sample (cc)	25	Sample Point	OIL SIGHT GLASS	Sample Press (kPa)	5040	Sample Temp (°C)	25	Ambient Press (kPa)	101	Ambient Temp (°C)					
WELLHEAD DATA												GRAVITIES				FLOW RATES				RATIOS									
Tubing Press (kPa)	11294	Wellhead Temp (°C)	30	Choke Size	40	64ths		FPV				Gas Specific Gravity @ 60°F	0.575	Oil API Grav		Gas (10 ³ m ³ /D)	482.421	Oil (m ³ /D)	3.6	Water (m ³ /D)		WGR		OGR		Pressure (kPa)		Temp (°C)	
SEPARATOR DATA												GRAVITIES				FLOW RATES				RATIOS									
								FPV				Gas		Oil		Gas		Oil		Water		WGR		OGR		Pressure		Temp	

SAMPLE # 3

Time Sample Collected	1300	Cylinder Serial Number	109	Cylinder Volume (cc)	500	Sample Type	GAS	Sampling Duration (Mins)	10	Cylinder Initially Filled With	EVACUATED	Outage (cc)		Volume of Fill Remaining with Sample (cc)		Sample Point	GAS METER RUN	Sample Press (kPa)	4468	Sample Temp (°C)	34	Ambient Press (kPa)	101	Ambient Temp (°C)					
WELLHEAD DATA												GRAVITIES				FLOW RATES				RATIOS									
Tubing Press (kPa)	11714	Wellhead Temp (°C)	30	Choke Size	24	64ths		FPV				Gas Specific Gravity @ 60°F	0.575	Oil API Grav		Gas (10 ³ m ³ /D)	212.356	Oil (m ³ /D)	1.2	Water (m ³ /D)		WGR		OGR		Pressure (kPa)		Temp (°C)	
SEPARATOR DATA												GRAVITIES				FLOW RATES				RATIOS									
								FPV				Gas		Oil		Gas		Oil		Water		WGR		OGR		Pressure		Temp	



SAMPLING DATA

Customer: Boral Energy	Well Name: North Paaratte #5	Formation: Waarre
Perforations: 1521.5m-1527.m KB	Type Of Test: Production Test	Operator: N Hay
Date Of Test: 19/04 - 22/04/99		Control No.: V191904A.99

SAMPLE # 4

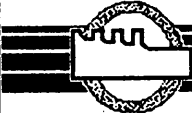
Time Sample Collected	Cylinder Serial Number	Cylinder Volume (cc)	Sample Type	Sampling Duration (Mins)	Cylinder Initially Filled With	Outage (cc)	Volume of Fill Remaining with Sample (cc)	FLOW RATES			Ambient Temp (°C)	
								Oil	Water	Gas		
1300	SS-11	500	COND	15	BRINE	475	25	OIL SIGHT GLASS	4468	34	101	
SEPARATOR DATA												
	Wellhead Temp (°C)	Choke Size	BS&W (%)	Separator Press (kPa)	Separator Temp (°C)	FPV	Gas Specific Gravity @ 60°F	Oil API Grav	Gas (10 ³ m ³ /D)	Water (m ³ /D)	WGR (m ³ /10 ⁶ m ³)	OGR (m ³ /10 ⁶ m ³)
11714	30	24		4468	34	1.0418	0.575		212.356	1.2		5.65
RATIOS												
WELLHEAD DATA												
	Wellhead Temp (°C)	Choke Size	BS&W (%)	Separator Press (kPa)	Separator Temp (°C)	FPV	Gas Specific Gravity @ 60°F	Oil API Grav	Gas (10 ³ m ³ /D)	Water (m ³ /D)	WGR (m ³ /10 ⁶ m ³)	OGR (m ³ /10 ⁶ m ³)
BOTTOM HOLE												
	Wellhead Temp (°C)	Choke Size	BS&W (%)	Separator Press (kPa)	Separator Temp (°C)	FPV	Gas Specific Gravity @ 60°F	Oil API Grav	Gas (10 ³ m ³ /D)	Water (m ³ /D)	WGR (m ³ /10 ⁶ m ³)	OGR (m ³ /10 ⁶ m ³)
REMARKS												

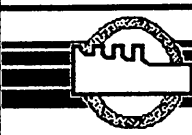
SAMPLE

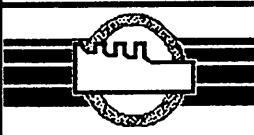
Time Sample Collected	Cylinder Serial Number	Cylinder Volume (cc)	Sample Type	Sampling Duration (Mins)	Cylinder Initially Filled With	Outage (cc)	Volume of Fill Remaining with Sample (cc)	FLOW RATES			Ambient Temp (°C)	
								Oil	Water	Gas		
SEPARATOR DATA												
	Wellhead Temp (°C)	Choke Size	BS&W (%)	Separator Press (kPa)	Separator Temp (°C)	FPV	Gas Specific Gravity @ 60°F	Oil API Grav	Gas (10 ³ m ³ /D)	Water (m ³ /D)	WGR (m ³ /10 ⁶ m ³)	OGR (m ³ /10 ⁶ m ³)
BOTTOM HOLE												
	Wellhead Temp (°C)	Choke Size	BS&W (%)	Separator Press (kPa)	Separator Temp (°C)	FPV	Gas Specific Gravity @ 60°F	Oil API Grav	Gas (10 ³ m ³ /D)	Water (m ³ /D)	WGR (m ³ /10 ⁶ m ³)	OGR (m ³ /10 ⁶ m ³)
REMARKS												


SAMPLE

Time Sample Collected	Cylinder Serial Number	Cylinder Volume (cc)	Sample Type	Sampling Duration (Mins)	Cylinder Initially Filled With	Outage (cc)	Volume of Fill Remaining with Sample (cc)	FLOW RATES			Ambient Temp (°C)	
								Oil	Water	Gas		
SEPARATOR DATA												
	Wellhead Temp (°C)	Choke Size	BS&W (%)	Separator Press (kPa)	Separator Temp (°C)	FPV	Gas Specific Gravity @ 60°F	Oil API Grav	Gas (10 ³ m ³ /D)	Water (m ³ /D)	WGR (m ³ /10 ⁶ m ³)	OGR (m ³ /10 ⁶ m ³)
BOTTOM HOLE												
	Wellhead Temp (°C)	Choke Size	BS&W (%)	Separator Press (kPa)	Separator Temp (°C)	FPV	Gas Specific Gravity @ 60°F	Oil API Grav	Gas (10 ³ m ³ /D)	Water (m ³ /D)	WGR (m ³ /10 ⁶ m ³)	OGR (m ³ /10 ⁶ m ³)
REMARKS												

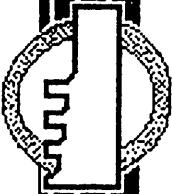
EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2123			
EMP-Q Calibration I.D.: 2123-19056		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:53:00		Data Filter: 1800 Secs; 7 PSI Window			
No. of Records Processed: 51798		No. of Records Selected: 162			
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
19/04/99	12:53:01	0.0003	3.09	65.79	
19/04/99	12:57:01	0.0669	198.25	66.18	
19/04/99	12:57:04	0.0678	341.77	66.19	
19/04/99	12:57:07	0.0686	503.36	66.21	
19/04/99	12:57:10	0.0694	698.36	66.22	
19/04/99	12:57:13	0.0703	927.56	66.24	
19/04/99	12:57:16	0.0711	1150.55	66.26	
19/04/99	12:57:19	0.0719	1358.63	66.28	
19/04/99	12:57:22	0.0728	1628.95	66.31	
19/04/99	12:57:25	0.0736	1706.52	66.34	
19/04/99	13:07:55	0.2486	1713.79	69.76	
19/04/99	13:08:49	0.2636	1720.88	69.14	
19/04/99	13:09:46	0.2794	1728.19	68.83	
19/04/99	13:10:43	0.2953	1735.35	68.97	
19/04/99	13:11:40	0.3111	1742.59	69.55	
19/04/99	13:12:37	0.3269	1749.79	70.49	
19/04/99	13:13:34	0.3428	1756.90	71.74	
19/04/99	13:14:31	0.3586	1763.97	73.25	
19/04/99	13:15:31	0.3753	1771.22	75.10	
19/04/99	13:16:28	0.3911	1778.23	76.92	
19/04/99	13:17:28	0.4078	1785.46	78.86	
19/04/99	13:18:31	0.4253	1792.72	80.94	
19/04/99	13:19:37	0.4436	1799.88	83.17	
19/04/99	13:20:46	0.4628	1806.93	85.52	
19/04/99	13:21:58	0.4828	1814.16	88.03	
19/04/99	13:23:10	0.5028	1821.29	90.54	
19/04/99	13:24:22	0.5228	1828.40	93.02	
19/04/99	13:25:34	0.5428	1835.44	95.47	
19/04/99	13:26:46	0.5628	1842.55	97.91	
19/04/99	13:28:01	0.5836	1849.82	100.45	
19/04/99	13:29:16	0.6044	1857.11	103.01	
19/04/99	13:30:22	0.6228	1864.23	105.28	
19/04/99	13:31:25	0.6403	1871.44	107.53	
19/04/99	13:32:28	0.6578	1878.78	109.92	
19/04/99	13:33:25	0.6736	1886.05	112.19	
19/04/99	13:34:22	0.6894	1893.16	114.54	
19/04/99	13:35:22	0.7061	1900.99	117.16	
19/04/99	13:49:40	0.9444	1893.99	135.86	
19/04/99	14:19:40	1.4444	1896.11	140.48	
19/04/99	14:49:40	1.9444	1892.75	140.77	
19/04/99	15:19:43	2.4453	1892.66	140.76	

EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2123			
EMP-Q Calibration I.D.: 2123-19056		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:53:00		Data Filter: 1800 Secs; 7 PSI Window			
No. of Records Processed: 51798		No. of Records Selected: 162			
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
19/04/99	15:49:43	2.9453	1892.90	140.76	
19/04/99	16:17:49	3.4136	1900.10	140.77	
19/04/99	16:47:49	3.9136	1900.78	140.70	
19/04/99	17:17:49	4.4136	1900.84	140.58	
19/04/99	17:47:49	4.9136	1900.87	140.48	
19/04/99	18:17:49	5.4136	1900.89	140.40	
19/04/99	18:47:49	5.9136	1900.89	140.34	
19/04/99	19:17:49	6.4136	1900.90	140.29	
19/04/99	19:47:49	6.9136	1900.91	140.25	
19/04/99	20:17:49	7.4136	1900.92	140.21	
19/04/99	20:47:49	7.9136	1900.93	140.17	
19/04/99	21:17:52	8.4144	1900.94	140.14	
19/04/99	21:47:52	8.9144	1900.97	140.11	
19/04/99	22:17:52	9.4144	1900.98	140.09	
19/04/99	22:47:52	9.9144	1901.00	140.06	
19/04/99	23:17:52	10.4144	1901.03	140.04	
19/04/99	23:47:52	10.9144	1901.04	140.03	
20/04/99	0:17:52	11.4144	1901.06	140.01	
20/04/99	0:47:52	11.9144	1901.08	140.00	
20/04/99	1:17:52	12.4144	1901.10	139.98	
20/04/99	1:47:52	12.9144	1901.10	139.97	
20/04/99	2:17:52	13.4144	1901.11	139.96	
20/04/99	2:47:52	13.9144	1901.13	139.95	
20/04/99	3:17:52	14.4144	1901.13	139.94	
20/04/99	3:47:52	14.9144	1901.14	139.93	
20/04/99	4:17:52	15.4144	1901.14	139.93	
20/04/99	4:47:52	15.9144	1901.14	139.92	
20/04/99	5:17:52	16.4144	1901.14	139.92	
20/04/99	5:47:52	16.9144	1901.14	139.91	
20/04/99	6:17:52	17.4144	1901.14	139.91	
20/04/99	6:47:52	17.9144	1901.13	139.90	
20/04/99	7:17:52	18.4144	1901.13	140.01	
20/04/99	7:47:52	18.9144	1901.13	140.00	
20/04/99	7:49:55	18.9486	1893.19	140.00	
20/04/99	8:19:55	19.4486	1888.11	140.59	
20/04/99	8:49:55	19.9486	1888.03	140.69	
20/04/99	9:19:55	20.4486	1887.92	140.71	
20/04/99	9:49:55	20.9486	1887.95	140.72	
20/04/99	10:19:55	21.4486	1893.02	140.80	
20/04/99	10:49:55	21.9486	1892.96	140.82	
20/04/99	11:19:55	22.4486	1892.90	140.83	

EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2123			
EMP-Q Calibration I.D.: 2123-19056		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:53:00		Data Filter: 1800 Secs; 7 PSI Window			
No. of Records Processed: 51798		No. of Records Selected: 162			
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
20/04/99	11:49:55	22.9486	1892.83	140.83	
20/04/99	12:19:55	23.4486	1896.85	140.88	
20/04/99	12:49:55	23.9486	1896.78	140.90	
20/04/99	13:19:55	24.4486	1896.74	140.91	
20/04/99	13:49:55	24.9486	1898.78	140.91	
20/04/99	14:19:55	25.4486	1899.05	140.93	
20/04/99	14:49:55	25.9486	1899.08	140.93	
20/04/99	15:19:55	26.4486	1899.10	140.94	
20/04/99	15:49:55	26.9486	1899.09	140.94	
20/04/99	16:19:55	27.4486	1900.47	140.85	
20/04/99	16:49:55	27.9486	1900.52	140.72	
20/04/99	17:19:55	28.4486	1900.55	140.65	
20/04/99	17:49:55	28.9486	1900.57	140.57	
20/04/99	18:19:55	29.4486	1900.59	140.50	
20/04/99	18:49:55	29.9486	1900.60	140.45	
20/04/99	19:19:55	30.4486	1900.61	140.41	
20/04/99	19:49:55	30.9486	1900.62	140.37	
20/04/99	20:19:55	31.4486	1900.63	140.34	
20/04/99	20:49:55	31.9486	1900.64	140.31	
20/04/99	21:19:55	32.4486	1900.64	140.29	
20/04/99	21:49:55	32.9486	1900.64	140.26	
20/04/99	22:19:55	33.4486	1900.65	140.24	
20/04/99	22:49:55	33.9486	1900.65	140.22	
20/04/99	23:19:55	34.4486	1900.66	140.20	
20/04/99	23:49:55	34.9486	1900.66	140.18	
21/04/99	0:19:55	35.4486	1900.67	140.17	
21/04/99	0:49:55	35.9486	1900.67	140.15	
21/04/99	1:19:55	36.4486	1900.67	140.14	
21/04/99	1:49:55	36.9486	1900.68	140.12	
21/04/99	2:19:55	37.4486	1900.67	140.11	
21/04/99	2:49:55	37.9486	1900.68	140.10	
21/04/99	3:19:55	38.4486	1900.68	140.09	
21/04/99	3:49:55	38.9486	1900.68	140.08	
21/04/99	4:19:55	39.4486	1900.69	140.07	
21/04/99	4:49:55	39.9486	1900.69	140.06	
21/04/99	5:19:55	40.4486	1900.69	140.06	
21/04/99	5:49:55	40.9486	1900.70	140.05	
21/04/99	6:19:55	41.4486	1900.70	140.04	
21/04/99	6:41:01	41.8003	1893.61	140.04	
21/04/99	6:41:07	41.8019	1901.81	140.05	
21/04/99	7:03:16	42.1711	1894.75	139.36	

EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2123			
EMP-Q Calibration I.D.: 2123-19056		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:53:00		Data Filter: 1800 Secs; 7 PSI Window			
No. of Records Processed: 51798		No. of Records Selected: 162			
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
21/04/99	7:04:34	42.1928	1887.75	139.13	
21/04/99	7:05:49	42.2136	1880.64	138.47	
21/04/99	7:16:52	42.3978	1873.45	133.91	
21/04/99	7:17:52	42.4144	1866.14	133.35	
21/04/99	7:18:46	42.4294	1859.08	132.59	
21/04/99	7:19:37	42.4436	1852.05	131.66	
21/04/99	7:20:28	42.4578	1844.73	130.57	
21/04/99	7:21:16	42.4711	1837.59	129.41	
21/04/99	7:22:04	42.4844	1830.23	128.14	
21/04/99	7:22:52	42.4978	1822.97	126.76	
21/04/99	7:23:40	42.5111	1815.69	125.29	
21/04/99	7:24:34	42.5261	1808.47	123.57	
21/04/99	7:25:28	42.5411	1801.09	121.80	
21/04/99	7:26:19	42.5553	1793.69	120.04	
21/04/99	7:27:04	42.5678	1786.50	118.42	
21/04/99	7:27:46	42.5794	1779.25	116.86	
21/04/99	7:28:28	42.5911	1771.91	115.24	
21/04/99	7:29:19	42.6053	1764.55	113.23	
21/04/99	7:30:16	42.6211	1757.27	111.09	
21/04/99	7:31:10	42.6361	1750.20	108.97	
21/04/99	7:32:01	42.6503	1743.19	106.89	
21/04/99	7:32:52	42.6644	1735.89	104.70	
21/04/99	7:33:40	42.6778	1728.53	102.53	
21/04/99	7:34:25	42.6903	1721.30	100.38	
21/04/99	7:35:07	42.7019	1714.27	98.26	
21/04/99	7:35:55	42.7153	1707.07	95.77	
21/04/99	7:48:37	42.9269	1535.67	63.80	
21/04/99	7:48:40	42.9278	1293.06	63.73	
21/04/99	7:48:43	42.9286	958.22	63.65	
21/04/99	7:48:46	42.9294	725.79	63.57	
21/04/99	7:48:49	42.9303	481.07	63.49	
21/04/99	7:48:52	42.9311	276.28	63.39	
21/04/99	7:48:55	42.9319	140.52	63.28	
21/04/99	7:48:58	42.9328	181.61	63.16	
21/04/99	7:49:07	42.9353	161.75	62.76	
21/04/99	7:49:10	42.9361	121.83	62.61	
21/04/99	7:49:13	42.9369	66.39	62.46	
21/04/99	7:49:19	42.9386	32.73	62.16	
21/04/99	7:49:28	42.9411	8.78	61.70	

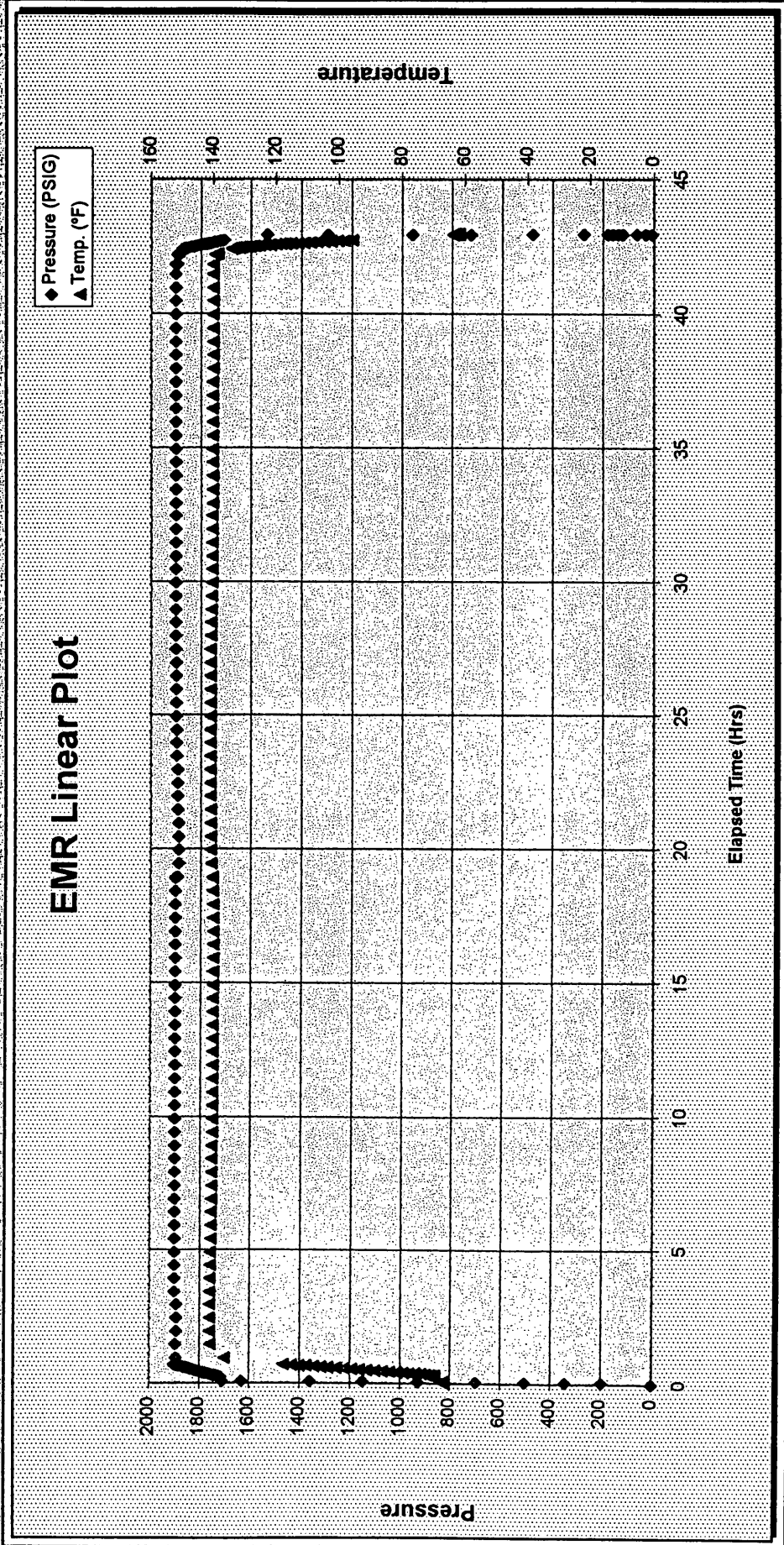
EXPERTEST PTY. LTD.




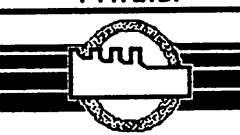
Electronic Memory Recorder - Linear Plot

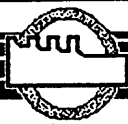
Customer:	Boral Energy	Well Name:	North Paaratte #5	Formation:	Waarre
Perforations:	1521.5m-1527.m KB	Type Of Test:	Production Test	Operator:	N Hay
Date Of Test:	19/04 - 22/04/99	Control No.: V191904A.99			
McAllister File Ref: PRN V1.04					
EMP-Q Serial Number: 2123					
EMP-Q Calibration I.D.: 2123-19056					
Full Scale Pressure: 10000 Psi					
Probe Started: 19/04/99 @ 12:53:00					
Data Filter: 1800 Secs; 7 PSI Window					


EMR Linear Plot



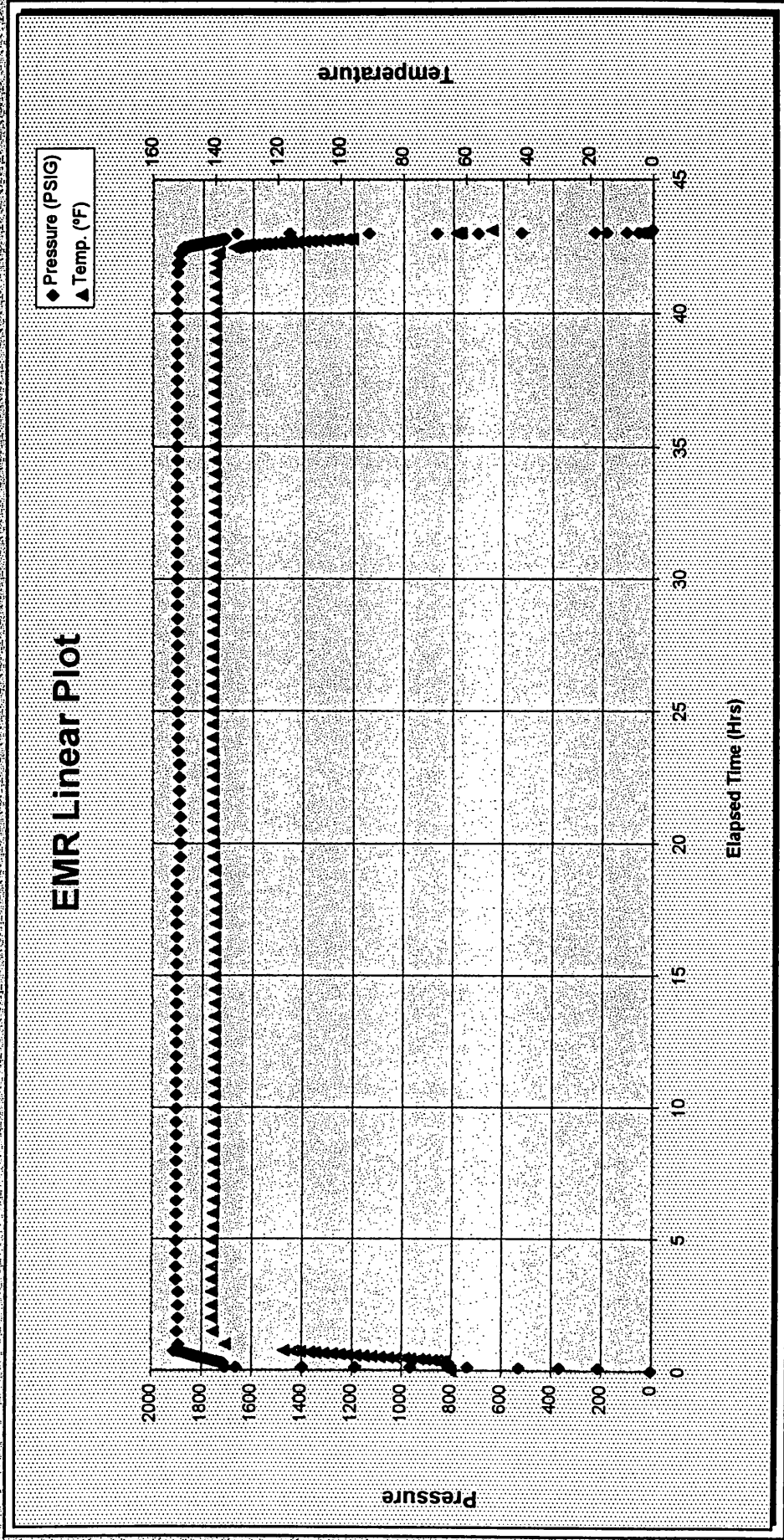
EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04			EMP-Q Serial Number: 2209		
EMP-Q Calibration I.D.: 2209-19049			Full Scale Pressure: 10000 Psi		
Probe Started: 19/04/99 @ 12:50:00			Data Filter: 1800 Secs; 7 PSI Window		
No. of Records Processed: 51826			No. of Records Selected: 163		
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
19/04/99	12:50:01	0.0003	3.88	64.29	
19/04/99	12:56:37	0.1103	212.70	65.11	
19/04/99	12:56:40	0.1111	367.22	65.11	
19/04/99	12:56:43	0.1119	529.46	65.11	
19/04/99	12:56:46	0.1128	735.72	65.11	
19/04/99	12:56:49	0.1136	963.81	65.11	
19/04/99	12:56:52	0.1144	1185.51	65.11	
19/04/99	12:56:55	0.1153	1397.18	65.11	
19/04/99	12:56:58	0.1161	1662.37	65.11	
19/04/99	12:57:01	0.1169	1706.35	65.11	
19/04/99	13:07:22	0.2894	1713.45	66.54	
19/04/99	13:08:16	0.3044	1720.70	66.18	
19/04/99	13:09:16	0.3211	1728.01	66.01	
19/04/99	13:10:16	0.3378	1735.15	66.38	
19/04/99	13:11:19	0.3553	1742.37	67.12	
19/04/99	13:12:22	0.3728	1750.21	68.63	
19/04/99	13:13:25	0.3903	1757.21	70.10	
19/04/99	13:14:28	0.4078	1765.09	72.41	
19/04/99	13:15:34	0.4261	1772.20	74.35	
19/04/99	13:16:34	0.4428	1780.30	76.95	
19/04/99	13:17:43	0.4619	1787.40	78.92	
19/04/99	13:18:40	0.4778	1794.67	81.57	
19/04/99	13:19:52	0.4978	1802.19	84.22	
19/04/99	13:21:04	0.5178	1809.42	86.89	
19/04/99	13:22:16	0.5378	1816.65	89.56	
19/04/99	13:23:28	0.5578	1823.84	92.19	
19/04/99	13:24:40	0.5778	1830.96	94.75	
19/04/99	13:25:52	0.5978	1838.07	97.28	
19/04/99	13:27:04	0.6178	1845.10	99.79	
19/04/99	13:28:19	0.6386	1852.15	102.31	
19/04/99	13:29:28	0.6578	1859.42	104.83	
19/04/99	13:30:40	0.6778	1867.38	107.40	
19/04/99	13:31:46	0.6961	1874.47	109.42	
19/04/99	13:32:46	0.7128	1882.37	112.25	
19/04/99	13:33:43	0.7286	1889.37	114.46	
19/04/99	13:34:52	0.7478	1897.82	117.57	
19/04/99	13:35:01	0.7503	1909.59	117.57	
19/04/99	13:35:04	0.7511	1900.37	117.57	
19/04/99	13:49:31	0.9919	1892.94	136.39	
19/04/99	14:19:34	1.4928	1898.33	140.42	
19/04/99	14:49:34	1.9928	1895.32	140.70	

EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2209			
EMP-Q Calibration I.D.: 2209-19049		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:50:00		Data Filter: 1800 Secs; 7 PSI Window			
No. of Records Processed: 51826		No. of Records Selected: 163			
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
19/04/99	15:19:34	2.4928	1894.95	140.71	
19/04/99	15:49:34	2.9928	1895.14	140.70	
19/04/99	16:17:25	3.4569	1902.35	140.71	
19/04/99	16:47:25	3.9569	1902.94	140.67	
19/04/99	17:17:25	4.4569	1903.03	140.56	
19/04/99	17:47:25	4.9569	1903.08	140.47	
19/04/99	18:17:25	5.4569	1903.13	140.39	
19/04/99	18:47:25	5.9569	1903.16	140.33	
19/04/99	19:17:25	6.4569	1903.20	140.28	
19/04/99	19:47:25	6.9569	1903.22	140.24	
19/04/99	20:17:25	7.4569	1903.24	140.20	
19/04/99	20:47:25	7.9569	1903.26	140.16	
19/04/99	21:17:25	8.4569	1903.28	140.14	
19/04/99	21:47:25	8.9569	1903.30	140.11	
19/04/99	22:17:25	9.4569	1903.31	140.09	
19/04/99	22:47:25	9.9569	1903.33	140.07	
19/04/99	23:17:25	10.4569	1903.34	140.05	
19/04/99	23:47:25	10.9569	1903.35	140.04	
20/04/99	0:17:25	11.4569	1903.36	140.02	
20/04/99	0:47:25	11.9569	1903.37	140.01	
20/04/99	1:17:25	12.4569	1903.38	140.00	
20/04/99	1:47:25	12.9569	1903.39	139.99	
20/04/99	2:17:25	13.4569	1903.39	139.98	
20/04/99	2:47:25	13.9569	1903.40	139.97	
20/04/99	3:17:25	14.4569	1903.41	139.96	
20/04/99	3:47:25	14.9569	1903.41	139.96	
20/04/99	4:17:25	15.4569	1903.42	139.95	
20/04/99	4:47:25	15.9569	1903.42	139.94	
20/04/99	5:17:25	16.4569	1903.43	139.94	
20/04/99	5:47:25	16.9569	1903.44	139.93	
20/04/99	6:17:25	17.4569	1903.44	139.93	
20/04/99	6:47:25	17.9569	1903.44	139.92	
20/04/99	7:17:25	18.4569	1903.44	139.99	
20/04/99	7:47:25	18.9569	1903.44	140.00	
20/04/99	7:49:31	18.9919	1895.62	140.00	
20/04/99	8:19:31	19.4919	1890.31	140.53	
20/04/99	8:49:31	19.9919	1890.26	140.62	
20/04/99	9:19:31	20.4919	1890.14	140.65	
20/04/99	9:49:31	20.9919	1890.20	140.66	
20/04/99	10:19:31	21.4919	1895.27	140.73	
20/04/99	10:49:31	21.9919	1895.22	140.77	

EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2209			
EMP-Q Calibration I.D.: 2209-19049		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:50:00		Data Filter: 1800 Secs; 7 PSI Window			
No. of Records Processed: 51826		No. of Records Selected: 163			
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
20/04/99	11:19:31	22.4919	1895.16	140.78	
20/04/99	11:49:31	22.9919	1895.10	140.78	
20/04/99	12:19:31	23.4919	1899.13	140.82	
20/04/99	12:49:31	23.9919	1899.07	140.85	
20/04/99	13:19:31	24.4919	1899.02	140.86	
20/04/99	13:49:31	24.9919	1901.11	140.86	
20/04/99	14:19:31	25.4919	1901.36	140.87	
20/04/99	14:49:31	25.9919	1901.39	140.88	
20/04/99	15:19:31	26.4919	1901.41	140.88	
20/04/99	15:49:31	26.9919	1901.41	140.89	
20/04/99	16:19:31	27.4919	1902.80	140.83	
20/04/99	16:49:31	27.9919	1902.85	140.72	
20/04/99	17:19:31	28.4919	1902.89	140.63	
20/04/99	17:49:31	28.9919	1902.91	140.56	
20/04/99	18:19:31	29.4919	1902.93	140.50	
20/04/99	18:49:31	29.9919	1902.94	140.45	
20/04/99	19:19:31	30.4919	1902.95	140.40	
20/04/99	19:49:31	30.9919	1902.96	140.36	
20/04/99	20:19:31	31.4919	1902.97	140.33	
20/04/99	20:49:31	31.9919	1902.97	140.30	
20/04/99	21:19:34	32.4928	1902.98	140.28	
20/04/99	21:49:34	32.9928	1902.99	140.25	
20/04/99	22:19:34	33.4928	1902.99	140.23	
20/04/99	22:49:34	33.9928	1903.00	140.21	
20/04/99	23:19:34	34.4928	1903.00	140.20	
20/04/99	23:49:34	34.9928	1903.00	140.18	
21/04/99	0:19:34	35.4928	1903.01	140.17	
21/04/99	0:49:34	35.9928	1903.01	140.15	
21/04/99	1:19:34	36.4928	1903.02	140.14	
21/04/99	1:49:34	36.9928	1903.02	140.13	
21/04/99	2:19:34	37.4928	1903.02	140.12	
21/04/99	2:49:34	37.9928	1903.02	140.11	
21/04/99	3:19:34	38.4928	1903.02	140.10	
21/04/99	3:49:34	38.9928	1903.02	140.09	
21/04/99	4:19:34	39.4928	1903.02	140.08	
21/04/99	4:49:34	39.9928	1903.02	140.07	
21/04/99	5:19:34	40.4928	1903.03	140.07	
21/04/99	5:49:34	40.9928	1903.03	140.06	
21/04/99	6:19:34	41.4928	1903.04	140.05	
21/04/99	6:41:10	41.8528	1892.26	140.05	
21/04/99	6:41:13	41.8536	1901.00	140.05	

EXPERTEST PTY. LTD.		Electronic Memory Recorder			
		Customer: Boral Energy	Well Name: North Paaratte #5		
		Perforations: 1521.5m-1527.m KB	Formation: Waarre		
		Date Of Test: 19/04 - 22/04/99	Type Of Test: Production Test		
		Operator: N Hay	Control No.: V191904A.99		
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2209			
EMP-Q Calibration I.D.: 2209-19049		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:50:00		Data Filter: 1800 Secs; 7 PSI Window			
No. of Records Processed: 51826		No. of Records Selected: 163			
Date	Real Time	Elapsed Time (Hours)	Pressure (PSIG)	Temp. (°F)	Remarks
21/04/99	7:03:13	42.2203	1893.77	139.33	
21/04/99	7:04:34	42.2428	1886.49	139.02	
21/04/99	7:15:49	42.4303	1879.17	133.86	
21/04/99	7:16:49	42.4469	1872.05	133.61	
21/04/99	7:17:49	42.4636	1864.74	132.96	
21/04/99	7:18:43	42.4786	1857.71	132.18	
21/04/99	7:19:37	42.4936	1850.38	131.16	
21/04/99	7:20:28	42.5078	1843.06	129.95	
21/04/99	7:21:19	42.5219	1835.74	129.05	
21/04/99	7:22:07	42.5353	1828.47	127.56	
21/04/99	7:22:55	42.5486	1821.23	125.94	
21/04/99	7:23:46	42.5628	1813.95	124.22	
21/04/99	7:24:40	42.5778	1806.81	122.44	
21/04/99	7:25:34	42.5928	1799.38	120.59	
21/04/99	7:26:25	42.6069	1792.20	119.30	
21/04/99	7:27:04	42.6178	1785.14	117.31	
21/04/99	7:27:46	42.6294	1778.01	115.93	
21/04/99	7:28:34	42.6428	1770.23	113.80	
21/04/99	7:29:28	42.6578	1763.21	111.65	
21/04/99	7:30:25	42.6736	1755.97	109.57	
21/04/99	7:31:19	42.6886	1748.82	107.39	
21/04/99	7:32:10	42.7028	1741.66	105.11	
21/04/99	7:33:04	42.7178	1733.70	102.71	
21/04/99	7:33:55	42.7319	1726.69	101.03	
21/04/99	7:34:34	42.7428	1719.47	98.35	
21/04/99	7:35:25	42.7569	1712.42	96.47	
21/04/99	7:48:13	42.9703	1664.96	62.90	
21/04/99	7:48:16	42.9711	1454.48	62.90	
21/04/99	7:48:19	42.9719	1138.98	62.90	
21/04/99	7:48:22	42.9728	868.45	62.90	
21/04/99	7:48:25	42.9736	701.22	62.90	
21/04/99	7:48:28	42.9744	526.98	62.90	
21/04/99	7:48:31	42.9753	231.85	62.90	
21/04/99	7:48:34	42.9761	184.30	62.90	
21/04/99	7:48:37	42.9769	106.02	62.90	
21/04/99	7:48:40	42.9778	57.59	62.90	
21/04/99	7:48:43	42.9786	33.68	62.90	
21/04/99	7:48:55	42.9819	21.02	61.69	
21/04/99	7:48:58	42.9828	11.23	61.69	
21/04/99	7:55:31	43.0919	4.20	51.67	

EXPERTEST PTY. LTD.		Electronic Memory Recorder - Linear Plot			
Customer:	Boral Energy	Well Name:	North Paaratte #5	Formation:	Waarre
Perforations:	1521.5m-1527.m KB	Type Of Test:	Production Test	Operator:	N Hay
Date Of Test:	19/04 - 22/04/99			Control No.:	V191904A.99
McAllister File Ref: PRN V1.04		EMP-Q Serial Number: 2209			
EMP-Q Calibration I.D.: 2209-19049		Full Scale Pressure: 10000 Psi			
Probe Started: 19/04/99 @ 12:50:00		Data Filter: 1800 Secs; 7 PSI Window			





GAUGE RUN SHEET

V191904A.99

CUSTOMER: **Boral BATTERY**
 WELL NAME: **Nth Paracatte #5**
 TEST TYPE: **PBU/SGS**

PERFORATIONS: **4991, 79 - 5009, 84**
 FORMATIONS: **Wagone Formation**

PAGE: **1** OF **1**
 DATE: **19/4/99**
 OP: **R. Doyle**

GAUGE DATA		TOP GAUGE	BOTTOM GAUGE
ELEMENT SERIAL NO.		2123	2209
ELEMENT RANGE	PSI	10,000	10,000
ELEMENT TYPE		EMP-Q	EMP-Q
DATE OF CALIBRATION:		25/02/99	18/02/99
CLOCK SERIAL NO.			
CLOCK RANGE	HOURS		
ENGAGE BATTERY/SPARS DATE:	19/4/99 TIME	12:53	12:50
DISENGAGE BATTERY/SPARS DATE:	21/4/99 TIME	08:04	08:03
GAUGE RUN TIME AGGREGATE	HOURS	19.82	4.8
TEST DURATION	HOURS	4.3	4.3

RUN DATA		TIME (HOURS)	TUBING PRESSURE (PSI/SGS)	GAUGE RESPONSE (PSI/SGS)
DATE		19/4/99		
PRESSURE LUBRICATOR		12:58	1709	1720.9
RUN IN HOLE		13:08	1709	1720.9
ON DEPTH AT	4908 FIM	13:37	1709	
MAX. RECORDED BHP	PSI			1924.32
MAX. RECORDED BHT	'C/F			140.9°F
DATE		21/4/99		
PULL OUT OF HOLE		06:43	1708	
DEPRESSURE LUBRICATOR		07:50	1708	1716.6

NB: ALL DEPTHS ARE MEASURED FROM KB.

GAUGE CHECKS	LAB	TOP GAUGE	LAB	BOTTOM GAUGE
DATE/PERFORMED BY	19/4/99		R Doyle	
PRE-JOB CHECK		17.69 PSI A		18.44 PSI A
		58.51 F		57.27 F
DATE/PERFORMED BY	21/4/99			
POST-JOB CHECK		17.69 PSI A		18.39 PSI A
		51.97 F		50.77 F
DATE/PERFORMED BY	11-3-99		TONY SHEARING	
CAL. CHECK		399.7	399.7	399.6
		250	250	250

BATTERY DATA		TOP SERIAL NO.	BOTTOM SERIAL NO.	DATE
		R2-150-170	R2-144	
PRE-JOB PBU/BHP CYCLES:		3	3	19/4/99
PRE-JOB SGS/FGS CYCLES:		3	1	19/4/99
PRE-JOB LOADED VOLTS:		10.69 VL	10.66 VL	19/4/99
POST-JOB LOADED VOLTS:		10.05 VL	10.05 VL	21/4/99

OPERATOR'S SIGNATURE
R Doyle
 This sheet is submitted as 'Original' and is Not typed

COMMENTS: Bottom Zeroed.

ATTACHMENT B
NORTH PAARATTE 5
GAS COMPOSITION DATA

OPENING PRESSURE

JOB NUMBER: LQ7952

ANALYST: Carmeline Valente

WELL: North Paratte - 5

SEPARATOR: 5033Kpag @ 26°C

DATE: 20/04/99 @ 0900h

CYLINDER NO: #408

OPENING PRESSURE: 5500Kpag @ 40°C

LIQUID CHECK: Nil

OPENING PRESSURE

JOB NUMBER: LQ7952

ANALYST: Carmeline Valente

WELL: North Paratte - 5

SEPARATOR: 4465Kpag @ 34°C

DATE: 20/04/99 @ 1300h

CYLINDER NO: #109

OPENING PRESSURE: 4500Kpag @ 40°C

LIQUID CHECK: Nil

PETROLEUM SERVICES GAS ANALYSIS

Method GL-01-01

ASTM D 1945-91 (modified)

915077 064

Client: BORAL ENERGY RESOURCES Ltd

Report # LQ7952

Sample: NORTH PAARATTE-5
 Separator Meter Run
 5033 kPag @ 26°C
 24/04/99, 0900 h, Cyl # 408

GAS	MOL %
Nitrogen	1.68
Carbon Dioxide	0.35
Methane	96.02
Ethane	1.38
Propane	0.04
I-Butane	0.05
N-Butane	0.00
I-Pentane	0.01
N-Pentane	0.00
Hexanes	0.06
Heptanes	0.18
Octanes and higher h'cs	0.23
Total	100.00

(0.00 = less than 0.01%)

The above results are calculated on an air and water free basis assuming only the measured constituents are present
 The following parameters are calculated from the above composition at 15°C and 101.325 kPa (abs)

Average Molecular Weight	16.99
Lower Flammability limit	4.95
Upper Flammability limit	15.17
Ratio of upper to lower	3.07
Wobbe Index	49.91
Compressibility Factor	0.9979
Ideal Gas Density (Rel to air = 1)	0.587
Real gas Density (Rel to air = 1)	0.588
Ideal Nett Calorific Value MJ/m ³	34.46
Ideal Gross Calorific Value MJ/m ³	38.23
Real Nett Calorific Value MJ/m ³	34.54
Real Gross Calorific Value MJ/m ³	38.31
Gross calorific value of water-saturated gas MJ/m ³	37.56

This report relates specifically to the sample submitted for analysis.

Approved Signatory

Diane Cass

Accreditation No.

2013

Date :

07-05-99

AMDEL PETROLEUM SERVICES

Method GL-02-03

Client: **BORAL ENERGY RESOURCES LTD**

Report # **LQ7952**

Sample: **NORTH PAARATTE-5**
5033kPag @ 26°C
20/04/99, 0900 h, Cyl# 355

HP Gas Rate 28.32 x 1000 m3/D
 Stock Tank Oil Rate 0.10 m3/D

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Component	Mol %	US Gallon/1000ft3
Nitrogen	1.68	-----
Carbon Dioxide	0.35	-----
Methane	95.96	-----
Ethane	1.38	0.37
Propane	0.04	0.01
I-Butane	0.05	0.02
N-Butane	0.00	0.00
I-Pentane	0.01	0.00
N-Pentane	0.00	0.00
Hexanes	0.06	0.03
Heptanes	0.19	0.09
Octanes plus	0.27	0.14
TOTAL	100.00	0.65

DERIVED DATA FROM FULL WELL STREAM COMPOSITION

Molecular Weight		17.05
Gas Density (rel air = 1)		0.589
Molecular Weight C8+		116.3
Density C8+		0.7165
Wobbe Index	49.96	1341
Heating Value	Gross: 38.33 MJ/m3	1029 BTU/ft3
	Nett: 34.56 MJ/m3	928 BTU/ft3
Critical Temperature Tc	193.7 °K	348.6 °R
Critical Pressure Pc	4586 kPa abs	665.2 psia
Gas Liquid Ratio C4-/C5+	29212 m3/m3	

Sales Gas And Liquid Recovery

Assuming Liquid Recovery of 75% C2, 95% C3, 100% C4+ and Sales Gas Content of 2.5% CO2

Gas Shrinkage	1.0050
Liquid Content of Raw Gas (US Bbl/MMSCF) Ethane	6.6
LPG	0.7
Pentane +	6.0

Approved Signatory

Diane Cass

Accreditation No: 2013

Date

07-May-99

AMDEL PETROLEUM SERVICES

Page 2 of 5

Method GL-02-03

Client: BORAL ENERGY RESOURCES LTD

Report # LQ7952

Sample: NORTH PAARATTE-5
 5033kPag @ 26°C
 20/04/99, 0900 h, Cyl# 355

COMPOSITIONAL ANALYSIS OF RECOMBINED SEPARATOR FLUID

Component	Flashed Stock Tank Liquid Mol %	Flashed Stock Tank Gas Mol %	Recomb. Sep. Liquid Mol %
Nitrogen	-----	0.34	0.07
Carbon Dioxide	-----	0.71	0.15
Methane	-----	89.47	18.37
Ethane	0.26	5.84	1.40
Propane	0.05	0.38	0.12
I-Butane	0.24	0.67	0.33
N-Butane	0.16	0.06	0.14
I-Pentane	0.08	0.16	0.10
N-Pentane	0.07	0.01	0.05
Hexanes	1.73	1.11	1.60
Heptanes	15.39	0.93	12.42
Octanes plus	82.03	0.32	65.25
TOTAL	100.00	100.00	100.00

RATIOS

Molar ratio	0.7949	0.2051	1.0000
Mass Ratio	0.9603	0.0397	1.0000
Gas Liquid Ratio	1.00 bbl @ SC	218.6 SCF	-----

STREAM PROPERTIES

Molecular Weight	121.7	19.5	100.7
Density obs(g/cc)	0.7743 @ 15°C	-----	-----
API-Gas Density	51.17 API @60°F	0.673 (air=1)	-----
GHV (BTU/scf)	-----	1173	-----

OCTANE PLUS PROPERTIES

Mol %	82.03	0.32	65.25
Molecular Weight	127.2	114.2	127.2
Density (g/cc)	0.7922 @ 15°C	-----	-----
API @ 60°F	47.06	-----	-----

LABORATORY FLASH SEPARATION DETAILS

Separation Temperature	21	°C
Flash Gas Volume	16.40	litres
Stabilised Liquid Volume	422	ml
Liquid Density	0.7692	g/ml

AMDEL PETROLEUM SERVICES

Page 3 of 5

Method GL-02-03

Client: BORAL ENERGY RESOURCES LTD

Report # LQ7952

Sample: NORTH PAARATTE-5
 5033kPag @ 26°C
 20/04/99, 0900 h, Cyl# 355

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Component	Separator Liquid Mol %	Separator Gas Mol %	Recomb. Reservoir Fluid Mol %
Nitrogen	0.07	1.68	1.68
Carbon Dioxide	0.15	0.35	0.35
Methane	18.37	96.01	95.96
Ethane	1.40	1.38	1.38
Propane	0.12	0.04	0.04
I-Butane	0.33	0.05	0.05
N-Butane	0.14	0.00	0.00
I-Pentane	0.10	0.01	0.01
N-Pentane	0.05	0.00	0.00
Hexanes	1.60	0.06	0.06
Heptanes	12.42	0.18	0.19
Octanes plus	65.25	0.23	0.27
TOTAL	100.00	100.00	100.00

RATIOS

Molar ratio	0.0006	0.9994	1.0000
Mass Ratio	0.0038	0.9962	1.0000

STREAM PROPERTIES

Molecular Weight	100.7	17.0	17.0
Gas Density	-----	0.587 (air=1)	0.589
GHV (BTU/scf)	-----	1026	1029

OCTANE PLUS PROPERTIES

Mol %	65.25	0.23	0.27
Molecular Weight	127.2	114.2	116.3
Density (g/cc) @15°C	-----	-----	0.7165
API @ 60°F	-----	-----	65.90

AMDEL PETROLEUM SERVICES

Flash Liquid Analysis

Page 4 of 5

Method GL-02-03

Client: BORAL ENERGY RESOURCES LTD

Report # LQ7952

Sample: NORTH PAARATTE-5
 5033kPag @ 26°C
 20/04/99, 0900 h, Cyl# 355

Boiling Point Range (Deg.C)	Component	Weight%	Mol%
-88.6	Ethane	0.06	0.26
-42.1	Propane	0.02	0.05
-11.7	I-Butane	0.11	0.24
-0.5	N-Butane	0.08	0.16
27.9	I-Pentane	0.05	0.08
36.1	N-Pentane	0.04	0.07
36.1-68.9	C-6	1.23	1.73
80.0	Benzene	0.00	0.00
68.9-98.3	C-7	12.67	15.39
100.9	Methylcyclohexane	16.26	20.15
110.6	Toluene	0.07	0.09
98.3-125.6	C-8	13.49	14.37
136.1-144.4	Ethylbenz+Xylenes	3.31	3.79
125.6-150.6	C-9	13.34	12.66
150.6-173.9	C-10	19.54	16.71
173.9-196.1	C-11	9.33	7.26
196.1-215.0	C-12	5.33	3.81
215.0-235.0	C-13	2.81	1.86
235.0-252.2	C-14	1.34	0.82
252.2-270.6	C-15	0.74	0.42
270.6-287.8	C-16	0.14	0.08
287.8-302.8	C-17	0.03	0.02
302.8-317.2	C-18	0.00	0.00
317.2-330.0	C-19	0.00	0.00
330.0-344.4	C-20	0.00	0.00
344.4-357.2	C-21	0.00	0.00
357.2-369.4	C-22	0.00	0.00
369.4-380.0	C-23	0.00	0.00
380.0-391.1	C-24	0.00	0.00
391.1-401.7	C-25	0.00	0.00
401.7-412.2	C-26	0.00	0.00
412.2-422.2	C-27	0.00	0.00
>422.2	C-28+	0.00	0.00
	Total	100.00	100.00

(0.00 = LESS THAN 0.01%)

The above boiling point 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.

Oil Parameters:

Density of Oil @ 21.0 °C	0.7692	
Specific Gravity @ 15.6 °C	0.7746	
API Gravity	51.17	
Specific Gravity of C8+ fraction	0.7925	(calc)
Average molecular weight of C8+ fraction	127	

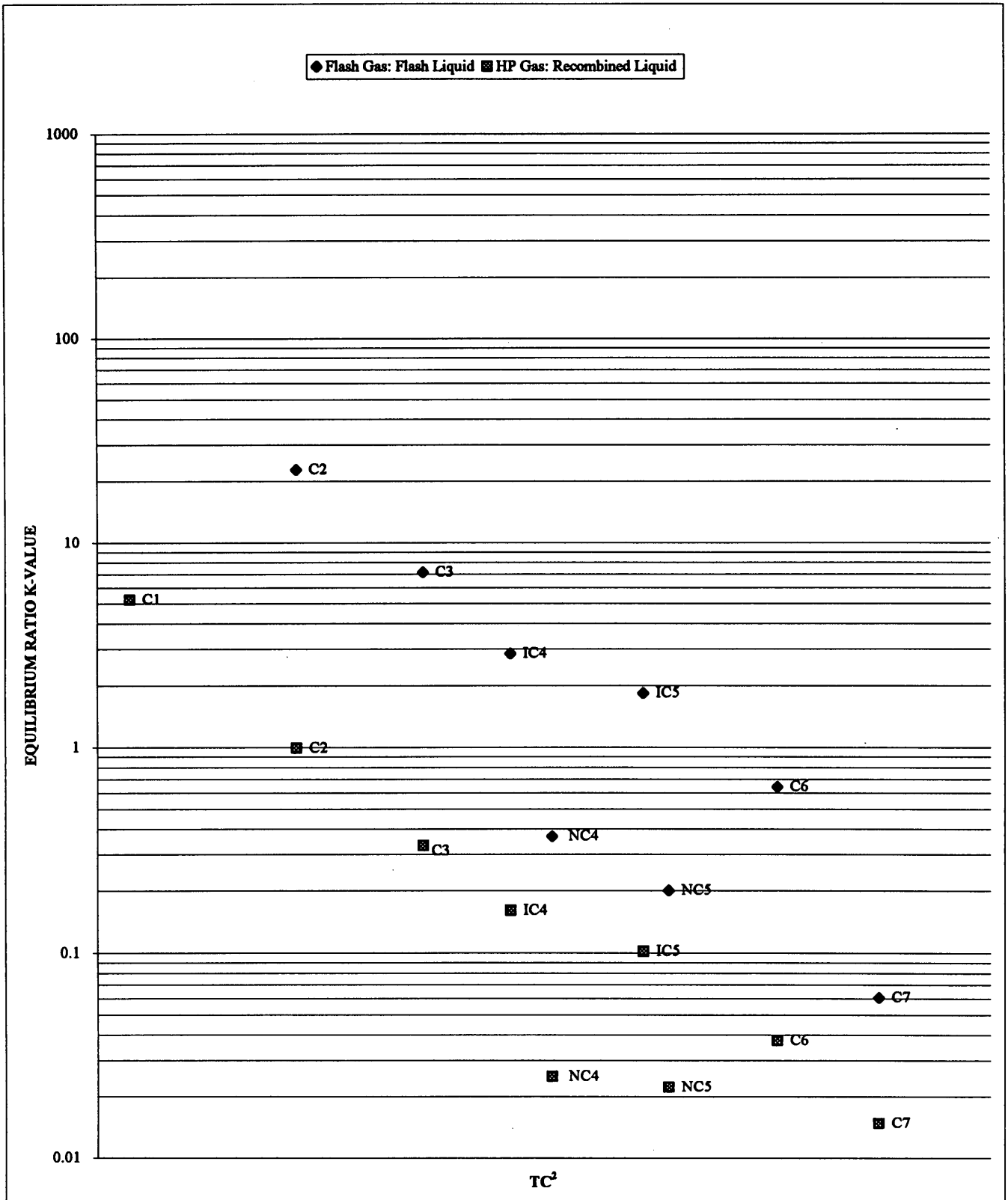
AMDEL PETROLEUM SERVICES

Method GL-02-03

Client: BORAL ENERGY RESOURCES LTD

Report # LQ7952

Sample: NORTH PAARATTE-5
 5033kPag @ 26°C
 20/04/99, 0900 h, Cyl# 355



AMDEL PETROLEUM SERVICES
Method GL-02-03

Appendix A
Page A1

Client: BORAL ENERGY RESOURCES LTD

Report # LQ7952

Sample: NORTH PAARATTE-5
5033kPag @ 26°C
20/04/99, 0900 h, Cyl# 355

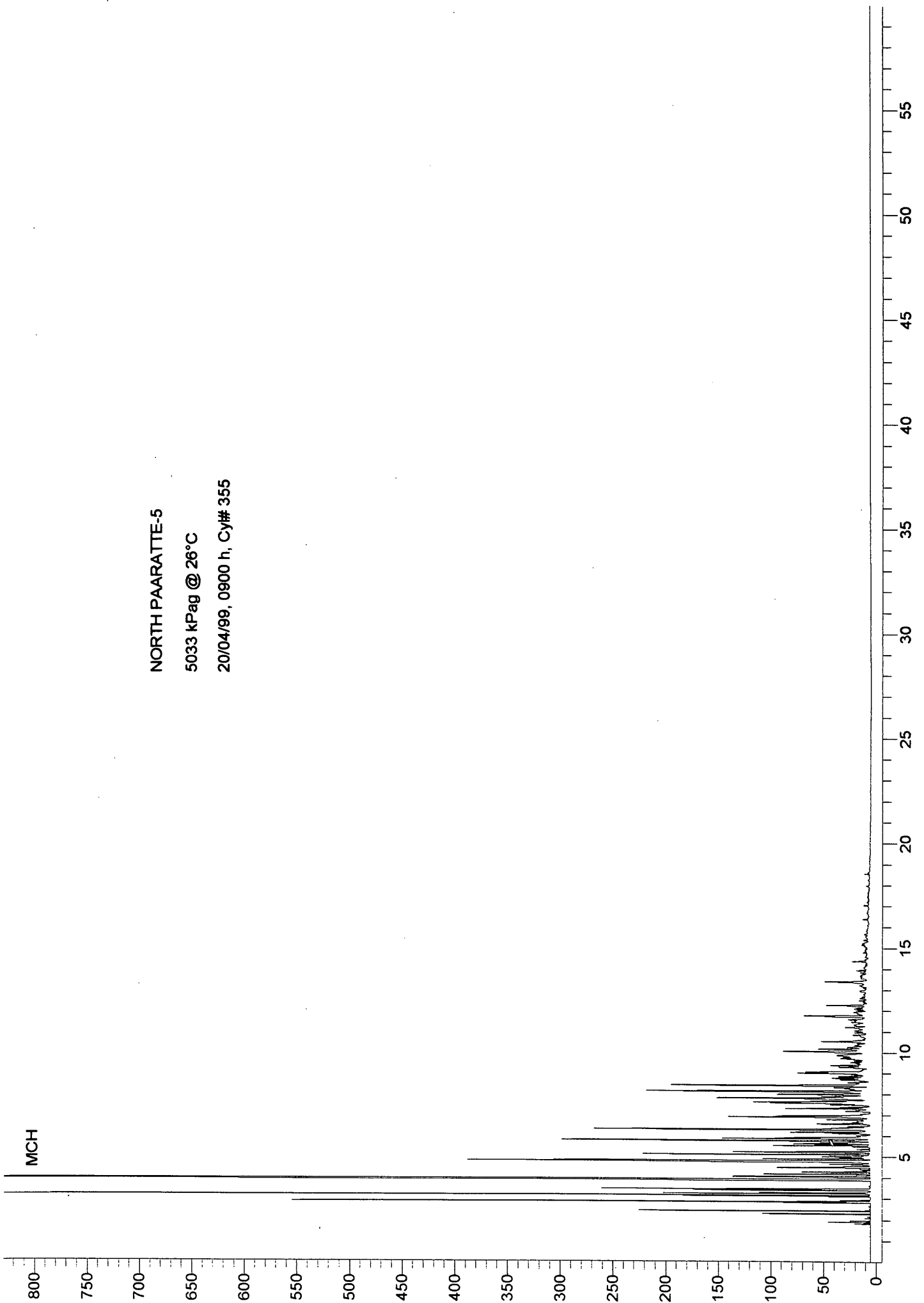
Full Well Stream

Separator Gas	1.000	MMSCF		
Stock Tank Oil Rate	0.600	BBLs		
			Av Mol Wt	
Flash Gas Moles	0.689		19.48	
Flash Liquid Moles	2.668		121.66	
Recombination Moles	3.357			
Molar Shrinkage Factor	0.795			
Full Well Stream	764	Moles Liquid	0.06%	
Molar ratio	1195108	Moles Gas	99.94%	

	Flash Gas Mol%	Flash Liquid Mol%	Recomb. Liquid Mol%	HP Gas Mol%	Full Well Stream Mol%
Nitrogen	0.34	-----	0.07	1.68	1.68
Carbon Dioxide	0.71	-----	0.15	0.35	0.35
Methane	89.47	-----	18.37	96.01	95.96
Ethane	5.84	0.26	1.40	1.38	1.38
Propane	0.38	0.05	0.12	0.04	0.04
I-Butane	0.67	0.24	0.33	0.05	0.05
N-Butane	0.06	0.16	0.14	0.00	0.00
I-Pentane	0.16	0.08	0.10	0.01	0.01
N-Pentane	0.01	0.07	0.05	0.00	0.00
Hexanes	1.11	1.73	1.60	0.06	0.06
Heptanes	0.93	15.39	12.42	0.18	0.19
Octanes plus	0.32	82.03	65.25	0.23	0.27
	100.00	100.00	100.00	100.00	100.00
Av.Mol.Weight	19.48	121.66	100.69	16.99	17.05

K Factors	Flash Gas/ Flash Liquid Ratio	HP Gas/ Recombined Liquid Ratio
C1	-----	5.23
C2	22.70	0.99
C3	7.14	0.33
IC4	2.84	0.16
NC4	0.37	0.03
IC5	1.84	0.10
NC5	0.20	0.02
C6	0.64	0.04
C7	0.06	0.01

NORTH PAARATTE-5
5033 kPag @ 26°C
20/04/99, 0900 h, Cy# 355



PETROLEUM SERVICES GAS ANALYSIS

Method GL-01-01

ASTM D 1945-91 (modified)

Client: BORAL ENERGY RESOURCES Ltd

Report # LQ7952

Sample: NORTH PAARATTE-5
 Separator Meter Run
 4465 kPag @ 34°C
 20/04/99, 1300 h, Cyl # 109

GAS	MOL %
Nitrogen	1.74
Carbon Dioxide	0.35
Methane	95.93
Ethane	1.39
Propane	0.04
I-Butane	0.05
N-Butane	0.00
I-Pentane	0.01
N-Pentane	0.00
Hexanes	0.06
Heptanes	0.19
Octanes and higher h'cs	0.24
Total	100.00

(0.00 = less than 0.01%)

The above results are calculated on an air and water free basis assuming only the measured constituents are present
 The following parameters are calculated from the above composition at 15°C and 101.325 kPa (abs)

Average Molecular Weight	17.02
Lower Flammability limit	4.95
Upper Flammability limit	15.18
Ratio of upper to lower	3.07
Wobbe Index	49.90
Compressibility Factor	0.9979
Ideal Gas Density (Rel to air = 1)	0.588
Real gas Density (Rel to air = 1)	0.589
Ideal Nett Calorific Value MJ/m ³	34.48
Ideal Gross Calorific Value MJ/m ³	38.25
Real Nett Calorific Value MJ/m ³	34.56
Real Gross Calorific Value MJ/m ³	38.33
Gross calorific value of water-saturated gas MJ/m ³	37.58

This report relates specifically to the sample submitted for analysis.

Approved Signatory

Diane Cass

Accreditation No.

2013

Date :

07-05-99