TO: Manager, Company Announcements ASX Limited 09.04.22
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NEW SEISMIC PLANNED AFTER PROMISING OIL OUTCOMES

FROM CENTRAL'S DRILLING SOUTHEAST OF ALICE SPRINGS

In addition to CSG (Coal Seam Gas) seismic exploration and drilling, an extensive oil and gas focused 2D seismic program is planned to be mounted near Alice Springs later this year or early next year following new results by Central Petroleum Limited ("CTP") which continue to point to the region's untapped hydrocarbon potential.

The Company announced today that analysis of its recent drilling program in an area about 340 kilometres southeast of the Alice had concluded there were at least two active petroleum systems in the Pedirka Basin.

Of particular interest is the substantial residual oil staining evident in the Eromanga sequence within the Blamore-1 and Simpson-1 wells drilled by Central in the Simpson Desert.

Straining was evident over 31 metres in Blamore-1 and over 17 metres in Simpson-1.

"While commercial oil was not encountered in either well, the residual oil columns in each are consistent with our pre-drill models predicting oil charge into the area from the Madigan Trough," Central Petroleum's Managing Director, Mr John Heugh, said today.

"The results have increased our confidence as the likelihood of local indigenous sourcing from oil shales, updip spillage and robust dip closures in this part of the Desert and we have therefore scheduled a detailed seismic program to help identify enhanced drill targets for 2010," Mr Heugh said.

He said the Company believed the target area had potential Undiscovered Oil Initially in Place (UOIIP) of around six billion barrels.

Any future exploration programme in the area is subject to the approval of Joint Venture Partners, Petroleum Exploration Australia (PXA). It is anticipated that an OPCOM meeting with PXA will be held late in June 2009 to consider the programme proposed. The UOIIP figures presented here do not necessarily reflect the views of PXA.

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RESIDUAL OIL COLUMNS IN THE EROMANGA SEQUENCE IN BLAMORE-1 AND SIMPSON-1 ENHANCE THE OIL PROSPECTIVITY OF THE SIMPSON DESERT AREA
(CTP Technical Note 220409)

Key Points

- New studies have concluded that substantial residual oil staining occurs at two stratigraphic horizons within the Eromanga sequence in Blamore -1 (31m) and Simpson-1 (17m), two wells recently drilled by Central Petroleum Ltd in the Simpson Desert area (Pedirka Basin).

- The analysis has allowed a conclusion that there are at least two separate active petroleum systems in the Pedirka Basin; this has very positive implications for further oil exploration in the Pedirka Basin as a second major exploration target in addition to the previously reported potential for Coal Seam Gas (CSG) of 34-7- TCFG potentially recoverable resources.

- Residual oil staining in Blamore-1 at the Algebuckina/ Murta reservoir- seal couplet encourages the notion of updip spillage to the proposed Camelot structural trap where this structure is segemented from the McDills High by the Camelot Fault. The oil could have a Palaeozoic source.

- Residual oil staining in Simpson-1 at the Poolowanna Formation Cycle-1 reservoir/seal interface indicates local indigenous sourcing from Poolowanna shales indicating this source is in the mid-late oil window in the axis of the Madigan Trough.

- This enhances the prospectivity of robust dip closures at the Madigan and Guinevere Prospects which lie on short migration pathways from the Madigan Trough axis.

- An important Poolowanna Formation prospect lies updip of Simpson-1 at Simpson East which coincides with the crest of a Devonian – Carboniferous platform play (The Erec Prospect), the latter having multi-billion barrel UOIIP (Undiscovered Oil Initially In Place) potential.

- The Simpson East, Erec, Blamore, Guinevere and Madigan prospects and the Camelot lead with a combined UOIIP (Undiscovered Oil Initially in Place-SPE definition)) potential of c. 6 Billion barrels are planned to be detailed by an extensive 2D seismic program in late 2009 or early 2010.

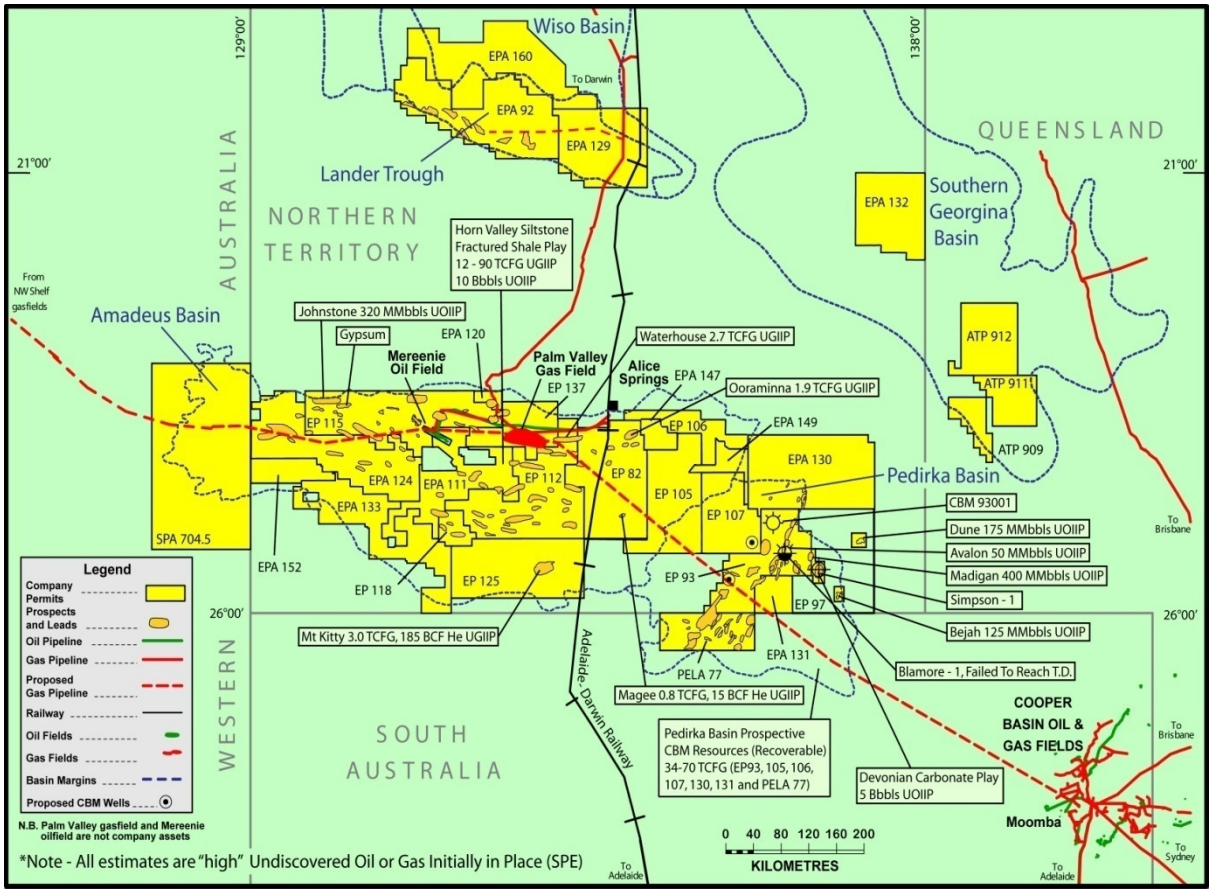

Figure 1 Location Pedirka Basin (Simpson Desert) Permits

Introduction

Central Petroleum's recent drilling program in the Simpson Desert area has identified residual oil columns in the top of the Late Jurassic Algebuckina Sandstone (Blamore-1, 31 m column) and now, recent laboratory studies have confirmed a 17 m residual oil column in the Early Jurassic Poolowanna Formation at the Simpson-1,well. Whilst commercial oil was not encountered in either well, the residual oil columns in each were consistent with pre-drill models predicting oil charge from the Madigan Trough and its margins to targets provided by the first reservoir / seal couplet above the Triassic sequence. This concept was verified by the results from both wells.

Regional Petroleum Geology

In the Eromanga Basin, the Poolowanna Formation (Early Jurassic) records oil shows and has produced oil in several wells. Where this sequence is fully developed it comprises two upward fining transgressive fluvial-lacustrine cycles which were deposited in response to distal seal level oscillations to the northeast (Ambrose et al 2002, 2007).

Stratigraphic architecture during the Early Jurassic is defined by a lacustrine shale capping the basal transgressive cycle (Cycle-1) which is marked at the base by sheet like braid plain sandstones. This reservoir –seal couplet is indeed sheet like in extent. The lacustrine shale partitions the Early Jurassic aquifer in most areas and, in a regional sense, significant hydrocarbon shows and oil recoveries are largely restricted to sandstones below this seal (eg Cuttapirrie-1, Poolowanna -1, Colson-1, Thomas-1 and most recently Simpson-1). The oil recovered at Poolowanna-1 and Cuttapirrie-1 has been geochemically typed back to Cycle-1 Poolowanna shales.The latter is thus an important petroleum system with the requiscent components of source, reservoir and seal all being present on a regional basis.

The other main target reservoir / seal interface is the Algebuckina Sandstone / Murta Member reservoir/seal interface which hosted a residual oil column in Blamore-1. This target is important over Central's tenements especially where the Poolowanna Cycle 1 seal is absent, which allows unimpeded vertical migration of oil through massive Algebuckina Sandstone to the top-most seal ie the Murta Member shales.

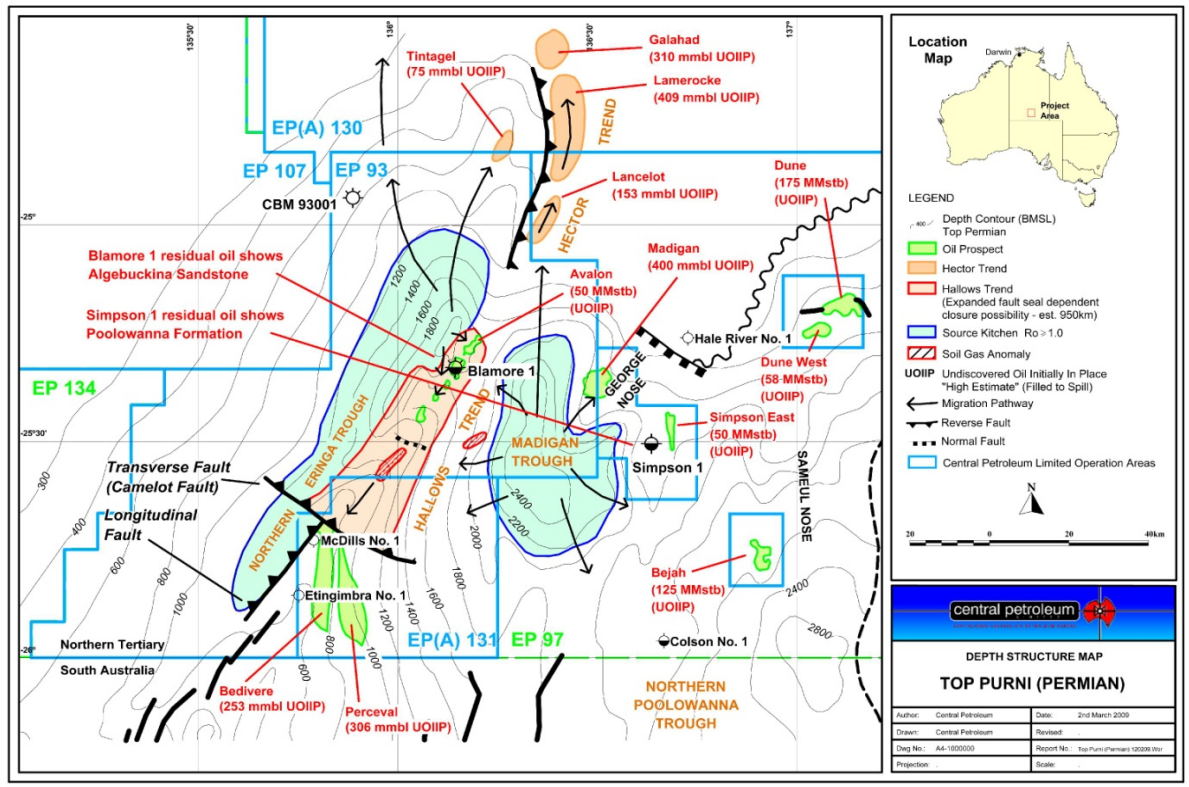

Figure 2a Location Diagram Blamore 1, Simpson 1 and other prospects

Residual Oil Columns

Blamore-1:

In Blamore-1, the first reservoir/seal interface above the Triassic section is the top Algebuckina Sandstone/ Murta Member couplet and as predicted, there is strong

evidence of oil migration and earlier accumulation at this interface (Fig.4). Residual red-brown oil staining of up to 50% occurs over a 31 m interval (associated with minor fluorescence) and this presents the possibility of spill-migration updip along the Hallows Trend to a greater fault dependent closure associated with the Camelot Fault (Fig.2). The Algebuckina Sandstone is an excellent reservoir with porosities of up to 25%.

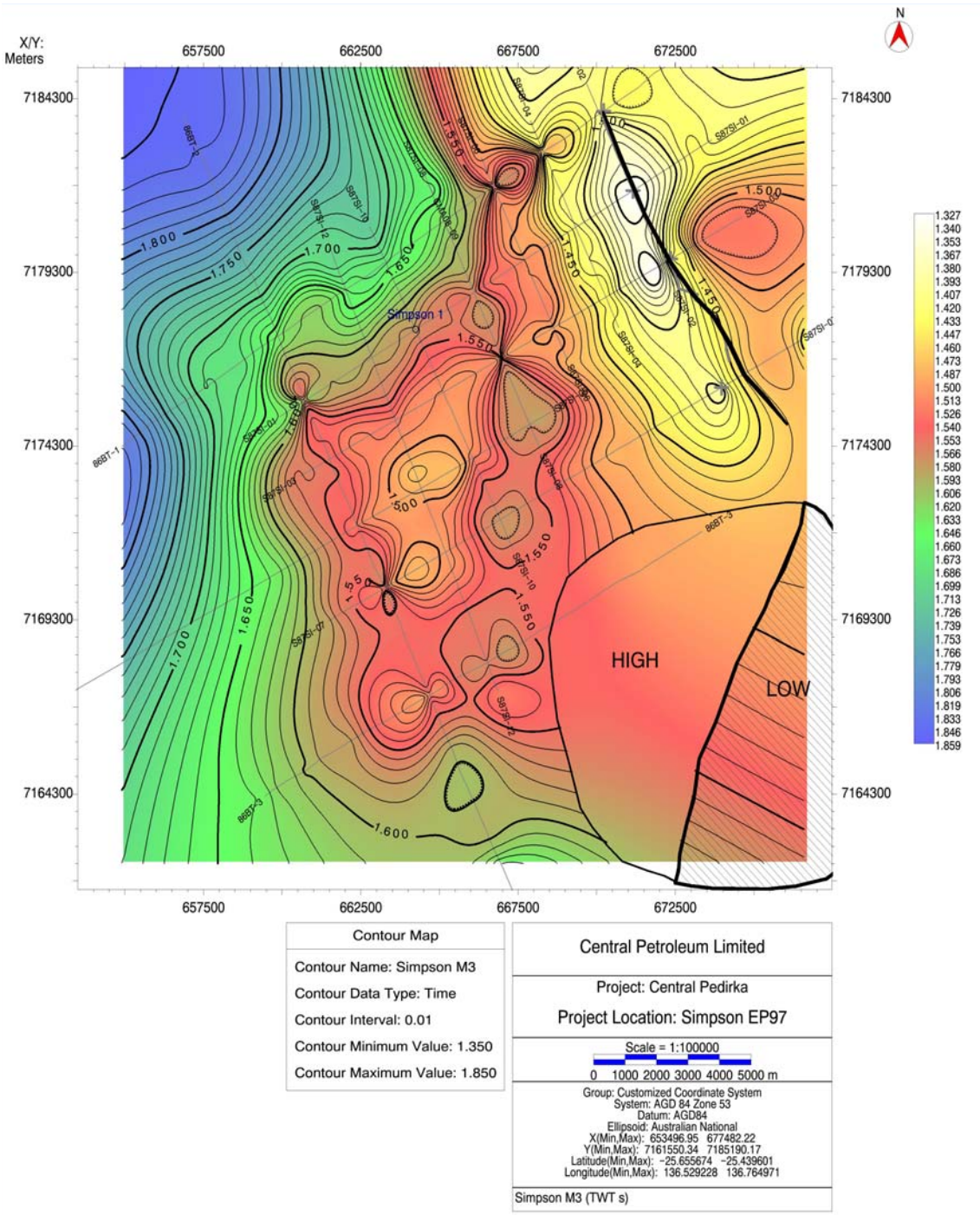

Figure 2b The Devonian Erec Platform Prospect

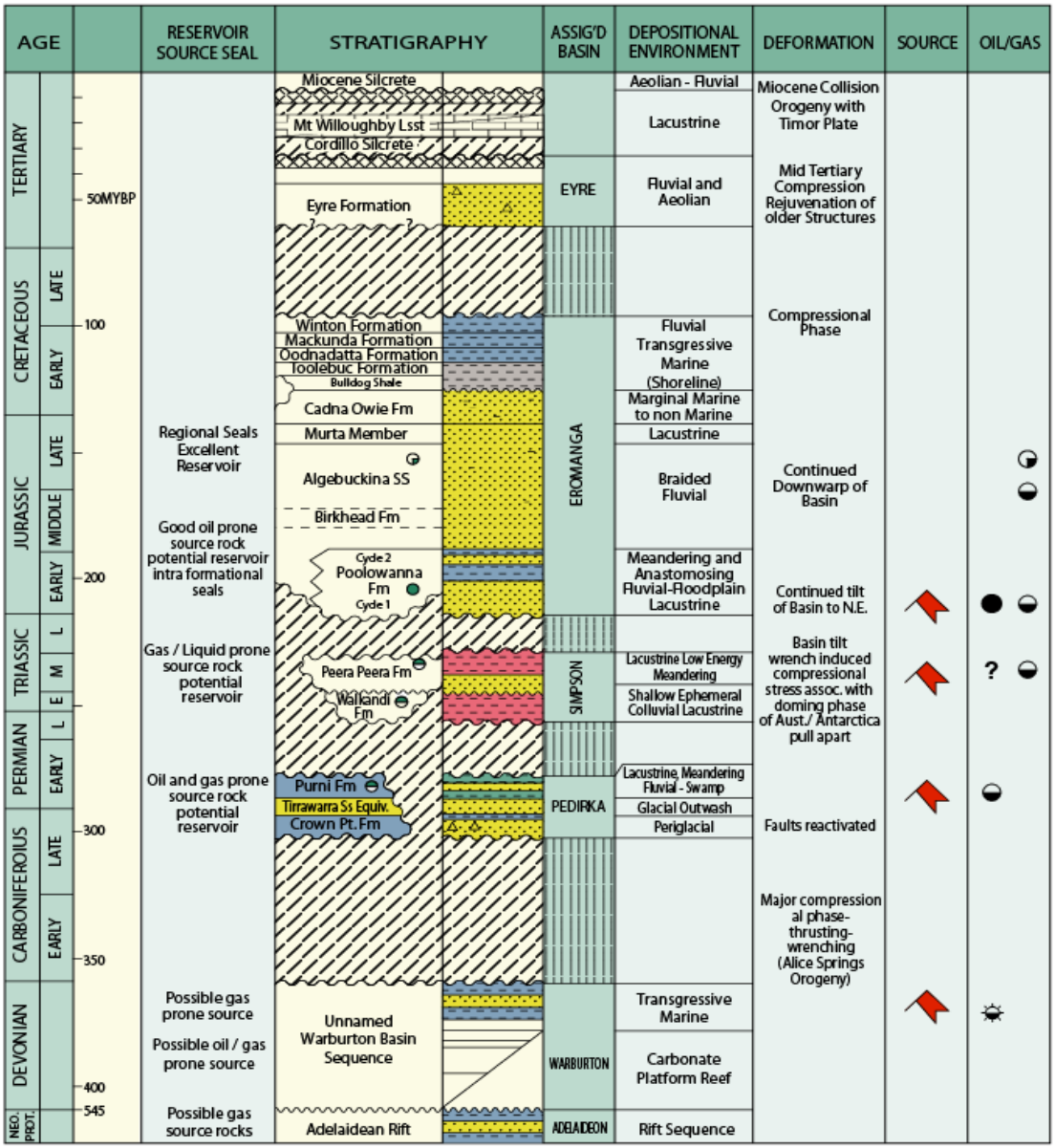
AGE
RESERVOIR SOURCE SEAL
STRATIGRAPHY
ASSIG'D BASIN
DEPOSITIONAL ENVIRONMENT
DEFORMATION
SOURCE
OIL/GAS
TERTIARY
CRETACEOUS
JURASSIC
TRIASSIC
PERMIAN
CARBONIFEROUS
DEVONIAN
NEO. PROT.
LATE
EARLY
MIDDLE
L
M
E
50MYBP
100
200
300
350
400
545
Regional Seals Excellent Reservoir
Good oil prone source rock potential reservoir intra formational seals
Gas / Liquid prone source rock potential reservoir
Oil and gas prone source rock potential reservoir
Possible gas prone source
Possible oil / gas prone source
Possible gas source rocks
Miocene Silcrete
Mt Willoughby Lsst
Cordillo Silcrete
Eyre Formation
Winton Formation
Mackunda Formation
Oodnadatta Formation
Toolebuc Formation
Bulldog Shale
Cadna Owie Fm
Murta Member
Algebuckina SS
Birkhead Fm
Cycle 2
Poolowanna Fm
Cycle 1
Peera Peera Fm
Walkandi Fm
Purni Fm
Tirrawarra Ss Equiv.
Crown Pt. Fm
Unnamed Warburton Basin Sequence
Adelaidean Rift
EYRE
ERCMANGA
SIMPSON
PEDIRKA
WARBURTON
ADELAIDEON
Aeolian - Fluvial
Lacustrine
Fluvial and Aeolian
Fluvial
Transgressive Marine (Shoreline)
Marginal Marine to non Marine
Lacustrine
Braided Fluvial
Meandering and Anastomosing Fluvial-Floodplain
Lacustrine
Lacustrine Low Energy Meandering
Shallow Ephemeral Colluvial Lacustrine
Lacustrine, Meandering Fluvial - Swamp
Glacial Outwash
Periglacial
Transgressive Marine
Carbonate Platform Reef
Rift Sequence
Miocene Collision Orogeny with Timor Plate
Mid Tertiary Compression Rejuvenation of older Structures
Compressional Phase
Continued Downwarp of Basin
Continued tilt of Basin to N.E.
Basin tilt wrench induced compressional stress assoc. with doming phase of Aust./ Antarctica pull apart
Faults reactivated
Major compression al phase- thrusting- wrenching (Alice Springs Orogeny)
?
central petroleum
SIMPSON DESERT AREA STRATIGRAPHY
Author: G. Ambrose
Date: February 2009
Drawn: Central Petroleum
Revised: .
Dwg No.: .
Report No.: .
Projection: .
Scale: .

Figure 3

Blamore 1 Residual Oil Shows
Top Algebuckina Sandstone
Plotted on DLL - MLL - XMAC - GR (Field Print)

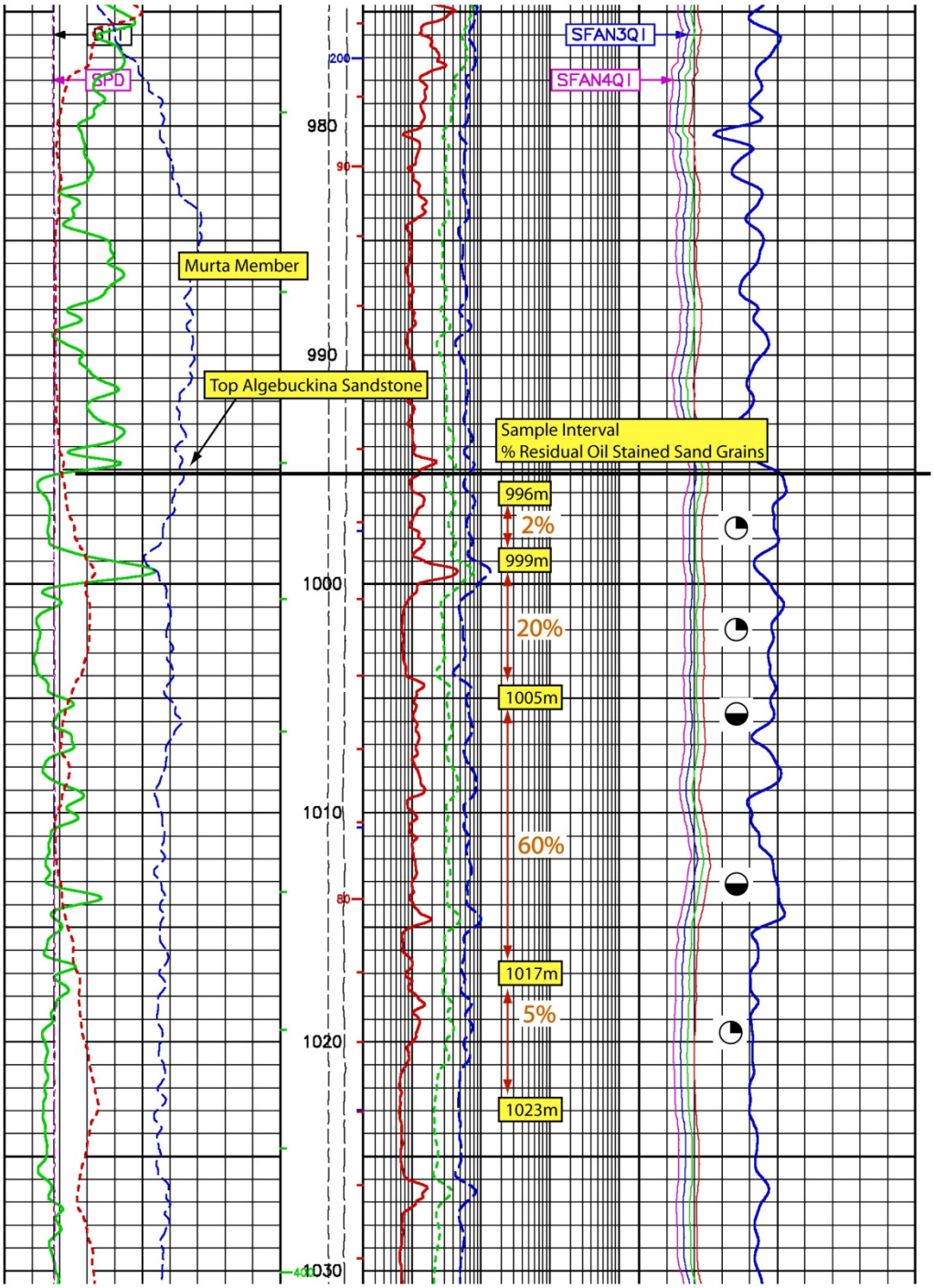

Figure 4

Analysis of oil extracted from the residual oil column at Blamore 1 yielded the following results:

- The presence of immature biomarkers (eg hopanes) suggest this is an early mature oil.

- The oil has not been biodegraded or water washed.

- The dominance of low molecular weight n-alkanes with little odd-over-even carbon number predominance plus the low Pristane/ Phytane ratio (approximately 1) are consistent with deposition in a dysoxic depositional environment with major bacterial inputs. It may also be marine in aspect

- The most likely source is the underlying Palaeozoic sequence and biomarker studies are underway to evaluate this possibility. It is unlikely the source rock resides in the Eromanga sequence given the subject oil has a GCMS signature distinct from Jurassic oils found in the region (eg Poolowanna-1 and Simpson-1).

Simpson-1:

In this well, the first reservoir/seal couplet above the Triassic occurs in Cycle-1 of the Early Jurassic Poolowanna Formation, and consistent with the pre-drill model there is strong evidence of oil migration and accumulation at this interface (Fig.5). Residual red-brown oil staining of up to 60% occurs over an interval of 15 m with trace fluorescence. The residual column spans the Poolowanna Sandstone/ Walkandi Formation boundary.

The Poolowanna Formation is relatively thin in Simpson-1 (39 m) and comprises mainly carbonaceous coals and shales with a viable sandstone reservoir at the base (11.0 m thick Av. porosity 20-25%). Brown oil staining was recorded over the interval 1727 – 1741 m (Fig.5). It is believed Simpson-1 once hosted a Poolowanna oil pool and that epeirogenic tilting and /or aquifer flushing displaced the oil column, possibly updip towards the Simpson East Prospect.

Analysis of oil extracts from the residual oil column yielded the following results:

- The ratio of saturates to aromatics suggests an early mature oil.

- The gas chromatic trace is generally consistent with a marginally mature oil (*n*- alkane odd over even ratio is >> 1; eg *n*-C_{25} – *n*-C_{24} is >>1) derived from a terrestrial, land plant source rock ie > C_{22} *n*- alkanes with an odd over even ratio >>1. The pristine/phytane ratio is >>1 which is also consistent with an oxic depositional environment.

- The most likely conclusion is that the oil was derived locally from an early mature Poolowanna Formation source rock. This encourages the idea of more extensive oil generation in the axis of the Madigan Trough where the source rock is 430m deeper than at Simpson 1.

Implications For Petroleum Exploration

Simpson-1:

It is likely the Poolowanna shales have expelled oil from the axis of the Trough but migration barriers have, at least in part, inhibited lateral migration to the basin margins. However, this does not exclude the possibility that basin margin traps are prospective as evidenced by the residual oil column and the remaining updip potential at Simpson East. However, structures located on short migration pathways from relatively mature source kitchens in the Madigan Trough are also attractive targets eg the Madigan and Guinevere Prospects.

Blamore-1:

The Blamore-1 residual oil column has a different source to that seen in Simpson-1 and final analysis awaits biomarker studies. However, the concept that oil has migrated to the (Blamore) nose of the Hallows Trend has been confirmed and gives encouragement to the idea that oil spilled updip to the transverse Camelot Fault. This fault, which will be detailed by upcoming seismic, is believed to be sealing, thus depriving the crestal McDills structure of oil charge, but enabling oil entrapment downdip of this high. A previous report indicated that the potential trap size of the greater Hallows Trend nose approaches 1,000 km^2.

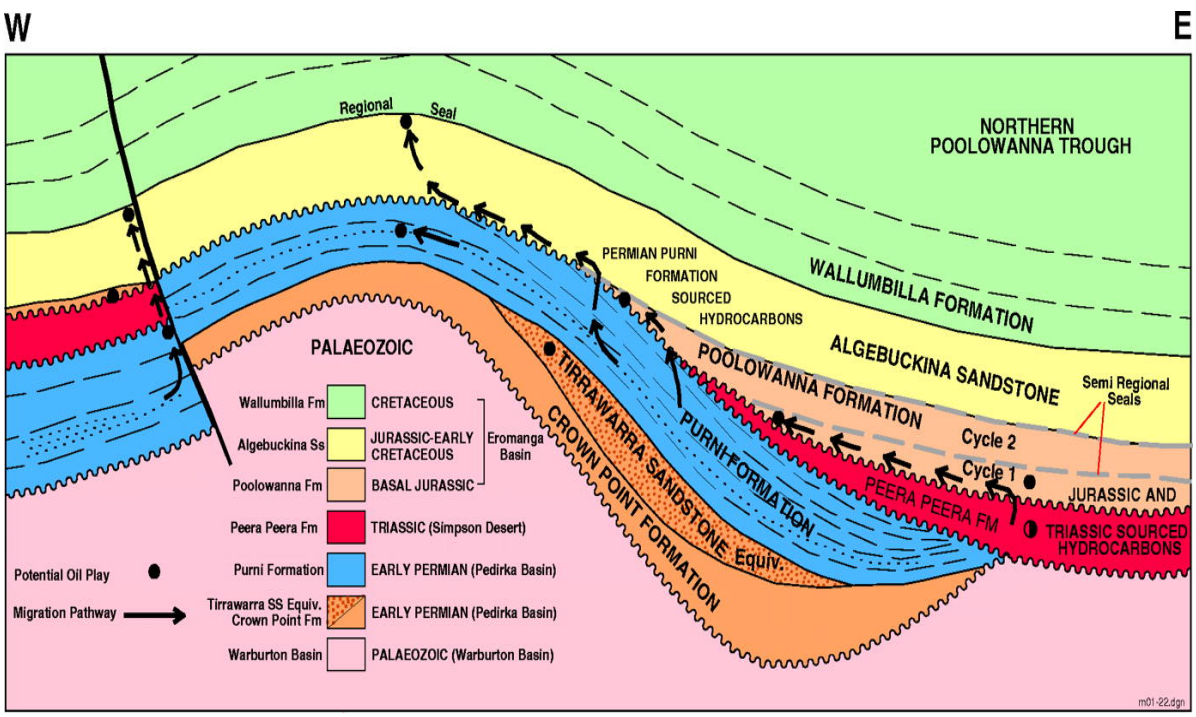

Figure 5a Migration model Pedirka Basin

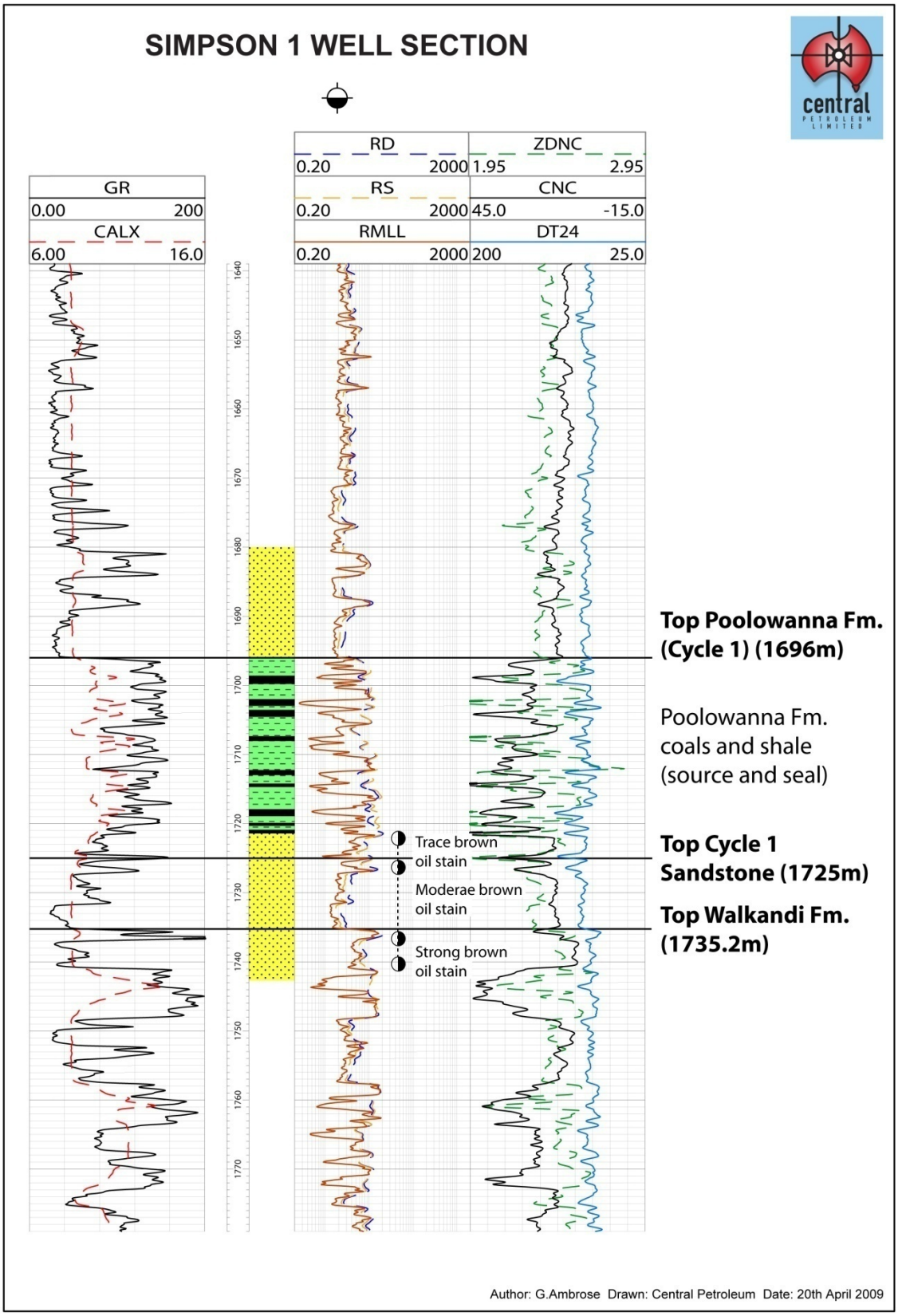

Figure 5b Simpson-1: Oil Staining in the Poolowanna Formation

Simpson East /Erec/Madigan Guinevere Prospects

Two attractive prospects with multi-level targets (Eromanga and Warburton Basin targets) have been defined on the eastern side of the Madigan Trough; namely Simpson East and Madigan prospects. In light of new seismic picks from Simpson-1, the Poolowanna Formation has been remapped in this area and a new structural / stratigraphic play has evolved at this level. Importantly, the Simpson East Poolowanna play lies updip of the residual oil column in Simpson-1 and lies near the crest of the underlying Devonian-Carboniferous Erec Prospect.

The entire Palaeozoic carbonate platform underlying the Simpson structure shows little tectonic disturbance and structuring in the Permo-Mesozoic section is mainly a result of drape and compaction over the underlying carbonate palaeotopography. The Simpson East Prospect, which has multiple targets, was probably crestal throughout its structural history and hence a focus for oil migration. However, the prospect requires seismic detailing at the critical spill point to the north before allocation of a final drilling location; current volumetrics occur below:

Simpson East/ Erec Prospect (over 5 Billion Barrels UOIIP

	Gross Column ft.	Net Col. Ft.	Area acres	GF	Por.	Sh	1 /Bo	MMbbls
Algebuckina ss	50	40	1875	0.7	0.25	0.90	0.90	91.0
Poolowanna Fm	33	27	7010	0.5	0.20	0.90	0.90	105.6
Devonian A+B	300	150	46500	1.0	0.12	0.90	0.90	5.2 Billion bbls
Devonian A+B potential UOIIP is in Billions of barrels reservoired in the platform proper								
Palaeozoic B	300	150	7590	0.4	0.12	0.90	0.90	347.0

Madigan Prospect (Over 500 MMbbls UOIIP)

Algebuckina Sandstone	150	120	10285	0.333	0.16	0.90	0.90	413.0
Poolowanna Formation	33	27	5560	0.50	0.20	0.90	0.90	94.2
Palaeozoic C 4	100	80	2850	0.333	0.12	0.90	0.90	27.0

Guinevere Prospect (over 6 MMbbls UOIIP)

Algebuckina ss	40	32	375	0.33	0.14	0.90	0.90	4.0
Poolowanna Formation	14	10	750	0.40	0.12	0.90	0.90	2.5

Simpson East Prospect lies 8 km east and updip of the Simpson-1 exploration well. The prospect denotes the apex of the deeper Erec Prospect , the latter being a Devonian-Carboniferous carbonate-platform play controlled on its eastern margin by a major normal fault (Erec Fault). Seismic data hints at subtle Tertiary reactivation of the fault and minor transpression. The Erec Fault was a major depositional hinge controlling sedimentation from the Devonian through to the early Cretaceous. Current mapping would indicate that both Mesozoic and Palaeozoic targets could be drilled

inside closure at the proposed Simpson East drill location. The Madigan and Guinevere Prospects remain attractive as both prospects occur on relatively short migration pathways from the Madigan Trough.

Conclusions

Drilling of Blamore-1 and Simpson-1, whilst failing to intersect commercial oil , has confirmed early/local oil migration on the margins of the Madigan Trough towards the Blamore and Simpson highs. Residual oil columns occur in both wells at the level of the Algebuckina Sandstone and Poolowanna Formation respectively. Investigation of avenues for spillage indicates adjacent updip structures at Camelot and Simpson East prospects will provide attractive updip targets once seismic detailing has been completed in 2009-2010. Similarly, Madigan and Guinevere Prospects will be detailed in this program both of which are very large, robust Jurassic closures located close to relatively mature source areas in the axis of the Madigan Trough.

Seismic remapping of the Top Poolowanna Formation reflector, calibrated by well control at Simpson-1, has illucidated a new seismic structural/stratigraphic play at the level of the Poolowanna Formation which has updip potential at both Simpson East and Madigan Prospects. The Permian coal at Simpson-1 recorded Vro in the middle oil window (Vro=0.67) thus confirming thicker Permian shales/coals in the Madigan Trough, 1400 ft deeper than Simpson-1, should be in the mid-late oil window (Vro= 0.8-1.0). Similarly, Poolowanna Formation shales should be markedly more productive in the Madigan Trough enhancing the prospectivity of structures close to or within this basinal setting by leveraging relatively short migration pathways from this deeper kitchen.

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