OMV Australia

WELL COMPLETION REPORT (INTERPRETIVE)

Patricia-2

Permit VIC/L21

Offshore Gippsland Basin

August 2003

OMV Australia

OMV Australia

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PERMIT VIC/L21

OFFSHORE GIPPSLAND BASIN
VICTORIA
AUSTRALIA

PATRICIA-2

WELL COMPLETION REPORT INTERPRETIVE DATA

VOLUME 2

July, 2003

CONFIDENTIAL

PERMIT VIC/L21
OFFSHORE GIPPSLAND BASIN
VICTORIA
AUSTRALIA

PATRICIA-2

WELL COMPLETION REPORT INTERPRETIVE DATA

VOLUME 2

July, 2003

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Reviewed by _____ **Date** 20/08/03
Operations Geologist

Approved by _____ **Date** 20/8/03
Exploration Manager

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WELL INDEX CARD **PATRICIA-2**

WELL	**PATRICIA-2**	**SPUD**	16:00 hrs, 20th June 2002
WELL TYPE	Horizontal Development	**TD REACHED**	01:00 hrs, 28th June 2002
BLOCK/LICENCE	VIC/L21	**RIG RELEASE**	00:45 hrs, 9th July 2002
RIG	Ocean Bounty	**COMPLETION**	Sand screen from 896.9 mMDRT (-677.0 mTVDSS) to 1384.5 mMDRT (-676.5 mTVDSS)
WATER DEPTH	52.5 m (LAT)	**STATUS**	Suspended production well
RT	25.0 m	**TRAP TYPE**	Fault bounded anticline
TD	1385.0 mMDRT (-676.5 mTVDSS)	**OPERATOR**	Basin Oil Pty Ltd (A wholly owned subsidiary of OMV Australia Pty Ltd)

SURFACE LATITUDE	38° 01' 39.95" S	**SURFACE Y coord**	5 790 098.7 mN
SURFACE LONGITUDE	148° 26' 57.78" E	**SURFACE X coord**	627 207.7 mE
HEEL Y Co-ord	5 789 889.1 mN	**TOE Y Co-ord**	5 789 566.5 mN
HEEL X Co-ord	626 942.6 mE	**TOE X Co-ord**	626 533.0 mE
SEISMIC REFERENCE	Surface: Inline 403, Xline 3688 Objective: Inline 417, Xline 3552 (Baleen 3D 2000)	**Spheroid/Datum** **ZONE**	ANS/AGD66 AMG Zone 55 S (CM 147°East)

WELL CONSTRUCTION

HOLE SIZE mm (inch)	CASING SIZE mm (inch)	SHOE DEPTH mRT (mTVDSS)	TYPE	LOT sg
915 (36)	762x509 (30x20)	111.5 (-86.5)	X-52	N/A
444 (17 ½)	340 (13 3/8)	327.0 (-301.0)	K55	1.73 (FIT)
311 (12 ¼)	244 (9 5/8)	872.0 (-651.0)	L80	1.4 (FIT)
216 (8 ½)	168 (6 5/8)	1384.5 (-676.5)	Production liner (Excluder 2000 Sand Screen)	N/A

CORES

No cores were cut in Patricia-2.

MUD DATA

FEWD RUN	1	2	3
TYPE	Seawater/Hi vis	KCl/PHPA/GLYCOL	KCl/FLO-PRO
DENSITY (sg)	1.06	1.08	1.12
VISCOSITY(sec/qt)	100	54	60
FLUID LOSS(mptm)		5.6	4.8
pH		8.7	9.5
Rm (ohmm)		0.18/22.00 degC	0.10/19.4 degC
Rmf (ohmm_		0.12/22.00 degC	0.09/19.4 degC
Rmc (ohmm)		0.28/22.00 degC	0.06/19.4 degC
Chlorides (ppm)		35000	72000
KCl (%wt)		5	3
Glycol (%vol)		3	-

FEWD LOGS

LOG TYPE	RUN	INTERVAL mMDRT	HOLE SIZE
DGR/EWRP4/DM/DDS	1	111.5 – 334.0	444 mm (17 ½")
DGR/EWRP4/DM/DDS	2	334.0 – 884.0	311 mm (12 ¼")
DGR/EWRP4/SLD/CNP/PM	3	884.0 – 1385.0 (total depth)	216 mm (8 ½")

WIRELINE LOGS
No wireline logs were run in Patricia-2.

LWD LOG INTERPRETATION (Weighted Averages)

ZONE	INTERVAL (mRT)	THICKNESS (mMD)	NET PAY (mMD)	TOTAL POR AV (%)	AV Sw (%)
Gurnard Formation	889.0 – 1363.0	474.0	404.4	39.0	Not calculated due to complex lithology and severe gas effect

DRILL STEM TESTS

DST	Formation	Interval	Flow rate	Choke	GOR
1	Gurnard	Excluder 2000 Sand Screens from 896.9 mMDRT (-677 mTVDSS) to 1384.5 mMDRT (-676.5 mTVDSS)	28.2 MMscf/d	No choke, Max. Flow	N/A

FORMATION TOPS

AGE	FORMATION	MEASURED DEPTH mMDRT	SUBSEA mTVDSS	THICKNESS mTVT
Early Miocene	Gippsland Limestone - Seafloor	77.5	-52.5	575.7
Late Oligocene	Lakes Entrance Formation	721.4	-628.2	38.8
(Late) Middle Eocene	Latrobe Group – Gurnard Formation	819.4	-667.0	4.3
(Late) Middle Eocene	Top Subgrid 2 (Top porosity)	842.8	-671.3	3.8
(Late) Middle Eocene	Top Subgrid 3	958.6	-675.1	1.0
(Late) Middle Eocene	Top Subgrid 4 (down)	1060.8	-676.1	0.3
(Late) Middle Eocene	Top Subgrid 4 (up)	1168.2	-676.4	0.5
(Late) Middle Eocene	Top Subgrid 3 (up)	1290.8	-675.9	0.6
	Total Depth	**1385.0**	**-676.5**	**-**

BIOSTRATIGRAPHY
No biostratigraphic analysis was performed.

REMARKS

Patricia-2 was drilled as a horizontal Gurnard Formation gas development well within the Patricia gas field in permit VIC/L21. The main objectives of the well were to drill and complete a 500 m production interval. The well was tested over the interval 896.9 mMDRT (-677.0 mTVDSS) to 1384.5 mMDRT (-676.5 mTVDSS) and flowed 28.2 MMscf/d gas.

PATRICIA-2
INTERPRETIVE REPORT
Volume 2

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1.0 INTRODUCTION

1.1 WELL SUMMARY

Patricia-2 was drilled in the offshore Gippsland Basin as a crestal horizontal gas development well on the Patricia gas field. The Patricia-Baleen development in permit VIC/L21 (Figure 1) lies approximately 570 km from Geelong and 280 km from Port Welshpool. The field is on the northern edge of the basin, between the Rosedale and Lake Wellington Faults. The offshore Patricia-Baleen gas production facilities are located in 50 to 60 m of water, 23 km south of the town of Orbost in south eastern Victoria. The Patricia-2 surface location was north west of Patricia-1 and the final bottom hole (toe) location was south west of Patricia-1.

The main objectives of the well were to drill and complete for commercial production, a 500 m section through the Gurnard Formation reservoir. The programme also called for the determination of well deliverability, pre-development reservoir pressures, flowing pressure data and the collection of representative gas samples. All of these requirements were achieved and the well was suspended as a gas producer, completing the planned subsurface development of the field. Completion schematics are included as Figures 2 to 4.

The Patricia-2 well was spudded at 16:00 hrs on the 20 June, 2002 in 52.5 m of water and was drilled to a total depth of 1385.0 mMDRT (-676.5 mTVDSS), which was reached at 01:00 hrs, 28 June, 2002. After the conductor had been installed and 444 mm (17 ½") hole had been drilled, the 340 mm (13 3/8") shoe was set at 327.0 mMDRT (-301.0 mTVDSS). A production well head was installed and successfully pressure tested before connecting the BOP's and marine riser. The 311 mm (12 ¼") hole was deviated from 334.0 mMDRT (-308.0 mTVDSS) to 884.0 mMDRT (-698.0 mTVDSS) (section TD). The last survey taken at 862.9 mMDRT (-675.3 mTVDSS) was 85.2 degrees with an azimuth of 229 degrees. The 244 mm (9 5/8") casing was installed with the casing shoe at 872.0 mMDRT (-651.0 mTVDSS). A 216 mm (8½") production section was drilled from 884.0 mMDRT (-698.0 mTVDSS) to a total depth of 1385.0 mMDRT (-676.5 mTVDSS). The average azimuth of the horizontal section is 232°.

The well penetrated the gas reservoir in the Middle to Late Eocene-aged Gurnard Formation at 819.4 mMDRT (-667.0 mTVDSS), some 4.7 m high to prognosis. Sub grid unit 2 (top porosity) was encountered 4.2 m high to prognosis and sub grid units 3 and 4 were intersected 4.4 m and 4.9 m high respectively. Sub grid unit 4 drilling up section was intersected 7.3 m high to prognosis and sub grid unit 3 (going up section) was drilled at 1290.8 mMDRT (-675.9 mTVDSS), 3.6 m high to prognosis.

LOCATION MAP

GIPPSLAND BASIN

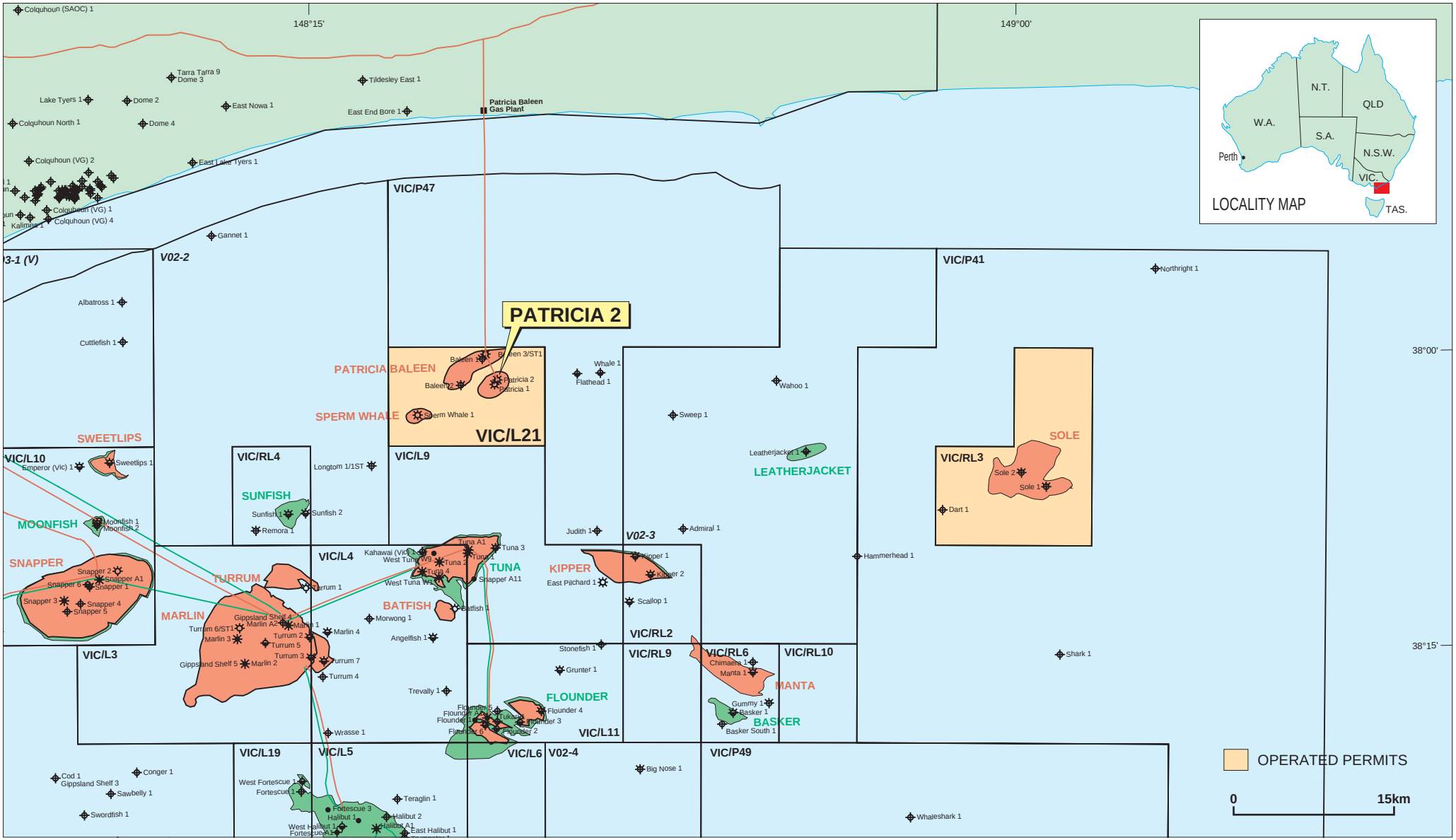

FIGURE 1

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Patricia 2
Final Well Completion.

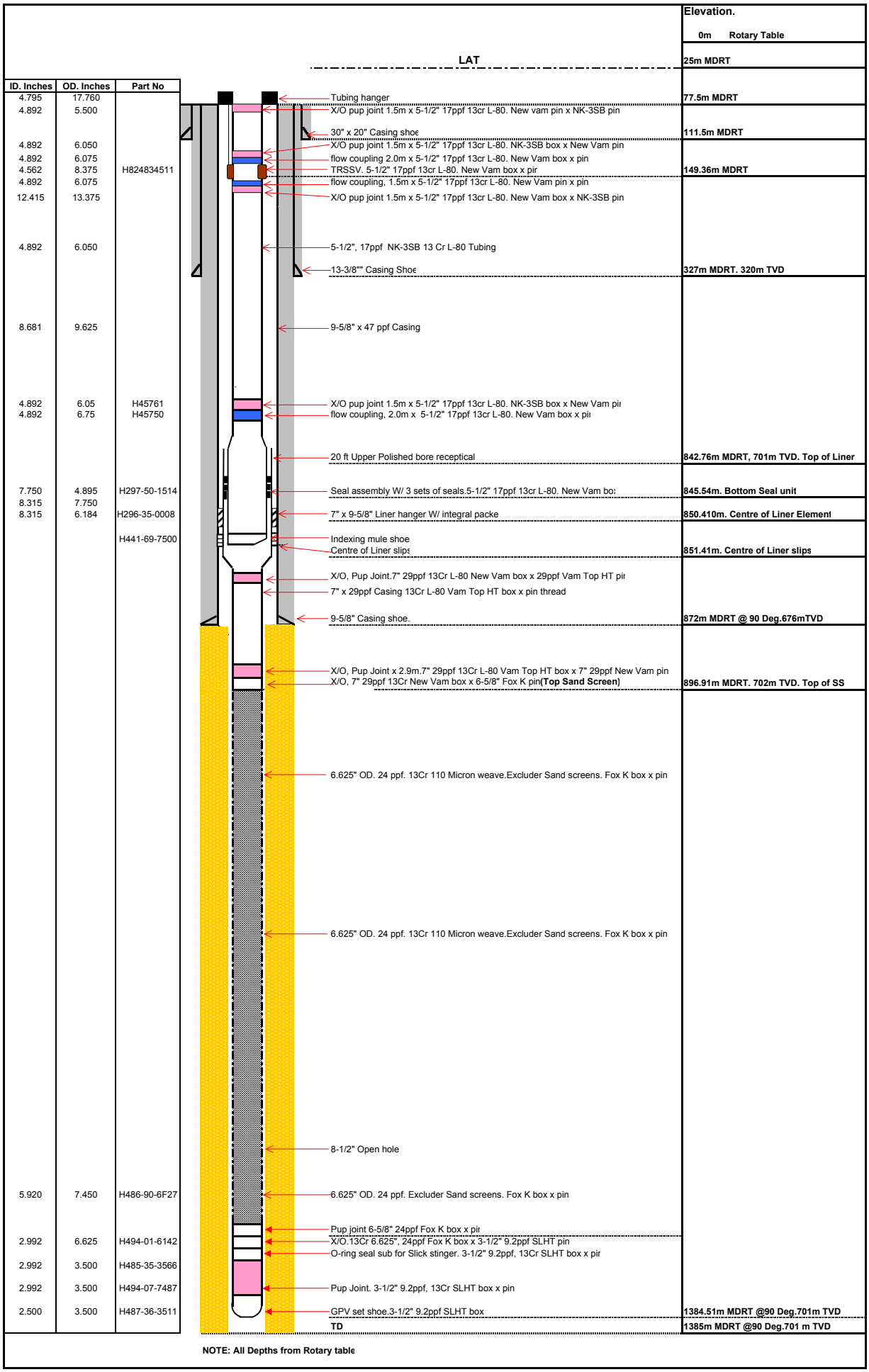
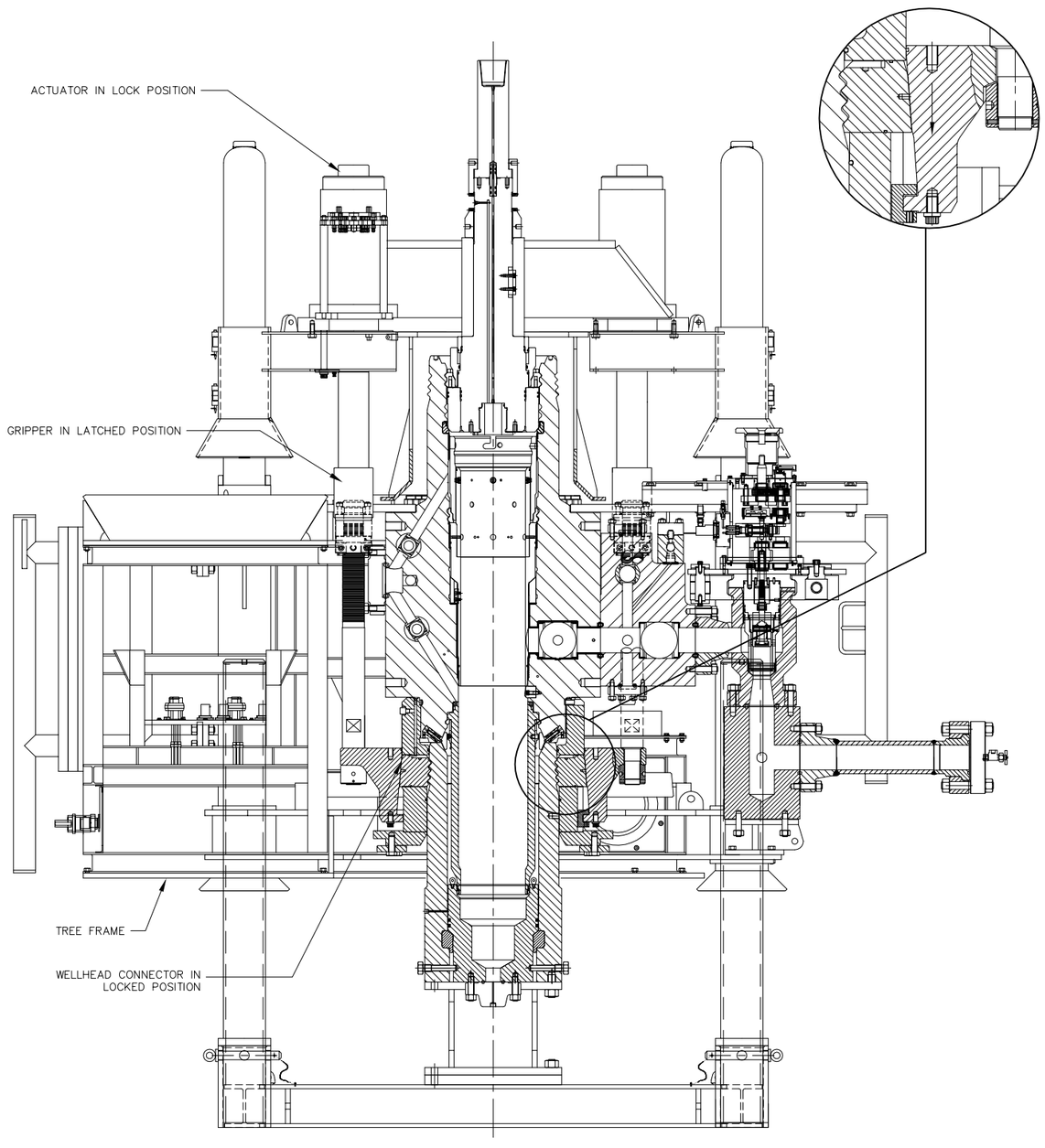


Figure 2

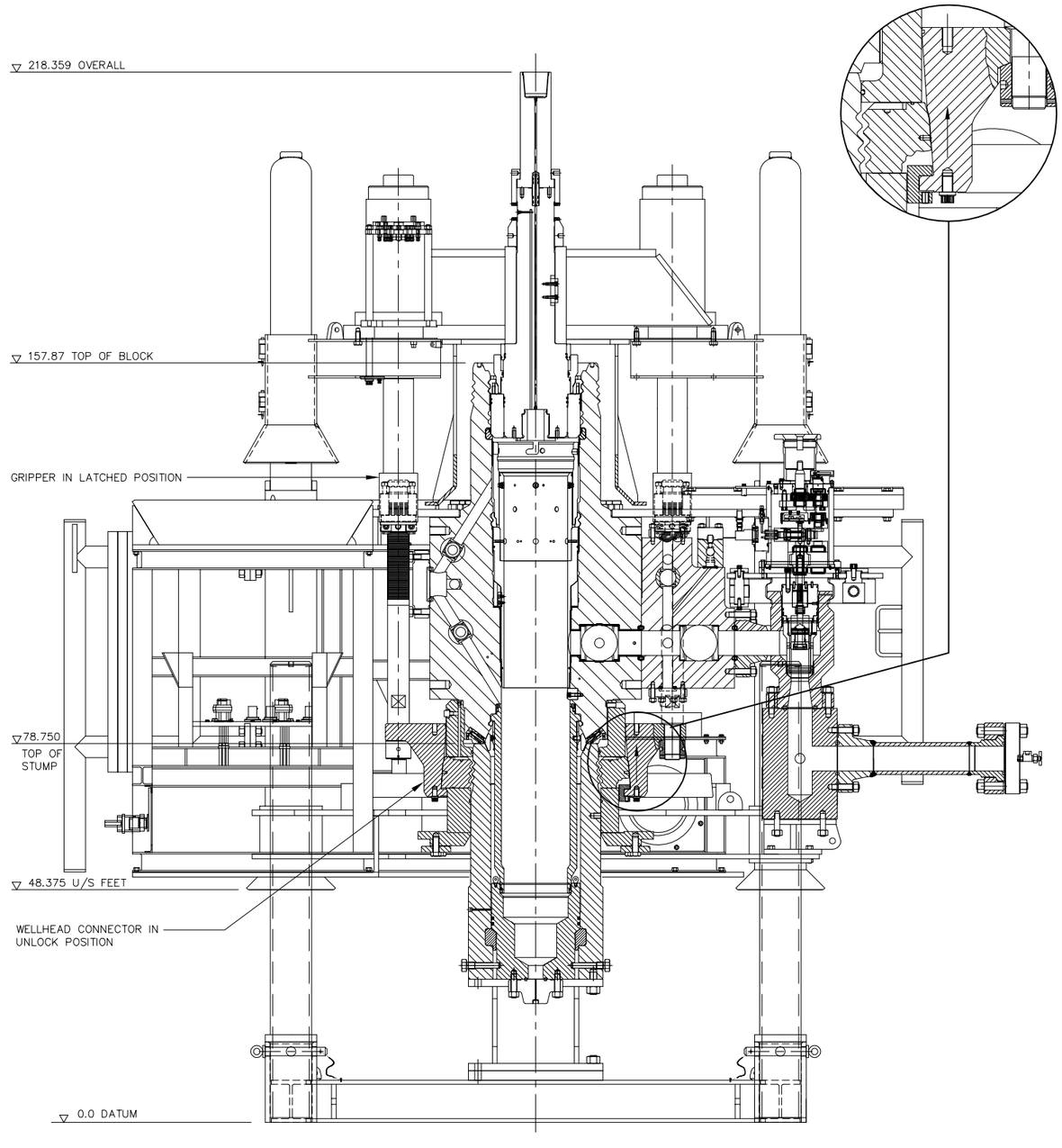
1



TRT LATCHED TO WELLHEAD CONNECTOR ACTUATOR

SK–156101–03 | REV 01

2

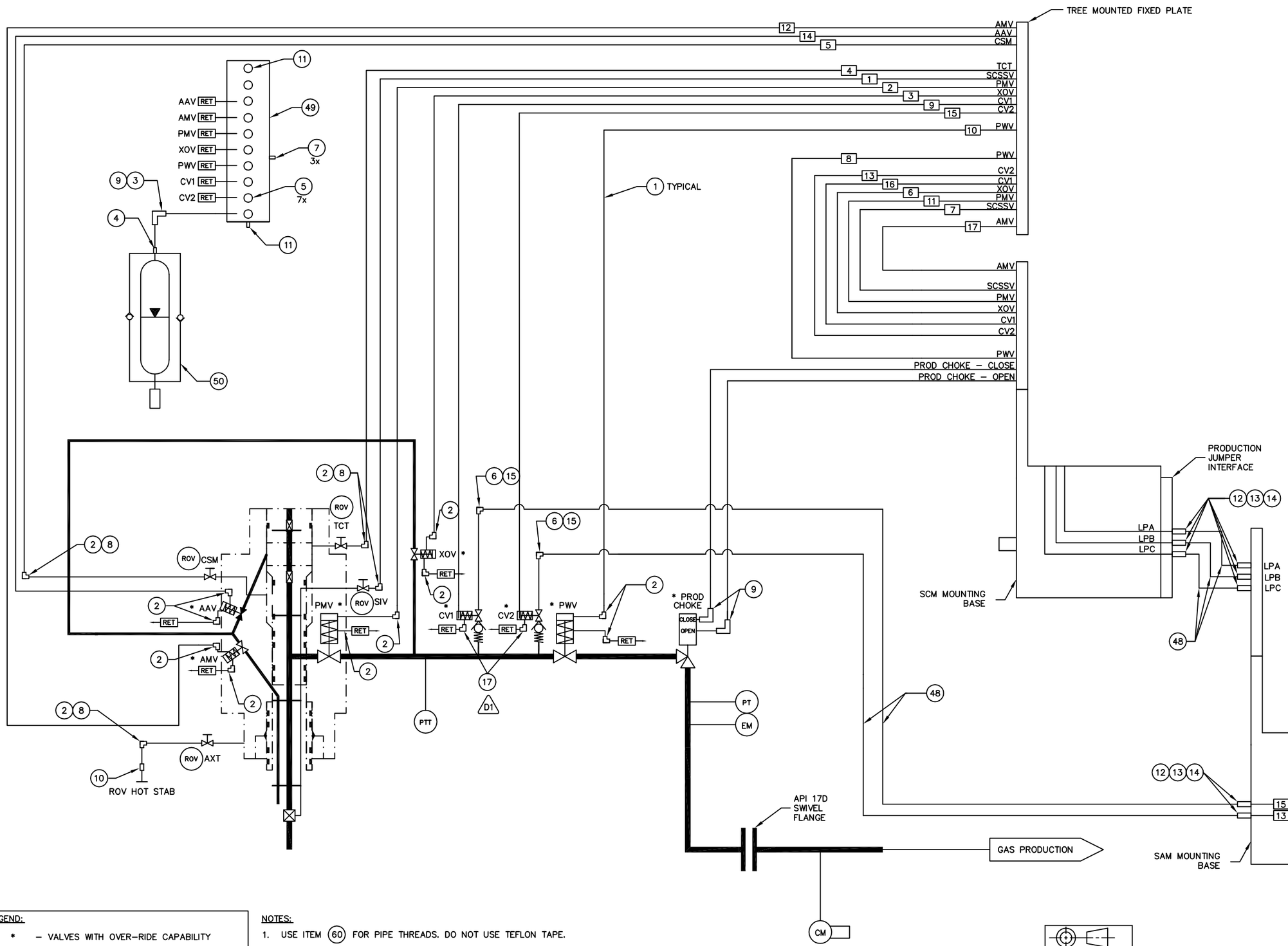


TRT LATCHED TO WELLHEAD CONNECTOR ACTUATOR

FIGURE 1.3, INSTALL SPOOL TREE ASSEMBLY ON TEST SKID

Figure 3

ITEMS	DESCRIPTION
AAV	ANNULUS ACCESS VALVE
AMV	ANNULUS MASTER VALVE
AXT	AX GASKET TEST
CM	CORROSION MONITOR
CP	CHOKE POSITION INDICATOR
CSM	CAVITY SEAL MONITOR
CV1	CHEMICAL INJECTION VALVE 1
CV2	CHEMICAL INJECTION VALVE 2
EFLA	ELECTRICAL FLYING LEAD A
EFLB	ELECTRICAL FLYING LEAD B
EFL CM	ELECTRICAL FLYING LEAD CM
EM	EROSION MONITOR
HFL	HYDRAULIC FLYING LEAD
LPA	LOW PRESSURE HYDRAULIC SUPPLY A
LPB	LOW PRESSURE HYDRAULIC SUPPLY B
PMV	PRODUCTION MASTER VALVE
PT	PRESSURE TRANSDUCER
PTT	PRESSURE AND TEMPERATURE TRANSDUCER
PWV	PRODUCTION WING VALVE
RET	RETURN
SAM	SUBSEA ACCUMULATOR MODULE
SIV	SCSSV ISOLATION VALVE
SCM	SUBSEA CONTROL MODULE
SCSSV	SURFACE CONTROL SUBSEA SAFETY VALVE
TCT	TREE CAP TEST
XOV	CROSS OVER VALVE



LEGEND:

* – VALVES WITH OVER–RIDE CAPABILITY

——— – HYDRAULIC LINES

(ROV) – ROV ACTUATED ISOLATION NEEDLE VALVES

NOTES:

1. USE ITEM (60) FOR PIPE THREADS. DO NOT USE TEFLON TAPE.
2. REMOVE 4 TUBING CONNECTORS (1/4" NPTM X 3/8" TUBE) WHICH ARE ON TOP OF CV1 & CV2 AND REPLACE WITH (19). D1

CAD PRODUCED DOCUMENT – NO MANUAL REVISIONS ALLOWED

TOLERANCE UNLESS OTHERWISE SPECIFIED
.X ± ~
.XX ± ~
.XXX ± ~
ANGLES ± ~
~ √AA ON ALL MACHINED SURFACES

SURFACE TREATMENT ~
MATERIAL & HEAT TREAT ~
SUPERSEDES ~ DATE

DO NOT SCALE

DRAWN BY	AFANDI	DATE 27 FEB 02
CHECKED	LAURENCE LIM	DATE 01 MAR 02
APPROVED	KEVIN KEOSOFF	DATE 01 MAR 02
INITIAL USE B/M	2202311–01	

CAMERON
Cooper Cameron (Singapore) Pte Ltd.
Subsidiary of Cooper Cameron Corp.
2 Gul Circle, Singapore 629560

HYDRAULIC PIPING SCHEMATIC
5"–5M G2 SPOOL TREE
OMV, PATRICIA BALEEN GAS PROJECT

SHEET 1 OF 2

SK–156052–01

D1 C1 B1 A1 REV

Figure 4

Analysis of LWD gamma ray, resistivity, neutron and density logs indicated that Patricia-2 intersected a gross gas bearing interval from 889.0 to 1363.0 mMDRT (thickness 474.0 m) with net pay of 404.4 m (85.3%). Average log-derived total porosity in the intersected pay section (sub grids 2, 3 and 4) is 39.0%.

Structural dip interpretation and correlations from HSI (Horizontal Solutions International-Appendix 1 of this report) indicate the Lakes Entrance Formation has dips varying from 11 degrees north to 7 degrees south. The interpreted dip across the deepest 5 m of the Lakes Entrance Formation and top 2 m of Gurnard Formation is 2.3 degrees to the north. Dips in the Gurnard Formation sub grid units vary from 1.5 to 4.5 degree north to south and were close to expectations, confirming the robustness of reservoir geometry.

High gas readings were recorded while drilling through the reservoir from 819.4 to 1385.0 mRT with a maximum total gas of 12.5% occurring at 843.0 mMDRT. No hydrocarbon fluorescence was observed.

A 168 mm (6 5/8") production liner was installed, consisting of "Excluder 2000" sand screens and 140 mm (5 1/2") completion tubing was landed for the completion. The well was then tested at a maximum flow of 28.2 MMscf/d before being suspended. Anchors were pulled and the rig was released at 00:45 hrs, 9th July, 2002.

Analysis of pressure data indicates an effective horizontal permeability of 108 to 118 mD. Deliverability analysis yielded an estimated stabilised absolute open flow (AOF) potential of 157 MMscf/d, similar to Baleen-3 and better than the initial production performance predicted from the 2001 reservoir simulation modelling.

1.2 VIC/L21 PRODUCTION LICENSE HISTORY

A summary of the exploration history prior to the year 2000 may be referred to in the Baleen-2 Interpretive Well Completion Report.

In late 1999, OMV gained full control of Cultus Petroleum NL and acquired a 100% interest in the Patricia-Baleen retention lease VIC/RL5. The commerciality of the Patricia-Baleen development followed the drilling of the Baleen-2 appraisal well in October 1999.

A 3D seismic survey covering 85 square kilometres full fold data was recorded over the Patricia and Baleen fields in January 2000. Sail-line spacing is 12.5 metres with each 3D line having a

12.5 metre group spacing. After processing, a 3D migrated data set was generated with a 6.25 metre inline and 12.5 metre crossline grid spacing.

The recording of the 3D seismic survey provided confidence in determining the reserves for the Patricia Field as a clear gas/water contact; this is evident on seismic data across the field. A hydrocarbon/water contact had not been identified in the discovery well. Patricia-1 drilled in 1987 contained gas down to –718 mSS and mapping of the 2000 3D data indicated that gas extends down to some –728 mSS, the mapped spill point.

The VIC/RL5 retention lease was converted to a production license on 27th December 2001 when VIC/L21 was awarded. Santos Limited and Diamond Gas Resources Pty Ltd entered the license participation in April 2002 and May 2001 respectively. In May-June, 2002 the first development well, Baleen-3/ST1 was drilled and flowed 27.1 MMscf/d of gas from the Gurnard Formation Reservoir. Patricia-2 was the second development well and completed the combined development of the 2 fields.

1.3 REGIONAL STRUCTURE AND STRATIGRAPHY

Refer to the Baleen-2 Interpretive Well Completion Report for details on the regional structure and stratigraphy of this area.

2.0 STRATIGRAPHY

A generalised stratigraphic column for the basin is included as Figure 5.

Predicted vs actual stratigraphic tops are presented in Table 1 and Figure 6 and were defined using a combination of lithologic descriptions from cuttings (refer to Appendix 3 - Basic Data Report), LWD logs and drilling data from the well.

Three LWD runs were made in Patricia-2. The first and second comprised GR-Resistivity and were recorded from 111.5 mMDRT to 334.0 mMDRT and 334.0 to 884.0 mMDRT respectively. The last was a GR-Resistivity-Density-Neutron from 884.0 to 1385.0 mMDRT. These logs were used for correlation to nearby wells to select formation boundaries and interpret lithologies. Refer to the composite well log in Enclosure 1.

A geological model dividing the Gurnard Formation reservoir into a series of sub grids numbered from top to bottom and based on rock properties was established from the vertical offset wells prior to drilling the horizontal wells. This model provided the roadmap by which the horizontal sections were steered using a true stratigraphic position technique. The technique proved most effective with conformable layering, only very small scale faulting, consistent thicknesses and sufficient gamma character contrast allowing a detailed knowledge of true stratigraphic position at all times. The report providing details of the true stratigraphic position determination is provided as Appendix 1 of this report.

Most horizons were penetrated slightly higher than prognosed and well within the accuracy of prediction from seismic and the pre-drill geological model. The exception is the Lakes Entrance Formation, which usually has a gradational boundary with the Gippsland Limestone and is usually not a strong seismic reflector.

Table 1 Predicted versus Actual Formation Tops

	PREDICTED	ACTUAL			DIFFERENCE	
FORMATION TOPS	**DEPTH (mTVDSS)**	**DEPTH (mRT)**	**DEPTH (mTVDSS)**	**THICKNESS (mTVT)**	**(m)**	**High/ Low**
Gippsland Limestone - Seafloor	-51.0	77.5	-52.5	575.7	1.5	L
Lakes Entrance Formation	-611.0	721.4	-628.2	38.8	17.2	L
Latrobe Group – Gurnard Formation	-671.7	819.4	-667.0	4.3	4.7	H
Top Subgrid 2 (Top porosity)	-676.5	842.8	-671.3	3.8	4.2	H
Top Subgrid 3	-679.5	958.6	-675.1	1.0	4.4	H
Top Subgrid 4 (down)	-681.0	1060.8	-676.1	0.3	4.9	H
Top Subgrid 4 (up)	-683.7	1168.2	-676.4	0.5	7.3	H
Top Subgrid 3 (up)	-679.5	1290.8	-675.9	0.6	3.6	H
Total Depth	**-685.0**	**1385.0**	**-676.5**	**-**	**8.5**	**H**

Note: See Appendix 1 'Stratigraphic correlation report' for details of the sub grid zonation

GIPPSLAND BASIN
GENERALISED STRATIGRAPHY

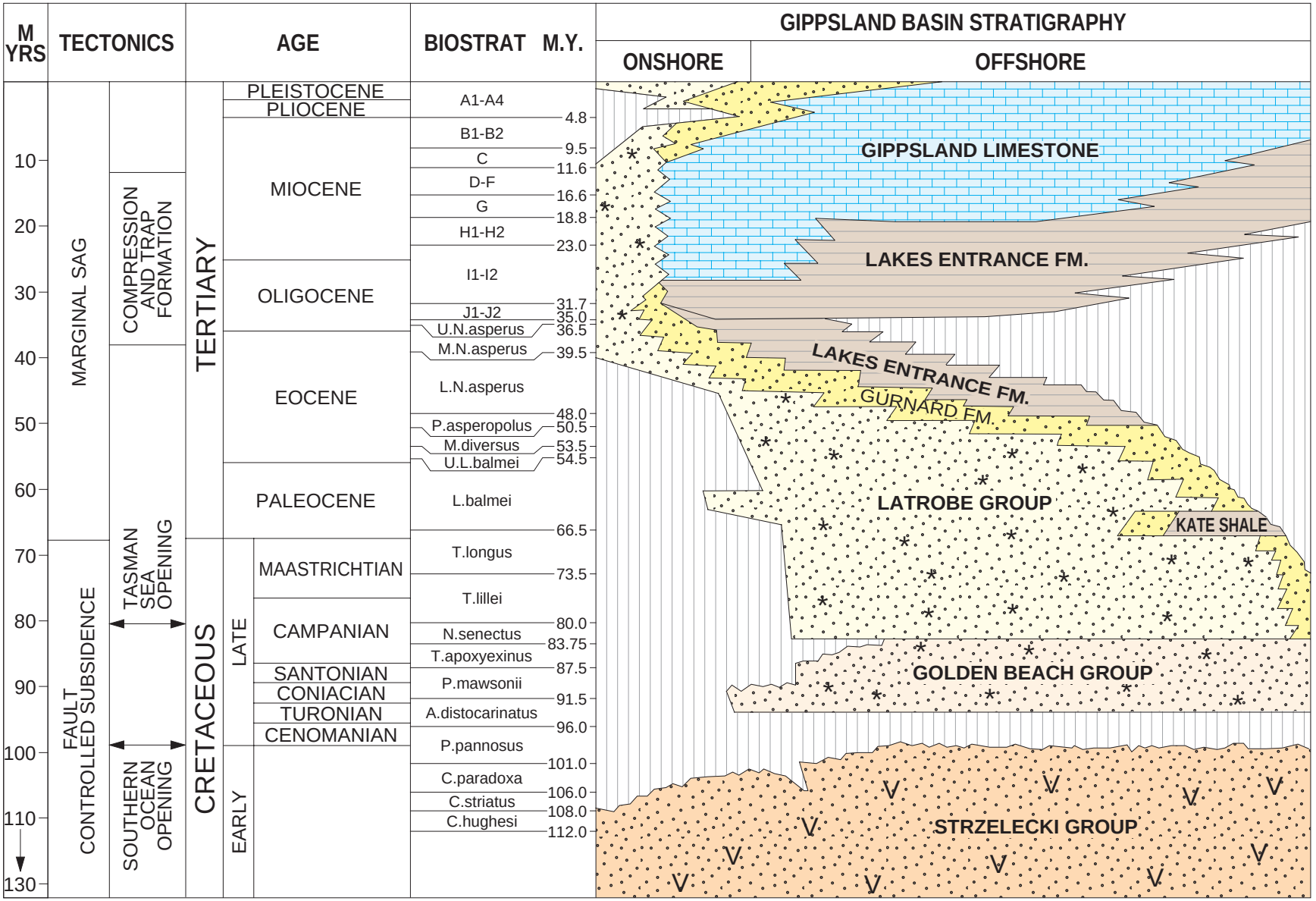


FIGURE 5

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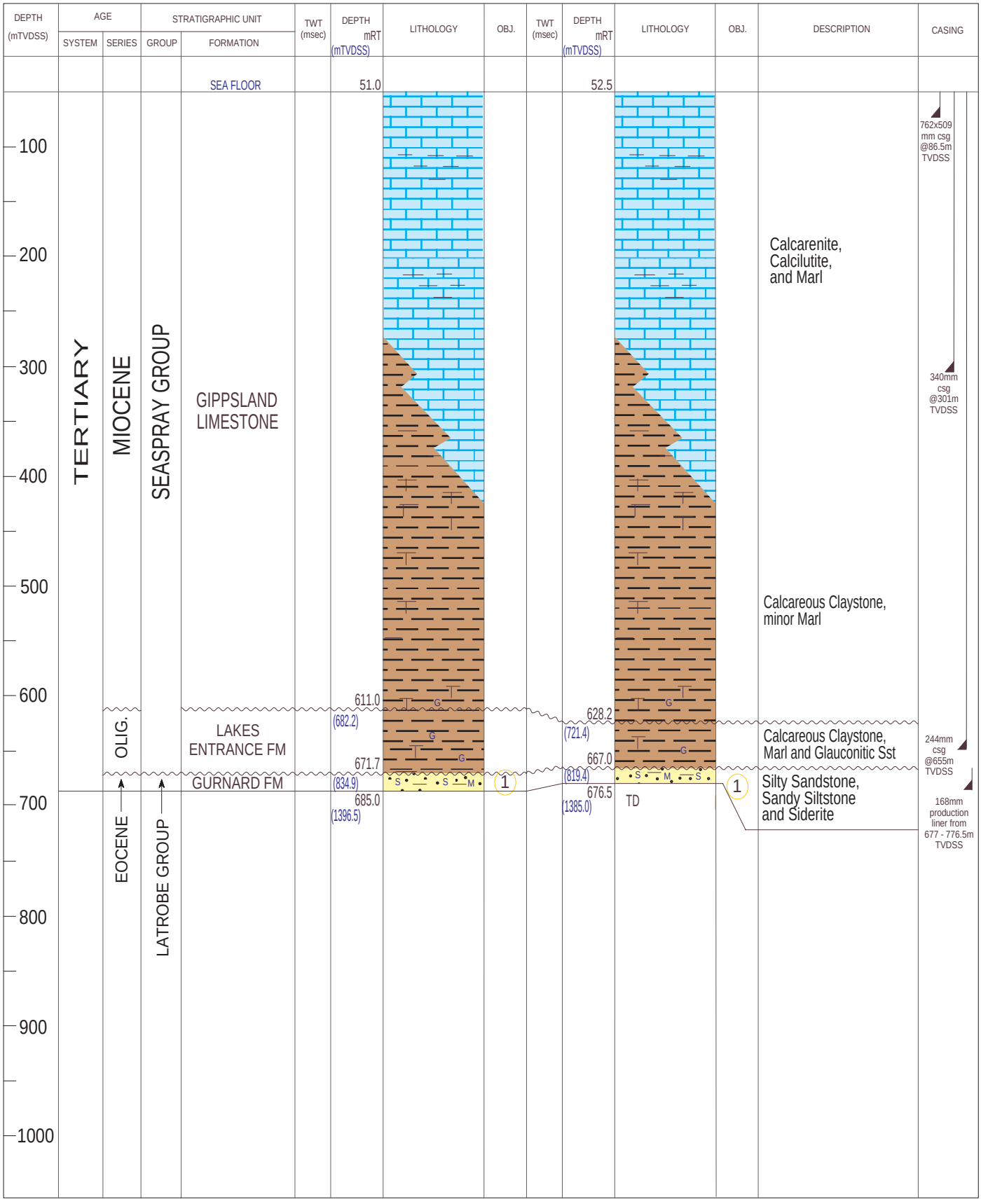
PATRICIA-2

PREDICTED vs ACTUAL SECTION

Predicted Section **Actual Section**



AUTHOR: OMV DATE: JUNE 2003 FILENAME: GIPPSLAND \ VICL21 \ A4S \ 397.DGN

FIGURE 6

Gippsland Limestone

Tertiary (Early Miocene)

77.5 (seafloor) to 721.4 mMDRT
-52.5 (seafloor) to -628.2 mTVDSS
Thickness: 643.9 m (576.1 mTVT)

Upper boundary pick: Seafloor

Lithology:

The shallowest ditch cuttings were collected at 334.0 mMDRT. Above this depth to the seafloor, based on gamma ray and drilling rate the Gippsland Limestone is expected to be similar to the cuttings described from 334.0 to 407.0 mMDRT.

From 334.0 mMDRT to 721.4 mMDRT the lithology comprises:

Argillaceous Calcilutite: white to very light grey, light bluish grey, light olive grey, very soft, amorphous, sticky in part, 10 to 15% fossil fragments, 10 to 25% siliceous clay content, 10 to 20% calcisilt, trace fine dark green glauconite.

with interbedded Argillaceous Calcisiltite: white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, 10 to 15% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 15 to 30% siliceous clay content, trace to 10% very fine to fine calcite grains, trace fine dark green glauconite.

and interbedded Calcilutite: very light to light medium grey, light to medium olive grey, soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 15 to 20% siliceous clay content, 5 to 10% calcisilt, trace very fine dark green glauconite.

Becoming mainly Marl near the base of the interval: light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5 to 10% fossil fragments and forams, 20 to 40% siliceous clay content, trace to 5% calcisilt, trace to 5% fine to medium dark green glauconite, trace disseminated and nodular pyrite. Grades to calcareous claystone.

Calcimetry: From 334.0 to 590.0 mMDRT calcite ranged from 49 to 89% and averaged 63%. Below 590.0 mMDRT the calcite content ranged from 46 to 72% and averaged 53%. No dolomite was recorded.

Drilling characteristics: From 111.5 to 334.0 m the rate of penetration (ROP) was highly variable, (indicating the interbedded nature of the section), and ranged from 30 to 180 m/hr and averaged approximately 50 m/hr. From 334.0 to 496.0 m the drill rate ranged from 5 to 110 m/hr and averaged 20 m/hr. From 496.0 to 721.0 m the drill rate was 2 to 80 m/hr and averaged 17 m/hr.

Hydrocarbon shows: No significant gas and no fluorescence were recorded over the interval 334.0 to 721.0 mMDRT.

Lakes Entrance Formation

Tertiary (Late Oligocene) 721.4 to 819.4 mMDRT
-628.2 to –667.0 mTVDSS
Thickness: 98.0 m (38.8 mTVT)

Upper boundary pick: The top of the Lakes Entrance Formation is marked by an increase in gamma ray from 60 to 80 API with no change in resistivity. The lithology becomes dominated by calcareous claystone with lesser marl and fine grained limestone.

Lithology: This unit is characterised by calcareous claystone with interbedded marl and rare argillaceous calcisiltite and “greensand” near the base of the interval

Calcareous Claystone: light to medium greyish brown, light grey, light brownish yellow in parts, soft, amorphous to blocky, 15 to 30% micrite, nil to 5% calcisilt, 1 to 10% fine to medium dark green glauconite, trace to 5% siderite (?) nodules.

Marl: light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, trace to 5% fossil fragments and forams, 25 to 45% siliceous clay content, trace to 5% calcisilt, 1 to 3% fine to

medium dark green glauconite, trace disseminated and nodular pyrite. Grades to calcareous claystone.

Glauconitic Sandstone ("Greensand"): medium to very dark green, firm, soft in parts, very fine to medium glauconite grains.

Argillaceous Calcisiltite: very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15 to 25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to calcarenite.

Calcimetry: Calcimetric values are lower than the Gippsland Limestone, ranging from 28 to 64% and averaging 36%.

Drilling characteristics: The ROP is non diagnostic and varies from 10 to 50 m/hr.

Hydrocarbon shows: No significant gas or fluorescence shows. Total gas ranged from 0.06 to 0.26% and comprised entirely methane.

Latrobe Group

Gurnard Formation

Tertiary (Late Middle Eocene) 819.4 to 1385.0 mMDRT (TD)
-667.0 to -676.5 mTVDSS
Thickness: 565.6 m (9.5 mTVT)

The Gurnard Formation reservoir is subdivided into a number of OMV-named informal sub grid units:

Gurnard Formation
(Upper Unit) 819.4 to 842.8 mMDRT
-667.0 to -671.3 mTVDSS
Thickness: 23.4 m (4.3 mTVT)

Upper boundary pick: The top pick is an increase in resistivity from 2 to 3 ohmm and an initial decrease in gamma ray from 130 to 115 API. The

lithology changes to a mainly very fine grained silty sandstone and minor calcareous claystone

Lithology: The upper part of the Gurnard Formation is characterised by silty sandstone with rare calcareous claystone at the top.

Silty Sandstone: light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, poorly to moderately sorted, 15 to 25% quartz silt, 5 to 15% argillaceous content, 1 to 3% glauconite, trace to 3% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity.

Calcareous Claystone: light to medium greyish brown, light grey, light brownish yellow, soft, firm in parts, 10 to 25% micrite, 5 to 10% calcisilt, 5 to 15% fine to medium dark green glauconite. Grades to claystone.

Drilling characteristics: ROP decreased at the top of the Gurnard from approx. 60 to 10 m/hr, reflecting the low porosity nature of the upper section.

Hydrocarbon shows: No hydrocarbon fluorescence was observed in this section or any of the Gurnard Formation.

There were no significant total gas changes until near the base of this interval at the top of the highly porous SG2.

Sub grid Unit 2 (Top Porosity)

842.8 to 958.6 mMDRT
-671.3 to -675.1 mTVDSS
Thickness: 115.8 m (3.8 mTVT)

Upper boundary pick: The top is based on correlation with the Baleen-1 and Patricia-1 Roxar 3D modelling tops. The ROP increases significantly from 20 to 100 m/hr reflecting the highly porous nature of the top.

Lithology: This sub grid unit comprises silty sandstone with generally very good porosity.

Massive Silty Sandstone: light to dark yellowish brown, greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, 15 to 30% quartz silt, 5 to 15% clay content, trace to 2% glauconite, trace to 1% mica, trace to 8% siderite nodules, trace multicoloured lithics, nil to trace forams, good to very good inferred porosity.

Log properties: In the 311 mm (12 ¼") section the gamma ray is relatively high, but steady between 110 to 150 API. The clay content is not as high as indicated by the gamma ray and the sands are more porous. The resistivity ranges from 9 to 15 ohmm and high porosities are indicated in the 311 mm (12 ¼") hole section by the resistivity curve separation. Washouts from 873.0 to 876.0 mMDRT, below the 244 mm (9 5/8") casing shoe, affect the LWD curves. Deeper in the unit, the density and neutron curves are highly erratic due to the gas effect, horizontal borehole and interbedded nature of the porous and non porous lithologies.

In the 216 mm (8 ½") section gamma ray ranges from 110 to 150 API and averages approximately 120 API. The resistivity is 15 to 20 ohmm with some rare highly resistive bands of probable siderite cementation. The density is generally very low, from 1.85 to 2.1 g/cc with occasional hard bands with densities of 2.6 to 2.7 g/cc.

Drilling characteristics: At the top of SG2, drill rate increases to 100 m/hr reflecting the high porosity of the sand and then has wide variation due to the interbedded siderite and silty sand layers.

Hydrocarbon shows: The total gas values ranged from 0.12 to 12.47% with the maximum of 12.47% occurring at the top of sub grid unit 2 at 843.0 mMDRT. The gas was very dry with methane being the

only constituent. Values of methane ranged from 1583 to 99532 ppm.

Sub grid Unit 3 958.6 to 1060.8 mMDRT
-675.1 to -676.1 mTVDSS
Thickness: 102.2 m (1 mTVT)

Upper boundary pick: The top of SG3 is placed at the base of a highly resistive siderite band equivalent to a marker horizon in the Baleen-1 and Patricia-1 wells.

Lithology: *Silty Sandstone:* light to dark yellowish brown, greyish brown, loose and friable to rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub angular to sub rounded, 15 to 25% quartz silt, 5% clay content, trace to 1% glauconite, trace to 1% mica, trace to 10% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity. Grading to sandstone

Log properties: The gamma ray and density characteristics over this interval are similar to the overlying unit, however the resistivity is somewhat higher and ranges from 15 to 30 ohmm.

Drilling characteristics: ROP is variable from 10 to 80 m/hr.

Hydrocarbon shows: The total gas values averaged 3.7% with a maximum of 7.2% at 1000 mMDRT. Methane is the only constituent.

Sub grid Unit 4 (down) 1060.8 to 1168.2 mMDRT
-676.1 to -676.4 mTVDSS
Thickness: 107.4 m (0.3 mTVT)

Upper boundary pick: Top is based on correlation with the Baleen-1 and Patricia-1 Roxar 3D modelling tops.

Lithology: *Massive Argillaceous Sandstone / Silty Sandstone*: light to dark yellowish brown, medium greyish brown, 5 to 10% friable to hard cemented siderite aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, angular to sub rounded, 20 to 30% quartz silt, 15 to 25% clay content, trace to 1% glauconite, trace to 1% mica, trace multicoloured lithics, trace nodular pyrite, fair inferred porosity.

Log properties: The gamma ray ranges from 110 to 150 API and averages approx 120 API. The resistivity is 15 to 20 ohmm with some localised highly resistive areas of probable siderite cementation. The density is generally very low from 1.8 to 2.1 g/cc up to 2.6 to 2.7 g/cc in the hard areas.

Drilling characteristics: Drill rate is variable from 10 to 80 m/hr.

Hydrocarbon shows: The total gas values averaged 3.3% with a peak of 6% at 1108.0 mMDRT. Methane is the only constituent..

Sub grid Unit 4 (up) 1168.2 to 1290.8 mMDRT
-676.4 to -675.9 mTVDSS
Thickness: 122.6 m (0.5 mTVT)

Upper boundary pick: Based on correlation with the Baleen-1 and Patricia-1 Roxar 3D modelling tops

Lithology: *Silty Sandstone:* light to dark yellowish brown, medium greyish brown, dominantly loose and friable, trace hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 15 to 25% quartz silt, 10% clay content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace to 2% siderite nodules, trace multicoloured lithics, trace nodular pyrite, fair to good inferred porosity.

Grading in parts to Sideritic Sandstone / Argillaceous Sandstone: common hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, poor to moderately sorted, angular to sub rounded, 15 to 20% quartz silt, 15 to 30% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 1% mica, 15 to 25% siderite nodules, trace multicoloured lithics, trace nodular pyrite, fair inferred porosity.

Log properties: The gamma ray ranges from 110 to 150 API and averages approx. 125 API. The resistivity ranges from 10 to 20 ohmm with some localised highly resistive bands of probable siderite cementation. The density is generally higher than above and is 1.95 to 2.2 g/cc with densities of 2.6 to 2.7 g/cc in the hard areas.

Drilling characteristics: Variable drill rate from 10 to 100 m/hr. Slower areas are siderite and or pyrite cemented.

Hydrocarbon shows: The total gas values peaked at 7.95% at 1256 mMDRT. Methane is the only constituent.

Sub grid Unit 3 (up)

1290.8 to 1385.0 mMDRT
-675.9 to -676.5 mTVDSS
Thickness: 94.2 m (0.6 mTVT)

Upper boundary pick: Based on correlation with the Baleen-1 and Patricia-1 Roxar 3D modelling tops.

Lithology: *Massive Sandstone:* light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub rounded, 10 to 15% quartz silt, 10% clay content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace siderite nodules, trace multicoloured lithics, trace nodular

	pyrite, nil to trace forams, good inferred porosity. Grading in parts to argillaceous sandstone with 15 to 30% clay content, trace to 5% dark yellowish brown siderite nodules, fair to good inferred porosity.
Log properties:	Resistivity and gamma ray as for above unit. Generally a low density range from 1.85 to 2.0 g/cc, however near the top of this unit density values locally rise to 2.7 g/cc.
Drilling characteristics:	Variable drill rate from 10 to 100 m/hr.
Hydrocarbon shows:	The total gas values averaged 2.6% and peaked at 4.65% at 1374.0 mMDRT and comprised entirely methane.

3.0 STRUCTURE AND TRAP

The Patricia and Baleen Gas Fields are located on the north eastern flank of the Gippsland Basin. The structure below the Lakes Entrance Formation is dominated by normal faults and tilted fault blocks. East-west wrench movement commenced during the Middle to Late Paleocene resulted in anticlinal structuring and reactivation of many of the normal faults as high angle reverse faults. The wrench movements continued into the Neogene when the Patricia and Baleen structures are interpreted to have developed. The gas accumulations are in elongate compressional anticlines with reverse fault closure to the north and are separated by a structural saddle. The Patricia-2 well was drilled on the crest of the south eastern culmination of the anticlinal structure (Figure 7).

Structural dip interpretations and correlations from HSI (Horizontal Solutions International), attached as Appendix 1, indicate the Lakes Entrance Formation to have dips varying from 11 degrees north to 7 degrees south. The dip in the basal 5 m of the Lakes Entrance Formation and top 2 m of the Gurnard Formation has been calculated to be 2.3 degrees north. Dips in the Gurnard Formation sub grid units varied from 1.5 to 4.5 degrees north to south as anticipated pre-drilling.

The top Gurnard and sub grid units 2, 3 and 4 of the Gurnard Formation were drilled as predicted and planned (Figure 8). The Gurnard was intersected 4.7 m high to prognosis. SG2, SG3 and SG4 were intersected 4.2 m, 4.4 m and 4.9 m higher respectively than prognosed. Drilling up section, the SG4 came in 7.3 m high and the SG3 was intersected 3.6 m high. Several possible small faults are interpreted across the wellbore (Appendix 1) but these are unlikely to have any significance with respect to reservoir performance. No significant changes to the pre-drill model for the Patricia structure are required as a result of the well intersections.

OMV

TOP GURNARD

DEPTH STRUCTURE CONTOUR MAP & SEISMIC AMPLITUDES

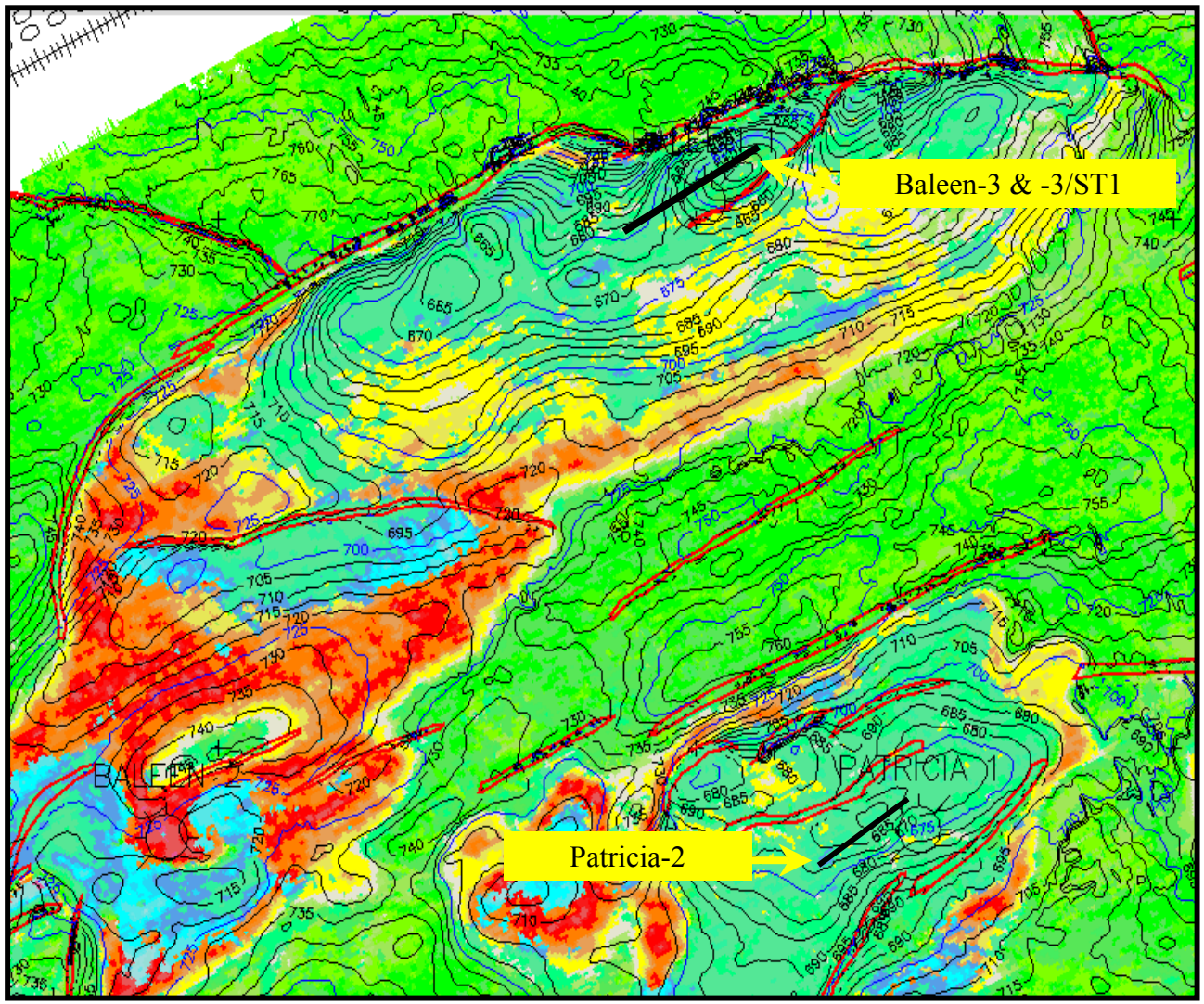
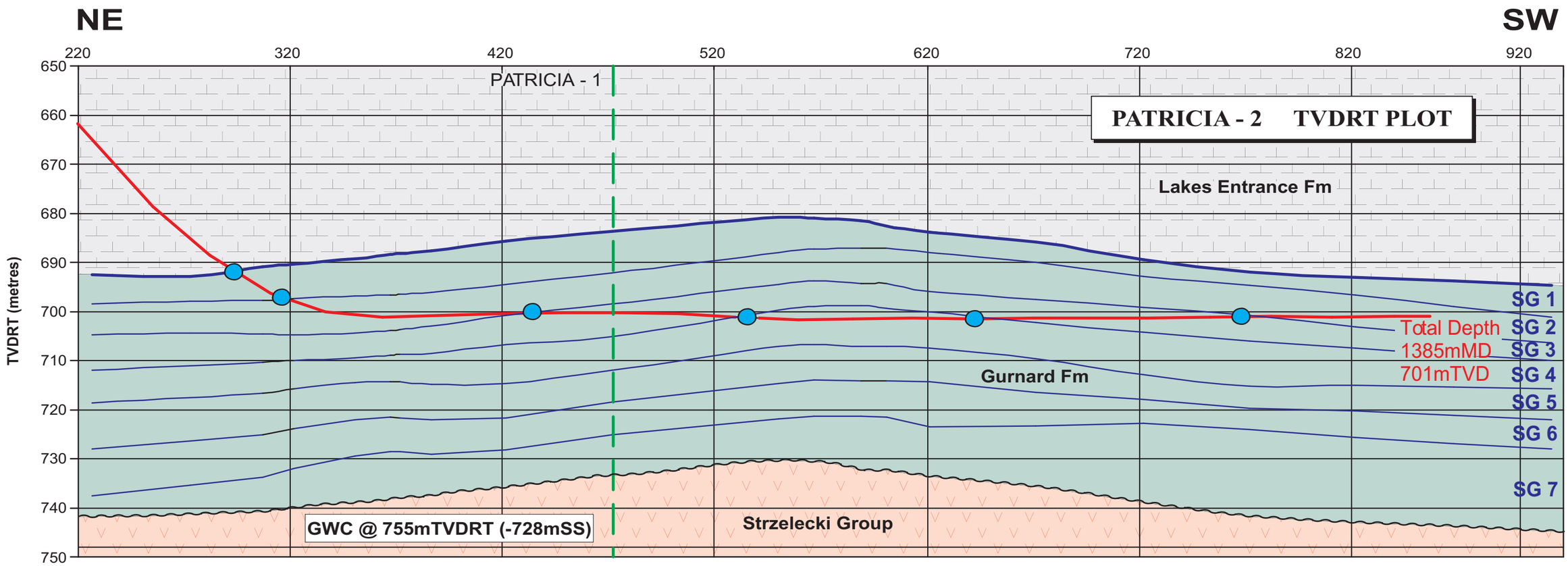


FIGURE 7

AUTHOR: OMV DATE: JULY 2003 FILENAME: TIMOR \ A4S \ 416.PPT

GURNARD FORMATION RESERVOIR

(VERTICAL SECTION PLANE 235.62 DEGREES RELATIVE TO GRID NORTH))



- Actual Well Path Patricia-2
- Top SG1
- Top SG2
- Top SG3
- Top SG4
- Top SG5
- Top SG6
- Top SG7
- Base Gurnard
- Actual Well Path Patricia-1
- Actual Patricia - 2 Tops

AUTHOR: OMV DATE: July 2002 FILENAME: GIPPSLAND \ VICL21 \ A3S \ 360b.CDR

FIGURE 8

4.0 HYDROCARBONS

4.1 HYDROCARBON INDICATIONS WHILE DRILLING

Low to moderate gas readings were recorded by BHI mudlogging equipment while drilling through the Gurnard Formation Reservoir. The variations were due to the mud overbalance and poor porosity encountered in low permeability zones.

The total gas values ranged from 0.12 to 12.47% with the maximum occurring at the top of sub grid unit 2 at 843.0 mMDRT. Methane was the only gas constituent and values ranged from 1583 to 99532 ppm.

No hydrocarbon fluorescence was observed during drilling of the Gurnard Formation. A strong gas effect is evident on the LWD neutron and density logs. No wireline pressures or sampling were attempted.

For details of gas detection, analysis and shows the Mudlog is available as Enclosure 1 of the Basic Data Volume and the final BHI Mudlogging Report comprises Appendix 4 of the Basic Data Volume.

4.2 LOG ANALYSIS

A petrophysical analysis was performed on LWD (recorded) logs from Patricia-2.

Due to the presence of severe gas effect on the density and neutron logs, the complex lithology (mica, glauconite, pyrite, siderite etc.) present within the formation, the basic nature of the logging tools and bedding effects in the horizontal section, a standard deterministic analysis was not possible. This was anticipated before the well was drilled and baseline resisitivity curves were recorded for future reference. The “quicklook” analysis graded the Gurnard Formation into sections of poor, average and good reservoir quality. See Appendix 2 for the Petrophysical Evaluation Report.

Apparent porosity (PHIX) was calculated from the density-neutron cross plot using the Bateman and Konen method and intervals were assigned a pay quality according to their position on the cross plot (Appendix 2). Samples showing strong gas effect were assigned “good pay” status, samples which showed a high density response indicative of siderite cemented horizons were assigned “non pay” status and the remainder were assigned “pay”.

Between the interval 889.0 to 1363.0 mMDRT there was “good pay” net sand of 302.5 m (net to gross ratio of 63.8%) and average porosity of 40.4%. Other net sand considered “pay” was 102 m (net to gross ratio of 21.7%) and had an average apparent (total) porosity of 34.7%. Thus the total pay was 404.4 m and average apparent (total) porosity of 39% as detailed in Table 2 below.

Table 2 Summary of Petrophysical Analysis

Top Interval	889.0 mMDRT
Bottom Interval	1363.0 mMDRT
Interval	Gurnard Formation
Gross Interval	474.0 mMD
Net pay	404.4 mMD
Average Apparent (total) porosity (%)	39
Average water saturation (%)	N/A due to complex mineralogy,severe gas effect and basic logging suite in horizontal hole with bedding effects.
Net / Gross ratio (%)	85.3

These results exceeded expectations as the average ambient core porosity for the entire Baleen-2 and Patricia-1 core is 32.1% (std dev 6.8%) and 33.9% (std dev 6.8%), respectively.

Prior to the 2002 development drilling program on the Baleen and Patricia fields, water saturations had been determined from Elan-plus log interpretations conducted on the Gurnard reservoir by Schlumberger and saturation/height functions determined during special core analysis.

Pre-development summary of core data by flow unit for calibration wells is shown below in Table 3.

Table 3 Summary of Core Data by Flow Unit, Patricia-Baleen Field

	POROSITY		PERMEABILITY	
	Baleen-2	Patricia-1	Baleen-2	Patricia-1
GFU1 mean	na	na	na	na
GFU2 mean	31.3	35.5	94.0	191.0
GFU3 mean	36.0	36.0	251.0	379.0
GFU4 mean	35.2	38.4	249.0	319.0
GFU5 mean	24.9	28.8	28.0	135.0
GFU6 mean	29.4	32.8	85.0	124.0
GFU7 mean	35.7	35.6	167.0	51.0
GFU8 mean	36.4	32.3	355.0	129.0
GFU9 mean	na	32.6	na	101.0
BZC mean	na	25.7	na	25.0
Overal mean	32.1	33.9	162.0	42.0
OverStandard Deviation	6.8	6.8	136.0	165.0

Notes

Baleen-2 plugged with bias to reservoir rock

Patricia-1 plugged on rigid spacing – explains larger std. Dev observed for most P-1 GFU's

Of the total Gurnard Fm penetrated (143.5 m) there is 62.9 m (48.2%) recovered as core.

Upper part of GFU6 in B-2 more heavily cemented w/ siderite than at P-1

GFU's 3,4,7&8 are apparently the best quality, GFU6 improves at P-1 and B-1 (from logs)

The calibration of reservoir parameters for the Gurnard Formation had most recently been provided by the Elan-plus log interpretation of Baleen-2 with 11.2 m gross (10.6 m net) gas pay having 26% effective (29.7% total) porosity and 93.0 mD average log calculated permeability (N/G 86%) in the proven gas column (Patricia Baleen Geology and Petrophysics Review, August 2000).

Prior to the development of Patricia and Baleen, reservoir permeability was identified as the key parameter influencing both the quantum and rate of gas recovery. Significant variation in permeability values estimated from core, log and DST data suggested that it is one of the reservoir parameters known with least confidence. An estimation of permeability in Patricia-2 is provided in the following section, 4.3 Production Testing.

4.3 PRODUCTION TESTING

The gas reservoir was drilled and production testing was undertaken as planned (see Appendix 5 of the Patricia-2 Well Completion Report (Basic Data) for gas analyses).

The Patricia-2 well was production-tested between 3 and 5 July 2002 to clean the well up prior to suspension and to determine key well and reservoir parameters from the bottom hole pressure response. The test duration was 58 hours (excluding operational downtime and time waiting on daylight), compared with the pre-test programme of 52 hours. A short initial flow and pressure build-up was conducted to determine the static reservoir pressure prior to testing.

Extrapolation of the shut-in trend yielded an initial reservoir pressure of 7321.1 kPa (1,061.8 psia) at gauge reference depth of 892.0 mMDRT (-676.1 mTVDSS), some 37.9 kPa (5.5 psi) lower than the pressure regime established from wireline formation pressure testing of the Baleen-2 appraisal well in 1999. The pressure data tied exactly with the reservoir pressure gradient established from the Baleen-3 production test. The depletion is believed to be due to the effect on the regional aquifer pressure from continued production from the Bass Strait oil/gas fields. The well was beaned-up to maximum choke to promote effective clean-up of the entire horizontal production interval. A coiled tubing-conveyed temperature logging pass was conducted to investigate any potential flow anomalies within the horizontal section.

At maximum choke, a maximum flow rate of 28.2 MMscf/d was measured (upstream choke pressure of 4357.6 kPa (632 psia)) through the test separator. Well production was limited by both the restrictive presence of the coiled tubing string (maximum outer diameter 56 mm (2.2") at the gauges) inside the 140 mm (5.5") tubing (inner diameter 124 mm (4.892")) and the circuitous pipework route between the flowhead and the test separator. In addition, prevailing wind conditions required flow to the aft flare-boom, located on the opposite side of the rig to the test area and this caused additional pressure drops within the surface pipework.

Analysis of the final pressure build-up period yielded an estimated horizontal effective permeability of 118 mD, assuming the presence of a single fault close to the wellbore. Total skin of -1 was interpreted. Whilst high skin was expected due to brine losses to the formation and pressure drop through the sand-screens, it was interpreted that the negative pseudo-radial skin associated with horizontal well geometry offset this effect. Continuous completion brine production throughout the test indicated that clean-up had not finished prior to termination of the test. A pressure match of the entire test yielded an estimated horizontal effective permeability of 108 mD, in good agreement with the value derived from pressure build-up analysis. This estimate was used as a basis for deliverability calculations.

Deliverability analysis yielded stabilised absolute open-flow potential of 157 MMscf/d, similar to analysis of the Baleen-3 development well. Deliverability analysis indicated that the well should exceed initial production performance predicted from the 2001 reservoir simulation modelling study. The drawdown performance on test suggested that the reservoir pressure (and flowrate) may decline faster than Baleen-3 due to the smaller drainage volume associated with the interpreted near-wellbore fault.

Removing the effect of the coiled tubing from vertical lift performance, it was estimated that the well would flow at a maximum initial rate of 69 MMscf/d through the installed 140 mm (5.5") production tubing, assuming a minimum initial tubing-head pressure of 1723.8 KPa (250 psia).

For details of the production test please refer to the OMV DST interpretation report in Appendix 3.

5.0 CONTRIBUTIONS TO GEOLOGICAL CONCEPTS

The sequence encountered was as expected with only the top of the Lakes Entrance Formation significantly low to prognosis (17.4 m).

The top Gurnard was intersected 4.7 m high to prognosis and sub grid units 2, 3 and 4 of the Gurnard Formation were intersected 3.6 to 7.3 m higher than prognosed. These variations are not considered significant.

Log analysis confirmed that Patricia-2 intersected high quality gas sands in the Gurnard Formation. The interval 889.0 and 1363.0 m comprises “good pay” net sand of 302.4 m (N/G = 63.8%) with average apparent (total) porosity of 40.4% and poorer quality rock considered as “pay” comprised 102 m (N/G = 21.7%) and had an average apparent (total) porosity of 34.7%.

When both pay classifications are considered together, the interval from 889.0 to 1363.0 mMDRT (474.0 m) comprises net pay of 404.4 m (85.3%). Average apparent (total) log porosity in the pay interval is 39.0%. These results met or exceeded expectations as the average ambient core porosity for the Patricia-1 discovery well was 33.9%.

Structural dip interpretations and correlations from HSI (Horizontal Solutions International) indicate the Lakes Entrance Formation to have dips varying from 11 degrees north to 7 degrees south. The interpreted dip overlying the Gurnard Formation was 2.3 degrees north at 5 m above top Gurnard to 2 m below the Gurnard. Dips in the Gurnard Formation sub grid units varied from 1.5 to 4.5 degrees north to south and were according to expectations.

A 168 mm (6 5/8”) production liner consisting of “Excluder 2000” sand screens and a 140 mm (5 1/2”) completion tubing was landed. The well was tested over the interval 896.9 mMDRT to 1385.0 mMDRT and a maximum flow of 28.2 MMscf/d was recorded.

6.0 REFERENCES

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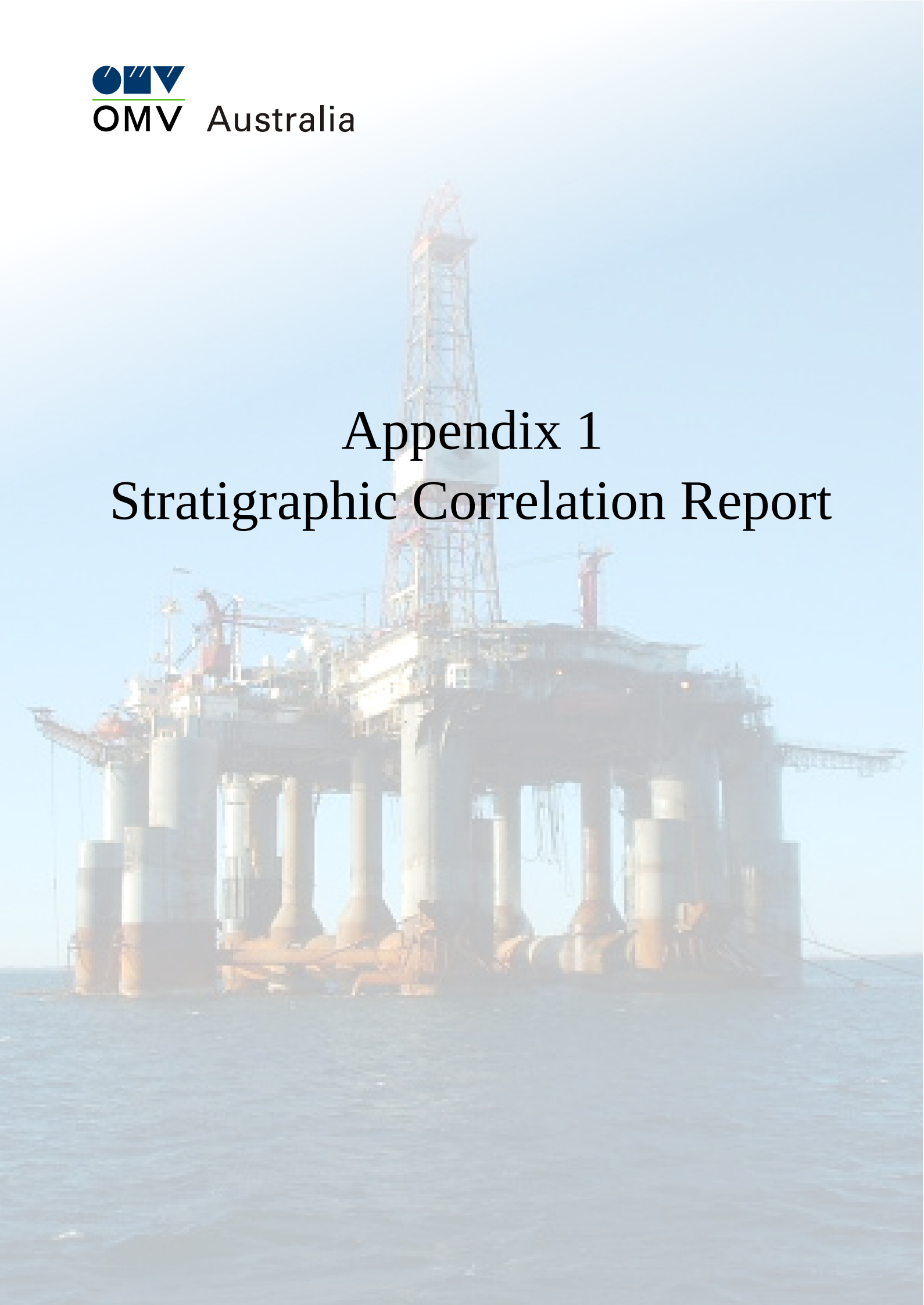
OMV Australia



Appendix 1
Stratigraphic Correlation Report

OMV Patricia #2
Gamma Ray/Resistivity/Bulk Density Log Interpretation Summary
Horizontal Solutions International
Richard A. Leach, Geologist

Intermediate Casing Interval

Gippsland Limestone:
Well interpretation of Gamma Ray (GR) and Resistivity data began at 140m MD, in the Gippsland Limestone, using the Patricia #1 log for correlation. Correlation of individual units in the Gippland Limestone interval was difficult, if not impossible due to stratigraphic variation, as supported by the differences seen between the Baleen #1 and Patricia #1 GR logs. However, there were a few good marker beds that provided good correlation at several levels within the formation, and the general character of the logs provided placement of the Patricia #2 section in a reasonable position, as seen on the Gamma Full Scale Chart. Amplitudes of both the GR and Resistivity responses compared favorably with the Patricia #1 offset logs throughout the section. While trying to accommodate some of the GR "markers", I was forced to use significant dips, but that is not unusual at inclinations less than 60° due to the trigonometry involved in calculations. Additionally, three intervals of missing section were interpreted within this interval. Stratigraphic variation can account for much of the interpreted high dips and the intervals of missing section.

Lakes Entrance Formation:
The Top of the Lakes Entrance Formation was encountered at 721.4m MD (653.2m TVD; 205.6m VS). The Lakes Entrance formation appears to be more consistent than the interval above and provided a good correlation throughout. Interpreted dips varied from 11.0° North to 7.0° South. The interpreted dip was 2.3° North from 5.0 meters above the top to 2.0 meters below the top of the Gurnard Formation.

Gurnard Formation:
The Top of the Gurnard Formation, SG1 member, was encountered at 819.4m MD (692.04m TVD; 295.3m VS). The Patricia #1 logs were provided very good correlation with both the GR and Resistivity data. The dip increased to 5.3° North at a True Stratigraphic Position (TSP) of 2.0 meters below the Top of the Gurnard Formation. The dip remained at that rate until the casing point at 872.4m MD, at a position 12.0m TSP below the Top of the Gurnard Formation, in the SG2 interval. The Top of the SG2 was encountered at 842.8m MD (697.3m TVD; 318.03m VS). The last GR data before casing point was at 862m MD; the last Resistivity data was at 853m MD. At the Last Survey depth before casing point (862.88m MD), the inclination was 85.19°.

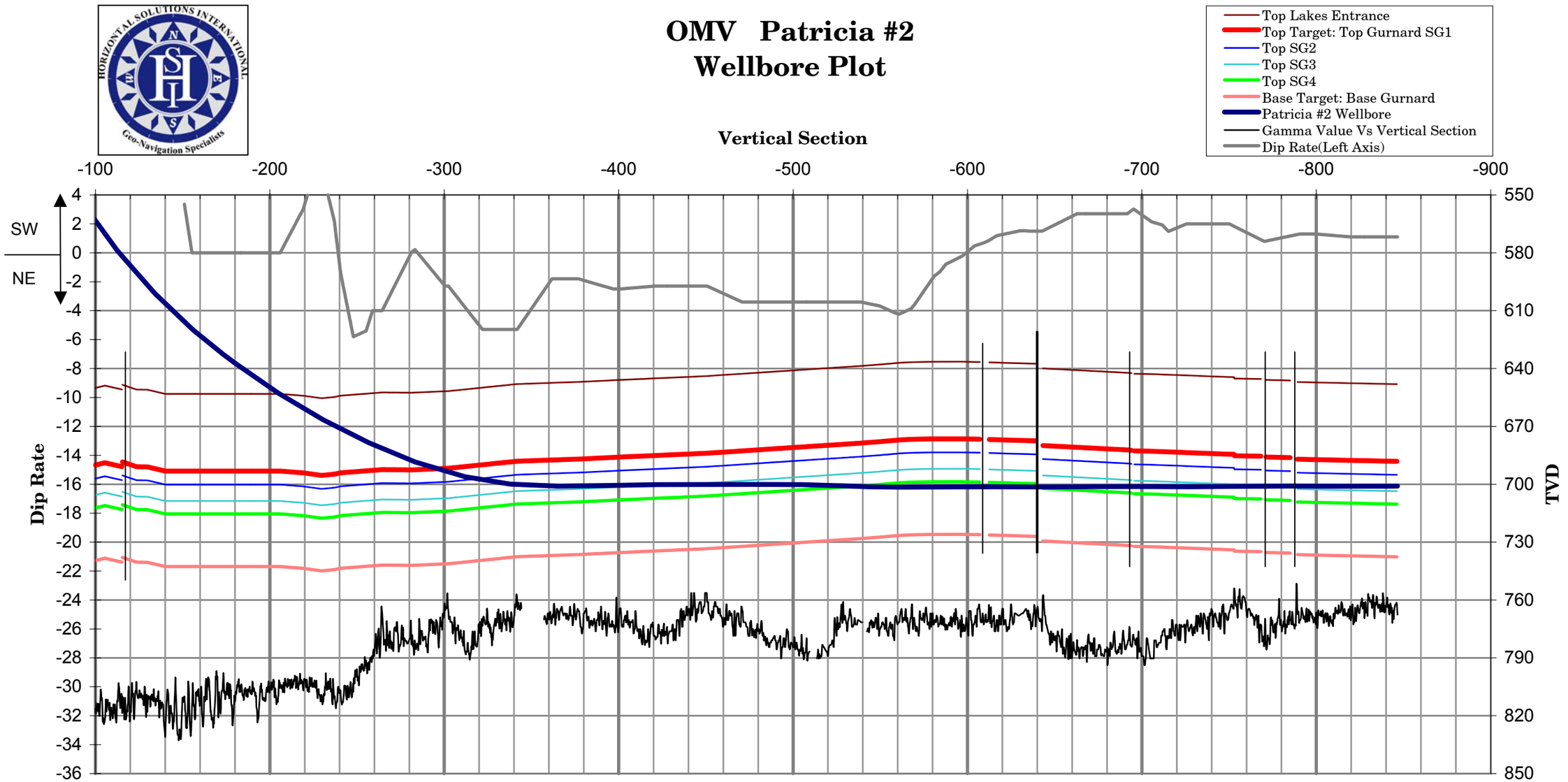
Horizontal Section

Upon drilling out the cement at the casing shoe, the wellbore proceeded down-section, encountering the top of the SG3 at a depth of 958.6m MD (700.09m TVD; 433.5m VS). Gamma Ray, Resistivity, and Bulk Density curves were all utilized to generate a very

good correlation with the Patricia #1 logs. At a depth of 867.0m MD, the dip decreased to 1.8° North. From that point until a depth of 1086m MD, 2.3 meters TVD below the top of the SG4 (24.5m TSP), the dip steadily increased to 4.5° North. At 1086m MD, the dip began to decrease, resulting in the wellbore turning back up-section at 1109.2m MD (25.0m TSP), 2.8m TVD below the top of the SG4. The wellbore proceeded up-section, encountering a 2.3-meter fault at 1168.2m MD (701.4m TVD; 693.1m VS) that put the wellbore up-section in the SG3. Subsequently, the wellbore continued up-section, with dips varying from 1.5° to 4.5° South until it encountered a small, 0.2-meter fault at 1220.6m MD (701.1m TVD; 695.4m VS). After the wellbore crossed the fault, the dip decreased again, varying from 2.0° to 0.7° South until the Total Depth of the well was reached at 1385m MD (701.9m TVD; 849.8m VS). The top of the SG3 was encountered at 1292.8m MD (700.92m TVD; 767.6m VS). The well reached total depth in the SG2, with the Last Gamma Ray data recorded at a depth of 1371.8m MD (700.9m TVD; 846.6m VS), at a TSP of 11.4 meters below the top of the Gurnard Formation. The Last Resistivity and Bulk Density data were recorded at 1365.8m and 1368.2m MD, respectively.

* “Faults” picked in this, and any other interpretation by Horizontal Solutions International utilizing the Latnav geonavigation software, should be read as an indication of missing section. They may be interpreted by the client as actual faults encountered in the wellbore, unconformities in the section, or simply as localized stratigraphic variations relative to the offset well provided for correlation (in this case, the Patricia #1).

OMV Patricia #2
Wellbore Plot



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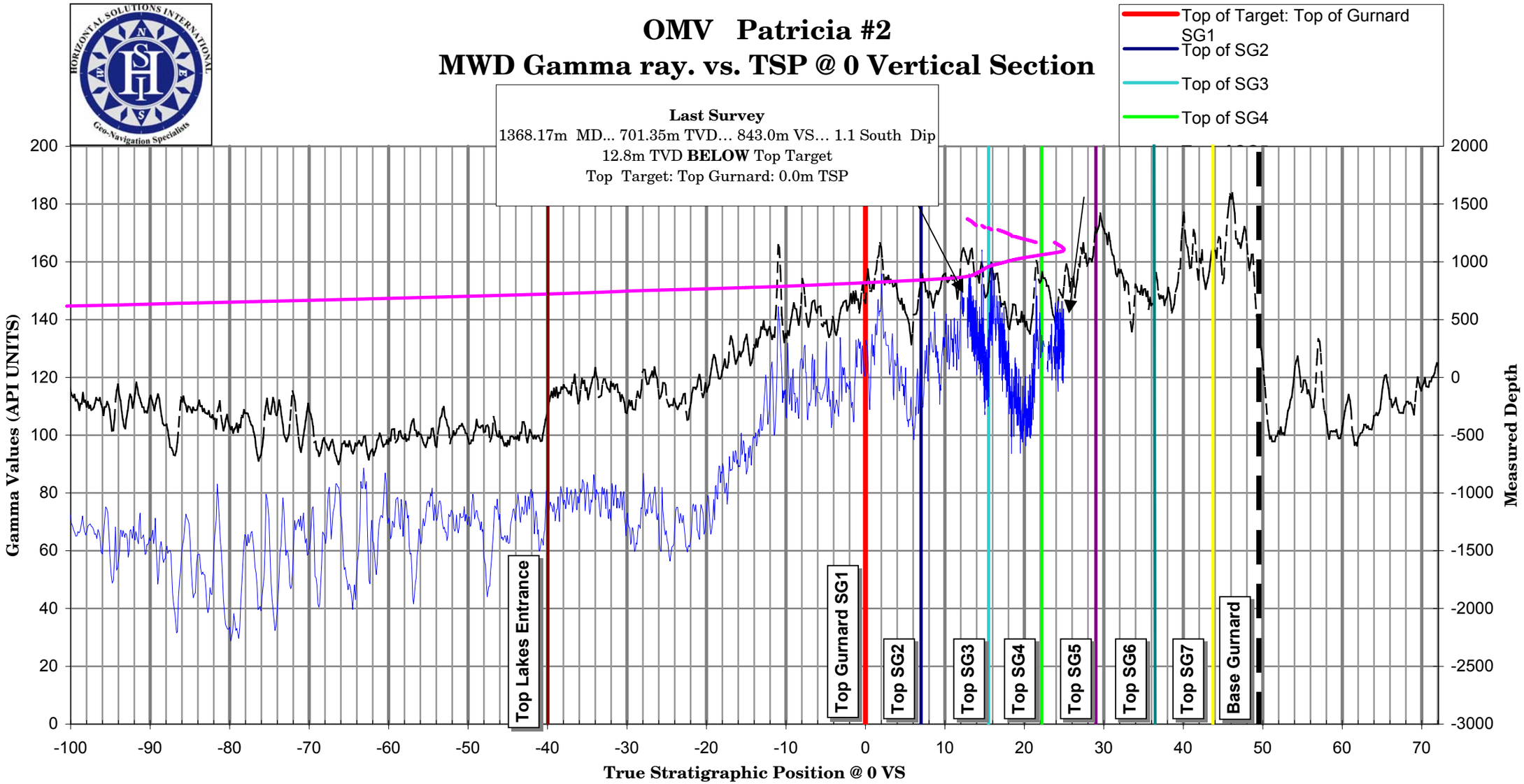
OMV Patricia #2
MWD Gamma ray. vs. TSP @ 0 Vertical Section

Last Survey
1368.17m MD... 701.35m TVD... 843.0m VS... 1.1 South Dip
12.8m TVD **BELOW** Top Target
Top Target: Top Gurnard: 0.0m TSP



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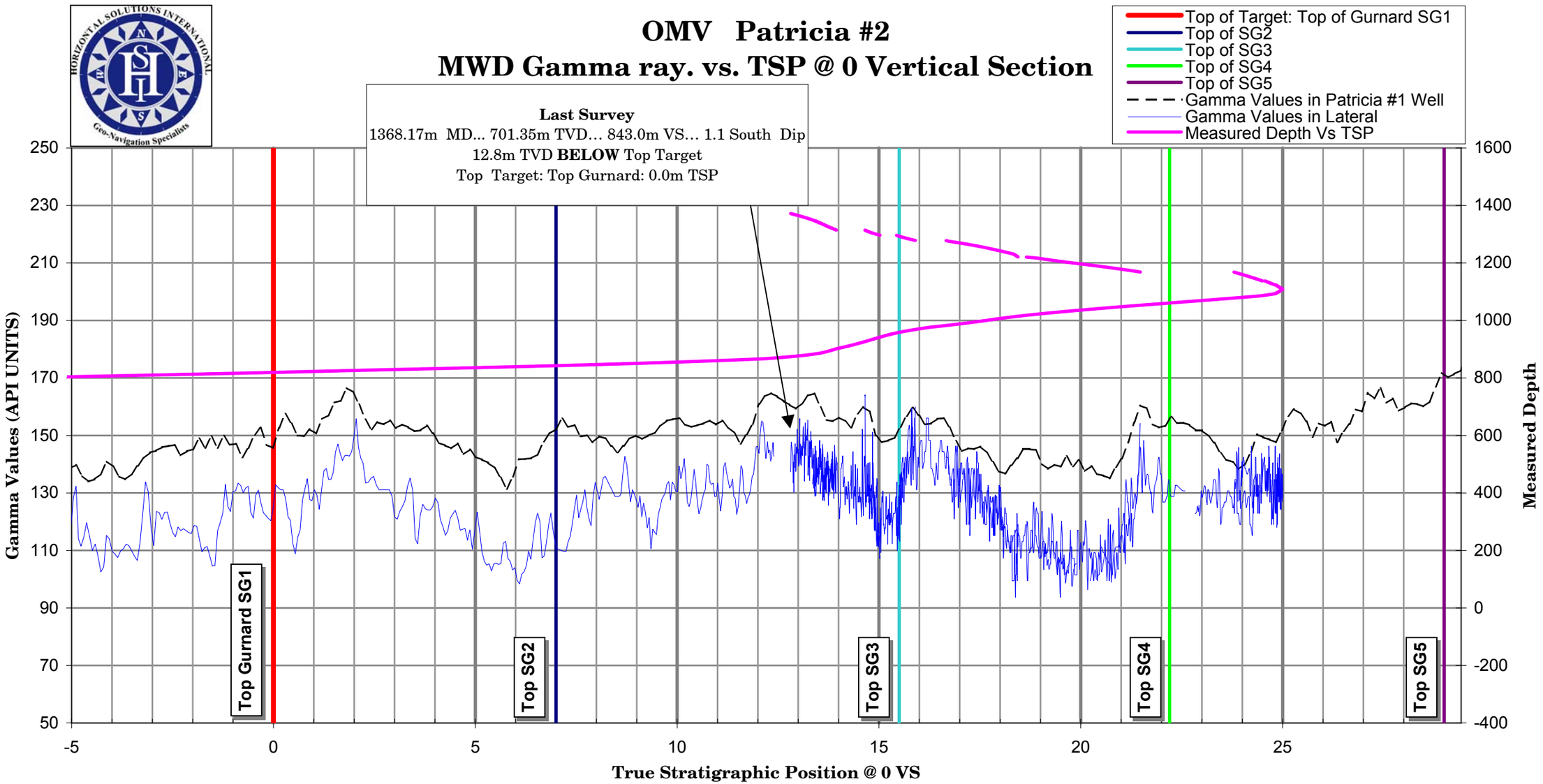
OMV Patricia #2
MWD Gamma ray. vs. TSP @ 0 Vertical Section



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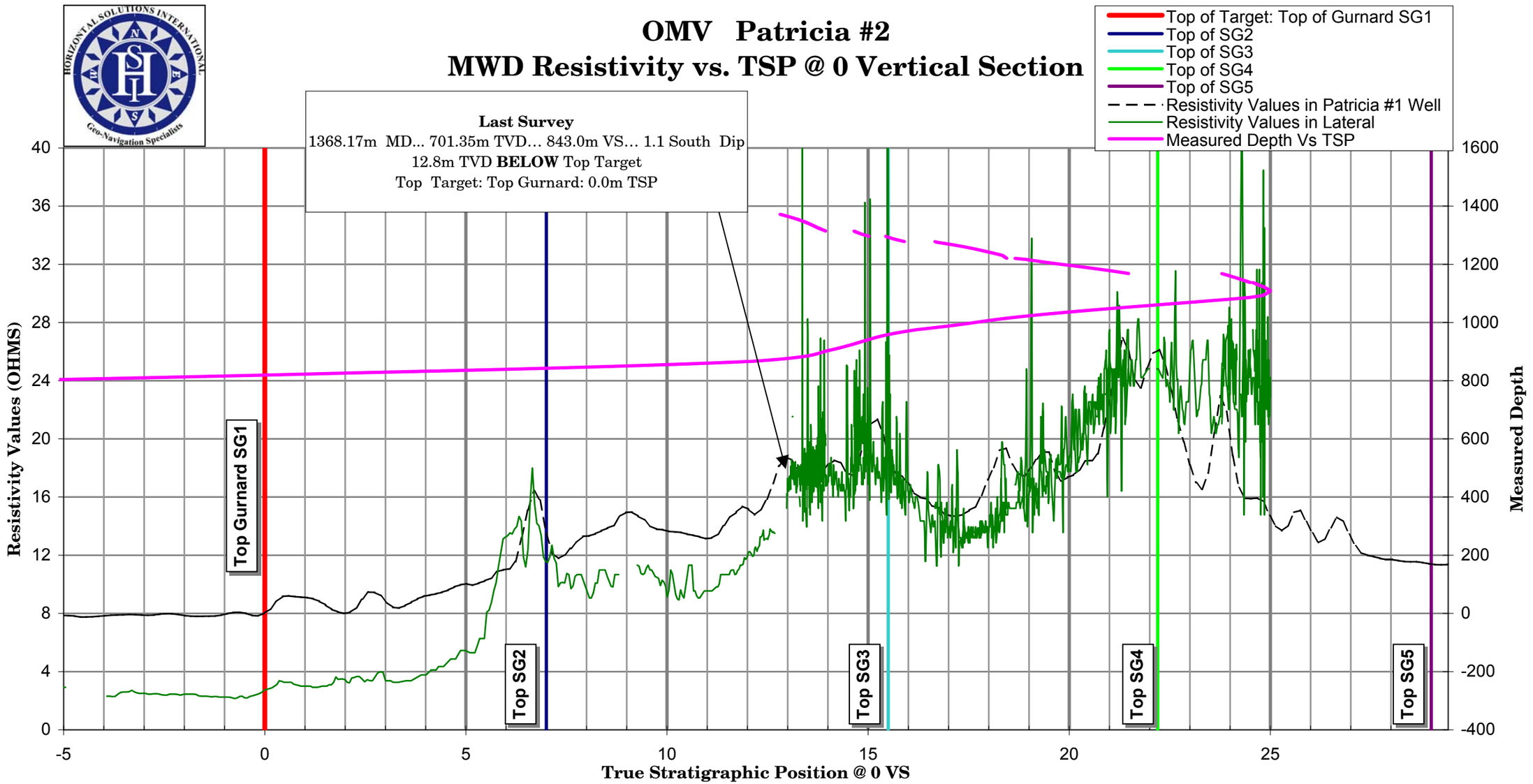
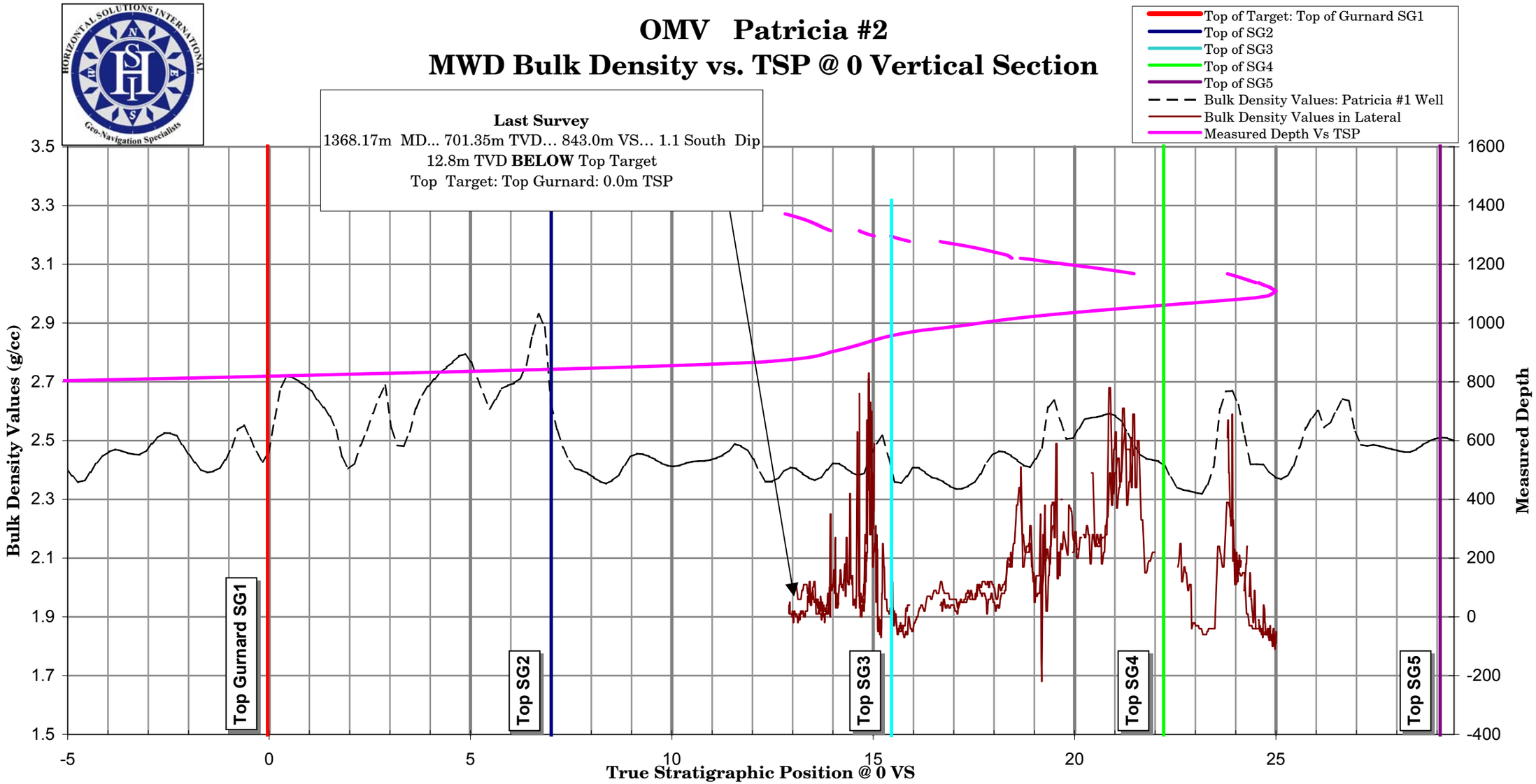
OMV Patricia #2
MWD Resistivity vs. TSP @ 0 Vertical Section



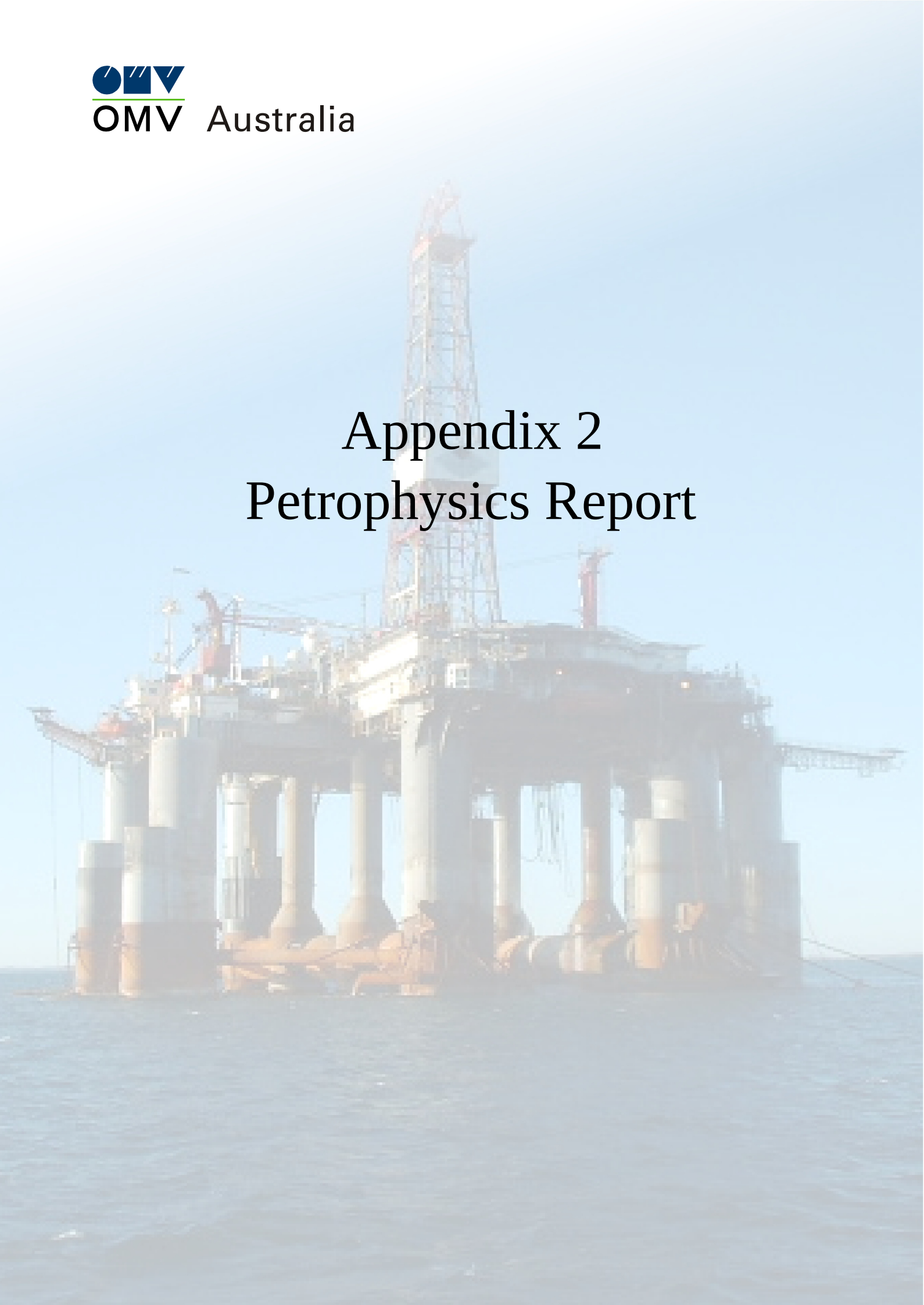
6/27/02 10:30 AM

OMV Patricia #2
MWD Bulk Density vs. TSP @ 0 Vertical Section



6/27/02 10:31 AM

OMV Australia



Appendix 2
Petrophysics Report

Quicklook Petrophysical Analysis – Gurnard Formation

2nd July, 2002

A quicklook analysis was performed on FEWD (recorded) logs from Patricia-2. The available FEWD logs were:

DGR/EWR/SLD/CNP

Due to the presence of severe gas effect on the density and neutron responses, and the complex lithology present within the formation a standard deterministic analysis is not possible. The purpose of this quicklook is to grade the formation into regions of poor average and good reservoir quality.

Intervals were assigned a pay quality according to their position on the density-neutron Xplot. Samples showing strong gas effect were assigned “Good Pay”, samples which showed a high density response indicative of siderite cemented horizons were assigned “Non Pay” and the remainder were assigned “Pay”.

The polygons shown on the attached crossplots indicate the regions on the D-N crossplot that were used to assign the pay type. This methods is a qualitative means of determining relative pay quality and will only work for wells located above the gas-water contact, and assumes that no significant invasion by mud filtrate has taken place.

Apparent porosity (PHIX) was calculated from the density-neutron crossplot using the bateman & konen method. This porosity was chosen as the effects of varying matrix mineralogy and gas are minimised. It is recognised that this will not be the true porosity but will generally be close to but greater than the true total porosity.

Patricia-2

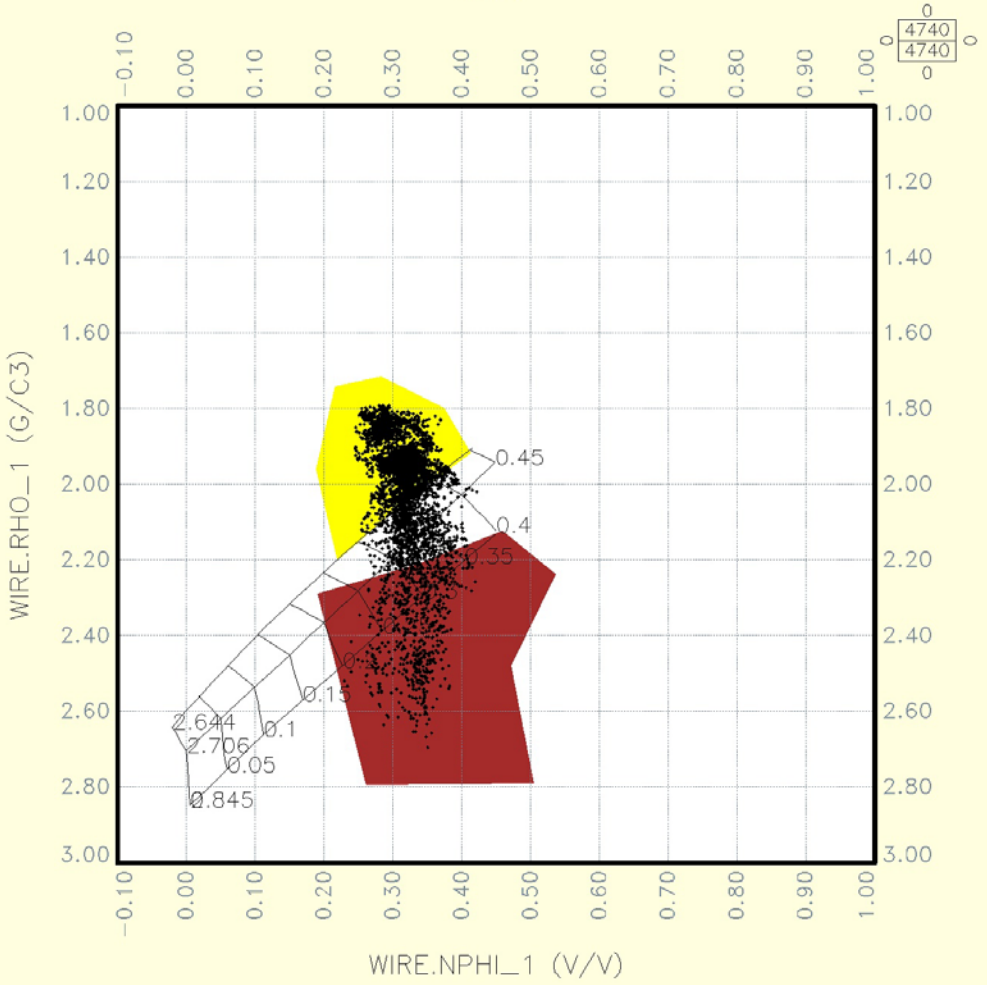
Pay Type	Interval (mRT)	Gross (mRT)	Net (mRT)	NTG	Phix (%)
Good Pay	889.0-1363.0	474.0	302.45	0.638	40.4
Pay			102	0.217	34.7
Both			404.35	0.855	39.0

RHO_COR vs. NPHI_COR Crossplot

Well: PATRICIA-2

Intervals: SG2

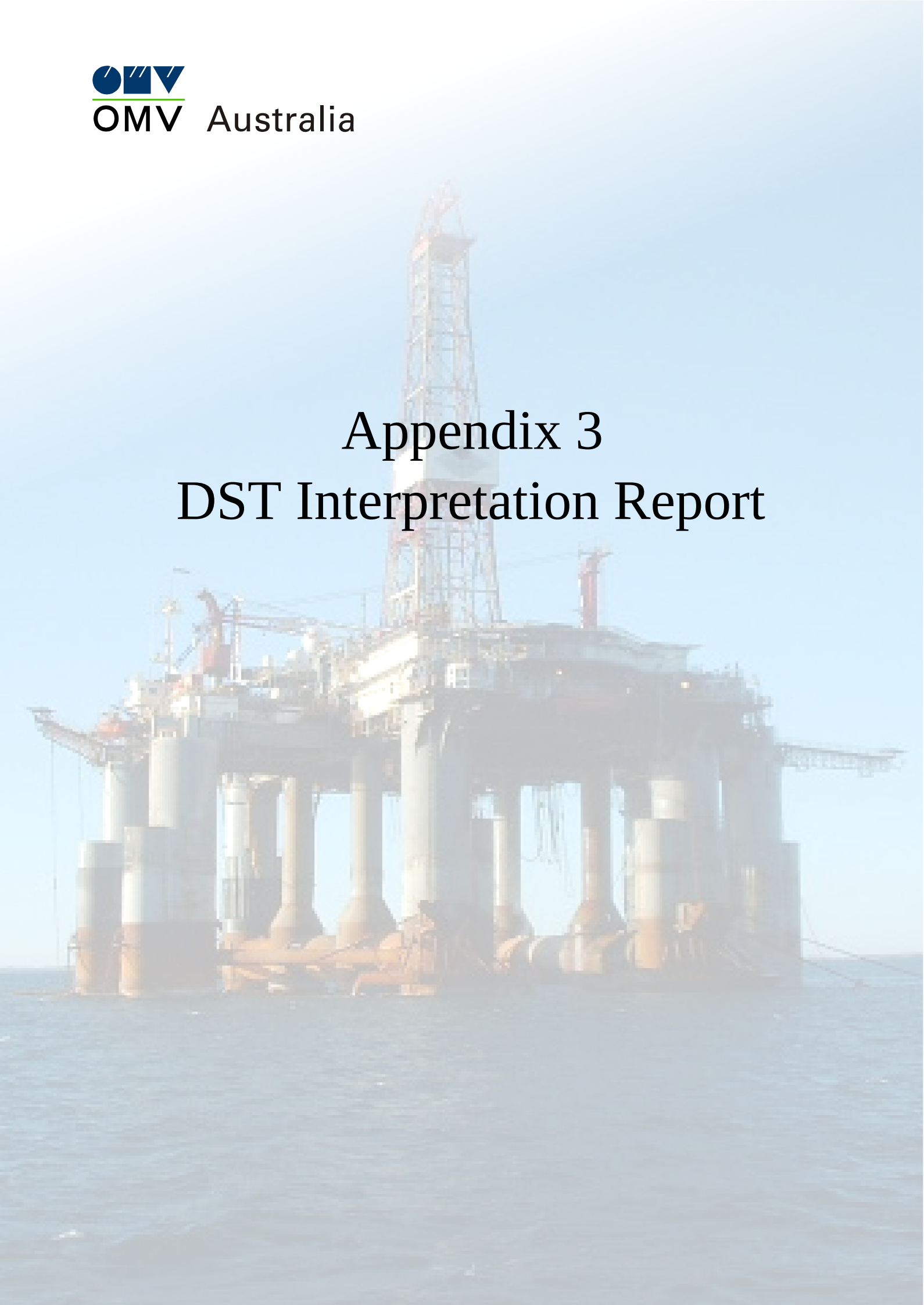
Filter:



Functions:

good_pay	: No description given.
non_pay	: No description given.
mi_cp1e_p	: Pmaa from Litho-Density & CNL (Pf = 1.0 Cf = 0)
mi_cp1e	: Por & Lith determ from Lith-Density & CNL (Pf= 1.0 Cf= 0)

OMV Australia



Appendix 3
DST Interpretation Report

OMV Australia Pty Ltd

VIC / L21

PATRICIA-2 DEVELOPMENT WELL

PRODUCTION TEST REPORT & PRESSURE TRANSIENT ANALYSIS

Andy Ion

July 2002

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VIC / L21

PATRICIA-BALEEN FIELD

PATRICIA-2 DEVELOPMENT WELL

PRODUCTION TEST REPORT & PRESSURE TRANSIENT ANALYSIS

Prepared by

Andy Ion
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OMV Australia Ltd.

July 2002

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ACKNOWLEDGEMENTS

Thanks to Mr Peter Zehetleitner (OMV-AG) for provision of front cover photograph.

1 EXECUTIVE SUMMARY

The Patricia-2 well was production-tested between 3rd – 5th July 2002 in order to clean the well up prior to suspension and to determine key well and reservoir parameters from the bottomhole pressure response. The actual test duration was 58 hours (excluding operational downtime and time waiting on daylight), as compared to the pre-test programme of 52 hours.

A short initial flow and pressure build-up was conducted to determine the static reservoir pressure prior to testing. Extrapolation of the shut-in trend yielded an initial reservoir pressure of 1,061.8 psia at gauge reference depth of 892mMDRT (676.1 mTVDMSL), some 5.5 psi lower than the pressure regime established from wireline formation pressure testing of the Baleen-2 appraisal well in 1999. The pressure data tied exactly with the reservoir pressure gradient established from the Baleen-3 production test. The depletion is believed to be due to the effect of production from the Bass Strait oil/gas fields on the regional aquifer pressure.

The well was beaned-up to maximum choke to promote effective clean-up of the entire horizontal production interval. A coiled tubing-conveyed temperature logging pass was conducted to investigate any potential flow anomalies within the horizontal section.

At maximum choke, a maximum flowrate of 28.2 MMscf/d was measured (upstream choke pressure of 632 psia) through the test separator. Well production was limited by both the restrictive presence of the coiled tubing string (maximum OD 2.2” at the gauges) inside the 5.5” tubing (ID 4.892”) and the circuitous pipework route between the flowhead and the test separator. In addition, prevailing wind conditions required flow to the aft flare-boom, located on the opposite side of the rig to the test area, which caused additional pressure drops within the surface pipework.

Analysis of the final pressure build-up period yielded an estimated horizontal effective permeability of 118 mD, assuming the presence of a single fault close to the wellbore. Total skin of -1 was interpreted. Whilst high skin was expected due to brine losses to the formation and pressure drop through the sand-screens, it was interpreted that the negative pseudo-radial skin associated with horizontal well geometry offset this effect. Continuous completion brine production throughout the test indicated that clean-up had not finished prior to termination of the test.

A pressure match of the entire test yielded an estimated horizontal effective permeability of 108 mD, in good agreement with the value derived from pressure build-up analysis. This estimate was used as a basis for deliverability calculations.

Deliverability analysis yielded stabilised absolute open-flow (AOF) potential of 157 MMscf/d, similar to analysis of the Baleen-3 development well. Deliverability analysis indicated that the well should exceed initial production performance predicted from the 2001 reservoir simulation modelling study, however the drawdown performance on test suggested that the reservoir pressure (and flowrate) may decline faster than Baleen-3 due to the smaller drainage volume associated with the interpreted near-wellbore fault.

Removing the effect of the coiled tubing from vertical lift performance, it was estimated that the well would flow at a maximum initial rate of 69 MMscf/d through the installed 5.5” production tubing, assuming a minimum initial tubing-head pressure of 250 psia.

2 PRODUCTION TEST OBJECTIVES & PROGRAMME

The well test programme was designed to provide the maximum amount of reservoir/well information for the minimum rig time. At the completion of testing operations, the well had to be secured for suspension as a future production well.

The following specific objectives were listed in the Completion & Testing Programme :

- Determine initial static reservoir pressure.
- Clean up well to remove residual mud/filtrate and promote flow contribution from total length, whilst minimising skin damage and plugging of sand screens.
- Determine rate-dependent wellbore skin factor.
- Determine well deliverability.
- Estimate average formation permeability.
- Estimate static & flowing pressure gradients.
- Obtain valid separator fluid samples.
- Secure well for future production.

Each of these objectives was addressed in the test programme, which comprised the following flow and shut-in periods :

	Test Period Duration (hrs)	
	Programmed	*Actual*
Initial Flow	0.2	1.5
Initial Shut-In	2.0	2.3
Clean-Up Flow	24.0	27.7
Second Shut-In	4.0	4.6
Main Flow : Rate 'A'	5.0	4.5
Main Flow : Rate 'B'	5.0	6.0
Main Flow : Rate 'C'	8.0	8.0
Third Shut-In	4.0	3.5
	52	**58**

Table 2.1

Programmed test periods were reduced significantly (by 20 hours) in light of experiences on the Baleen-3 well. Actual test periods exceeded programme by 6 hours, primarily due to an extension of clean-up flow necessitated by the large brine volume lost to the reservoir during well completion operations.

Brine production continued throughout the programmed duration of the clean-up flow due to the volume of losses suffered during the drilling/completion phases. In addition to an estimated 20 bbls fluid lost during drilling, 410 bbls of brine were lost when the upper completion had to be pulled due to an incorrect space-out (an enzyme breaker had been pumped when displacing mud from the hole, to promote break-down of the filter-cake).

With an estimated total hole volume of 170 bbls, the total liquid volume below rotary table was approximately 600 bbls. The clean-up was therefore conducted at full-open choke with the objective to remove as much brine from the wellbore as possible, within time constraints, prior to deliverability testing.

Figure 1 shows a cross-sectional view of the well trajectory through the reservoir interval.

3 GAUGE/TOOLSTRING CONFIGURATION

Due to the requirement for unloading of completion brine using nitrogen, downhole surface read-out (SRO) and memory gauges were run on coiled tubing to provide pressure and temperature data close to reservoir Datum depth. In addition to the standard pressure/temperature gauges, a temperature logging tool was also run to investigate potential flow anomalies within the horizontal production interval.

The gauges were attached to the bottom of the coiled tubing using a conventional rope-socket assembly. SRO data was transmitted to surface via electric-line run inside the coiled tubing.

Three separate pressure/temperature measurements were recorded :

- SRO gauge – data transmitted to surface.
- SRO interface gauge – back-up to SRO, memory data mode only.
- Memory gauge – primary recorded data source.

The pressure gauges were all sapphire type model SS-2500, as supplied by Spartek Systems. The stated specifications of these gauges were as follows :

- Sensor type – Sapphire (1004)
- Accuracy – 0.022% full scale (full scale 6,000 psi --> accuracy = 1.32 psi).
- Resolution – 0.0003% full scale (full scale 6,000 psi --> resolution = 0.02 psi).

The SRO gauge was located directly beneath the rope-socket with the temperature logging tool in the middle of the toolstring and the memory gauge on the bottom. A suitable bull-nose profile was added to mitigate against tool hang-up whilst running in hole.

The length of each gauge was approximately two feet (0.61 metres), making the entire gauge-string approximately six feet (1.83 metres) in length. The top-gauge was located approximately five feet (1.52 metres) below the rope-socket.

Figure 2 shows a schematic view of the proposed completion configuration (pre-drill).

4 OPERATIONAL SUMMARY

4.1 Initial Flow Period (FP #1)

The objective of this flow period was to create a pressure reduction within the wellbore, resulting in a short inflow from the reservoir and an associated pressure drawdown. A subsequent pressure build-up would then establish the initial reservoir pressure by extrapolation of the pressure trend.

At 03:22 on 3rd July, the well was opened up to the surge-tank and coiled tubing run in hole to the reference gauge depth of 892 mMDRT (676.1 mTVDSS). Nitrogen was pumped whilst running in hole and a total of 119 barrels of brine unloaded to the surge-tank during the initial flow period.

4.2 Initial Shut-In Period (PBU #1)

The well was shut-in at 04:54 on 3rd July for pressure build-up. The well was shut-in with gauges at reference depth for a period of two hours and twenty minutes, in order to provide sufficient time for pressure build-up to occur.

4.3 Second Flow Period : Clean-Up Flow (FP #2)

The well was opened at 07:14 on 3rd July on a 20/64" choke and gradually beaned-up to 128/64" prior to being diverted to the test separator.

Stable separator conditions were rapidly established, although brine production of 500 bbls/day was initially reported due to back-production of lost fluid. Brine production had decreased to 40 bbls/day when the 'clean-up' flow period was terminated.

At 07:30 on 4th July, the coiled tubing was run in hole to TD to evaluate any potential pressure/ temperature anomalies within the wellbore prior to commencing the second shut-in period

Clean-up flow continued until 10:55, when the well was shut-in at the choke for the second pressure build-up period. Total brine production through the separator was estimated to be 123 bbls (excluding liquid directed to flare prior to diverting well to separator – estimated 50 bbls).

During clean-up flow, Draeger measurements of 1.5% CO_2 and nil H_2S were recorded. This contrasted with measured CO_2 content of 0.1% from the Baleen-3 production test. Water analysis indicated all produced liquid was completion brine.

4.4 Second Shut-In Period (PBU #2)

The pressure build-up response was monitored at both the downhole gauge and on the upstream side of the choke. Once sufficient data had been acquired to meet test objectives, the shut-in period was terminated.

4.5 Third Flow Period : Main Flow (FP #3-#4-#5)

The well was opened up at 15:30 on 4th July for the main flow period, which comprised three sequential flow periods at increasing choke settings. Flow was stabilised before switching to a fixed 40/64" choke.

Three PVT gas samples were acquired after one hour of stable flow. No condensate production was noted. Flow continued until a stable pressure point was determined for deliverability analysis.

At 20:00, the well was beaned-up gradually using an adjustable choke before switching to a fixed 64/64" choke. Flow continued until a further pressure point was determined for deliverability analysis.

At 02:00 on 5th July, the well was beaned-up gradually using an adjustable choke before switching to a fixed 128/64" choke. Flow was continued until a pressure point was achieved for deliverability analysis.

At 10:00, the well was shut-in for the third pressure build-up.

4.6 Third Shut-In Period (PBU #3)

The pressure build-up response was monitored at both the downhole gauge and on the upstream side of the choke. Once sufficient data had been acquired to meet test objectives, the shut-in period was terminated at 13:24.

In summary, key flowing parameters during the test sequence were as follows :

	Choke (64ths)	**Gas Rate** (MMscf/d)	**U/S choke** (psia)	**D/S choke** (psia)	**Critical Flow ?**	**Sep Press** (psia)
FP #2	192	24.8	604	546	No	384
FP #3	40	9.5	939	384	Yes	364
FP #4	64	20.3	797	423	Yes	294
FP #5	128	28.2	632	578	No	402

5 DATA ANALYSIS – INPUT DATA ASSUMPTIONS

In order to perform analysis of the bottomhole pressure data, a number of assumptions were required.

5.1 Reservoir Model & Properties

Based on analysis of the high-quality 3D seismic dataset and data from offset vertical wells, the reservoir geometry was assumed to be known with some degree of certainty. The preferred reservoir model was assumed to comprise a single horizontal homogeneous layer bounded above and below by horizontal no-flow boundaries.

Difficulties were experienced in matching the observed late-time PBU trends. A number of alternative boundary models were investigated in an attempt to identify the optimal interpretation :

- Vertical well located between two parallel vertical faults.
- Single sealing fault close to wellbore
- Closed compartment

Based on the quality of the data match obtained from pressure transient analysis, a boundary model including a single sealing fault was applied. This assumption was supported by high-quality 3D seismic data.

A uniform reservoir thickness of 40 metres was applied based on stratigraphic information acquired from the Patricia-1 exploration well. Analyses were conducted assuming thinner intervals (simulating the effect of a continuous intra-reservoir impermeable layer restricting vertical flow) in an effort to improve match quality, but this did not yield better-quality results.

The following input data was also applied, either estimated from known/analogous reservoir data or calculated from an equation-of-state relationship :

Formation Porosity (%)	35
Initial Reservoir Pressure (psia)	1,060.8
Reservoir Temperature (ºF)	117
Water Saturation (%)	35
Water/Gas Ratio (bbls/MMscf)	4 (water of condensation + completion brine)
Gas Z Constant	0.9173
Gas Compressibility (1/psi)	1.024 E-03
Water Compressibility (1/psi)	2.839 E-06
Rock Compressibility (1/psi)	7.500 E-05 *
Total Compressibility (1/psi)	7.419 E-04
Gas Viscosity (cP)	0.0132
Water Viscosity (cP)	0.5994

Table 5.1

** The rock compressibility value was an estimate, based on experience from the Stag Field, which is also a shallow, glauconitic, high porosity (micro-porosity), silty reservoir of similar geological age and depositional environment.*

5.2 Fluid Properties

Gas composition data used to calculate gas compressibility was based on the analysis of a separator gas sample obtained from the Patricia-1 well. Whilst on-site analysis of produced gas from the Patricia-2 test indicated a different proportion of methane and carbon dioxide, application of this data was not considered appropriate until final PVT analysis of the preserved separator samples was available.

The assumed gas composition was as follows, based on the analysis of a DST separator sample recovered from the Patricia-1 exploration well (% mol):

CO2	N2	C1	C2	C3	C4	C5	C6+	Total
1.32	0.66	97.72	0.28	0.005	0.003	0.003	0.005	100.00

Table 5.2

5.3 Well Properties

A wellbore radius of 4.25 inches was assumed based on the bit-size used to drill the production interval. Indications of good hole conditions during drilling and from acoustic caliper measurements supported this assumption.

6 DATA ANALYSIS – INTERPRETATION

6.1 Test Overview

Figure 3 shows the pressure data recorded by the SRO/interface/memory gauges during the production test.

Figure 4 shows the master pressure dataset used for test analysis (interface gauge) – flow anomalies and fluctuations associated with slugging and minor choke adjustments have been manually omitted for ease of analysis.

Figure 5 shows the downhole gauge and surface pressures during the test, whilst Figure 6 highlights the differential pressure across the choke at each choke setting.

6.2 Initial Reservoir Pressure

The analysable portion of the pressure build-up is shown in Figure 7. The initial reservoir pressure was estimated to be 1,061.8 psia at the reference gauge depth of 892 mMDRT (676.1 mTVDSS), based on extrapolation of the pressure build-up trend (Figure 8). Since the gauges were located within the reservoir interval, no pressure corrections were required between gauge depth and reservoir depth.

Figure 9 shows the Patricia-2 initial reservoir pressure superimposed on historical pressure data obtained from the Patricia-Baleen exploration/appraisal wells and the Baleen-3 development well. This plot indicates that the level of pressure depletion observed was similar to data obtained from Baleen-3, ie. approximately 5-6 psi lower than Baleen-2 data obtained in 1999. This loss in pressure is believed to be due to depletion of the regional aquifer by production from the Bass Strait oil/gas fields.

No additional analysis of the initial pressure build-up data was possible (or expected) due to uncertainty in the data quality resulting from pumping of nitrogen and gauge movement during the build-up period.

6.3 Pressure Build-Up Analysis

The primary interpretation of reservoir quality data derived from analysis of the second and third pressure build-up periods. Both periods yielded analysable data of high quality. Given the number of different reservoir/boundary models considered, PBU analysis was conducted assuming both : a) infinite-acting (IA) model, and b) single fault (SF) model.

6.3.1 Second Pressure Build-Up Period

Figures 10 & 11 show the pressure build-up data and match quality obtained from the IA & SF models. Radial flow behaviour was clearly apparent once the effects of wellbore storage had diminished (wellbore storage due to surface shut-in). Analysis of the radial flow data components of both models yielded an effective horizontal permeability in the range 61 to 114 mD and total wellbore skin of –0.2 to –0.9.

Semi-log analysis of the SF model data (best match) confirmed these results (Figure 12). Extrapolation of the late-time pressure trend yielded an infinite-time build-up pressure of 1,055.6 psia, 6.2 psi less than the initial reservoir pressure determined from the initial flow/shut-in. This was not interpreted to be due to depletion, but related to limited drainage

volume in the immediate vicinity of the horizontal well within a relatively thin reservoir interval with flow constrained by the interpreted nearby fault.

Figure 13 shows the location of the wellbore in relation to faults interpreted from 3D seismic data. The high-quality match of the late-time pressure build-up yields a distance-to-fault of ~160 feet (~50 metres), which is in reasonable agreement with the seismic data. Whilst the faults are of low, vertical normal throw (ten metres and less), there is a strike-slip component and the lateral movement can result in a reduction in transmissibility by clay-smearing. Based on the match quality, the SF model was preferred.

6.3.2 Third Pressure Build-Up Period

Figures 14 & 15 show the pressure build-up data and match quality obtained from the IA & SF models. Radial flow behaviour was clearly apparent once the effects of wellbore storage had diminished (wellbore storage due to surface shut-in). Analysis of the radial flow data components of both models yielded an effective horizontal permeability in the range 90 to 118 mD and total wellbore skin of –1.4 to –1.6.

Semi-log analysis of the SF model data (best match) confirmed these results (Figure 16). Extrapolation of the late-time pressure trend yielded an infinite-time build-up pressure of 1,053.3 psia, 2.3 psi less than the pressure determined from the second pressure build-up. This was not interpreted to be due to depletion, but related to limited drainage volume in the immediate vicinity of the horizontal well within a relatively thin reservoir interval with flow constrained by the interpreted nearby fault.

Based on the match quality, the SF model was preferred. Due to the more advanced level of clean-up and more accurate flow metering during the preceding flow period, interpretation from the third PBU was confirmed as the preferred analysis, ie. horizontal permeability (SF model) of 118 mD and total skin of –1.4.

6.4 Total Test Pressure Match

Estimation of key parameters was achieved using regression analysis.

Figures 17, 18, 19 & 20 show the four best pressure matches achieved with each reservoir model with the calculated well/reservoir results overlaid. Whilst the quality of all matches is reasonable, Interpretation #3 was considered the best due to the superior match of the pressure build-up trends.

Accurate matching of the clean-up flow was not considered to be important due to the uncertainty in production rate whilst well effluent was diverted directly to the burners. Since well clean-up continued throughout the production test, the determination of single ‘best-fit’ parameters to match the entire test was somewhat approximate.

The ‘most-likely’ analysis, Interpretation #3, yielded the following ‘most-likely’ results :

Effective Horizontal Permeability (Kh)	108 mD
Effective Vertical Permeability (Kv)	0.4 mD (Kv/Kh = 0.4%)
Total Wellbore Skin factor (S)	- 1.0
Horizontal Production Length (L)	1,636 feet (500 metres) – 97% of gross interval
Vertical Well Position (Zwd)	0.91 (heel close to top-porosity surface)
Non-Darcy Rate-Dependent Skin (D)	1.56 E-05 /Mscf

Table 6.4

The low value of rate-dependent skin was attributed to low frictional losses due to horizontal well geometry and the relatively low production rates.

It should be noted that reasonable pressure matches were obtained using three different reservoir/boundary models. The interpretation of slightly higher permeability than Baleen-3 was supported by initial wellsite reports and LWD log comparisons of the two wells. The much lower skin factor, however, could not be fully explained, other than suggesting a higher geometric (horizontal well) component to the total wellbore skin.

Due to the relatively consistent reservoir quality interpreted along the wellbore, and confirmation from production logging that the toe of the well was flowing gas, the interpretation of almost 100% contribution from the wellbore length was not considered unrealistic. The results from Interpretation #3 were used as a basis for subsequent deliverability modelling.

6.5 Well Deliverability Analysis

6.5.1 Flow-After-Flow Transient Analysis

Stabilised flow was attempted at three different choke settings (Flow Periods #3-#4-#5) in order to determine a deliverability curve that could be used for the prediction of well productivity with declining reservoir pressure. The three flow periods, A – C, are highlighted in Figure 3.

Figure 21 shows a Cartesian plot of the three flow periods superimposed. Data anomalies relating to coiled tubing logging and liquid slugging were manually omitted to facilitate analysis of the valid data.

The pressure trend corresponding to Rate ‘A’ stabilised relatively quickly, whilst Rates ‘B’ & ‘C’ failed to stabilise within the programmed flow period duration; this was interpreted to be due to the limited near-wellbore drainage volume (as discussed in Section 6.3.1).

Figure 22 illustrates the semilog (radial flow) analyses of the three individual pressure responses simultaneously. Due to differences in the interpreted gradient of the radial flow portions of each dataset, a single line of averaged gradient was fitted through one dataset, then two lines of equal gradient fitted to the remaining datasets. The assigned gradient indicated a spherical permeability of 6.0 mD (this analysis is subordinate to the results of PBU interpretations).

Figure 23 shows the relationship derived between skin and flowrate. Using a calculated non-Darcy flow coefficient (F) of 0.0049, the semilog trends were collapsed on to a single line by removing the effect of rate-dependency (Figure 24).

Some iteration in the value of ‘F’ was required to achieve an acceptable overlay of all three semilog trends. This was not considered to be unreasonable given the added complication of completion brine losses affecting the rate of well clean-up.

6.5.2 Flow-After-Flow 'LIT' Analysis

The following pressures and rates were used as a basis for this theoretical analysis :

	Choke (64ths)	**BHP @ Start** (psia)	**BHP @ End** (psia)	**Gas Flowrate** (MMscf/d)
Rate 'A'	40	1,040.9	1,029.2	9.3
Rate 'B'	64	1,029.4	1,011.1	20.8
Rate 'C'	128	1,011.1	994.4	27.8

Table 6.5

LIT (laminar-inertial-turbulent) analysis of the 'transient' data yielded an AOF (production at 14.7 psia FBHP) estimate of 148 MMscf/d. The drainage area was assumed to be 400 acres with a Dietz shape factor of 0.12 (well located close to fault within 5x1 rectangular geometry). Figure 25 illustrates the LIT deliverability curve resulting from this analysis.

6.5.3 Flow-After-Flow 'C&n' Analysis

An empirical analysis of deliverability was conducted to derive the C-coefficient and n-exponent that form the basis of the deliverability equation :

$$Q = C * (P_r^2 - P_{wf}^2)^n$$

where : *Q = gas flowrate*
P_r = *average reservoir pressure*
P_{wf} = *bottomhole flowing pressure*

The flowing rates and pressures presented in Table 6.5 were used in the analysis. Figure 26 shows the sandface C&n plot. Due to the lack of a linear relationship between the three points, the line was placed through the stabilised point #1 (Rate 'A') and parallel to the line between the unstabilised points #2 (Rate 'B') and #3 (Rate 'C').

AOF using the input data ('extended') was estimated to be 158 MMscf/d, whereas the stabilised AOF (using calculated stabilised rate at last flowing pressure) was estimated to be 163 MMscf/d. Figures 27 & 28 show the AOF and deliverability plots derived from this analysis.

Given the better quality of match of all four points using the 'C&n' technique, it was concluded that the best estimate of stabilised AOF (at 15 psia bottomhole flowing pressure) for the well was 158 MMscf/d (C=0.1727 Mscf/d/psi2, n=0.9853).

6.5.4 Vertical Lift Performance

A vertical lift performance curve for the test equipment was generated based on the THP-BHP data obtained during each flow period. The tubing component was most accurately modelled using the 'PetroleumExperts3' annular flow correlation, whilst the pressure drop within the surface pipework (standard process pipe ID 2.3" plus Coflexip pipe ID 2.5") was approximated by a pressure drop across a single choke (notional 1.3" size determined by iteration).

A second vertical lift performance curve was then generated, omitting the surface choke and assuming tubing flow with no coiled tubing in hole, to model lift behaviour when flowing direct to the 12" subsea flowline in full production mode. Further hydraulic

modelling, including pressure losses along the subsea flowline to the onshore process plant, was conducted to define total network flow potential including the Patricia-2 well, but the results of this work was considered to be outwith the scope of this document.

Figure 29 shows the well IPR and the calculated VLP, assuming a range of initial THP from 250 psia (estimated minimum initial THP) to 1,000 psia. The intersection of the IPR/VLP curves defines the operating point of the well and indicates a maximum potential flowrate (at initial reservoir pressure) of 69 MMscf/d. This figures compares closely with results from Baleen-3, which was drilled in reservoir of similar quality.

It should be noted that, based on the lack of pressure stabilisation at higher flowrates during production-testing (due to the limited near-wellbore drainage area), it should be expected that the reservoir pressure (and flowrate) will decline more rapidly in Patricia-2 relative to Baleen-3.

6.6 Temperature Logging

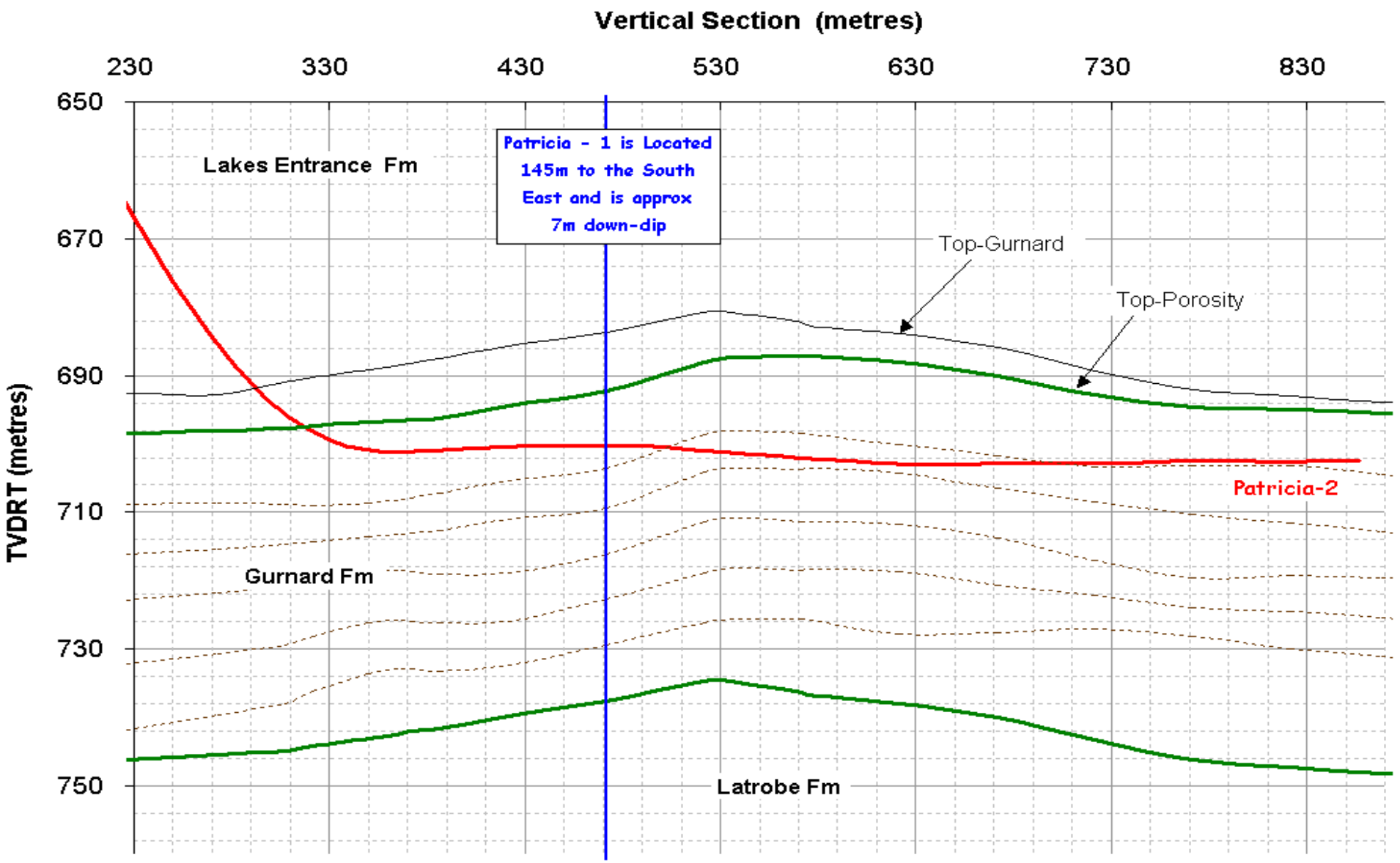
The temperature logging tool was run across the horizontal production interval at the end of the clean-up flow. The gauges were run to a depth ten metres short of the completion mule shoe and then pulled back through the sand screens to the 9-5/8” casing shoe at a constant rate of 10 metres/minute.

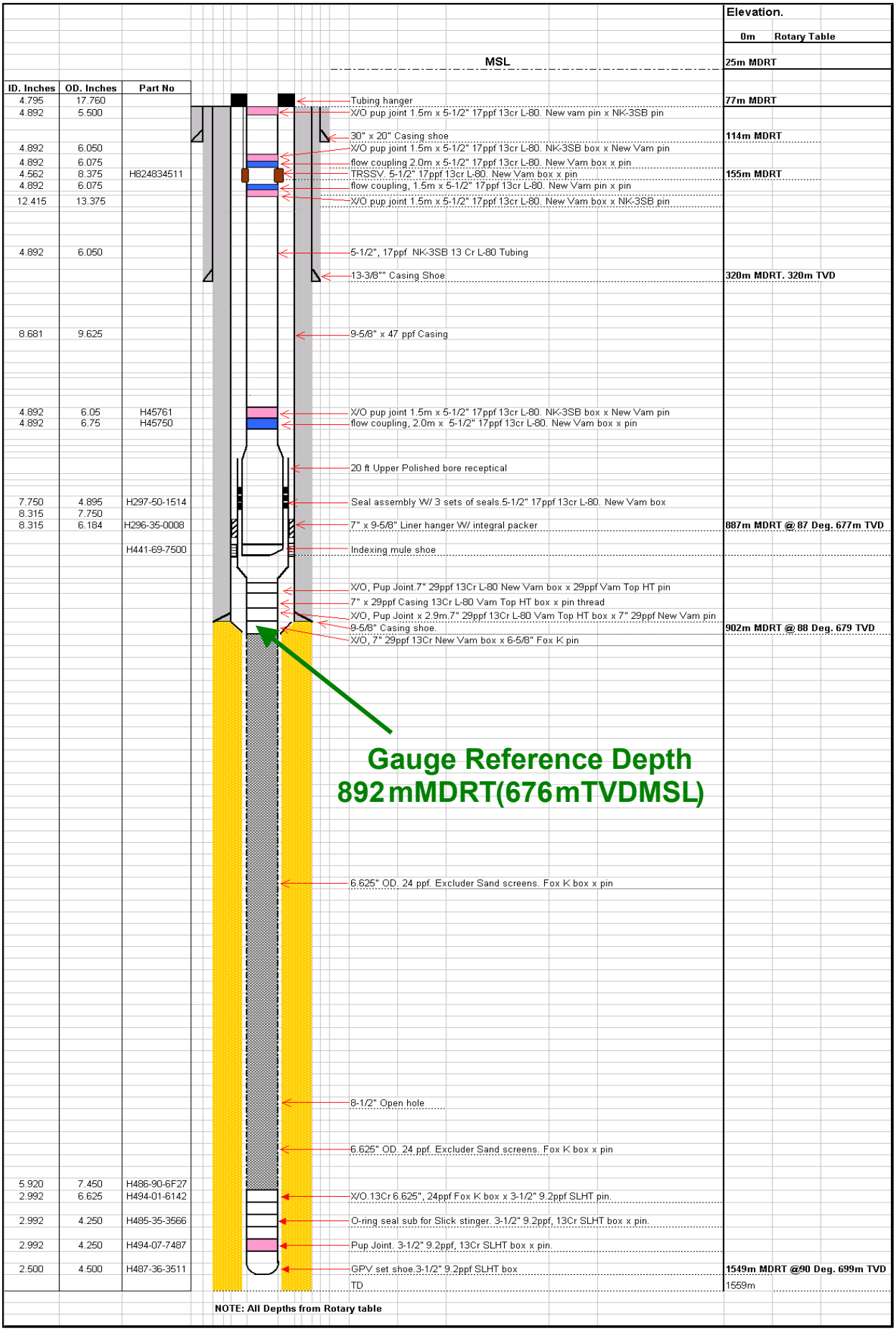
Figure 30 shows the raw data obtained during this logging run. Figure 31 focusses on the time interval where the gauges were being pulled out of hole and shows the wellbore trajectory superimposed to highlight the position of the gauge during the logging runs.

The effect of free water on the temperature response is not as marked as was observed at Baleen-3 due to the less tortuous well trajectory. The data suggests greater flow contribution from the heel of the well (as expected). Interpretation of the two pressure build-up periods indicates a possible increase of productive interval length during the test (interpreted value of Lw from Figures 15 & 19) as the well continued to clean-up.

No reliable data was obtained with respect to identifying gas ingress to the wellbore from expansion-cooling (Joule-Thomson Effect).

7 FIGURES


Vertical Section (metres)
230
330
430
530
630
730
830
650
670
690
710
730
750
TVDRT (metres)
Lakes Entrance Fm
Patricia - 1 is Located
145m to the South
East and is approx
7m down-dip
Top-Gurnard
Top-Porosity
Patricia-2
Gurnard Fm
Latrobe Fm



Patricia-2 Completion Schematic (proposed) ***Figure 2***

OMV Australia

Patricia-2 Test Overview : Master Dataset

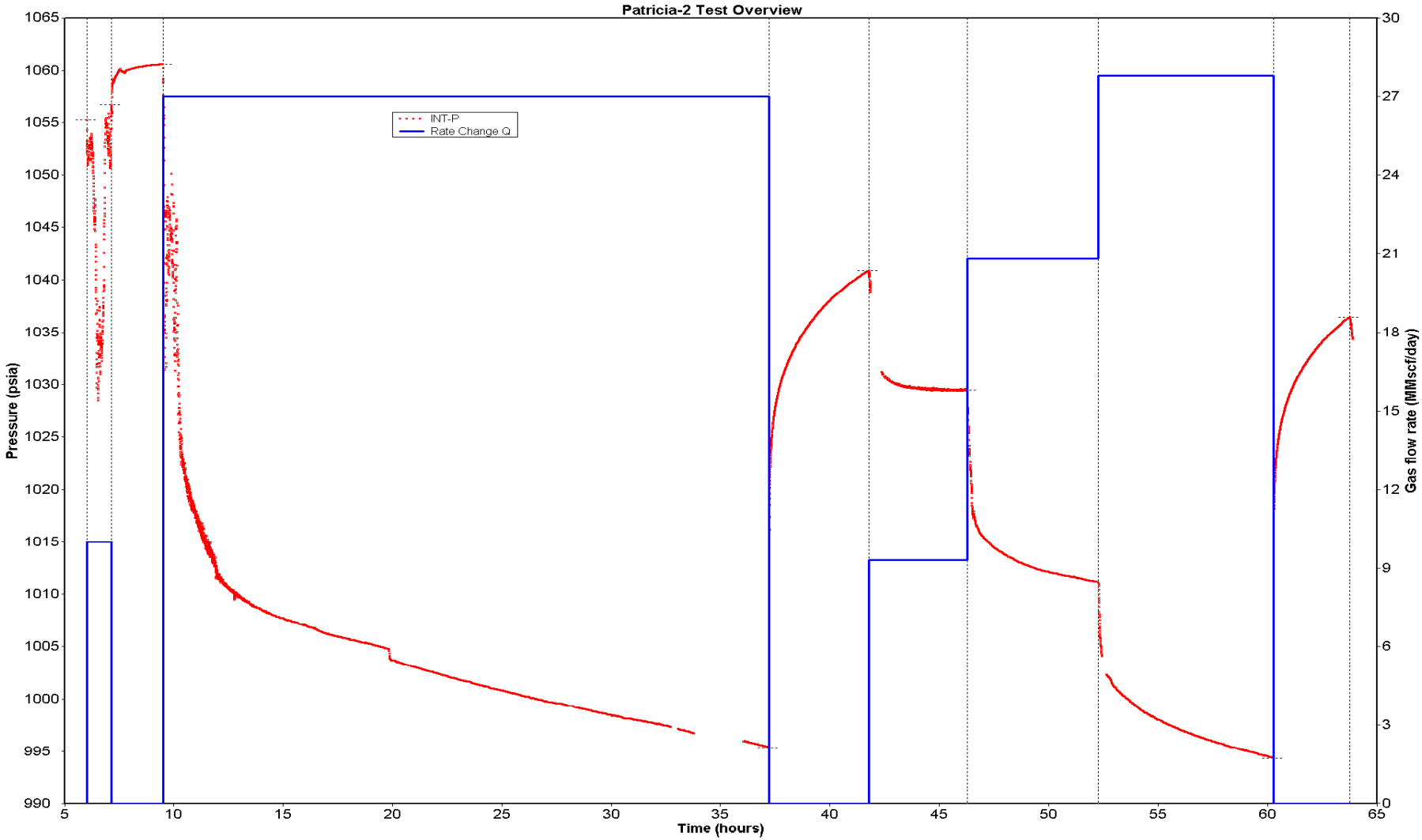


Figure 4

OMV Australia

Patricia-2 Test Overview : BHP v. THP Data

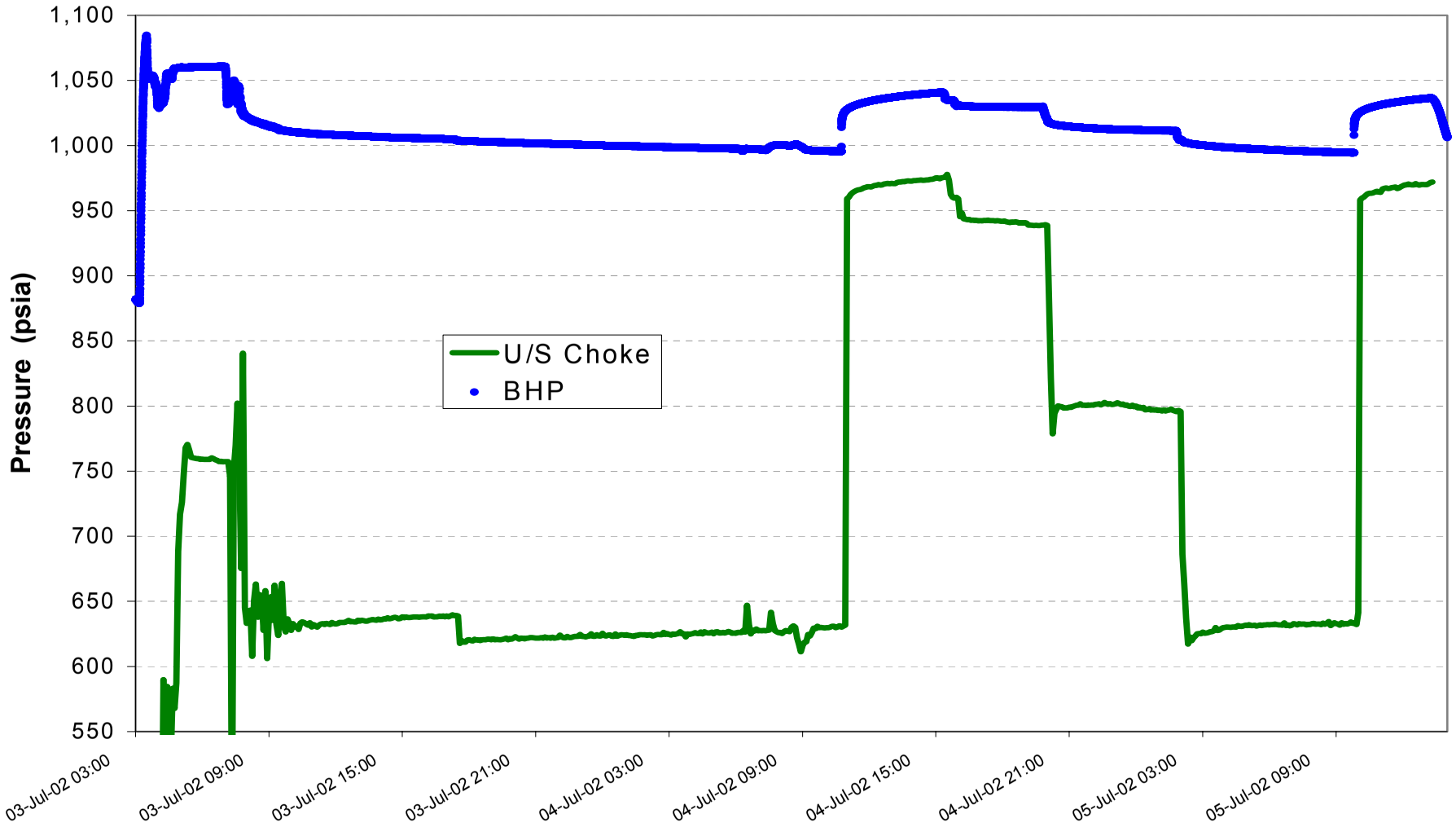


Figure 5

OMV Australia

Patricia-2 Test Overview : Expro Surface Data

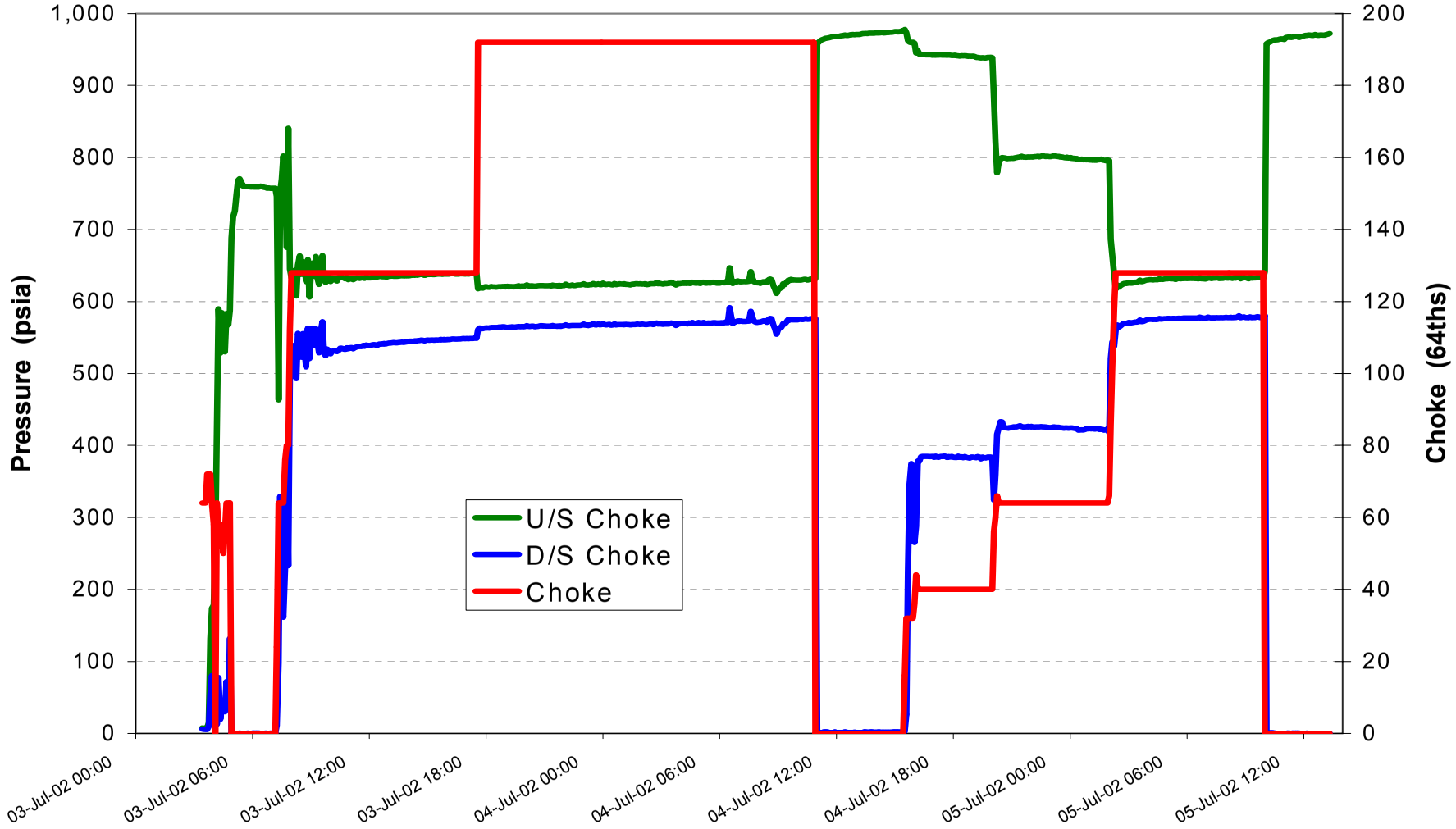


Figure 6

OMV Australia

Initial Shut-In Period : Cartesian Plot

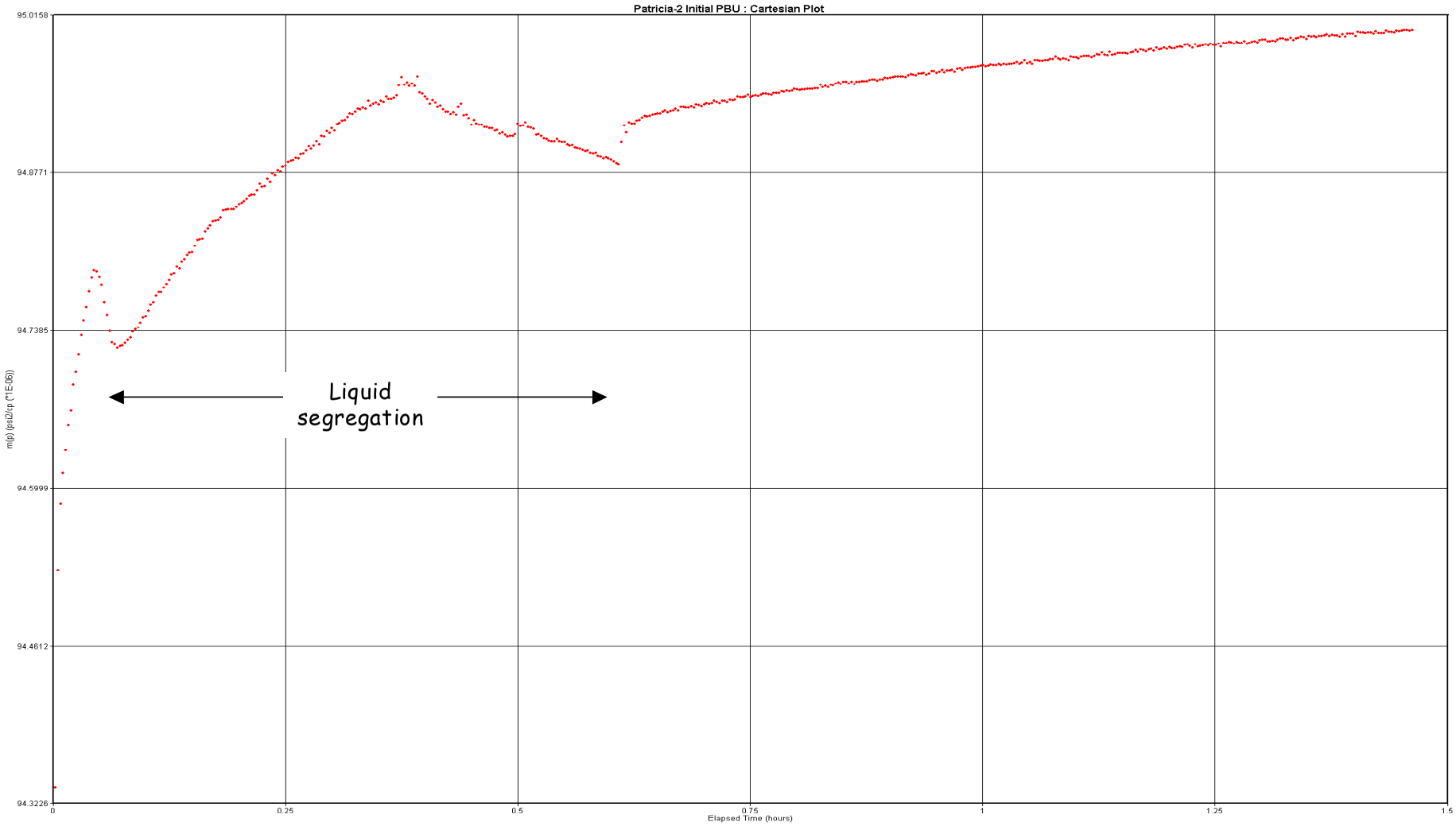


Figure 7

OMV Australia

Initial Pressure Build-Up Analysis

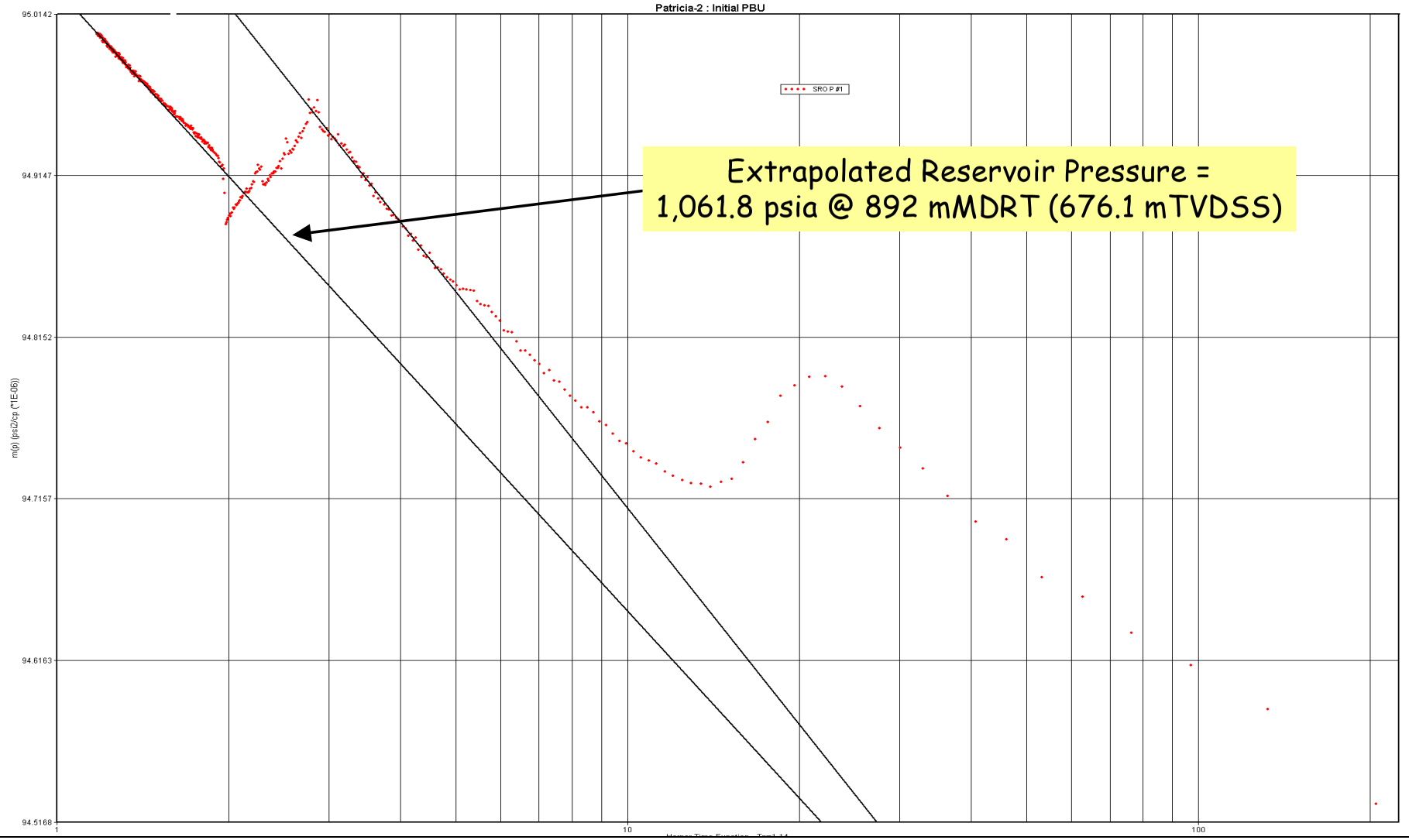


Figure 8

OMV Australia

Patricia-Baleen Reservoir Pressure v. Historical Trend

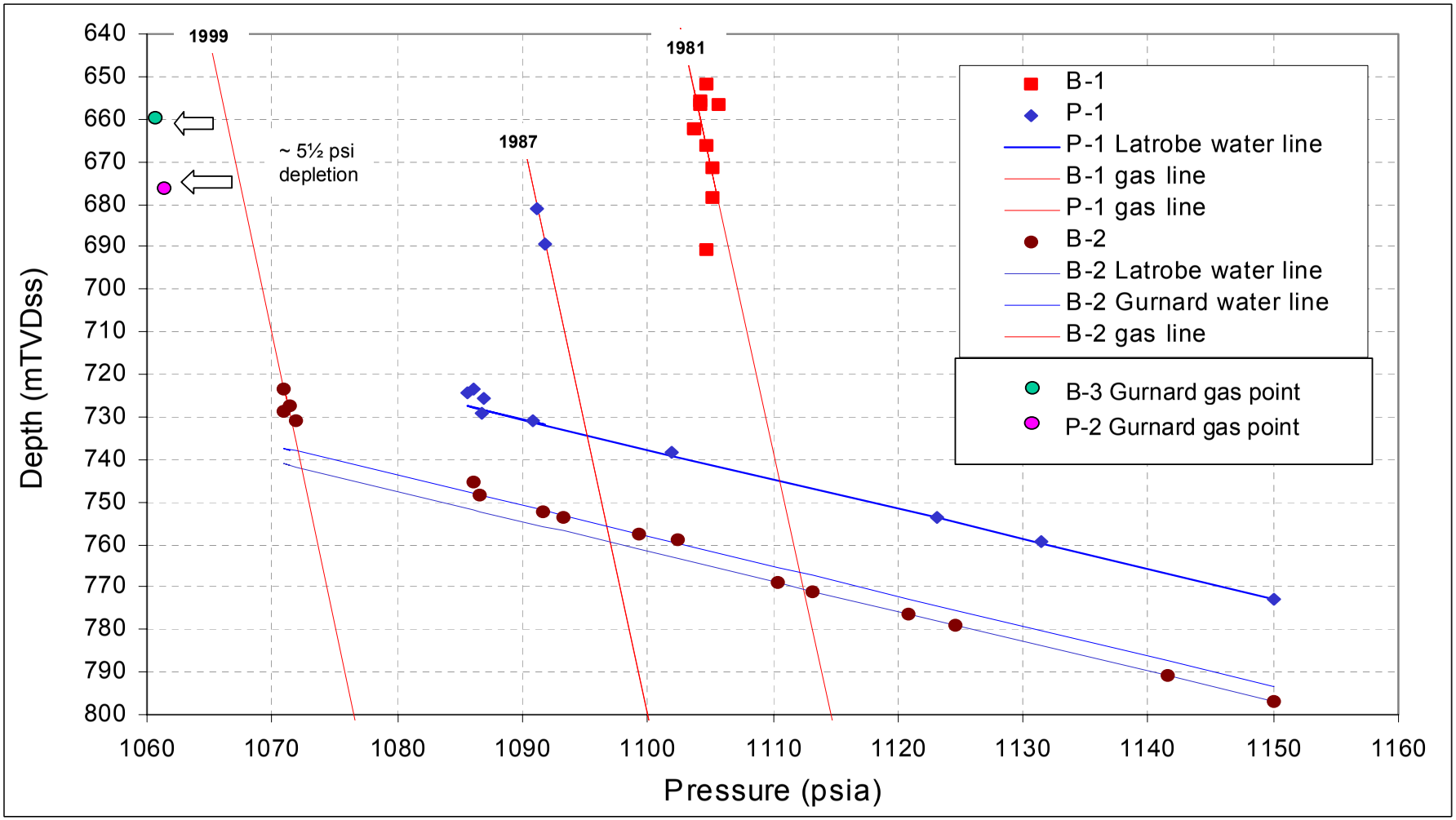


Figure 9

OMV Australia

PBU #2 : Log-Log Pressure Match (Infinite Layer)

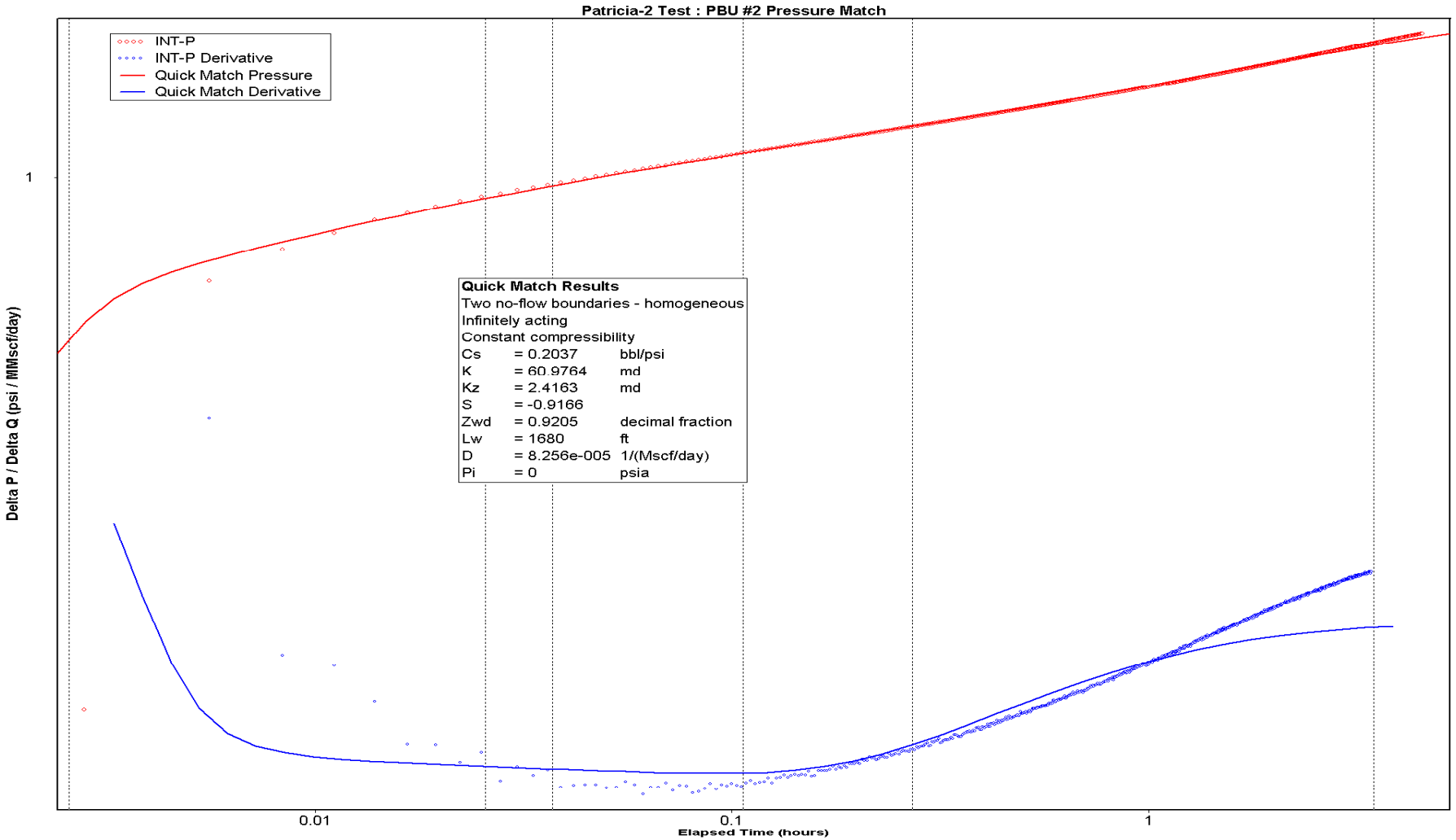


Figure 10

OMV Australia

PBU #2 : Log-Log Pressure Match (Single Fault)

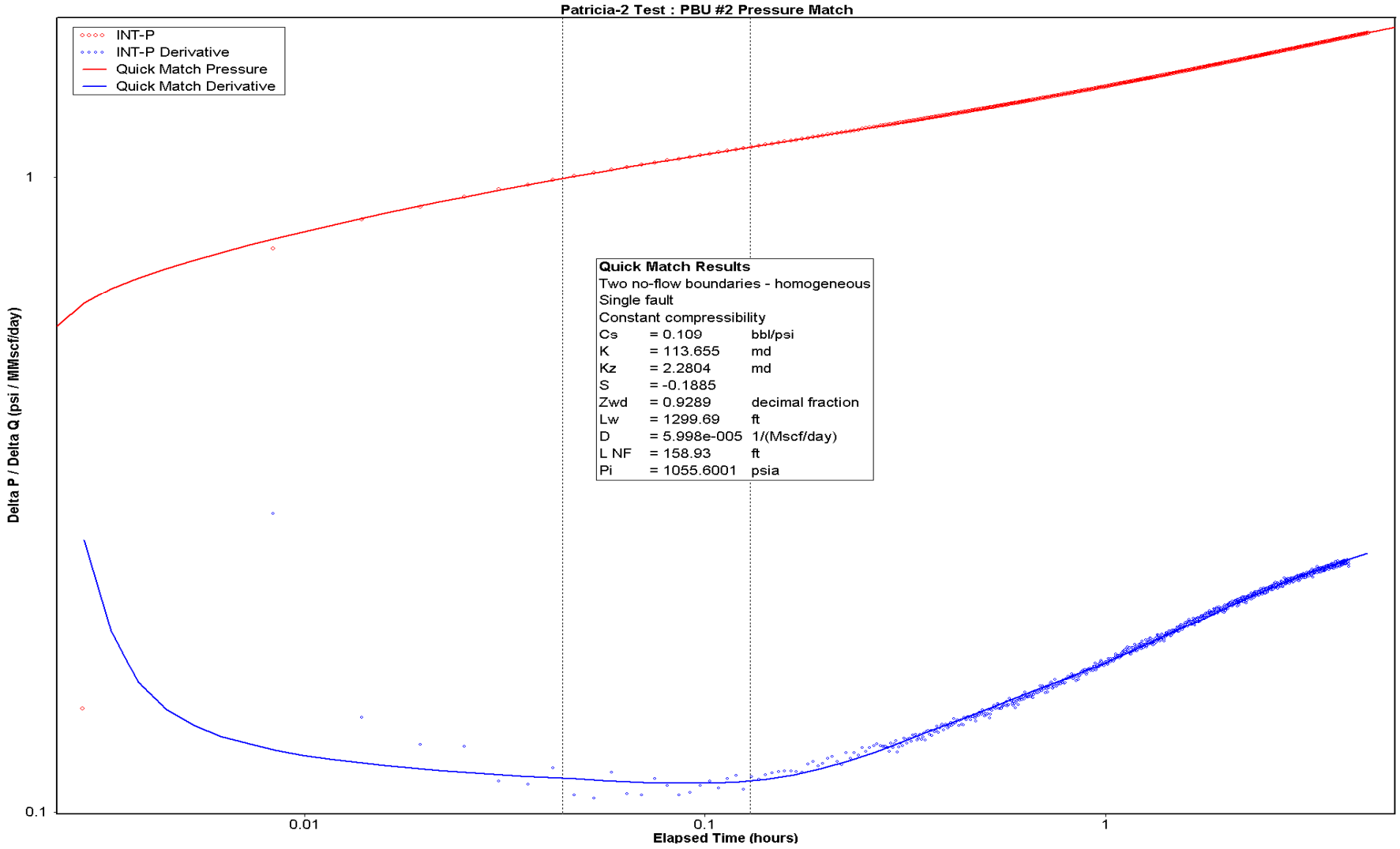


Figure 11

OMV Australia

PBU #2 : Radial Flow Plot (Single Fault)

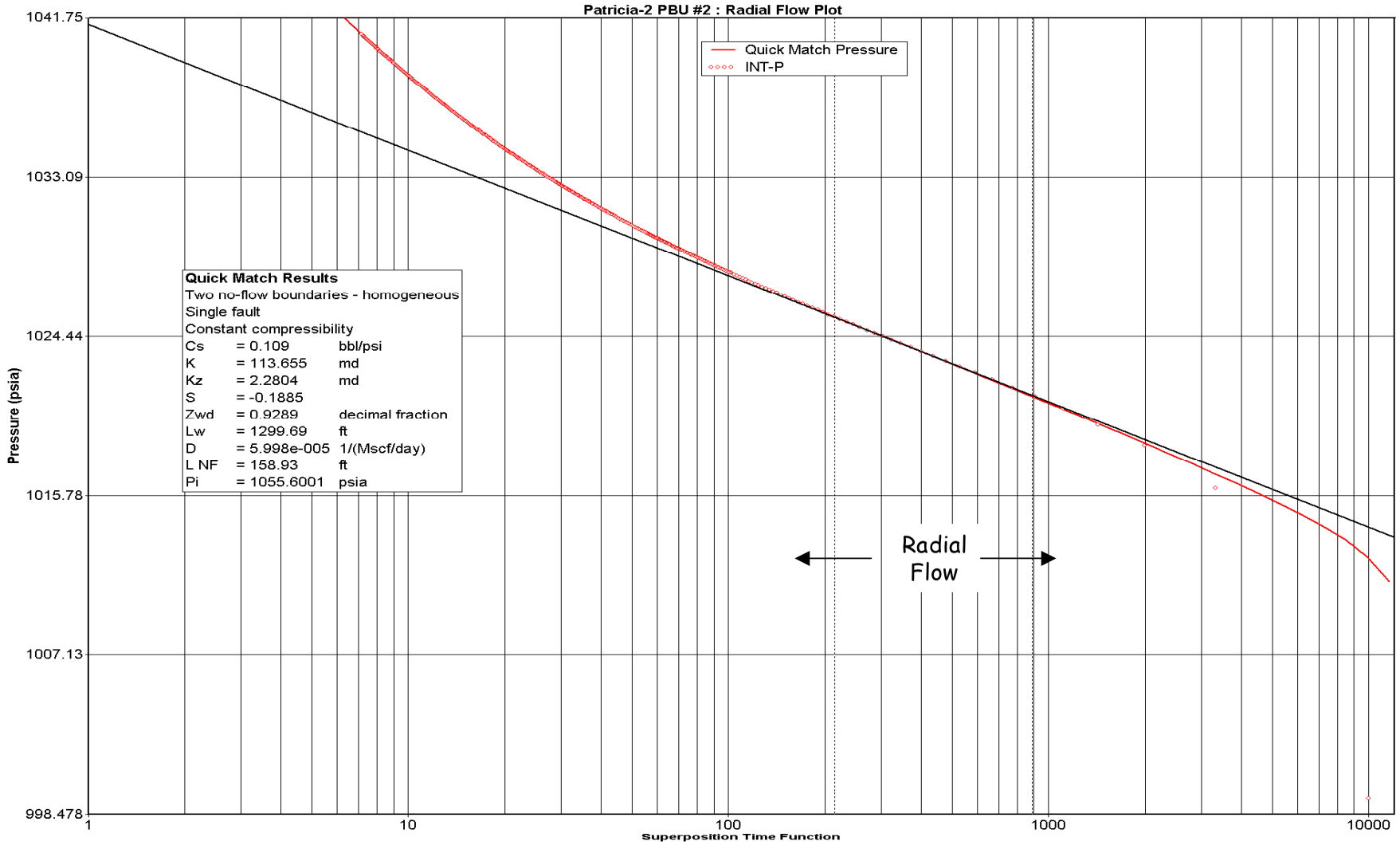


Figure 12

OMV Australia

3D Seismic Interpretation : Wellbore/Fault Locations

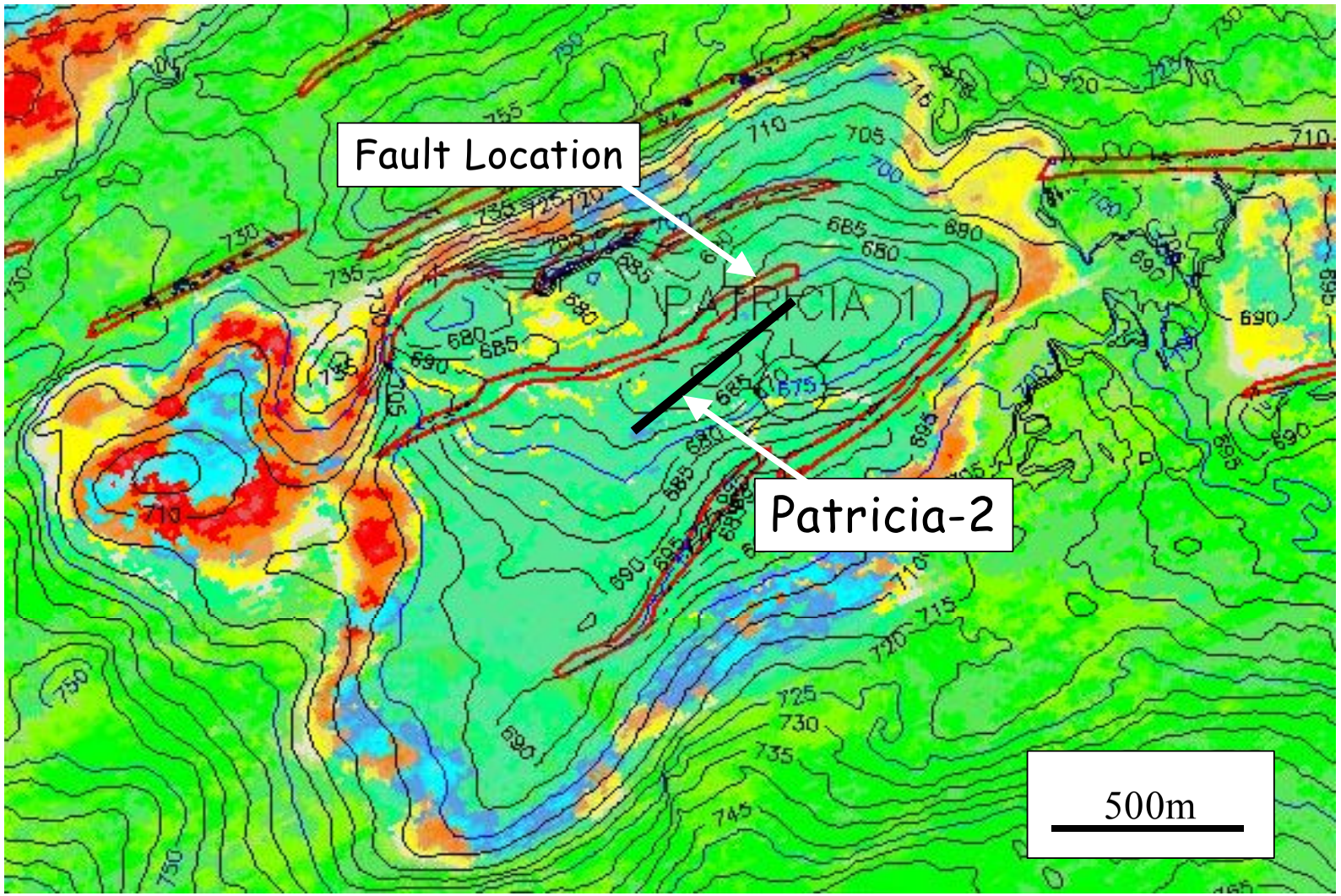


Figure 13

OMV Australia

PBU #3 : Pressure Match (Infinite Layer)

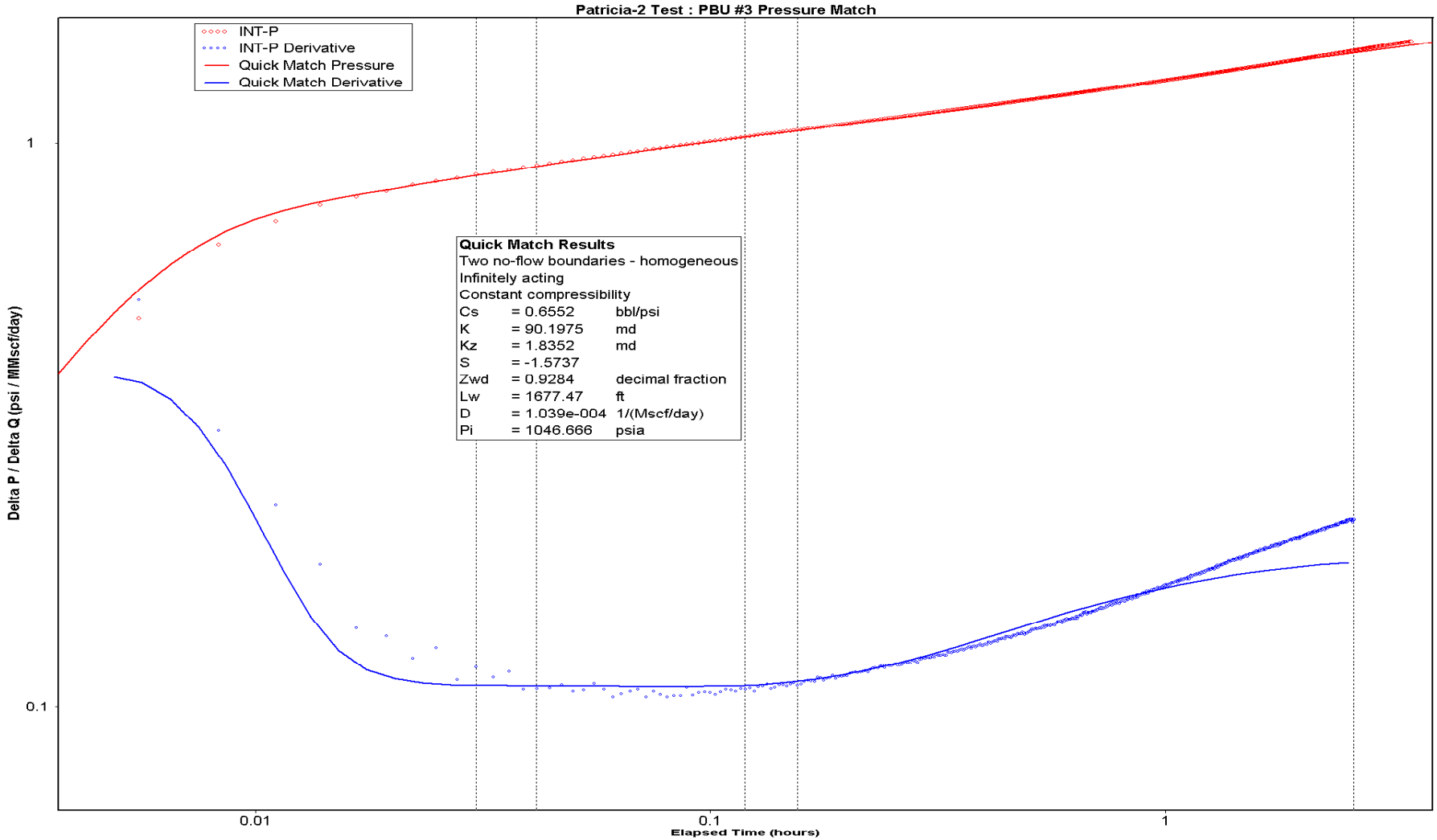


Figure 14

OMV Australia

PBU #3 : Log-Log Pressure Match (Single Fault)

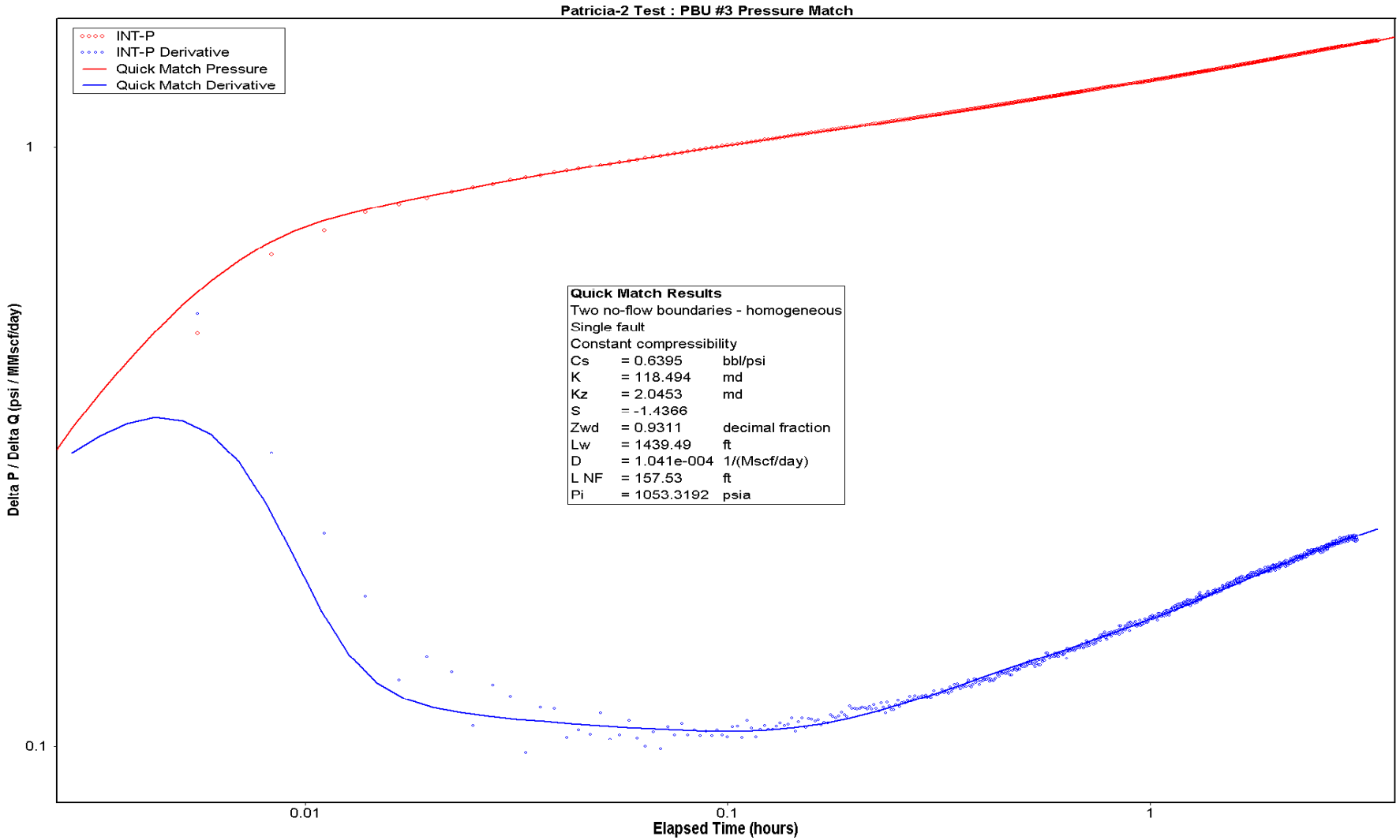


Figure 15

OMV Australia

PBU #3 : Radial Flow Plot (Single Fault)

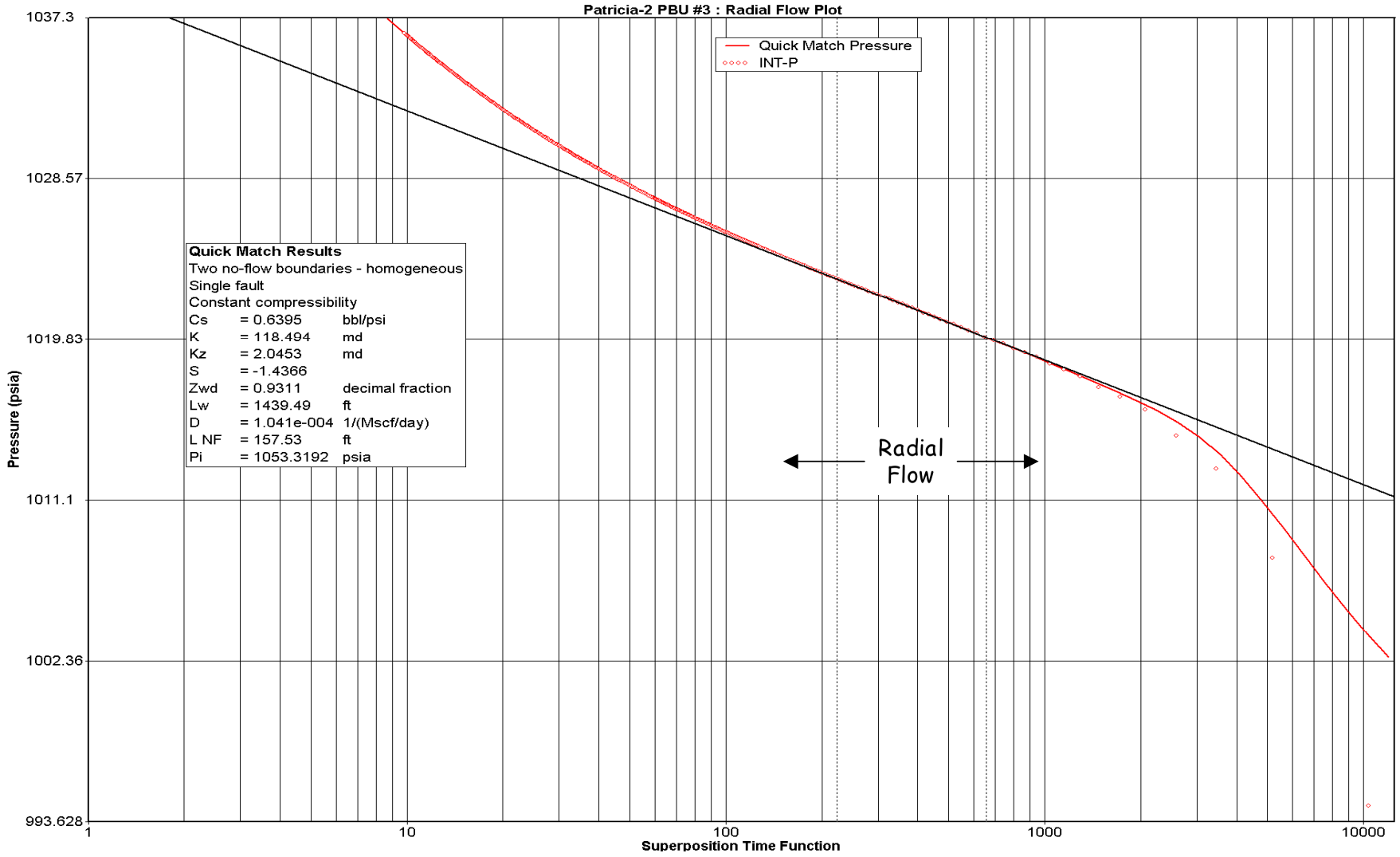


Figure 16

OMV Australia

Pressure Match : Interpretation #1 (Infinite Layer)

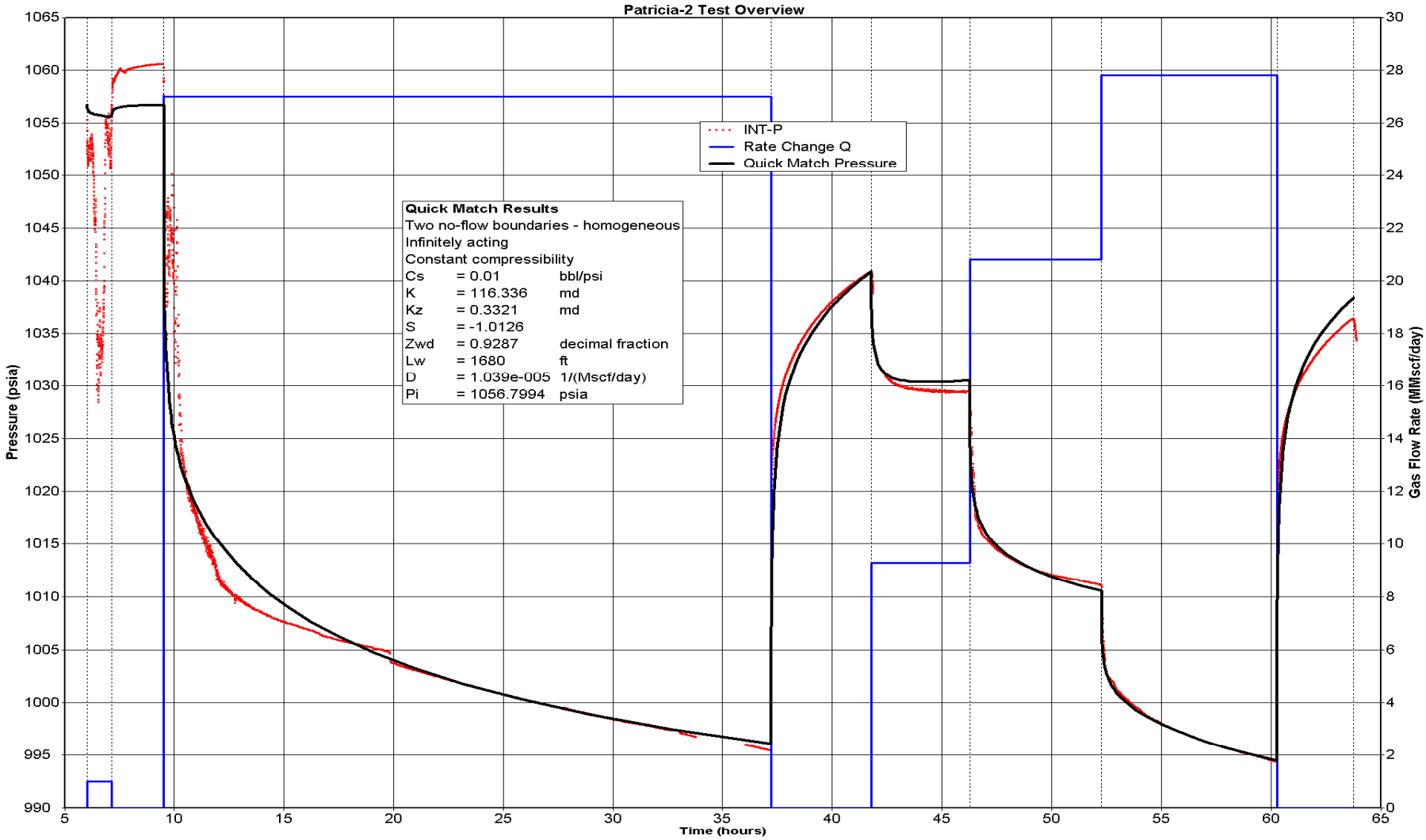


Figure 17

OMV Australia

Pressure Match : Interpretation #2 (Infinite Layer)

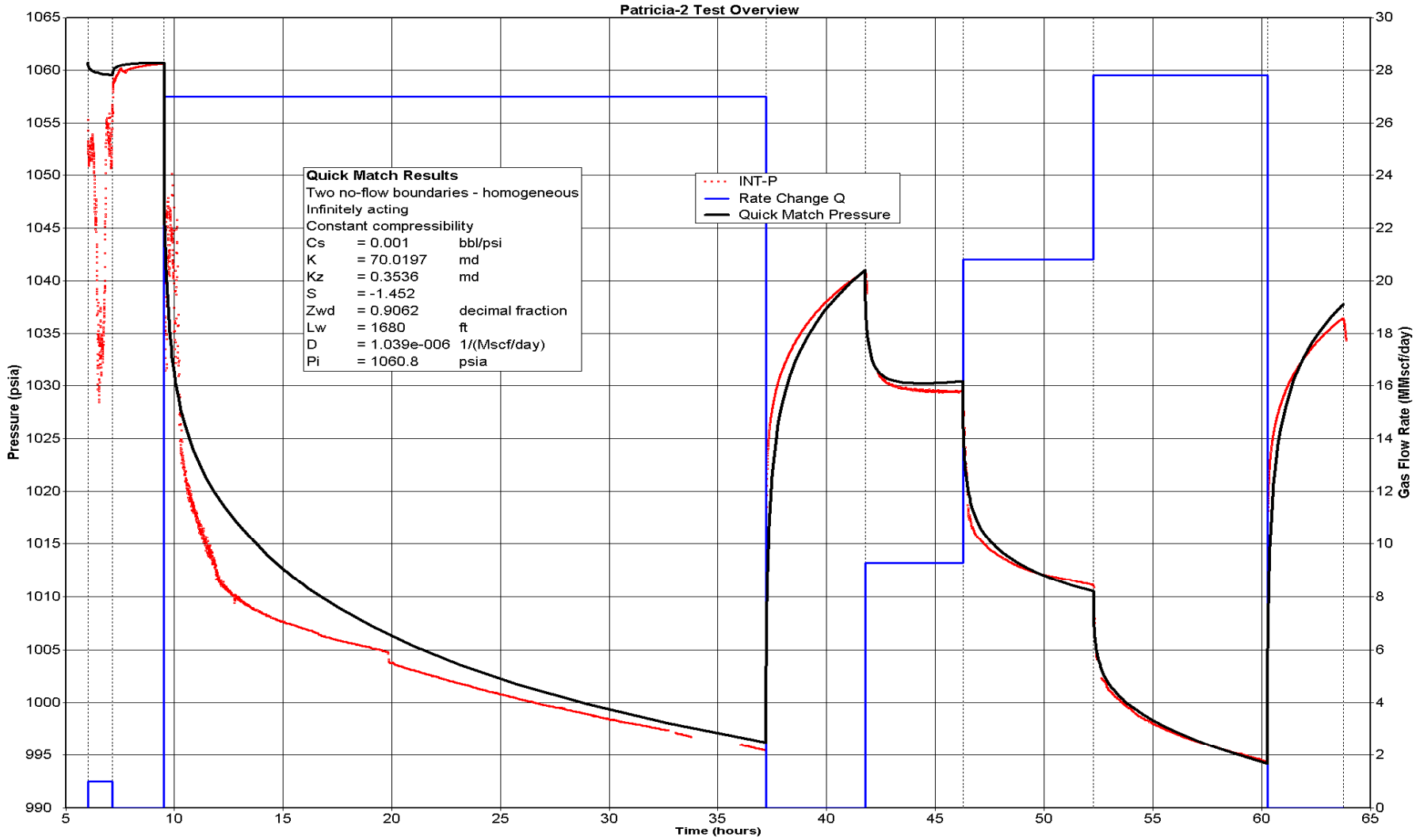


Figure 18

OMV Australia

Pressure Match : Interpretation #3 (Single Fault)

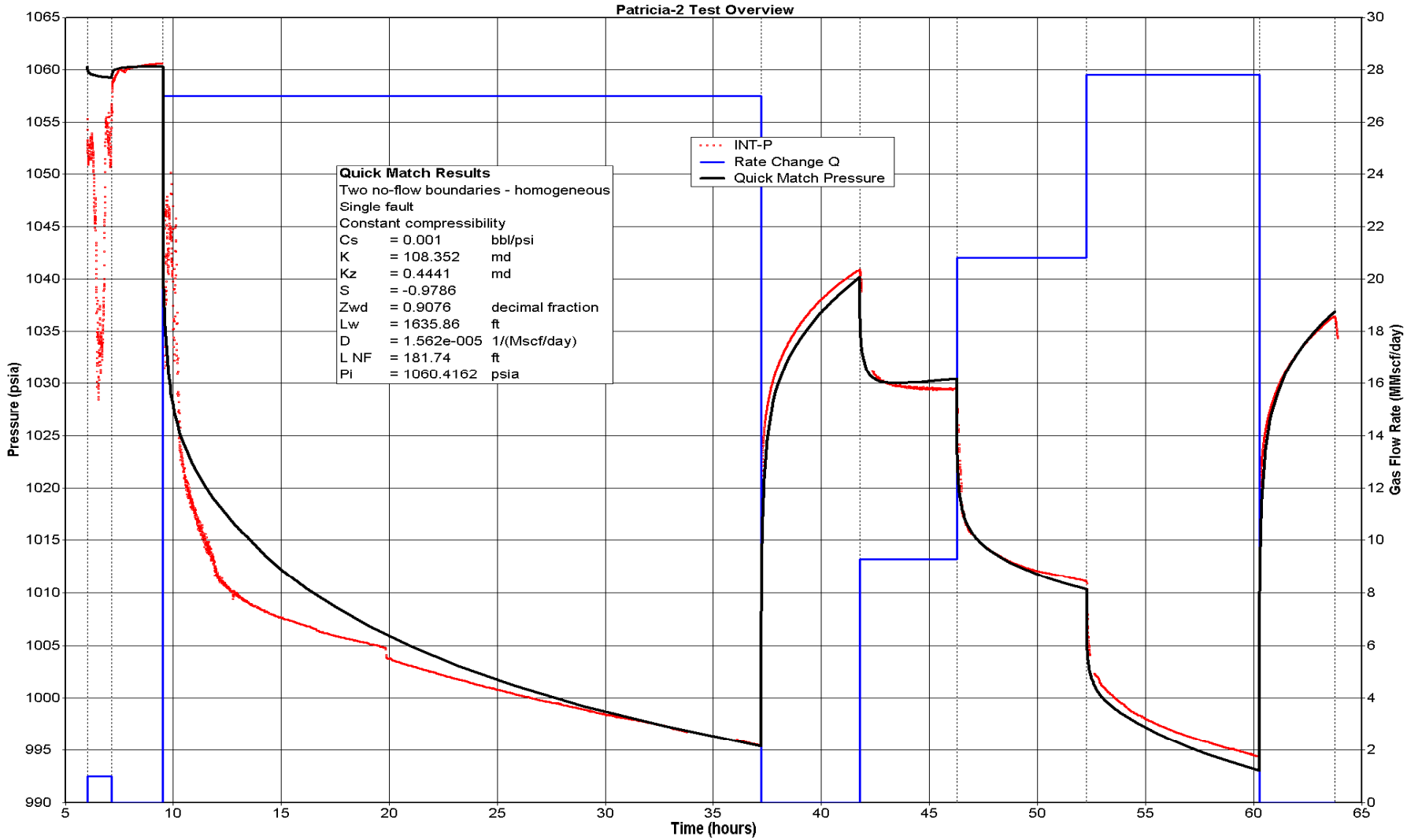


Figure 19

OMV Australia

Pressure Match : Interpretation #4 (Closed System)

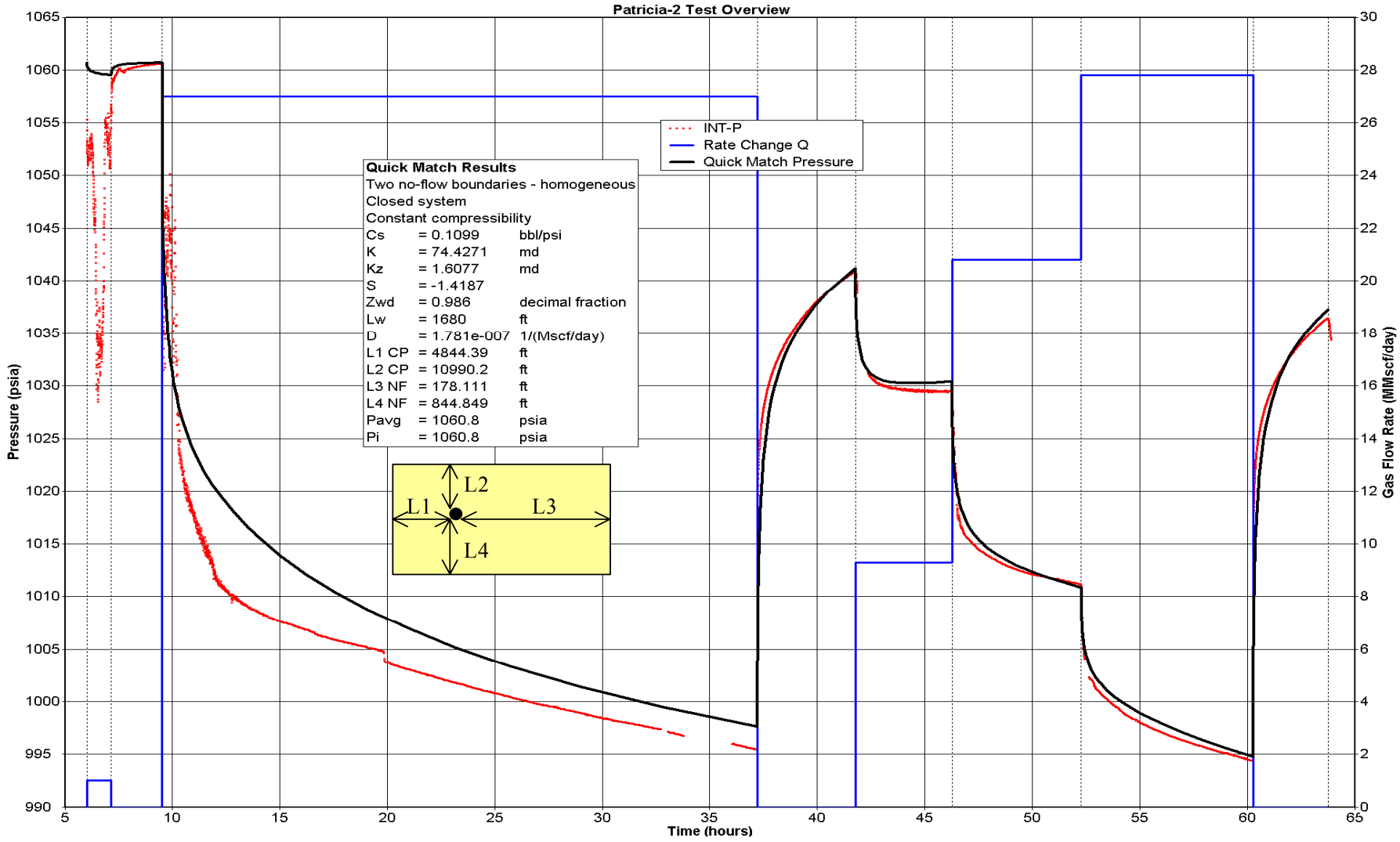


Figure 20

OMV Australia

Patricia-2 Multi-Rate Flow Test : Cartesian Plot

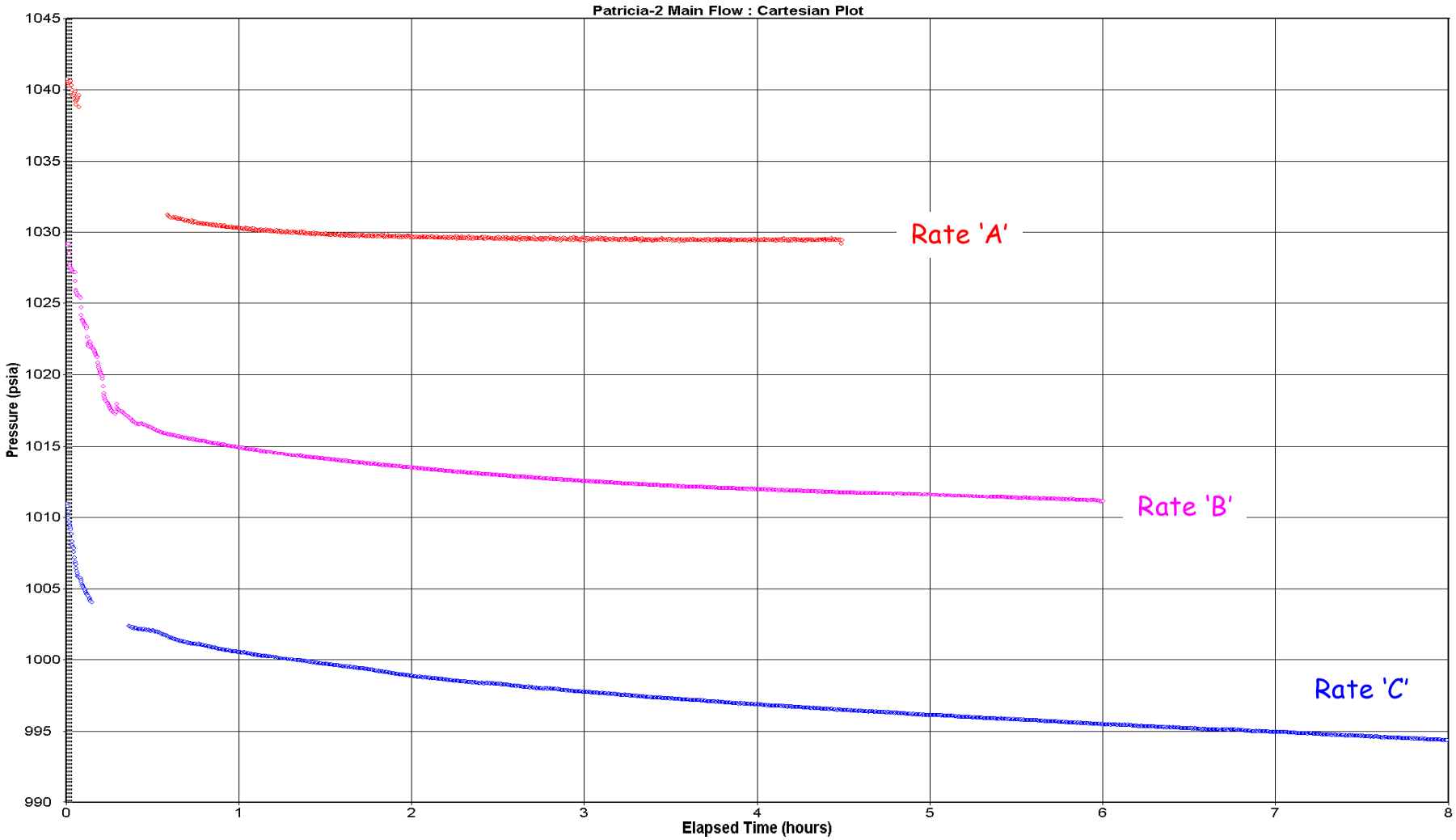


Figure 21

OMV Australia

Patricia-2 Multi-Rate Flow : Radial Flow Plot

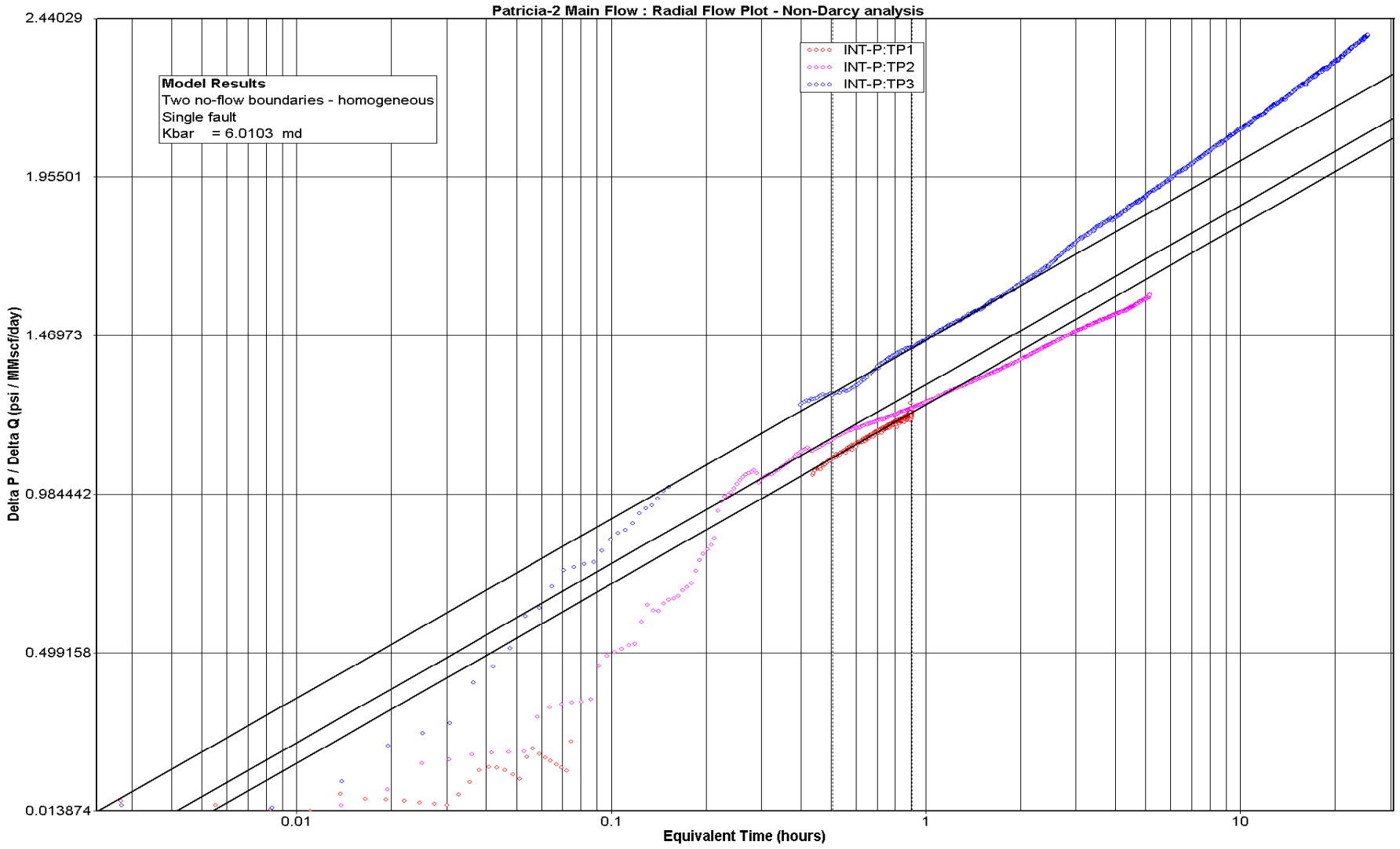


Figure 22

OMV Australia

Multi-Rate Flow : Skin Calculation

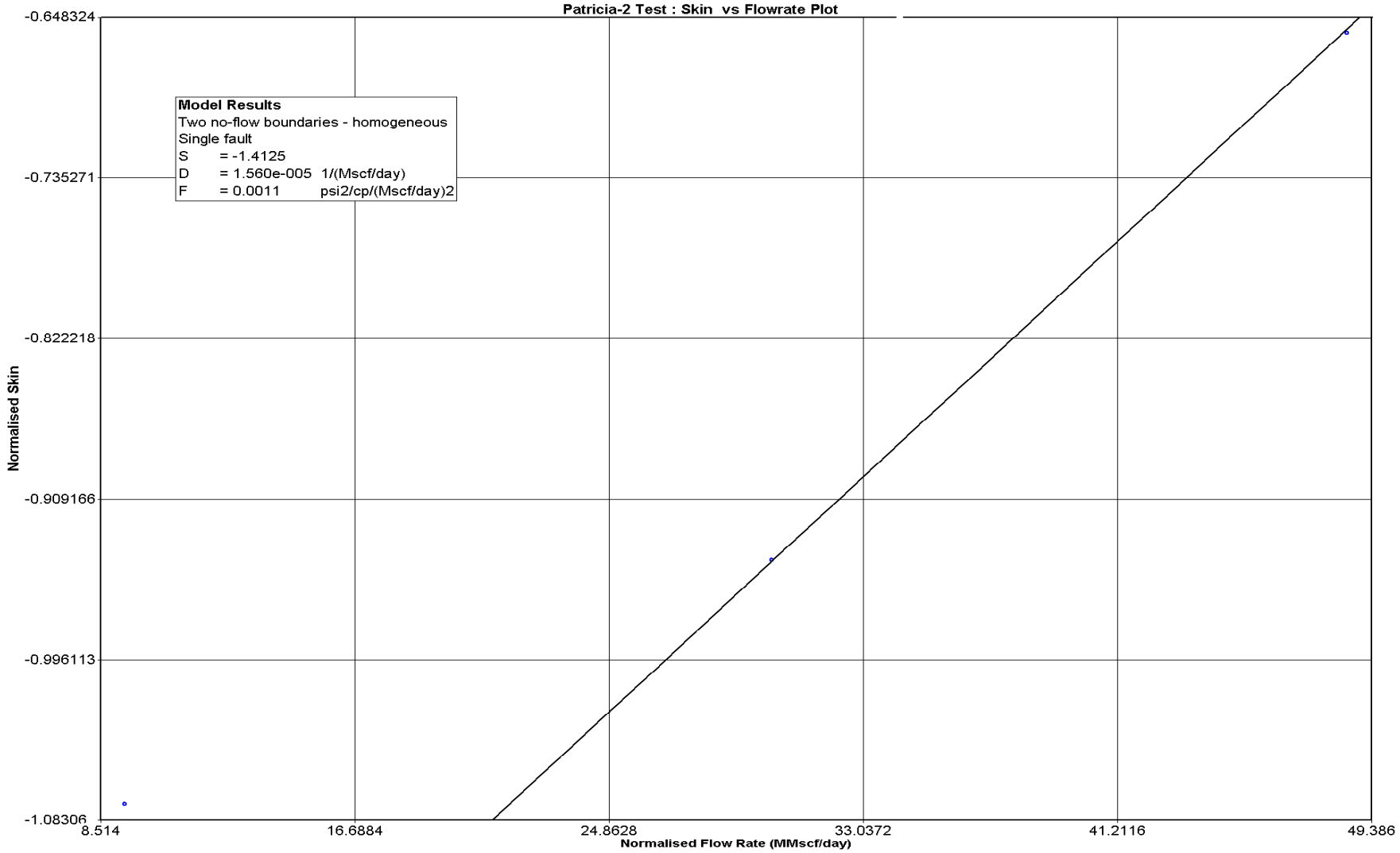


Figure 23

OMV Australia

Multi-Rate Flow : Radial Flow Plot (inc. non-Darcy Skin)

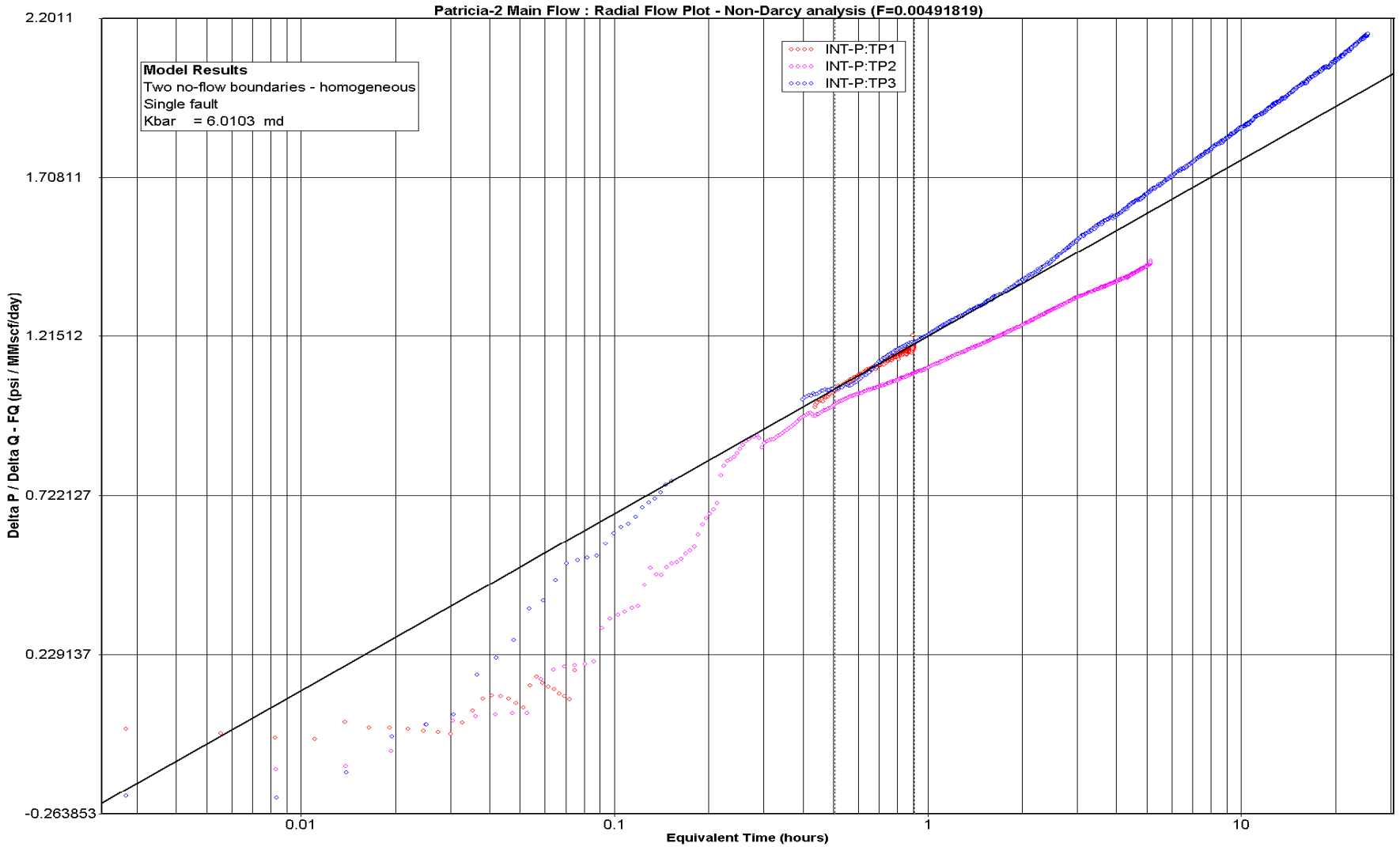


Figure 24

OMV Australia

Deliverability Analysis : 'LIT' Analysis

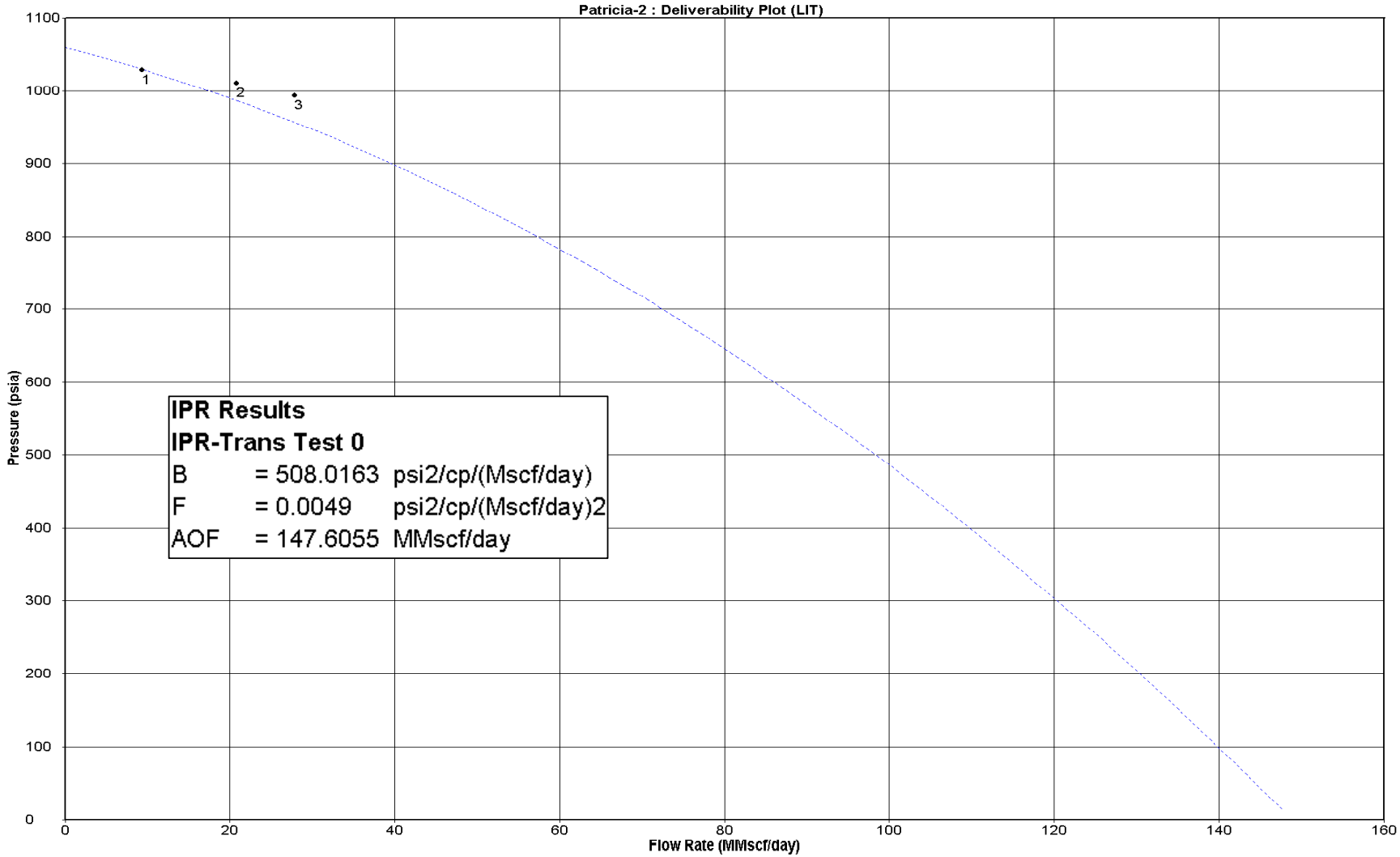


Figure 25

OMV Australia

Deliverability Analysis : 'C & n' Analysis

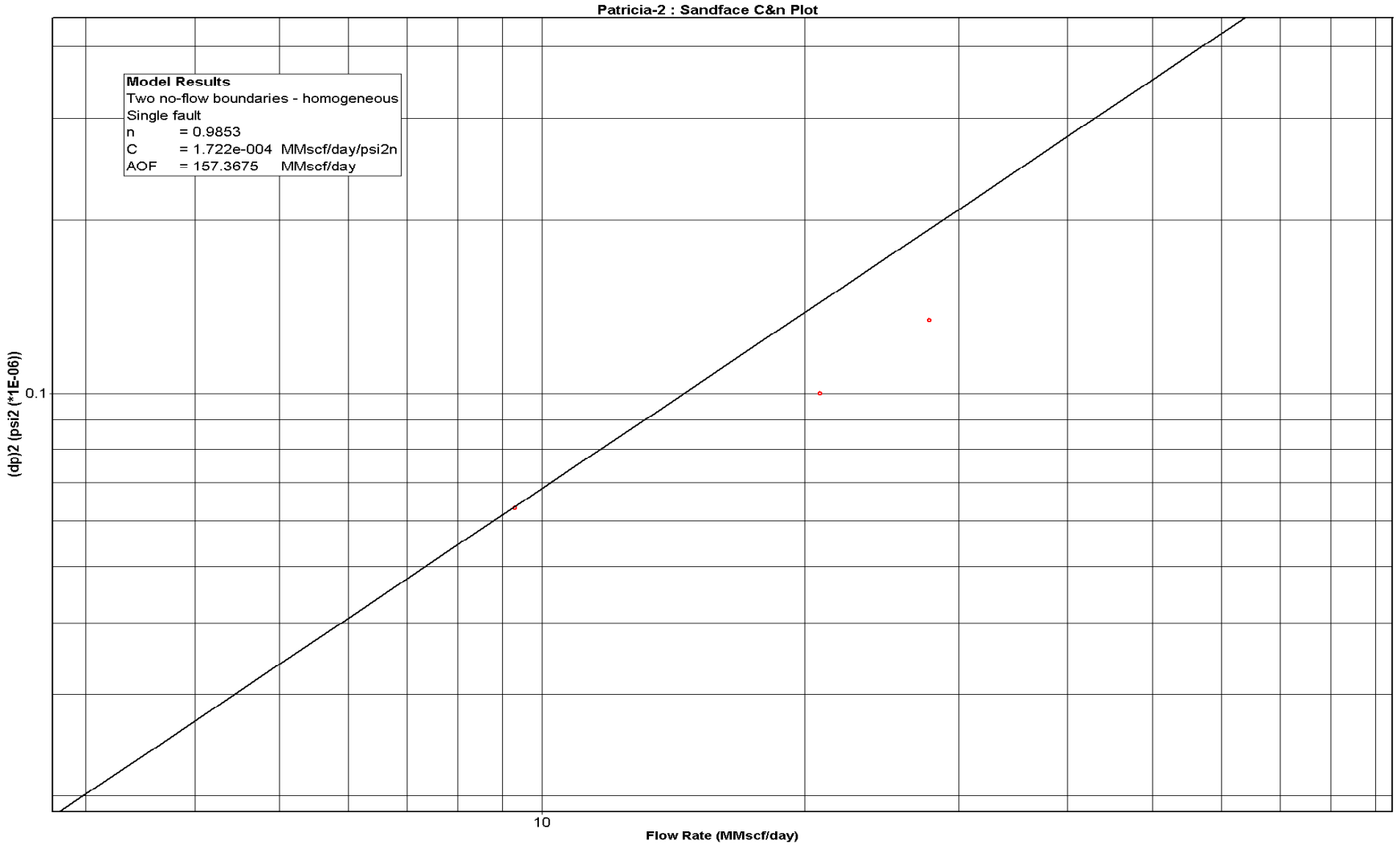


Figure 26

OMV Australia

Deliverability Analysis : 'C & n' Analysis

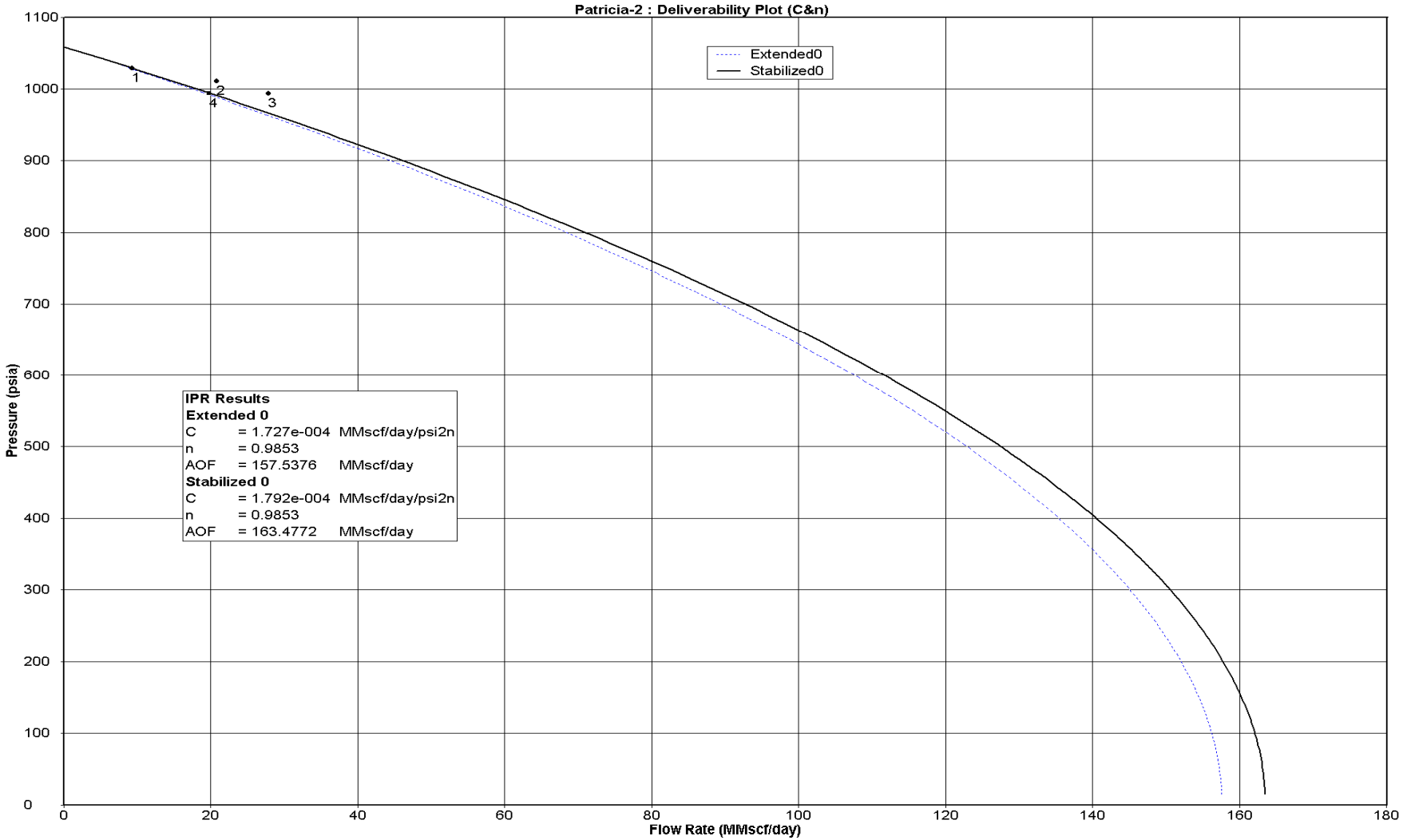


Figure 27

OMV Australia

Deliverability Analysis : 'C & n' AOF Plot

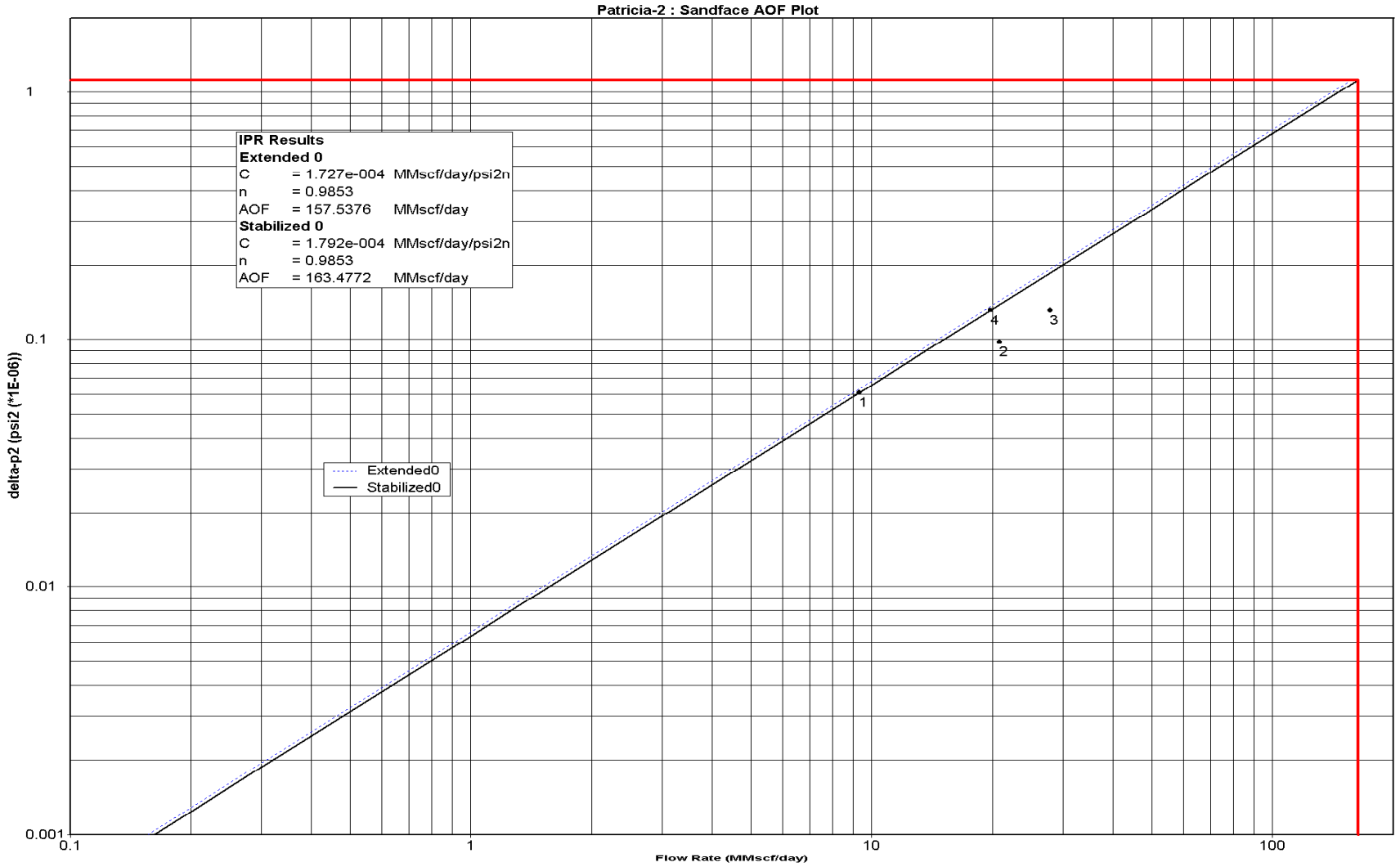


Figure 28

OMV Australia

IPR/VLP Analysis

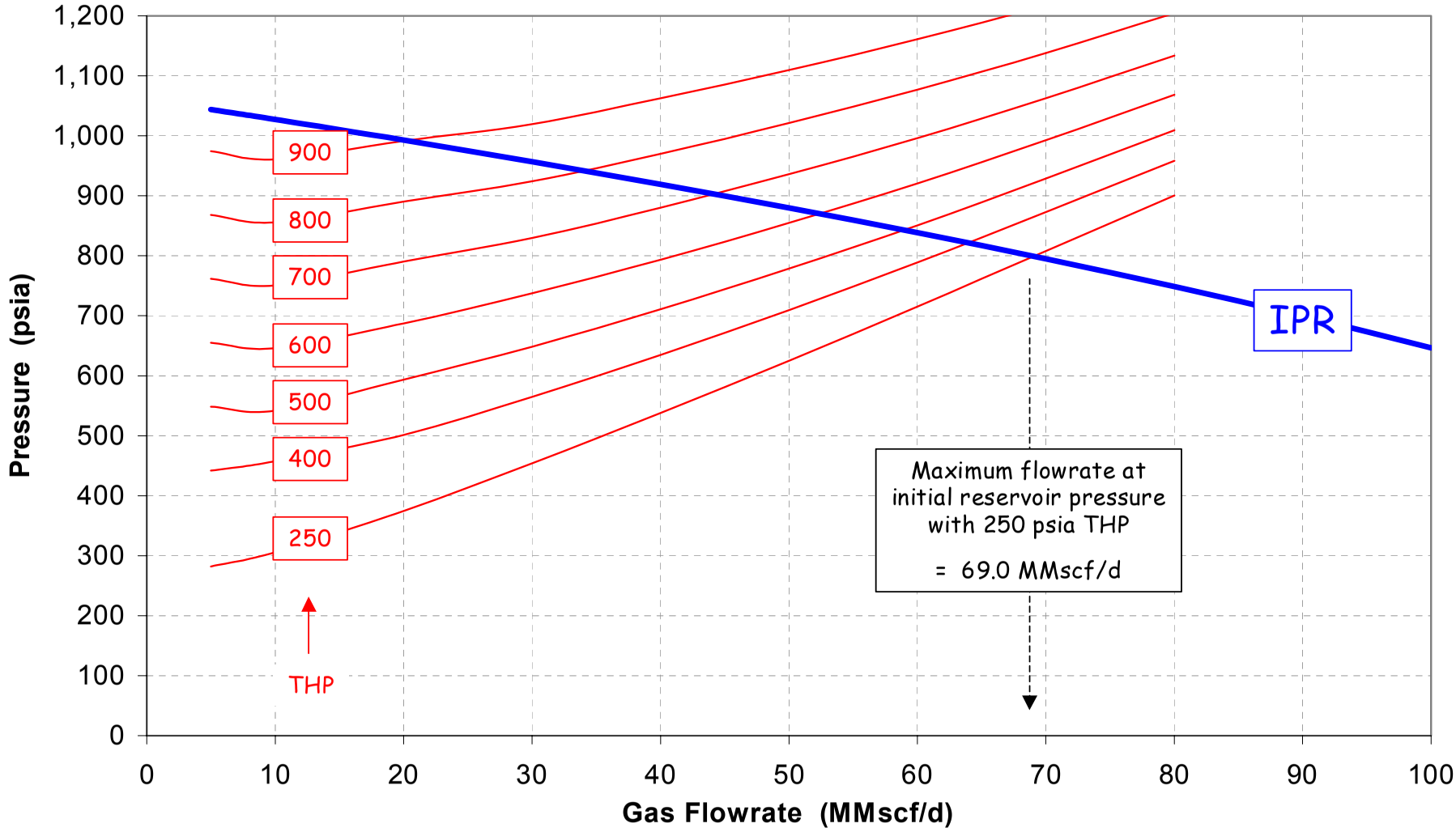


Figure 29

OMV Australia

Patricia-2 Production Log : End of Clean-Up Flow

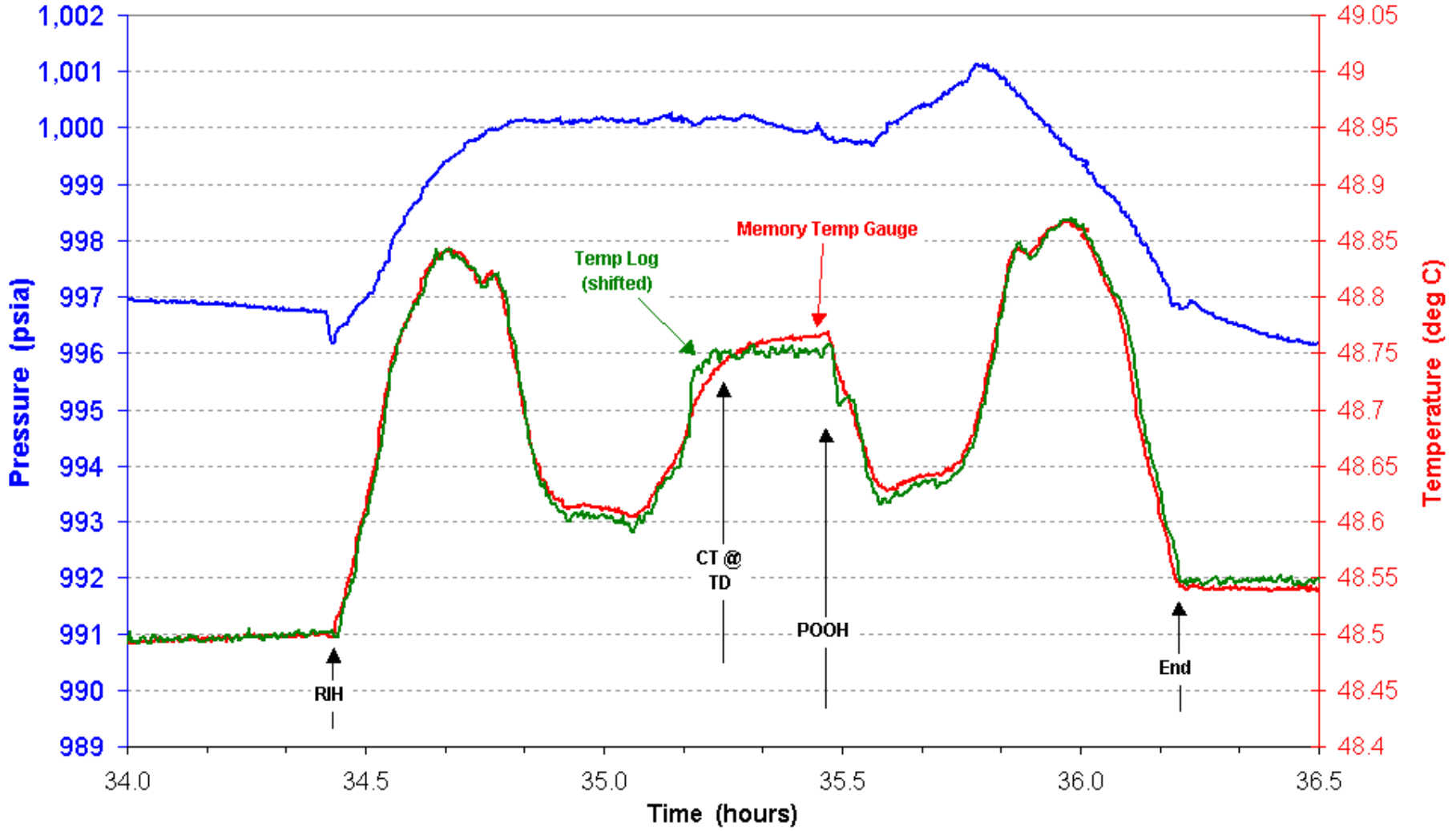


Figure 30

OMV Australia

Patricia-2 Production Log : Temperature v Wellbore Length

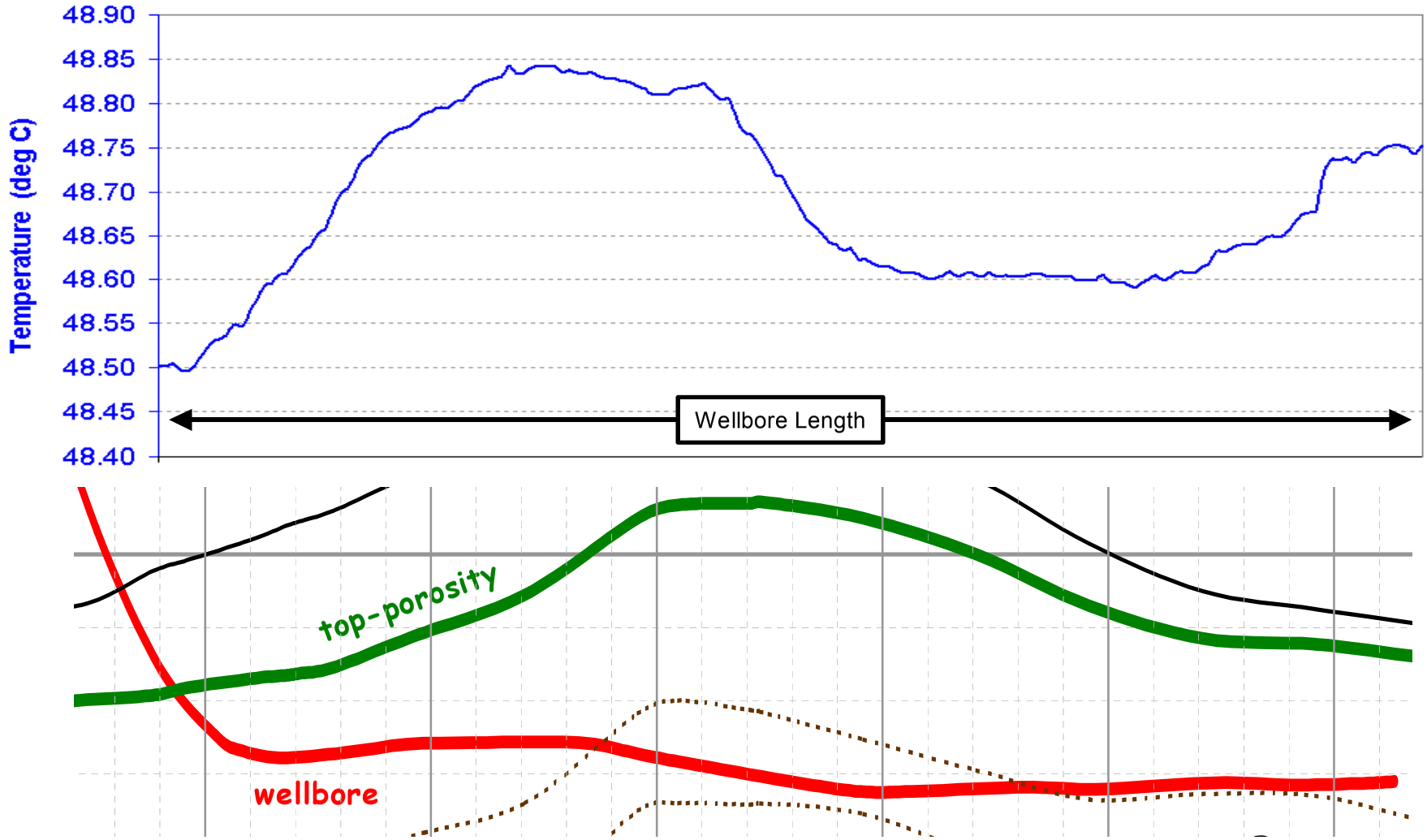


Figure 31

APPENDIX A

Expro Surface Test Data

Patricia-2 Cased-Hole Well Test.
Ocean Bounty Semi-Submersible Rig.
3th-5th July 2002.

Date	Time	Choke	UcP	DcP	UcT	AnnP	SepP	SepT	Qg	CumG	Qw	CumW
3-Jul-02	1:08	Opened SFT kill wing valve.										
3-Jul-02	1:10	0	7.90	5.99	54.23	8.84	2.25	54.11	0.00	0.00	0.00	0.00
3-Jul-02	1:15	Opened SFT PMV and locked open.										
3-Jul-02	1:15	0	7.49	6.05	54.19	8.84	2.31	54.11	0.00	0.00	0.00	0.00
3-Jul-02	1:16	Opened SSLV.										
3-Jul-02	1:20	0	7.49	6.29	54.16	8.84	2.31	54.12	0.00	0.00	0.00	0.00
3-Jul-02	1:21	Coil tubing commenced running in hole at @ 10m/min on 64/64th adj choke.										
3-Jul-02	1:25	0	7.69	6.23	54.14	8.84	2.31	54.12	0.00	0.00	0.00	0.00
3-Jul-02	1:30	0	7.49	6.23	54.03	9.66	2.25	54.14	0.00	0.00	0.00	0.00
3-Jul-02	1:35	0	7.49	6.23	54.00	9.25	2.25	54.17	0.00	0.00	0.00	0.00
3-Jul-02	1:38	Coil tubing at depth 66m RIH at @ 5m/min.										
3-Jul-02	1:40	0	7.28	6.29	54.01	8.84	2.25	54.19	0.00	0.00	0.00	0.00
3-Jul-02	1:45	0	7.49	6.29	53.95	8.84	2.31	54.19	0.00	0.00	0.00	0.00
3-Jul-02	1:50	0	7.49	5.99	53.92	9.25	2.25	54.19	0.00	0.00	0.00	0.00
3-Jul-02	1:55	0	7.28	5.99	53.90	9.25	2.00	54.11	0.00	0.00	0.00	0.00
3-Jul-02	1:56	Coil tubing at depth 200m RIH at @ 6m/min.										
3-Jul-02	2:00	Coil tubing stopped RIH at Depth 221m due to problem with SRO.										
3-Jul-02	2:00	0	9.53	6.48	53.76	10.88	1.88	54.17	0.00	0.00	0.00	0.00
3-Jul-02	2:05	0	7.69	5.93	53.90	9.25	2.31	54.21	0.00	0.00	0.00	0.00
3-Jul-02	2:10	0	7.49	5.93	53.83	9.25	2.31	54.19	0.00	0.00	0.00	0.00
3-Jul-02	2:15	0	7.49	5.93	53.81	9.66	2.12	54.17	0.00	0.00	0.00	0.00
3-Jul-02	2:20	0	7.49	5.56	53.82	9.66	2.31	54.19	0.00	0.00	0.00	0.00
3-Jul-02	2:25	0	7.28	5.99	53.83	9.25	2.31	54.15	0.00	0.00	0.00	0.00
3-Jul-02	2:28	Monitored guage. Gauge ok. Coil tubing continued to RIH.										
3-Jul-02	2:30	0	7.49	5.93	53.81	9.25	2.68	54.11	0.00	0.00	0.00	0.00
3-Jul-02	2:35	0	7.49	5.99	53.76	8.84	2.25	54.16	0.00	0.00	0.00	0.00
3-Jul-02	2:40	0	7.49	5.93	53.70	9.25	2.25	54.09	0.00	0.00	0.00	0.00
3-Jul-02	2:44	Stopped RIH to secure cable connection in coil tubing.										
3-Jul-02	2:45	0	7.28	5.62	53.62	8.84	2.19	54.11	0.00	0.00	0.00	0.00
3-Jul-02	2:46	Commenced RIH.										
3-Jul-02	2:50	0	7.49	5.56	53.61	8.84	2.25	54.12	0.00	0.00	0.00	0.00
3-Jul-02	2:51	Coil tubing stopped RIH to change into higher gear.										
3-Jul-02	2:55	0	7.49	5.56	53.58	9.25	2.25	54.09	0.00	0.00	0.00	0.00
3-Jul-02	3:00	0	7.49	5.93	53.58	9.66	2.06	54.11	0.00	0.00	0.00	0.00
3-Jul-02	3:05	0	7.28	5.56	53.56	9.25	2.31	54.12	0.00	0.00	0.00	0.00
3-Jul-02	3:09	Stopped at 600m to cool N2 unit down.										
3-Jul-02	3:10	0	7.28	5.56	53.56	9.66	2.25	54.14	0.00	0.00	0.00	0.00
3-Jul-02	3:15	0	7.28	5.87	53.51	9.25	2.25	54.16	0.00	0.00	0.00	0.00
3-Jul-02	3:20	0	7.49	5.74	53.55	8.84	2.31	54.12	0.00	0.00	0.00	0.00
3-Jul-02	3:22	Coil tubing commenced pumping N2 at 400 scf/m. choke set to 64/64th.										
3-Jul-02	3:25	0	7.49	5.87	53.51	8.84	2.25	54.17	0.00	0.00	0.00	0.00
3-Jul-02	3:30	0	7.28	5.56	53.54	9.25	2.25	54.15	0.00	0.00	0.00	0.00
3-Jul-02	3:35	0	7.28	5.25	53.52	9.25	2.31	54.19	0.00	0.00	0.00	0.00
3-Jul-02	3:37	Coil tubing at depth 786m. Increased adj choke to 72/64''.										
3-Jul-02	3:40	0	7.69	5.25	53.55	8.84	2.25	54.22	0.00	0.00	0.00	0.00
3-Jul-02	3:42	Expro observed returns at surge tank.										
3-Jul-02	3:44	Total brine returns at surge tank 1.3bbls (calculated rate 1877b/d).										
3-Jul-02	3:45	Total brine returns at surge tank 2.3bbls (calculated rate 1440b/d).										
3-Jul-02	3:45	Coil tubing stopped at depth 892m continued pumping N2 at 400scf.										
3-Jul-02	3:45	0	14.85	9.79	55.25	8.84	2.31	54.23	0.00	0.00	0.00	0.00
3-Jul-02	3:47	Coil tubing notified of leak in the injector.										
3-Jul-02	3:50	Coil tubing pulled back up hole 20m due to suspected N2 loss in screens.										
3-Jul-02	3:50	Total brine returns at surge tank 28.3bbls (calculated rate 8640b/d).										
3-Jul-02	3:50	0	131.58	53.21	63.14	9.25	2.31	54.21	0.00	0.00	0.00	0.00
3-Jul-02	3:53	Coil tubing at depth 872m. Continued pumping.										
3-Jul-02	3:53	Decreased adj choke to 64/64".										
3-Jul-02	3:55	0	173.69	80.13	67.84	9.66	2.55	54.23	0.00	0.00	0.00	0.00
3-Jul-02	3:56	Total brine returns at surge tank 32.7bbls (calculated rate 6048b/d).										
3-Jul-02	3:58	Coil tubing commence POOH to depth of 792m continuing to pump at 400scf.										
3-Jul-02	4:00	Decreased adj choke to 58/64".										
3-Jul-02	4:00	Total brine returns at surge tank 43bbls (calculated rate 2880b/d).										
3-Jul-02	4:00	0	177.78	64.13	69.89	8.84	2.00	54.28	0.00	0.00	0.00	0.00
3-Jul-02	4:03	Expro observed N2 at surface with brine.										
3-Jul-02	4:05	Total brine returns at surge tank 57.7bbls (calculated rate 4320b/d).										
3-Jul-02	4:05	0	260.98	72.28	71.12	9.25	1.76	54.28	0.00	0.00	0.00	0.00
3-Jul-02	4:10	Increased adj choke to 64/64".										
3-Jul-02	4:10	Total brine returns at surge tank 71bbls (calculated rate 3600b/d).										
3-Jul-02	4:10	0	428.41	12.49	72.17	8.84	2.12	54.32	0.00	0.00	0.00	0.00

3-Jul-02 4:13 Coil tubing at depth 792m.
3-Jul-02 4:15 Decreased adj choke to 58/64".
3-Jul-02 4:15 Total brine returns at surge tank 77bbls (calculated rate 3456b/d).
3-Jul-02 4:15 0 589.71 77.80 73.97 8.84 1.94 54.37 0.00 0.00 0.00 0.00
3-Jul-02 4:17 Decreased adj choke to 52/64".
3-Jul-02 4:19 Total brine returns at surge tank 90.5bbls (calculated rate 3312b/d).
3-Jul-02 4:20 Coil tubing reduced N2 rate to 300scf.
3-Jul-02 4:20 0 528.17 19.42 68.89 8.84 2.31 54.38 0.00 0.00 0.00 0.00
3-Jul-02 4:24 Increased adj choke to 56/64".
3-Jul-02 4:25 Increased adj choke to 58/64".
3-Jul-02 4:25 Total brine returns at surge tank 91.7bbls (calculated rate 720b/d).
3-Jul-02 4:25 0 584.60 35.67 65.72 8.84 2.25 54.38 0.00 0.00 0.00 0.00
3-Jul-02 4:29 Decreased adj choke to 50/64".
3-Jul-02 4:30 Coil tubing commenced RIH to depth of 892m continued flowing at 300scf.
3-Jul-02 4:30 Total brine returns at surge tank 96.1bbls (calculated rate 1728b/d).
3-Jul-02 4:30 0 576.21 37.94 64.04 9.66 2.25 54.46 0.00 0.00 0.00 0.00
3-Jul-02 4:32 Increased adj choke to 52/64".
3-Jul-02 4:35 Increased adj choke to 56/64".
3-Jul-02 4:35 Total brine returns at surge tank 97.4bbls (calculated rate 1872b/d).
3-Jul-02 4:35 0 530.01 29.97 62.96 9.66 2.25 54.47 0.00 0.00 0.00 0.00
3-Jul-02 4:36 Liquids at surface increased adj choke to 58/64".
3-Jul-02 4:36 Liquids at surface increased adj choke to 62/64".
3-Jul-02 4:37 Increased adj choke to 64/64".
3-Jul-02 4:40 Coil tubing at depth 892m.
3-Jul-02 4:40 Total brine returns at surge tank 99.8bbls (calculated rate 864b/d).
3-Jul-02 4:40 0 583.16 71.92 64.76 10.06 2.61 54.53 0.00 0.00 0.00 0.00
3-Jul-02 4:45 Total brine returns at surge tank 106.6bbls (calculated rate 1728b/d).
3-Jul-02 4:45 0 567.63 34.14 64.27 9.25 2.43 54.50 0.00 0.00 0.00 0.00
3-Jul-02 4:50 Total brine returns at surge tank 109.4bbls (calculated rate 2592b/d).
3-Jul-02 4:50 0 587.25 131.47 66.75 9.25 2.31 54.57 0.00 0.00 0.00 0.00
3-Jul-02 4:54 Coil tubing stopped pumping N2 and Expro choke shut in.
3-Jul-02 4:55 0 688.24 0.00 70.45 8.84 2.25 54.54 0.00 0.00 0.00 0.00
3-Jul-02 4:57 Total brine returns at surge tank 119.4bbls (calculated rate 1152b/d).
3-Jul-02 5:00 0 716.86 0.00 69.59 9.25 2.43 54.52 0.00 0.00 0.00 0.00
3-Jul-02 5:05 0 726.06 0.00 67.96 9.66 2.25 54.57 0.00 0.00 0.00 0.00
3-Jul-02 5:10 0 748.14 0.00 66.81 8.84 2.25 54.53 0.00 0.00 0.00 0.00
3-Jul-02 5:15 0 767.97 0.00 65.69 8.84 2.31 54.58 0.00 0.00 0.00 0.00
3-Jul-02 5:20 0 770.42 0.22 64.44 8.84 2.31 54.55 0.00 0.00 0.00 0.00
3-Jul-02 5:25 0 765.93 0.00 63.25 8.43 2.25 54.57 0.00 0.00 0.00 0.00
3-Jul-02 5:30 0 760.61 0.00 62.31 8.84 2.25 54.49 0.00 0.00 0.00 0.00
3-Jul-02 5:35 0 760.20 0.04 61.56 8.84 2.06 54.46 0.00 0.00 0.00 0.00
3-Jul-02 5:40 0 759.79 0.00 60.86 8.43 2.25 54.50 0.00 0.00 0.00 0.00
3-Jul-02 5:45 0 759.59 0.16 60.21 8.84 2.25 54.47 0.00 0.00 0.00 0.00
3-Jul-02 5:50 0 759.59 0.00 59.66 9.25 2.31 54.44 0.00 0.00 0.00 0.00
3-Jul-02 5:55 0 758.98 0.00 59.08 8.84 2.06 54.42 0.00 0.00 0.00 0.00
3-Jul-02 6:00 0 759.18 0.22 58.61 9.25 2.00 54.42 0.00 0.00 0.00 0.00
3-Jul-02 6:05 0 758.98 0.22 58.18 8.84 2.31 54.48 0.00 0.00 0.00 0.00
3-Jul-02 6:10 0 758.98 0.16 57.80 9.25 2.25 54.50 0.00 0.00 0.00 0.00
3-Jul-02 6:15 0 758.98 0.16 57.45 8.84 2.25 54.48 0.00 0.00 0.00 0.00
3-Jul-02 6:20 0 758.98 0.16 57.14 9.25 2.19 54.48 0.00 0.00 0.00 0.00
3-Jul-02 6:25 0 760.20 0.10 56.69 8.84 2.31 54.49 0.00 0.00 0.00 0.00
3-Jul-02 6:30 0 759.59 0.00 55.73 8.84 2.25 54.52 0.00 0.00 0.00 0.00
3-Jul-02 6:35 0 758.57 0.00 54.98 8.84 2.31 54.54 0.00 0.00 0.00 0.00
3-Jul-02 6:40 0 758.36 0.16 54.43 9.25 2.68 54.50 0.00 0.00 0.00 0.00
3-Jul-02 6:45 0 757.34 0.00 53.95 8.84 2.31 54.55 0.00 0.00 0.00 0.00
3-Jul-02 6:50 0 757.55 0.00 53.67 9.25 2.31 54.57 0.00 0.00 0.00 0.00
3-Jul-02 6:55 0 757.14 0.22 53.44 8.84 2.25 54.53 0.00 0.00 0.00 0.00
3-Jul-02 7:00 Function tested ESD system in presence of OMV company men.
3-Jul-02 7:00 0 757.34 0.00 53.25 8.84 2.19 54.57 0.00 0.00 0.00 0.00
3-Jul-02 7:05 Held JSA on drill floor prior to opening well.
3-Jul-02 7:05 0 757.34 0.22 53.14 9.25 2.31 54.52 0.00 0.00 0.00 0.00
3-Jul-02 7:10 0 757.34 0.28 53.09 9.25 2.25 54.55 0.00 0.00 0.00 0.00
3-Jul-02 7:14 Opened well to aft flare boom via 20/64" adj choke.
3-Jul-02 7:15 Gradually increased adj choke to 24/64".
3-Jul-02 7:15 24 746.10 11.02 53.47 8.84 1.94 54.57 0.00 0.00 0.00 0.00
3-Jul-02 7:17 Gradually increased adj choke to 46/64".
3-Jul-02 7:18 Gradually increased adj choke to 64/64". Hydrocarbon gas to surface.
3-Jul-02 7:20 Brine to surface.
3-Jul-02 7:20 64 463.37 97.61 56.11 12.12 2.61 54.64 0.00 0.00 0.00 0.00
3-Jul-02 7:23 Well slugging brine and gas.
3-Jul-02 7:25 64 751.62 329.44 74.22 9.66 2.25 54.49 0.00 0.00 0.00 0.00
3-Jul-02 7:29 Well flowing predominantly N2.
3-Jul-02 7:30 64 769.81 187.09 68.28 9.66 2.31 54.55 0.00 0.00 0.00 0.00
3-Jul-02 7:35 64 802.11 161.15 65.72 9.25 2.31 54.65 0.00 0.00 0.00 0.00
3-Jul-02 7:37 Hydrocarbon to surface. Commenced gradually increasing choke to 72/64".

3-Jul-02	7:40	Gradually increased adj choke to 76/64".										
3-Jul-02	7:40	76	758.57	232.84	64.61	9.25	2.55	54.66	0.00	0.00	0.00	0.00
3-Jul-02	7:42	Gradually increased adj choke to 80/64".										
3-Jul-02	7:45	80	675.16	363.47	69.00	9.66	2.31	54.71	0.00	0.00	0.00	0.00
3-Jul-02	7:50	80	840.54	233.03	73.61	9.66	2.00	54.74	0.00	0.00	0.00	0.00
3-Jul-02	7:51	Manipulated adj choke to prevent plugging.										
3-Jul-02	7:52	Gradually increased adj choke to 100/64".										
3-Jul-02	7:54	Gradually increased adj choke to 112/64". Well slugging gas and brine.										
3-Jul-02	7:55	112	645.11	496.56	71.60	9.25	1.94	54.80	0.00	0.00	0.00	0.00
3-Jul-02	8:00	Gradually increased adj choke to 128/64".										
3-Jul-02	8:00	BS&W = 100% brine, trace sediment, pH = 6 ,Cl from refrac 117,000ppm.										
3-Jul-02	8:00	Draeger showed 1.2 % CO2 by volume,0ppm H2S. Water SG 1.095 @ 57F.										
3-Jul-02	8:00	128	633.04	528.51	76.71	9.66	2.25	54.84	0.00	0.00	0.00	0.00
3-Jul-02	8:05	128	634.89	526.06	76.88	9.25	2.25	54.86	0.00	0.00	0.00	0.00
3-Jul-02	8:10	128	643.27	539.36	76.87	9.25	2.25	54.95	0.00	0.00	0.00	0.00
3-Jul-02	8:15	128	607.70	492.75	77.53	9.25	2.25	55.00	0.00	0.00	0.00	0.00
3-Jul-02	8:20	128	650.43	555.74	77.16	9.25	2.31	55.08	0.00	0.00	0.00	0.00
3-Jul-02	8:25	128	663.30	548.69	77.52	9.25	2.06	55.09	0.00	0.00	0.00	0.00
3-Jul-02	8:30	Well flowing predominantly brine, trace sediment.										
3-Jul-02	8:30	128	637.75	522.44	77.48	9.66	2.31	55.17	0.00	0.00	0.00	0.00
3-Jul-02	8:35	128	655.13	555.37	77.65	9.66	2.61	55.18	0.00	0.00	0.00	0.00
3-Jul-02	8:40	128	652.06	534.46	77.86	9.25	2.25	55.27	0.00	0.00	0.00	0.00
3-Jul-02	8:45	128	627.73	508.95	77.55	9.66	2.61	55.19	0.00	0.00	0.00	0.00
3-Jul-02	8:50	128	658.19	562.79	77.65	9.25	2.25	55.20	0.00	0.00	0.00	0.00
3-Jul-02	8:55	128	606.06	520.54	77.82	9.25	2.49	55.27	0.00	0.00	0.00	0.00
3-Jul-02	9:00	BS&W = 100% brine, trace sediment, pH = 6 ,Cl from refrac 120,000ppm.										
3-Jul-02	9:00	Draeger showed 1.5 % CO2 by volume,0ppm H2S. Water SG 1.096 @ 52F.										
3-Jul-02	9:00	128	641.84	552.92	77.65	9.25	2.43	55.29	0.00	0.00	0.00	0.00
3-Jul-02	9:05	128	653.49	562.98	77.53	9.66	2.25	55.31	0.00	0.00	0.00	0.00
3-Jul-02	9:10	128	635.30	539.18	77.39	9.25	2.25	55.33	0.00	0.00	0.00	0.00
3-Jul-02	9:15	128	662.48	562.06	77.20	9.25	2.12	55.44	0.00	0.00	0.00	0.00
3-Jul-02	9:20	128	632.23	542.25	77.23	9.25	2.25	55.44	0.00	0.00	0.00	0.00
3-Jul-02	9:24	Inspected sand catcher for debris. Retrieved traces of rust fragments.										
3-Jul-02	9:25	128	623.64	528.69	76.85	9.66	2.31	55.47	0.00	0.00	0.00	0.00
3-Jul-02	9:30	128	651.85	557.82	76.52	9.25	2.25	55.53	0.00	0.00	0.00	0.00
3-Jul-02	9:35	128	663.71	571.99	76.46	9.66	2.25	55.52	0.00	0.00	0.00	0.00
3-Jul-02	9:39	Diverted flow via test sep.										
3-Jul-02	9:40	128	630.80	528.26	76.13	9.25336.49		68.61	0.00	0.00	0.00	0.00
3-Jul-02	9:45	128	626.50	524.89	75.64	9.25332.38		63.16	0.00	0.00	0.00	0.00
3-Jul-02	9:50	Installed 3.750" orifice plate into gas meter run.										
3-Jul-02	9:50	128	636.52	533.66	75.72	9.25332.81		63.70	4.43	0.02	0.00	0.00
3-Jul-02	9:51	Raised orifice plate.										
3-Jul-02	9:53	Installed 3.500" orifice plate into gas meter run.										
3-Jul-02	9:55	128	633.04	530.78	75.53	8.84335.75		63.57	9.06	0.05	0.00	0.00
3-Jul-02	10:00	BS&W = 100% brine pH = 6 ,Cl from refrac 120,000ppm.										
3-Jul-02	10:00	Draeger showed 1.4 % CO2 by volume,0ppm H2S. Gas SG 0.571. Water SG 1.096										
3-Jul-02	10:00	128	627.73	527.16	75.39	9.25338.57		63.21	22.87	0.13	0.00	0.00
3-Jul-02	10:05	128	632.84	530.53	75.45	8.84336.67		63.27	23.01	0.21	0.00	0.00
3-Jul-02	10:10	128	630.39	531.33	75.54	8.84339.92		63.18	23.30	0.29	0.00	0.00
3-Jul-02	10:15	Brine returns at surge tank 5.25bbls (calculated rate 504b/d).										
3-Jul-02	10:15	128	630.80	531.94	75.39	9.25340.60		63.20	23.31	0.37	504.00	5.25
3-Jul-02	10:20	128	628.34	530.41	75.27	8.84344.03		62.98	23.50	0.45	504.00	5.25
3-Jul-02	10:25	128	633.25	531.88	75.16	8.84341.46		62.88	23.47	0.53	504.00	5.25
3-Jul-02	10:30	Brine returns at surge tank 10.5bbls (calculated rate 504b/d).										
3-Jul-02	10:30	128	634.27	535.01	75.09	9.66347.77		62.86	23.78	0.61	504.00	10.50
3-Jul-02	10:35	128	633.86	535.19	74.72	9.25345.87		62.39	23.99	0.70	504.00	10.50
3-Jul-02	10:40	128	632.64	533.78	74.76	9.66346.79		62.22	24.01	0.78	504.00	10.50
3-Jul-02	10:45	Brine returns at surge tank 15.7bbls (calculated rate 499b/d).										
3-Jul-02	10:45	128	631.62	533.60	74.45	9.66348.57		62.11	24.09	0.86	499.20	15.70
3-Jul-02	10:50	128	633.66	535.69	74.35	9.66349.98		61.86	24.56	0.95	499.20	15.70
3-Jul-02	10:55	128	630.39	534.15	74.41	9.66352.43		61.83	25.30	1.04	499.20	15.70
3-Jul-02	11:00	BS&W = 100% brine pH = 7 ,Cl from refrac 120,000ppm.										
3-Jul-02	11:00	Draeger showed 1.4 % CO2 by volume,0ppm H2S. Gas SG 0.576. Water SG 1.096										
3-Jul-02	11:00	Brine returns at surge tank 19.8bbls (calculated rate 394b/d).										
3-Jul-02	11:00	128	632.23	535.56	74.12	9.66352.13		61.68	25.35	1.13	394.00	19.80
3-Jul-02	11:05	128	631.41	536.12	74.25	9.66352.86		61.68	25.30	1.21	394.00	19.80
3-Jul-02	11:10	128	630.18	534.15	74.28	10.06352.86		61.69	25.37	1.30	394.00	19.80
3-Jul-02	11:15	Brine returns at surge tank 24.2bbls (calculated rate 422b/d).										
3-Jul-02	11:15	128	631.62	535.87	73.85	9.25355.38		61.41	25.46	1.39	422.00	24.20
3-Jul-02	11:20	128	632.64	536.73	73.98	9.25354.46		61.40	25.49	1.48	422.00	24.20
3-Jul-02	11:25	128	632.84	537.22	73.92	9.66355.19		61.19	25.54	1.57	422.00	24.20
3-Jul-02	11:30	Brine returns at surge tank 27.7bbls (calculated rate 336b/d).										
3-Jul-02	11:30	128	632.23	537.83	73.87	9.66357.22		61.02	25.65	1.66	336.00	27.70
3-Jul-02	11:35	128	633.04	537.40	73.93	10.48355.19		61.13	25.63	1.74	336.00	27.70
3-Jul-02	11:40	128	632.64	538.81	73.80	9.25357.28		61.04	25.71	1.83	336.00	27.70

3-Jul-02 11:45 Brine returns at surge tank 30.9bbls (calculated rate 302b/d).
3-Jul-02 11:45 128 632.23 537.65 73.90 9.66357.22 61.03 25.72 1.92 302.00 30.90
3-Jul-02 11:50 128 633.86 539.30 73.63 9.66358.81 60.88 25.79 2.01 302.00 30.90
3-Jul-02 11:55 128 632.84 538.45 73.74 9.25359.18 60.94 25.85 2.10 302.00 30.90
3-Jul-02 12:00 BS&W = 100% brine pH = 7 ,Cl from refrac 225,000ppm.
3-Jul-02 12:00 Draeger showed 1.4 % CO2 by volume,0ppm H2S. Gas SG 0.576. Water SG 1.095
3-Jul-02 12:00 Brine returns at surge tank 33.9bbls (calculated rate 288b/d).
3-Jul-02 12:00 128 632.64 538.81 73.88 9.66359.73 61.01 25.86 2.19 288.00 33.90
3-Jul-02 12:05 Inspected sand catcher for debris. Retrieved traces of rust fragments.
3-Jul-02 12:05 128 632.84 539.24 74.04 10.48359.98 61.12 25.91 2.28 288.00 33.90
3-Jul-02 12:10 128 633.86 539.86 74.14 9.66360.47 61.18 25.91 2.37 288.00 33.90
3-Jul-02 12:15 Brine returns at surge tank 36.1bbls (calculated rate 211b/d).
3-Jul-02 12:15 128 633.86 540.16 74.13 10.06361.63 61.14 26.02 2.46 211.00 36.10
3-Jul-02 12:20 128 633.86 539.49 74.03 10.06361.88 61.08 26.05 2.55 211.00 36.10
3-Jul-02 12:25 128 633.86 539.24 74.12 9.25361.63 61.10 26.03 2.64 211.00 36.10
3-Jul-02 12:30 Brine returns at surge tank 38.4bbls (calculated rate 221b/d).
3-Jul-02 12:30 128 634.48 540.59 74.31 9.66362.80 61.12 26.14 2.73 221.00 38.40
3-Jul-02 12:35 128 635.30 541.08 74.22 10.48362.80 61.15 26.14 2.82 221.00 38.40
3-Jul-02 12:40 128 634.27 540.84 74.39 10.88363.35 61.25 26.14 2.92 221.00 38.40
3-Jul-02 12:45 Brine returns at surge tank 40.8bbls (calculated rate 230b/d).
3-Jul-02 12:45 128 634.48 541.57 74.44 9.66363.96 61.29 26.21 3.01 230.00 40.80
3-Jul-02 12:50 128 634.07 540.96 74.45 9.66363.29 61.34 26.22 3.10 230.00 40.80
3-Jul-02 12:55 128 634.07 541.57 74.41 10.48364.58 61.29 26.25 3.19 230.00 40.80
3-Jul-02 13:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
3-Jul-02 13:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S. Gas SG 0.578. Water SG 1.093
3-Jul-02 13:00 Brine returns at surge tank 43.4bbls (calculated rate 250b/d).
3-Jul-02 13:00 128 635.50 542.31 74.66 10.48363.78 61.42 26.24 3.28 230.00 43.40
3-Jul-02 13:05 128 634.89 542.13 74.65 9.66365.25 61.42 26.25 3.37 230.00 43.40
3-Jul-02 13:10 128 635.50 542.49 74.60 10.48364.76 61.45 26.27 3.46 230.00 43.40
3-Jul-02 13:15 Brine returns at surge tank 45.5bbls (calculated rate 202b/d).
3-Jul-02 13:15 128 635.09 542.80 74.56 10.06365.93 61.39 26.27 3.55 202.00 45.50
3-Jul-02 13:20 128 634.89 542.55 74.52 10.48366.54 61.46 26.32 3.65 202.00 45.50
3-Jul-02 13:25 128 634.89 542.49 74.52 10.48366.60 61.31 26.33 3.74 202.00 45.50
3-Jul-02 13:30 Brine returns at surge tank 47.8bbls (calculated rate 221b/d).
3-Jul-02 13:30 128 635.30 543.04 74.60 10.06366.97 61.36 26.37 3.83 221.00 47.80
3-Jul-02 13:35 128 635.71 543.23 74.53 10.48367.40 61.35 26.38 3.92 221.00 47.80
3-Jul-02 13:40 128 636.11 543.60 74.62 9.66366.85 61.39 26.39 4.01 221.00 47.80
3-Jul-02 13:45 Brine returns at surge tank 50.0bbls (calculated rate 211b/d).
3-Jul-02 13:45 128 635.71 543.11 74.73 10.06367.34 61.41 26.40 4.10 211.00 50.00
3-Jul-02 13:50 128 635.50 543.41 74.66 10.06368.56 61.36 26.46 4.19 211.00 50.00
3-Jul-02 13:55 128 636.32 543.90 74.60 10.48368.62 61.37 26.48 4.29 211.00 50.00
3-Jul-02 14:00 BS&W = 100% brine pH = 6 ,Cl from refrac 110,000ppm.
3-Jul-02 14:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S. Gas SG 0.578. Water SG 1.093
3-Jul-02 14:00 Brine returns at surge tank 51.75bbls (calculated rate 168b/d).
3-Jul-02 14:00 128 635.71 544.03 74.67 9.66368.62 61.37 26.49 4.38 168.00 51.75
3-Jul-02 14:05 128 635.91 544.70 74.73 10.06369.18 61.42 26.51 4.47 168.00 51.75
3-Jul-02 14:10 128 636.52 544.76 74.74 10.48368.62 61.41 26.51 4.56 168.00 51.75
3-Jul-02 14:15 Brine returns at surge tank 53.5bbls (calculated rate 168b/d).
3-Jul-02 14:15 128 636.32 544.39 74.74 10.48369.05 61.48 26.54 4.65 168.00 53.50
3-Jul-02 14:20 128 637.34 545.50 74.77 10.48369.73 61.43 26.55 4.75 168.00 53.50
3-Jul-02 14:25 128 636.52 544.95 74.80 10.48369.67 61.48 26.60 4.84 168.00 53.50
3-Jul-02 14:30 Brine returns at surge tank 55.2bbls (calculated rate 163b/d).
3-Jul-02 14:30 128 636.93 545.68 74.91 10.48370.71 61.53 26.61 4.93 163.00 55.20
3-Jul-02 14:35 128 637.34 545.68 74.83 10.48370.65 61.57 26.66 5.02 163.00 55.20
3-Jul-02 14:40 128 637.75 546.23 75.01 10.06371.20 61.59 26.66 5.12 163.00 55.20
3-Jul-02 14:45 Brine returns at surge tank 57.1bbls (calculated rate 182b/d).
3-Jul-02 14:45 128 637.34 546.05 74.99 10.06371.39 61.66 26.68 5.21 182.00 57.10
3-Jul-02 14:50 128 636.52 545.07 75.03 10.06370.83 61.72 26.67 5.30 182.00 57.10
3-Jul-02 14:55 128 636.93 545.93 75.01 10.06372.00 61.70 26.69 5.40 182.00 57.10
3-Jul-02 15:00 BS&W = 100% brine pH = 7 ,Cl from refrac 115,000ppm.
3-Jul-02 15:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S. Gas SG 0.582. Water SG 1.094
3-Jul-02 15:00 Brine returns at surge tank 58.9bbls (calculated rate 173b/d).
3-Jul-02 15:00 Sample No. 1-1 (0.5 ltr water) and 1-2 (5 ltr water) taken from sep.
3-Jul-02 15:00 128 638.16 546.48 74.95 10.48372.00 61.69 26.69 5.49 173.00 58.90
3-Jul-02 15:05 128 637.34 546.17 74.98 10.06371.81 61.67 26.66 5.58 173.00 58.90
3-Jul-02 15:10 128 637.95 546.48 75.05 10.06372.24 61.70 26.64 5.67 173.00 58.90
3-Jul-02 15:15 Brine returns at surge tank 60.4bbls (calculated rate 144b/d).
3-Jul-02 15:15 128 637.54 546.48 75.03 9.66372.37 61.68 26.65 5.77 144.00 60.40
3-Jul-02 15:20 128 637.54 546.17 75.07 9.66372.37 61.64 26.68 5.86 144.00 60.40
3-Jul-02 15:25 128 637.75 546.66 75.05 10.48372.61 61.67 26.71 5.95 144.00 60.40
3-Jul-02 15:30 Brine returns at surge tank 61.9bbls (calculated rate 144b/d).
3-Jul-02 15:30 128 637.95 546.48 75.04 10.48372.98 61.61 26.72 6.04 144.00 61.90
3-Jul-02 15:35 128 637.95 546.79 75.07 9.66372.98 61.68 26.74 6.14 144.00 61.90
3-Jul-02 15:40 128 637.95 547.15 75.11 10.06373.29 61.68 26.74 6.23 144.00 61.90
3-Jul-02 15:45 Brine returns at surge tank 63.4bbls (calculated rate 144b/d).

3-Jul-02 15:45 128 637.75 546.60 75.07 10.06373.23 61.70 26.75 6.32 144.00 63.40
3-Jul-02 15:50 128 637.95 547.28 75.01 10.06374.02 61.64 26.78 6.42 144.00 63.40
3-Jul-02 15:55 128 638.16 546.72 74.98 10.48373.59 61.59 26.80 6.51 144.00 63.40
3-Jul-02 16:00 BS&W = 100% brine pH = 6 ,Cl from refrac 115,000ppm.
3-Jul-02 16:00 Draeger showed 1.5% CO2 by volume,0ppm H2S. Gas SG 0.580. Water SG 1.094
3-Jul-02 16:00 Brine returns at surge tank 64.9bbls (calculated rate 144b/d).
3-Jul-02 16:00 128 638.16 547.34 75.04 10.48374.33 61.62 26.81 6.60 144.00 64.90
3-Jul-02 16:05 128 637.95 546.91 75.07 10.48373.29 61.59 26.84 6.69 144.00 64.90
3-Jul-02 16:10 128 638.77 547.40 75.04 10.48374.08 61.58 26.84 6.79 144.00 64.90
3-Jul-02 16:15 Brine returns at surge tank 66.4bbls (calculated rate 144b/d).
3-Jul-02 16:15 128 638.57 547.77 75.05 9.66374.70 61.55 26.86 6.88 144.00 66.40
3-Jul-02 16:20 128 638.77 548.01 75.10 10.06374.70 61.67 26.90 6.97 144.00 66.40
3-Jul-02 16:25 128 637.95 547.58 75.10 10.48374.70 61.62 26.93 7.07 144.00 66.40
3-Jul-02 16:30 Brine returns at surge tank 67.7bbls (calculated rate 125b/d).
3-Jul-02 16:30 128 638.16 547.71 75.12 10.48374.70 61.64 26.92 7.16 125.00 67.70
3-Jul-02 16:35 128 638.16 547.89 75.15 9.66374.94 61.72 26.91 7.25 125.00 67.70
3-Jul-02 16:40 128 638.57 547.83 75.21 9.66374.70 61.69 26.91 7.35 125.00 67.70
3-Jul-02 16:45 Brine returns at surge tank 69.1bbls (calculated rate 134b/d).
3-Jul-02 16:45 128 638.36 548.20 75.12 10.06374.94 61.70 26.92 7.44 134.00 69.10
3-Jul-02 16:50 128 638.77 548.44 75.20 10.48375.80 61.72 26.94 7.54 134.00 69.10
3-Jul-02 16:55 128 638.16 548.13 75.23 10.48376.05 61.80 26.97 7.63 134.00 69.10
3-Jul-02 17:00 BS&W = 100% brine pH = 6 ,Cl from refrac 115,000ppm.
3-Jul-02 17:00 Brine returns at surge tank 70.3bbls (calculated rate 115b/d).
3-Jul-02 17:00 Sample No. 1-3 (0.5 ltr water) and 1-4 (5 ltr water) taken from sep.
3-Jul-02 17:00 128 638.77 548.63 75.16 9.66375.74 61.75 26.98 7.72 115.00 70.30
3-Jul-02 17:05 128 638.16 548.26 75.22 9.66375.98 61.74 27.00 7.82 115.00 70.30
3-Jul-02 17:10 128 638.77 548.50 75.39 10.06376.72 61.89 26.99 7.91 115.00 70.30
3-Jul-02 17:15 Brine returns at surge tank 71.5bbls (calculated rate 115b/d).
3-Jul-02 17:15 128 639.59 548.63 75.37 10.48376.05 61.93 26.99 8.00 115.00 71.50
3-Jul-02 17:20 128 638.98 548.50 75.56 10.06376.41 61.99 27.01 8.10 115.00 71.50
3-Jul-02 17:25 128 639.18 549.06 75.56 10.48376.66 62.05 27.04 8.19 115.00 71.50
3-Jul-02 17:30 Brine returns at surge tank 72.7bbls (calculated rate 115b/d).
3-Jul-02 17:30 128 638.77 548.87 75.48 10.48377.52 62.04 27.06 8.29 115.00 72.70
3-Jul-02 17:34 Raised orifice plate. Diverted flow via choke manifold bypass 3" line.
3-Jul-02 17:35 Installed 3.500" orifice plate into gas meter run.
3-Jul-02 17:35 192 617.72 560.65 75.11 10.06382.36 62.43 18.76 8.35 115.00 72.70
3-Jul-02 17:40 192 619.96 563.28 75.05 10.48386.84 62.82 26.93 8.44 115.00 72.70
3-Jul-02 17:45 Brine returns at surge tank 73.8bbls (calculated rate 106b/d).
3-Jul-02 17:45 192 618.73 562.06 75.03 10.06386.10 62.77 26.94 8.54 106.00 73.80
3-Jul-02 17:50 192 618.73 562.24 75.05 10.06386.66 62.92 26.91 8.63 106.00 73.80
3-Jul-02 17:55 192 620.17 563.04 75.04 10.48386.84 62.92 26.99 8.72 106.00 73.80
3-Jul-02 18:00 Gas SG 0.580.
3-Jul-02 18:00 Brine returns at surge tank 75bbls (calculated rate 115b/d).
3-Jul-02 18:00 192 620.57 563.22 75.01 10.48387.45 62.93 27.04 8.82 115.00 75.00
3-Jul-02 18:05 192 619.96 563.16 75.12 10.06387.33 62.94 27.04 8.91 115.00 75.00
3-Jul-02 18:10 192 619.55 563.04 75.03 10.48387.82 62.94 27.08 9.01 115.00 75.00
3-Jul-02 18:15 Brine returns at surge tank 76.4bbls (calculated rate 134b/d).
3-Jul-02 18:15 192 620.78 563.90 75.16 9.66387.70 63.07 27.07 9.10 134.00 76.40
3-Jul-02 18:20 192 620.17 563.83 75.15 10.48388.44 63.02 27.11 9.19 134.00 76.40
3-Jul-02 18:25 192 620.37 563.90 75.14 10.48389.17 63.09 27.13 9.29 134.00 76.40
3-Jul-02 18:30 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
3-Jul-02 18:30 Brine returns at surge tank 77.5bbls (calculated rate 106b/d).
3-Jul-02 18:30 192 619.96 563.90 75.14 10.06389.05 63.14 27.16 9.38 106.00 77.50
3-Jul-02 18:35 192 620.37 563.83 75.11 10.48389.17 63.10 27.13 9.48 106.00 77.50
3-Jul-02 18:40 192 620.57 564.51 75.20 10.48389.17 63.13 27.17 9.57 106.00 77.50
3-Jul-02 18:45 Brine returns at surge tank 78.6bbls (calculated rate 106b/d).
3-Jul-02 18:45 192 620.37 564.20 75.23 10.48389.54 63.23 27.16 9.67 106.00 78.60
3-Jul-02 18:50 192 620.98 564.75 75.21 9.66389.17 63.13 27.19 9.76 106.00 78.60
3-Jul-02 18:55 192 620.98 564.69 75.12 10.06388.56 63.08 27.16 9.85 106.00 78.60
3-Jul-02 19:00 Brine returns at surge tank 79.7bbls (calculated rate 106b/d).
3-Jul-02 19:00 Sample No. 1-5 (0.5 ltr water) and 1-6 (5 ltr water) taken from sep.
3-Jul-02 19:00 192 620.37 564.26 75.09 10.48388.93 63.09 27.17 9.95 106.00 79.70
3-Jul-02 19:05 192 621.19 564.02 75.07 10.06389.60 63.05 27.21 10.04 106.00 79.70
3-Jul-02 19:10 192 620.37 564.20 74.93 10.06389.91 62.89 27.26 10.14 106.00 79.70
3-Jul-02 19:15 Brine returns at surge tank 80.7bbls (calculated rate 95.9b/d).
3-Jul-02 19:15 192 620.78 564.45 75.00 9.25389.91 62.92 27.28 10.23 95.90 80.70
3-Jul-02 19:20 192 620.57 564.82 74.94 10.06389.48 62.94 27.26 10.33 95.90 80.70
3-Jul-02 19:25 192 620.37 564.20 74.85 10.48389.85 62.82 27.25 10.42 95.90 80.70
3-Jul-02 19:30 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
3-Jul-02 19:30 Brine returns at surge tank 81.7bbls (calculated rate 95.9b/d).
3-Jul-02 19:30 192 620.78 564.57 74.93 10.48389.60 62.81 27.27 10.52 95.90 81.70
3-Jul-02 19:35 192 621.19 564.88 74.84 10.06389.29 62.81 27.26 10.61 95.90 81.70
3-Jul-02 19:40 192 621.80 565.12 74.89 10.48389.78 62.77 27.28 10.71 95.90 81.70
3-Jul-02 19:45 Brine returns at surge tank 82.9bbls (calculated rate 115b/d).
3-Jul-02 19:45 192 620.37 564.69 74.91 10.06390.15 62.80 27.32 10.80 115.00 82.90

3-Jul-02 19:50 192 621.39 565.18 75.05 10.06390.15 62.89 27.28 10.90 115.00 82.90
3-Jul-02 19:55 192 620.98 564.94 75.03 10.48390.83 62.89 27.29 10.99 115.00 82.90
3-Jul-02 20:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
3-Jul-02 20:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S.
3-Jul-02 20:00 Water SG 1.087 @ 60°F.
3-Jul-02 20:00 Gas SG 0.584.
3-Jul-02 20:00 Brine returns at surge tank 84.1bbls (calculated rate 115b/d).
3-Jul-02 20:00 192 621.80 565.24 74.90 10.48390.15 62.86 27.30 11.09 115.00 84.10
3-Jul-02 20:05 192 622.82 566.53 74.84 10.48390.15 62.76 27.28 11.18 115.00 84.10
3-Jul-02 20:10 192 621.80 565.55 74.94 10.48391.56 62.83 27.30 11.27 115.00 84.10
3-Jul-02 20:15 Brine returns at surge tank 85.1bbls (calculated rate 96b/d).
3-Jul-02 20:15 192 620.98 565.18 74.96 10.06391.26 62.88 27.31 11.37 96.00 85.10
3-Jul-02 20:20 192 621.80 565.86 74.82 10.06391.26 62.75 27.32 11.46 96.00 85.10
3-Jul-02 20:25 192 621.60 565.67 74.88 10.48391.81 62.77 27.34 11.56 96.00 85.10
3-Jul-02 20:30 Brine returns at surge tank 86.1bbls (calculated rate 96b/d).
3-Jul-02 20:30 192 621.19 564.82 74.77 10.48391.38 62.69 27.35 11.65 96.00 86.10
3-Jul-02 20:35 192 621.60 565.24 74.77 10.06391.26 62.62 27.34 11.75 96.00 86.10
3-Jul-02 20:40 192 621.80 565.49 74.55 10.48391.50 62.56 27.33 11.84 96.00 86.10
3-Jul-02 20:45 Brine returns at surge tank 87.1bbls (calculated rate 96b/d).
3-Jul-02 20:45 192 622.21 565.98 74.60 10.48391.07 62.44 27.38 11.94 96.00 87.10
3-Jul-02 20:50 192 622.21 566.29 74.61 9.25391.44 62.48 27.36 12.03 96.00 87.10
3-Jul-02 20:55 192 622.01 565.86 74.62 10.48391.50 62.39 27.37 12.13 96.00 87.10
3-Jul-02 21:00 BS&W = 100% brine.
3-Jul-02 21:00 Brine returns at surge tank 88.1bbls (calculated rate 96b/d).
3-Jul-02 21:00 Sample No. 1-7 (0.5 ltr water) and 1-8 (5 ltr water) taken from sep.
3-Jul-02 21:00 192 621.80 565.98 74.19 10.48392.18 62.17 27.43 12.22 96.00 88.10
3-Jul-02 21:05 192 621.80 565.74 74.38 9.66391.93 62.13 27.41 12.32 96.00 88.10
3-Jul-02 21:10 192 621.80 565.86 74.30 10.48391.56 62.13 27.42 12.41 96.00 88.10
3-Jul-02 21:15 Brine returns at surge tank 88.9bbls (calculated rate 77b/d).
3-Jul-02 21:15 192 622.21 565.80 74.36 9.66391.50 62.08 27.43 12.51 77.00 88.90
3-Jul-02 21:20 192 621.60 565.86 74.46 10.06391.93 62.18 27.44 12.61 77.00 88.90
3-Jul-02 21:25 192 622.62 566.66 74.12 9.25391.75 62.05 27.44 12.70 77.00 88.90
3-Jul-02 21:30 Brine returns at surge tank 89.4bbls (calculated rate 48b/d).
3-Jul-02 21:30 192 621.80 565.67 74.26 10.48391.50 61.99 27.45 12.80 48.00 89.40
3-Jul-02 21:35 192 622.21 565.86 74.17 10.48392.24 61.89 27.46 12.89 48.00 89.40
3-Jul-02 21:40 192 621.60 565.43 74.09 9.66391.56 61.80 27.46 12.99 48.00 89.40
3-Jul-02 21:45 Brine returns at surge tank 90.7bbls (calculated rate 125b/d).
3-Jul-02 21:45 192 622.42 565.92 73.99 9.66391.50 61.74 27.48 13.08 125.00 90.70
3-Jul-02 21:50 192 621.60 565.49 73.90 9.66391.68 61.69 27.49 13.18 125.00 90.70
3-Jul-02 21:55 192 622.01 566.17 74.06 10.06392.54 61.69 27.53 13.27 125.00 90.70
3-Jul-02 22:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
3-Jul-02 22:00 Gas SG 0.586.
3-Jul-02 22:00 Water SG 1.088 @ 59°F.
3-Jul-02 22:00 Brine returns at surge tank 91.4bbls (calculated rate 67b/d).
3-Jul-02 22:00 192 622.21 566.35 73.92 9.25392.24 61.69 27.50 13.37 67.00 91.40
3-Jul-02 22:05 192 624.05 567.76 73.92 9.66393.22 61.59 27.51 13.46 67.00 91.40
3-Jul-02 22:10 192 622.62 566.59 73.72 9.66392.97 61.51 27.51 13.56 67.00 91.40
3-Jul-02 22:15 Brine returns at surge tank 92.2bbls (calculated rate 77b/d).
3-Jul-02 22:15 192 622.01 566.10 73.64 9.66392.79 61.40 27.53 13.66 77.00 92.20
3-Jul-02 22:20 192 622.01 566.23 73.64 9.66392.97 61.40 27.55 13.75 77.00 92.20
3-Jul-02 22:25 192 623.03 566.66 73.81 9.66392.61 61.51 27.58 13.85 77.00 92.20
3-Jul-02 22:30 Brine returns at surge tank 93.1bbls (calculated rate 86b/d).
3-Jul-02 22:30 192 622.21 566.59 73.54 9.25392.54 61.28 27.57 13.94 86.00 93.10
3-Jul-02 22:35 192 622.21 566.72 73.63 9.66393.28 61.23 27.59 14.04 86.00 93.10
3-Jul-02 22:40 192 622.62 566.59 73.42 9.66393.10 61.21 27.59 14.13 86.00 93.10
3-Jul-02 22:45 Brine returns at surge tank 93.9bbls (calculated rate 77b/d).
3-Jul-02 22:45 192 623.03 566.84 73.46 9.66393.22 61.18 27.63 14.23 77.00 93.90
3-Jul-02 22:50 192 623.03 566.84 73.65 9.66393.46 61.29 27.60 14.33 77.00 93.90
3-Jul-02 22:55 192 623.23 566.96 73.41 10.06393.65 61.14 27.64 14.42 77.00 93.90
3-Jul-02 23:00 BS&W = 100% brine.
3-Jul-02 23:00 Brine returns at surge tank 94.5bbls (calculated rate 58b/d).
3-Jul-02 23:00 Sample No. 1-9 (0.5 ltr water) and 1-10 (4 ltr water) taken from sep.
3-Jul-02 23:00 192 624.66 568.62 73.48 10.06393.22 61.09 27.64 14.52 58.00 94.50
3-Jul-02 23:05 192 623.03 567.15 73.37 9.66394.20 61.18 27.68 14.61 58.00 94.50
3-Jul-02 23:10 192 623.03 567.33 73.26 9.66394.26 61.09 27.67 14.71 58.00 94.50
3-Jul-02 23:15 Brine returns at surge tank 95.3bbls (calculated rate 77b/d).
3-Jul-02 23:15 192 622.62 566.47 73.36 9.66393.16 61.03 27.66 14.81 77.00 95.30
3-Jul-02 23:20 192 623.23 567.52 73.33 10.48393.89 60.99 27.65 14.90 77.00 95.30
3-Jul-02 23:25 192 623.44 567.58 73.28 10.48394.26 61.04 27.67 15.00 77.00 95.30
3-Jul-02 23:30 Brine returns at surge tank 95.9bbls (calculated rate 58b/d).
3-Jul-02 23:30 192 625.07 569.17 73.12 10.48393.65 60.90 27.66 15.09 58.00 95.90
3-Jul-02 23:35 192 623.23 567.52 73.27 10.06394.32 61.03 27.73 15.19 58.00 95.90
3-Jul-02 23:40 192 623.23 567.45 73.20 10.06394.26 60.92 27.72 15.29 58.00 95.90
3-Jul-02 23:45 Brine returns at surge tank 96.5bbls (calculated rate 67b/d).
3-Jul-02 23:45 192 624.46 568.74 73.06 9.66394.20 60.83 27.75 15.38 67.00 96.50

3-Jul-02 23:50 192 623.44 567.52 72.83 10.06394.26 60.60 27.71 15.48 67.00 96.50
3-Jul-02 23:55 192 623.44 567.88 72.83 10.06394.63 60.60 27.75 15.58 67.00 96.50
4-Jul-02 0:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 0:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S.
4-Jul-02 0:00 Gas SG 0.584.
4-Jul-02 0:00 Water SG 1.087 @ 59°F.
4-Jul-02 0:00 Brine returns at surge tank 97.3bbls (calculated rate 77b/d).
4-Jul-02 0:00 192 625.48 569.05 72.90 10.48394.63 60.56 27.80 15.67 77.00 97.30
4-Jul-02 0:05 192 623.64 567.82 72.99 9.66395.49 60.49 27.87 15.77 77.00 97.30
4-Jul-02 0:10 192 623.44 567.45 72.83 9.25394.94 60.38 27.89 15.87 77.00 97.30
4-Jul-02 0:15 Brine returns at surge tank 98.3bbls (calculated rate 96b/d).
4-Jul-02 0:15 192 624.05 567.82 72.82 9.25394.51 60.43 27.87 15.96 96.00 98.30
4-Jul-02 0:20 192 624.25 568.25 72.89 10.06394.63 60.42 27.88 16.06 96.00 98.30
4-Jul-02 0:25 192 623.23 567.09 72.72 9.66394.02 60.39 27.86 16.16 96.00 98.30
4-Jul-02 0:30 Brine returns at surge tank 98.9bbls (calculated rate 58b/d).
4-Jul-02 0:30 192 623.03 567.39 72.72 9.66394.14 60.32 27.89 16.25 58.00 98.90
4-Jul-02 0:35 192 624.87 568.74 72.74 10.06393.59 60.36 27.87 16.35 58.00 98.90
4-Jul-02 0:40 192 623.23 567.45 72.79 9.66394.26 60.27 27.85 16.45 58.00 98.90
4-Jul-02 0:45 Brine returns at surge tank 99.5bbls (calculated rate 58b/d).
4-Jul-02 0:45 192 623.64 567.82 72.65 9.66394.75 60.28 27.92 16.54 58.00 99.50
4-Jul-02 0:50 192 624.46 568.07 72.61 9.66395.18 60.18 27.91 16.64 58.00 99.50
4-Jul-02 0:55 192 624.25 568.01 72.62 9.66394.63 60.16 27.94 16.74 58.00 99.50
4-Jul-02 1:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 1:00 Brine returns at surge tank 100.4bbls (calculated rate 86b/d).
4-Jul-02 1:00 Sample No. 1-11 (0.5 ltr water) and 1-12 (4 ltr water) taken from sep.
4-Jul-02 1:00 192 623.85 568.01 72.45 10.48395.12 60.09 27.93 16.83 86.00 100.40
4-Jul-02 1:05 192 624.46 567.76 72.58 9.66394.44 60.13 27.93 16.93 86.00 100.40
4-Jul-02 1:10 192 623.64 568.13 72.52 10.48394.51 60.13 27.90 17.03 86.00 100.40
4-Jul-02 1:15 Brine returns at surge tank 100.9bbls (calculated rate 48b/d).
4-Jul-02 1:15 192 623.64 568.01 72.33 9.66395.30 60.06 27.93 17.12 48.00 100.90
4-Jul-02 1:20 192 623.44 567.82 72.39 9.66394.87 59.99 27.95 17.22 48.00 100.90
4-Jul-02 1:25 192 623.03 567.45 72.27 9.25393.95 59.95 27.89 17.32 48.00 100.90
4-Jul-02 1:27 Bled down scrubber pots on differential cell due to pots full of water.
4-Jul-02 1:30 Brine returns at surge tank 101.6bbls (calculated rate 67b/d).
4-Jul-02 1:30 192 623.85 567.94 72.27 10.06394.20 59.86 27.55 17.38 67.00 101.60
4-Jul-02 1:35 192 623.64 568.01 72.40 9.66394.32 59.98 26.32 17.47 67.00 101.60
4-Jul-02 1:40 192 624.46 568.01 72.35 9.66394.94 59.96 26.23 17.56 67.00 101.60
4-Jul-02 1:45 Brine returns at surge tank 102.6bbls (calculated rate 96b/d).
4-Jul-02 1:45 192 624.46 568.56 72.40 9.66394.69 59.95 26.12 17.65 96.00 102.60
4-Jul-02 1:50 192 624.25 568.37 72.47 9.66395.36 59.95 26.09 17.74 96.00 102.60
4-Jul-02 1:55 192 624.46 568.01 72.50 9.66394.75 59.99 26.13 17.83 96.00 102.60
4-Jul-02 2:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 2:00 Gas SG 0.586.
4-Jul-02 2:00 Water SG 1.088 @ 58°F.
4-Jul-02 2:00 Brine returns at surge tank 103bbls (calculated rate 38b/d).
4-Jul-02 2:00 192 623.85 568.50 72.56 10.48395.36 60.02 26.07 17.92 38.00 103.00
4-Jul-02 2:05 192 624.25 568.37 72.31 10.48395.30 59.93 26.09 18.01 38.00 103.00
4-Jul-02 2:10 192 624.46 568.07 72.19 9.66394.32 59.83 26.10 18.10 38.00 103.00
4-Jul-02 2:15 Brine returns at surge tank 103.9bbls (calculated rate 86b/d).
4-Jul-02 2:15 192 623.44 568.01 72.29 9.25395.30 59.89 26.10 18.19 86.00 103.90
4-Jul-02 2:20 192 623.64 568.37 72.38 10.06395.00 59.90 26.08 18.28 86.00 103.90
4-Jul-02 2:25 192 624.46 568.62 72.34 10.06395.36 59.79 26.02 18.37 86.00 103.90
4-Jul-02 2:30 Brine returns at surge tank 104.3bbls (calculated rate 38b/d).
4-Jul-02 2:30 192 624.66 568.80 72.36 9.66394.02 59.89 26.10 18.46 38.00 104.30
4-Jul-02 2:35 192 624.46 568.01 72.67 9.66394.32 60.00 26.10 18.55 38.00 104.30
4-Jul-02 2:40 192 624.46 568.44 72.46 9.66395.30 59.98 26.10 18.65 38.00 104.30
4-Jul-02 2:45 Brine returns at surge tank 105.2bbls (calculated rate 86b/d).
4-Jul-02 2:45 192 626.10 570.09 72.45 9.66394.38 59.96 26.08 18.74 86.00 105.20
4-Jul-02 2:50 192 624.66 568.68 72.46 10.06395.30 59.95 26.12 18.83 86.00 105.20
4-Jul-02 2:55 192 625.28 569.05 72.55 10.48394.81 59.99 26.09 18.92 86.00 105.20
4-Jul-02 3:00 BS&W = 100% brine pH = 7 ,Cl from refrac 109,000ppm.
4-Jul-02 3:00 Brine returns at surge tank 105.8bbls (calculated rate 58b/d).
4-Jul-02 3:00 Sample No. 1-13 (0.5 ltr water) and 1-14 (4 ltr water) taken from sep.
4-Jul-02 3:00 192 624.66 568.68 72.65 9.66395.61 60.04 26.12 19.01 58.00 105.80
4-Jul-02 3:05 192 624.05 568.31 72.67 9.66395.00 60.16 26.13 19.10 58.00 105.80
4-Jul-02 3:10 192 624.87 568.56 72.61 10.48395.36 60.07 26.09 19.19 58.00 105.80
4-Jul-02 3:15 Brine returns at surge tank 106.4bbls (calculated rate 58b/d).
4-Jul-02 3:15 192 624.66 568.56 72.69 9.66395.30 60.12 26.11 19.28 58.00 106.40
4-Jul-02 3:20 192 624.87 568.68 72.82 9.66395.30 60.21 26.12 19.37 58.00 106.40
4-Jul-02 3:25 192 625.28 568.86 72.55 10.06394.94 60.12 26.12 19.46 58.00 106.40
4-Jul-02 3:30 Brine returns at surge tank 107.4bbls (calculated rate 96b/d).
4-Jul-02 3:30 192 626.71 570.27 72.74 10.06395.30 60.23 26.16 19.55 96.00 107.40
4-Jul-02 3:35 192 625.07 569.29 72.71 10.06395.79 60.12 26.13 19.64 96.00 107.40
4-Jul-02 3:40 192 625.07 569.05 72.76 9.66395.67 60.22 26.13 19.73 96.00 107.40
4-Jul-02 3:42 Raised orifice plate to check Barton differential cell.

4-Jul-02 3:45 Brine returns at surge tank 107.7bbls (calculated rate 29b/d).
4-Jul-02 3:45 192 622.62 566.66 72.84 9.66 2.86 60.47 5.21 19.75 29.00 107.70
4-Jul-02 3:47 Installed 3.500" orifice plate into meter run.
4-Jul-02 3:50 192 624.87 568.99 72.76 9.66396.04 60.22 21.67 19.83 29.00 107.70
4-Jul-02 3:55 192 624.66 568.74 72.99 9.25395.98 60.27 27.06 19.92 29.00 107.70
4-Jul-02 4:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 4:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S.
4-Jul-02 4:00 Gas SG 0.586.
4-Jul-02 4:00 Water SG 1.088 @ 58°F.
4-Jul-02 4:00 Brine returns at surge tank 108.3bbls (calculated rate 58b/d).
4-Jul-02 4:00 192 624.87 569.17 72.84 9.66395.73 60.32 27.01 20.01 58.00 108.30
4-Jul-02 4:05 192 625.28 569.05 73.19 9.66395.73 60.51 27.08 20.11 58.00 108.30
4-Jul-02 4:10 192 625.89 569.78 73.11 9.66396.35 60.53 27.07 20.20 58.00 108.30
4-Jul-02 4:15 Brine returns at surge tank 109.2bbls (calculated rate 86b/d).
4-Jul-02 4:15 192 625.28 569.48 73.15 9.66396.04 60.56 27.14 20.30 86.00 109.20
4-Jul-02 4:20 192 625.28 568.99 73.03 9.66396.35 60.49 27.07 20.39 86.00 109.20
4-Jul-02 4:25 192 626.50 570.03 73.04 9.66395.73 60.53 27.09 20.48 86.00 109.20
4-Jul-02 4:30 Brine returns at surge tank 109.8bbls (calculated rate 58b/d).
4-Jul-02 4:30 192 624.87 569.29 73.27 9.66395.98 60.69 27.08 20.58 58.00 109.80
4-Jul-02 4:35 192 626.71 570.89 73.20 9.66395.98 60.64 27.06 20.67 58.00 109.80
4-Jul-02 4:40 192 625.89 569.42 73.38 9.66396.41 60.82 27.06 20.77 58.00 109.80
4-Jul-02 4:45 Brine returns at surge tank 110bbls (calculated rate 19b/d).
4-Jul-02 4:45 192 625.69 569.42 73.23 9.66396.59 60.76 27.03 20.86 19.00 110.00
4-Jul-02 4:50 192 625.69 569.66 73.34 10.06396.47 60.74 27.11 20.95 19.00 110.00
4-Jul-02 4:55 192 626.30 570.64 73.33 9.25395.67 60.77 27.09 21.05 19.00 110.00
4-Jul-02 5:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 5:00 Sample No. 1-15 (0.5 ltr water) and 1-16 (4 ltr water) taken from sep.
4-Jul-02 5:00 Brine returns at surge tank 110.7bbls (calculated rate 67b/d).
4-Jul-02 5:00 192 625.07 569.36 73.47 9.66396.41 60.81 27.07 21.14 67.00 110.70
4-Jul-02 5:05 192 626.50 570.27 73.39 9.66396.28 60.94 27.08 21.24 67.00 110.70
4-Jul-02 5:10 192 626.71 570.77 73.33 9.25396.22 60.88 27.00 21.33 67.00 110.70
4-Jul-02 5:15 Brine returns at surge tank 111.2bbls (calculated rate 48b/d).
4-Jul-02 5:15 192 625.69 569.91 73.42 9.25397.02 60.91 27.08 21.42 48.00 111.20
4-Jul-02 5:20 192 625.69 569.97 73.44 9.66396.96 60.87 27.08 21.52 48.00 111.20
4-Jul-02 5:25 192 626.10 570.27 73.34 9.66397.33 60.83 27.12 21.61 48.00 111.20
4-Jul-02 5:30 Brine returns at surge tank 111.9bbls (calculated rate 67b/d).
4-Jul-02 5:30 192 625.69 569.66 73.52 10.06397.20 60.97 27.09 21.71 67.00 111.90
4-Jul-02 5:35 192 626.10 570.09 73.70 10.48397.02 60.96 27.14 21.80 67.00 111.90
4-Jul-02 5:40 192 626.91 570.40 73.85 9.66398.06 61.24 27.17 21.90 67.00 111.90
4-Jul-02 5:45 Brine returns at surge tank 112.5bbls (calculated rate 58b/d).
4-Jul-02 5:45 192 626.30 570.46 73.58 10.06397.27 61.09 27.15 21.99 58.00 112.50
4-Jul-02 5:50 192 625.48 570.15 73.54 10.48397.33 61.08 27.17 22.08 58.00 112.50
4-Jul-02 5:55 192 625.69 570.27 73.54 9.66397.39 61.05 27.16 22.18 58.00 112.50
4-Jul-02 6:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 6:00 Brine returns at surge tank 112.8bbls (calculated rate 29b/d).
4-Jul-02 6:00 192 625.48 570.27 73.46 9.25397.27 60.92 27.15 22.27 29.00 112.80
4-Jul-02 6:05 192 626.10 570.52 73.50 9.66397.45 60.99 27.19 22.37 29.00 112.80
4-Jul-02 6:10 192 626.10 570.15 73.43 9.66396.96 60.96 27.17 22.46 29.00 112.80
4-Jul-02 6:15 Brine returns at surge tank 113.5bbls (calculated rate 67b/d).
4-Jul-02 6:15 192 625.89 570.40 73.38 9.25397.14 60.97 27.12 22.56 67.00 113.50
4-Jul-02 6:20 192 627.73 571.81 73.44 10.06397.02 60.90 27.20 22.65 67.00 113.50
4-Jul-02 6:25 192 626.30 570.58 73.64 10.06397.69 60.98 27.16 22.74 67.00 113.50
4-Jul-02 6:28 BJ conducted pick up weight test. Brief pressure increase at choke.
4-Jul-02 6:30 Brine returns at surge tank 114bbls (calculated rate 48b/d).
4-Jul-02 6:30 192 646.95 591.49 73.95 10.48415.85 61.23 27.51 22.84 48.00 114.00
4-Jul-02 6:35 192 632.02 578.43 73.72 10.06407.38 61.10 28.21 22.94 48.00 114.00
4-Jul-02 6:40 192 624.87 569.17 73.68 10.06393.22 61.15 27.22 23.03 48.00 114.00
4-Jul-02 6:45 Brine returns at surge tank 114.6bbls (calculated rate 58b/d).
4-Jul-02 6:45 192 627.73 571.99 73.58 10.06396.35 61.04 27.10 23.13 58.00 114.60
4-Jul-02 6:50 192 627.12 571.87 73.60 10.06398.98 61.05 27.26 23.22 58.00 114.60
4-Jul-02 6:55 192 628.75 573.03 73.01 10.48401.38 60.64 27.28 23.32 58.00 114.60
4-Jul-02 7:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 7:00 Brine returns at surge tank 115bbls (calculated rate 38b/d).
4-Jul-02 7:00 Sample No. 1-17 (0.5 ltr water) and 1-18 (4 ltr water) taken from sep.
4-Jul-02 7:00 192 627.32 572.24 72.85 10.48400.39 60.51 27.39 23.41 38.00 115.00
4-Jul-02 7:05 192 627.53 572.97 72.96 10.06399.96 60.43 27.39 23.51 38.00 115.00
4-Jul-02 7:10 192 627.32 572.42 73.05 10.06399.72 60.42 27.33 23.60 38.00 115.00
4-Jul-02 7:15 Brine returns at surge tank 115.5bbls (calculated rate 48b/d).
4-Jul-02 7:15 192 627.73 572.36 73.21 10.48399.35 60.49 27.35 23.70 48.00 115.50
4-Jul-02 7:20 192 627.32 572.24 73.27 10.06398.68 60.56 27.36 23.79 48.00 115.50
4-Jul-02 7:25 192 627.73 572.73 73.14 10.48399.04 60.55 27.37 23.89 48.00 115.50
4-Jul-02 7:30 BJ CT commenced running in hole to 1365mRT for pressure/temperature log.
4-Jul-02 7:30 Brine returns at surge tank 116.1bbls (calculated rate 58b/d).
4-Jul-02 7:30 192 627.94 572.79 73.26 10.48399.29 60.63 27.42 23.98 58.00 116.10
4-Jul-02 7:35 192 641.63 586.53 73.06 9.66410.51 60.59 27.49 24.08 58.00 116.10

4-Jul-02 7:40 192 633.04 578.74 73.15 10.48408.00 60.58 28.05 24.17 58.00 116.10
4-Jul-02 7:45 Brine returns at surge tank 116.6bbls (calculated rate 48b/d).
4-Jul-02 7:45 192 627.53 572.61 72.67 9.66399.96 60.29 27.60 24.27 48.00 116.60
4-Jul-02 7:50 192 626.71 571.50 72.89 10.48398.68 60.34 27.39 24.37 48.00 116.60
4-Jul-02 7:55 192 625.89 570.77 72.83 10.06398.06 60.42 27.40 24.46 48.00 116.60
4-Jul-02 8:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 8:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S.
4-Jul-02 8:00 Gas SG 0.582. Water SG 1.085 @ 59°F.
4-Jul-02 8:00 Brine returns at surge tank 117.1bbls (calculated rate 48b/d).
4-Jul-02 8:00 192 626.10 571.50 72.68 9.25399.35 60.34 27.38 24.56 48.00 117.10
4-Jul-02 8:05 192 625.28 571.38 72.88 10.06399.78 60.42 27.50 24.65 48.00 117.10
4-Jul-02 8:10 192 626.71 572.30 72.90 10.06400.33 60.45 27.51 24.75 48.00 117.10
4-Jul-02 8:15 Brine returns at surge tank 117.7bbls (calculated rate 58b/d).
4-Jul-02 8:15 192 627.53 573.16 73.17 10.48400.33 60.51 27.55 24.84 58.00 117.70
4-Jul-02 8:19 BJ coiled tubing on depth at 1365mRT.
4-Jul-02 8:20 192 627.12 572.73 72.98 10.06399.29 60.39 27.48 24.94 58.00 117.70
4-Jul-02 8:25 192 626.71 571.13 73.09 10.48397.63 60.58 27.43 25.03 58.00 117.70
4-Jul-02 8:30 Brine returns at surge tank 118bbls (calculated rate 29b/d).
4-Jul-02 8:30 192 630.18 575.18 73.25 10.06401.31 60.55 27.54 25.13 29.00 118.00
4-Jul-02 8:33 BJ coiled tubing commenced pulling out of hole to 892mRT.
4-Jul-02 8:35 192 631.21 576.41 73.42 10.48401.62 60.76 27.68 25.22 29.00 118.00
4-Jul-02 8:40 192 630.18 576.22 73.59 10.48404.75 60.91 27.63 25.32 29.00 118.00
4-Jul-02 8:45 Brine returns at surge tank 118.4bbls (calculated rate 38b/d).
4-Jul-02 8:45 192 622.01 567.39 73.66 10.06395.67 60.98 27.43 25.42 38.00 118.40
4-Jul-02 8:50 192 617.10 562.30 73.47 10.48390.21 60.99 26.98 25.51 38.00 118.40
4-Jul-02 8:55 192 611.17 554.57 73.30 10.48379.91 60.94 26.42 25.60 38.00 118.40
4-Jul-02 9:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 9:00 Brine returns at surge tank 119bbls (calculated rate 58b/d).
4-Jul-02 9:00 192 616.08 560.65 73.30 10.06386.23 60.98 26.34 25.69 58.00 119.00
4-Jul-02 9:05 192 618.53 563.41 73.12 10.06390.21 60.72 26.64 25.78 58.00 119.00
4-Jul-02 9:10 192 618.94 564.08 73.19 10.06391.87 60.74 26.77 25.88 58.00 119.00
4-Jul-02 9:15 Brine returns at surge tank 119.8bbls (calculated rate 77b/d).
4-Jul-02 9:15 192 624.66 569.11 73.11 10.06393.16 60.71 26.92 25.97 77.00 119.80
4-Jul-02 9:20 BJ coiled tubing on depth at 892mRT.
4-Jul-02 9:20 192 623.44 568.50 73.21 10.48395.67 60.74 27.05 26.07 77.00 119.80
4-Jul-02 9:25 192 625.89 571.20 73.06 10.06397.63 60.71 27.10 26.16 77.00 119.80
4-Jul-02 9:30 Brine returns at surge tank 120.4bbls (calculated rate 58b/d).
4-Jul-02 9:30 192 629.36 574.81 72.99 10.48399.29 60.65 27.23 26.25 58.00 120.40
4-Jul-02 9:35 192 628.95 573.77 73.00 10.48401.01 60.59 27.36 26.35 58.00 120.40
4-Jul-02 9:40 192 630.80 575.49 72.93 10.48401.01 60.58 27.56 26.44 58.00 120.40
4-Jul-02 9:45 Brine returns at surge tank 120.9bbls (calculated rate 48b/d).
4-Jul-02 9:45 192 629.77 574.51 72.92 10.48401.80 60.50 27.48 26.54 48.00 120.90
4-Jul-02 9:50 192 629.98 574.63 72.88 10.06401.99 60.54 27.53 26.64 48.00 120.90
4-Jul-02 9:55 192 629.77 574.45 72.89 10.48402.29 60.49 27.61 26.73 48.00 120.90
4-Jul-02 10:00 BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.
4-Jul-02 10:00 Gas SG 0.582. Water SG 1.085 @ 59°F.
4-Jul-02 10:00 Brine returns at surge tank 121.5bbls (calculated rate 58b/d).
4-Jul-02 10:00 192 629.57 574.45 73.10 10.48401.38 60.66 27.59 26.83 58.00 121.50
4-Jul-02 10:05 192 629.77 575.18 72.90 10.48402.23 60.60 27.55 26.92 58.00 121.50
4-Jul-02 10:10 192 629.77 575.06 72.87 10.48401.68 60.56 27.53 27.02 58.00 121.50
4-Jul-02 10:15 Brine returns at surge tank 121.9bbls (calculated rate 38b/d).
4-Jul-02 10:15 192 630.18 574.75 72.94 10.88402.29 60.55 27.61 27.11 38.00 121.90
4-Jul-02 10:20 192 630.80 575.49 72.88 10.88401.99 60.53 27.62 27.21 38.00 121.90
4-Jul-02 10:25 192 630.80 576.16 72.81 10.88402.42 60.51 27.56 27.31 38.00 121.90
4-Jul-02 10:30 Brine returns at surge tank 122.5bbls (calculated rate 58b/d).
4-Jul-02 10:30 192 629.77 575.06 72.84 10.88402.29 60.44 27.60 27.40 58.00 122.50
4-Jul-02 10:35 192 630.39 575.55 72.71 10.06402.11 60.37 27.60 27.50 58.00 122.50
4-Jul-02 10:40 192 631.21 576.10 72.88 11.30402.60 60.56 27.61 27.59 58.00 122.50
4-Jul-02 10:45 Brine returns at surge tank 122.9bbls (calculated rate 38b/d).
4-Jul-02 10:45 192 630.18 575.37 72.95 11.30402.48 60.54 27.65 27.69 38.00 122.90
4-Jul-02 10:50 192 631.00 575.61 72.82 10.88403.03 60.49 27.62 27.79 38.00 122.90
4-Jul-02 10:55 Lifted orifice plate. Closed in well at choke manifold.
4-Jul-02 10:55 0 631.62 576.10 72.76 10.88402.72 60.40 22.13 27.86 0.00 122.90
4-Jul-02 11:00 Inspected junk catcher. Observed small amounts of rock gravel.
4-Jul-02 11:00 Total Brine returns at surge tank 123.4bbls.
4-Jul-02 11:00 0 959.11 2.06 78.63 12.12 3.66 33.00 0.00 27.86 0.00 123.40
4-Jul-02 11:05 0 960.34 1.45 71.93 10.48 2.92 40.89 0.00 27.86 0.00 123.40
4-Jul-02 11:10 0 962.39 1.26 68.56 10.06 2.68 45.70 0.00 27.86 0.00 123.40
4-Jul-02 11:15 0 963.82 1.08 66.23 10.06 2.92 48.83 0.00 27.86 0.00 123.40
4-Jul-02 11:20 0 964.64 1.76 64.27 8.84 3.23 50.74 0.00 27.86 0.00 123.40
4-Jul-02 11:25 0 965.45 1.76 62.67 9.25 2.92 52.00 0.00 27.86 0.00 123.40
4-Jul-02 11:30 0 965.86 1.82 61.35 8.43 3.23 52.81 0.00 27.86 0.00 123.40
4-Jul-02 11:35 0 966.07 1.45 60.23 8.84 2.98 53.35 0.00 27.86 0.00 123.40
4-Jul-02 11:40 0 966.68 1.02 59.51 8.03 3.23 53.93 0.00 27.86 0.00 123.40
4-Jul-02 11:45 0 967.49 1.02 58.87 8.43 2.80 54.33 0.00 27.86 0.00 123.40

4-Jul-02	11:50	0	967.90	1.08	58.29	8.43	2.92	54.64	0.00	27.86	0.00 123.40
4-Jul-02	11:55	0	968.31	2.00	57.17	10.06	0.77	54.90	0.00	27.86	0.00 123.40
4-Jul-02	12:00	0	968.31	1.02	57.44	7.61	2.68	55.07	0.00	27.86	0.00 123.40
4-Jul-02	12:05	0	968.11	1.14	57.20	6.79	2.98	55.38	0.00	27.86	0.00 123.40
4-Jul-02	12:10	0	968.72	1.39	56.97	6.79	3.11	55.63	0.00	27.86	0.00 123.40
4-Jul-02	12:15	0	969.34	1.33	56.77	7.21	3.35	55.74	0.00	27.86	0.00 123.40
4-Jul-02	12:20	0	969.34	1.08	56.63	6.79	3.35	55.92	0.00	27.86	0.00 123.40
-Jul-02	12:25	0	970.16	1.82	56.41	6.39	3.66	55.92	0.00	27.86	0.00 123.40
4-Jul-02	12:30	0	969.54	1.45	56.26	6.39	3.11	56.03	0.00	27.86	0.00 123.40
4-Jul-02	12:35	0	969.75	1.39	56.30	6.79	2.92	56.22	0.00	27.86	0.00 123.40
4-Jul-02	12:40	0	970.36	1.20	56.31	6.39	2.92	56.44	0.00	27.86	0.00 123.40
4-Jul-02	12:45	0	970.56	1.39	56.23	6.79	3.35	56.54	0.00	27.86	0.00 123.40
4-Jul-02	12:50	0	970.97	1.39	56.12	6.79	2.92	56.57	0.00	27.86	0.00 123.40
4-Jul-02	12:55	0	970.56	1.45	56.09	6.39	2.92	56.61	0.00	27.86	0.00 123.40
4-Jul-02	13:00	0	970.97	1.39	56.11	5.98	2.92	56.65	0.00	27.86	0.00 123.40
4-Jul-02	13:05	0	970.77	1.39	56.16	6.39	2.86	56.75	0.00	27.86	0.00 123.40
4-Jul-02	13:10	0	970.77	1.08	56.33	6.39	2.68	56.90	0.00	27.86	0.00 123.40
4-Jul-02	13:15	0	971.58	1.08	56.52	6.39	3.11	57.03	0.00	27.86	0.00 123.40
4-Jul-02	13:20	0	971.99	1.02	56.71	6.79	3.11	57.25	0.00	27.86	0.00 123.40
4-Jul-02	13:25	0	971.99	1.88	56.82	6.39	3.35	57.42	0.00	27.86	0.00 123.40
4-Jul-02	13:30	0	972.40	1.76	56.92	6.39	3.35	57.42	0.00	27.86	0.00 123.40
4-Jul-02	13:35	0	972.20	1.51	56.97	6.39	2.98	57.41	0.00	27.86	0.00 123.40
4-Jul-02	13:40	0	972.61	1.45	56.98	6.39	3.29	57.34	0.00	27.86	0.00 123.40
4-Jul-02	13:45	0	972.81	1.82	56.99	5.98	3.35	57.29	0.00	27.86	0.00 123.40
4-Jul-02	13:50	0	972.61	1.82	57.06	5.98	2.92	57.23	0.00	27.86	0.00 123.40
4-Jul-02	13:55	0	972.61	1.51	57.09	5.98	2.98	57.20	0.00	27.86	0.00 123.40
4-Jul-02	14:00	0	973.02	1.45	57.12	5.98	2.92	57.22	0.00	27.86	0.00 123.40
4-Jul-02	14:05	0	973.02	1.45	57.15	5.98	3.17	57.17	0.00	27.86	0.00 123.40
4-Jul-02	14:10	0	973.22	1.76	57.17	5.98	2.98	57.18	0.00	27.86	0.00 123.40
4-Jul-02	14:15	0	973.43	1.51	57.18	6.39	2.98	57.19	0.00	27.86	0.00 123.40
4-Jul-02	14:20	0	973.63	1.45	57.19	6.39	2.98	57.23	0.00	27.86	0.00 123.40
4-Jul-02	14:25	0	973.22	1.51	57.22	5.57	2.92	57.26	0.00	27.86	0.00 123.40
4-Jul-02	14:30	0	973.43	1.51	57.24	6.39	2.98	57.33	0.00	27.86	0.00 123.40
4-Jul-02	14:35	0	973.63	1.51	57.30	5.98	3.04	57.44	0.00	27.86	0.00 123.40
4-Jul-02	14:40	0	973.63	1.51	57.31	6.39	3.29	57.52	0.00	27.86	0.00 123.40
4-Jul-02	14:45	0	974.04	1.57	57.30	5.57	3.29	57.51	0.00	27.86	0.00 123.40
4-Jul-02	14:50	0	974.04	1.51	57.23	6.39	3.78	57.49	0.00	27.86	0.00 123.40
4-Jul-02	14:55	0	974.45	1.88	57.09	5.98	3.66	57.47	0.00	27.86	0.00 123.40
-Jul-02	15:00	0	975.06	1.88	56.93	6.39	3.72	57.39	0.00	27.86	0.00 123.40
4-Jul-02	15:05	0	975.06	1.82	56.69	6.39	3.66	57.22	0.00	27.86	0.00 123.40
4-Jul-02	15:10	0	974.45	1.88	56.47	6.79	3.23	57.04	0.00	27.86	0.00 123.40
4-Jul-02	15:15	0	975.06	1.51	56.22	6.39	3.66	56.88	0.00	27.86	0.00 123.40
4-Jul-02	15:20	0	975.47	1.82	55.99	6.79	3.72	56.65	0.00	27.86	0.00 123.40
4-Jul-02	15:25	0	975.67	0.53	55.65	5.98	3.96	56.50	0.00	27.86	0.00 123.40
4-Jul-02	15:30	Well opened to Aft flare boom via 16/64" adj choke.									
4-Jul-02	15:30	16	977.92	2.98	53.72	22.34	8.07	56.92	0.00	27.86	0.00 123.40
4-Jul-02	15:31	Increased adj choke to 20/64".									
4-Jul-02	15:32	Increased adj choke to 24/64".									
4-Jul-02	15:34	Increased adj choke to 28/64".									
4-Jul-02	15:35	Increased adj choke to 32/64".									
4-Jul-02	15:35	32	973.43	26.47	54.80	6.79	23.47	55.41	0.00	27.86	0.00 123.40
4-Jul-02	15:36	Diverted flow via 32/64" fixed choke. Diverted flow via test sep.									
4-Jul-02	15:40	32	962.39	224.13	57.55	6.39	210.34	43.12	0.00	27.86	0.00 123.40
4-Jul-02	15:45	32	960.14	346.06	59.48	6.39	337.35	39.71	0.00	27.86	0.00 123.40
4-Jul-02	15:50	32	959.52	374.76	60.42	5.98	368.20	36.92	0.00	27.86	0.00 123.40
4-Jul-02	15:55	32	960.14	366.36	60.86	5.98	360.41	32.62	0.00	27.86	0.00 123.40
4-Jul-02	16:00	Diverted flow via 36/64" adj choke.									
4-Jul-02	16:00	36	959.11	265.04	61.18	6.39	253.39	31.26	0.00	27.86	0.00 123.40
4-Jul-02	16:01	Increased adj choke to 40/64". Ceased methanol injection u/s of choke.									
4-Jul-02	16:03	Increased adj choke to 44/64".									
4-Jul-02	16:05	44	945.21	287.67	62.04	6.39	258.85	31.70	0.00	27.86	0.00 123.40
4-Jul-02	16:07	Diverted flow via 40/64" fixed choke.									
4-Jul-02	16:10	40	948.28	378.25	62.97	9.25	359.00	35.00	0.00	27.86	0.00 123.40
4-Jul-02	16:15	40	943.78	378.19	64.02	7.21	358.38	34.73	0.00	27.86	0.00 123.40
4-Jul-02	16:20	40	943.37	384.08	64.42	7.61	364.88	35.15	6.17	27.88	0.00 123.40
4-Jul-02	16:25	40	942.96	384.63	64.82	7.61	364.95	35.50	9.47	27.92	0.00 123.40
4-Jul-02	16:30	40	943.17	384.88	65.08	7.61	365.80	35.86	9.47	27.95	0.00 123.40
4-Jul-02	16:35	40	942.55	384.75	65.38	7.61	365.31	36.04	9.51	27.98	0.00 123.40
-Jul-02	16:40	40	942.76	384.94	65.61	8.03	365.56	36.31	9.49	28.02	0.00 123.40
-Jul-02	16:45	40	942.55	384.45	65.76	8.03	365.13	36.58	9.50	28.05	0.00 123.40
4-Jul-02	16:50	40	942.55	384.33	65.88	8.03	364.39	36.66	9.50	28.08	0.00 123.40
4-Jul-02	16:55	40	942.14	384.75	66.01	8.43	364.39	36.79	9.50	28.11	0.00 123.40
4-Jul-02	17:00	BS&W = 100% brine pH = 7 ,Cl from refrac 110,000ppm.									
4-Jul-02	17:00	Gas SG 0.582. Water SG 1.085 @ 59°F.									
4-Jul-02	17:00	40	942.35	383.41	66.17	8.84	363.54	36.89	9.51	28.15	0.00 123.40

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4-Jul-02 17:05   40 942.14 385.18  66.32  8.84365.25 37.06    9.51   28.18   0.00 123.40
4-Jul-02 17:10   40 942.55 383.90  66.44  9.25364.39 37.12    9.52   28.21   0.00 123.40
4-Jul-02 17:15   40 942.35 383.53  66.50  8.84363.96 37.25    9.52   28.25   0.00 123.40
4-Jul-02 17:20   40 942.76 384.69  66.37  9.66365.87 37.26    9.53   28.28   0.00 123.40
4-Jul-02 17:25   40 942.35 384.33  66.38 10.06365.19 37.27    9.53   28.31   0.00 123.40
4-Jul-02 17:30 Exal commenced taking 1st PVT sample  No. 1-19 (gas bottle # 2357-C1-F).
4-Jul-02 17:30   40 942.35 385.25  66.39 10.06365.50 37.30    9.52   28.35   0.00 123.40
4-Jul-02 17:35   40 942.35 385.12  66.16 10.88365.74 37.17    9.50   28.38   0.00 123.40
4-Jul-02 17:40   40 941.94 383.22  66.29 10.48363.78 37.16    9.49   28.41   0.00 123.40
4-Jul-02 17:45 Completed taking 1st PVT sample.
4-Jul-02 17:45 Exal commenced taking 2nd PVT sample  No. 1-20 (gas bottle # 3416-C1-F).
4-Jul-02 17:45   40 942.35 384.51  66.38 10.88365.44 37.22    9.50   28.44   0.00 123.40
4-Jul-02 17:50   40 942.14 383.71  66.37 10.48364.58 37.23    9.50   28.48   0.00 123.40
4-Jul-02 17:55   40 941.74 384.94  66.38 10.88365.50 37.10    9.50   28.51   0.00 123.40
4-Jul-02 18:00 Completed taking 2nd PVT sample.
4-Jul-02 18:00   40 941.74 383.53  66.40 11.70364.15 37.10    9.50   28.54   0.00 123.40
4-Jul-02 18:05   40 941.94 383.10  66.38 11.70363.23 37.01    9.48   28.58   0.00 123.40
4-Jul-02 18:10   40 941.53 383.16  66.39 11.70363.23 36.87    9.48   28.61   0.00 123.40
4-Jul-02 18:15   40 941.13 385.12  66.53 11.30365.07 36.87    9.47   28.64   0.00 123.40
4-Jul-02 18:20   40 940.72 383.47  66.50 12.12363.11 36.94    9.52   28.67   0.00 123.40
4-Jul-02 18:25   40 941.33 384.14  66.45 12.52364.27 37.05    9.47   28.71   0.00 123.40
4-Jul-02 18:30   40 941.13 382.79  66.33 12.12362.92 37.06    9.57   28.74   0.00 123.40
4-Jul-02 18:35   40 941.53 384.45  66.16 12.52364.76 36.96    9.43   28.77   0.00 123.40
4-Jul-02 18:40   40 941.13 383.59  66.10 12.52363.84 36.88    9.50   28.81   0.00 123.40
4-Jul-02 18:45   40 940.51 382.98  66.28 12.52363.17 36.92    9.44   28.84   0.00 123.40
4-Jul-02 18:50   40 940.72 382.36  66.60 12.52362.25 36.90    9.46   28.87   0.00 123.40
4-Jul-02 18:55   40 940.51 383.71  66.91 13.34363.41 37.11    9.45   28.90   0.00 123.40
4-Jul-02 19:00 BS&W showed dry gas.
4-Jul-02 19:00   40 940.72 383.90  67.06 12.93363.41 37.32    9.46   28.94   0.00 123.40
4-Jul-02 19:05   40 940.51 383.47  67.20 13.34363.47 37.49    9.43   28.97   0.00 123.40
4-Jul-02 19:10   40 938.87 383.04  67.25 13.34362.86 37.68    9.44   29.00   0.00 123.40
4-Jul-02 19:15   40 938.87 384.39  67.26 12.93364.33 37.77    9.54   29.04   0.00 123.40
4-Jul-02 19:20   40 938.67 383.96  67.31 12.93364.27 37.86    9.41   29.07   0.00 123.40
4-Jul-02 19:25   40 938.46 381.26  67.25 12.93361.27 37.97    9.44   29.10   0.00 123.40
4-Jul-02 19:30   40 938.67 383.90  67.25 12.93363.78 37.97    9.34   29.13   0.00 123.40
4-Jul-02 19:35   40 938.46 382.92  67.29 12.93363.11 37.97    9.47   29.17   0.00 123.40
4-Jul-02 19:40   40 938.46 382.61  67.33 12.93362.98 38.08    9.49   29.20   0.00 123.40
4-Jul-02 19:45   40 938.87 383.90  67.03 13.34365.19 38.01    9.45   29.23   0.00 123.40
4-Jul-02 19:50   40 938.87 383.71  66.94 13.34365.01 37.80    9.46   29.27   0.00 123.40
4-Jul-02 19:55   40 939.28 383.71  66.79 13.75364.39 37.71    9.49   29.30   0.00 123.40
4-Jul-02 20:00 Raised orifice plate.
4-Jul-02 20:00 Diverted flow through 44/64'' adj choke.
4-Jul-02 20:00   40 938.67 379.36  66.77 13.75359.92 37.60    7.56   29.32   0.00 123.40
4-Jul-02 20:01 Increased adj choke to 48/64".
4-Jul-02 20:03 Increased adj choke to 50/64".
4-Jul-02 20:05 Increased adj choke to 56/64".
4-Jul-02 20:05   56 881.84 324.10  66.49 14.16254.25 34.29    0.00   29.32   0.00 123.40
4-Jul-02 20:07 Increased adj choke to 60/64".
4-Jul-02 20:10   60 821.74 359.79  68.06 13.75232.66 39.01    0.00   29.32   0.00 123.40
4-Jul-02 20:11 Increased adj choke to 62/64".
4-Jul-02 20:12 Increased adj choke to 66/64".
4-Jul-02 20:15 Brine returns at surge tank 124.2bbls (calculated rate 77b/d).
4-Jul-02 20:15   66 778.60 415.54  69.06 13.75277.18 41.83    0.00   29.32  77.00 124.20
4-Jul-02 20:18 Diverted flow via 64/64" fixed choke.
4-Jul-02 20:20   64 794.34 424.93  70.33 14.98293.07 43.27    0.00   29.32  77.00 124.20
4-Jul-02 20:23 Installed 3.000" orifice plate into meter run.
4-Jul-02 20:25 Raised orifice plate.
4-Jul-02 20:25   64 797.41 433.14  71.09 14.57308.77 43.96    4.74   29.34  77.00 124.20
4-Jul-02 20:28 Installed 3.25" orifice plate into meter run.
4-Jul-02 20:30 Brine returns at surge tank 125bbls (calculated rate 77b/d).
4-Jul-02 20:30   64 800.07 432.71  71.48 15.80304.84 44.41   12.26   29.38  77.00 125.00
4-Jul-02 20:35   64 799.66 424.86  71.91 14.98295.40 44.46   20.59   29.46  77.00 125.00
4-Jul-02 20:40   64 799.45 424.43  72.20 14.57293.37 44.64   20.58   29.53  77.00 125.00
4-Jul-02 20:45   64 798.43 424.13  72.28 14.98293.31 44.89   20.56   29.60  77.00 125.00
4-Jul-02 20:50   64 798.63 424.01  72.68 14.57293.44 45.17   20.55   29.67  77.00 125.00
4-Jul-02 20:55   64 798.63 424.86  72.63 14.98294.29 45.29   20.54   29.74  77.00 125.00
4-Jul-02 21:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
4-Jul-02 21:00 Gas SG 0.586.
4-Jul-02 21:00   64 799.04 424.99  72.69 14.57295.09 45.45   20.56   29.81  77.00 125.00
4-Jul-02 21:05   64 798.84 425.66  73.00 14.57296.01 45.64   20.52   29.88  77.00 125.00
4-Jul-02 21:10   64 799.66 425.85  73.20 14.98295.77 45.78   20.54   29.95  77.00 125.00
4-Jul-02 21:15   64 800.07 425.91  73.39 14.57295.03 45.96   20.53   30.03  77.00 125.00
4-Jul-02 21:20   64 800.68 426.40  73.58 14.98295.15 46.13   20.55   30.10  77.00 125.00
4-Jul-02 21:25   64 800.68 427.44  73.60 14.57295.71 46.30   20.51   30.17  77.00 125.00
4-Jul-02 21:30 Brine returns at surge tank 125.4bbls (calculated rate 38b/d).
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4-Jul-02 21:30 64 801.70 425.97 73.93 14.16296.69 46.45 20.56 30.24 38.00 125.40
4-Jul-02 21:35 64 800.48 425.60 73.93 14.16295.95 46.59 20.56 30.31 38.00 125.40
4-Jul-02 21:40 64 800.68 425.78 74.02 14.57296.69 46.69 20.53 30.38 38.00 125.40
4-Jul-02 21:45 Brine returns at surge tank 126.2bbls (calculated rate 77b/d).
4-Jul-02 21:45 64 800.27 425.91 74.09 14.57297.06 46.78 20.52 30.45 77.00 126.20
4-Jul-02 21:50 64 800.89 426.46 74.24 13.75296.38 46.88 20.49 30.53 77.00 126.20
4-Jul-02 21:55 64 800.48 425.91 74.28 14.16295.95 47.02 20.53 30.60 77.00 126.20
4-Jul-02 22:00 Brine returns at surge tank 126.7bbls (calculated rate 48b/d).
4-Jul-02 22:00 64 800.89 426.52 74.44 14.16296.07 47.08 20.52 30.67 48.00 126.70
4-Jul-02 22:05 64 800.68 425.85 74.61 14.16296.69 47.30 20.51 30.74 48.00 126.70
4-Jul-02 22:10 64 801.29 425.60 74.71 14.16296.62 47.34 20.51 30.81 48.00 126.70
4-Jul-02 22:15 64 801.29 425.66 74.79 14.16296.38 47.39 20.51 30.88 48.00 126.70
4-Jul-02 22:20 64 801.70 425.78 74.85 13.75296.32 47.53 20.50 30.95 48.00 126.70
4-Jul-02 22:25 64 800.89 425.91 74.80 13.34296.99 47.55 20.52 31.02 48.00 126.70
4-Jul-02 22:30 64 801.70 426.15 74.94 13.75296.62 47.61 20.50 31.09 48.00 126.70
4-Jul-02 22:35 64 802.72 425.91 75.01 13.75296.69 47.67 20.54 31.17 48.00 126.70
4-Jul-02 22:40 64 801.90 425.91 75.09 13.75296.69 47.73 20.51 31.24 48.00 126.70
4-Jul-02 22:45 64 801.29 425.60 75.11 13.75296.01 47.73 20.54 31.31 48.00 126.70
4-Jul-02 22:50 64 801.90 425.29 75.44 13.75295.64 47.95 20.50 31.38 48.00 126.70
4-Jul-02 22:55 64 801.09 424.74 75.42 13.34295.40 47.99 20.48 31.45 48.00 126.70
4-Jul-02 23:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
4-Jul-02 23:00 Draeger showed 1.5 % CO2 by volume,0ppm H2S.
4-Jul-02 23:00 Exal commenced taking 3rd PVT sample No. 1-21 (gas bottle No. 0687-C1-F).
4-Jul-02 23:00 Sample No. 1-22 (0.5 ltr water) and 1-23 (4 ltr water) taken from sep.
4-Jul-02 23:00 Brine returns at surge tank 127.2bbls (calculated rate 48b/d).
4-Jul-02 23:00 64 801.29 424.93 75.39 13.75295.15 47.99 20.49 31.52 48.00 127.20
4-Jul-02 23:05 64 801.90 425.23 75.45 13.75295.89 48.11 20.47 31.59 48.00 127.20
4-Jul-02 23:10 64 802.52 425.72 75.44 13.75295.77 48.11 20.49 31.66 48.00 127.20
4-Jul-02 23:15 Completed taking 3rd PVT sample.
4-Jul-02 23:15 Brine returns at surge tank 127.4bbls (calculated rate 19b/d).
4-Jul-02 23:15 64 801.90 425.05 75.52 13.34295.71 48.14 20.48 31.74 19.00 127.40
4-Jul-02 23:20 64 801.09 425.23 75.59 12.93295.83 48.25 20.47 31.81 19.00 127.40
4-Jul-02 23:25 64 801.50 425.23 75.70 13.75295.95 48.35 20.44 31.88 19.00 127.40
4-Jul-02 23:30 Brine returns at surge tank 127.5bbls (calculated rate 10b/d).
4-Jul-02 23:30 64 800.48 424.62 75.83 12.93295.64 48.48 20.45 31.95 10.00 127.50
4-Jul-02 23:35 64 800.89 424.56 75.75 12.93295.71 48.51 20.47 32.02 10.00 127.50
4-Jul-02 23:40 64 799.86 423.94 75.83 12.93295.22 48.57 20.43 32.09 10.00 127.50
4-Jul-02 23:45 64 799.66 424.19 75.90 12.93295.09 48.69 20.43 32.16 10.00 127.50
4-Jul-02 23:50 64 800.68 424.37 75.61 12.93295.03 48.52 20.43 32.23 10.00 127.50
4-Jul-02 23:55 64 799.45 424.01 75.69 12.93295.09 48.57 20.39 32.30 10.00 127.50
5-Jul-02 0:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
5-Jul-02 0:00 Gas SG 0.586.
5-Jul-02 0:00 Water SG 1.083 @ 52°F.
5-Jul-02 0:00 Brine returns at surge tank 128bbls (calculated rate 48b/d).
5-Jul-02 0:00 64 799.86 424.31 75.80 12.93294.66 48.69 20.39 32.37 48.00 128.00
5-Jul-02 0:05 64 798.63 424.13 75.98 12.93295.03 48.76 20.38 32.44 48.00 128.00
5-Jul-02 0:10 64 799.04 423.88 75.75 12.93295.03 48.81 20.40 32.52 48.00 128.00
5-Jul-02 0:15 Brine returns at surge tank 128.2bbls (calculated rate 19b/d).
5-Jul-02 0:15 64 798.22 423.52 75.72 12.52294.42 48.64 20.35 32.59 19.00 128.20
5-Jul-02 0:20 64 798.84 423.58 76.10 12.12295.15 48.90 20.35 32.66 19.00 128.20
5-Jul-02 0:25 64 797.00 421.12 75.96 12.12291.66 48.89 20.32 32.73 19.00 128.20
5-Jul-02 0:30 Brine returns at surge tank 128.7bbls (calculated rate 48b/d).
5-Jul-02 0:30 64 797.21 421.55 75.99 12.12291.78 48.86 20.34 32.80 48.00 128.70
5-Jul-02 0:35 64 797.82 421.68 76.01 12.52291.96 48.91 20.33 32.87 48.00 128.70
5-Jul-02 0:40 64 796.80 421.37 76.09 12.12291.96 48.99 20.32 32.94 48.00 128.70
5-Jul-02 0:45 Brine returns at surge tank 129.1bbls (calculated rate 38b/d).
5-Jul-02 0:45 64 797.21 421.98 75.99 12.52293.44 49.10 20.27 33.01 38.00 129.10
5-Jul-02 0:50 64 796.80 423.27 76.07 12.52294.48 49.17 20.30 33.08 38.00 129.10
5-Jul-02 0:55 64 797.21 423.02 76.19 12.12294.23 49.23 20.26 33.15 38.00 129.10
5-Jul-02 1:00 BS&W = 100% brine pH = 7 ,Cl from refrac 92,000ppm.
5-Jul-02 1:00 Gas SG 0.586.
5-Jul-02 1:00 Water SG 1.080 @ 54°F.
5-Jul-02 1:00 Brine returns at surge tank 129.3bbls (calculated rate 19b/d).
5-Jul-02 1:00 64 796.39 423.15 76.14 12.52293.99 49.23 20.27 33.22 19.00 129.30
5-Jul-02 1:05 64 796.80 422.90 76.24 12.12294.72 49.32 20.27 33.29 19.00 129.30
5-Jul-02 1:10 64 796.18 423.45 76.08 12.12294.66 49.25 20.27 33.36 19.00 129.30
5-Jul-02 1:15 Brine returns at surge tank 129.4bbls (calculated rate 10b/d).
5-Jul-02 1:15 64 797.00 422.53 76.26 12.12293.68 49.30 20.29 33.43 10.00 129.40
5-Jul-02 1:20 64 796.18 422.90 76.15 12.12294.66 49.38 20.28 33.50 10.00 129.40
5-Jul-02 1:25 64 796.80 423.15 76.29 12.52294.23 49.35 20.26 33.57 10.00 129.40
5-Jul-02 1:30 Brine returns at surge tank 129.8bbls (calculated rate 38b/d).
5-Jul-02 1:30 64 796.80 422.17 76.31 12.12293.68 49.43 20.26 33.64 38.00 129.80
5-Jul-02 1:35 64 797.61 422.78 76.31 12.12293.37 49.40 20.31 33.71 38.00 129.80
5-Jul-02 1:40 64 796.59 422.04 76.17 12.52293.50 49.30 20.31 33.78 38.00 129.80
5-Jul-02 1:45 Brine returns at surge tank 130.2bbls (calculated rate 38b/d).

5-Jul-02 1:45 64 796.18 421.25 76.41 12.52292.52 49.39 20.28 33.85 38.00 130.20
5-Jul-02 1:50 64 795.57 421.61 76.56 12.12292.39 49.54 20.25 33.93 38.00 130.20
5-Jul-02 1:55 64 796.59 422.59 76.64 12.52293.99 49.65 20.25 34.00 38.00 130.20
5-Jul-02 1:59 Raised orifice plate.
5-Jul-02 2:00 BS&W = 100% brine pH = 7 ,Cl from refrac 96,000ppm.
5-Jul-02 2:00 Diverted flow through 66/64'' adj choke.
5-Jul-02 2:00 66 795.77 417.81 76.34 12.12286.94 49.48 12.14 34.04 38.00 130.20
5-Jul-02 2:01 Increased adj choke to 70/64".
5-Jul-02 2:02 Increased adj choke to 74/64".
5-Jul-02 2:03 Increased adj choke to 78/64".
5-Jul-02 2:04 Increased adj choke to 82/64".
5-Jul-02 2:05 Increased adj choke to 86/64".
5-Jul-02 2:05 86 686.20 520.72 74.41 12.12357.65 53.76 0.00 34.04 38.00 130.20
5-Jul-02 2:07 Increased adj choke to 90/64".
5-Jul-02 2:08 Increased adj choke to 94/64".
5-Jul-02 2:09 Increased adj choke to 98/64".
5-Jul-02 2:10 Increased adj choke to 102/64".
5-Jul-02 2:10 102 663.51 543.78 74.52 11.30374.88 56.44 0.00 34.04 38.00 130.20
5-Jul-02 2:11 Increased adj choke to 106/64".
5-Jul-02 2:13 Increased adj choke to 110/64".
5-Jul-02 2:15 118 637.34 537.53 74.34 11.30363.90 58.05 0.00 34.04 38.00 130.20
5-Jul-02 2:17 Increased adj choke to 128/64".
5-Jul-02 2:19 Opened bypass valve on choke manifold.
5-Jul-02 2:20 128 617.10 559.97 73.93 10.48381.69 59.20 0.00 34.04 38.00 130.20
5-Jul-02 2:24 Installed 3.750" orifice plate into meter run.
5-Jul-02 2:25 128 622.62 567.39 74.19 11.30393.77 60.31 8.43 34.07 38.00 130.20
5-Jul-02 2:30 Brine returns at surge tank 131.5bbls (calculated rate 125b/d).
5-Jul-02 2:30 128 619.76 564.14 74.15 11.30388.93 60.51 27.25 34.16 125.00 131.50
5-Jul-02 2:35 128 622.01 565.74 74.47 11.30389.54 60.86 27.13 34.26 125.00 131.50
5-Jul-02 2:40 128 623.44 568.07 74.24 10.48392.36 61.14 27.28 34.35 125.00 131.50
5-Jul-02 2:45 Brine returns at surge tank 132.1bbls (calculated rate 58b/d).
5-Jul-02 2:45 128 625.07 569.42 74.46 11.30394.26 61.32 27.39 34.45 58.00 132.10
5-Jul-02 2:50 128 625.28 569.11 74.44 10.48393.22 61.53 27.42 34.54 58.00 132.10
5-Jul-02 2:55 128 625.07 569.66 74.44 10.48393.52 61.57 27.41 34.64 58.00 132.10
5-Jul-02 3:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
5-Jul-02 3:00 Gas SG 0.586. Water SG 1.082 @ 58°F.
5-Jul-02 3:00 Draeger showed 0.1 % CO2 by volume,0ppm H2S.
5-Jul-02 3:00 Brine returns at surge tank 132.9bbls (calculated rate 77b/d).
5-Jul-02 3:00 128 626.30 570.77 74.58 10.06394.26 61.79 27.46 34.73 77.00 132.90
5-Jul-02 3:05 128 625.48 570.09 74.61 10.48393.03 61.90 27.52 34.83 77.00 132.90
5-Jul-02 3:10 128 625.69 570.52 74.79 10.48394.87 62.08 27.48 34.92 77.00 132.90
5-Jul-02 3:15 Brine returns at surge tank 133.5bbls (calculated rate 58b/d).
5-Jul-02 3:15 128 625.89 570.70 74.77 10.06394.32 62.07 27.60 35.02 58.00 133.50
5-Jul-02 3:20 128 626.71 571.32 74.73 10.88395.98 62.22 27.58 35.11 58.00 133.50
5-Jul-02 3:25 128 626.71 571.44 74.83 10.06395.30 62.26 27.59 35.21 58.00 133.50
5-Jul-02 3:30 Brine returns at surge tank 134.3bbls (calculated rate 77b/d).
5-Jul-02 3:30 128 627.32 571.62 74.93 10.06395.98 62.33 27.64 35.31 77.00 134.30
5-Jul-02 3:35 128 629.77 574.14 75.04 11.30396.04 62.54 27.64 35.40 77.00 134.30
5-Jul-02 3:40 128 627.53 572.11 75.11 10.48396.59 62.54 27.66 35.50 77.00 134.30
5-Jul-02 3:45 Brine returns at surge tank 134.5bbls (calculated rate 19b/d).
5-Jul-02 3:45 128 627.94 572.30 75.04 10.06396.96 62.56 27.70 35.59 19.00 134.50
5-Jul-02 3:50 128 628.95 573.40 74.84 10.48397.33 62.46 27.70 35.69 19.00 134.50
5-Jul-02 3:55 128 629.77 574.20 74.95 10.06398.31 62.59 27.79 35.79 19.00 134.50
5-Jul-02 4:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
5-Jul-02 4:00 Gas SG 0.586. Water SG 1.078 @ 61°F.
5-Jul-02 4:00 Brine returns at surge tank 134.8bbls (calculated rate 29b/d).
5-Jul-02 4:00 128 629.98 574.75 75.11 10.48398.92 62.70 27.81 35.88 29.00 134.80
5-Jul-02 4:05 128 630.39 575.18 75.26 10.48398.43 62.77 27.86 35.98 29.00 134.80
5-Jul-02 4:10 128 630.18 575.00 75.23 10.48399.04 62.89 27.85 36.08 29.00 134.80
5-Jul-02 4:15 Brine returns at surge tank 135.1bbls (calculated rate 29b/d).
5-Jul-02 4:15 128 629.98 574.75 75.20 10.48398.86 62.87 27.90 36.17 29.00 135.10
5-Jul-02 4:20 128 630.39 575.24 75.16 10.48399.29 62.77 27.86 36.27 29.00 135.10
5-Jul-02 4:25 128 630.39 574.88 75.09 10.48398.98 62.77 27.85 36.37 29.00 135.10
5-Jul-02 4:30 Brine returns at surge tank 135.4bbls (calculated rate 29b/d).
5-Jul-02 4:30 128 630.18 575.00 75.03 10.48399.29 62.73 27.87 36.46 29.00 135.40
5-Jul-02 4:35 128 631.41 576.41 75.23 10.06399.23 62.86 27.88 36.56 29.00 135.40
5-Jul-02 4:40 128 630.80 575.61 74.98 10.06399.66 62.65 27.93 36.66 29.00 135.40
5-Jul-02 4:45 Brine returns at surge tank 135.9bbls (calculated rate 48b/d).
5-Jul-02 4:45 128 630.59 575.73 75.33 10.06399.84 62.89 27.94 36.75 48.00 135.90
5-Jul-02 4:50 128 631.21 576.16 75.18 10.06399.72 62.87 27.98 36.85 48.00 135.90
5-Jul-02 4:55 128 631.62 576.22 75.30 10.48400.33 62.93 27.90 36.95 48.00 135.90
5-Jul-02 5:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
5-Jul-02 5:00 Brine returns at surge tank 136.3bbls (calculated rate 38b/d).
5-Jul-02 5:00 128 631.41 576.35 75.20 10.88400.27 62.96 27.91 37.05 38.00 136.30
5-Jul-02 5:05 128 632.02 576.47 75.32 10.48399.66 62.96 27.92 37.14 38.00 136.30

5-Jul-02 5:10 128 631.41 576.22 75.25 10.48400.95 62.91 27.90 37.24 38.00 136.30
5-Jul-02 5:15 Brine returns at surge tank 136.9bbls (calculated rate 58b/d).
5-Jul-02 5:15 128 631.41 576.53 75.30 10.48400.70 62.96 27.91 37.34 58.00 136.90
5-Jul-02 5:20 128 631.62 576.53 75.22 11.30401.01 62.89 27.95 37.43 58.00 136.90
5-Jul-02 5:25 128 631.00 575.98 75.21 10.88400.39 62.93 27.98 37.53 58.00 136.90
5-Jul-02 5:30 Brine returns at surge tank 137.3bbls (calculated rate 38b/d).
5-Jul-02 5:30 128 631.41 576.35 75.33 10.48400.21 62.93 27.98 37.63 38.00 137.30
5-Jul-02 5:35 128 631.82 576.59 75.33 10.48400.21 63.07 27.91 37.72 38.00 137.30
5-Jul-02 5:40 128 631.41 576.28 75.42 10.48400.39 63.10 27.99 37.82 38.00 137.30
5-Jul-02 5:45 Brine returns at surge tank 137.8bbls (calculated rate 48b/d).
5-Jul-02 5:45 128 631.82 576.84 75.28 10.48401.01 63.12 28.00 37.92 48.00 137.80
5-Jul-02 5:50 128 631.82 577.02 75.65 10.88400.64 63.27 27.95 38.02 48.00 137.80
5-Jul-02 5:55 128 632.23 576.96 75.54 10.48400.52 63.26 27.97 38.11 48.00 137.80
5-Jul-02 6:00 BS&W = 100% brine pH = 7 ,Cl from refrac 99,000ppm.
5-Jul-02 6:00 Brine returns at surge tank 138.3bbls (calculated rate 38b/d).
5-Jul-02 6:00 192 631.82 577.02 75.68 10.06400.64 63.30 27.90 38.21 48.00 138.30
5-Jul-02 6:05 192 632.23 577.02 75.48 10.48400.58 63.30 27.93 38.30 48.00 138.30
5-Jul-02 6:10 192 632.02 577.02 75.54 10.48401.62 63.32 27.94 38.40 48.00 138.30
5-Jul-02 6:15 Brine returns at surge tank 138.8bbls (calculated rate 48b/d).
5-Jul-02 6:15 192 632.64 576.96 75.59 10.88401.01 63.30 27.93 38.50 48.00 138.80
5-Jul-02 6:20 192 632.23 577.08 75.64 10.48401.38 63.40 27.96 38.59 48.00 138.80
5-Jul-02 6:25 192 631.82 577.02 75.59 10.06401.38 63.29 28.03 38.69 48.00 138.80
5-Jul-02 6:30 Brine returns at surge tank 139.1bbls (calculated rate 29b/d).
5-Jul-02 6:30 192 631.82 577.08 75.64 10.48401.19 63.46 27.92 38.79 29.00 139.10
5-Jul-02 6:35 192 631.62 577.02 75.65 10.06401.31 63.43 28.01 38.89 29.00 139.10
5-Jul-02 6:40 192 633.45 578.37 75.66 10.48400.64 63.41 27.96 38.98 29.00 139.10
5-Jul-02 6:45 Brine returns at surge tank 139.5bbls (calculated rate 38b/d).
5-Jul-02 6:45 192 631.41 577.02 75.63 10.06401.38 63.39 28.00 39.08 38.00 139.50
5-Jul-02 6:50 192 631.82 576.96 75.66 10.48400.64 63.46 27.98 39.18 38.00 139.50
5-Jul-02 6:55 192 631.21 576.65 75.66 10.06400.27 63.42 28.01 39.27 38.00 139.50
5-Jul-02 7:00 BS&W = 100% brine pH = 6 ,Cl from refrac 100,000ppm.
5-Jul-02 7:00 Gas SG 0.586. Water SG 1.082 @ 63°F.
5-Jul-02 7:00 Brine returns at surge tank 139.8bbls (calculated rate 29b/d).
5-Jul-02 7:00 192 631.62 577.02 75.74 10.48400.58 63.41 27.95 39.37 29.00 139.80
5-Jul-02 7:05 192 632.84 578.13 75.59 10.88402.29 63.42 27.99 39.47 29.00 139.80
5-Jul-02 7:10 192 632.64 577.39 75.53 13.75401.93 63.36 27.99 39.57 29.00 139.80
5-Jul-02 7:15 Brine returns at surge tank 140bbls (calculated rate 19b/d).
5-Jul-02 7:15 192 631.82 576.90 75.64 12.52401.31 63.35 28.01 39.66 19.00 140.00
5-Jul-02 7:20 192 632.84 577.76 75.34 12.93401.68 63.34 28.03 39.76 19.00 140.00
5-Jul-02 7:25 192 632.43 577.14 75.64 13.34401.31 63.43 27.97 39.86 19.00 140.00
5-Jul-02 7:30 Brine returns at surge tank 142bbls (calculated rate 19b/d).
5-Jul-02 7:30 192 632.64 577.51 75.72 13.34401.38 63.46 27.96 39.95 19.00 142.00
5-Jul-02 7:35 192 632.64 577.33 75.72 12.93400.64 63.46 28.01 40.05 19.00 142.00
5-Jul-02 7:40 192 631.82 577.33 75.71 12.93401.56 63.54 28.04 40.15 19.00 142.00
5-Jul-02 7:45 Brine returns at surge tank 142.4bbls (calculated rate 38b/d).
5-Jul-02 7:45 192 632.43 577.70 75.63 12.93401.62 63.41 28.04 40.25 38.00 142.40
5-Jul-02 7:50 192 632.23 577.33 75.82 12.93401.62 63.53 28.02 40.34 38.00 142.40
5-Jul-02 7:55 192 632.84 577.63 75.68 12.12401.50 63.45 28.03 40.44 38.00 142.40
5-Jul-02 8:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
5-Jul-02 8:00 Brine returns at surge tank 142.8bbls (calculated rate 38b/d).
5-Jul-02 8:00 192 633.04 578.06 75.56 12.93401.62 63.46 28.06 40.54 38.00 142.80
5-Jul-02 8:05 192 632.43 577.63 75.58 12.12401.50 63.52 28.00 40.64 38.00 142.80
5-Jul-02 8:10 192 632.64 577.63 75.79 12.52401.31 63.42 27.89 40.73 38.00 142.80
5-Jul-02 8:15 Brine returns at surge tank 143.2bbls (calculated rate 38b/d).
5-Jul-02 8:15 192 632.64 577.82 75.71 12.12401.99 63.57 28.02 40.83 38.00 143.20
5-Jul-02 8:20 192 632.02 577.27 75.64 12.12401.50 63.51 28.00 40.93 38.00 143.20
5-Jul-02 8:25 192 633.25 578.06 75.65 12.52401.19 63.50 28.00 41.02 38.00 143.20
5-Jul-02 8:30 Brine returns at surge tank 143.5bbls (calculated rate 29b/d).
5-Jul-02 8:30 192 632.43 577.57 75.56 12.52401.68 63.43 28.05 41.12 29.00 143.50
5-Jul-02 8:35 192 633.25 578.25 75.56 12.52403.03 63.43 28.02 41.22 29.00 143.50
5-Jul-02 8:40 192 634.48 580.03 75.79 12.12402.66 63.46 28.02 41.32 29.00 143.50
5-Jul-02 8:45 Brine returns at surge tank 144.1bbls (calculated rate 58b/d).
5-Jul-02 8:45 192 631.41 577.21 75.68 12.12401.01 63.50 28.00 41.41 58.00 144.10
5-Jul-02 8:50 192 632.64 578.00 75.81 12.12401.31 63.53 27.94 41.51 58.00 144.10
5-Jul-02 8:55 192 633.66 578.74 75.91 12.12403.21 63.51 28.06 41.61 58.00 144.10
5-Jul-02 9:00 BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.
5-Jul-02 9:00 Gas SG 0.582. Water SG 1.082 @ 63°F.
5-Jul-02 9:00 Brine returns at surge tank 144.6bbls (calculated rate 48b/d).
5-Jul-02 9:00 192 632.84 577.76 75.82 12.52401.38 63.57 28.06 41.71 48.00 144.60
5-Jul-02 9:05 192 632.64 577.76 76.06 12.52401.31 63.62 28.15 41.80 48.00 144.60
5-Jul-02 9:10 192 631.62 577.21 75.86 12.12400.95 63.67 28.07 41.90 48.00 144.60
5-Jul-02 9:15 Brine returns at surge tank 144.8bbls (calculated rate 19b/d).
5-Jul-02 9:15 192 633.66 578.43 75.85 12.12400.64 63.62 28.02 42.00 19.00 144.80
5-Jul-02 9:20 192 632.43 577.39 75.60 12.52401.31 63.52 28.09 42.10 19.00 144.80
5-Jul-02 9:25 192 632.84 577.88 75.85 11.70401.99 63.63 28.15 42.19 19.00 144.80

5-Jul-02	9:30	Brine returns at surge tank 145.2bbls (calculated rate 38b/d).										
5-Jul-02	9:30	192	632.64	577.63	76.18	11.30	401.56	63.86	28.07	42.29	38.00	145.20
5-Jul-02	9:35	192	633.04	578.43	75.88	12.12	401.99	63.74	28.10	42.39	38.00	145.20
5-Jul-02	9:40	192	634.07	578.80	75.99	12.12	402.91	63.68	28.14	42.49	38.00	145.20
5-Jul-02	9:45	Brine returns at surge tank 145.7bbls (calculated rate 19b/d).										
5-Jul-02	9:45	192	633.04	577.76	75.97	11.30	402.29	63.72	28.17	42.58	19.00	145.70
5-Jul-02	9:50	192	633.25	578.06	75.97	12.12	402.54	63.69	28.12	42.68	19.00	145.70
5-Jul-02	9:55	Sample No. 1-24 (0.5 ltr water) taken from sep.										
5-Jul-02	9:55	192	632.23	577.76	75.70	11.30	402.29	63.70	28.20	42.78	19.00	145.70
5-Jul-02	10:00	BS&W = 100% brine pH = 7 ,Cl from refrac 100,000ppm.										
5-Jul-02	10:00	Well shut in at choke manifold.										
5-Jul-02	10:00	0	641.43	580.03	75.30	15.80	400.82	64.59	22.55	42.86	0.00	145.70
5-Jul-02	10:05	0	958.09	0.16	78.78	11.70	3.72	38.88	0.00	42.86	0.00	145.70
5-Jul-02	10:10	0	959.73	0.16	74.79	12.52	2.92	45.08	0.00	42.86	0.00	145.70
5-Jul-02	10:15	0	960.34	0.47	72.50	12.12	2.68	48.51	0.00	42.86	0.00	145.70
5-Jul-02	10:20	0	961.57	0.47	70.63	11.70	2.92	50.57	0.00	42.86	0.00	145.70
5-Jul-02	10:25	0	962.79	0.65	68.81	12.12	4.27	51.86	0.00	42.86	0.00	145.70
5-Jul-02	10:30	0	963.41	0.16	66.98	12.12	3.11	52.81	0.00	42.86	0.00	145.70
5-Jul-02	10:35	0	963.41	0.10	65.47	11.70	2.68	53.43	0.00	42.86	0.00	145.70
5-Jul-02	10:40	0	963.61	0.00	64.13	11.30	2.61	53.96	0.00	42.86	0.00	145.70
5-Jul-02	10:45	0	964.43	0.10	63.08	11.30	2.68	54.48	0.00	42.86	0.00	145.70
5-Jul-02	10:50	0	964.84	0.00	62.05	10.88	2.49	54.81	0.00	42.86	0.00	145.70
5-Jul-02	10:55	0	964.23	0.00	61.39	11.30	2.55	55.17	0.00	42.86	0.00	145.70
5-Jul-02	11:00	0	964.02	0.00	61.04	11.30	2.55	55.69	0.00	42.86	0.00	145.70
5-Jul-02	11:05	0	966.68	0.00	60.88	11.70	2.61	56.43	0.00	42.86	0.00	145.70
5-Jul-02	11:10	0	967.09	0.22	60.45	10.48	2.98	56.93	0.00	42.86	0.00	145.70
5-Jul-02	11:15	0	967.49	0.22	60.09	10.88	2.92	57.19	0.00	42.86	0.00	145.70
5-Jul-02	11:20	0	966.88	0.10	59.69	10.48	2.86	57.46	0.00	42.86	0.00	145.70
5-Jul-02	11:25	0	967.09	0.16	59.42	10.88	2.74	57.71	0.00	42.86	0.00	145.70
5-Jul-02	11:30	0	967.70	0.41	59.18	10.48	2.92	57.91	0.00	42.86	0.00	145.70
5-Jul-02	11:35	0	967.90	0.41	58.97	10.88	2.80	58.02	0.00	42.86	0.00	145.70
5-Jul-02	11:40	0	968.11	0.28	58.76	10.88	2.86	58.06	0.00	42.86	0.00	145.70
5-Jul-02	11:45	0	966.88	0.16	58.74	10.88	2.92	58.34	0.00	42.86	0.00	145.70
5-Jul-02	11:50	0	967.49	0.00	59.02	10.88	2.86	59.02	0.00	42.86	0.00	145.70
5-Jul-02	11:55	0	968.31	0.10	59.40	11.30	2.92	59.77	0.00	42.86	0.00	145.70
5-Jul-02	12:00	0	969.13	0.00	59.64	10.88	2.68	60.53	0.00	42.86	0.00	145.70
5-Jul-02	12:05	0	969.75	0.00	59.79	10.48	2.61	61.14	0.00	42.86	0.00	145.70
5-Jul-02	12:10	0	969.75	0.16	59.90	10.48	2.61	61.73	0.00	42.86	0.00	145.70
5-Jul-02	12:15	0	970.36	0.00	60.05	11.30	2.68	62.31	0.00	42.86	0.00	145.70
5-Jul-02	12:20	0	969.95	0.04	60.20	10.48	2.92	62.77	0.00	42.86	0.00	145.70
5-Jul-02	12:25	0	969.75	0.00	60.38	11.30	2.68	63.21	0.00	42.86	0.00	145.70
5-Jul-02	12:30	0	969.75	0.00	60.49	10.48	2.68	63.58	0.00	42.86	0.00	145.70
5-Jul-02	12:35	0	970.77	0.00	60.63	11.30	2.68	63.81	0.00	42.86	0.00	145.70
5-Jul-02	12:40	0	969.95	0.00	60.70	10.06	2.92	63.92	0.00	42.86	0.00	145.70
5-Jul-02	12:45	0	969.54	0.00	60.77	10.06	2.68	63.81	0.00	42.86	0.00	145.70
5-Jul-02	12:50	0	970.16	0.00	60.82	10.88	2.61	63.69	0.00	42.86	0.00	145.70
5-Jul-02	12:55	0	970.16	0.00	60.81	10.88	2.92	63.62	0.00	42.86	0.00	145.70
5-Jul-02	13:00	0	969.95	0.00	60.80	10.88	2.68	63.57	0.00	42.86	0.00	145.70
5-Jul-02	13:05	0	969.95	0.00	60.81	10.06	2.68	63.45	0.00	42.86	0.00	145.70
5-Jul-02	13:10	0	970.77	0.00	60.91	10.88	2.68	63.23	0.00	42.86	0.00	145.70
5-Jul-02	13:15	0	971.58	0.00	61.07	10.48	2.68	62.97	0.00	42.86	0.00	145.70
5-Jul-02	13:20	0	971.99	0.00	61.18	10.48	2.55	62.98	0.00	42.86	0.00	145.70
5-Jul-02	13:24	BJ coiled tubing commenced pulling out of hole.										

APPENDIX B

Bottomhole Pressure/Temperature Gauge Data (digital format)

Disk 1 : P2 Gauge-Expro Data.zip

P2 EMR.txt	Master Memory Gauge (pressure - psia, temp - °F)
P2 Interface.txt	SRO Interface Gauge (pressure - psia, temp - °F)
P2 SRO-Mem.txt	SRO Memory Gauge (pressure - psia, temp - °F)

Disk 2 : P2 Temperature Log.zip

P2 Temperature Log.txt	Temperature Log Data (temp - °C)

Please refer to the "Appendix 3 data" sub-directory on this CD to view these data files.

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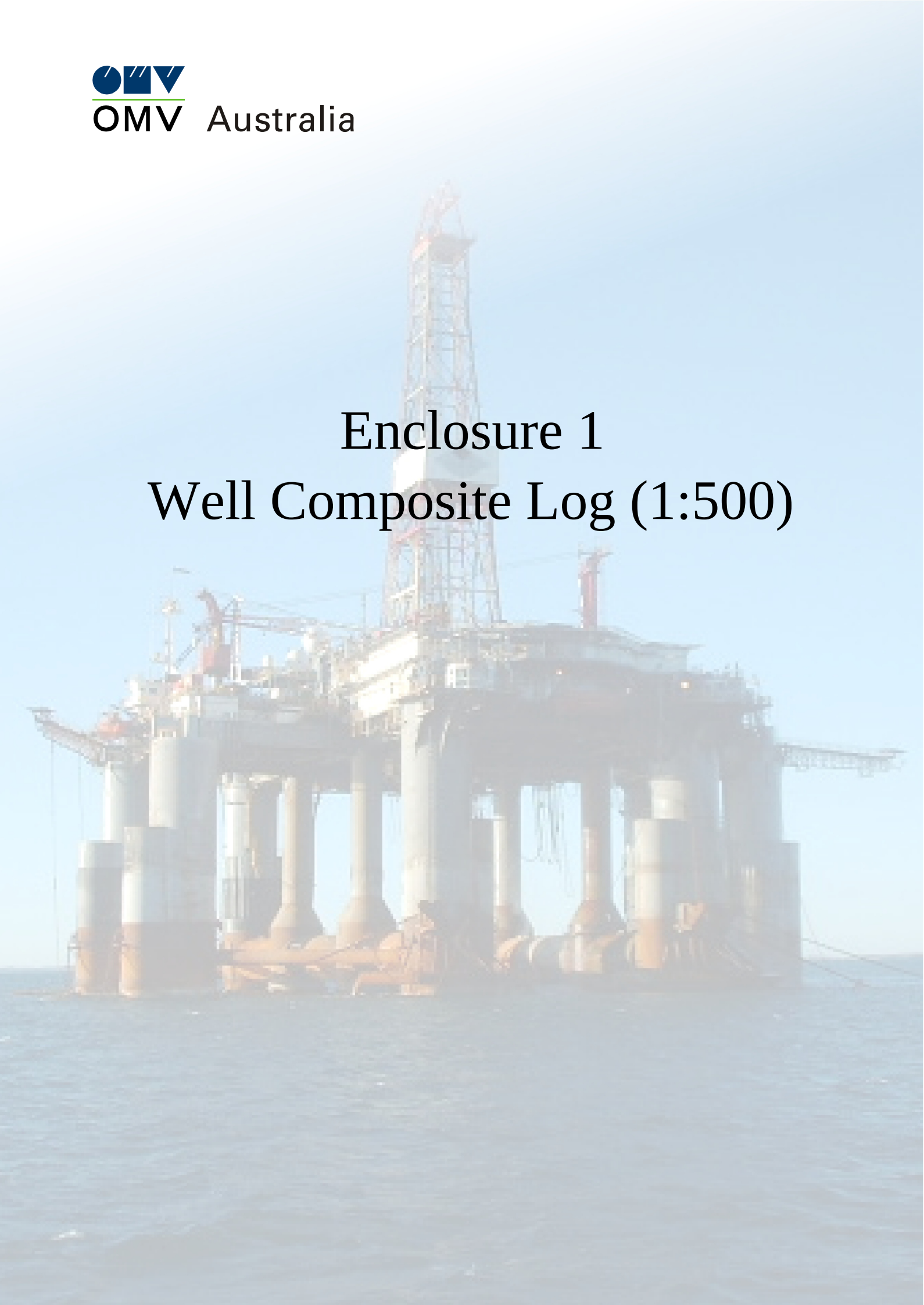


Enclosure 1
Well Composite Log (1:500)

OMV Australia

COMPOSITE WELL LOG

PATRICIA-2

SCALE 1:500

WELL : PATRICIA-2
BASIN : OFFSHORE GIPPSLAND BASIN
PERMIT : VIC/L21

SURFACE LOCATION
LATITUDE : 38° 01' 39.95"S
LONGITUDE : 148° 26' 57.78"E
EASTING : 627207.7 mE
NORTHING : 5790098.7 mN
SPHERICAL DATUM : UTM ZONE 55, CM 147 °E, ANS/AGD 66

SEISMIC STATION : SURFACE: Baleen 3D 2000, Inline 403, Xline 3688

WATER DEPTH : 52.5 m (BLAT), 53.1 m (MSL)
ROTARY TABLE : 25 m (LAT)
NB: LAT is 0.6 BMSL

SPUDDED : 16:00hrs, 20 June 2002
TD REACHED : 01:00hrs, 28 June 2002
RIG RELEASE : 00:45hrs, 09 July 2002

TOTAL DEPTH : 1385 mRT (Driller), 676.2 mTVDSS (Driller)

WELL STATUS : Completed - Production Well

RIG : Ocean Bounty
DRILLING CONTRACTOR : Diamond Offshore
WIRELINE LOGS :
MWD : Sperry Sun
MUD LOGGING : Baker Hughes Inteq
DRILLING METHOD : Horizontal Development

WELLSITE GEOLOGISTS : P. Boothby/R. Tolliday
DRAFTED BY : C.Ellis/M.Gunson
COMPILED / INTERPRETED BY : R.Tolliday/M.Gunson/M.Adamson
FILENAME:

FEWD LOGS

SUITE	RUN No.	LOG	DATE	INTERVAL (m)	MUD TYPE	SALINITY (mg/l) DENSITY (g/cm) VISCOSITY (sec/qt)	Rm (ohmm) at Deg C	Rmf (ohmm) at Deg C	Rmc (ohmm) at Deg C	MAX BHT TEMP °C	CIRC TIME (mins)	TIME SINCE CIRC (hrs)
	1	DGR/EWRP4/DM/DDS (8")	21/06/02	111.5 - 334	Seawater / Hi-Vis	/1.06/100	n/a	n/a	n/a	17	n/a	
	2	DGR/EWRP4/DM/DDS (8")	25/06/02	334 - 884	KCl / PHPA / Glycol	35000/1.08/154	0.18 @ 22	0.12 @ 22	0.28 @ 22	53	n/a	
	3	DGR/EWRP4/SLD/CNP/PM (6-3/4")	28/06/02	884 - 1385	KCl / Flo-Pro	72000/1.12/60	0.10 @ 19.4	0.09 @ 19.4	0.06 @ 19.4	47	n/a	

FLUID SAMPLES

SUITE/RUN - SAMPLE NO.	DEPTH (mRT)	TYPE	VOLUME	RECOVERY
n/a				

PRODUCTION TEST

No.	CHOKE (mm)	DEPTH (mRT)	OIL	GAS	COND.	WATER	GOR
1	no choke, max. flow	896.91 - 1385	n/a	28.2 MMscf/d	n/a	n/a	n/a

OPEN-HOLE RECORD / CASING RECORD

BIT SIZE (mm)	INTERVAL (mRT)	SIZE (mm)	SHOE DEPTH (mRT)
914	77.5 - 111.5	761 x 508	111.5
444	111.5 - 334	340	327.1
311	334 - 884	244	872.4
216	884 - 1385	168	1384.51

CONVENTIONAL CORES

Number	INTERVAL	CUT (m)	RECOVERY (m)	RECOVERY (%)
n/a				

FORMATION SAMPLES

TYPE	DEPTH (mRT)	SAMPLING INTERVAL (m)
Cuttings	334 - 500	5 - 10
Cuttings	500 - 620	5
Cuttings	620 - 640	10
Cuttings	640 - 670	5
Cuttings	670 - 850	10
Cuttings	850 - 890	5
Cuttings	890 - 1380	10
Cuttings	1380 - 1385	5

SIDEWALL CORING SUMMARY

Run No.	Shot	Recovered Sample	Recovered Empty	Lost	Misfired
n/a					

LITHOLOGY

ROCK TYPES: CONGLOMERATE, SANDSTONE, SILTSTONE, CLAYSTONE/SHALE, MARL, SIDERITE, LIMESTONE, CALCILUTITE, CALCARENITE, CALCIRUDITE, CARBONATE, DOLOMITE

ACCESSORIES: GLAUCONITE, PYRITE, CHERT, COAL / CARBONACEOUS MATTER, MICACEOUS, QUARTZ, FELDSPAR, LITHIC FRAGMENTS

FOSSILS: FORAMINIFERA (GENERAL), INOCERAMUS, OOLITHS / OOIDS (GENERAL), RADIOLARIA, SKELETAL / SHELL FRAGMENTS

HYDROCARBON INDICATIONS: LIVE OIL SHOW IN CORE, CUTTINGS, MUD; HYDROCARBON CUT; HYDROCARBON FLUORESCENCE; OIL SHOW WITH FLUORESCENCE AND CUT; DEAD OIL SHOW; GAS SHOW; TESTED GAS SHOW WITH RECOVERY; TESTED OIL SHOW WITH RECOVERY

SIDEWALL CORE; NO RECOVERY; MECHANICAL SIDEWALL CORE; NO RECOVERY; CASING SHOE; CEMENT PLUG; CORED INTERVAL (RECOVERED) (NON-RECOVERY); RFT SAMPLE RECOVERY; RFT PRESSURE: GOOD, LOST SEAL, SUPERCHARGE, DRY TEST, TOOL FAILURE; HOLE GAUGE; HOLE LOSS; PRODUCTION TEST INTERVAL; PERFORATIONS; (1) BHLS/HR STATIC (2) BHLS/HR DYNAMIC

LITHOLOGY DESCRIPTION | BIOZONE | STAGE | SYSTEM

77.5-334 mRT: returns to seafloor.

334-403 mRT: ARGILLACEOUS CALCILUTITE with interbedded ARGILLACEOUS CALCISILTITE
ARGILLACEOUS CALCILUTITE: white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, sticky in part, 10 to 15% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 10 to 25% siliceous clay content, 10 to 20% calcisilt grading to argillaceous calcisiltite, trace fine dark green glauconite.
ARGILLACEOUS CALCISILTITE: white to very light grey, light bluish grey, light olive grey, very soft to soft, amorphous, 10 to 15% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 15 to 35% siliceous clay content, 5 to 10% micrite, trace to 10% very fine to fine calcite grains, grades to argillaceous calcilutite in part, trace fine dark green glauconite.

403-487 mRT: ARGILLACEOUS CALCISILTITE with interbedded CALCILUTITE
ARGILLACEOUS CALCISILTITE: light to light medium grey, light to medium olive grey, trace orange, soft, dispersive in parts, firm in parts amorphous, 5 to 10% fossil fragments (coral debris, bryozoa, spicules, shell fragments, forams), 20 to 35% siliceous clay content, recrystallised calcite in parts, 5 to 10% fine, clear to orange calcite grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to argillaceous calcilutite in part.
CALCILUTITE: very light to light medium grey, light to medium olive grey, soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 15 to 20% siliceous clay content, 5 to 10% calcisilt, trace very fine dark green glauconite, grades to argillaceous calcilutite.

487-506 mRT: MARL with minor ARGILLACEOUS CALCISILTITE
MARL: very light to light medium grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30 to 40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to argillaceous calcilutite.
ARGILLACEOUS CALCISILTITE: light to light medium grey, light to medium olive grey, trace dark grey, soft to occasionally firm, dispersive in parts, firm in parts amorphous, 5% fossil fragments, 20 to 35% siliceous clay content, 5 to 10% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to argillaceous calcilutite.

506-603 mRT: CALCISILTITE with minor interbedded CALCARENITE and MARL
CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to occasionally firm, amorphous, 5% fossil fragments, 10 to 15% siliceous clay content, 10 to 20% fine, clear to orange calcite & recrystallised grains, trace very fine dark green glauconite, trace soft disseminated pyrite, grades to
CALCARENITE: very light to light medium grey, white in parts, soft to firm, amorphous, silt to very fine clear to very light grey calcite grains, 5% fossil fragments, 10 to 15% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.
MARL: very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, 5% fossil fragments and forams, 30 to 40% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, grades to argillaceous calcilutite.

603-691 mRT: ARGILLACEOUS CALCISILTITE with interbedded MARL and minor CALCARENITE
ARGILLACEOUS CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to occasionally firm, trace to 5% fossil fragments, 10 to 25% siliceous clay content, 10 to 20% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated pyrite, grades to calcarenite.
MARL: white to very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 20 to35% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and rare nodular pyrite, commonly grades to argillaceous calcilutite.
CALCARENITE: very light to light medium grey, white in parts, soft to firm, silt to fine, clear to very light grey calcite grains, 5% fossil fragments, 5 to 10% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.

691-721.4 mRT: MARL with minor ARGILLACEOUS CALCISILTITE
MARL: light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5 to 10% fossil fragments and forams, 20 to 40% siliceous clay content grading to calcareous claystone, trace to 5% calcisilt, trace to 5% fine to medium dark green glauconite, trace disseminated and nodular pyrite.
ARGILLACEOUS CALCISILTITE: very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15 to 25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to calcarenite.

721.4-745mRT: MARL: light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, 5 to 10% fossil fragments, 25 to 45% siliceous clay content grading to calcareous claystone, trace to 5% calcisilt, trace to 5% fine to medium dark green glauconite, trace disseminated and nodular pyrite.

745-768 mRT: ARGILLACEOUS CALCISILTITE with minor interbedded MARL
ARGILLACEOUS CALCISILTITE: very light to light medium grey, light to medium olive grey, soft to occasionally firm, trace to 5% fossil fragments,

10 to 25% siliceous clay content, 10 to 20% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated pyrite, grades to calcarenite: very light to light medium grey, white in parts, soft to firm, silt to fine, clear to very light grey calcite grains, 5% fossil fragments, 5 to 10% siliceous clay content, trace very fine dark green glauconite, trace soft disseminated pyrite.
MARL: white to very light to light grey, light to medium olive grey, very soft, dispersive in parts, amorphous, trace to 5% fossil fragments and forams, 20 to 35% siliceous clay content, trace to 5% calcisilt, trace very fine dark green glauconite, trace disseminated and rare nodular pyrite, commonly grades to argillaceous calcilutite.

768-819.4 mRT: CALCAREOUS CLAYSTONE with interbedded MARL with rare ARGILLACEOUS CALCISILTITE and GLAUCONITIC SANDSTONE near the base of interval
CALCAREOUS CLAYSTONE: light to medium greyish brown, light grey, light brownish yellow in parts, soft, amorphous to blocky, 15 to 30% micrite, 0 to 5% calcisilt, 1 to 10% fine to medium dark green glauconite, trace to 5% siderite (?) nodules.
MARL: light grey, light to medium olive grey, minor dark grey, soft, amorphous to blocky, trace to 5% fossil fragments and forams, 20 to 35% siliceous clay content grading to calcareous claystone, trace to 5% calcisilt, 1 to 3% fine to medium dark green glauconite, trace disseminated and nodular pyrite.
GLAUCONITIC SANDSTONE: medium to very dark green, firm, soft in parts, very fine to medium glauconite grains, sub-angular to sub-rounded.
ARGILLACEOUS CALCISILTITE: very light to medium grey, light to medium olive grey, soft to occasionally firm, blocky, trace to 5% fossil fragments, 15 to 25% siliceous clay content, 10 to 15% fine grained calcite & recrystallised grains, trace very fine dark green glauconite, trace disseminated and nodular pyrite, grades to calcarenite.

819.4-842.8 mRT: SILTY SANDSTONE with rare CALCAREOUS CLAYSTONE
SILTY SANDSTONE: light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, sub-angular to sub-rounded, poorly to moderately sorted, 15 to 25% quartz silt, 5 to 15% argillaceous content, 1 to 3% glauconite, trace to 1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.
CALCAREOUS CLAYSTONE: light to medium greyish brown, light grey, light brownish yellow, soft, firm in parts, amorphous to blocky, 10 to 25% micrite / calcareous content, 5 to 10% calcisilt, 5 to 15% fine to medium dark green glauconite. Grades to claystone.

842.8-887mRT: SILTY SANDSTONE: light to dark yellowish brown, loose and friable, minor firm, clear to translucent quartz grains, very fine to fine, sub-angular to sub-rounded, poorly to moderately sorted, 15 to 25% quartz silt, 5 to 15% argillaceous content, 1 to 3% glauconite, trace to 1% mica, trace to 5% siderite nodules, trace multicoloured lithics, fair to good inferred porosity, no fluorescence.

887-958.6 mRT: Massive SILTY SANDSTONE: light to dark yellowish brown, greyish brown, loose and friable to hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub-angular to sub-rounded, 15 to 30% quartz silt, 5 to 15% argillaceous content, trace to 2% glauconite, trace to 1% mica, trace to 8% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to very good inferred porosity, no fluorescence.

958.6-1060.8 mRT: SILTY SANDSTONE grading to SANDSTONE
SILTY SANDSTONE: light to dark yellowish brown, greyish brown, loose and friable to rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub-angular to sub-rounded, 15 to 25% quartz silt, 5% argillaceous content, trace to 1% glauconite, trace to 1% mica, trace to 10% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence.
SANDSTONE: light to dark yellowish brown, greyish brown, loose and friable to rare hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, sub-angular to sub-rounded, 5 to 15% quartz silt, trace to 5% argillaceous content, trace to 1% glauconite, trace to 1% mica, trace to 10% siderite nodules, trace multicoloured lithics, nil to trace forams, fair to good inferred porosity, no fluorescence.

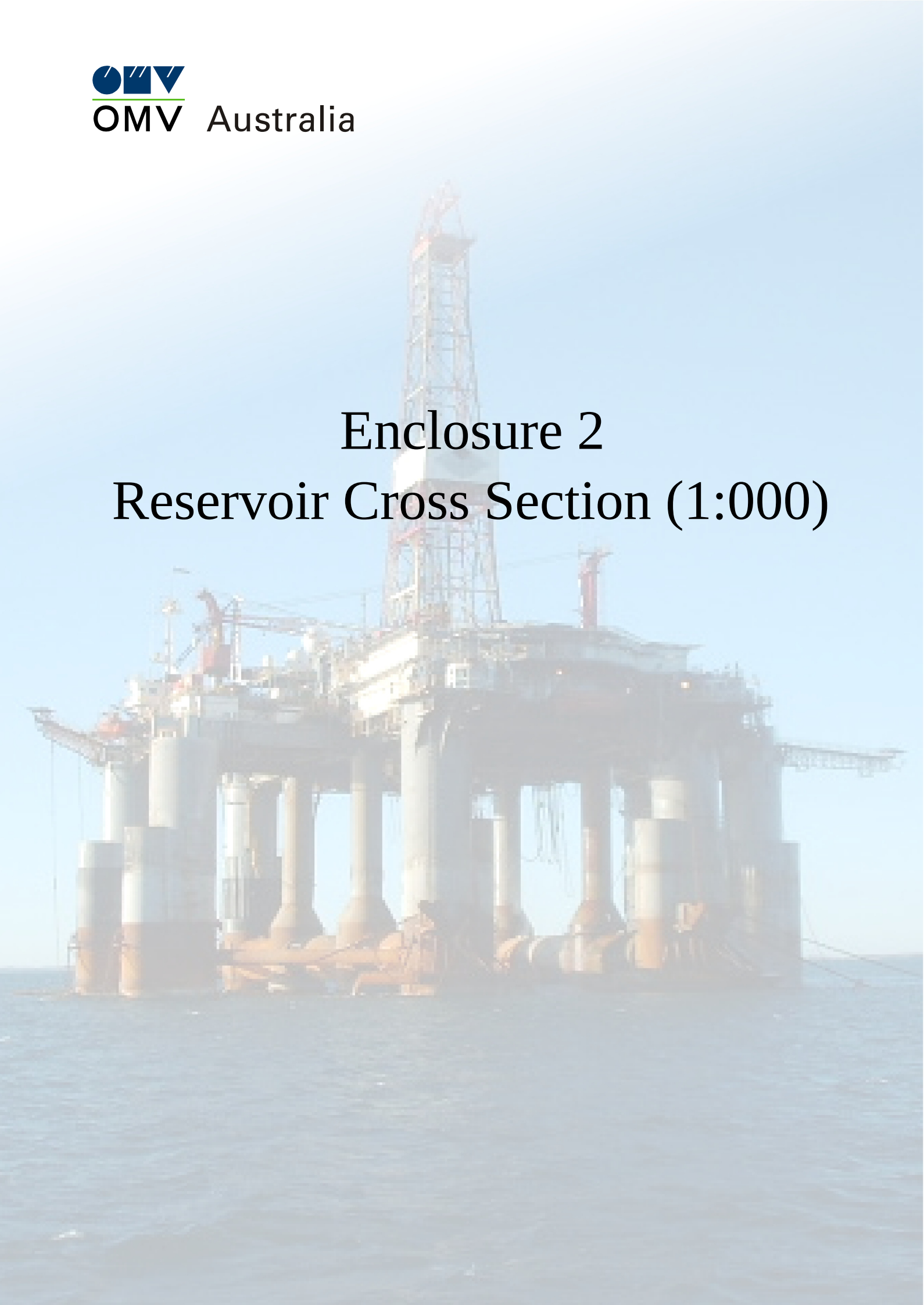
1060.8-1168.2 mRT: Massive ARGILLACEOUS / SILTY SANDSTONE: light to dark yellowish brown, medium greyish brown, 5 to 10% friable to hard cemented siderite aggregates, clear to translucent quartz grains, very fine to fine, trace medium, poorly to moderately sorted, angular to sub-rounded, 20 to 30% quartz silt, 15 to 25% argillaceous content, trace to 1% glauconite, trace to 1% mica, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.

1168.2-1290.8 mRT: SILTY SANDSTONE grading to ARGILLACEOUS/SILTY SIDERITIC SANDSTONE
SILTY SANDSTONE: light to dark yellowish brown, medium greyish brown, dominantly loose and friable, trace hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub-rounded, 15 to 25% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace to 2% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.
ARGILLACEOUS/SILTY SIDERITIC SANDSTONE: light to commonly dark yellowish brown, dark greyish brown, dominantly loose and friable, common hard cemented (siderite?) aggregates, clear to translucent quartz grains, very fine to fine, rare medium, poor to moderately sorted, angular to sub-rounded, 15 to 20% quartz silt, 15 to 30% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 1% mica, 15 to 25% siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair inferred porosity, no fluorescence.

1290.8-1385 mRT (TD): Massive SANDSTONE grading in parts to ARGILLACEOUS SANDSTONE
SANDSTONE: light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub-rounded, 10 to 15% quartz silt, 10% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, good inferred porosity, no fluorescence.
ARGILLACEOUS SANDSTONE: light to medium yellowish brown, medium greyish brown, dominantly loose and friable, clear to translucent quartz grains, very fine to fine, moderately sorted, angular to sub-rounded, 10 to 15% quartz silt, 15 to 30% argillaceous content (suspect clay content being dispersed into mud system), trace to 1% glauconite, trace to 2% mica, trace to 5% dark yellowish brown siderite nodules, trace multicoloured lithics, trace nodular pyrite, nil to trace forams, fair to good inferred porosity, no fluorescence.

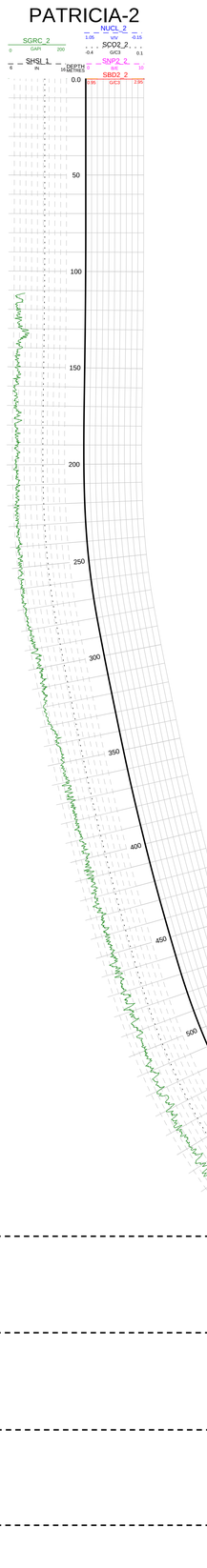
BIOZONE: SG2, SG3, SG4, SG4_up, SG3_up
STAGE: EARLY MIOCENE TO RECENT; LATE OLIGOCENE; MIDDLE EOCENE
TERTIARY

OMV Australia



Enclosure 2
Reservoir Cross Section (1:000)

PATRICIA-2 DEVIATION SECTION



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ENCLOSURE 2

RESERVOIR CROSS-SECTION

Datum: Depth	Vertical Scale: 1:1000	Author: madamson
Top Limit: 0.0	Vertical Units: METRES	Date: 22-Jul-2002
Bottom Limit: 1385.0	Horizontal Scale: 1:1000	Time: 09:46:25
Vertical Reference: DEPTH	Horizontal Units: METRES	patricia-2_deviated_section

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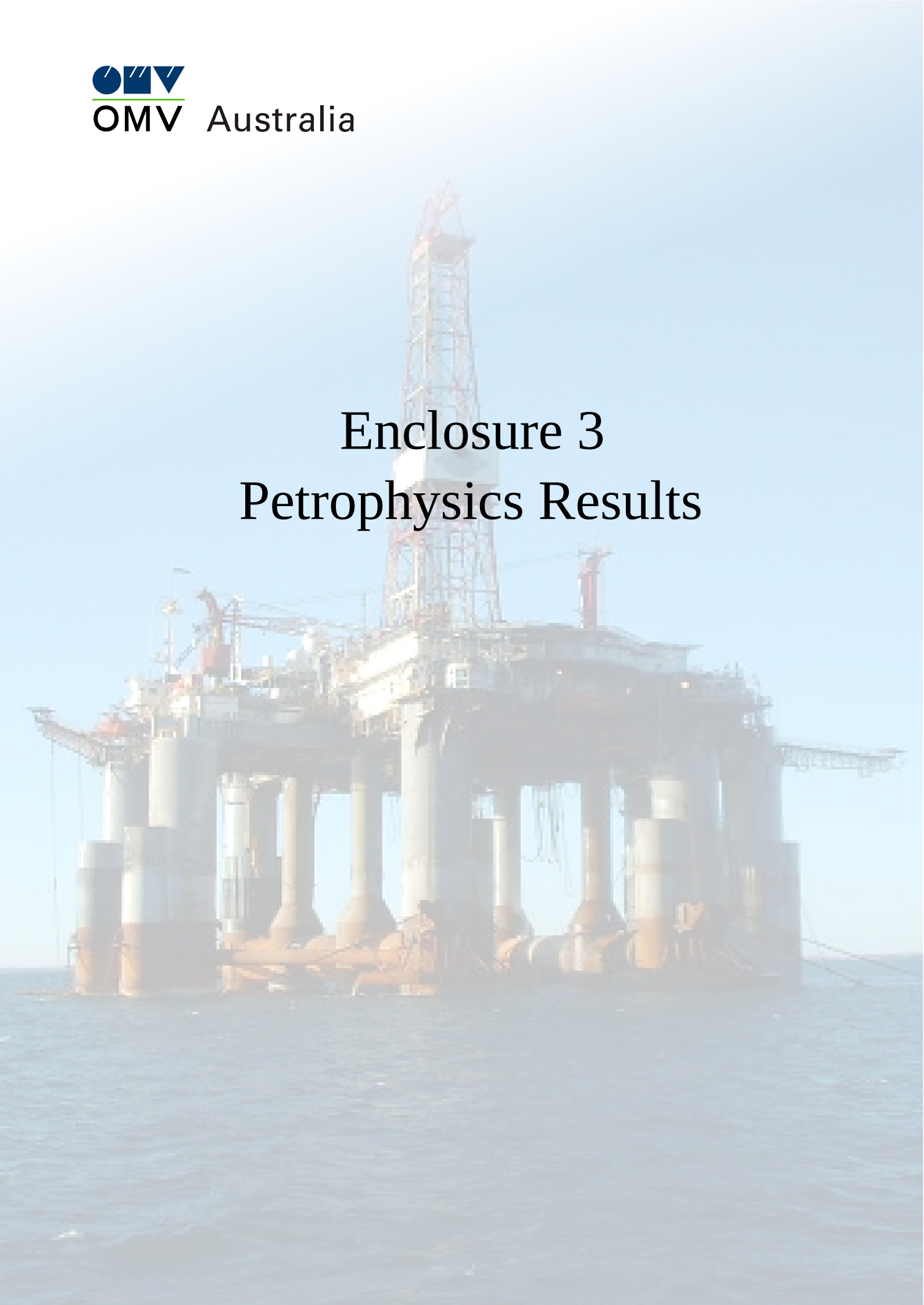

Enclosure 3
Petrophysics Results

OMV Australia

Petrophysics

Well: PATRICIA-2

COMPANY: OMV

LOCATION: N.W.S.

LATITUDE: 038° 01' 39.95" S

LONGITUDE: 148° 26' 57.78" E

X COORDINATE: -

Y COORDINATE: -

HORIZONTAL UNITS: METRES

DATE PLOTTED: 02-Jul-2002

DATUM FOR ELEVATION: DF

WATER DEPTH: 52.56

MEASUREMENT REF.: DF

ELEVATION MEAS. REF.: 25.00

DRILLED DEPTH: 1385.00

VERTICAL UNITS: METRES

DATE LOGGED: 28/06/02

VERTICAL SCALE: 1:500