

**ANNUAL EXPLORATION REPORT ON EL 24987, YEAR
ENDING 8 OCTOBER 2008, AMADEUS BASIN, NORTHERN
TERRITORY**

KULGERA 1:250 000

**KULGERA 1:10 0000
VICTORY 1:100 000**

TITLE HOLDER: MALIK ABRAR

SUMMARY

EL 24987 is situated in the Amadeus Basin about 1740 km south of Darwin and 240 km south of Alice Springs, Northern Territory. The Exploration Licence was granted to Malik Abrar on 10 October 2006 for a period of 6 years, which will expire on 9 October 2012. It covers 274 blocks (850.3 km²). The tenement contains three already granted tenements which are AS 6, MLS 148, MLS 22854 and one Exploration Permit for Petroleum (EP 125).

The project area lies in the southern part of the Amadeus Basin, an arcuate, broadly east-trending intracratonic basin bounded by the Warumpi Province to the north and by the Musgrave Province to the south. The project area is located within southern part of the Amadeus Basin which is mainly covered by the Cainozoic sediments that overlie Mesozoic and Palaeozoic sedimentary sequences. In places, isolated Proterozoic inliers are also present in the form of small outcrops surrounded by recent sediments. The sedimentary sequences of the Amadeus Basin which crop out in the project area are typical of the southern part of the Amadeus basin. Majority of the project area comprises playa lake sediments which contains various evaporitic minerals. Previous exploration programs have established a large resource of underground brines at shallow depth which can be harvested for a variety of industrial minerals. In addition, the project area appears to have potential for uranium and base metals.

During the reporting period, in-depth technical review of the EL was undertaken with the aim of assessing mineral prospectivity of the area. This review identified that the project area has potential for a variety of industrial minerals, uranium and base metal mineralisation. Currently, negotiations are in hand with a third party to commence exploration program which can address the full potential of the project area. Other activities included reconnaissance visit, tenement administration and forward planning. Multi-commodity potential of EL 24987 requires a multi-faceted exploration program which can address the full potential of the area. Next year, a geochemical sampling program will be undertaken for industrial minerals, uranium and base metals. Available drill holes of the Bitter Springs Formation will be re-logged and sampled. A petrography investigation will be undertaken to assess the full potential of the Bitter Springs Formation for base metals mineralisation. For uranium, calcrete deposits will be examined in details and ground radiometric survey will be undertaken. If this information provided some positive indication then exploration program will lead to first phase of RC/RAB drilling.

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1.0 INTRODUCTION

EL 24987 is located about 240 km south of Alice Springs in the southern part of the Amadeus Basin. This report documents exploration activities carried out during the reporting period ended on 8 October 2008.

2.0 LOCATION AND ACCESS

EL 24987 is located about 1740 km south of Darwin and 240 km south of Alice Springs in the Amadeus Basin. The tenement can be reached from Alice Springs via Stuart Highway near the intersection of Lasseter Highway (Figure 1). Eastern part of the tenements is situated along the Stuart Highway. From there it can be accessed along the station tracks. Whereas part of the tenement located on the south of the Lasseter Highway can be accessed via station tracks. In both instances four wheel drive tracks are well maintained and access is available through out the year.

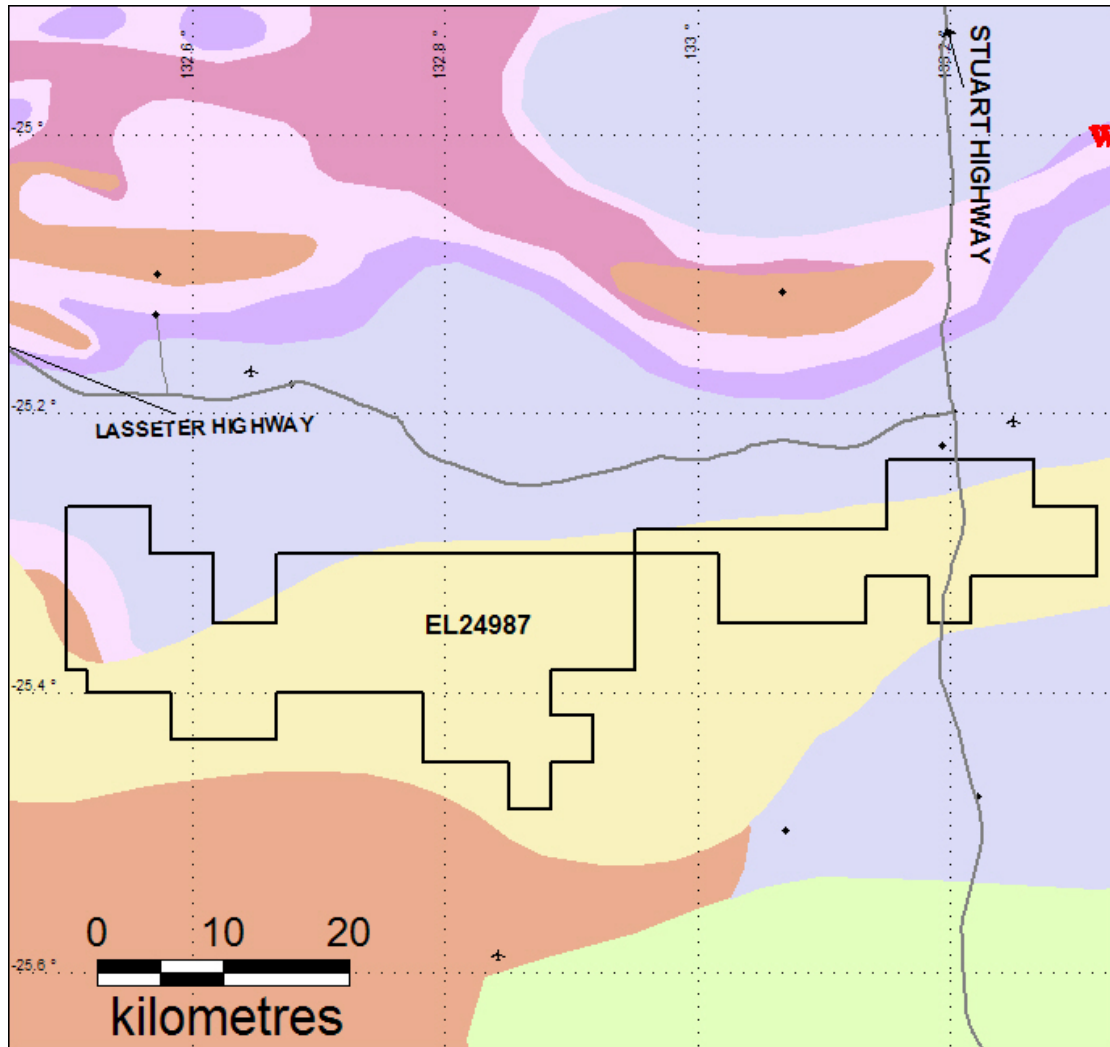
The tenement falls within Kulgera (1:250 000) and Victory and Kulgera (1:100 000) sheets. Underlying Cadastre is covered by Erlunda (PPL 1031) and Mt Ebenezer (PPL 1088) pastoral properties.

Most of the tenement is covered by playa lakes and sand dunes covered by sparse vegetation.

3.0 TENEMENT STATUS AND OWNERSHIP

The Exploration Licence was granted to Malik Abrar on 10 October 2006 for a period of 6 years which will expire on 9 October 2012. It covers 274 blocks (850.3 km²). The tenement contains three already granted tenements which are AS 6, MLS 148, MLS 22854 and one for Petroleum Exploration Permit (EP 125).

Figure 1: Location of EL 24987



4.0 GEOLOGICAL SETTING OF THE PROJECT AREA

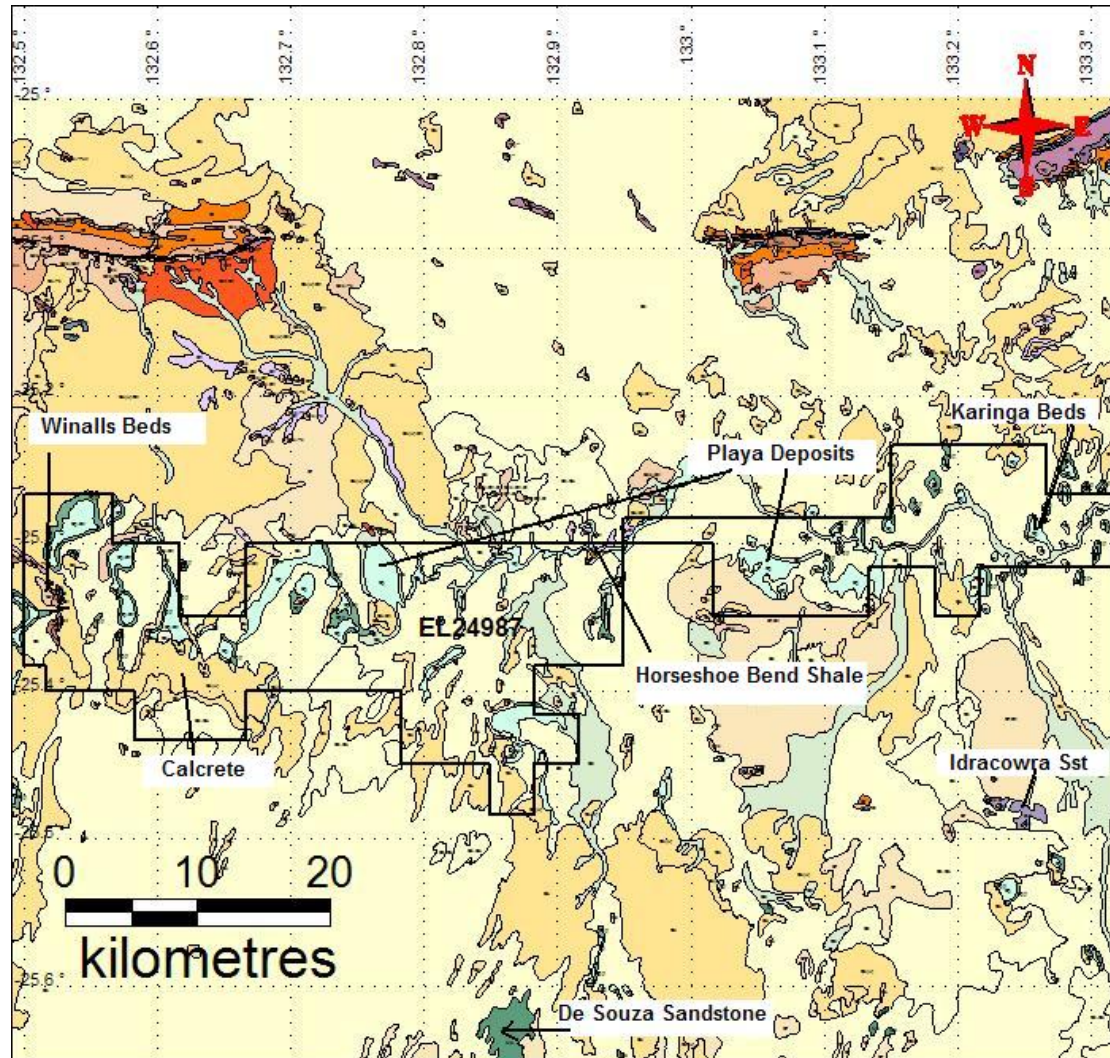
The project area lies in the southern part of the Amadeus Basin, an arcuate, broadly east-trending intracratonic basin bounded by the Warumpi Province to the north and by the Musgrave Province to the south. Sedimentation commenced in the Neoproterozoic, with the deposition of a succession of shallow-marine and continental fluvio-glacial sedimentary rocks, including thick evaporates and minor mafic volcanic rocks. These are disconformably overlain by Cambrian continental and shallow-marine sedimentary rocks, which in turn overlain by Late Cambrian-Ordovician sedimentary rocks in some areas (Wells et al. 1970; Freeman et al. 1990). The maximum total sedimentary thickness in the basin is about 10 km. Deformation occurred in the northern part of the basin during the 400-300 Ma Alice Springs Orogeny and produced broad, open, upright east-west-trending folds and thrust faults. The southern part was similarly deformed during the 580-520 Ma Petermann Orogeny.

During Tertiary, the area was subjected to weathering which led to the development of duricrust over large areas and followed by some consolidated but largely unconsolidated sedimentation. These sedimentary sequences have been classified into silcrete, ferricrete, sandstones and siltstone. Quaternary deposits cover over much of the southern part of the Amadeus Basin. During this period due to the arid climate wind and ground water processes are the major depositional mechanisms that have been operational throughout the Quaternary. The Quaternary units are Calcrete, transported sand, alluvium, colluvium, talus, Karinga beds and playa deposits (Edgoose et al. 1993).

4.1 Local Geology

The project area is located within southern part of the Amadeus Basin which is mainly covered by the Cainozoic sediments that overlie Mesozoic and Palaeozoic sedimentary sequences. In places, isolated Proterozoic inliers are also present in the form of small outcrops surrounded by recent sediments. The sedimentary sequences of the Amadeus Basin which crop out in the project area are typical of the southern part of the basin. These are thin and often incomplete. Geology of the area is shown in Figure 2 and brief descriptions of these units based on Edgoose et al (1993) are given below.

Figure 2: Geological setting of the project area



The pre-Cenozoic sequences are represented by the Bitter Springs Formation, Inindia Beds, Winnall Beds, Langra Formation, Horseshoe Bend Shale and Idracowra Sandstone.

The Bitter Springs Formation does not crop out in the project area but, in places, it has been encountered in drills holes. Small outcrops have been observed in the Erldunda Range (Edgoose et al. 1993) where it consists of dolostone, chert, dolomitic siltstone, stromatolitic dolostone and evaporitic sandstone. The dolostones are generally dark with red or purple colouration often present. About 350 m of the Bitter Springs Formation was intersected in the Erldunda No. 1 exploratory well (Pembererton and McTaggart, 1966). At subsurface the formation consisted of dolostones, sandstone and siltstone, with gypsum and halite concentration increasing with depth.

Small outcrops of the Inindia beds in the central part of EL 24987 have been encountered where they are obscured by calcrete. This subcrop forms a part of the outer ring of the Inindia beds that circle Mt Conner. The Inindia beds are characterised by rubbly and disjointed nature with no evidence of any structure present. The main lithologies are sandstone, siltstone, chert, jasper, conglomerate and limestone. Quartz rich rocks are predominant in outcrop where they are generally well cemented but vary from friable to silicified. In places, strongly hematitised horizons are present

Rocks belonging to the Winnall beds occur in small outcrops or ridges in the project area. These comprise a basal siltstone and fine sandstone (unit 1), followed by more massive sandstone (unit 2), then a siltstone or silty sandstone (unit 3), which is overlain by a medium bedded sandstone (unit 4) as described by Wells et al. (1970).

In the project area upper part of the Amadeus Basin such as Larapinta Group, Pertngara Group together with the Mereenie Sandstone are absent or have not been observed during mapping programs. Rocks of the Finke Group are represented by Langra Formation, Horseshoe Bend Shale and Idracowra Sandstone. The Langra Formation has mainly been observed from drilling and does not crop out in the project area. It consists of pale brown to white, fine sandstone that displays an increase in grain size towards its base. Interbedded with this sandstone are red and green micaceous shales similar to those overlying the Horseshoe Bend Shale. Within the project area, the Horseshoe Bend Shale occurs as poorly outcropping unit. Commonly it forms low scarps surrounding some of the playas (Figure 2).

The shale may also be found at shallow depths (50 cm) below the playas lake sediments where it occurs as hard and stiff clays that break into chips; these shales may also grade upwards into the wet and less dense playas muds. Rare outcrops of the Idracowra Sandstone below the playas are present where it forms cross-bedded white to pale kaolinitic sandstone. The Mesozoic De Souza Sandstone is mainly exposed in the south of the project area.

During Tertiary period, duricrust formed on the basinal rocks, which is present in the form of Silcrete, Ferricrete, Talus and scree, forming scattered out crops in the project area (Figure 2). Silcrete occurs as a fine-grained cream or pale grey rocks with a sub-conchoidal fractures characterised by scattered large quartz grains. The dominant Silcrete types are layered, nodular, columnar, pebbly or candle-wax type. Uncommon Ferricrete deposits generally consist of fine-grained ferruginised sandstone iron stones, heavily ferruginised sandstone and iron oxide cemented breccia. In places, minor Tertiary sediments, Talus and scree deposits may also be present.

The Quaternary sediments cover over 80% of the project area and consists mostly unconsolidated material. They are Calcrete, transported sand, Alluvium Colluvium, Karringa beds and Playa deposits. Calcrete is common in the project area but is obscured by transported sand. It is a ground water precipitation and generally occurs hosting in or replacing older sediments. Some of the better exposures are found surrounding the Playas. Electron Spin Resonance dating gives ages between 22 000 years before present (ybp) and 75 000 ybp for calcretes in the adjoining Curtin Springs area (Jacobson et al. 1988). Two calcrete types are recognised in the sheet area, although on the map (Figure 2) they are shown as single outcrop. An earlier phreatic calcrete formed beneath the water table along drainage lines and basin axes. A later vadose calcrete formed in the zone of evaporation above the water table.

Large area of EL 24987 is covered by transported sand, either as dunes (Figure 3) or sheets. Sand dunes may be up to 10 metres high. Most dunes are relatively stable with small shrubs and spinifex occupying the slopes. Some dunes may partially be active on their crests. The thickness of the sheet sand is unknown but could be quite thick and it rests on calcrete or clay base. Alluvium and colluvium deposits formed as a result of surface drainage are rare. Generally, alluvium is restricted to the beds of some of larger drainage feature such as Karringa Creek. Colluvium is represented by sandy sheet-flood which occurs both as discrete bodies and interspersed with sand

Sheets. Another important deposition during Quaternary has been described as the Karinga beds. It occurs mainly in the eastern part of the project area, where outcrops are mainly along the creek courses, and in some case, around the playa lakes. This sequence consists of pebble to cobble conglomerate and coarse sandstone.

The most significant area of Quaternary material deposited is the Playa deposits which generally extend east to west in the central part of the project area (Figure 2). These occur as buff white, chocolate brown or sometimes green mounds commonly containing small crystals of evaporites (dominantly gypsum, overlain by a crust of halite and other soluble minerals (Figure 4). In some instances the crust is absent and the lake floor consists of the evaporate-rich mud. Underlying the muds are the chocolate brown or green shales of the Horseshoe Bend shale. Geological evidence suggests that at least partly, Playa sediments were probably at least partially formed from the Horseshoe Bend shale, which has a spatial association with halite and evaporite rich areas. Gypsum-rich sands also form benches and dunes surrounding some of the playa lakes.

5.0 PREVIOUS EXPLORATION HISTORY

Perhaps the first detailed investigation of the project area was undertaken by Arakel (1991, 1992). At that time, expired ELs 6509, 5689 and 5801 covered the present EL 24987. During this exploration program, investigations were undertaken to establish a data base which could be used to assess the industrial mineral and brine resources for the production of industrial minerals such as evaporites (sulfates, chlorides, and mixed salt of sodium, calcium, magnesium and potassium), dolomite and silica/silicate (zeolite, clays). A particular emphasis was directed towards assessing the brine resources in the playa chains of these tenements. This investigation revealed that regional ground water system appears to be two-layered with Cainozoic sedimentary aquifers (calcretes and clay-sand units) overlying the fractured bed rock. The playa lakes essentially represent outcrops of the shallow groundwater in the region. The playa brines are highly concentrated with respect to sodium, chloride, sulfate, magnesium and potassium ions.

This investigation indicated the presence of large volumes of highly concentrated magnesium- and potassium rich brines whereas playa beds contain significant resource of evaporite, carbonate and clay mineral deposits with direct industrial application.

Figure 3: Sand Dunes with vegetation in the project area



Figure 4: Playa lake sediments containing evaporite minerals



From 1990 to 1991, NT Evaporites conducted further exploration program in the eastern part of the project area then covered by ELs 5689 and 5801 (Arakel, 1991). It also extended some work on EL 6509 which covered the western part of the project area. This investigation was undertaken with the aim of obtaining additional hydrogeological and geological data for assessing the mineral resources identified during previous years. It involved continuation of field mapping, shallow drilling, sediment and water samplings, and chemical analyses of the samples and water. The primary object was to characterise and assessment of brine resources suitable for producing industrial salts with high commercial value. New target areas were also identified during this program for follow-up work.

In 1992, NT Evaporites undertook preliminary assessment of resources to produce salt chemicals from the Karinga Creek drainage system, now covered by the project area. According to this study, a conservative estimate of the brine resources available in playa lakes indicates renewable reserves in excess of 161 million CB (cubic metre). Field investigations identified four drainage areas with high quality brines suitable for the production of a range of salt commodities. Overall, technical investigations indicated suitability of brines for sequential extraction of a range of commercially valuable salts and their derivatives.

After establishing reasonable brine resources, NT Evaporites embarked on the feasibility study and contacted Government and companies to invest into the project. Normandy Commercial Minerals Ltd showed keen interest in the final stages of the project; they were not interested at the exploration level. In 1995, all exploration licences were consolidated into AS 162 so the project could be managed efficiently. From July 1996 to June 1997, company tried to secure financial grant from AusIndustry for a pilot plant. However, it failed to eventuate due to uncertainty in the tenure. Meanwhile, NT evaporite tried to establish gypsum resource which could be mined and sold to domestic industry. From 1997 to 2002, NT Evaporites continued to explore all options to develop this project into sodium sulphate production. However, by that time the market of sodium sulphate has collapsed due to sharp decrease in demand in Australia. Then company changed the strategy and tried to produce Potassium and magnesium salt products. However, due to low interest from investors and uncertainty in the tenure lead to abandoning the project.

6.0 WORK COMPLETED FOR PERIOD ENDING 8 OCTOBER 2008

During the reporting period, in-depth technical review of the project area was undertaken to assess the mineral potential of the area (given below). A reconnaissance geological visit was made to the project area to assess the area. It appears that apart from the presence of industrial minerals, the project area also has a good potential for uranium and base metal mineralisation. In this regards technical resources are being arranged to pursue exploration program which can accommodate all mineral commodities.

Industrial Minerals

EL 24987 covers over 850km² and contains lithologies of Amadeus and Eromanga Basins which probably rest on the Musgrave Block. Since its inception, lithologies of the Amadeus Basin have undergone unique geological processes which have played a major role for the formation of its mineral resources. Amongst these, formation of playa deposits is the most significant geological event during which a variety of evaporites minerals have been derived from ground waters. The playa lakes essentially represent outcrops of the shallow groundwater in the region.

Investigations carried out so far indicate the possibility of economic concentration of potassium and magnesium sulfates and chloride. There is also potential of zeolite and rare celestite (SrSO₄). NT Evaporites carried out intensive investigation on the playa brines and proved up a large resource which can sustain medium size operation by using cost effective technology to produce a variety of salt products. Perhaps at that time, economic conditions were not right due to considerable down turn in Asian economies and uncertainty in securing the tenure for mining and processing operation. In the last a few years, massive demand for Australian mineral commodities in overseas markets has provided new impetus to resurrect this project.

Uranium

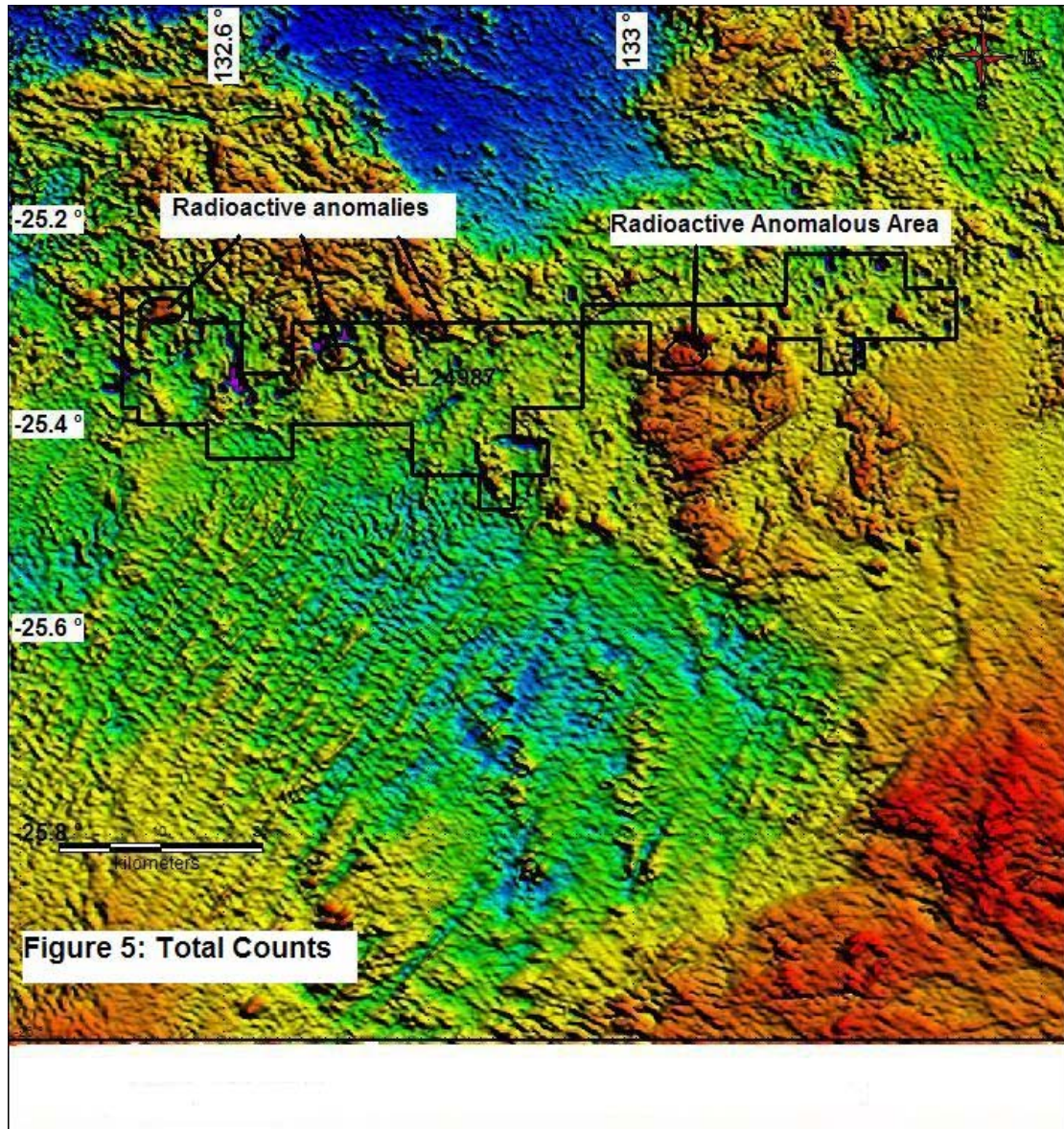
In central Australia, the Amadeus, Eromanga and Ngalia basins have significant potential for sediment-hosted uranium deposits. Lally and Bajwah (2006) classified sediment-hosted uranium mineralisation into two types; 1) sandstone hosted roll-front type and 2) sediment-hosted mineralisation in playa lakes and calcretes. The sandstone-hosted, roll-front type uranium mineralisation is found north of the project at Angela, where sizeable uranium resource has already been delineated. Furthermore, similar type of uranium mineralisation has also been found in the Ngalia Basin and elsewhere. In the Ngalia and Amadeus basins, discovery of uranium mineralisation within recent sediments has been made in the past. At present, those prospects such as Napperby and Curinya are being explored aggressively. Here uranium mineralisation is found in the Cainozoic sands beneath calcretes in playa lake environments where uranium mineralisation occurs as pea-shaped or irregular shaped grains mainly of carnotite.

This is the type of mineralisation which appears to have significant potential in the project area. The Playa lake sediments and calcrete have not been tested for uranium mineralisation in the past. Figure 5 shows Total Count radiometric image of the project area. South-eastern and north-western part of the project area is marked by considerably enhanced radioactivity. This radioactivity may be related to radioactive minerals confined to recently formed calcrete or distribution within loose sedimentary horizons. In addition, possibility also exist for the presence of shallowly buried palaeochannels under recent sedimentary cover and that could host uranium mineralisation as present in the Lake Frome area, South Australia. For this purpose high resolution remote sensed data combined with high resolution magnetic data are required.

Base Metals

May workers consider that the Bitter Springs Formation closely resembles the red-bed lithologies, and could host base metal mineralisation. The Bitter Springs Formation underlies the Tertiary sediments in most of the project area which may have some potential for base metal mineralisation. Dolostones present within the Bitter Springs Formation are generally dark with red or purple colouration. About 350m of the Bitter Springs Formation was intersected in the Eridunda No. 1 exploratory well (Pemberton and McTaggart, 1966). At subsurface, the

Figure 5: Radiometric anomalous areas within EL 24987



formation consisted of dolostones, sandstone and siltstone marked by dark reddish tint. In red-bed type mineralisation, host rocks consist of reduced clastic and/or carbonate sedimentary rocks. These may include sandstone, siltstone, shale, conglomerate, limestone, dolomite and marl, which may contain carbonaceous or organic matter. Evaporites are commonly associated within the formation. A typical red-bed, host sequence overlies, or lies within, a continental, oxidized, red-bed sequence of clastic sedimentary rocks. The basal reduced units of the host sequence are the favoured host rocks. Lithological characters studied so far from the Bitter Springs Formation resembles to those mentioned above. However, no study so far has been directed in establishing the mineral potential of this rock formation.

Figure 6 shows TMI image of the area covered by EL 24987, where eastern part of the project area is covered by a pronounced broad magnetic anomaly. This may be related to iron oxide deposited during circulation of metalliferous fluids within the sedimentary horizons covered by the Bitter Springs Formation. However, to test this hypothesis a detailed drilling campaign in the project area is required.

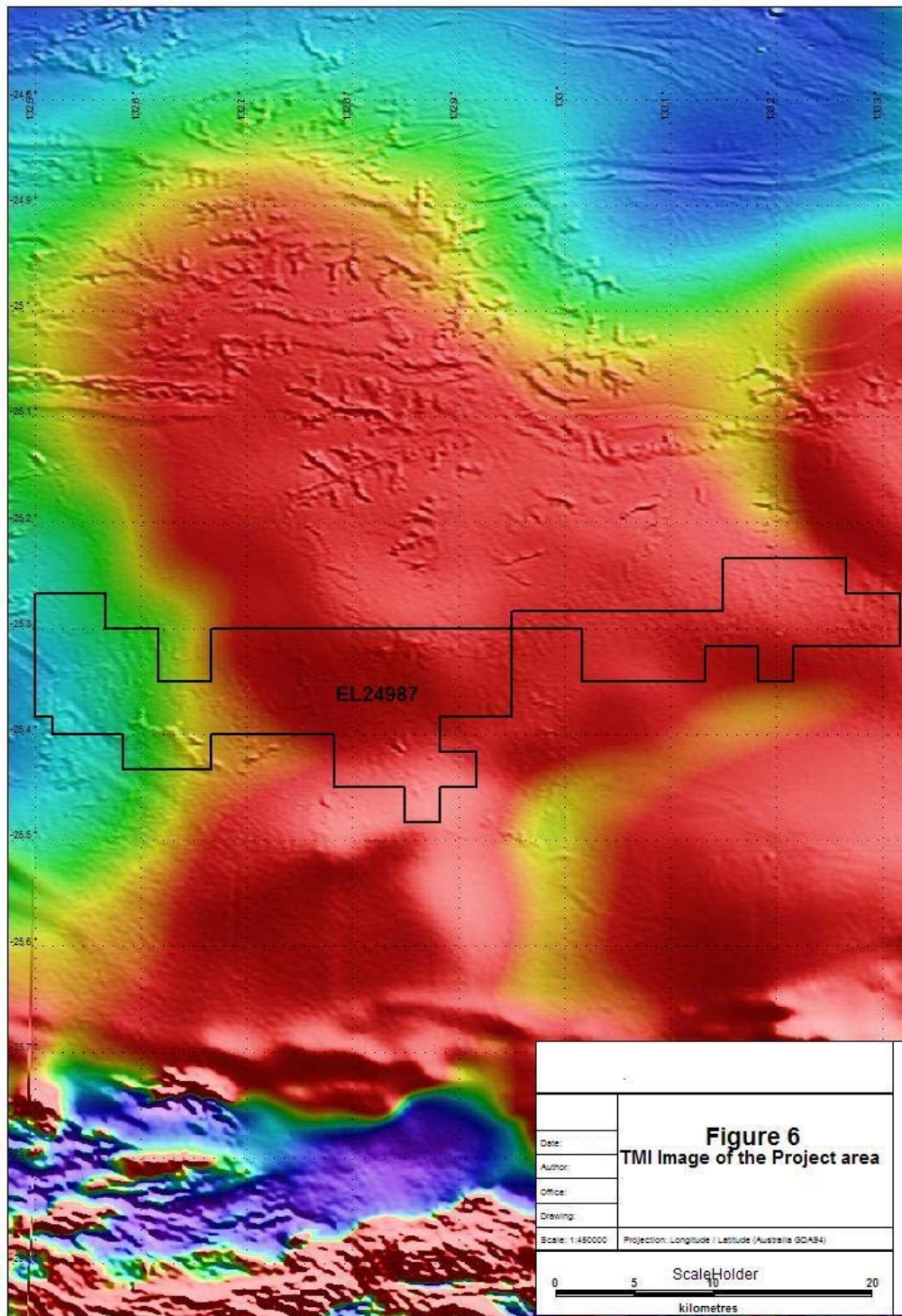
Currently, negotiations are in hand with third party to combine resources to explore the tenement effectively for industrial minerals, uranium and base metals. In this regard a detailed program of exploration is being discussed.

During the reporting period, main activities included literature review, assessing the mineral prospectivity of the area, reconnaissance visit, tenement administration, and forward planning. This activity costed \$15980.00 and detail is given in Table 1.

Table 1: Expenditure Statement for EL 24987

Activity	Expenditure (\$)
Data Search	3200.00
General Research	3400.00
Field Trip	4550.00
Consultant	4830.00
Total	15980.00

Figure 6: TMI image of the project area



7.0 PROPOSED PROGRAM FOR 2008-09

In the following year, planning is underway to carry out detail exploration programs. For this purpose, a geochemical sampling program will be undertaken for industrial minerals, uranium and base metals. For this purpose, available drill holes of the Bitter Springs Formation will be re-logged and sampled. A petrography investigation will be undertaken to assess the full potential of the Bitter Springs Formation for base metals mineralisation. For uranium, calcrete deposits will be examined in details and ground radiometric survey will be undertaken. If this information provided some positive indication then exploration program will lead to first phase of RC/RAB drilling. This program has been costed to a minimum of \$35000.00.

8.0 REFERENCES

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