MERLIN COAL PTY LTD

(100% Owner & Operator)

PURNI COAL PROJECT

FINAL REPORT

for the period 7th September 2011

to the 9th October 2015

for

EL28472

(formerly part of Group Reporting Number: 157)

PEDIRKA BASIN

NORTHERN TERRITORY

Compiled by:

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{BSc. (Hons), BComm, MAIG, MAusIMM, GAICD}

14 October 2015

Titleholder	**Merlin Coal Pty Ltd**
Operator (if different from above)	
Tenement Manager/Agent	**Merlin Coal Pty Ltd**
Titles/Tenements	**EL28472**
Mine/Project Name	**Purni Coal Project**
Report title including type of report and reporting period including a date.	**Purni Coal Project Final Report for the period 7th September 2011 to the 7th October 2015.**
Personal author(s):	**Joe Schifano (Geo Joe Pty Ltd)**
Corporate author(s):	**Merlin Coal Pty Ltd**
Company reference number:	
Target Commodity or Commodities:	**Coal, gas and any other valuable minerals**
Date of report:	**14 October 2015**
Datum/Zone:	**GDA94/Zone 53**
250,000k mapsheets:	**Hale River**
100,000k mapsheets:	**Poodinitterra**
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Abstract

This is the Final Report for EL28472 which was part of the Purni Coal Project (PCP), comprising of seventeen mineral exploration licences (EL27094, 27100 - 27110, EL27114, EL28095 - 28097 and EL28472) for the period 1st September 2015 to the 9th October 2015. EL2842 consists of 7 blocks covering an area of 12.25 km^2 on the north west margin of the PCP. EL28472 was surrendered on the 7th October 2015.

No exploration fieldwork was undertaken on EL28472 during the tenure period from the 7th September 2011 till the 9th October 2015.

A portion of the $1.4M favourable Preliminary General Development Concept Design Analysis on the PCP completed by China Shenhua on behalf of Merlin Coal over the last 18 months was apportioned and expensed to EL28472 in the 2015 Group Annual Report. This report remains under confidential terms with China Shenhua, and does not impact on EL28472.

EL28472 was surrendered due to its small size of 7 blocks and area (12.25 km^2) on the northwest margin in relation the size of the remaining PCP area (17,885.44 km^2).

There are no recommendations for any ongoing work as no exploration work was undertaken on EL28472.

1.0 Introduction

This is the Final Report for EL28472 which was part of the Purni Coal Project (PCP), comprising of seventeen mineral exploration licences (EL27094, 27100 - 27110, EL27114, EL28095 - 28097 and EL28472) for the period 1st September 2015 to the 9th October 2015. EL2842 consists of 7 blocks covering an area of 12.25 km^2 on the north west margin of the PCP. EL28472 was surrendered on the 9th October 2015.

The sale of the 17 exploration licences that consist of the PCP held by Merlin Coal Pty Ltd to FRID Energy Pty Ltd occurred on the 29/05/2013, with the ASIC transfer of registered Directors and shareholdings occurring on the 3rd of June 2013. Merlin Coal Pty Ltd was previously owned by ASX listed Central Petroleum Limited (CTP).

EL28472 was one of the seventeen exploration licences purchased by FRID Energy Pty Ltd in 2013.

1.1 Location and Access

EL28472 as part of the PCP is located approximately 340 km's southeast of Alice Springs in the Simpson Desert and covers part of the Eromanga and Pedirka Basins (figures 1 and 2). It comprised of 7 blocks covering 12.25 km^2.

The project is located in the Simpson Desert, south east of Alice Springs in the Simpson Strzelecki Dune fields Bioregion. Access to the exploration area is via previously approved routes on public roads (figure 1). Upon entry to the Simpson Desert, access is via pre-existing access tracks which have been built in order to service the operations of the previous exploration licence operator. There are no permanent watercourse areas in the exploration areas, although the Hale and Todd Rivers flood out to the west of the Allitra Tableland.

1.2 Tenure

EL28472 was granted on 7th September 2011. The exploration licence covers 7 blocks over an area of 12.25 km^2. FRID Energy became the owner of EL28472 via a purchase of Merlin Coal Pty Ltd which was finalised on the 3rd June 2013 when the new ownership was registered.

Table 1 below summarises the exploration licence covered by this report and figure 1 shows the location of the exploration licences held by Merlin Coal.

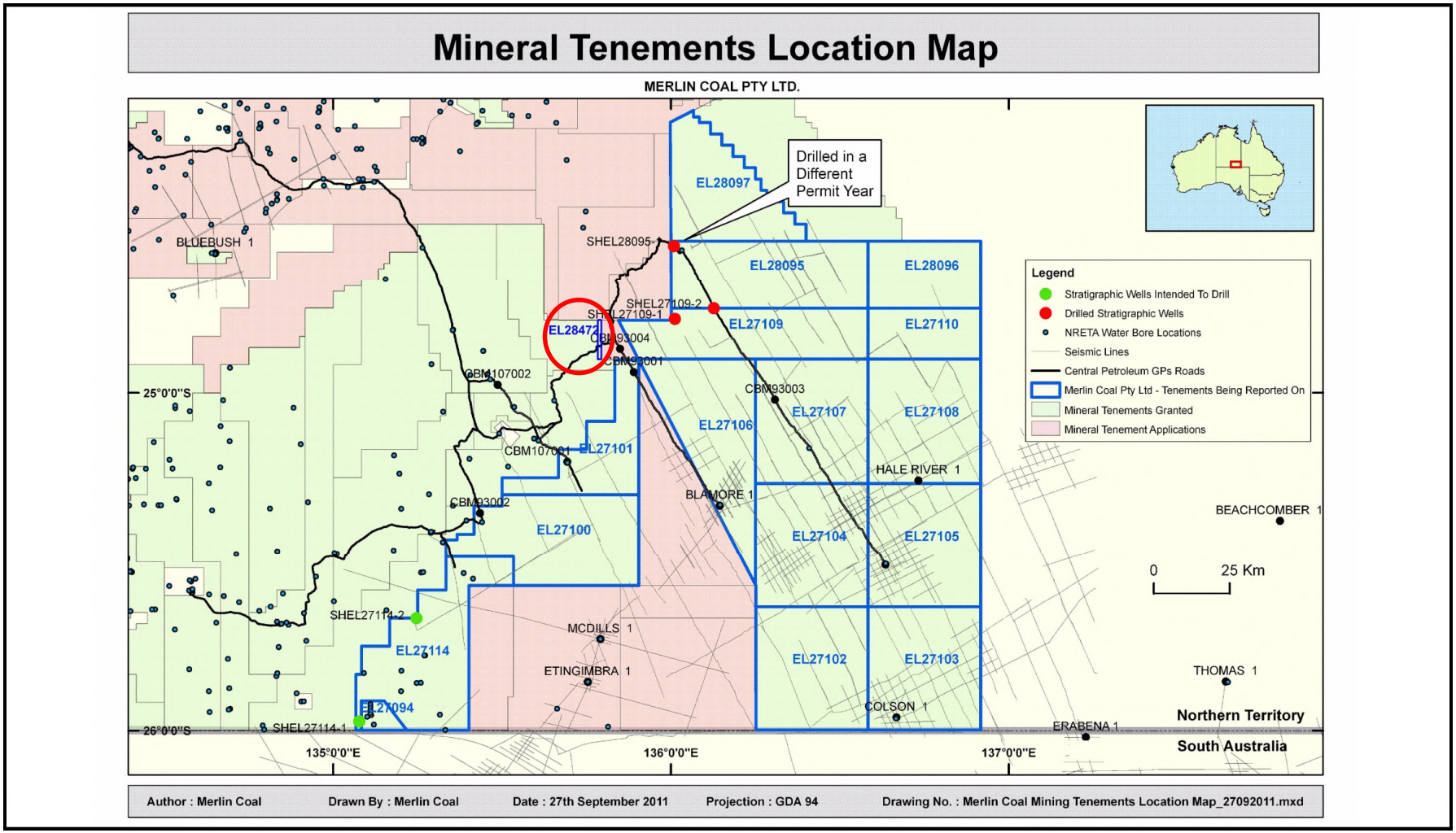

Figure 1: Purni Coal Project Exploration Licence Location Map

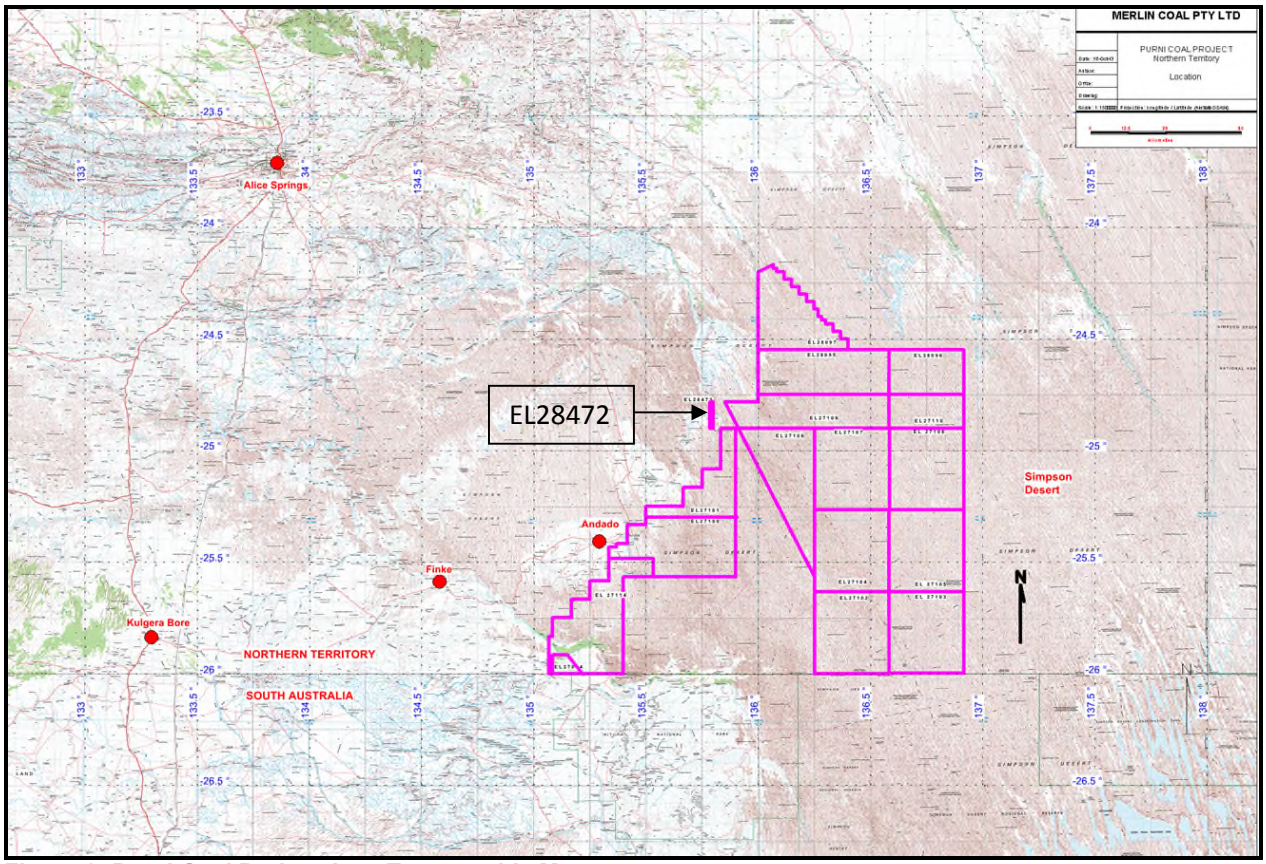

Figure 2: Purni Coal Project Area Topographic Map.

Table 1: Purni Coal Project Exploration Licence details

Type	EL Number	Grant Date	Expiry Date	Surrended	Size (Blocks	Size (km^2)
EL	28472	07-Sep-11	06-Sep-17	09-Oct-2015	7	12.25

1.3 Land Use

There are two sites of national significance within the Simpson Desert (Allitra Tableland and Andado) as determined by the NT Government Department of Natural Resources Environment the Arts and Sport (NRETAS) Parks and Conservation Masterplan. White et al. (2000) list these sites as being of national significance and describe the Allitra Tablelands as a large residual tableland bounded to the north and west by the flood out of the Hale River. The site supports one of the largest known populations of the vulnerable Acacia pickardii (TPWC Act) as well as other flora of national or bioregional significance such as Calotis kempei, Maireana apressa and Osteocarpum pentapterum, Acacia cerophylla and Lysiana spathulata (White et al. 2000).

Andado is described as a large outlier of heavy finely textured soils and gibber plains enclosed by dune fields of the Simpson Desert. The site incorporates the major conservation reserve for endangered Acacia peuce (TPWC Act) as well as several important ephemeral swamps. Other flora of national significance in the Andado site includes Acacia pickardii, Atriplex morrissii, Bergia occultipetala,

Eleocharis papillosa, and Ptilotis aristatus var. eichlerianus (White et al. 2000). The Andado area also supports a major breeding population of the plains mouse (Pseudomys australis) (vulnerable under the TPWC Act) and several other threatened mammalian fauna have been recorded in the area e.g. mulgara (Dasycercus cristicauda/hilleri) and southern marsupial mole (Notoryctes typhlops).

The exploration area is predominately located in Crown Land, although the most western sites are located on Andado Pastoral station. NRETAS biodiversity south unit also have a long term flora and fauna monitoring site located in and around the Mac Clarke Conservation reserve. Heritage and Sacred Site clearance have also been conducted in the area in relation to previous exploration campaigns and the Central Land Council and/or Aboriginal Areas Protection Authority have previously been contacted with regards to Merlin's exploration activities.

The company's previous owners, CTP, undertook several reviews of its operations (past, present and future) against the requirements of the *Environmental Protection and Biodiversity Conservation Act* and against the administrative procedures prescribed by the Environmental Assessment Process in the NT and *Environment Assessment Act 1982*. This has included reviews of the NT Flora and Fauna atlas, protected matters searches, and on ground flora and fauna surveys by suitably qualified consultants.

2.0 Geological Setting

Pronounced Palaeozoic tectonic related compression during the latter part of the Alice Springs Orogeny (Late Devonian to Early Carboniferous) folded Neoproterozoic/Palaeozoic sediments of the Warburton Basin, as recorded in Hibburt and Gravestock (1995) and Ambrose et al., (2002).

This section was truncated by erosion resulting in a moderately undulating topography which was infilled by Permo – Carboniferous sediments. During this period, epeirogenic downwarp accommodated glacigene and floodplain-swamp deposits but subsequent depositional terrains became progressively more subdued through time.

Mild tectonism at the end of the early Permian was accompanied by a regional easterly tilt with local basin sag occurring in the Eringa, Madigan and Poolowanna Troughs, the latter being the major focus of Mesozoic sedimentation. This period saw the development of a structural regime differentiating the Pedirka Basin from the younger, closely allied Simpson and Eromanga basins.

The oldest Simpson Basin sediments, the Walkandi Formation red-bed sequence was deposited on a gently undulating Permian surface, under the influence of mild regional subsidence. It is assumed that minor uplift in the Late - Middle Triassic triggered an abrupt change to fluvial - alluvial sedimentation at the base of the Peera Peera Formation. Minor uplift and erosion (peneplanation) at the

end of the Triassic resulted from mild rejuvenation of pre-existing faults. The overlying Early Jurassic sedimentary cycles are sheet-like in extent and sedimentation of both this unit and the overlying Jurassic/Cretaceous sequence were increasingly focused in the Poolowanna Trough. This resulted in the vertical juxtaposition of the thickest developments of Peera Peera and Poolowanna formation source rocks beneath the most substantial Cretaceous sedimentary load as shown in figures 3 and 4 (Ambrose, G., and Heugh, J., 2012).

Structuring during the Jurassic was subtle and largely a function of drape and compaction over older Palaeozoic highs, but structural closures formed at this time are believed to be prime oil targets. Relatively rapid burial of the Eromanga section occurred during the Cretaceous prior to at least some uplift and erosion at the end of Winton Formation time although this interpretation relies heavily on evidence from the Cooper Basin to the south. During the Miocene, intense east-west compression and local wrenching resulted in severe structural rejuvenation, and in some cases structural inversion, along most major fault lines. This structural phase is linked to the collision of the Australian and Timor continental plates during the Miocene.

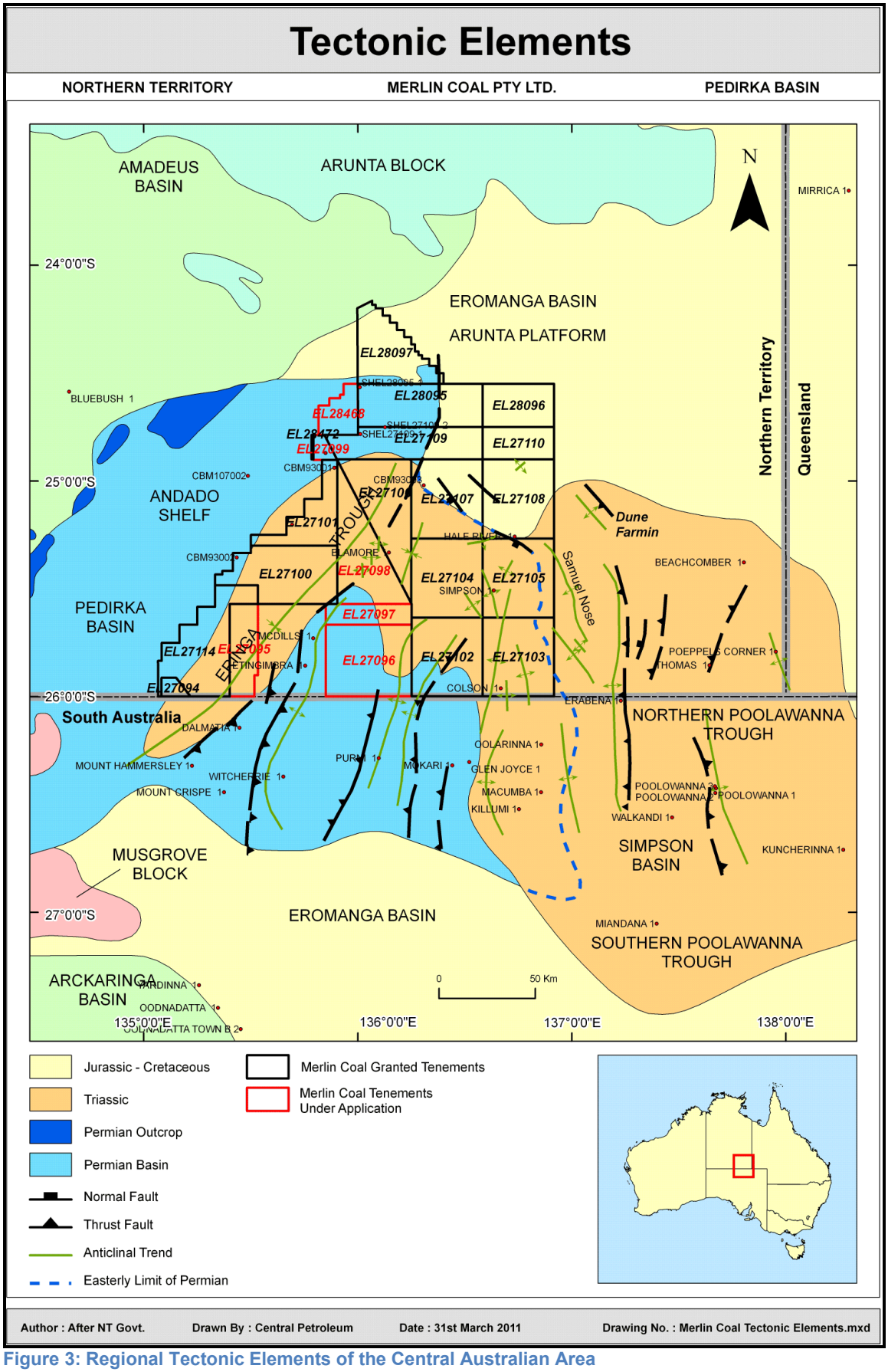

Figure 3: Regional Tectonic Elements of the Central Australian Area

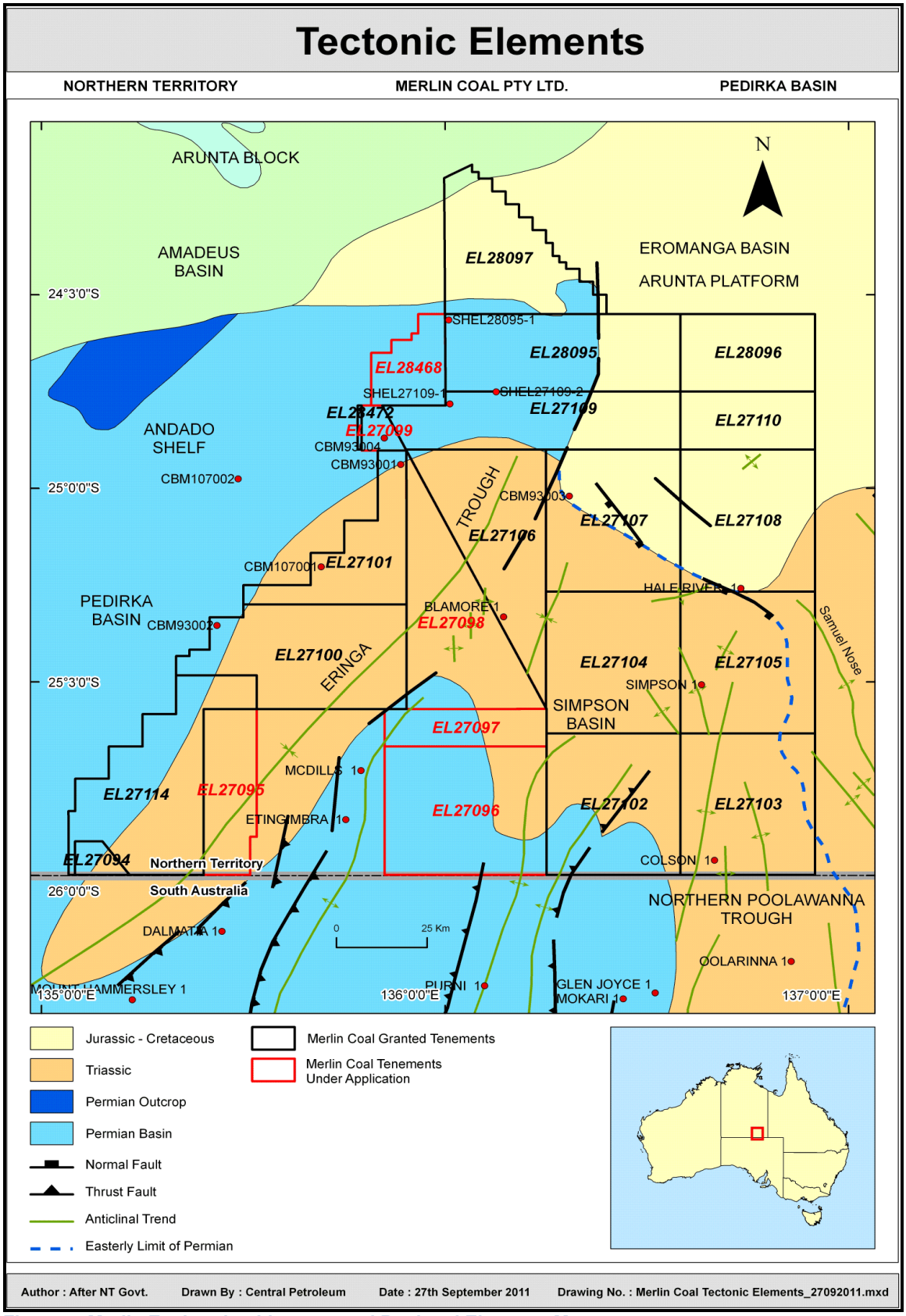

Figure 4: Merlin Exploration Licences and Regional Elements Map

2.1 Local Geology

The Pedirka Basin sequence had its genesis in Carbonaceous-Early Permian time when sedimentation occurred in a down warp over the pre-existing sediments of the Proterozoic-Early Carboniferous Amadeus Basin.

Sedimentation in the Amadeus Basin was controlled and constrained by basement blocks of metamorphic and igneous composition, the Arunta Block to the north and the Musgrave block to the south. The western margin of the basin is a shallow basement ridge which separates the Amadeus Basin from the Canning Basin of Western Australia.

The basin's eastern margin is not well understood but appears to be truncated, as does the southern margin. Two pulses of marine deposition are thought to have occurred; these were then followed by a later pulse of continental sedimentation. Several episodes of structuring then occurred, involving uplift and erosion and then sinking and marine transgression. The previously mentioned basement blocks acted as immobile bulwarks against which the sediments of the Amadeus Basin were deformed and structured, due to north-south compression.

Subsequently subsidence occurred in the deeper eastern and southern ends of the basin and the lacustrine, fluvial, and often glacial derived sediments of the Permian aged Pedirka Basin were deposited unconformably on the Amadeus Basin section. Extensive accumulations of carbonaceous material were deposited in this cycle.

A hiatus then occurred before the Triassic aged Simpson Basin sequence was deposited, unconformably, on the Pedirka Basin sequence. These sediments are of lacustrine, flood plain and fluvial origin, with some glacial influence. This cycle is dominated by carbonaceous shale with some coal. The depocentre of this basin, the Poolowanna Trough is eastwards of the Pedirka Basin depocentres.

Uplift and erosion occurred as a result of the widespread Triassic structuring event. This was followed by the cyclic sedimentation of the Eromanga Basin sequence, of fluvial and flood plain origin. The Poolowanna Formation, the basal unit is a good source rock, containing some coal and carbonaceous shale, which are known to be mature and to contain oil prone macerals. Cyclic alternating interbedded high and low energy then occurred during the deposition of the Eromanga Basin sequence of alternating and juxtaposed high quality clastic

reservoirs and regional seals. A marine transgression occurred in Cretaceous time when the Wallumbilla Formation was deposited. This unit is a regional top seal to the Eromanga Basin sequence.

The basin complex has had, for most of its life, an intra-cratonic setting. In eastern and central Australia this has resulted in the deposition of considerable amounts of coal and or carbonaceous shale.

Recent studies of the basin (Alexander *et al* 1996, Ambrose *et al* 2002, Middleton *et al* 2007, and Ambrose et al, 2007) have reviewed the stratigraphy and basin history of the area.

Figure 4 (Ambrose, G., and Heugh, J., 2012) above shows the structural elements of the Pedirka Basin and figure 5 (Ambrose, G., and Heugh, J., 2012) shows the schematic cross section.

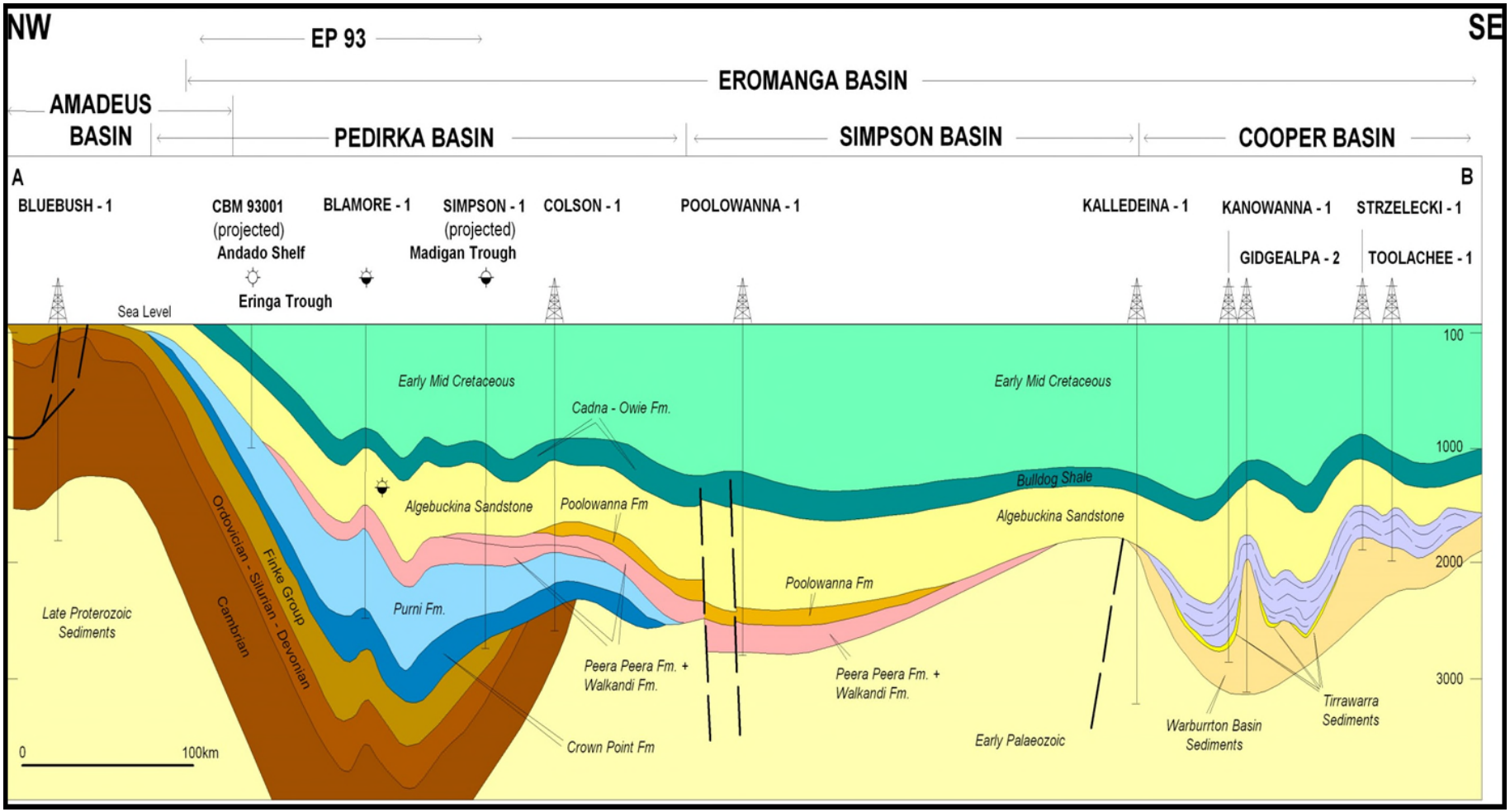

Figure 5: A Regional Cross section through the Pedirka-Cooper Basin area

2.2 Stratigraphy

The Pedirka area is situated in the Simpson Desert, the stratigraphy of the Pedirka Basin and the interpreted stratigraphic column of the Simpson Desert area is illustrated in figures 6 and 7 (pages 15 and 16).

The Pedirka Basin encompasses four superimposed sedimentary basins, namely the Palaeozoic Warburton Basin, the Permo-Carboniferous Pedirka Basin, the Triassic Simpson Basin, and the Jurassic–Cretaceous Eromanga Basin. Over wide areas it reflects a structural footprint controlled by Palaeozoic structuring and palaeo-depositional facies.

Pre-Permian

The earliest sediments in the area are a succession of Neoproterozoic to Late Devonian intracratonic sediments of the Warburton Basin. These strata occur extensively in the subsurface and onlap Mesoproterozoic gneiss, amphibolite and granites of the Musgrave Province.

Permian Sedimentation (Pedirka Basin)

The Pedirka Basin depocentres consist of the Eringa and Madigan troughs and the Jurassic/Cretaceous Poolowanna Trough. The Permo-Carboniferous record is dominated by widespread glaciation and basal diamictites (Crown Point Formation). This sequence is overlain by intracratonic sediments of the Early Permian Purni Formation which are equivalent to the Patchawarra Formation of the Cooper Basin. However, this interpretation recognises regional development of glacial outwash sandstones at the top of the Crown Point Formation which are believed to be equivalent to the Tirrawarra Sandstone of the Cooper Basin.

Permo-Carboniferous Crown Point Formation/Tirrawarra Sandstone Equivalent

The basal Permian unit, the Crown Point Formation, is a dominantly glacial succession comprising extensive diamictite, glacial-fluvial outwash sandstones, ripple laminated sandstone and siltstone, together with thick shale and varved successions. Coarse sandstone, conglomerate and diamictite are common around palaeo-highs, whereas basinal areas are mostly shale and varve sedimentation. The succession is thickest in the Eringa Trough where 700 metres of clean sandstone and siltstone was encountered in Mount Hammersley-

1; these are believed to represent glacio-lacustrine deposits. The topmost unit is a glacial outwash sandstone equivalent to the Tirrawarra Sandstone of the Cooper Basin. The sandstones are most porous at the base and are commonly feldspathic with lithics. The thickest known development of this sandstone is 200 metres in Mt Hammersley-1 in South Australia where the sequence comprises glacial outwash sandstone, displaying both fining-upward and coarsening-upward GR log motifs.

Early Permian Purni Formation

The Purni Formation conformably overlies the Crown Point Formation, being a depositional continuum following the termination of glaciation in Sakmarian time. Glacial outwash sandstone intervening between these two units correlates with the Tirrawarra Sandstone and subdivided the Purni Formation at Mokari-1 and Purni-1 into three members with a total maximum thickness of 350 metres in Mokari-1 and 286 metres in Mount Hammersley-1. The lowest member comprises thinly interbedded sandstone and siltstone, with minor carbonaceous shale and conglomerate. This facies resulted from a predominantly low-energy, meandering-fluvial depositional system. The sandstones are commonly pyritic which differentiates them from feldspathic sandstones of the Tirrawarra Sandstone. The upper part of the Purni Formation consists of paludal/floodplain deposits, comprising very fine to fine-grained carbonaceous sandstone and interbedded siltstone, shale and coal. The coals and shales contain up to 10% exinite and are expected to be rich in vitrinite and inertinite thus providing excellent source rocks for oil and gas.

Early Jurassic Poolowanna Formation

In the Eromanga Basin, the Early Jurassic Poolowanna Formation is an important target for hydrocarbons. To the east in the Poolowanna Trough and beyond, this unit can be subdivided into two vertically stacked upward-fining cycles, each being 50 to 100 metres in thickness. This sequence, which relates to distal sea-level change may be present in the Eringa Trough but probably pinches out down-dip of the well location. Care should be exercised in differentiating any Poolowanna coals (not predicted but could possibly be present) from those expected in the top Purni Formation.

Jurassic Algebuckina Sandstone/Cretaceous Marine Shales

The Poolowanna Formation is disconformably/unconformably overlain by thick continental sandstones of the Algebuckina Sandstone. This thick fluvial package is in turn sometimes overlain by thin Murta Member shales in turn succeeded by marginal-marine Cadna-Owie Formation, comprising fine-grained sandstone,

siltstone, and claystone, with minor limestone. Geochemistry of oil stains recorded at the top Algebuckina Sandstone indicates a marine source rock – the most likely candidate is the Murta Member shales which appear to have acted as both source and seal.

The onset of full marine conditions during the Early Cretaceous is represented by the Bulldog Shale/Toolebuc/Oodnadatta succession. In the Late Cretaceous, non-marine conditions prevailed and the Winton Formation was deposited in a fluvial-floodplain environment denoted by interbedded sandstones, siltstones and coals. It was during Winton Formation sediment loading that most hydrocarbon generation is believed to have occurred in the Eringa Trough to the east. The Andado Shelf is a target for migrated hydrocarbons formed in the Eringa Trough as well as for coal-bed-methane.

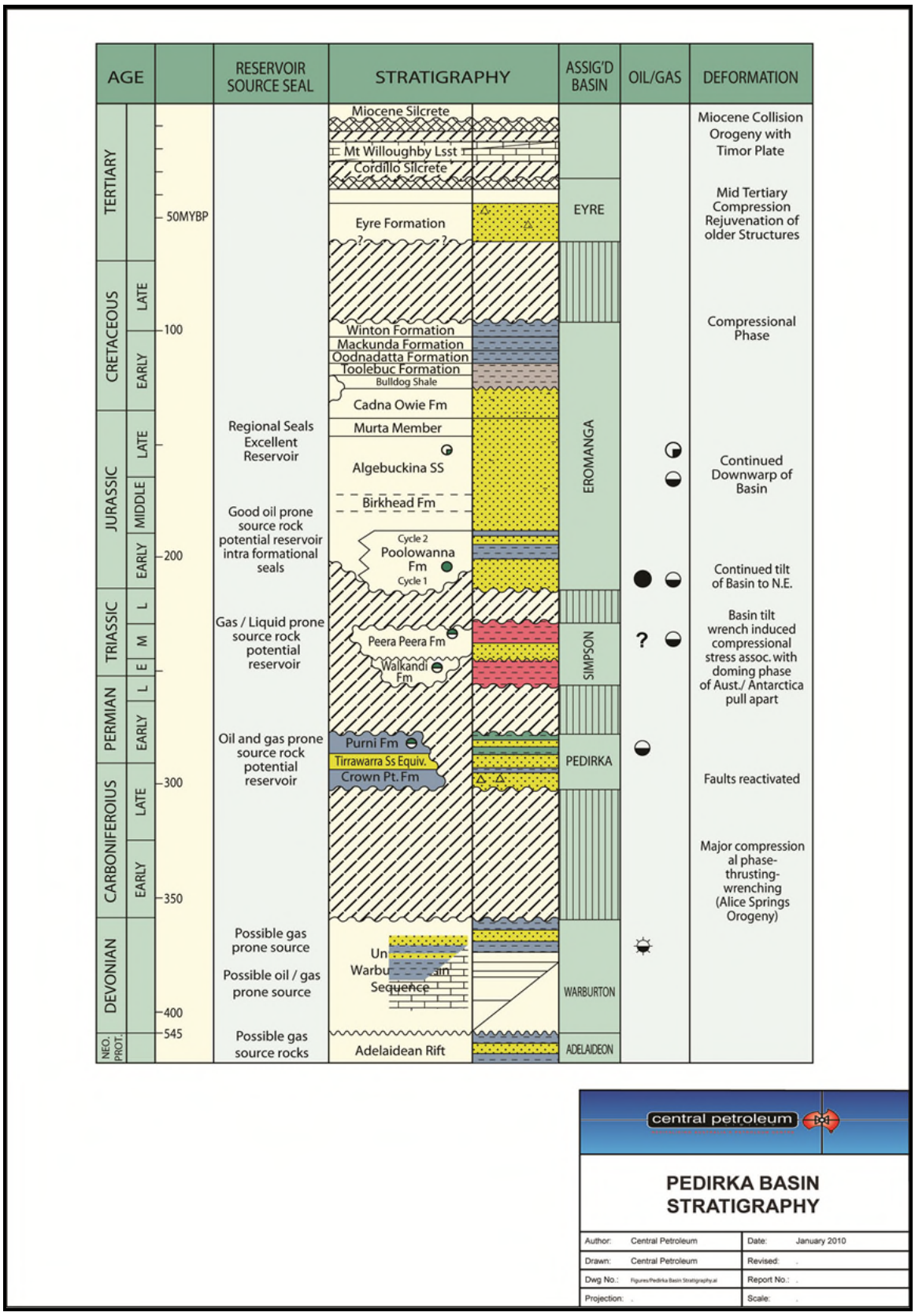

Figure 6: Pedirka Basin Stratigraphy

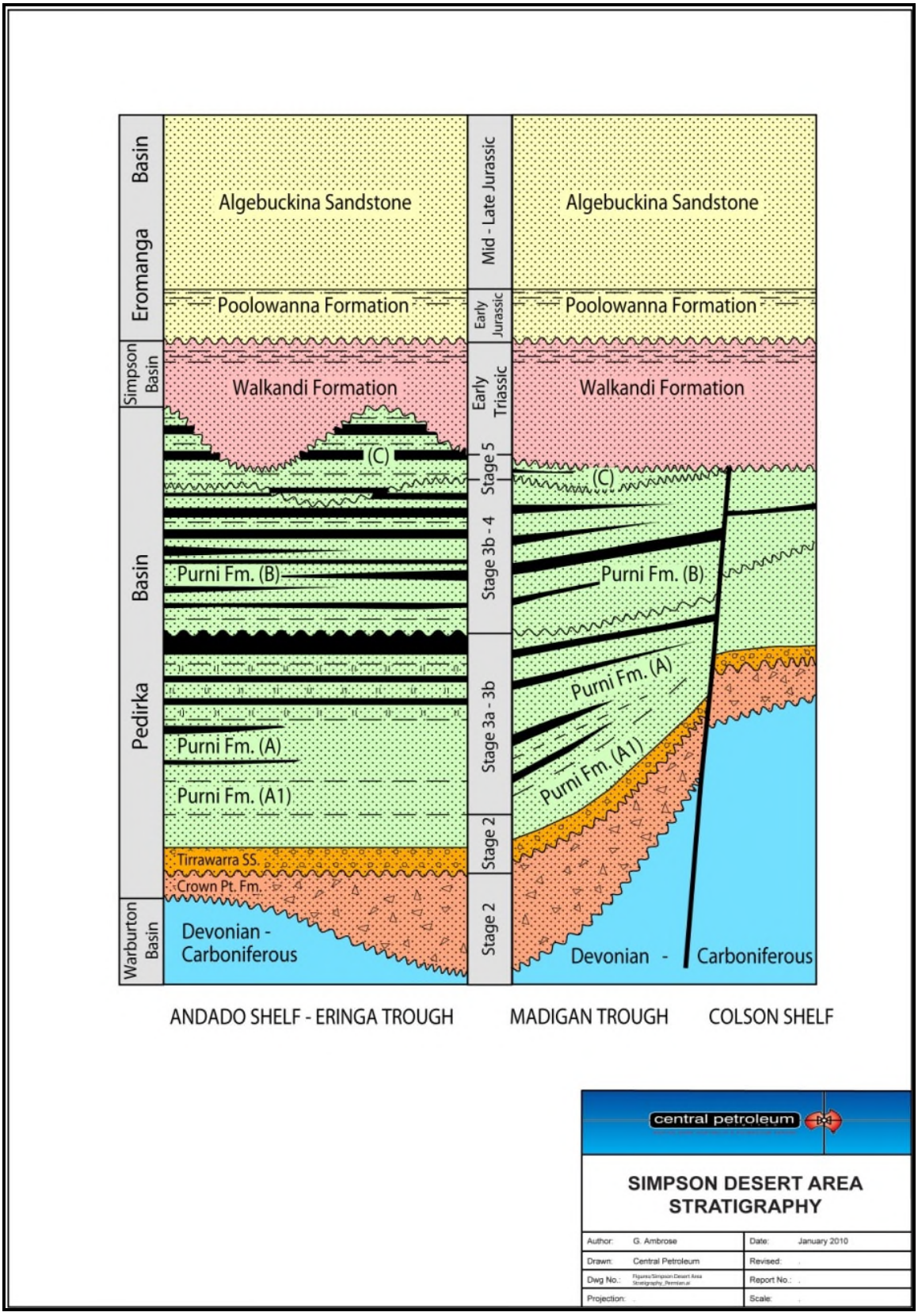

Figure 7: Pedirka-Simpson Desert Area Basin Stratigraphy

2.4 Exploration Rationale

The new owners of Merlin Coal (FRID Energy) were developing an exploration program to undertake further drill testing of the shallower coal targets as the focus of exploration moves to targeting coal measures within the top 500 metres.

3.0 Exploration Work Summary by Tenure Year

3.1 Reporting Year to the 31st August 2012

EL28472 is not mentioned in the list of exploration licences in the 2012 Group Annual Report. However it was included under the Group Reporting for 157.

No on ground exploration activity was carried out during the reporting period to the 31st August 2012 in the Group Annual Report 157 submitted by the previous owner of Merlin Coal Pty Ltd for EL28472, as the exploration was being prepared for sale as noted in the Form 17 Expenditure Report.

3.2 Reporting Year to the 31st August 2013

EL28472 is not mentioned in the list of exploration licences in the 2013 Group Annual Report 157 undertaken by the new owners of Merlin Coal, FRID Energy Pty Ltd

No on ground exploration activity was carried out during the reporting period to the 31st August 2013 in the Group Annual Report submitted by the new owner of Merlin Coal Pty Ltd for EL28472.

3.3 Reporting Year to the 31st August 2014

No on ground exploration activity was carried out during the reporting period to the 31st August 2014 in the Group Annual Report 157 for EL28472.

3.4 Reporting Year to the 31st August 2015

No on ground exploration activity was carried out during the reporting period to the 31st August 2015 in the Group Annual Report 157 for EL28472.

3.5 Final Reporting Period to the 9th October 2015

No on ground exploration activity was carried out during the final reporting period to the 9th October 2015.

Current world commodity market conditions has made it increasingly difficult for Merlin Coal to secure and finalise an Asian joint venture partner to fund ongoing exploration and development work for the Purni Coal Project. EL28472 was surrendered due to its small area and size.

3.6 Final Expenditure to the 9th October 2015

There was no expenditure recorded on EL28472 during the final reporting period from the 1st September to the 9th October 2015. See Form 17 attached in Appendix 1.

4.0 Conclusions and Recommendations

4.1 Conclusions

No on ground exploration activity was carried out on EL28472 during the tenure period from the 7th September 2011 until the surrender date of the 9th October 2015.

Current world commodity market conditions has made it increasingly difficult for Merlin Coal to secure and finalise an Asian joint venture partner to fund ongoing exploration and development work for the Purni Coal Project. EL28472 was surrendered due to its small area and size.

4.2 Recommendations

There are no recommendations for any ongoing work as no exploration work was undertaken on EL28472.

5.0 References

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6.0 Appendix 1: Final Form 17 Expenditure Report