NT Minerals Pty Ltd

EL 29077, 29078 & 29079

Annual and Final Report

For the period
06 Jun 2012 to 28 Feb 2014

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Relevant 100K Map sheets: Charlotte, Engoordina, Idracowra, Erdunda, Kulgera, Umbeara
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1.0 ABSTRACT

Exploration Licenses (EL) 29077, 29078 and 29079 made up three of the eight Titles in the amalgamated Amadeus East Project. These three Titles are to be surrendered 28 February 2014. The remaining five Titles were already surrendered effective 2nd January 2014.

From the grant date to surrender no field activities were conducted over EL 29077-29079. The Titles were located between 140 km and 230 km south of Alice Springs and covered 2,124 km² of the Amadeus Basin.

Whilst all commodities were considered, the focus of exploration was placed on potash, phosphate, uranium, gold and base metals.

The outcome of the evaluation was that none of the tenements in the Amadeus East project offer NT Minerals any specific commodity target or focus that can be evaluated in the short to medium term.

The conclusion reached for the remaining three Titles of the Amadeus East Project was that there was insubstantial evidence for the high risk field exploration that would be required. The Titles have been nominated for surrender effective 28 February 2014.

2.0 LOCATION

Amadeus East Project is located in the south east of the Northern Territory, approximately 140 km south of Alice Springs.

Figure 1 - Amadeus East Project Location Map
2.1 TENEMENT DETAILS

Amadeus East Project was originally comprised of a total of 8 Titles and covered an area of 5,448 km$^2$. The details of the final three Titles to be surrendered are shown in Table 1 below.

Table 1 – Tenement details summary

<table>
<thead>
<tr>
<th>EL NUMBER</th>
<th>EL29077</th>
<th>EL29078</th>
<th>EL29079</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Granted</td>
<td>6/8/12</td>
<td>6/8/12</td>
<td>6/8/12</td>
</tr>
<tr>
<td>Term</td>
<td>6 years</td>
<td>6 years</td>
<td>6 years</td>
</tr>
<tr>
<td>Sub-Blocks</td>
<td>227</td>
<td>247</td>
<td>211</td>
</tr>
<tr>
<td>Size Km$^2$</td>
<td>703</td>
<td>767</td>
<td>656</td>
</tr>
</tbody>
</table>

2.2 ACCESS

The Stuart Highway ran north-south through EL 29078 and was within 40 km west of both EL 29077 and EL29079. Various dirt tracks that can be seen from satellite connecting local airstrips and small communities in the region could be utilized to navigate the tenement areas.

2.3 PHYSIOGRAPHY

The Amadeus East Project area is relatively flat with the majority of the region covered by sand dunes which obscure outcrop of formations.

3.0 GEOLOGICAL SETTING

3.1 REGIONAL GEOLOGY

Amadeus East Project is located in the intracratonic Amadeus Basin located in the south of the Northern Territory.

The Amadeus Basin is a Neoproterozoic to early Phanerozoic intracratonic sedimentary basin approximately 170,000 square kilometres in area and includes several sub-basins and troughs which are major depositional centres. Sediment thickness reaches a maximum of 14,000 metres.

The Amadeus Basin overlies the Warumpi and Aileron provinces to the north and the Musgrave Province to the south. The Amadeus Basin is overlain by the Eromanga and Pedirka Basins to the south-east.

The basin has at least nine recognisable megasequences separated by regional unconformities. These megasequences were instigated by major tectonic events including the Peterman and Alice Springs Orogenies.

Periods of subsidence and uplifts coupled with sea level changes caused a series of fluviatile, glacial, marine and evaporite deposits. Though the formation of the Amadeus Basin was instigated by an extensional event, the majority of deformation that took place was compressional and
transtensional (Shaw, R.D. 1991). More recently, halotectonics has been considered to be very important to the development of the basin’s structure with evaporite deposits allowing an alternate dispersion of tectonic forces and acting as reservoirs (Marshall and Dyson, 2007).

Figure 2 - Map of the Structures of the Amadeus Basin Red box depicts location of Amadeus East Project (Shaw, R.D. The tectonic development of the Amadeus Basin, Central Australia, BMR Bulletin 236, 1991)
Figure 3 - Simplified Stratigraphic Column of the Amadeus Basin. Adapted after Wells and others, 1970 and Kennard and others, 1986 (Shaw, R.D. The tectonic development of the Amadeus Basin, Central Australia, BMR Bulletin 236, 1991)
3.2 LOCAL GEOLOGY

A summary of the local Geology is shown in Figure 4.

Figure 4 - Local Geology of Amadeus East Project (EL 29077, 29078 & 29079)

3.3 HISTORIC EXPLORATION

There are a number of historic titles that have overlapped the area covered by EL 29077-29079. The exploration conducted over these tenements has been reviewed and reported on in the Year 1 Annual Report for the Amadeus East Project.

4.0 OPERATIONS REPORT

No field work has been completed on the Amadeus East Project. Work associated with this tenement has been focused on a review of previous exploration in order to plan the forward exploration programme.

5.0 CONCLUSION AND RECOMMENDATIONS

A technical evaluation of the Amadeus East projects in the NT led to the recommendation to drop EL 29080-84 and subsequently the remaining EL 29077, 29078 and 29079. This decision has been made based on reviews of selected historical exploration reports and an assessment of the economic prospectivity of the Amadeus Basin based on various geological reports and evaluations in the public domain.
Potash

The commodity of principal focus has been potash, initially in hard rock and more recently in brines associated with the Karinga Creek salt lakes and salinas. Historical exploration and deep wells have, to date, failed to demonstrate the existence of hard rock potash within the Amadeus Basin sequence. A number of wells within the Neoproterozoic Bitter Springs Formation and Cambrian Chandler Formation were reviewed for potash associated with evaporitic minerals though no reports of potentially economic sequences of potash were found.

Uranium

Small sandstone-hosted uranium deposits are present at the Angela and Pamela prospects south of Alice Springs near the northern margin of the Amadeus Basin. However, low-level historical exploration has failed to provide any targets for uranium exploration in the region of the Amadeus East Project. The central part of the Amadeus Basin is considered too far removed from potential uraniferous source granites in the Arunta and Musgrave Blocks.

Gold and Base Metals

There is low potential for gold and base metals deposits in the Amadeus Basin. Exploration for base metals has been undertaken along the northwest margin of the basin though there are no specific targets for gold and base metals present within the Amadeus East Project. The review found that no appropriate models of gold and base metal mineralisation can be applied and tested within the project.

Phosphate

There have been reports of phosphorite being intersected in the Amadeus Basin in a number of government drill holes from the early 1960s, though none were deemed economic. Historic exploration for phosphate in the Amadeus Basin is not as been as extensive as in the Georgina Basin where most of Australia’s commercial or potentially commercial deposits are situated. The risk is considered too high for NT Minerals to launch an adequate exploration program over the project. Currently there are no known phosphate occurrences within the projects.

The outcome of the evaluation was that none of the tenements in the Amadeus East project offer NT Minerals any specific commodity target or focus that can be evaluated in the short to medium term.

The conclusion reached for the remaining three Titles of the Amadeus East Project was that there was insubstantial evidence for the high risk field exploration that would be required. The Titles have been nominated for surrender effective 1st March 2014.
6.0 REFERENCES


Barrie, J. 1964, Phosphate Drilling, Amadeus Basin, BMR 1964/0195


Huston, D. 2011, An assessment of the uranium and geothermal prospectivity of east central South Australia, Geoscience Australia, 2012/51


Lindsay, J.F., 1999, Heavitree Quartzite, a Neoproterozoic (ca 800-760Ma), high-energy, tidally influenced, ramp association, Amadeus Basin, central Australia, Australian Journal of Earth Sciences 46 127-139


