



TRI-STAR ENERGY COMPANY



Titleholder	Tri-Star Energy Company ARBN 089 539 695
Operator	Tri-Star OPCO LLC ARBN 138 462 281
Project / Group:	Pedirka Basin Project
Report Title	MA 31366 Final Surrender Report 01/11/2017 to 08/12/2021 and Final Annual report from 01/11/2021 to 08/12/2021
Current Target Commodity	Minerals
1:250 000 Mapsheets	Finke SG5303, Rodinga SG5302 and Hale River SG5303
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ABSTRACT:

The Pedirka Basin Project consists of twenty-one (21) Mineral Authorities including MA 31366 which were granted on 1 November 2017. The Pedirka Basin Project is a multi-commodity exploration project with resource commodities including base and precious metals, iron and coal.

The project area is located approximately 200 kilometres southeast of Alice Springs along the western margin of the Pedirka Basin, and partially overlaps the following pastoral leases:

- Andado
- New Crown
- Horseshoe Bend
- Lilla Creek
- Umbeara

No work was undertaken on MA 31366 during the period.

In 2020-2021, during the COVID-19 pandemic hiatus, Tri-Star undertook a review of all their assets and as part of this review, MA 31366 was identified for subsequent relinquishment.

1. OVERVIEW:

Key particulars for MA31366 are as follows:

Titles:	MA 31366
Group Reporting No.:	GR470
Status:	Granted
Application date:	05/08/2016
Grant date:	01/11/2017
Surrender date:	08/12/2021
Locality:	200KM SOUTHEAST OF ALICE SPRINGS
Act permit granted under:	<i>Mineral Titles Act 2010 (NT)</i>

MA 31366 consisted of 250 sub-blocks covering an area of approximately 785km² at time of surrender.

2. LOCATION:

MA 31366 which was part of the Pedirka Basin Project, is located in the Rodinga Ward of the MacDonnell Region Council area in the south eastern portion of the Northern Territory, near the border of the Northern Territory and South Australia (Figure 1).

The centre of the project area lies approximately 200 kilometres southeast of Alice Springs, 180 kilometres east of Elrdunda (located at the junction of the Stuart & Lasseter Highways) and 180 kilometres north-east of the Kulgera Road House (located on the Stuart Highway).

The community of Aputula (Finke) lies within the greater project area, however the community itself is excluded from the project.

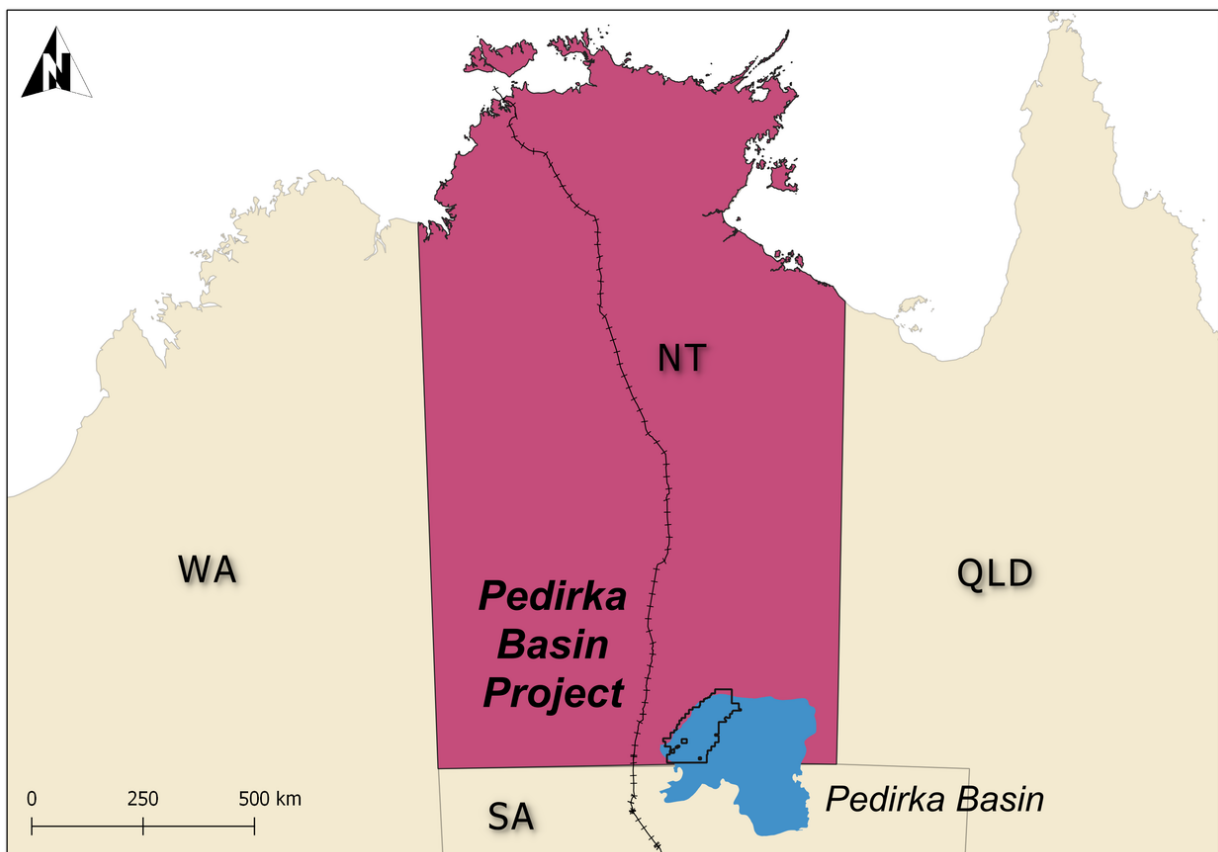


Figure 1. Pedirka Basin Project – Location Map

2.1 Topography:

The topography of the permit area, shown in Figure 2, is dominated by the floodplains of the Finke River, Lilla Creek and Goyder Creek. The central area of the tenure group is crossed by areas of north trending sand dunes that are less than 10 metres in height. The elevation above sea level increases towards the southern ends of the tenures where the Newlands and Beddome Ranges occur. The Pedirka Basin Project is traversed by various property access roads and tracks between the many dams and water bores.

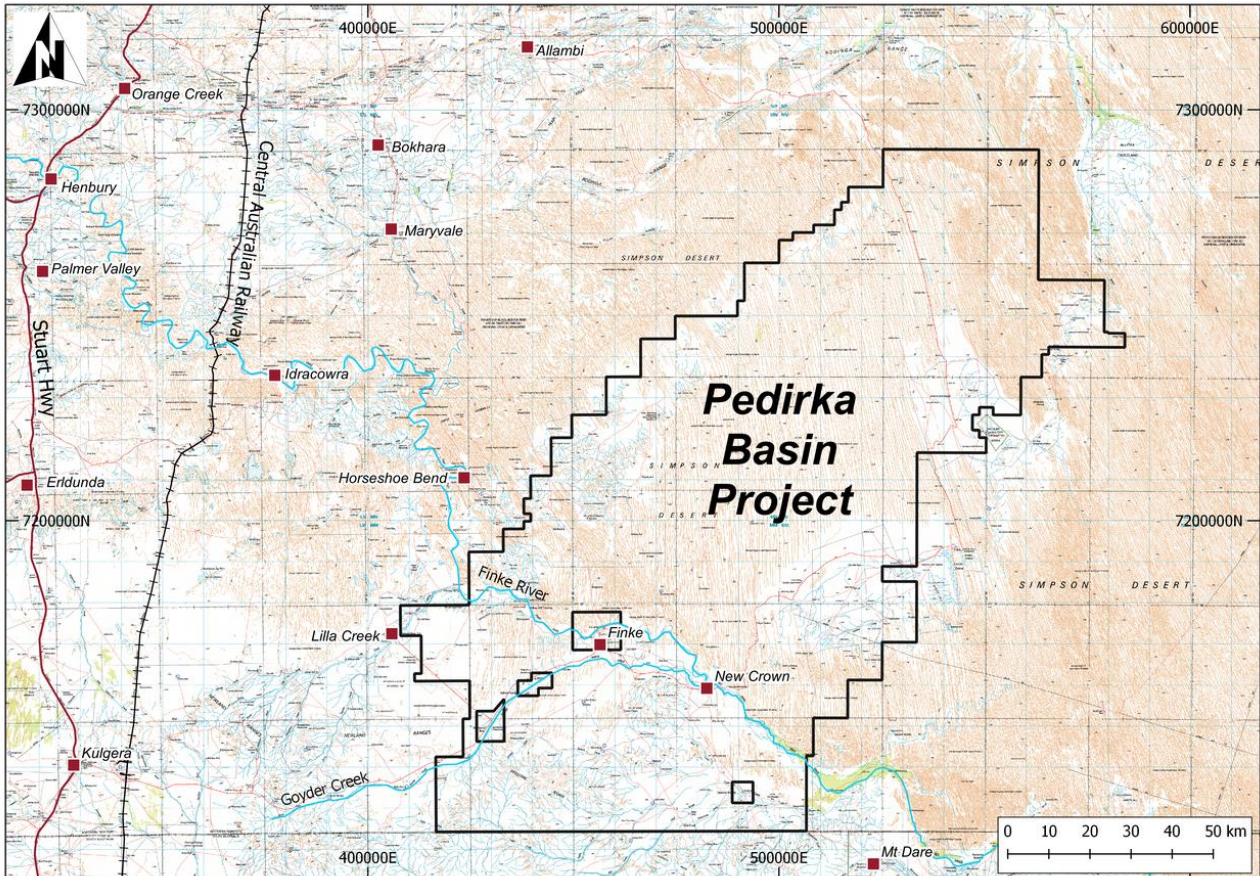


Figure 2. Pedirka Basin Project – Topographic Map

The project is located on the Finke 1:250,000 map sheet SG5306, Rodinga 1:250,000 map sheet SG5302, the Hale River 1:250,000 map sheet SG5303 and the McDills 1:250,000 map sheet SG5307. The exploration licences are located on the following 1:100,000 map sheets:-

- Pillar Range 5848;
- Day 5948;
- Poodiniterra 6048;
- Engoordina 5747;
- Musgrave 5847;
- Andado 5947;
- Nuckua 6047;
- Beddome 5746;
- Finke 5846; and
- McDills 5946.

3. GEOLOGY

MA 31366 is geologically located over the Amadeus, Pedirka and Eromanga basins, as shown in Figure 3.

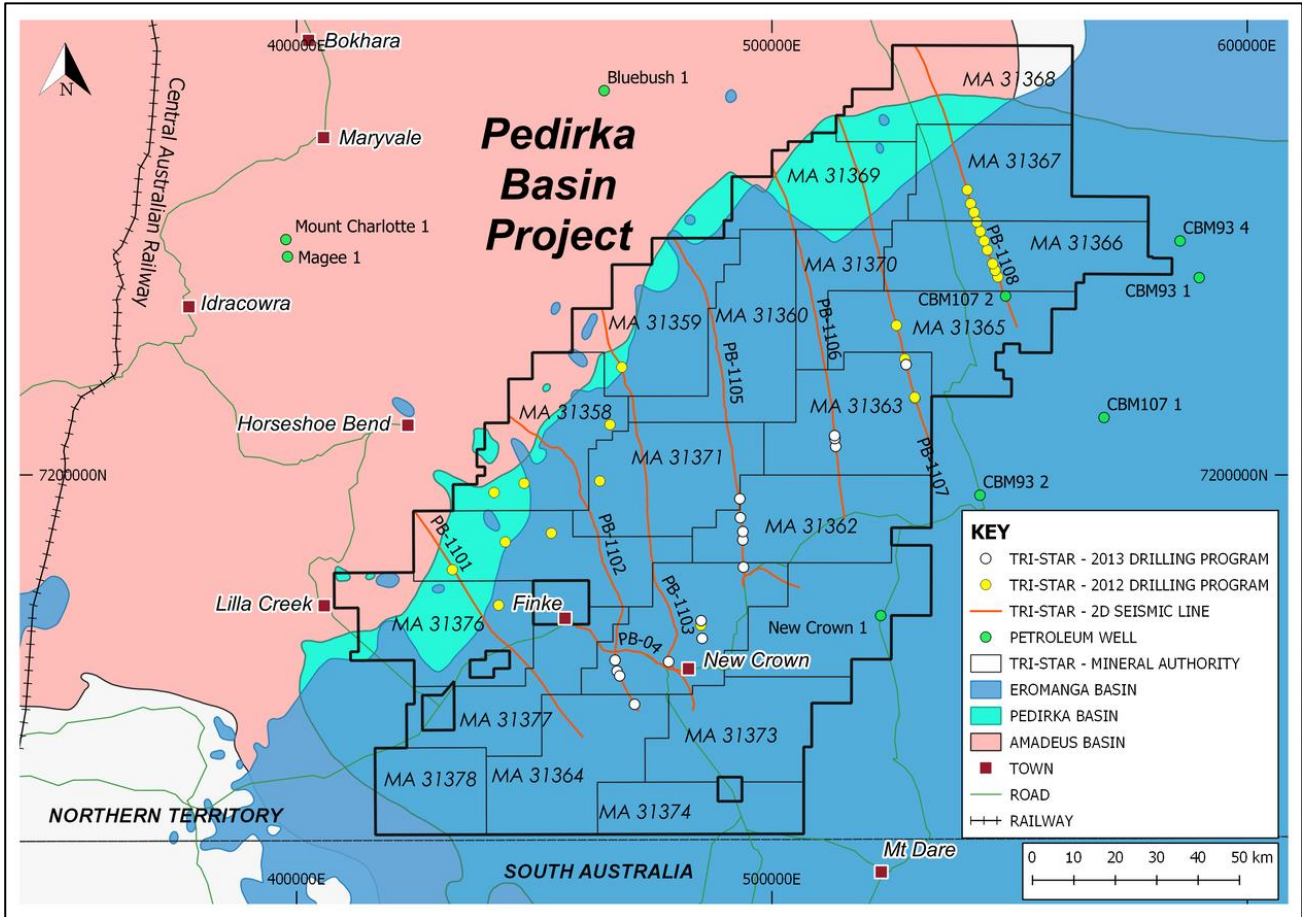


Figure 3. Pedirka Basin Project – Regional Geology

3.1 Regional Geology

The Pedirka Basin Project occurs along the north-western margin of the Permo-Carboniferous age Pedirka Basin. A large part of this basin within the Northern Territory is covered by the Jurassic-Cretaceous Eromanga Basin. Within the project area, the sandstones and shales of the Eromanga Basin (Algebuckina Sandstone and Poolowanna Formation) overlay the Purni Formation.

The depth to the base of the Eromanga Basin (Algebuckina Sandstone) within the Tenures ranges from about 80m in the north-east to over 250m. Erosion of the Purni Formation prior to the deposition of the Algebuckina Sandstone has removed the upper sequence of strata, thus contributing to the apparent thinning of the Purni Formation towards the outcrop in the north-western part of the tenements.

The Purni Formation dips gently to the south-east within the area. The main structural elements of the area are shown below.

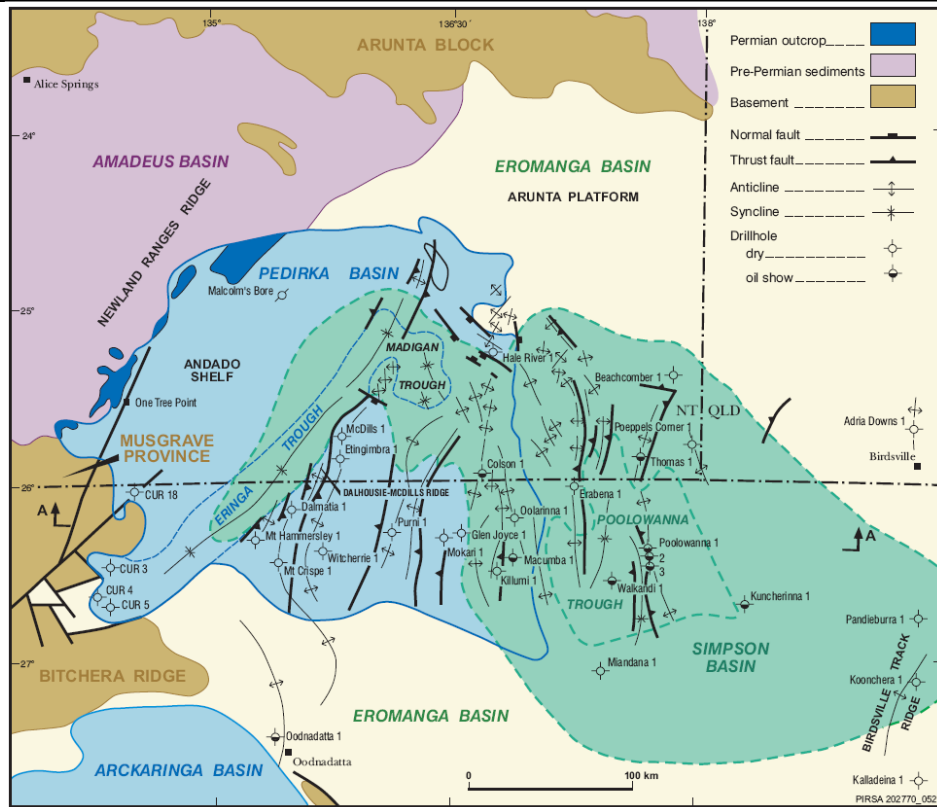


Figure 4. Pedirka Structural Elements (Source: Alexander et al, 2006)

Middleton et al (2005) has defined the stratigraphy of the western Pedirka Basin, and the potential petroleum source rocks as shown below.

Age	Stratigraphy	Lithology	Depositional environment	Source	Oil/gas	Basin
Tertiary	Recent sediments	[Dotted pattern]	Aeolian and fluvial			Eyre
	Eyre Formation	[Dotted pattern]	Fluvial and aeolian			
Cretaceous	Winton Formation	[Dotted pattern]	Fluvial			Eromanga
	Alluru Mudstone	[Dotted pattern]	Marine			
	Toolebuc Formation	[Dotted pattern]	Marine			
	Cadna-owie Formation	[Dotted pattern]	Marine			
Jurassic	Algebuckina Sandstone	[Dotted pattern]	Braided fluvial	[Red arrow]	[Oil/gas symbol]	Eromanga
	Poolowanna Sandstone	[Dotted pattern]	Fluvial / flood plain	[Red arrow]	[Oil/gas symbol]	
Triassic	Peera Perra Formation	[Dotted pattern]	Lacustrine and fluvial	[Red arrow]	[Oil/gas symbol]	Simpson
	Walkandi Formation	[Dotted pattern]	Lacustrine			
Permian	Purni Formation	[Dotted pattern]	Lacustrine / fluvial / swamps	[Red arrow]	[Oil/gas symbol]	Pedirka
	Crown Point Formation	[Dotted pattern]	Fluvial / glacial			
Carb.						
Pre-Carb.	Undifferentiated	[Blue and yellow pattern]			[Oil/gas symbol]	Amadeus

Figure 5. Pedirka Basin Regional Stratigraphy (Source: Middleton et al, 2005)

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 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.

3.2 Permit Geology

The Pedirka Basin Project is geologically located over the north-western part of the Pedirka Basin where the section thins to the northwest, updip from the Eringa Trough depocentre. The zero edge of the Pedirka Basin is located through the centre of the tenures in a northeast-southwest direction and evidence of this is provided by units such as the Crown Point Formation cropping out along the basin margin in this area.

Rocks of the Musgrave Province are interpreted to be present at relatively shallow depths below the Amadeus, Pedirka and Eromanga basin sediments in the south-west of the project area.

4. PREVIOUS EXPLORATION:

Extensive data review of the Northern Territory Government’s Geoscience Exploration and Mining Information System (GEMIS) and records identified a number of previous exploration licences (EL) located over the Pedirka Basin Project area. These licences include, at least in part: EL 821, 8251, 8252, 8253, 8265, 8267, 2398, 23802, 25163 and 23740. Investigations into the reports and data produced from these permits found that limited drilling has occurred over the area and therefore limited data is available from this source in the assessment of the Pedirka Basin Project.

Tri-Star previously held the following ELs within the Pedirka Basin Project area: ELs 24899 24900, 24901, 24902, 24903, 24904, 24913, 24914, 26045, 27219, 27347, 27348, 29685, 29702, 29703, 29704, 29705, 29714, 29715, 29716, 29233, 29234, 29235 and 30639.

The exploration drilling and seismic lines that were undertaken by Tri-Star within the Pedirka Basin Project are that occur thereon, have been listed below and shown in Figure 6.

Table 1. Seismic Data Summary

Survey ID	Year	Operator	Length (km)
PB-1101	2011	Tri-Star Coal Operations LLC	61.12
PB-1102A	2011	Tri-Star Coal Operations LLC	75.09
PB-1103	2012	Tri-Star Coal Operations LLC	89.64
PB-1104	2012	Tri-Star Coal Operations LLC	15.27
PB-1105	2012	Tri-Star Coal Operations LLC	76.22
PB-1106	2012	Tri-Star Coal Operations LLC	75.81
PB-1107	2012	Tri-Star Coal Operations LLC	73.98
PB-1108	2012	Tri-Star Coal Operations LLC	63.23
PB04	2011	Tri-Star Coal Operations LLC	32.72

Table 2. Drill Hole Summary

Tenement ID	Hole ID	Type of Hole	Drilled Date	Coordinates	Depth (m)	Rehabilitated
EL 24899	PBIN_03	HRD	5-Feb-12	E0442489 N7172577	132	5-Feb-12
	PBIN_02	DCD	17-Dec-11	E0447849 N7198232	69	17-Dec-11
EL 24900	PBIN_05	HRD	28-Jan-13	E0441535 N7196288	80	28-Jan-13
	PBIN_06	HRD	29-Jan-12	E0443888 N7185895	120	29-Jan-12
	PBIN_09	HRD	31-Jan-12	E0468399 N7222650	48	31-Jan-12
EL 24901	PBCN1102_1105A*	HRD/DCD	21-Jun-13	E0471091 N7157727	318	24-Jun-13
	PBCN1102_1940A*	HRD/DCD	27-May-13	E0467419 N7158699	270	31-May-13
	PBCN1105_5950**	HRD	20-Apr-13	E0493231 N7494980	297	1-Jun-13
	PBCN1105_6350A**	HRD	25-Aug-12	E0493339 N7190993	325	1-Sep-12
	PBCN1105_6825**	HRD	25-Apr-13	E0493852 N7186311	350	1-Jun-13
	PBCN1105_7400**	HRD	28-Apr-13	E0493939 N7180643	375	31-May-13
EL 24902	PBCN1105_6650	HRD	10-Aug-12	E0493865 N7188064	129	1-Sep-13
	PBCN1105_6650A	HRD	12-Aug-12	E0493865 N7188064	175	1-Sep-13
	PBCN1105_6650B	HRD	16-Aug-12	E0493873 N7188067	348	21-Aug-12
	PBCN1105_6650C**	HRD/DCD	15-May-13	E0493879 N7188057	349	11-Jun-13
	PBCN1103_7980A	HRD/DCD	8-Jun-13	E0478267 N7160694	350	11-Jun-13
	PBCN_121	HRD	30-Jun-13	E0485057 N7168356	350	2-Jul-13
	PBCN_122	HRD	26-Jun-13	E0485302 N7165594	350	3-Jul-13
	PBCN1106_6087**	HRD / DCD	7-May-13	E0513230 N7207635	375	2-Jun-13
	PBCN1106_6255**	HRD	1-May-13	E0513391 N7205978	375	2-Jun-13
	PBCN1106_6025**	HRD	4-May-13	E0513167 N7208264	350	2-Jun-13
EL 24913	PAC001	Air Core	17-Mar-14	E0513231 N7207637	50	17-Mar-14
	PAC002	Air Core	17-Mar-14	E0513257 N7207634	50	17-Mar-14
	PAC003	Air Core	18-Mar-14	E0513255 N7207659	50	18-Mar-14
	PAC004	Air Core	18-Mar-14	E0513234 N7207659	50	18-Mar-14
	PAC005	Air Core	18-Mar-14	E0513205 N7207658	50	18-Mar-14
	PAC006	Air Core	18-Mar-14	E0513206 N7207634	50	18-Mar-14
	PAC007	Air Core	19-Mar-14	E0513207 N7207611	50	19-Mar-14
	PAC008	Air Core	19-Mar-14	E0513232 N7207611	50	19-Mar-14
	PAC009	Air Core	19-Mar-14	E0513259 N7207609	50	19-Mar-14
	PBCN_12*	HRD	24-Feb-12	E0541089 N7259969	226	8-Apr-13
	PBCN_12A	HRD	24-Feb-12	E0541089 N7259969	222	8-Apr-13
	PBIN_11	HRD	1-Apr-12	E0541791 N7257070	220	1-Apr-12
	PBCN_13	HRD	30-Mar-12	E0542521 N7255207	276	25-May-12
EL 26045	PBCN1108_14160	HRD	25-Apr-12	E0543095 N7253203	300	8-Apr-13
	PBCN1108_14370*	HRD	10-May-12	E0543827 N7251226	120	8-Apr-13
	PBCN1108_14370R	HRD	17-May-12	E0543827 N7251226	300	8-Apr-13
	PBCN1108_14580	HRD	11-May-12	E0544643 N7249233	300	9-Apr-13
	PBCN_14*	HRD	25-Mar-12	E0545324 N7247308	186	11-Apr-13
	PBCN_14A	HRD	25-Mar-12	E0545324 N7247308	318	11-Apr-13

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	PBCN1108_15100	HRD	26-May-12	E0546423 N7244422	300	9-Apr-13
	PBCN1108_15250	HRD / DCD	6-Jun-12	E0546953 N7243018	350	11-Apr-13
	PBCN1108_15250A*	HRD / DCD	12-Jun-12	E0546953 N7243018	180	10-Apr-13
	PBCN1108_15250B*	HRD / DCD	5-Jul-12	E0546953 N7243018	328	11-Apr-13
	PBCN1108_15400	HRD	8-Jun-12	E0547529 N7241634	342	11-Apr-13
EL 29702	PBCN1107_5530	HRD	12-Jun-12	E0527950 N7224384	348	14-Apr-13
	PBCN1107_5650	HRD	15-Dec-12	E0528211 N7223212	360	14-Apr-13
EL 29703	PBCN_116	HRD	9-Aug-14	E0483049 N7186182	222	13-Aug-14
	PBCN_117	HRD	6-Aug-14	E0483477 N7181710	286	9-Aug-14
	PBCN_118	HRD	4-Aug-14	E0484093 N7178182	352	5-Aug-14
	PBCN_119	HRD	1-Aug-14	E0484379 N7175024	174	16-Aug-14
	PBCN_120	HRD	27-Jul-14	E0484708 N7172626	359	1-Aug-14
EL 29705	PBIN_07	HRD	30-Jan-12	E0463778 N7198706	126	30-Jan-12
	PBIN_08	HRD	1-Feb-12	E0465918 N7210564	144	1-Feb-12
	PBCN1102_2175	HRD	23-May-13	E0466980 N7161018	400	31-May-13
	PBCN1102_1940*	HRD	25-May-13	E0467419 N7158699	400	31-May-13
	PBCN1102_1940A	HRD	27-May-13	E0467419 N7158699	270	31-May-13
	PBCN1102_1825	HRD	15-Jun-13	E0468035 N7157727	325	17-Jun-13
EL 29714	PBIN_04	HRD	6-Feb-12	E0432760 N7180051	102	6-Feb-12
EL 29716	PBIN_01	HRD	26-Jan-12	E0453582 N7187740	120	27-Jan-12

5. GEOLOGICAL MODEL AND EXPLORATION RATIONALE:

The Pedirka Basin Project is prospective for the discovery of a range of minerals, including but not limited to: ironstones, precious metals, base metals, silica and coal.

5.1 Base & precious metals

The sediments of the Amadeus, Eromanga and Pedirka basins overlie the crystalline basement rocks of the Mesoproterozoic Musgrave Province within Tri-Star's Pedirka Basin Project.

The Musgrave Province has undergone a structural evolution which makes it a favourable domain to host economic minerals. The regional NE-SW trending Woodroffe Thrust, a deep seated, crustal scale fault, can be interpreted to extend into Tri-Star's project area, with the prospective Fregon Domain underlying the younger sediments in the project area.

These regional crustal scale faults and associated structures are prospective for hosting mineral systems, including;

- Nickel, copper and platinum group element (Ni-Cu-PGE) systems,
- Copper-gold systems,
- VHMS systems,
- SEDEX systems.

In both Western Australia and South Australia, the Musgrave Province sequences are proven hosts to base-metal and PGE mineralisation, associated with the mafic and ultramafic rocks (e.g. the Nebo-Babel deposit & the Claude Hills deposit).

The exposed eastern Musgrave Province of South Australia and the Northern Territory has seen little exploration activity, the overall metamorphic grades are lower and there is a greater proportion of volcanic and sedimentary protoliths, both of which are factors that enhance the prospectively of this area for a range of commodities, as outlined above.

The project and surrounding areas are also prospective for sandstone hosted roll front uranium; such has the Angela deposit to the north of the project.

An unexplained circular magnetic anomaly is located within the south western portion of the project area and is interpreted to be associated with the rocks of the Musgrave Province.

Based on the review of historical exploration results and depth to basement calculations, it is interpreted that the basement rocks of the Musgrave Province within the area are about 100m below the surface.

5.2 Coal Resources

Tri-Star's previous exploration observed a sub-crop edge of the Purni Formation, which is thought to represent a lacustrine, meandering fluvial swap depositional environment conducive to coal formation.

Exploration undertaken between 2010 and 2014 identified coal measures within the Purni Formation, located within the eastern half of the project area. These coal measures are made up of multiple continuous coal seams, which show lateral thinning and thickening and strike northeast – southwest over a length of approximately 175km, with a gentle dip to the southeast at less than one degree.

The top of the coal measures occurs at approximately 130-200m below the surface in the north of the project area and 200-250m below the surface in the central and southern section of the project area. With the coal measures occurring over an interval up to 100+m and containing up to 50+m net coal.

Mining of coal may not be commercially viable, due to the distance of the project area to necessary transport infrastructure.

5.3 Additional exploration prospects

In 2010 Tri-Star submitted a discovery report in respect of an outcropping ironstone occurrence identified during exploration of the Pedirka Basin Project area.

The outcropping ironstone occurs at the base of the De Souza Sandstone, possibly at an erosional break. Samples collected from the ironstone returned the following average results: 34% Fe, 39% SiO₂, 7.7% LOI, 2.1% Al₂O₃, 0.3% P and 0.13%S.

The low average iron grade and high silica, sulphur and phosphorous results, indicates that significant beneficiation would be necessary to develop a marketable product and technological advances in relation to beneficiation techniques and methods would be required. Coupled with this a substantial resource would need to be defined in order to justify the high costs of development and transport infrastructure.

Drilling undertaken in 2011/2012 did not indicate any significant subsurface iron presence in the region where the outcropping ironstone was identified. It is likely that the ironstones are confined to outcrop zones.

6. EXPLORATION ACTIVITIES DURING THE REPORTING PERIOD

No exploration activities were undertaken in MA 31366.

6.1 Geological activities and office studies

Base & Precious metals

A technical working group were engaged to complete an integrated assessment of all Pedirka minerals data focusing on areas to the south west of the project where Mesozoic cover is thin to absent. These studies did not include MA31365 due to the lack of targets and / or thickness of sedimentary cover.

Coal Resources

No works were completed during the reporting period on coal resources.

6.2 Remote sensing

No remote sensing was completed on MA 31366.

6.3 Geophysical activities

No geophysical exploration or interpretation was undertaken on MA 31366.

6.4 Surface Geochemistry

No geochemical investigation was undertaken on MA 31366.

6.5 Drilling

No drilling was undertaken on MA 31366.

6.6 Geotechnical studies

No geotechnical work was undertaken on MA 31366.

6.7 Resources and reserve estimation/modelling

Activities undertaken to date on MA 31366 and the associated results are not of a nature that would allow a resource to be estimated.

7. CONCLUSION AND RECOMMENDATIONS

MA 31366 formed part of the larger Pedirka Basin project and subsequently was identified for full relinquishment. No exploration work was completed during this period.

8. BIBLIOGRAPHY

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9. COPYRIGHT STATEMENT

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