Titleholder: Rum Jungle Resources Ltd
Operator: Rum Jungle Resources Ltd
Tenement Manager: Ross McColl
Tenement: EL 27933
Project Name: Angus Downs Potash
Report Title: Second annual report for EL 27933, Wollunga Well, period ended 26/10/2012
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Target Commodity: Potash
Date of Report: 25/11/2012
Datum/Zone: GDA94/ Zone 53
250K map sheet: Henbury SG53-01
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Summary

Exploration within Rum Jungle Resources’ Karinga Creek Lakes Project is targeting potassium-, magnesium- and sulfate-salts in salt lakes brines to eventually produce potassium sulfate (SOP) and potassium magnesium sulfate (schoenite) fertiliser probably using solar evaporation ponds. This project has a JORC Inferred Brine resource of 5,500,000 tonnes of sulfate of potash (SOP). EL 27933 is 80 km north of, and peripheral to, the main Karinga Creek Project, but is covered by the same Authorisation under the Mining Management Act. EL 27933 is contiguous with Rum Jungle Resources’ EL 28885 (granted 6/03/2012) and it is hoped to work the two together as the Angus Downs Potash Project. This project covers a palaeo-salt lake system, rather than active lakes as at Karinga Creek. It is not yet known to what extent basement aquifers are involved; if brine is being discharged from the Amadeus Basin sedimentary rocks; if pooled brine or bedded evaporites exist in the subsurface; or if Amadeus Basin evaporite diapirs are affecting the Angus Downs project area. EL 27933 was pegged specifically to target potash, other evaporites and possibly uranium. Angus Downs is an Indigenous Protected Area under Commonwealth legislation and this has made it difficult to get permission to access the land. During the first year, a long awaited AAPA site survey was finally completed and the CLC were contacted twice, but no agreement was reached. Further approaches were made to the CLC during year two; again without success. These delays have meant that no ground-disturbing work was possible in year two and that the drilling, which has been approved by DME, has had to be postponed again. Instead, a desk-top study of waterbore geochemistry was undertaken and remote sensed data acquired and interpreted. Expenditure for the year was $10,938.59 against a covenant of $36,000.
LOCATION, ACCESS AND LAND USE
EL 27933 covers 78 sub-blocks or 243.38 km². The larger, contiguous, EL 28885 is also held by Rum Jungle Resources Ltd and these two ELs make up the Angus Downs Potash Project. EL 27933 is just south of Wallara (also spelt Wallera) Ranch. That station’s airstrip is on the northern boundary of the EL (Figure 1). The eastern third of EL 27933 is freehold land held by the Urrampinyi Iltjiltjarri Aboriginal Land Trust as Portion NT Por 5484. This is Aboriginal Land (Scheduled under ALRA). The western two thirds of EL 27933 is private NT Por 620 held by Angus Downs as Perpetual Pastoral Lease. This Station is an Indigenous Protected Area under Commonwealth legislation. Dealing with access issues on these landholdings have complicated and delayed exploration to date. EL 27933 is bisected by the partly-formed Lurritja Road. This and a few poorly-maintained station tracks to bores are the only other existing access.

HISTORY OF TENURE, JOINT VENTURES AND DME ADMINISTRATION
EL 27933 was applied for in February 2010 and granted 27/10/2010 for six years. It is 100% held by Rum Jungle Resources Ltd. The area south of EL 27933 is also held by Rum Jungle Resources as EL 28885 which was granted 06/03/2012. EL 27933 is included in Rum Jungle Resources’ Karinga Creek Potash Authorisation 565-02. A drilling program has been approved under this Authorisation and carried forward on each revision of the MMP.

EXPLORATION AND PROJECT RATIONALE
The emphasis on EL 27933 is exploring the palaeo-salt lakes and any associated drainages. Rum Jungle Resources is targeting evaporite minerals within the palaeo-salt lake system, any residual brines and possibly palaeochannel uranium.
GEOLOGICAL AND HYDROLOGICAL SETTING

Most of EL 27933 is covered by 10 m to 15 m high sand ridges and dunes and gypsiferous clay flats. There is no outcrop.

EL 27933 contains an evaporitic palaeo-salt lake system (Figure 2) manifest as gypsum sands, outcropping gypsum mounds and salt crusts in open flats. Rum Jungle Resources believe that the EL also contains a previously unrecognized palaeo-drainage system. The palaeo-lakes and palaeo-channels may contain economic quantities of rock evaporites or highly evolved brines suitable for potash production.

EL 27933 overlies rocks of the Amadeus Basin. The Amadeus Basin covers approximately 150,000 km$^2$ and extends into Western Australia. It is comprised of a Neoproterozoic to mid-Paleozoic succession of predominantly shallow marine sedimentary rocks and attains a thickness of up to 14,000 m. The Amadeus Basin contains evaporites which form diapirs and piercement structures. At surface, these structures produce localized halite and gypsum and highly salty groundwater. Evaporite diapirs are visible on some seismic lines in the vicinity of EL 27933. However, it is not known as yet, what relationship, if any, there is between the palaeo-salt lakes on EL 27933 and a possible Amadeus Basin evaporite source.

Further south, the siltstones of the central Amadeus Basin have weathered into a topographic low which contains the Karinga Creek Lakes. These lakes are feed by subsurface discharge from the Central Australian Groundwater Discharge Zone. To date, these modern lakes have been the main focus of Rum Jungle Resources’ potash project. EL 27933 is about 80 km north of the main Rum Jungle ELs over the active Karinga Creek Lakes. EL 27933 and EL 28885 (the Angus Downs Potash Project) are regarded as an adjunct to the Karinga Creek Lakes Project and are testing a similar model, but in a more geologically-evolved setting. The Angus Downs Lakes are mapped as an “inactive” groundwater discharge zone on AGSO (1992) work. It is not yet known if any basement aquifers are involved or, indeed, if brine is being discharged from the Amadeus Basin sedimentary rocks in the Angus Downs project area at all. Systematic drilling and water testing will be required.

WORK BY PREVIOUS OPERATORS

The area of EL 27933 has been included in some evaporite exploration by other operators as described in the previous annual report. It has also been the subject of petroleum exploration, including seismic acquisition.
PREVIOUS WORK BY RUM JUNGLE RESOURCES

Year One
Desktop studies were undertaken, including checking previous petroleum reports for the area. Two Rum Jungle Resources’ geologists and a field technician undertook a reconnaissance from existing tracks. The extensive gypsum mounds and salt crusts located are shown below. Research into two water bores named Wollunga Well and Abe’s Folly in the project area highlighted salt water close to surface with potentially elevated potassium levels. A 20 hole air core drill program was proposed and approved in a Mine Management Plan for this tenement but due to lack of permission for access, no drilling could be undertaken in year one.

Figure 3. Gypsum mounds on palaeo-salt lake on EL 27933.

Figure 4. Salt crust at Wollunga Well.
CURRENT EXPLORATION
Despite several attempts to expedite an access agreement via the CLC, no permission has been forthcoming. The drilling program approved by DME has had to be carried over once more. Consequently, year two activities were once again restricted to desk-top and remote sensed studies.

Remote Sensing
A major remote sensed study was conducted during year 2. Higher resolution 300 dpi versions of the images used in this report are appended. Landsat-742 (Figure 5) was obtained and compared to the false colour ASTER image (Figure 6) gratis from NTGS.

Figure 5. Landsat-742 over the Angus Downs Project area.

Figure 6. False colour ASTER over the Angus Downs Project Area.
Neither of these images was satisfactory, so Rum Jungle Resources acquired much higher resolution stitched rectified SPOT 5 imagery (Figure 7) from GeoImage for the whole project area. In accordance with the standard SPOT users’ agreement, the data itself will be kept in-house. GeoImage also provided experimental night-time thermal ASTER images for part of the Angus Downs Project but there was insufficient coverage of EL 27933 to be of any use.

Figure 7. SPOT5 over the Angus Downs Project.

Other ASTER mineral maps and derived images were obtained gratis from NTGS. All these images and SPOT5 were used in a remote-sensing study conducted across the whole Angus Downs Project during August 2012. This is part of on-going studies aimed at better remotely predicting palaeo-salt lake characteristics and prospectivity. Unfortunately, many of the ASTER mineral maps and derived images proved to be of limited use at Angus Downs. The most useful, shown in the figures below, were ratioed and combined using selectively transparent overlays between them in the hope of better mapping the palaeo-salt lakes and any palaeo-channels. It was disappointing that the experimental ASTER gypsum index (courtesy of Roger Clifton, NTGS) over the Angus Downs Project (Figure 12) failed to detect actual gypsum exposed at the surface.
Figure 8. ASTER vegetation index over the Angus Downs Project displayed as false colour.

Figure 9. ASTER ferric oxide index over the Angus Downs Project area with interpreted palaeo-salt lakes superimposed.
Figure 10. ASTER regolith ratios over the Angus Downs Project area with interpreted palaeo-salt lakes superimposed.

Figure 11. ASTER silica index over the Angus Downs Project area with interpreted palaeo-salt lakes superimposed.
Figure 12. It was disappointing that the experimental ASTER gypsum index over the Angus Downs Project area failed to detect actual gypsum exposed at the surface. Only a small fraction was detected in eastern EL 27933.

The total count radiometric image and the various component channels are shown below.

Figure 13. Total count radiometrics over the project area with interpreted palaeo-salt lakes superimposed.
Figure 14. K channel radiometrics over the project area with interpreted palaeo-salt lakes superimposed. Note the higher response in EL 28885 than EL 27933.

Figure 15. Th channel radiometrics over the project area with interpreted palaeo-salt lakes superimposed.
Figure 16. U channel radiometrics over the project area with interpreted palaeo-salt lakes superimposed. There is little indication of palaeo-channel uranium.

**Waterbore Studies**

During Year two, more effort was put into researching the producing and failed waterbores in the project area. There are only two registered bores on EL 27933. They are plotted with their RN numbers on the map below (Figure 17).

Assays are tabled below. Wollunga Well (RN010296) is drawing from a shallow aquifer that had originally been tapped by a hand dug well from which the bore obtained its name. Although somewhat anomalous in K and SO$_4$, the absolute K ppm and K/SO$_4$ ratios are below those of brines in the Karinga Creek Project. RN013978, also called the Angus Downs Road Bore, is drawing from a much deeper Amadeus Basin aquifer. The absolute SO$_4$ and K values are slightly lower than Wollunga
and RN013978 has much higher relative Na and Mg, which suggests that it may be less suitable for potash production. Neither bore was logged by the drillers as having intersected bedded evaporites or as having lost circulation or voids that might indicate their presence.

<table>
<thead>
<tr>
<th>RN</th>
<th>Common Names</th>
<th>Sample</th>
<th>TD (m)</th>
<th>SWL(m)</th>
<th>FLOW (L/s)</th>
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<tbody>
<tr>
<td>RN010296</td>
<td>Wollunga Well, Olunga Well</td>
<td>drill</td>
<td>13.7</td>
<td>4.3</td>
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<tr>
<td>RN010296</td>
<td>Wollunga Well, Olunga Well</td>
<td>discharge</td>
<td>na</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN010296</td>
<td>Wollunga Well, Olunga Well</td>
<td>discharge</td>
<td>na</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN013978</td>
<td>Road Bore Angus Downs Station</td>
<td>drill</td>
<td>73</td>
<td>50.6</td>
<td>2.25</td>
</tr>
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Table 1. Waterbore details, EL 27933.

<table>
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<tr>
<th>RN</th>
<th>Sample</th>
<th>Na</th>
<th>K</th>
<th>Ca</th>
<th>Mg</th>
<th>Fe</th>
<th>SiO₂</th>
<th>Cl</th>
<th>SO₄</th>
<th>NO₃</th>
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<tr>
<td>RN010296</td>
<td>drill</td>
<td>100</td>
<td>122</td>
<td>590</td>
<td>58</td>
<td>&lt;0.1</td>
<td>41</td>
<td>119</td>
<td>1800</td>
<td>68</td>
<td>121</td>
<td>2</td>
<td>41</td>
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<tr>
<td>RN010296</td>
<td>discharge</td>
<td>97</td>
<td>116</td>
<td>601</td>
<td>60</td>
<td>0.1</td>
<td>43</td>
<td>88</td>
<td>1790</td>
<td>37</td>
<td>113</td>
<td>2.5</td>
<td>43</td>
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<tr>
<td>RN010296</td>
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<td>97</td>
<td>104</td>
<td>601</td>
<td>47</td>
<td>10</td>
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<td>1700</td>
<td>5</td>
<td>112</td>
<td>1.5</td>
<td>&lt;1</td>
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<tr>
<td>RN013978</td>
<td>drill</td>
<td>893</td>
<td>99</td>
<td>439</td>
<td>215</td>
<td>&lt;0.1</td>
<td>42</td>
<td>1750</td>
<td>1580</td>
<td>45</td>
<td>160</td>
<td>1.6</td>
<td>40</td>
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</table>

Table 2. Water assays from bores on EL 27933 in ppm.

PLANNED EXPLORATION YEAR 3
The palaeo-lakes and associated drainages will be sampled as originally proposed. The 20 hole aircore drill program and associated track clearing will commence if an agreement is reached with the Traditional Owners via the CLC.

PLANNED EXPENDITURE YEAR 3
The minimum benchmark covenant of $49,000 is proposed. This excludes the cost of meetings, negotiations and legal costs associated with obtaining an agreement with the CLC.

<table>
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<th>ACTIVITY DETAILS FOR THE NEXT REPORTING PERIOD</th>
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<tr>
<td>Admissible Expenditure</td>
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<tr>
<td>A. Geological Activities and Prospecting</td>
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<td>B. Geochemical Activities</td>
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<tr>
<td>C. Geophysical and Remote Sensing Activities</td>
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<tr>
<td>D. Drilling</td>
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<tr>
<td>E. Bulk Sampling and Earthworks</td>
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<tr>
<td>F. Rehabilitation</td>
</tr>
<tr>
<td>G. Pre-feasibility inc. Metallurgical and Environmental</td>
</tr>
<tr>
<td>H. Office Studies</td>
</tr>
<tr>
<td>I. Overheads (not to exceed 15% of the sum of A to H above)</td>
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<tr>
<td>J. Covenant for next reporting period</td>
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</table>
CONCLUSIONS AND RECOMMENDATIONS
EL 27933 is still pending Aboriginal clearances and work has been restricted to desktop studies. A drilling and water sampling program will be undertaken once permission has been obtained.