

### **EXPLORATION LICENCE (EL) 26045**

### ANNUAL REPORT FOR PERIOD ENDING 2 December 2008

Submitted by the titleholder:

**TRI-STAR ENERGY COMPANY** 

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#### SUMMARY

Section 34 of the Mining Act requires the submission of an Annual Report prepared by the titleholder for each current Exploration Licence (EL). This first Annual Report for EL 26045 provides a summary of activities undertaken on the permit in the past year including any results produced by these activities.

EL 26045 was granted on 3 December 2007 for a term of six years. Tri-Star Energy Company is the sole titleholder and the operator of EL 26045. The work and expenditure program for EL 26045 during its first year required a geological and geophysical review of existing data and information towards determining the location of Permian coals within the Purni Formation and specifically, their depth, thickness, lateral extent and quality. No field activities were intended during the first year and none were carried out.

Tri-Star Energy Company commenced the review of existing data for the permit area and the Pedirka Basin in general to identify existing seismic, well and bore data, geology, cadastral information and topography. The geological investigations and the literature search commenced during the reporting period has indicated that the Purni Formation and its associated coals do not crop out within the area of EL 26045 but may occur at depth throughout the tenure.

Tri-Star Energy Company has met all work and expenditure commitments for EL 26045 for the first year of the term, further work will be required to determine the location of the Permian coals with any precision and the second year of the term will focus on addressing this issue.

#### INTRODUCTION

EL 26045 was granted to Tri-Star Energy Company on 3 December 2007, and covers an area of 478 sub-blocks.

EL 26045 is located approximately 98 kilometres north of Finke in the southern Northern Territory, and the tenure's southernmost boundary is located approximately 50 kilometres north of the border between the Northern Territory and South Australia, as shown in Figure 1. EL 26045 is geologically located over the Pedirka and Eromanga Basins, as shown in Figures 2 and 3. Figure 4 shows the surface geology of the tenure.

The topography of the tenure area, shown in Figure 6, is varied and includes the Moolta Hills, parts of the Indida and Andado Swamps, and the north northwest-trending sand dunes of the Simpson Desert that average less than 15 metres in height as well as claypans and small dry lakes. The elevation above sea level increases towards the western end of EL 26045. The tenure is traversed by a few tracks in the western part of the area.

EL 26045 is located on the McDills 1:250,000 map sheet (SG53-7), and its Mc Dills (5946), Andado (5947), Nuckua (6047) and Etingambra (6046) 1:100,000 map sheets.

Tri-Star's exploration rationale and objectives for EL 26045 consider the evaluation of the coal potential of the Permian Purni Formation, which contains coal seams that are likely to be correlatives of Upper Permian coal measures found in Queensland's Bowen Basin. Investigations are intended to locate the subcrop edge of the Purni Formation and at the time or writing this zero edge is yet to be identified. The coal quality in the permit area and actual location and local lateral extent of the coals, if present, are still to be determined.

The exploration programme during the initial term will identify the location and the parameters of the Permian coals of the Purni Formation towards determining their potential for mining. Further data review and interpretation are required together with information on coal parameters. Encouraging coal results will necessitate the completion of preliminary mine and market investigations.

#### HISTORY OF EL 26045

EL 26045 was granted to Tri-Star Energy Company for six years commencing 3 December 2007, as the sole titleholder and operator. The permit is comprised of 478 sub-blocks located approximately 98 kilometres east northeast of Finke in the southern Northern Territory.

The 478 sub-blocks are described as follows:

478 Sub-Blocks – Oodnadatta SG53 1:1,000,000 Block Identification Map:

Block 472 – A to H, J to U (all inclusive), Block 473 – A to H, J to U (all inclusive), Block 474 – A to D, F to J, L to M, Q to T and V to Y, Block 544 – A to H, J to U (all inclusive), Block 545 – A to H, J to U (all inclusive), Block 546 – A to D, F to J, L to M, Q to T and V to Y, Block 616 – A to H, J to U (all inclusive), Block 617 – A to H, J to U (all inclusive), Block 618 – A to H, J to U (all inclusive), Block 619 – A, F, L, Q, V, Block 688 – A to P, S to U, X to U, Block 689 – A to H, J to U (all inclusive), Block 690 – A to H, J to U (all inclusive), Block 691 – A, F, L to N, Q to S, V to X Block 760 – C to E, H, J, K, N to P, U, Z, Block 761 – A to H, J to U (all inclusive), Block 762 – A to H, J to U (all inclusive), Block 763 – A to H, J to U (all inclusive), Block 764 – V, W, X, Block 832 – E, Block 833 – A to D, G to K, M to P, R to U, W to Z, Block 834 – A to H, J to U (all inclusive), Block 835 – A to H, J to U (all inclusive), Block 836 – A to C, F to H, L to M, Q to S, V to X

The permit area is located over surface lands that have not extinguished native title, which are comprised primarily of Perpetual Pastoral Leases, as shown in Figure 7.

Currently, office-based coal exploration activities continue on the tenure with preliminary results confirming the need for further investigation.

#### **REGIONAL GEOLOGY**

The Pedirka Basin is an intracratonic basin located across the border between the Northern Territory and South Australia in central Australia, with the majority of the basin area occurring in the Northern Territory. The geologic units it contains are Permo-Carboniferous in age and are correlative with sediments of the Cooper and Officer Basins.

The eastern part of the Pedirka Basin is covered by a thin section of units of the Simpson Basin, which are Triassic in age. The sections of these two basins are then in turn overlain by a thicker succession of Eromanga Basin units, which are Jurassic-Cretaceous in age. Where the Simpson Basin section is absent, the Pedirka Basin is directly overlain by sediments of the Eromanga Basin.

The primary structural features of the Pedirka Basin are the Eringa and Madigan Troughs, which are also the main depocentres that are separated by the McDills Anticline.

Table 1 provides a stratigraphic table of the Pedirka Basin, and the overlying Simpson (where present) and Eromanga Basins. These basins are also overlain by a shallow section of fluvial and aeolian units of the Eyre Basin, which is found at the surface.

#### PERMIT GEOLOGY

EL 26045 is geologically located over the North West part of the Pedirka Basin. The section thins to the northwest. The tenure is located across the northern end of the McDills Anticlinal Trend and towards the southern limit of the Hallows Trend. The northern zero edge of the Pedirka Basin that runs in a general east-west direction is located near the northern boundary of the tenure.

Within the tenure area, units of the Pedirka Basin are overlain by a substantial section of Cretaceous-Jurassic units of the Eromanga Basin. It is believed that Simpson Basin units are absent from the stratigraphic section in this area, as EL 26045 is located west of that basin's western margin.

Our preliminary studies to date indicate that the entire tenure is likely to have the Purni Formation present with its associated coals with seams striking northeast-southwest and dipping to the south-east at between one to three degrees. Seismic data indicate that shallowest Purni Formation coals are likely to occur towards the North West section the tenure.

#### EXPLORATION OBJECTIVES AND RATIONALE

The objective of Tri-Star Energy Company's exploration program on EL 26045 and adjoining tenures is to identify a deposit of Permian age coal from the Pedirka Basin that can be economically extracted and sold at a profit. The product target of the exploration program is the coal that occurs in the upper portion of the Purni Formation. Tri-Star is conducting its exploration for the target coals from a basin-wide perspective, as we currently hold 11 granted Exploration Licences.

Tri-Star's exploration rationale includes a literature search where access to all available literature from previous private and governmental basin studies, mineral and petroleum exploration to understand what is currently known about the coals of the Purni Formation in existing reports.

Tri-Star Energy Company is also conducting a geological and geophysical data review to determine what data are available for further interpretation. Tri-Star is collecting all available data to include in our data sets, which will assist with the identification and mapping of shallow coal seams and key formations, as well as determining the most prospective areas, where the coal is shallowest, and assist with finding the updip limit of the Pedirka Basin coals. Tri-Star has gathered all available seismic data from the Northern Territory and South Australian Governments in preferably SEG-Y format. If this seismic data format was not available, Tri-Star had the capability to scan hard copy seismic sections to obtain a Tiff file from which a SEG-Y format can be created. Where necessary, any old analogue seismic data that has navigation data has been transcribed and reprocessed to allow its use in the exploration program. The SEG-Y seismic data has been imported into Tri-Star's SMT mapping package and maps of the area are being prepared.

Tri-Star Energy Company has obtained all well data that intersect the Purni Formation and included the depths of the reported formation tops in the mapping package. Note has been taken of formation lithology identification and descriptions. Petroleum wells will be the most useful well-data source; however, all government bores, mineral bores and water wells will be investigated to confirm if they intersected the target coals.

Synthetic seismograms has been created and used where possible from wells that have run a sonic log that are located in areas of interest. A digitized version of the sonic log will be created or obtained to correlate with seismic SEG-Y data collected in the area of the well to correct seismic times to reflect actual depth of formations as indicated on the well logs. These allows corrected SEG-Y times to make bulk-shifts and correlate all seismic lines of the basin resulting in mapping surfaces that are at the correct time/depth. This permits computation of accurate depths of coal and coal subcrops within the basin to create maps to identify the areas of shallowest coal depths that may have the greatest coal mining potential. These areas will be targeted for more intensive exploration and possible field operations.

#### EXPLORATION ACTIVITIES DURING THE REPORTING PERIOD

In this first year of work, we have studied a wide area of the central and north-western Pedirka Basin so as to establish the geological framework of the Purni Formation coals. However, no field activities were undertaken on EL 26045 during the annual reporting period ending 2 December 2008.

We have undertaken an intensive literature search to find all available information on the Pedirka Basin and its unit of interest.

Tri-Star investigated available information on all drilling done in the Pedirka Basin and in the tenure area. It was found that no petroleum wells have been drilled within this tenure area of the central Pedirka Basin but McDills 1 and Etingimbra 1 were drilled within approximately 30 kilometres to the south. Additionally, although various water bores have been drilled in the region and within the area of the tenure, no water bores were identified that were drilled deep enough to intersect the Purni Formation to provide any coal depth information. It was found that the water bores either had limited information available or only accessed the aquifers of the Eromanga Basin.

Tri-Star has developed a base map of existing seismic lines within the Pedirka Basin. A more exhaustive search is in progress to locate the seismic data from these lines to assist

in the mapping of the Permian coal seams. Figure 5 provides a map of the available wells and seismic lines in the area of the tenure and the region in general.

The office-based activities that were commenced on EL 26045 during the reporting period contributed towards but did not complete a comprehensive evaluation of the potential of the permit area. Further work will be necessary to understand the coal potential of this tenure. This will be carried out in the next tenure year.

#### ACTIVITIES ON EL 26045 FOR NEXT 12 MONTH PERIOD

Office investigations will continue to determine the location of the Purni Formation subcrop edge in relation to the tenure. The gathering of seismic and well information from the Northern Territory and South Australian on the entire Pedirka Basin will be completed during the second year.

The inclusion of this information into Tri-Star's mapping system may provide some further clues to the location, depth and extent of Permian coals in EL 26045 and adjacent tenures.

Field activities may be required to provide new information to map the Pedirka Basin coals in this tenure and region. A decision will be made later in this second year on whether to conduct a mini-sosie geophysical survey on this and adjacent tenures to identify the coal parameters. This information would then be tied into that already obtained and planned to be gathered in Tri-Star's mapping system.

A decision will be made by second year's end on the relinquishment area of EL 26045 and adjacent tenures to reduce the area by 50% as required by legislation. The information gathered and interpreted in the former activities will support this relinquishment area selection.

#### **REPORTS LODGED FOR EL 26045 DURING THE REPORTING PERIOD**

No reports for EL 26045 were lodged during the year ending 2 December 2008. Tri-Star believes that there were no reports that were required to be lodged during this period.

#### CONCLUSIONS

Tri-Star Energy Company did not conduct any field operations on EL 26045 during the reporting period and all studies were office-based and conducted in Brisbane, Australia and Houston, Texas, USA.

A literature search found useful information on the Pedirka Basin but many of the reports did not relate to this region of the Pedirka Basin but to the central eastern and southern regions.

The study of all available geological and geophysical data from previous drilling (including water bores) and seismic acquisition found that there were no petroleum wells drilled on EL 26045 but that there was one seismic line 64HA-1 found. However, this data were not available. No useful information was found from the water bores drilled on the tenure as they were completed in Eromanga Basin aquifers and were too shallow to intersect the Purni Formation.

Further work is required to determine the location and extent of the Permian coals of the Purni Formation. A mini-sosie geophysical survey may be required to provide the necessary information on the coals within EL 26045 and to also assist with delineating a 50% relinquishment area for this tenure.

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# FIGURES















# TABLES

## Table 1

## STRATIGRAPHIC TABLE - EROMANGA / SIMPSON / PEDIRKA BASINS

BASIN	AGE	STRATIGRAPHY
EYRE	IARY	Recent sediments
	тект	Eyre Formation
NGA	CRETACEOUS	Winton Formation
		Allaru Mudstone
		Toolebuc Formation
MA		Cadna-owie Formation
ERO	ASSIC	Algebuckina Sandstone
	JUR	Poolowanna Sandstone
NOS	ssic	Peera Peera Formation
SIMP	TRIA	Walkandi Formation
KA	RMIAN	Purni Formation
PEDIRI	РЕ	Crown Point Formation
	CARB.	
	PRE- CARB.	Undifferentiated

Modified after Middleton et al 2005