PEL 115 COOPER BASIN – SOUTH AUSTRALIA

CANBERRA 1A FORMATION EVALUATION

Operator: Victoria Petroleum NL
Level 36 – 2 The Esplanade
Perth, WA 6000

Prepared by
D M Harrison & Associates
17 Booreeco Court
Carindale, QLD 4152
Email: dennis.harrison@bigpond.com

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EXECUTIVE SUMMARY

A full formation evaluation of Canberra 1A was undertaken as it was considered important given the differing opinions of the potential of the well bore to deliver hydrocarbons subsequent to the Mosaic Oil N.L. farm-in deal.

Mosaic Oil N.L. maintained that there is the possibility of bypassed pay due to mud flushing hydrocarbons away from the wellbore in the better reservoirs within the Patchawarra Formation in particular. They are to conduct through casing testing to evaluate this possibility.

The formation evaluation results within this report do not support the completion of the well and it is considered unlikely that any significant conventional hydrocarbons within clastic section have been bypassed.

Shaley sand log analysis has indicated possible log pay in five Patchawarra sands averaging only 0.5m in thickness and one 0.23m thick Epsilon sand. Such log pay would not constitute an economic completion.

Overall sand development in both prospective formations is poor and the log pay is not supported by the other qualitative SWC and mudlog data.

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1. Introduction

A formal log analysis and formation evaluation of the Canberra 1A well logs and related data has been undertaken. This was considered important given the differing opinions of the potential of the well bore to deliver hydrocarbons subsequent to the Mosaic Oil N.L. farm-in deal.

The primary objective for the Canberra 1A well was Patchawarra Formation stratigraphically trapped hydrocarbons associated with a seismic spectral anomaly on the western flank of the Barcooloo-Pelketa_Airacobra High trend. The Epsilon Formation reservoirs were considered a secondary objective. The following formation evaluation reviews the potential of the well bore in that sequence, first the primary objective and then the secondary objective,

2. Log Suite Available

The Baker-Atlas Grand Slam log suite was run in Canberra 1A. The grand slam suite included the MLL/DLL/DAC/GR/SP combination (Microlaterolog/Caliper/Dual laterolog/Digital Acoustic Log/Gamma Ray/Self Potential) and the Neutron-Density (CNC/ZDEN & PE) logs. In addition 25 side wall cores were shot and recovered and one MDT pressure point and attempted fluid recovery was made.

3. Methodology

Log interpretation method used a deterministic approach. The following steps were undertaken for each zone:

(a) Pre-interpretation activities to determine quality of information. Preliminary N-D cross-plots established the cleaner sand intervals and the fact that a shaley sand analysis would be required. Caliper and drho logs were examined to determine bad hole. This was not an issue as hole was in gauge and very good through the zone of interest.

(b) As discussed above, there were two zones of interest that required interpretation,
- the Patchawarra Formation from 2285m – 2393.5m
- the Epsilon Formation from 2120m – 2210m

(c) Coals were recognized and eliminated from the analysis on the basis of DT >=85. Shoulder bed effects near coals were examined as to their likely reality. A number of spurious density log values were eliminated associated with coal bed shoulders.

(d) Shaliness was determined using the GR log. GRmin and GRmax were selected by plotting the clastic section (minus the coals) of the zone of interest. These values were then applied to each data point to determine Vshgr.

(e) The shale parameters, Rsh and Dtsh were selected statistically as the most commonly occurring value within the shale population. The shale population was assessed as being where GR >100 api units. These parameters are required for the shaley sand Sw equations.

(f) Rw was estimated using the Rwa minimum method. Care was taken in selecting this parameter that the Rwa related to the cleanest sand. This was determined using an Rwa/GR cross-plot.

(g) Similarly, Ro – the resistivity of a 100% water saturated sandstone, was determined using an Rwa/Rdeep cross-plot. Ro is used in the Archie Sw determination and in some of the subsequent shaley sand equations.

(h) Porosity was determined using the sonic log corrected for shale and is referred to as Phisc. The sonic derived porosity seemed to be more stable than neutron-density derived porosities.

(i) Water saturation (Sw) was calculated using a number of equations and then a judgement was made as to which of the equations was mathematically the most stable and which seemed to match the other well data (SWC and mud log data) the best.
Sw equations used were:
Archie
Indonesian
Simandoux
DeWitte (Hossin)
DeWitte Dispersed Shale
Poupon Laminated Shale
Doll

(j) Net sand and net pay summaries were then prepared and the results discussed. The following cut-offs were applied:
- Gross Sand where Vshgr <=45%
- Net Sand where phisc <=8%
- Net Pay where Sw <=50%

(k) Depth correction between loggers and drillers depth was determined to be:
Loggers Depth = Drillers Depth + 1.8m

4. Patchawarra Formation

4.1 Temperature Zone of Interest

Determined to be 242^{o} F (refer Table 1).

4.2 Observations Independent of Electric Logs

Mud log gas values varied from 150 to 200 gas units with gas homologues up to nC5. Major gas peaks above this background were associated with coals and carbonaceous material.

Fifteen SWC's, SWC 5 to SWC 19, were collected in the Patchawarra Formation. Full descriptions are contained in Appendix 1. Of these only one, SWC 18 at 2299.0m, displayed any fluorescence. This SWC had a maximum of 20% dull yellow, patchy fluorescence with very slow diffuse yellow cut and thick moderately bright yellow residue ring. This coincided with up to 30% fluorescence described in cuttings from 2298.8 – 2302.8m (L). The log analysis shows this interval contains no gross sand.

Further fluorescence was observed in cuttings from 2314.3 – 2318.8 m (L). This consisted of 20% fluorescence from 2314.3 – 2316.8m and declining to 10% fluorescence from 2316.8 – 2318.8m. This fluorescence was not seen in SWC 15 taken within this interval. It will be shown by the log analysis that the 10% fluorescence coincides with a thin (0.7 m) thick sandstone indicated to be wet using Sw_Archie but maybe pay using the Sw_DeWitte shaley sand equation. The 20% fluorescence coincides with the overlying non-reservoir shale.

So, the two best fluorescing intervals within the Patchawarra Formation would appear to be related to tight non-reservoir section.

Several attempts were made to recover fluid using the FMT tool within the sand from 2306 – 2310.6m. This sand is the best sand interval intersected in the Patchawarra Formation in Canberra 1A. Sample attempts were made from 2306.9 – 2307.25m. No fluids were recovered but from the pressure data build ups it was concluded that reservoir permeability was from 0.5mD to 0.7mD. This is type 1D rock (using the Sneider rock typing scale). This is marginal reservoir rock for gas but would be considered tight to very low permeability for an oil reservoir. There was no coincident fluorescence associated with the SWC (SWC16 – 2307m) taken from this sand.

The other observation to make on the SWC's is that any potential reservoir sections within the Patchawarra Formation are dominated by very fine grained sandstone with some fine grained sandstone. Again the best reservoir is indicated to be within the 2306 – 2310.6m sand where sandstone grain size up to medium grain was observed in SWC 16.

4.3 Selection of Shale Parameters

GRmin and GRmax were determined to be respectively 45 and 225 API units (refer Figure 1). Vshgr was calculated using these parameters.

Rshale was determined to be 45 ohm-metre (refer Figure 2).

DTshale was determined to be 70 ohm-metre (refer Figure 3).

4.4 Rw

Using the Rwa minimum method Rw was determined to be 0.268 at 242^o F (refer Figure 4). This equates to 6500ppm NaCl equivalent. This agrees well with nearest recovered water on DST from Keeto 1 which was from 5000 to 6000ppm NaCl equivalent.

4.5 Ro

Entering a cross-plot of Rwa versus Rdeep a Ro of 32 ohm-metre was determined (refer Figure 5).

4.6 Sw

The above determined paramters were entered in the seven Sw equations referred to in the methodology section. As a means of interpreting the most suitable Sw equations that might apply to the zone of interest the shaley sand Sws were cross-plotted against the Archie Sw and a correlation co-efficient determined for the association (refer Figure 6). This is not necessarily the best means of determining this as arguably the association is not linear, being greater the higher the shaliness but nevertheless assists in making an interpretative judgement.

4.7 Presentation of Results

Full log analysis spreadsheet output for the gross sandstone intervals in the Patchawarra Formation are presented in Appendix 2. Gross sand, net sand and net pay are then summarized in the pay summary table, Table 2. In the comments column of the net pay section reference numbers are made against possible pay sands. These same reference numbers appear on the graphic log output of Enclosure 1. SWC locations are also illustrated on Enclosure 1. Colour coding on Enclosure 1 is:

Vsh <= 45% pale yellow

Phisc >= 8% light brown

Sw_DeWitte <=50% light brown

Net pay requires all three shadings to be present over the one interval.

4.8 Interpretation of Results

Referring to table 2 it can be observed that there is 24.15m of gross sand contained within 19 individual sands. Sands range in thickness from 0.23m to 3.95m (average 1.27m). This is a sand poor Patchawarra section and not what was anticipated for the well. Only four sands exceed 2m in thickness. Ten of the gross sands have porosity exceeding the cut-off value and are therefore regarded as net sand. 10.89m of net sand is indicated. All of these sands exceed

50%Sw_Archie (clean sand Sw). Seven of the sand intervals are indicated to have possible pay as they have shaley sand Sw (Sw_Dewitte) less than 50%. Two of these pay sands are discounted (refer discussion below). With the two discounted pay sands, there is only 2.51m of possible log pay indicated and average pay per sand interval is only 0.5m.

The Sw_Dewitte equation was selected as being the best shaley sand equation to use for the Patchawarra Formation. The (Hossin)/DeWitte equation has a good correlation co-efficient with the Archie equation and advances a modicum of sand to pay consistent with the shaliness of the sands and the other qualitative SWC and mud log data. Referring to Figure 6 the other shaley sand equations were considered unlikely and unrepresentative on the following basis:

- the Simandoux equation is far too optimistic, it sees all sand as pay with very low Sw's.
- the Indonesian equation has a very low correlation co-efficient with the Archie equation and advances too much sand to pay.
- the DeWitte Dispersed Shale equation also has a very low correlation co-efficient with the Archie equation and advances too much sand to pay.
- the Poupon Laminated Shale equation has a reasonable correlation co-efficient with the Archie equation but advances high water saturations unrealistically well above 100%.
- The Doll equation would be a reasonable selection. It is consistent with the DeWitte equation but the Dewitte equation was selected as it enjoys a better correlation co-efficient with the Archie equation. *(note here however that the Doll equation was selected as the most appropriate equation for the Epsilon Formation in the subsequent sectional analysis).*

The merits of each of the possible log pay intervals are now reviewed:

(1) Thin 0.53m of possible pay in poor , shaley, and tight reservoir(as indicated by the poor separation of the Rdeep and Rmedium logs).

(2) & (3) These are discounted as pay as the log pay is interpreted to be due to shoulder bed effects at both the top and the base of the sand which are separated by water wet sand in better reservoir between the two shoulders.

(4) This log pay is also discounted as it is indicated to be overlain by water wet sand. This water wet sand is within the thickest and best sand interval intersected in the Patchawarra Formation in the well from 2305.8m – 2309.6m. This sand was discussed above in section 4.2. SWC 16 showed no fluorescence and the attempted FMT indicated reservoir permeability to be of the order of 0.5-0.7mD.

(5) This is a possible thin, 0.53m, pay sand separated from the good, but wet overlying sand by a thin seal interval.

(6) Another possible 0.53m pay interval. As discussed above in Section 4.2 no fluorescence was detected in SWC 15 from this sand although fluorescence was indicated in cuttings from this interval.
(7) A thin, 0.46m, possible pay interval at the top of this coarsening upward lacustrine sequence. Not supported by SWC 13.
(8) A possible 0.46m pay sand contained within two coal seams.

5. Epsilon Formation

5.1 Temperature Zone of Interest

Determined to be 221^{o} F (refer Table 3).

5.2 Observations Independent of Electric Logs

Mud log gas values varied from 50 to 100 gas units, increasing downhole with gas homologues up to nC5 opposite coals. Significant gas peaks above this background were associated with coals and carbonaceous material.

Six SWC's, SWC 20 to SWC 25, were collected in the Epsilon Formation. Full descriptions are contained in Appendix 1. There was no fluorescence displayed in any of these SWCs.

In the cuttings, trace fluorescence was seen from 2180.8 - 2183.8m (L) and 20% moderately bright to dull yellow, patchy to spotted fluorescence with slow to diffuse yellow cut with a thick ring residue was seen from 2183.9 – 2189.8m (L). SWC's 21 and 22 were taken within this interval and they did not confirm the cuttings fluorescence show. It will be shown that the shaley sand analysis (Sw_Doll) indicates 0.23m of pay from 2185.6 – 2186.0m in this interval. SWC 22 at 2185.5m, just above the pay interval is described as consisting of arenaceous siltstone grading to vfg sandstone.

The other observation to make on the SWC's is that any potential reservoir sections within the Epsilon Formation are dominated by very fine grained sandstone with some fine grained sandstone.

5.3 Selection of Shale Parameters

GRmin and GRmax were determined to be respectively 39 and 200 API units (refer Figure 7). Vshgr was calculated using these parameters.

Rshale was determined to be 33 ohm-metre (refer Figure 8).
DTshale was determined to be 73 ohm-metre (refer Figure 9).

5.4 Rw

Using the Rwa minimum method Rw was determined to be 0.218 at 221^{o} F (refer Figure 10). This equates to 8700ppm to 9000 ppm NaCl equivalent. This is a more saline result than the underlying Patchawarra Formation but is consistent with a lacustrine depositional environment for the Epsilon Formation.

5.5 Ro

Entering a cross-plot of Rwa versus Rdeep a Ro of 8.5 ohm-metre was determined (refer Figure 11).

5.6 Sw

The above determined parameters were entered in the seven Sw equations referred to in the methodology section. As a means of interpreting the most suitable Sw equations that might apply to the zone of interest the shaley sand Sws were cross-plotted against the Archie Sw and a correlation co-efficient determined for the association (refer Figure 12). This is not necessarily the best means of determining this as arguably the association is not linear, being greater the higher the shaliness but nevertheless assists in making an interpretative judgement.

5.7 Presentation of Results

Full log analysis spreadsheet output for the gross sandstone intervals in the Epsilon Formation are presented in Appendix 3. Gross sand, net sand and net pay are then summarized in the pay summary table, table 4. In the comments column of the net pay section reference numbers are made against possible pay sands. These same reference numbers appear on the graphic log output of Enclosure 2. SWC locations are also illustrated on Enclosure 2. Colour coding on Enclosure 1 is:

Vsh <= 45% pale yellow

Phisc >= 8% light brown

Sw_Doll <=50% light brown

Net pay requires all three shadings to be present over the one interval.

5.8 Interpretation of Results

Referring to table 4 it can be observed that there is 10.72m of gross sand contained within 10 individual sands. Sands range in thickness from 0.23m to 1.83m (average 1.07m). Sand development is poor and the section is dominated by overbank floodplain and/or lacustrine deposits. Only four sands exceed 1m in thickness. Of these ten gross sands seven are indicted to be water wet and one has no net sand (in excess of 8% porosity). Two of the sand intervals are indicated to have possible pay as they have shaley sand Sw (Sw_Doll less than

50%. There is only 0.61m of possible log pay indicated in these two sands and average pay per sand interval is only 0.3m.

The Sw_Doll equation was selected as being the best shaley sand equation to use for the Patchawarra Formation. The Doll equation has a moderate correlation co-efficient with the Archie equation and advances a modicum of sand to pay consistent with the shaliness of the sands and the other qualitative SWC and mud log data. Referring to Figure 12 the other shaley sand equations were considered unlikely and unrepresentative on the following basis:

- the Simandoux equation is far too optimistic, it sees all sand as pay with very low Sw's.
- the Indonesian equation has a low correlation co-efficient with the Archie equation and advances too much sand to pay.
- the DeWitte Dispersed Shale equation also has a moderate correlation co-efficient with the Archie equation but advances too much sand to pay.
- the Poupon Laminated Shale equation has a very low correlation co-efficient with the Archie equation but advances high water saturations unrealistically well above 100%.
- The DeWitte equation has a low correlation co-efficient with the Archie equation and advances high water saturations unrealistically well above 100%.

The merits of each of the possible log pay intervals are now reviewed:

(9) Can be ignored as it is overlain by water wet sand of better reservoir quality.

(10) Indicated to be the only valid log pay interval in the Epsilon Formation but SWC 22 taken immediately above the pay interval and described as arenaceous siltstone had no associated fluorescence.

Examination of Enclosure 2 shows a number of Sw_Doll <50% thin intervals but they are either not associated with gross sand and/or net sand and are thought to be due to shoulder bed effects with the log analysis.

5. Conclusions

The Canberra 1A well was cased and suspended as a result of a farm-in by Mosaic Oil N.L. to earn equity from the PEL 115 Joint Venture both in this wellbore and the Canberra Stratigraphic Play. They had a view that there may be some bypassed pay due to mud flushing hydrocarbons away from the wellbore in the better reservoirs within the Patchawarra Formation in particular.

This detailed formation evaluation and log analysis concludes that:

5.1 For the primary Patchawarra Formation

- the two best fluorescing intervals in cuttings whilst drilling are associated with tight non-reservoir section.
- the best developed sand from 2305.81m – 2309.62m within the VC00 GIS occurs between these two fluorescing intervals. This observation was the anomaly emphasized by Mosaic N.L. This log analysis interprets this sand to be water wet. There was no fluorescence in the cuttings and SWC 16 displays no fluorescence in this sand.
- an attempt to recover fluid using the FMT tool failed. The test did indicate however a permeability in the range of 0.5-0.7 mD (1D type rock – Sneider classification). This is marginal reservoir rock for gas but would be considered tight to very low permeability for an oil reservoir.
- the well intersected sand poor section. There is 24m of gross sand contained in 19 individual sands that range from 0.23m-3.95m (average 1.3m) in thickness. Of this gross sand 10.9m is regarded as net sand.
- all sands are water wet using Sw_Archie. Shaley sand analysis indicates there could be up to 2.5m of log pay in five sands averaging only 0.5m in thickness. None of this log pay is supported by other qualitative well evidence (SWC & mud log).
- the SWCs showed the section to be dominated by vfg to fg sandstone. It is only in the VC00 GIS sand that there is some mg sand.

5.2 For the secondary Epsilon Formation

- no fluorescence was seen in any of the six SWCs
- in cuttings, 20% fluorescence was seen in the interval 2183.9m-2189.8m. Two SWCs (21 & 22) within the same interval showed no fluorescence.
- in this interval the log analysis indicates 0.23m of log pay in a thin sandstone from 2185.6m-2186m.
- there is 10.7m of gross sand contained within 10 individual sands that range from 0.2m-1.8m (average 1.1m) in thickness.
- sand development is poor and the section is dominated by overbank floodplain and lacustrine deposits. Only 4 sands exceed 1m in thickness. The SWCs show the Epsilon sands also to be dominantly vfg to fg.
- of the 10 gross sands, 7 are indicated to be water wet, one has no net sand and one is discounted as it is overlain by water wet sand. This leaves only one 0.2m sand indicated to have log pay.

These formation evaluation results do not support the completion of the well and it is considered unlikely that any significant conventional hydrocarbons within clastic section have been by-passed.

TABLES

TABLE 1: PRE-EVAL PATCHAWARRA FORMATION
(Determines temperature gradient & mud resistivities)

WELL	Canberra #1A						
ZONE	**Patchawarra 2285 - 2393.5**						
MUD PROPERTIES							
Mud Type	KCL/PHPA		(enter)				
Mud Weight	9.15	lb/gal	(enter)				
KCl%	(3% - 30,000ppm)						
Tsurf	82		(enter)				
BHT	239		(enter)				
TD	8013.4		(enter)				
Temp Gradient	1.959	F/100 ft	(calculate)		Rule of Thumb Comparison		
Resistivities							
		at temp			*(need to make sure at same temp)*		
Rm	0.109	83.5 F		(enter)	(Rmf/Rm)	0.899083	0.88
Rmf	0.098	84.7 F		(enter)	(Rmc/Rm)	1.418367	1.11
Rmc	0.139	81.1 F		(enter)			

Zone of Interest

Depth	8166.731		(enter)
Tzone	242		(calculate)
Rm	0.040	242	(calculate)
Rmf	0.036	242	(calculate)
Rmc	0.049	242	(calculate)

TABLE 2:
Canberra 1A Log Analysis
Patchawarra Formation
Pay Summary

Gross Sand			Net Sand								Net Pay					Comments
Top	**Base**	**Thickness**	**Top**	**Base**	**Thickness**	**Vsh**	**Porosity**	**Sw_archie**	**Sw_DeWitte**	**Comments**	**Top**	**Base**	**Thickness**	**Porosity**	**Sw_DeWitte**	**(refer Encl 1)**
2286.46	2286.99	0.68	2286.91	2286.99	0.15	0.426	0.086	0.092	0.785	Wet						
2287.30	2289.81	2.66	2287.30	2289.20	1.98	0.296	0.097	0.964	0.809	Wet						
2291.26	2292.10	0.99	2291.26	2291.87	0.69	0.279	0.107	0.880	0.699	Wet						
2294.08	2294.50	0.61	2294.08	2294.50	0.53	0.405	0.096	0.680	0.396	**Poss Pay**	**2294.08**	**2294.50**	**0.53**	**0.096**	**0.396**	1 poss pay
2295.30	2296.82	1.67	2295.30	2296.82	1.60	0.281	0.099	0.889	0.709	**Poss Pay**	**2295.30**	**2296.82**	**0.23**	**0.106**	**0.445**	2, 3 shoulder bed effect
2299.11	2299.26	0.30			0.00	0.438				No Net Sd						
2302.38	2302.99	0.76			0.00	0.389				No Net Sd						
2305.81	2309.62	3.95	2306.04	2309.62	3.66	0.108	0.113	0.815	0.611	**Poss Pay**	**2308.86**	**2309.62**	**0.99**	**0.117**	**0.465**	4 ignore as overlain by water wet
2310.23	2310.69	0.61	2310.23	2310.69	0.53	0.331	0.149	0.586	0.197	**Poss Pay**	**2310.23**	**2310.69**	**0.53**	**0.149**	**0.197**	5 poss pay
2316.48	2318.00	1.67	2317.24	2317.70	0.53	0.328	0.092	0.598	0.460	**Poss Pay**	**2317.24**	**2317.70**	**0.53**	**0.092**	**0.460**	6 poss pay
2319.68	2320.06	0.53			0.00	0.316				No Net Sd						
2322.80	2324.33	1.67	2322.80	2323.49	0.76	0.362	0.128	0.592	0.382	**Poss Pay**	**2322.80**	**2323.26**	**0.46**	**0.140**	**0.302**	7 poss pay
2325.62	2326.31	0.84			0.00	0.400				No Net Sd						
2335.38	2335.53	0.30			0.00	0.421				No Net Sd						
2347.19	2350.01	2.96			0.00	0.338				No Net Sd						
2351.30	2352.14	0.99			0.00	0.356				No Net Sd						
2355.65	2355.72	0.23			0.00	0.353				No Net Sd						
2358.62	2358.77	0.30			0.00	0.388				No Net Sd						
2359.00	2361.29	2.43	2360.14	2361.29	0.46	0.329	0.098	0.522	0.355	**Poss Pay**	**2360.14**	**2361.29**	**0.46**	**0.982**	**0.355**	8 poss pay
TOTAL GROSS		**24.15**		**TOTAL NET**	**10.89**						**TOTAL POSS PAY**		**3.73**			

TABLE 3: PRE-EVAL EPSILON FORMATION

(Determines temperature gradient & mud resistivities)

WELL	Canberra #1A						
ZONE	**Epsilon 2120 - 2210m**						
MUD PROPERTIES							
Mud Type	KCL/PHPA		(enter)				
Mud Weight	9.15	lb/gal	(enter)				
KCl%	(3% - 30,000ppm)						
Tsurf	82		(enter)				
BHT	239		(enter)				
TD	8013.4		(enter)				
Temp Gradient	1.959	F/100 ft	(calculate)		Rule of Thumb Comparison		
Resistivities							
		at temp			*(need to make sure at same temp)*		
Rm	0.109	83.5 F		(enter)	(Rmf/Rm)	0.899083	0.88
Rmf	0.098	84.7 F		(enter)	(Rmc/Rm)	1.418367	1.11
Rmc	0.139	81.1 F		(enter)			

Zone of Interest

Depth	7102.932		(enter)
Tzone	221		(calculate)
Rm	0.043	221	(calculate)
Rmf	0.039	221	(calculate)
Rmc	0.054	221	(calculate)

TABLE 4:
Canberra 1A Log Analysis
Epsilon Formation
Pay Summary

Gross Sand			Net Sand								Net Pay					
Top	**Base**	**Thickness**	**Top**	**Base**	**Thickness**	**Vsh**	**Porosity**	**Sw_archie**	**Sw_Doll**	**Comments**	**Top**	**Base**	**Thickness**	**Porosity**	**Sw_Doll**	**Comments (refer Encl 2)**
2120.72	2121.48	0.91	2120.72	2121.48	0.84	0.413	0.111	0.823	0.880	Wet						
2151.66	2153.49	1.98	2151.66	2153.03	1.45	0.279	0.119	0.778	0.873	Wet						
2173.68	2175.43	1.90	2173.68	2175.43	1.83	0.129	0.141	0.870	0.894	Wet						
2179.78	2180.92	1.29	2179.78	2180.92	1.14	0.158	0.128	0.707	0.785	Wet						
2181.15	2182.14	1.14	2181.15	2181.61	0.38	0.372	0.117	0.423	0.312	**Poss Pay**	**2181.15**	**2181.61**	**0.381**	**0.117**	**0.312**	9 ignore as overlain by water wet
2185.65	2185.87	0.38	2185.72	2185.87	0.23	0.281	0.135	0.391	0.211	**Poss Pay**	**2185.72**	**2185.87**	**0.228**	**0.136**	**0.211**	10 poss pay
2187.78	2188.54	0.91	2187.93	2188.54	0.69	0.224	0.146	0.717	0.676	Wet						
2192.81	2192.88	0.23			0.00	0.440				No Net Sd						
2193.57	2195.09	1.67	2193.72	2195.09	1.45	0.225	0.140	0.945	0.958	Wet						
2207.90	2208.05	0.30	2207.97	2218.05	0.08	0.423	0.086	0.546	0.621	Wet						
TOTAL GROSS		**10.72**	**TOTAL NET**		**8.07**						**TOTAL POSS PAY**		**0.61**			

FIGURES

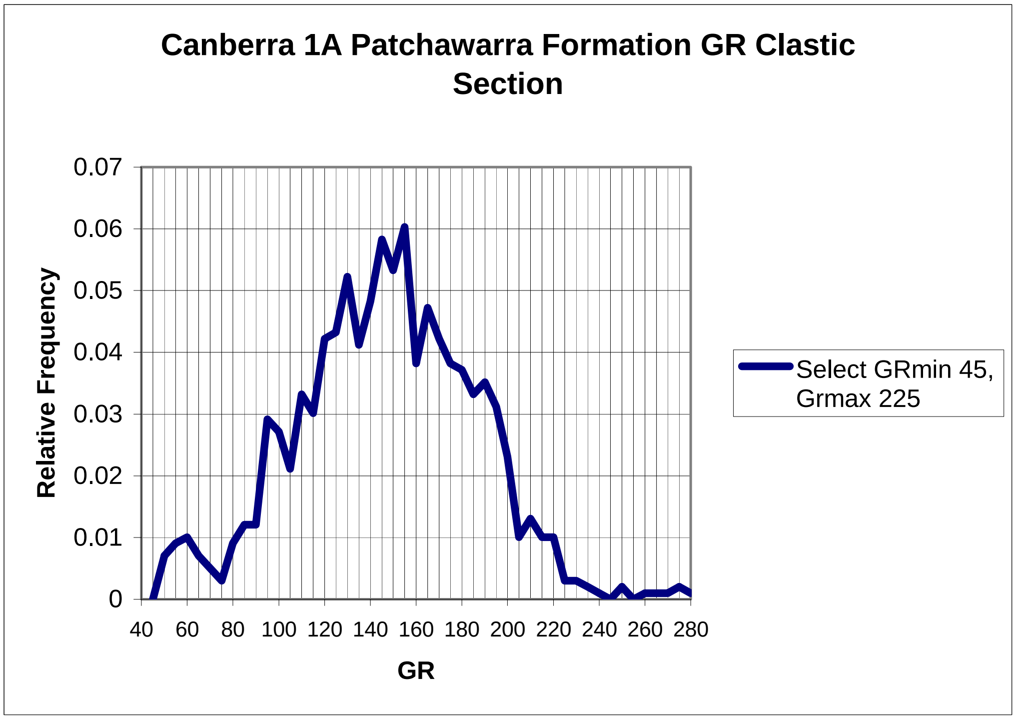


Figure 1

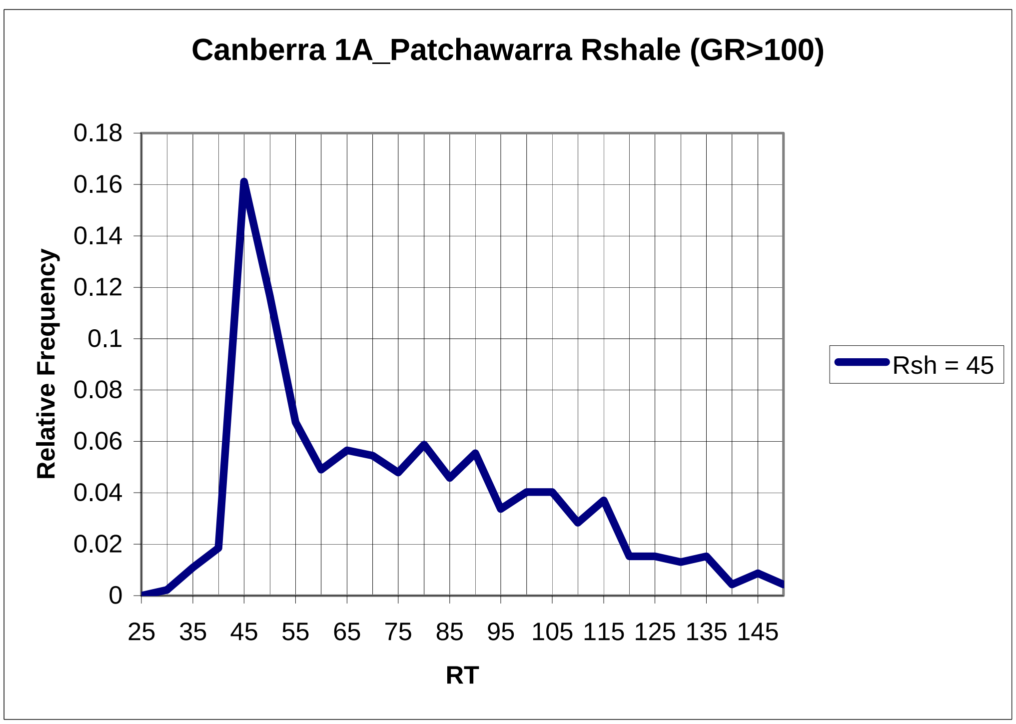


Figure 2

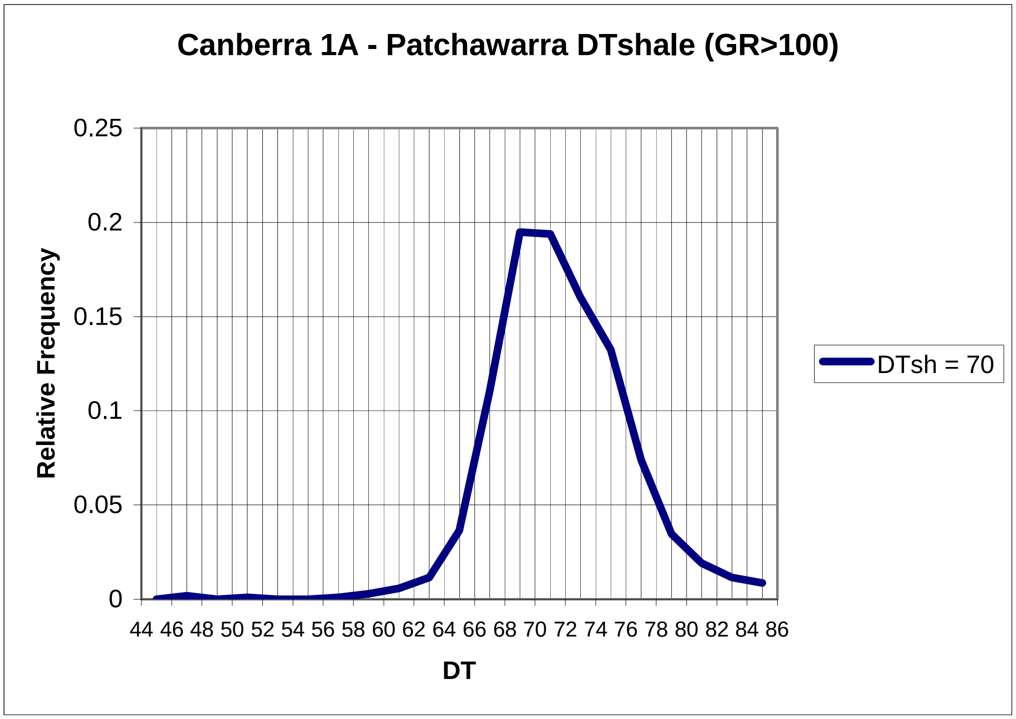


Figure 3

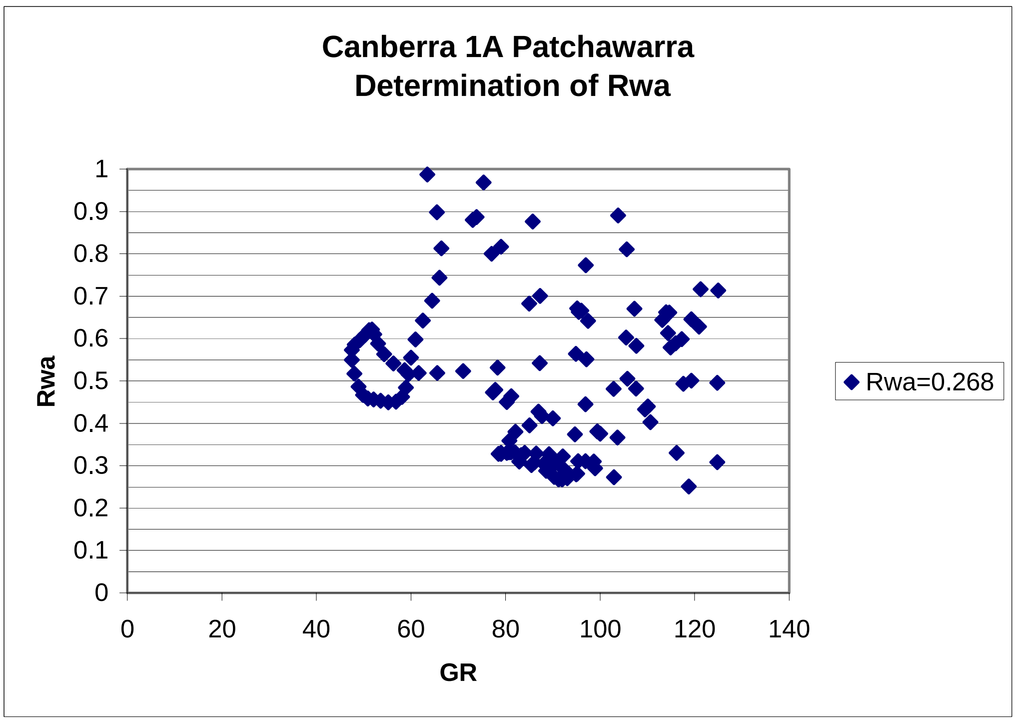


Figure 4

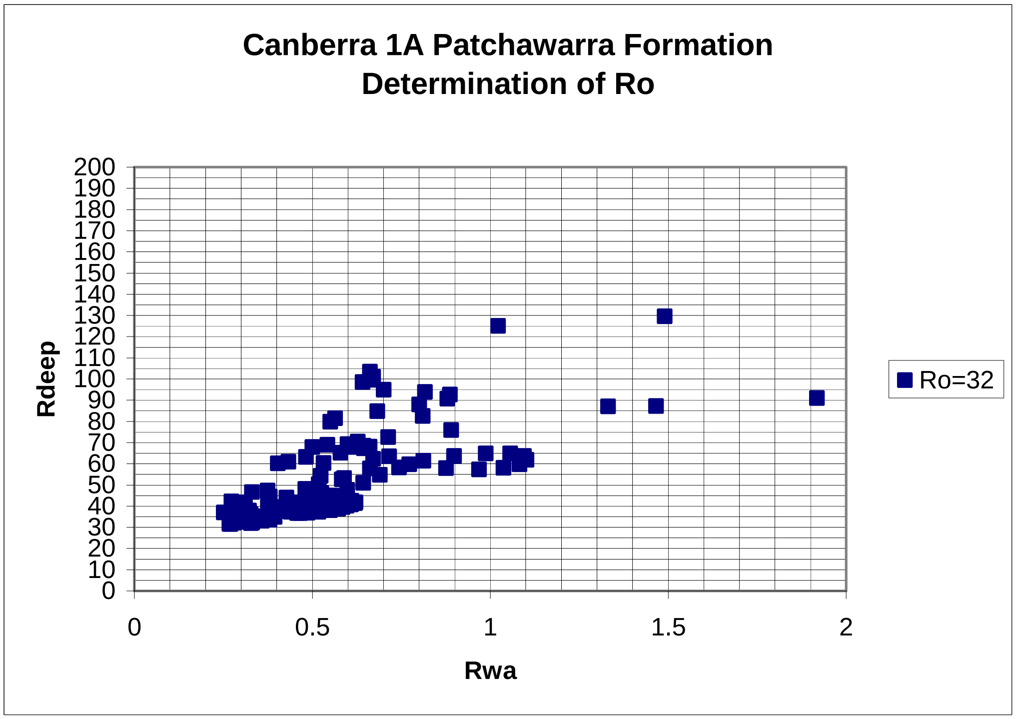

Canberra 1A Patchawarra Formation
Determination of Ro
Rdeep
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0
0.5
1
1.5
2
Rwa
Ro=32

Figure 5

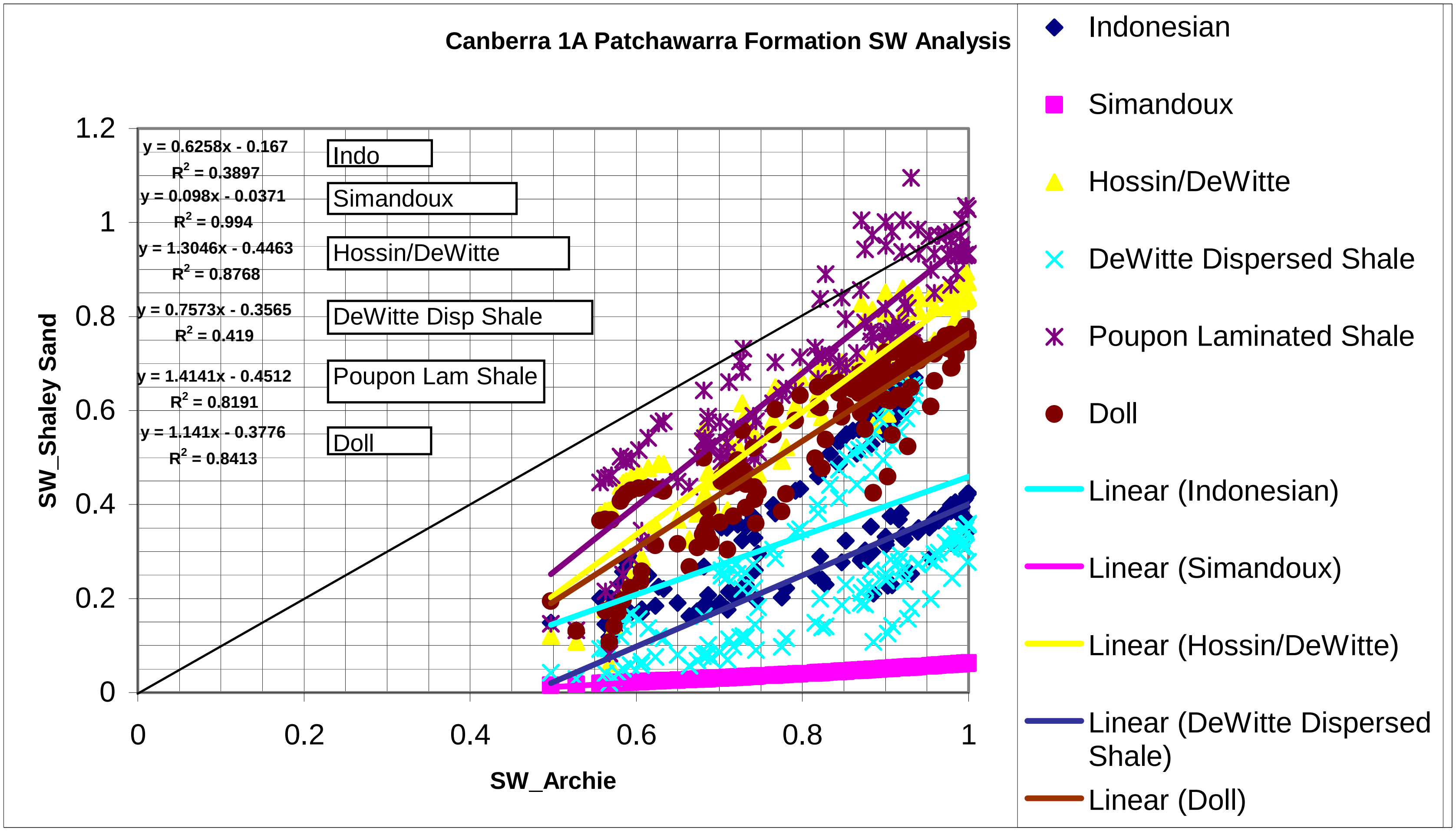

Canberra 1A Patchawarra Formation SW Analysis
y = 0.6258x - 0.167
R2 = 0.3897
y = 0.098x - 0.0371
R2 = 0.994
y = 1.3046x - 0.4463
R2 = 0.8768
y = 0.7573x - 0.3565
R2 = 0.419
y = 1.4141x - 0.4512
R2 = 0.8191
y = 1.141x - 0.3776
R2 = 0.8413
Indo
Simandoux
Hossin/DeWitte
DeWitte Disp Shale
Poupon Lam Shale
Doll
SW_Shaley Sand
SW_Archie
1.2
1
0.8
0.6
0.4
0.2
0
0
0.2
0.4
0.6
0.8
1
Indonesian
Simandoux
Hossin/DeWitte
DeWitte Dispersed Shale
Poupon Laminated Shale
Doll
Linear (Indonesian)
Linear (Simandoux)
Linear (Hossin/DeWitte)
Linear (DeWitte Dispersed Shale)
Linear (Doll)

Figure 6

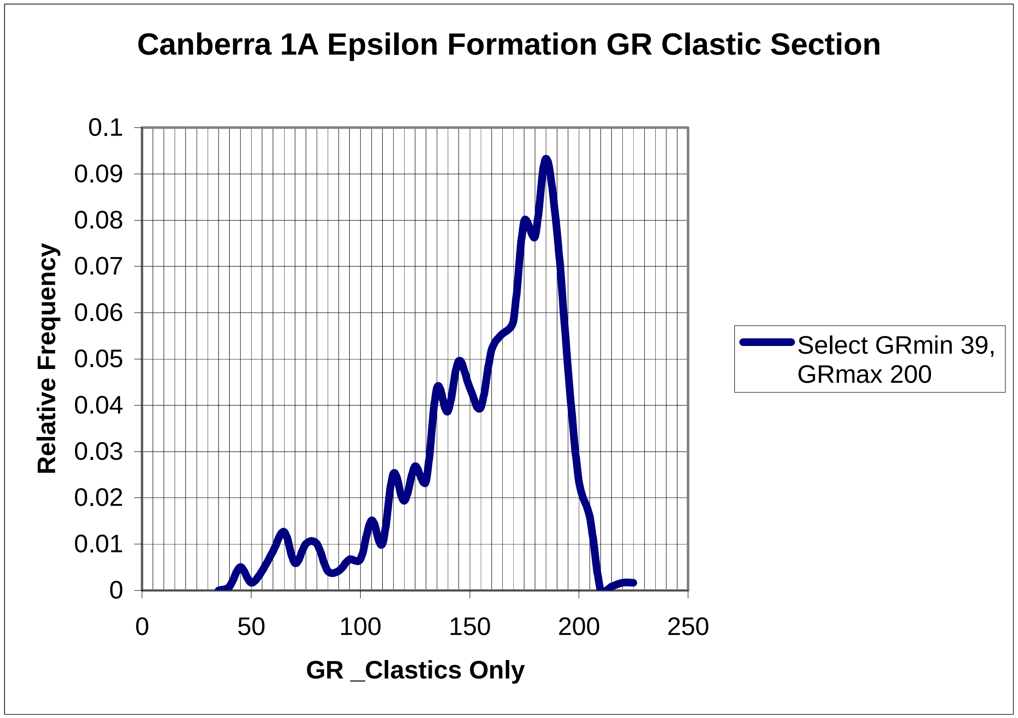

Canberra 1A Epsilon Formation GR Clastic Section
Relative Frequency
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
50
100
150
200
250
GR _Clastics Only
Select GRmin 39, GRmax 200

Figure 7

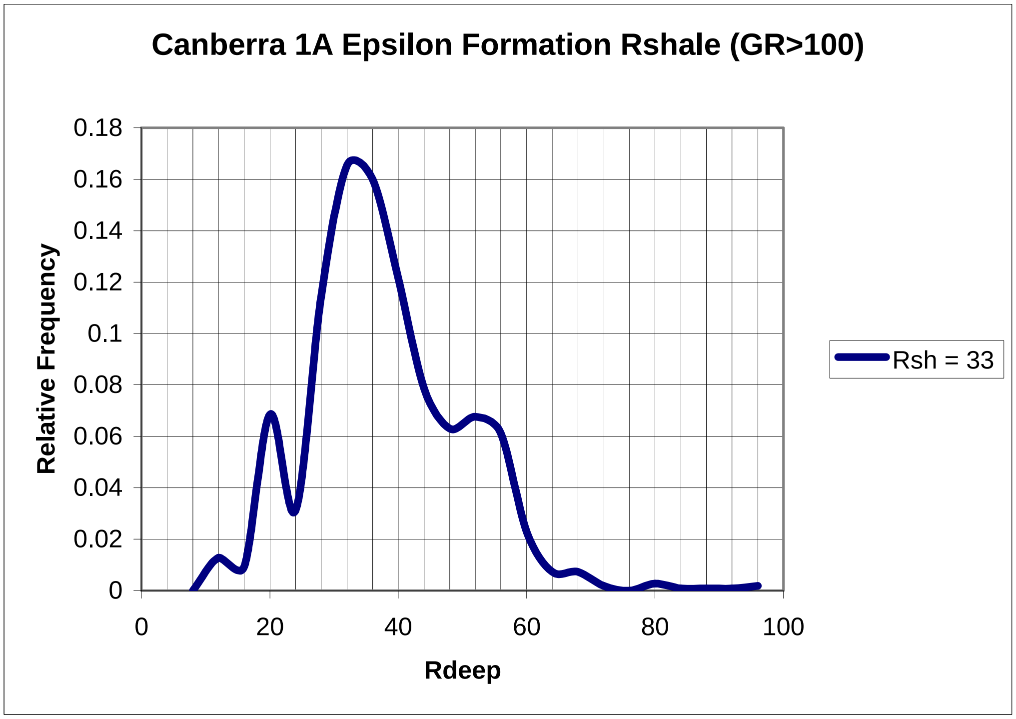


Figure 8

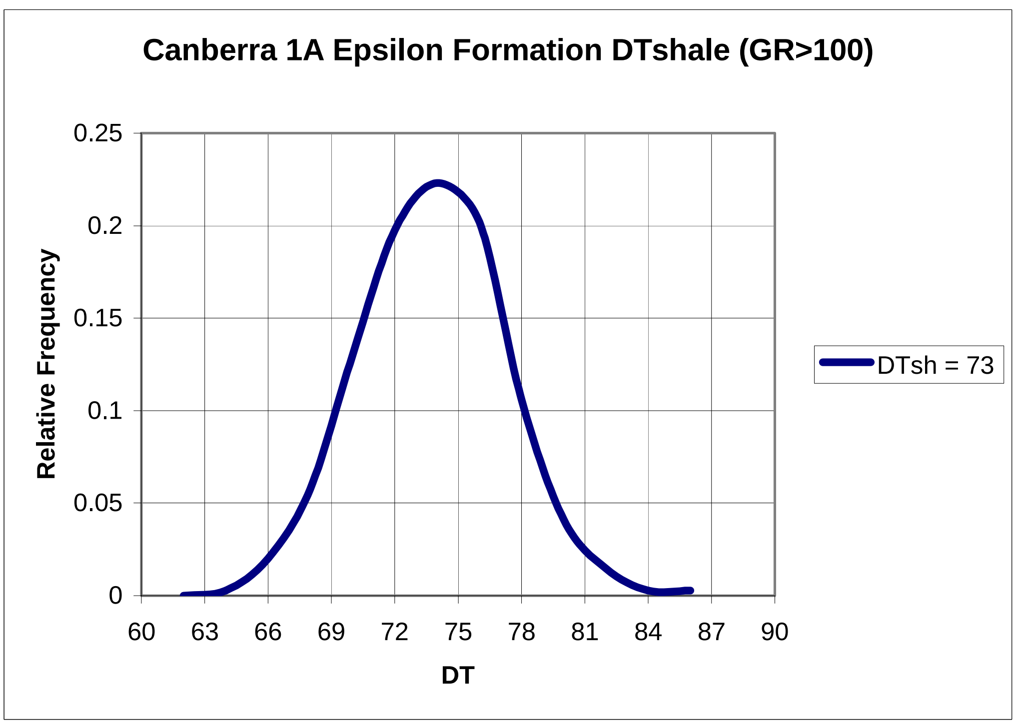


Figure 9

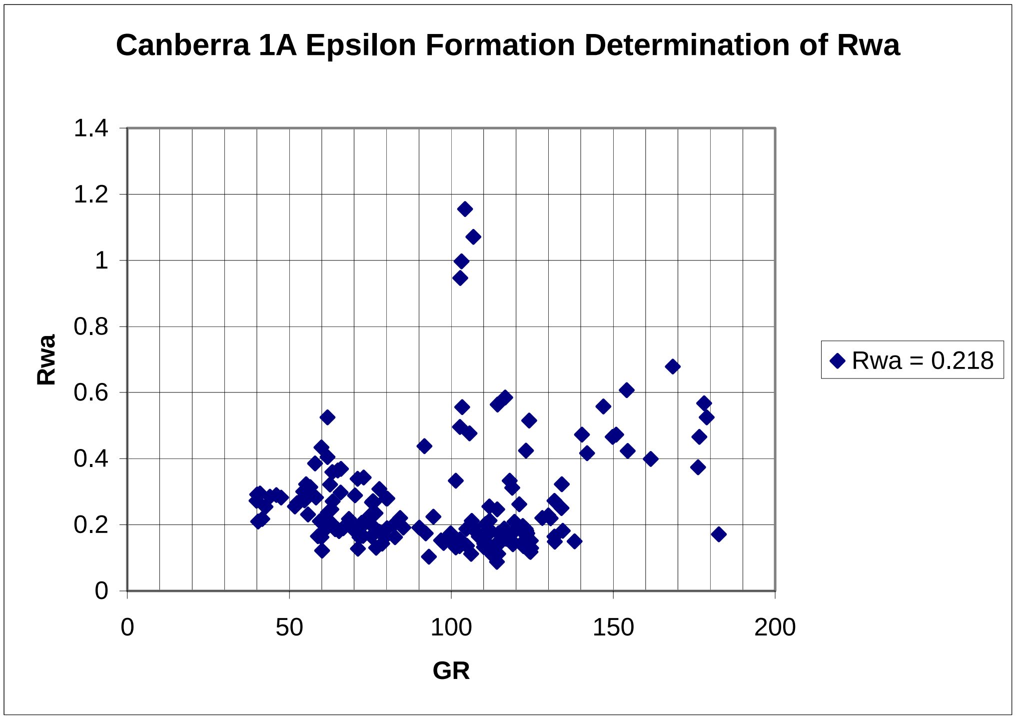


Figure 10

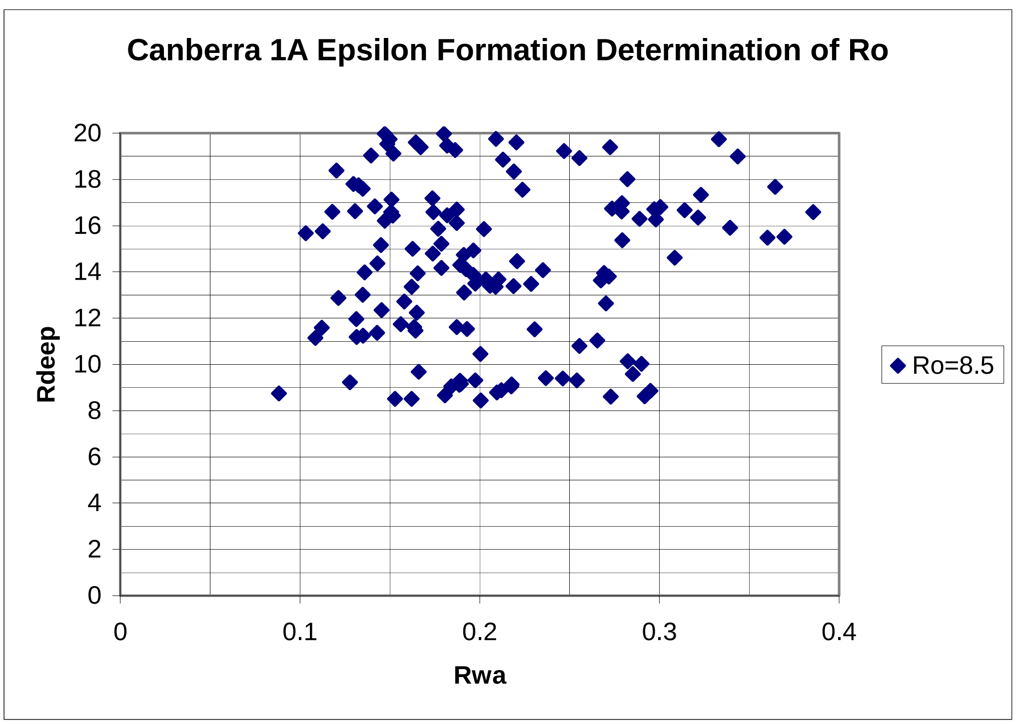
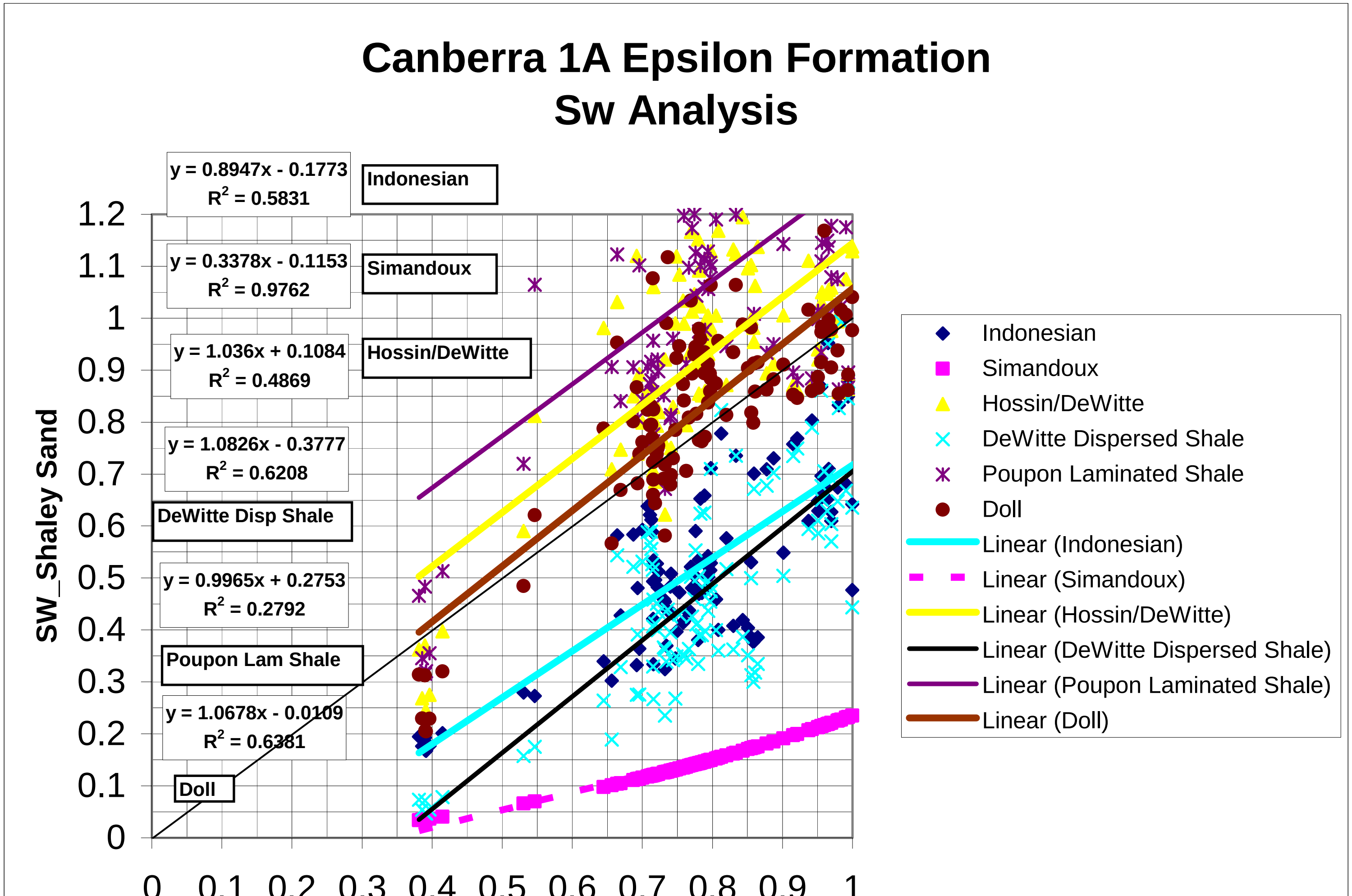


Figure 11



Canberra 1A Epsilon Formation
Sw Analysis
y = 0.8947x - 0.1773
R2 = 0.5831
Indonesian
y = 0.3378x - 0.1153
R2 = 0.9762
Simandoux
y = 1.036x + 0.1084
R2 = 0.4869
Hossin/DeWitte
y = 1.0826x - 0.3777
R2 = 0.6208
DeWitte Disp Shale
y = 0.9965x + 0.2753
R2 = 0.2792
Poupon Lam Shale
y = 1.0678x - 0.0109
R2 = 0.6381
Doll
SW_Shaley Sand
SW_Archie
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
Indonesian
Simandoux
Hossin/DeWitte
DeWitte Dispersed Shale
Poupon Laminated Shale
Doll
Linear (Indonesian)
Linear (Simandoux)
Linear (Hossin/DeWitte)
Linear (DeWitte Dispersed Shale)
Linear (Poupon Laminated Shale)
Linear (Doll)

Figure 12

APPENDICES

VICTORIA PETROLEUM N.L.

SIDE-WALL CORE DESCRIPTIONS

Well: CANBERRA-1A **Gun No:** 1 (Run 2/2) **Date:** 24/11/04
Shots Fired: 25 **Shots Bought:** 25 **Geologist:** Les Burgess

CORE No	*DEPTH, m*	*REC. cm*	*FORMATION / EVALUATION*	*LITHOLOGICAL DESCRIPTION* *Page: 1*
(SWC 2)1	2410	2.2	Merrimelia evaluation	**ARENACEOUS SILTSTONE:** dark grey, black, dark brown-grey, predominantly arenaceous with very fine to occasionally fine quartz grains grading to silty sandstone, common dark minerals (possibly coal specks?), trace metallic minerals (possibly galena?), friable to firm.
2	2405.5	2.5	Merrimelia evaluation	**COAL:** black, generally massive to occasionally banded, sub vitreous to vitreous, uneven fracture surfaces, minor quartz infilled veins, trace micromica, silty in parts, blocky to occasionally tabular, subfissile, firm to brittle associated with **ARENACEOUS SILTSTONE:** pale brown/off-white, very fine to occasional fine quartz, hygroturgid (breaks up in weak hydrochloric acid), firm to soft.
3	2404.5	2.0	Merrimelia evaluation	**ARGILLACEOUS SILTSTONE:** mottled to patchy and layered dark brown, dark brown-grey and pale brown, general weathered soil appearance, slightly dolomitic, common white lithic specks, trace coal, local medium brown very fine to rare fine amber coloured, rounded well-sorted quartz grains, firm to subfissile in parts.
4	2396.5	2.4	Merrimelia evaluation	**ARGILLACEOUS DOLOMITE:** pale to medium brown-grey, patchy off-white in parts, micritic, common very fine quartz grains, common silty to local kaolinitic matrix, trace micromica, hard to occasionally moderately soft.
5	2387	1.0	Patchawarra evaluation	**ARGILLACEOUS SILTSTONE WITH COMMON SANDSTONE LENSES** **SILTSTONE:** light grey, patchy medium to light grey brown, argillaceous (commonly kaolinitic) to locally arenaceous grading to silty sandstone, firm to occasionally friable, micromica, trace coal fragments. **SANDSTONE:** medium to pale brown-grey, very fine to occasionally fine, angular to subrounded, well-sorted, strong siliceous cement, micromica, trace coal and lithic inclusions, hard, no visual porosity, no fluorescence.
6	2375	1.5	Patchawarra palynology	**SILTSTONE:** black to very dark grey, predominantly arenaceous, massive, trace disseminated coal fragments, brittle to moderately hard, shaley in parts.
7	2372.5	2.5	Patchawarra palynology	**SILTSTONE:** black to very dark grey, predominantly arenaceous, massive, trace disseminated coal fragments, brittle to moderately hard, shaley in parts.
8	2357	1.0	Patchawarra palynology	**SANDSTONE:** black, dark-grey, off-white, very fine to fine, angular to subrounded, moderately well sorted, weak to moderately strong silica cement, locally silty and matrix supported, occasional carbonaceous, lithic and mica inclusions, friable to moderately firm, fair to poor visual porosity, no fluorescence. **SILTSTONE:** black to very dark grey, predominantly arenaceous grading to silty sandstone, occasional coal fragments, friable to firm.
9	2348.5	2.0	Patchawarra palynology	**KAOLINITIC SANDSTONE:** off-white, very fine to fine, angular to subangular, weak siliceous cement, slightly calcareous, common to abundant kaolinitic matrix, trace lithics and micromica, friable, poor visual porosity, no fluorescence.
10	2330.5	1.5	Patchawarra evaluation	**SILTY SANDSTONE:** banded dark-grey/off-white to very pale brown, very fine grading to arenaceous siltstone, common silt and kaolinitic matrix, local disseminated coal fragments, firm to friable, poor to fair visual porosity, no fluorescence.

VICTORIA PETROLEUM N.L.

SIDE-WALL CORE DESCRIPTIONS

Well: CANBERRA-1A **Gun No:** 1 (Run 2/2) **Date:** 24/11/04
Shots Fired: 25 **Shots Bought:** 25 **Geologist:** Les Burgess

CORE No	*DEPTH, m*	*REC. cm*	*FORMATION/ EVALUATION*	*LITHOLOGICAL DESCRIPTION* *Page: 2*
11	2329.5	2.0	Patchawarra evaluation	**SILTY SANDSTONE:** speckled dark brown/black/white, very fine grading to siltstone, angular, well-sorted, abundant silt and local kaolinitic matrix, matrix supported, microcarbonaceous and micromica inclusions, firm to friable, fair to poor visual porosity, no fluorescence.
12	2326	1.8	Patchawarra evaluation	**LAMINATED SILTY AND CLEAN SANDSTONE:** **SILTY SANDSTONE:** speckled dark brown/black/white, very fine grading to siltstone, angular, well-sorted, abundant silt and local kaolinitic matrix, matrix supported, microcarbonaceous and micromica inclusions, firm to friable, fair to poor visual porosity, no fluorescence. **SANDSTONE:** off-white, very fine to fine, angular to subrounded, well-sorted, local kaolinitic matrix, friable, fair porosity, no fluorescence.
13	2323.5	1.0	Patchawarra evaluation	**SANDSTONE:** off-white, very fine to fine, angular to subrounded, well-sorted, local kaolinitic matrix, micromica, thin coal and mica laminae, friable, good to fair porosity, no fluorescence.
14	2320	1.5	Patchawarra evaluation	**SANDSTONE:** off-white, minor very pale brown, very fine to fine with trace medium quartz grains, angular to subrounded, well-sorted, local kaolinitic matrix, grey silty matrix in parts, trace carbonaceous inclusions and lenses, micromica, friable, good to fair porosity, no fluorescence.
15	2317.5	2.2	Patchawarra evaluation	**FINELY LAMINATED SANDSTONE, SILTSTONE AND COAL** **SANDSTONE:** off-white, very fine to fine, angular to subrounded, well-sorted, local kaolinitic matrix, micromica, thin coal and mica laminae, friable, good to fair porosity, no fluorescence. **SILTY SANDSTONE:** speckled dark brown/dark grey/white, very fine grading to siltstone, angular, well-sorted, abundant silt and local kaolinitic matrix, matrix supported, microcarbonaceous and micromica inclusions, firm to friable, fair to poor visual porosity, no fluorescence. **SILTSTONE:** very dark grey, argillaceous, local disseminated carbonaceous inclusions, trace micromica, firm, sub blocky to subfissile. **COAL:** black, vitreous to sub vitreous, friable (highly fractured by coring), brittle in parts.
16	2307	1.5	Patchawarra evaluation	**SANDSTONE:** white, clear to translucent, very fine to medium, angular to subrounded, moderately well sorted, generally unconsolidated, local kaolinitic matrix and grey silty matrix, minor silt micro-laminae, trace mica and carbonaceous specks, friable, good porosity, no fluorescence.
17	2302.7	1.2	Patchawarra evaluation	**FINELY LAMINATED SANDSTONE AND SILTY SANDSTONE** **SANDSTONE:** off-white, very fine to fine, angular to subrounded, well-sorted, local kaolinitic matrix, micromica, thin coal and mica laminae, friable, good to fair porosity, no fluorescence. **SILTY SANDSTONE:** very dark brown to dark grey, very fine grading to arenaceous siltstone, angular, well-sorted, abundant silt and carbonaceous matrix, generally matrix supported, micromica inclusions, firm to friable, poor to tight visual porosity, no fluorescence.
18	2299	1.5	Patchawarra evaluation	**SILTY SANDSTONE:** banded medium brown, white, pale to dark grey, very fine to occasionally fine, angular to sub angular, well-sorted, weak siliceous cement, common kaolinitic matrix, local grey silty and minor clay matrix, trace lithics and micromica, friable to firm, fair to poor visual porosity. **FLUORESCENCE: maximum 20%, dull yellow, patchy, very slow diffuse yellow cut, thick moderately bright yellow residue ring.**

VICTORIA PETROLEUM N.L.

SIDE-WALL CORE DESCRIPTIONS

Well: CANBERRA-1A **Gun No:** 1 (Run 2/2) **Date:** 24/11/04
Shots Fired: 25 **Shots Bought:** 25 **Geologist:** Les Burgess

CORE No	*DEPTH, m*	*REC. cm*	*FORMATION/ EVALUATION*	*LITHOLOGICAL DESCRIPTION* *Page: 3*
19	2288	2.0	Patchawarra evaluation	**KAOLINITIC SANDSTONE:** white/clear, very fine to fine, angular to subrounded, well-sorted, weak siliceous and calcareous cement, common kaolinitic matrix, local medium brown silt matrix, occasional feldspar and micromica, trace carbonaceous inclusions, friable to firm, fair to tight visual porosity, no fluorescence.
20	2194.5	2.0	Epsilon evaluation	**SANDSTONE:** white, clear to translucent, very fine to medium, angular to subrounded, moderately well sorted, generally unconsolidated, local kaolinitic matrix, trace mica and carbonaceous specks, friable, good porosity, no fluorescence.
21	2188	1.5	Epsilon evaluation	**SANDSTONE:** white, clear to translucent, very fine to occasionally fine, angular to rounded, well sorted, minor kaolinitic matrix, trace mica, generally unconsolidated, good porosity, no fluorescence.
22	2185.5	2.0	Epsilon evaluation	**ARENACEOUS SILTSTONE:** black/dark grey brown, arenaceous grading to very fine sandstone in parts, occasional carbonaceous detritus, minor clay matrix, common off-white very fine sand lenses and laminae, firm to occasionally friable.
23	2180.5	1.8	Epsilon evaluation	**SANDSTONE:** white, clear to translucent, very fine, angular to rounded, well sorted, minor kaolinitic matrix, trace mica, unconsolidated, good porosity, no fluorescence.
24	2174.5	1.3	Epsilon evaluation	**SANDSTONE:** white, very pale grey, clear to translucent, very fine to occasionally fine, angular to rounded, well sorted, minor kaolinitic matrix, common coal clasts, trace mica, unconsolidated, good porosity, no fluorescence.
25	2152	2.2	Epsilon evaluation	**SANDSTONE:** white, clear to translucent, very fine, angular to rounded, well sorted, occasional kaolinitic matrix, unconsolidated, good porosity, no fluorescence.

A full gun of cores (25) was shot and 25 were recovered (100%).

APPENDIX 2
Canberra 1A Log Analysis Output

DEPTH	Vsh	Gross Sd	Phisc	Net Sd	Sw_archie	Sw_deWitt	h_incr	h*phi	h*phi*swa	h*phi*sw_dw	Net_Pay	Net_Pay	Phisc	Sw_deWit	h*phi	h*phi*sw_dw
2286.457	0.402	1	0.0637				0.076									
2286.533	0.368	1	0.0646				0.077									
2286.610	0.351	1	0.0631				0.076									
2286.686	0.349	1	0.0625				0.076									
2286.762	0.359	1	0.0659				0.076									
2286.838	0.379	1	0.0736				0.076									
2286.914	0.410	1	0.0825	0.0825	0.9308	0.8412	0.077	0.0064	0.0059	0.0053	0					
2286.991	0.443	1	0.0892	0.0892	0.9078	0.7323	0.076	0.0068	0.0062	0.0050	0					
8.000																
Thickness	0.426	0.68	0.0858	0.1530	0.9189	0.7850		0.0131	0.0121	0.0103	0					
2287.295	0.443	1	0.1102	0.1102	0.8854	0.5687	0.077	0.0085	0.0075	0.0048	0					
2287.372	0.403	1	0.1120	0.1120	0.9025	0.5934	0.076	0.0085	0.0077	0.0051	0					
2287.448	0.362	1	0.1086	0.1086	0.9268	0.6535	0.076	0.0083	0.0077	0.0054	0					
2287.524	0.326	1	0.1022	0.1022	0.9544	0.7382	0.076	0.0078	0.0074	0.0057	0					
2287.600	0.298	1	0.0965	0.0965	0.9801	0.8203	0.076	0.0073	0.0072	0.0060	0					
2287.676	0.279	1	0.0937	0.0937	0.9989	0.8735	0.077	0.0072	0.0072	0.0063	0					
2287.753	0.267	1	0.0928	0.0928	1.0082	0.8970	0.076	0.0070	0.0071	0.0063	0					
2287.829	0.261	1	0.0922	0.0922	1.0086	0.9049	0.076	0.0070	0.0071	0.0063	0					
2287.905	0.257	1	0.0918	0.0918	1.0036	0.9049	0.076	0.0070	0.0070	0.0063	0					
2287.981	0.252	1	0.0923	0.0923	0.9971	0.8957	0.076	0.0070	0.0070	0.0063	0					
2288.057	0.242	1	0.0941	0.0941	0.9922	0.8761	0.077	0.0072	0.0072	0.0064	0					
2288.134	0.229	1	0.0971	0.0971	0.9904	0.8523	0.076	0.0074	0.0073	0.0063	0					
2288.210	0.213	1	0.0999	0.0999	0.9916	0.8356	0.076	0.0076	0.0075	0.0063	0					
2288.286	0.199	1	0.1013	0.1013	0.9947	0.8323	0.076	0.0077	0.0077	0.0064	0					
2288.362	0.189	1	0.1014	0.1014	0.9981	0.8378	0.076	0.0077	0.0077	0.0065	0					
2288.438	0.186	1	0.1012	0.1012	1.0003	0.8423	0.077	0.0078	0.0078	0.0066	0					
2288.515	0.189	1	0.1013	0.1013	1.0000	0.8407	0.076	0.0077	0.0077	0.0065	0					
2288.591	0.196	1	0.1012	0.1012	0.9960	0.8348	0.076	0.0077	0.0077	0.0064	0					
2288.667	0.206	1	0.1006	0.1006	0.9878	0.8289	0.076	0.0076	0.0075	0.0063	0					
2288.743	0.217	1	0.0991	0.0991	0.9752	0.8242	0.076	0.0075	0.0073	0.0062	0					
2288.819	0.231	1	0.0972	0.0972	0.9590	0.8186	0.077	0.0075	0.0072	0.0061	0					
2288.896	0.246	1	0.0950	0.0950	0.9400	0.8110	0.076	0.0072	0.0068	0.0059	0					
2288.972	0.262	1	0.0923	0.0923	0.9200	0.8054	0.076	0.0070	0.0065	0.0057	0					
2289.048	0.280	1	0.0888	0.0888	0.9008	0.8065	0.076	0.0067	0.0061	0.0054	0					
2289.124	0.300	1	0.0847	0.0847	0.8841	0.8146	0.076	0.0064	0.0057	0.0052	0					
2289.200	0.322	1	0.0805	0.0805	0.8711	0.8278	0.077	0.0062	0.0054	0.0051	0					
2289.277	0.345	1	0.0763													
2289.353	0.369	1	0.0721													
2289.429	0.389	1	0.0685													

2289.505	0.404	1	0.0662													
2289.581	0.414	1	0.0662													
2289.658	0.421	1	0.0681													
2289.734	0.428	1	0.0702													
2289.810	0.439	1	0.0708													
34.000																
Thickness	0.296	2.66	0.0972	1.9820	0.9644	0.8089		0.1927	0.1858	0.1559	0					
2291.258	0.396	1	0.0841	0.0841	0.8281	0.6917	0.076	0.0064	0.0053	0.0044	0					
2291.334	0.306	1	0.0943	0.0943	0.8705	0.7135	0.076	0.0072	0.0062	0.0051	0					
2291.410	0.237	1	0.1028	0.1028	0.9001	0.7133	0.076	0.0078	0.0070	0.0056	0					
2291.486	0.196	1	0.1087	0.1087	0.9162	0.7044	0.077	0.0084	0.0077	0.0059	0					
2291.563	0.179	1	0.1117	0.1117	0.9183	0.6934	0.076	0.0085	0.0078	0.0059	0					
2291.639	0.183	1	0.1109	0.1109	0.9062	0.6863	0.076	0.0084	0.0076	0.0058	0					
2291.715	0.201	1	0.1062	0.1062	0.8822	0.6868	0.076	0.0081	0.0071	0.0055	0					
2291.791	0.233	1	0.0985	0.0985	0.8520	0.6953	0.076	0.0075	0.0064	0.0052	0					
2291.867	0.276	1	0.0888	0.0888	0.8214	0.7124	0.077	0.0068	0.0056	0.0049	0					
2291.944	0.327	1	0.0781													
2292.020	0.380	1	0.0676													
2292.096	0.430	1	0.0585													
12.000																
Thickness	0.279	0.99	0.1007	0.6860	0.8802	0.6994	0.686	0.0690	0.0608	0.0483	0					
2294.077	0.413	1	0.0980	0.0980	0.6899	0.3989	0.076	0.0074	0.0051	0.0030	1	0.076	0.0980	0.3989	0.0074	0.0030
2294.153	0.387	1	0.0986	0.0986	0.6855	0.4098	0.077	0.0076	0.0052	0.0031	1	0.077	0.0986	0.4098	0.0076	0.0031
2294.230	0.379	1	0.0970	0.0970	0.6836	0.4198	0.076	0.0074	0.0050	0.0031	1	0.076	0.0970	0.4198	0.0074	0.0031
2294.306	0.386	1	0.0945	0.0945	0.6826	0.4241	0.076	0.0072	0.0049	0.0030	1	0.076	0.0945	0.4241	0.0072	0.0030
2294.382	0.402	1	0.0930	0.0930	0.6799	0.4136	0.076	0.0071	0.0048	0.0029	1	0.076	0.0930	0.4136	0.0071	0.0029
2294.458	0.422	1	0.0944	0.0944	0.6737	0.3804	0.076	0.0072	0.0048	0.0027	1	0.076	0.0944	0.3804	0.0072	0.0027
2294.534	0.444	1	0.0991	0.0991	0.6639	0.3263	0.076	0.0075	0.0050	0.0025	1	0.076	0.0991	0.3263	0.0075	0.0025
7.000																
Thickness	0.405	0.61	0.0964	0.5330	0.6799	0.3958	0.533	0.0514	0.0349	0.0203	7	0.533		2.7729	0.0514	0.0203
								0.0964	0.3958							
2295.296	0.394	1	0.1052	0.1052	0.7753	0.4926	0.077	0.0081	0.0063	0.0040	1	0.077	0.1052	0.4926	0.0081	0.0040
2295.373	0.337	1	0.1035	0.1035	0.8235	0.5854	0.076	0.0079	0.0065	0.0046	0					
2295.449	0.288	1	0.1032	0.1032	0.8755	0.6642	0.076	0.0078	0.0069	0.0052	0					
2295.525	0.250	1	0.1047	0.1047	0.9233	0.7178	0.076	0.0080	0.0073	0.0057	0					
2295.601	0.223	1	0.1065	0.1065	0.9588	0.7495	0.076	0.0081	0.0078	0.0061	0					
2295.677	0.206	1	0.1067	0.1067	0.9786	0.7724	0.077	0.0082	0.0080	0.0063	0					
2295.754	0.199	1	0.1043	0.1043	0.9852	0.7987	0.076	0.0079	0.0078	0.0063	0					
2295.830	0.201	1	0.1002	0.1002	0.9839	0.8300	0.076	0.0076	0.0075	0.0063	0					
2295.906	0.211	1	0.0963	0.0963	0.9789	0.8543	0.076	0.0073	0.0072	0.0063	0					
2295.982	0.225	1	0.0944	0.0944	0.9722	0.8587	0.076	0.0072	0.0070	0.0062	0					
2296.058	0.239	1	0.0940	0.0940	0.9639	0.8477	0.077	0.0072	0.0070	0.0061	0					
2296.135	0.252	1	0.0931	0.0931	0.9531	0.8399	0.076	0.0071	0.0067	0.0059	0					
2296.211	0.261	1	0.0902	0.0902	0.9388	0.8464	0.076	0.0069	0.0064	0.0058	0					

2296.287	0.269	1	0.0864	0.0864	0.9211	0.8592	0.076	0.0066	0.0060	0.0056	0					
2296.363	0.277	1	0.0842	0.0842	0.9000	0.8507	0.076	0.0064	0.0058	0.0054	0					
2296.439	0.288	1	0.0862	0.0862	0.8756	0.7951	0.077	0.0066	0.0058	0.0053	0					
2296.516	0.302	1	0.0925	0.0925	0.8475	0.7022	0.076	0.0070	0.0060	0.0049	0					
2296.592	0.321	1	0.1000	0.1000	0.8154	0.6048	0.076	0.0076	0.0062	0.0046	0					
2296.668	0.348	1	0.1053	0.1053	0.7802	0.5222	0.076	0.0080	0.0062	0.0042	0					
2296.744	0.383	1	0.1071	0.1071	0.7441	0.4534	0.076	0.0081	0.0061	0.0037	1	0.076	0.1071	0.4534	0.0081	0.0037
2296.820	0.424	1	0.1062	0.1062	0.7100	0.3881	0.076	0.0081	0.0057	0.0031	1	0.076	0.1062	0.3881	0.0081	0.0031
21.000																
Thickness	0.281	1.67	0.0986	1.6000	0.8887	0.7087	1.600	0.1577	0.1402	0.1118	3	0.229		1.3341	0.0243	0.0108
								0.1061	0.4448							
2299.106	0.443	1	0.0418													
2299.183	0.432	1	0.0439													
2299.259	0.439	1	0.0442													
3.000																
Thickness	0.438	0.30														
2302.383	0.446	1	0.0525													
2302.459	0.404	1	0.0575													
2302.535	0.369	1	0.0612													
2302.612	0.348	1	0.0624													
2302.688	0.345	1	0.0604													
2302.764	0.358	1	0.0564													
2302.840	0.383	1	0.0524													
2302.916	0.411	1	0.0500													
2302.993	0.437	1	0.0494													
9.000																
Thickness	0.389	0.76														
2305.812	0.439	1	0.0666													
2305.888	0.395	1	0.0717													
2305.964	0.345	1	0.0773													
2306.041	0.290	1	0.0831	0.0831	0.6331	0.4863	0.076	0.0063	0.0040	0.0031	1	0.076	0.0831	0.4863	0.0063	0.0031
2306.117	0.235	1	0.0887	0.0887	0.6812	0.5624	0.076	0.0067	0.0046	0.0038	0					
2306.193	0.185	1	0.0938	0.0938	0.7278	0.6153	0.076	0.0071	0.0052	0.0044	0					
2306.269	0.144	1	0.0982	0.0982	0.7674	0.6501	0.076	0.0075	0.0057	0.0048	0					
2306.345	0.114	1	0.1015	0.1015	0.7972	0.6714	0.077	0.0078	0.0062	0.0052	0					
2306.422	0.092	1	0.1042	0.1042	0.8182	0.6828	0.076	0.0079	0.0065	0.0054	0					
2306.498	0.076	1	0.1068	0.1068	0.8330	0.6857	0.076	0.0081	0.0068	0.0056	0					
2306.574	0.062	1	0.1097	0.1097	0.8439	0.6814	0.076	0.0083	0.0070	0.0057	0					
2306.650	0.052	1	0.1132	0.1132	0.8528	0.6720	0.076	0.0086	0.0073	0.0058	0					
2306.726	0.044	1	0.1167	0.1167	0.8608	0.6603	0.077	0.0090	0.0077	0.0059	0					
2306.803	0.040	1	0.1199	0.1199	0.8680	0.6500	0.076	0.0091	0.0079	0.0059	0					
2306.879	0.037	1	0.1219	0.1219	0.8744	0.6451	0.076	0.0093	0.0081	0.0060	0					
2306.955	0.034	1	0.1225	0.1225	0.8803	0.6472	0.076	0.0093	0.0082	0.0060	0					
2307.031	0.029	1	0.1222	0.1222	0.8862	0.6547	0.076	0.0093	0.0082	0.0061	0					

2307.107	**0.023**	**1**	**0.1219**	**0.1219**	**0.8929**	**0.6634**	**0.077**	**0.0094**	**0.0084**	**0.0062**	**0**					
2307.184	**0.017**	**1**	**0.1219**	**0.1219**	**0.9007**	**0.6710**	**0.076**	**0.0093**	**0.0083**	**0.0062**	**0**					
2307.260	**0.014**	**1**	**0.1217**	**0.1217**	**0.9094**	**0.6798**	**0.076**	**0.0092**	**0.0084**	**0.0063**	**0**					
2307.336	**0.014**	**1**	**0.1204**	**0.1204**	**0.9184**	**0.6940**	**0.076**	**0.0091**	**0.0084**	**0.0064**	**0**					
2307.412	**0.017**	**1**	**0.1178**	**0.1178**	**0.9264**	**0.7145**	**0.076**	**0.0090**	**0.0083**	**0.0064**	**0**					
2307.488	**0.022**	**1**	**0.1150**	**0.1150**	**0.9322**	**0.7355**	**0.077**	**0.0089**	**0.0083**	**0.0065**	**0**					
2307.565	**0.027**	**1**	**0.1129**	**0.1129**	**0.9350**	**0.7495**	**0.076**	**0.0086**	**0.0080**	**0.0064**	**0**					
2307.641	**0.033**	**1**	**0.1119**	**0.1119**	**0.9345**	**0.7542**	**0.076**	**0.0085**	**0.0079**	**0.0064**	**0**					
2307.717	**0.039**	**1**	**0.1112**	**0.1112**	**0.9311**	**0.7541**	**0.076**	**0.0084**	**0.0079**	**0.0064**	**0**					
2307.793	**0.047**	**1**	**0.1101**	**0.1101**	**0.9254**	**0.7539**	**0.076**	**0.0084**	**0.0077**	**0.0063**	**0**					
2307.869	**0.057**	**1**	**0.1088**	**0.1088**	**0.9177**	**0.7535**	**0.077**	**0.0084**	**0.0077**	**0.0063**	**0**					
2307.946	**0.066**	**1**	**0.1078**	**0.1078**	**0.9084**	**0.7490**	**0.076**	**0.0082**	**0.0074**	**0.0061**	**0**					
2308.022	**0.073**	**1**	**0.1078**	**0.1078**	**0.8971**	**0.7367**	**0.076**	**0.0082**	**0.0073**	**0.0060**	**0**					
2308.098	**0.077**	**1**	**0.1086**	**0.1086**	**0.8831**	**0.7172**	**0.076**	**0.0083**	**0.0073**	**0.0059**	**0**					
2308.174	**0.080**	**1**	**0.1099**	**0.1099**	**0.8656**	**0.6927**	**0.076**	**0.0084**	**0.0072**	**0.0058**	**0**					
2308.250	**0.083**	**1**	**0.1112**	**0.1112**	**0.8440**	**0.6654**	**0.077**	**0.0086**	**0.0072**	**0.0057**	**0**					
2308.327	**0.089**	**1**	**0.1120**	**0.1120**	**0.8188**	**0.6371**	**0.076**	**0.0085**	**0.0070**	**0.0054**	**0**					
2308.403	**0.097**	**1**	**0.1122**	**0.1122**	**0.7917**	**0.6090**	**0.076**	**0.0085**	**0.0068**	**0.0052**	**0**					
2308.479	**0.108**	**1**	**0.1123**	**0.1123**	**0.7650**	**0.5810**	**0.076**	**0.0085**	**0.0065**	**0.0050**	**0**					
2308.555	**0.117**	**1**	**0.1130**	**0.1130**	**0.7412**	**0.5531**	**0.076**	**0.0086**	**0.0064**	**0.0047**	**0**					
2308.631	**0.119**	**1**	**0.1151**	**0.1151**	**0.7222**	**0.5256**	**0.077**	**0.0089**	**0.0064**	**0.0047**	**0**					
2308.708	**0.114**	**1**	**0.1188**	**0.1188**	**0.7091**	**0.5004**	**0.076**	**0.0090**	**0.0064**	**0.0045**	**0**					
2308.784	**0.102**	**1**	**0.1234**	**0.1234**	**0.7025**	**0.4810**	**0.076**	**0.0094**	**0.0066**	**0.0045**	**1**	**0.076**	**0.1234**	**0.4810**	**0.0094**	**0.0045**
2308.860	**0.090**	**1**	**0.1277**	**0.1277**	**0.7026**	**0.4696**	**0.076**	**0.0097**	**0.0068**	**0.0046**	**1**	**0.076**	**0.1277**	**0.4696**	**0.0097**	**0.0046**
2308.936	**0.082**	**1**	**0.1311**	**0.1311**	**0.7088**	**0.4649**	**0.076**	**0.0100**	**0.0071**	**0.0046**	**1**	**0.076**	**0.1311**	**0.4649**	**0.0100**	**0.0046**
2309.012	**0.083**	**1**	**0.1336**	**0.1336**	**0.7196**	**0.4642**	**0.077**	**0.0103**	**0.0074**	**0.0048**	**1**	**0.077**	**0.1336**	**0.4642**	**0.0103**	**0.0048**
2309.089	**0.095**	**1**	**0.1347**	**0.1347**	**0.7321**	**0.4650**	**0.076**	**0.0102**	**0.0075**	**0.0048**	**1**	**0.076**	**0.1347**	**0.4650**	**0.0102**	**0.0048**
2309.165	**0.124**	**1**	**0.1337**	**0.1337**	**0.7424**	**0.4659**	**0.076**	**0.0102**	**0.0075**	**0.0047**	**1**	**0.076**	**0.1337**	**0.4659**	**0.0102**	**0.0047**
2309.241	**0.168**	**1**	**0.1299**	**0.1299**	**0.7467**	**0.4661**	**0.076**	**0.0099**	**0.0074**	**0.0046**	**1**	**0.076**	**0.1299**	**0.4661**	**0.0099**	**0.0046**
2309.317	**0.226**	**1**	**0.1230**	**0.1230**	**0.7430**	**0.4654**	**0.076**	**0.0093**	**0.0069**	**0.0043**	**1**	**0.076**	**0.1230**	**0.4654**	**0.0093**	**0.0043**
2309.393	**0.289**	**1**	**0.1138**	**0.1138**	**0.7320**	**0.4625**	**0.077**	**0.0088**	**0.0064**	**0.0041**	**1**	**0.077**	**0.1138**	**0.4625**	**0.0088**	**0.0041**
2309.470	**0.346**	**1**	**0.1038**	**0.1038**	**0.7168**	**0.4564**	**0.076**	**0.0079**	**0.0057**	**0.0036**	**1**	**0.076**	**0.1038**	**0.4564**	**0.0079**	**0.0036**
2309.546	**0.388**	**1**	**0.0943**	**0.0943**	**0.7008**	**0.4499**	**0.076**	**0.0072**	**0.0050**	**0.0032**	**1**	**0.076**	**0.0943**	**0.4499**	**0.0072**	**0.0032**
2309.622	**0.413**	**1**	**0.0859**	**0.0859**	**0.6867**	**0.4496**	**0.076**	**0.0065**	**0.0045**	**0.0029**	**1**	**0.076**	**0.0859**	**0.4496**	**0.0065**	**0.0029**
51.000																
Thickness	**0.108**	**3.95**	**0.1133**	**3.6570**	**0.8147**	**0.6113**	**3.657**	**0.4144**	**0.3376**	**0.2533**	**13**	**0.990**		**6.0470**	**0.1156**	**0.0538**
								0.1168	**0.4654**							

2310.232	**0.337**	**1**	**0.0991**	**0.0991**	**0.6228**	**0.3556**	**0.076**	**0.0075**	**0.0047**	**0.0027**	**1**	**0.076**	**0.0991**	**0.3556**	**0.0075**	**0.0027**
2310.308	**0.306**	**1**	**0.1237**	**0.1237**	**0.6065**	**0.2870**	**0.076**	**0.0094**	**0.0057**	**0.0027**	**1**	**0.076**	**0.1237**	**0.2870**	**0.0094**	**0.0027**
2310.384	**0.285**	**1**	**0.1453**	**0.1453**	**0.5933**	**0.2436**	**0.076**	**0.0110**	**0.0066**	**0.0027**	**1**	**0.076**	**0.1453**	**0.2436**	**0.0110**	**0.0027**
2310.460	**0.284**	**1**	**0.1607**	**0.1607**	**0.5841**	**0.2124**	**0.076**	**0.0122**	**0.0071**	**0.0026**	**1**	**0.076**	**0.1607**	**0.2124**	**0.0122**	**0.0026**
2310.536	**0.310**	**1**	**0.1698**	**0.1698**	**0.5780**	**0.1816**	**0.077**	**0.0131**	**0.0076**	**0.0024**	**1**	**0.077**	**0.1698**	**0.1816**	**0.0131**	**0.0024**

2310.613	**0.362**	**1**	**0.1740**	**0.1740**	**0.5732**	**0.1403**	**0.076**	**0.0132**	**0.0076**	**0.0019**	**1**	**0.076**	**0.1740**	**0.1403**	**0.0132**	**0.0019**
2310.689	**0.434**	**1**	**0.1727**	**0.1727**	**0.5678**	**0.0620**	**0.076**	**0.0131**	**0.0075**	**0.0008**	**1**	**0.076**	**0.1727**	**0.0620**	**0.0131**	**0.0008**
7.000																
Thickness	**0.331**	**0.61**	**0.1494**	**0.5330**	**0.5862**	**0.1973**	**0.533**	**0.0796**	**0.0467**	**0.0157**	**7**	**0.533**		**1.4824**	**0.0796**	**0.0157**
								0.1494	**0.1973**							
2316.480	**0.445**	**1**	**0.0618**													
2316.556	**0.434**	**1**	**0.0644**													
2316.632	**0.423**	**1**	**0.0664**													
2316.709	**0.413**	**1**	**0.0677**													
2316.785	**0.407**	**1**	**0.0683**													
2316.861	**0.404**	**1**	**0.0685**													
2316.937	**0.402**	**1**	**0.0689**													
2317.013	**0.392**	**1**	**0.0703**													
2317.090	**0.369**	**1**	**0.0730**													
2317.166	**0.330**	**1**	**0.0774**													
2317.242	**0.277**	**1**	**0.0832**	**0.0832**	**0.6269**	**0.4866**	**0.076**	**0.0063**	**0.0040**	**0.0031**	**1**	**0.076**	**0.0832**	**0.4866**	**0.0063**	**0.0031**
2317.318	**0.222**	**1**	**0.0897**	**0.0897**	**0.6143**	**0.4778**	**0.076**	**0.0068**	**0.0042**	**0.0033**	**1**	**0.076**	**0.0897**	**0.4778**	**0.0068**	**0.0033**
2317.394	**0.178**	**1**	**0.0954**	**0.0954**	**0.6031**	**0.4673**	**0.077**	**0.0073**	**0.0044**	**0.0034**	**1**	**0.077**	**0.0954**	**0.4673**	**0.0073**	**0.0034**
2317.471	**0.156**	**1**	**0.0985**	**0.0985**	**0.5942**	**0.4573**	**0.076**	**0.0075**	**0.0044**	**0.0034**	**1**	**0.076**	**0.0985**	**0.4573**	**0.0075**	**0.0034**
2317.547	**0.160**	**1**	**0.0979**	**0.0979**	**0.5880**	**0.4502**	**0.076**	**0.0074**	**0.0044**	**0.0033**	**1**	**0.076**	**0.0979**	**0.4502**	**0.0074**	**0.0033**
2317.623	**0.189**	**1**	**0.0933**	**0.0933**	**0.5840**	**0.4459**	**0.076**	**0.0071**	**0.0041**	**0.0032**	**1**	**0.076**	**0.0933**	**0.4459**	**0.0071**	**0.0032**
2317.699	**0.235**	**1**	**0.0860**	**0.0860**	**0.5809**	**0.4394**	**0.076**	**0.0065**	**0.0038**	**0.0029**	**1**	**0.076**	**0.0860**	**0.4394**	**0.0065**	**0.0029**
2317.775	**0.289**	**1**	**0.0777**													
2317.852	**0.344**	**1**	**0.0699**													
2317.928	**0.393**	**1**	**0.0631**													
2318.004	**0.432**	**1**	**0.0574**													
21.000																
Thickness	**0.328**	**1.67**	**0.0920**	**0.5330**	**0.5984**	**0.4603**	**0.533**	**0.0490**	**0.0293**	**0.0226**	**7**	**0.533**		**3.2245**	**0.0490**	**0.0226**
								0.0920	**0.4603**							
2319.680	**0.432**	**1**	**0.0584**													
2319.757	**0.409**	**1**	**0.0545**													
2319.833	**0.396**	**1**	**0.0537**													
2319.909	**0.395**	**1**	**0.0528**													
2319.985	**0.406**	**1**	**0.0513**													
2320.061	**0.428**	**1**	**0.0497**													
6.000																
Thickness	**0.316**	**0.53**														
2322.805	**0.407**	**1**	**0.1838**	**0.1838**	**0.4896**	**0.4896**	**0.076**	**0.0140**	**0.0068**	**0.0068**	**1**	**0.076**	**0.1838**	**0.4896**	**0.0140**	**0.0068**
2322.881	**0.361**	**1**	**0.1818**	**0.1818**	**0.5031**	**0.5031**	**0.076**	**0.0138**	**0.0070**	**0.0070**						
2322.957	**0.334**	**1**	**0.1717**	**0.1717**	**0.5277**	**0.1078**	**0.076**	**0.0130**	**0.0069**	**0.0014**	**1**	**0.076**	**0.1717**	**0.1078**	**0.0130**	**0.0014**
2323.033	**0.323**	**1**	**0.1531**	**0.1531**	**0.5630**	**0.1770**	**0.076**	**0.0116**	**0.0065**	**0.0021**	**1**	**0.076**	**0.1531**	**0.1770**	**0.0116**	**0.0021**
2323.109	**0.321**	**1**	**0.1297**	**0.1297**	**0.6059**	**0.2627**	**0.077**	**0.0100**	**0.0061**	**0.0026**	**1**	**0.077**	**0.1297**	**0.2627**	**0.0100**	**0.0026**
2323.186	**0.327**	**1**	**0.1084**	**0.1084**	**0.6497**	**0.3679**	**0.076**	**0.0082**	**0.0054**	**0.0030**	**1**	**0.076**	**0.1084**	**0.3679**	**0.0082**	**0.0030**
2323.262	**0.336**	**1**	**0.0942**	**0.0942**	**0.6865**	**0.4681**	**0.076**	**0.0072**	**0.0049**	**0.0034**	**1**	**0.076**	**0.0942**	**0.4681**	**0.0072**	**0.0034**
2323.338	**0.348**	**1**	**0.0873**	**0.0873**	**0.7115**	**0.5334**	**0.076**	**0.0066**	**0.0047**	**0.0035**						

2323.414	**0.358**	**1**	**0.0843**	**0.0843**	**0.7248**	**0.5645**	**0.076**	**0.0064**	**0.0046**	**0.0036**					
2323.490	**0.365**	**1**	**0.0818**	**0.0818**	**0.7289**	**0.5833**	**0.077**	**0.0063**	**0.0046**	**0.0037**					
2323.567	**0.365**	**1**	**0.0786**												
2323.643	**0.360**	**1**	**0.0758**												
2323.719	**0.350**	**1**	**0.0741**												
2323.795	**0.342**	**1**	**0.0726**												
2323.871	**0.339**	**1**	**0.0699**												
2323.948	**0.346**	**1**	**0.0660**												
2324.024	**0.361**	**1**	**0.0618**												
2324.100	**0.384**	**1**	**0.0584**												
2324.176	**0.408**	**1**	**0.0568**												
2324.252	**0.429**	**1**	**0.0569**												
2324.329	**0.445**	**1**	**0.0584**												
21.000															
Thickness	**0.362**	**1.67**	**0.1276**	**0.7620**	**0.5916**	**0.3816**	**0.762**	**0.0972**	**0.0575**	**0.0371**	**6**	**0.457**	**1.8731**	**0.0640**	**0.0193**
								0.1401	**0.3016**						
2325.624	**0.433**	**1**	**0.0590**												
2325.700	**0.415**	**1**	**0.0612**												
2325.776	**0.405**	**1**	**0.0649**												
2325.853	**0.403**	**1**	**0.0693**												
2325.929	**0.406**	**1**	**0.0727**												
2326.005	**0.411**	**1**	**0.0745**												
2326.081	**0.417**	**1**	**0.0749**												
2326.157	**0.424**	**1**	**0.0744**												
2326.234	**0.433**	**1**	**0.0733**												
2326.310	**0.444**	**1**	**0.0716**												
10.000															
Thickness	**0.400**	**0.84**													
2335.378	**0.443**	**1**	**0.0638**												
2335.454	**0.442**	**1**	**0.0671**												
2335.530	**0.447**	**1**	**0.0904**	**0.0904**	**0.5058**	**0.5058**	**0.076**	**0.0069**	**0.0035**	**0.0035**	**0**				
3.000															
Thickness	**0.421**	**0.30**	**0.0904**	**0.0760**	**0.5058**	**0.5058**	**0.076**	**0.0069**	**0.0035**	**0.0035**	**0**				
2347.189	**0.435**	**1**	**0.0466**												
2347.265	**0.426**	**1**	**0.0489**												
2347.341	**0.423**	**1**	**0.0510**												
2347.417	**0.424**	**1**	**0.0537**												
2347.493	**0.423**	**1**	**0.0571**												
2347.570	**0.417**	**1**	**0.0606**												
2347.646	**0.406**	**1**	**0.0633**												
2347.722	**0.393**	**1**	**0.0648**												
2347.798	**0.382**	**1**	**0.0653**												
2347.874	**0.374**	**1**	**0.0652**												
2347.951	**0.366**	**1**	**0.0646**												

2348.027	0.354	1	0.0634			
2348.103	0.337	1	0.0622			
2348.179	0.316	1	0.0619			
2348.255	0.294	1	0.0629			
2348.332	0.274	1	0.0649			
2348.408	0.260	1	0.0671			
2348.484	0.252	1	0.0686			
2348.560	0.251	1	0.0694			
2348.636	0.255	1	0.0698			
2348.713	0.260	1	0.0705			
2348.789	0.266	1	0.0715			
2348.865	0.268	1	0.0728			
2348.941	0.268	1	0.0739			
2349.017	0.266	1	0.0745			
2349.094	0.264	1	0.0750			
2349.170	0.266	1	0.0755			
2349.246	0.271	1	0.0757			
2349.322	0.280	1	0.0749			
2349.398	0.294	1	0.0724			
2349.475	0.313	1	0.0685			
2349.551	0.335	1	0.0644			
2349.627	0.358	1	0.0610			
2349.703	0.380	1	0.0583			
2349.779	0.400	1	0.0558			
2349.856	0.415	1	0.0534			
2349.932	0.426	1	0.0514			
2350.008	0.437	1	0.0499			
38.000						
Thickness	0.338	2.96				
2351.303	0.408	1	0.0535			
2351.380	0.366	1	0.0607			
2351.456	0.335	1	0.0665			
2351.532	0.318	1	0.0703			
2351.608	0.315	1	0.0717			
2351.684	0.321	1	0.0703			
2351.761	0.332	1	0.0666			
2351.837	0.344	1	0.0619			
2351.913	0.356	1	0.0572			
2351.989	0.371	1	0.0528			
2352.065	0.392	1	0.0482			
2352.142	0.419	1	0.0427			
12.000						
Thickness	0.356	0.99				
2355.647	0.267	1	0.1964	0.1964	0.1318	0.1318

2355.723	0.371	1	0.1301	0.1301	0.1738	0.1738										
2.000																
Thickness	0.353	0.23														
2358.619	0.445	1	0.0480													
2358.695	0.444	1	0.0469													
2358.771	0.448	1	0.0460													
3.000																
Thickness	0.388	0.30														
2359.000	0.444	1	0.0475													
2359.076	0.432	1	0.0490													
2359.152	0.418	1	0.0507													
2359.228	0.404	1	0.0524													
2359.304	0.391	1	0.0541													
2359.381	0.381	1	0.0562													
2359.457	0.374	1	0.0583													
2359.533	0.369	1	0.0601													
2359.609	0.364	1	0.0612													
2359.685	0.360	1	0.0622													
2359.762	0.352	1	0.0639													
2359.838	0.340	1	0.0669													
2359.914	0.324	1	0.0709													
2359.990	0.306	1	0.0748													
2360.066	0.290	1	0.0778													
2360.143	0.280	1	0.0800	0.0800	0.5562	0.3791	0.076	0.0061	0.0034	0.0023	1	0.076	0.0800	0.3791	0.0061	0.0023
2360.219	0.279	1	0.0815	0.0815	0.5626	0.3865	0.076	0.0062	0.0035	0.0024	1	0.076	0.0815	0.3865	0.0062	0.0024
2360.295	0.284	1	0.0818	0.0818	0.5668	0.3869	0.076	0.0062	0.0035	0.0024	1	0.076	0.0818	0.3869	0.0062	0.0024
2360.371	0.292	1	0.0807	0.0807	0.5701	0.3889	0.076	0.0061	0.0035	0.0024	1	0.076	0.0807	0.3889	0.0061	0.0024
2360.447	0.297	1	0.0786													
2360.524	0.294	1	0.0766													
2360.600	0.285	1	0.0753													
2360.676	0.273	1	0.0746													
2360.752	0.265	1	0.0739													
2360.828	0.266	1	0.0715													
2360.905	0.279	1	0.0661													
2360.981	0.299	1	0.0599													
2361.057	0.318	1	0.0597													
2361.133	0.326	1	0.0740													
2361.209	0.319	1	0.1073	0.1073	0.4971	0.1204	0.077	0.0083	0.0041	0.0010	1	0.077	0.1073	0.1204	0.0083	0.0010
2361.286	0.295	1	0.1578	0.1578	0.4543	0.4543	0.076	0.0120	0.0054	0.0054	1	0.076	0.1578	0.4543	0.0120	0.0054
31.000																
Thickness	0.329	2.43	0.0982	0.4570	0.5223	0.3550	0.457	0.0449	0.0234	0.0159	6	0.457		2.1161	0.0449	0.0159
								0.0982	0.3550							

APPENDIX 3
Canberra 1A Epsilon Formation Log Analysis Output

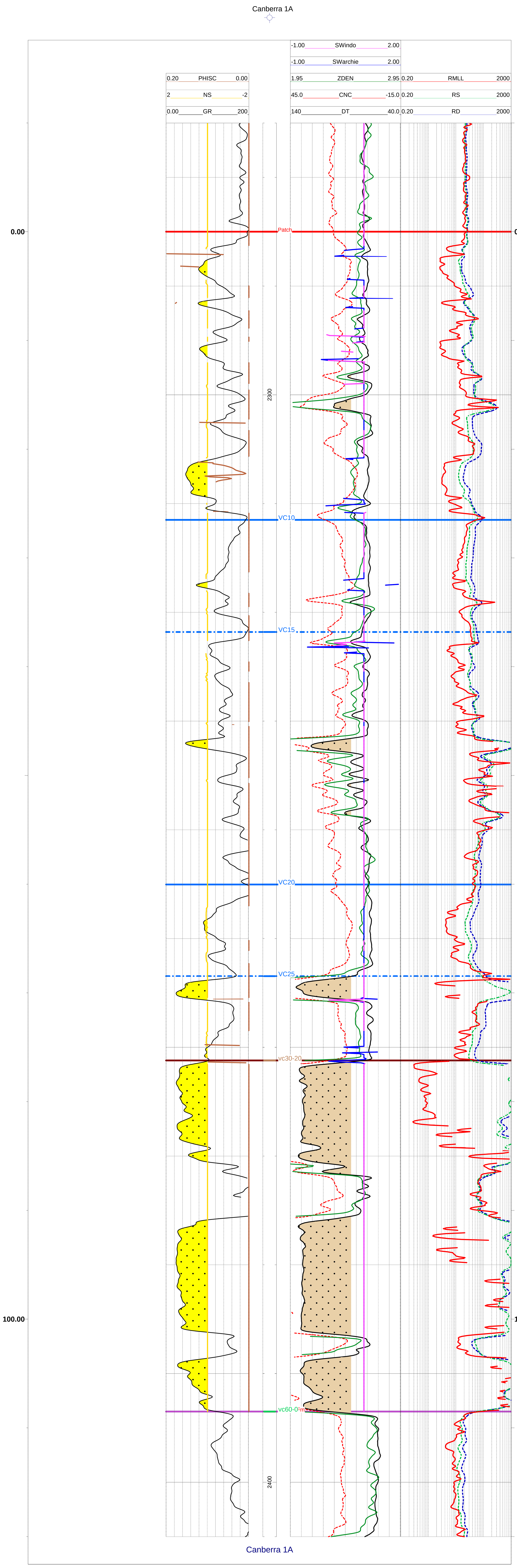
DEPTH	Vsh	Gross Sd	Phisc	Net Sd	Sw_Archie	Sw_Doll	h_incr	h*phi	h*phi*Sw	h*phi*Sw	Net_Pay	Net_Pay	PHISC	Sw_Doll	h*phi	h*phi*swd
2120.722	0.442	1	0.1121	0.1121	0.8646	0.9147	0.076	0.0085	0.0074	0.0078	0					
2120.798	0.432	1	0.1197	0.1197	0.8611	0.8587	0.077	0.0092	0.0079	0.0079	0					
2120.875	0.420	1	0.1293	0.1293	0.8585	0.7988	0.076	0.0098	0.0084	0.0079	0					
2120.951	0.408	1	0.1269	0.1269	0.8555	0.8183	0.076	0.0096	0.0083	0.0079	0					
2121.027	0.395	1	0.1153	0.1153	0.8509	0.9035	0.076	0.0088	0.0075	0.0079	0					
2121.103	0.387	1	0.1048	0.1048	0.8431	0.9880	0.076	0.0080	0.0067	0.0079	0					
2121.179	0.387	1	0.1085	0.1085	0.8297	0.9346	0.077	0.0084	0.0069	0.0078	0					
2121.256	0.395	1	0.1018	0.1018	0.8084	0.9560	0.076	0.0077	0.0063	0.0074	0					
2121.332	0.409	1	0.0986	0.0986	0.7797	0.9296	0.076	0.0075	0.0058	0.0070	0					
2121.408	0.426	1	0.1083	0.1083	0.7472	0.7850	0.076	0.0082	0.0062	0.0065	0					
2121.484	0.443	1	0.0953	0.0953	0.7158	0.8245	0.076	0.0072	0.0052	0.0060	0					
11.000																
Thicknes	0.413	0.912	0.1110	0.8380	0.8229	0.8800		0.093008	0.076537	0.081851						
2125.828	0.444	1	0.1129	0.1129	0.7322	0.7183	0.076	0.0086	0.0063	0.0062	0					
2151.659	0.417	1	0.0845	0.0845	0.7344	0.9906	0.077	0.0065	0.0048	0.0064	0					
2151.736	0.364	1	0.0978	0.0978	0.7487	0.9234	0.076	0.0074	0.0056	0.0069	0					
2151.812	0.317	1	0.1139	0.1139	0.7593	0.8414	0.076	0.0087	0.0066	0.0073	0					
2151.888	0.281	1	0.1236	0.1236	0.7665	0.8089	0.076	0.0094	0.0072	0.0076	0					
2151.964	0.255	1	0.1150	0.1150	0.7712	0.8933	0.076	0.0087	0.0067	0.0078	0					
2152.040	0.241	1	0.1123	0.1123	0.7744	0.9303	0.077	0.0086	0.0067	0.0080	0					
2152.117	0.233	1	0.1293	0.1293	0.7773	0.8161	0.076	0.0098	0.0076	0.0080	0					
2152.193	0.230	1	0.1389	0.1389	0.7806	0.7651	0.076	0.0106	0.0082	0.0081	0					
2152.269	0.229	1	0.1404	0.1404	0.7849	0.7630	0.076	0.0107	0.0084	0.0081	0					
2152.345	0.227	1	0.1401	0.1401	0.7897	0.7713	0.076	0.0106	0.0084	0.0082	0					
2152.421	0.223	1	0.1302	0.1302	0.7939	0.8374	0.077	0.0100	0.0080	0.0084	0					
2152.498	0.218	1	0.1279	0.1279	0.7968	0.8593	0.076	0.0097	0.0077	0.0084	0					
2152.574	0.212	1	0.1251	0.1251	0.7977	0.8836	0.076	0.0095	0.0076	0.0084	0					
2152.650	0.207	1	0.1239	0.1239	0.7965	0.8934	0.076	0.0094	0.0075	0.0084	0					
2152.726	0.206	1	0.1210	0.1210	0.7935	0.9117	0.076	0.0092	0.0073	0.0084	0					
2152.802	0.212	1	0.1220	0.1220	0.7885	0.8939	0.077	0.0094	0.0074	0.0084	0					
2152.879	0.226	1	0.1090	0.1090	0.7809	0.9793	0.076	0.0083	0.0065	0.0081	0					
2152.955	0.246	1	0.0998	0.0998	0.7694	1.0339	0.076	0.0076	0.0058	0.0078	0					
2153.031	0.271	1	0.1041	0.1041	0.7527	0.9460	0.076	0.0079	0.0060	0.0075	0					
2153.107	0.296	1	0.0765													
2153.183	0.320	1	0.0687													
2153.260	0.342	1	0.0643													
2153.336	0.366	1	0.0651													
2153.412	0.397	1	0.0531													

2153.488	0.442	1	0.0502								
25.000											
Thicknes	0.279	1.976	0.1189	1.4480	0.7783	0.8731		0.1721	0.1340	0.1503	
2173.681	0.387	1	0.1299	0.1299	0.6562	0.5665	0.076	0.0099	0.0065	0.0056	0
2173.757	0.254	1	0.1348	0.1348	0.7436	0.7302	0.077	0.0104	0.0077	0.0076	0
2173.834	0.151	1	0.1462	0.1462	0.8200	0.8138	0.076	0.0111	0.0091	0.0090	0
2173.910	0.083	1	0.1551	0.1551	0.8775	0.8627	0.076	0.0118	0.0103	0.0102	0
2173.986	0.043	1	0.1701	0.1701	0.9209	0.8463	0.076	0.0129	0.0119	0.0109	0
2174.062	0.023	1	0.1652	0.1652	0.9553	0.9151	0.076	0.0126	0.0120	0.0115	0
2174.138	0.012	1	0.1826	0.1826	0.9802	0.8541	0.077	0.0141	0.0138	0.0120	0
2174.215	0.007	1	0.1840	0.1840	0.9933	0.8613	0.076	0.0140	0.0139	0.0120	0
2174.291	0.006	1	0.1781	0.1781	0.9938	0.8911	0.076	0.0135	0.0135	0.0121	0
2174.367	0.008	1	0.1544	0.1544	0.9834	1.0155	0.076	0.0117	0.0115	0.0119	0
2174.443	0.016	1	0.1545	0.1545	0.9651	0.9921	0.076	0.0117	0.0113	0.0116	0
2174.519	0.031	1	0.1725	0.1725	0.9419	0.8597	0.077	0.0133	0.0125	0.0114	0
2174.596	0.053	1	0.1669	0.1669	0.9154	0.8528	0.076	0.0127	0.0116	0.0108	0
2174.672	0.079	1	0.1538	0.1538	0.8873	0.8820	0.076	0.0117	0.0104	0.0103	0
2174.748	0.104	1	0.1415	0.1415	0.8592	0.9124	0.076	0.0108	0.0092	0.0098	0
2174.824	0.123	1	0.1161	0.1161	0.8335	1.0637	0.076	0.0088	0.0074	0.0094	0
2174.900	0.131	1	0.0971	0.0971	0.8126	1.2302	0.077	0.0075	0.0061	0.0092	0
2174.977	0.130	1	0.1102	0.1102	0.7977	1.0637	0.076	0.0084	0.0067	0.0089	0
2175.053	0.127	1	0.1241	0.1241	0.7885	0.9344	0.076	0.0094	0.0074	0.0088	0
2175.129	0.137	1	0.1190	0.1190	0.7827	0.9601	0.076	0.0090	0.0071	0.0087	0
2175.205	0.173	1	0.1168	0.1168	0.7760	0.9442	0.076	0.0089	0.0069	0.0084	0
2175.281	0.241	1	0.1453	0.1453	0.7627	0.7058	0.077	0.0112	0.0085	0.0079	0
2175.358	0.336	1	0.0811	0.0811	0.7363	1.1171	0.076	0.0062	0.0045	0.0069	0
2175.434	0.441	1	0.0864	0.0864	0.6921	0.8673	0.076	0.0066	0.0045	0.0057	0
24.000											
Thicknes	0.129	1.9	0.1411	1.8290	0.8697	0.8940		0.2580	0.2244	0.2307	
2179.777	0.378	1	0.0921	0.0921	0.6448	0.7876	0.076	0.0070	0.0045	0.0055	0
2179.853	0.294	1	0.0799								
2179.930	0.235	1	0.0886	0.0886	0.7150	1.0765	0.076	0.0067	0.0048	0.0073	0
2180.006	0.195	1	0.1331	0.1331	0.7222	0.7499	0.076	0.0101	0.0073	0.0076	0
2180.082	0.167	1	0.1354	0.1354	0.7229	0.7549	0.076	0.0103	0.0074	0.0078	0
2180.158	0.146	1	0.1402	0.1402	0.7210	0.7385	0.076	0.0107	0.0077	0.0079	0
2180.234	0.130	1	0.1622	0.1622	0.7182	0.6438	0.077	0.0125	0.0090	0.0080	0
2180.311	0.118	1	0.1524	0.1524	0.7157	0.6892	0.076	0.0116	0.0083	0.0080	0
2180.387	0.108	1	0.1373	0.1373	0.7140	0.7690	0.076	0.0104	0.0074	0.0080	0
2180.463	0.102	1	0.1333	0.1333	0.7131	0.7946	0.076	0.0101	0.0072	0.0081	0
2180.539	0.097	1	0.1278	0.1278	0.7125	0.8307	0.076	0.0097	0.0069	0.0081	0
2180.615	0.095	1	0.1337	0.1337	0.7111	0.7939	0.077	0.0103	0.0073	0.0082	0
2180.692	0.095	1	0.1282	0.1282	0.7076	0.8237	0.076	0.0097	0.0069	0.0080	0
2180.768	0.101	1	0.1365	0.1365	0.7003	0.7615	0.076	0.0104	0.0073	0.0079	0
2180.844	0.120	1	0.1252	0.1252	0.6870	0.8012	0.076	0.0095	0.0065	0.0076	0

2180.920	**0.156**	**1**	**0.0983**	**0.0983**	**0.6642**	**0.9526**	**0.076**	**0.0075**	**0.0050**	**0.0071**	**0**					
16.000																
Thicknes	**0.158**	**1.292**	**0.1283**	**1.1420**	**0.7069**	**0.7847**		**0.1466**	**0.1036**	**0.1150**						
2181.149	**0.327**	**1**	**0.1204**	**0.1204**	**0.5303**	**0.4845**	**0.076**	**0.0091**	**0.0049**	**0.0044**	**1**	**0.076**	**0.1204**	**0.4845**	**0.0091**	**0.0044**
2181.225	**0.370**	**1**	**0.0474**													
2181.301	**0.393**	**1**	**0.0673**													
2181.377	**0.399**	**1**	**0.1061**	**0.1061**	**0.4150**	**0.3204**	**0.077**	**0.0082**	**0.0034**	**0.0026**	**1**	**0.077**	**0.1061**	**0.3204**	**0.0082**	**0.0026**
2181.454	**0.398**	**1**	**0.1357**	**0.1357**	**0.3962**	**0.2291**	**0.076**	**0.0103**	**0.0041**	**0.0024**	**1**	**0.076**	**0.1357**	**0.2291**	**0.0103**	**0.0024**
2181.530	**0.396**	**1**	**0.1286**	**0.1286**	**0.3855**	**0.2297**	**0.076**	**0.0098**	**0.0038**	**0.0022**	**1**	**0.076**	**0.1286**	**0.2297**	**0.0098**	**0.0022**
2181.606	**0.395**	**1**	**0.0920**	**0.0920**	**0.3810**	**0.3140**	**0.076**	**0.0070**	**0.0027**	**0.0022**	**1**	**0.076**	**0.0920**	**0.3140**	**0.0070**	**0.0022**
2181.682	**0.394**	**1**	**0.0505**													
2181.758	**0.390**	**1**	**0.0388**													
2181.835	**0.382**	**1**	**0.0774**													
2181.911	**0.370**	**1**	**0.0633**													
2181.987	**0.353**	**1**	**0.0370**													
2182.063	**0.331**	**1**	**0.0727**													
2182.139	**0.304**	**1**	**0.0778**													
14.000																
Thicknes	**0.372**	**1.14**	**0.1165**	**0.3810**	**0.4225**	**0.3120**		**0.0444**	**0.0188**	**0.0139**	**5.0000**	**0.381**		**1.5776**	**0.0444**	**0.0139**
													0.1165	**0.3120**		
2185.645	**0.442**	**1**	**0.0747**													
2185.721	**0.414**	**1**	**0.0923**	**0.0923**	**0.3900**	**0.3122**	**0.076**	**0.0070**	**0.0027**	**0.0022**	**1**	**0.076**	**0.0923**	**0.3122**	**0.0070**	**0.0022**
2185.797	**0.405**	**1**	**0.1439**	**0.1439**	**0.3902**	**0.2055**	**0.076**	**0.0109**	**0.0043**	**0.0022**	**1**	**0.076**	**0.1439**	**0.2055**	**0.0109**	**0.0022**
2185.873	**0.421**	**1**	**0.1390**	**0.1390**	**0.3916**	**0.2048**	**0.76**	**0.1056**	**0.0414**	**0.0216**	**1**	**0.760**	**0.1390**	**0.2048**	**0.1056**	**0.0216**
4.000																
Thicknes	**0.420**	**0.38**	**0.1355**	**0.9120**	**0.3914**	**0.2109**		**0.1236**	**0.0484**	**0.0261**	**3.0000**	**0.912**		**0.7224**	**0.1236**	**0.0261**
													0.1355	**0.2109**		
2187.778	**0.403**	**1**	**0.0486**													
2187.854	**0.293**	**1**	**0.0604**													
2187.931	**0.211**	**1**	**0.1345**	**0.1345**	**0.6689**	**0.6693**	**0.076**	**0.0102**	**0.0068**	**0.0068**	**0**					
2188.007	**0.161**	**1**	**0.1436**	**0.1436**	**0.6934**	**0.6822**	**0.076**	**0.0109**	**0.0076**	**0.0074**	**0**					
2188.083	**0.142**	**1**	**0.1562**	**0.1562**	**0.7156**	**0.6597**	**0.076**	**0.0119**	**0.0085**	**0.0078**	**0**					
2188.159	**0.141**	**1**	**0.1820**	**0.1820**	**0.7324**	**0.5812**	**0.076**	**0.0138**	**0.0101**	**0.0080**	**0**					
2188.235	**0.151**	**1**	**0.1525**	**0.1525**	**0.7409**	**0.6978**	**0.077**	**0.0117**	**0.0087**	**0.0082**	**0**					
2188.312	**0.167**	**1**	**0.1543**	**0.1543**	**0.7400**	**0.6799**	**0.076**	**0.0117**	**0.0087**	**0.0080**	**0**					
2188.388	**0.199**	**1**	**0.1460**	**0.1460**	**0.7307**	**0.6909**	**0.076**	**0.0111**	**0.0081**	**0.0077**	**0**					
2188.464	**0.256**	**1**	**0.1296**	**0.1296**	**0.7153**	**0.7233**	**0.076**	**0.0098**	**0.0070**	**0.0071**	**0**					
2188.540	**0.345**	**1**	**0.1129**	**0.1129**	**0.6959**	**0.7389**	**0.076**	**0.0086**	**0.0060**	**0.0063**	**0**					
11.000																
Thicknes	**0.224**	**0.912**	**0.1457**	**0.6850**	**0.7165**	**0.6757**		**0.0998**	**0.0715**	**0.0675**						
2192.807	**0.440**	**1**	**0.0205**													
2192.884	**0.441**	**1**	**0.0437**													
2.000																
Thicknes	**0.440**	**0.228**														

2193.569	0.428	1	0.0755								
2193.646	0.378	1	0.0725								
2193.722	0.330	1	0.1084	0.1084	0.7581	0.8729	0.076	0.0082	0.0062	0.0072	0
2193.798	0.287	1	0.1208	0.1208	0.8052	0.8744	0.076	0.0092	0.0074	0.0080	0
2193.874	0.252	1	0.1186	0.1186	0.8552	0.9821	0.076	0.0090	0.0077	0.0089	0
2193.950	0.226	1	0.1384	0.1384	0.9014	0.9107	0.077	0.0107	0.0096	0.0097	0
2194.027	0.209	1	0.1310	0.1310	0.9372	1.0161	0.076	0.0100	0.0093	0.0101	0
2194.103	0.200	1	0.1177	0.1177	0.9597	1.1681	0.076	0.0089	0.0086	0.0104	0
2194.179	0.192	1	0.1427	0.1427	0.9695	0.9785	0.076	0.0108	0.0105	0.0106	0
2194.255	0.183	1	0.1551	0.1551	0.9695	0.9051	0.076	0.0118	0.0114	0.0107	0
2194.331	0.171	1	0.1439	0.1439	0.9637	0.9756	0.077	0.0111	0.0107	0.0108	0
2194.408	0.160	1	0.1426	0.1426	0.9563	0.9832	0.076	0.0108	0.0104	0.0107	0
2194.484	0.149	1	0.1619	0.1619	0.9511	0.8660	0.076	0.0123	0.0117	0.0107	0
2194.560	0.142	1	0.1587	0.1587	0.9505	0.8867	0.076	0.0121	0.0115	0.0107	0
2194.636	0.138	1	0.1457	0.1457	0.9557	0.9732	0.076	0.0111	0.0106	0.0108	0
2194.712	0.138	1	0.1439	0.1439	0.9657	0.9968	0.077	0.0111	0.0107	0.0110	0
2194.789	0.145	1	0.1546	0.1546	0.9784	0.9376	0.076	0.0117	0.0115	0.0110	0
2194.865	0.164	1	0.1444	0.1444	0.9907	1.0064	0.076	0.0110	0.0109	0.0110	0
2194.941	0.203	1	0.1380	0.1380	0.9998	1.0403	0.076	0.0105	0.0105	0.0109	0
2195.017	0.268	1	0.1541	0.1541	1.0034	0.9009	0.076	0.0117	0.0118	0.0106	0
2195.093	0.359	1	0.1340	0.1340	0.9996	0.9764	0.076	0.0102	0.0102	0.0099	0
21.000											
Thicknes	0.225	1.672	0.1397	1.4470	0.9452	0.9582		0.2022	0.1911	0.1937	
2207.895	0.429	1	0.0711								
2207.971	0.418	1	0.0862	0.0862	0.5464	0.6210	0.076	0.0065	0.0036	0.0041	0
2208.047	0.423	1	0.0757								
3.000											
Thicknes	0.423	0.304	0.0862	0.0760	0.5464	0.6210		0.0065	0.0036	0.0041	

ENCLOSURES



VICTORIA PETROLEUM
CANBERRA 1A LOG ANALYSIS Project Location:
D.Harrison. 26/11/04