ANNUAL REPORT

Toudinny Creek-Bundara Creek Project

EXPLORATION LICENCE EL27458, EL27459 & EL27475

FOR THE PERIOD 06/03/2010 to 05/03/2011

by

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Datum/Zone GDA 94 – Zone 53
1:250000 Beetaloo SE5306
1:100000 Mundah 5763, Beetaloo 5663, Elliott 5662, Ucharonidge 5762
Target Base Metals, Gold

March 2011
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SUMMARY

The Toudinny Creek-Bundara Creek Project comprises three exploration leases, EL27458, EL27459 and EL27475 (total 1630.5km²) in the Dunmarra Basin region, approximately 225km north of Tennant Creek. Western Desert Resources Limited (WDR) was granted the licences on 5th March 2010 through its wholly owned subsidiary, WDR Base Metals Ltd.

WDR is primarily targeting McArthur River–style base metal deposits in sedimentary rocks of Proterozoic or Cambrian age. The Velkerri Formation of the Roper Group is believed to be a suitable target because of its regional-scale elevated base metal values. However, there is no outcrop and no historical drilling in the project area.

During the first year of tenure, WDR completed a search of previous exploration activities and a 987 station ground gravity survey which was done in collaboration with the NT Government co-funding program.
1. INTRODUCTION

1.1 BACKGROUND

WDR formulated what it called the “Antrim Project” in 2009 with the intention of generating new projects in areas generally defined by little or no outcrop or previous exploration, and commissioned a review of the available geoscientific datasets with a view to defining targets based on interpreted structures and possible shallower depth to basement. The Toudinny Creek-Bundara Creek Project was selected as one of two projects (the other being the Larrimah East Project) because an interpreted favourable structural position, based on the aeromagnetic data.

WDR believes the Toudinny Creek-Bundara Creek Project is prospective for McArthur River style base metal deposits, although there may be potential for other commodities, including IOCG.

1.2 LOCATION AND ACCESS

The Toudinny Creek-Bundara Creek Project is located approximately 75km east-southeast of Newcastle Waters, (Figure 1). The Project is located wholly within the Beetaloo 1:250,000 map sheet SE5306. There are unsealed roads and tracks that head eastwards from the Stuart Highway that appear to provide reasonably good access to the Project.

The topographic relief is very flat, with a typical elevation of about 230m RL.

The climate is monsoonal, with the wet season normally lasting from December through to April. The average rainfall for the nearby Newcastle waters is 836mm, almost all of which falls in the wet season. The average maximum temperature is 33.8°C and the average minimum temperature is 19.1°C (source: bureau of meteorology website).
Figure 1: Location Map of Toudinny Creek-Bundara Creek Project
2. TENURE

2.1 MINERAL TITLE

EL27459, EL27459 and EL27475 were granted on 5th March to WDR Base Metals Ltd, a wholly owned subsidiary of Western Desert Resources Ltd (WDR). Application for joint technical reporting was submitted in March 2011 and the three exploration titles are now referred to as the “Toudinny Creek-Bundara Creek Project”.

Table 1: Exploration tenure

<table>
<thead>
<tr>
<th>EL</th>
<th>Name</th>
<th>Area (Sq km)</th>
<th>Blocks</th>
<th>Date of grant</th>
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<tr>
<td>EL27458</td>
<td>Beetaloo</td>
<td>544.24</td>
<td>166</td>
<td>5/3/2010</td>
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<td>EL27459</td>
<td>Toudinny Creek North</td>
<td>543.68</td>
<td>166</td>
<td>5/3/2010</td>
</tr>
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<td>EL27473</td>
<td>Maryfield East</td>
<td>542.58</td>
<td>166</td>
<td>5/3/2010</td>
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2.2 LAND TITLE

The Toudinny Creek-Bundara Creek Project extends over part of four pastoral leases. The leases are not located on Aboriginal freehold land.

3. GEOLOGY

3.1 REGIONAL GEOLOGY

The tenement area is on the eastern edge of the Beetaloo Sub-basin. The stratigraphy comprises relatively undeformed and unmetamorphosed sedimentary rocks of Cambrian and Proterozoic age. The geology in the area of interest is not well known due to lack of outcrop and drilling. The generalised geology is described in “Beetaloo 1:250,000 Geological Series – Explanatory Notes” (Brown, M.C. and Randal, M.A., BMR, 1969). An approximate stratigraphy has been compiled using information from the 1:250,000 sheet descriptions, and the log from Pacific Oil & Gas stratigraphic well Elliot No. 1 (Table 2). This is believed to be a representative summary of the strata in the area of interest.

Within the general tenement area there are no known mineral deposits or recorded mineral occurrences.

There is aeromagnetic coverage of reasonable quality over the project area which shows a subdued magnetic pattern, suggestive of flat-lying volcanics. Major regional lineaments
have been interpreted in the area, including a major NE trending lineament (O’Driscoll, 1986) and the edge of the Central Australian Ring structure (O’Driscoll, 1997).

Table 2: Stratigraphic Summary

<table>
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<th>Age</th>
<th>Stratigraphy</th>
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<tr>
<td>TERTIARY</td>
<td>Soils, lateritic material</td>
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<tr>
<td>LOWER CRETACEOUS</td>
<td>Mullaman Beds Qtz sandstone, pebbly sandstone, siltstone and claystone</td>
</tr>
<tr>
<td>CAMBRIAN</td>
<td>Jinduckin Formation Sandstone, siltstone, marl, carbonate rocks</td>
</tr>
<tr>
<td>CAMBRIAN</td>
<td>Tindall Limestone Limestone, dolomitic limestone, siltstone</td>
</tr>
<tr>
<td>CAMBRIAN</td>
<td>Antrim Plateau Volcanics Continental tholeiitic basalt, minor sandstone, chert, limestone</td>
</tr>
<tr>
<td>NEOPROTEROZOIC?</td>
<td>“Jamison Sandstone” Quartzose sandstone and mudstone</td>
</tr>
<tr>
<td>MESOPROTEROZOIC ROPER GROUP</td>
<td>McMinn Formation Micaceous siltstone and fine sandstone</td>
</tr>
<tr>
<td>MESOPROTEROZOIC ROPER GROUP</td>
<td>Kyalla Member</td>
</tr>
<tr>
<td>MESOPROTEROZOIC ROPER GROUP</td>
<td>Moroak Sandstone Member Sandstone and siltstone</td>
</tr>
<tr>
<td>MESOPROTEROZOIC ROPER GROUP</td>
<td>Velkerri Formation Shale and fine siltstone</td>
</tr>
<tr>
<td>MESOPROTEROZOIC SOUTH NICHOLSON GROUP</td>
<td>Possible Roper Group equivalents Sediments</td>
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3.2 LOCAL GEOLOGY

The local geology is dominated in the Project area by Cainozoic cover, as shown in Figure 2.
Figure 2: Local Geology
4. PREVIOUS EXPLORATION

Most previous work in the general area has been directed at diamond exploration. Collection and analysis of surface samples (for example loam samples by CRA Exploration shown in Figure 2), aeromagnetic surveys, helimag surveys and shallow drillholes to the east of the tenement area failed to find any kimberlitic bodies.

Limited exploration for uranium in the general area but outside the current tenement area has been carried out without success.

There are no mineral or petroleum drillholes in the general tenement area. The nearest is stratigraphic well Elliot No.1, located 30 kilometres to the west in the southern part of the Beetaloo Sub-basin. This was completed at 1,730 metres by Pacific Oil & Gas in 1991. This well confirmed the southward extension of the Roper Group section beneath the Phanerozoic cover, intersecting Upper Roper Group McMinn Formation at 664 metres.

5. EXPLORATION COMPLETED DURING CURRENT YEAR

5.1 DATA REVIEW

During the year, the regional geological and geophysical datasets were reviewed. Results of this compilation are shown in Figures 3-5. It was observed in the magnetic datasets (Figure 3) that the generally subdued magnetic pattern is disturbed in the central and extreme northern part of the project area. The margins of these magnetic perturbations parallel the regional lineaments defined by O'Driscoll (1986, 1997). It was also noted that a ten milligal gravity response occurs on the interpreted boundary of the MesoProterozoic South Nicholson Group and the PalaeoProterozoic Tawallah Group, associated with an increase in interpreted structure frequency.

5.2 EXPLORATION CONCEPT

The exploration concept that has been developed for initial exploration is based on the presence of suitable host rocks and geophysical elements showing structures possibly related to growth faults and/or development of third order basins on the margin of the Beetaloo Sub-basin. Elsewhere in the McArthur Basin the Tawallah Group is known to contain base metals, particularly copper, and uranium mineralisation. In order to refine understanding of the basement structure and generate potential drill targets, ground gravity was deemed to be an appropriate exploration tool.
Figure 3: TMI magnetic image
Figure 4: Bouguer gravity image
Figure 5: Solid geology interpretation
5.3 GROUND GRAVITY

Daishsat Geodetic Surveyors carried out a helicopter GPS-Gravity survey during August 2010. A total of 987 new gravity stations were surveyed, of which 57 stations were revisited for survey quality control. Gravity data were acquired using Scintrex CG-5 gravity meters. Position and level data were obtained using Leica 1230GG geodetic grade GPS receivers collecting GPS and GLONASS positional information. All receivers were operating in post-processed kinematic mode.

The survey comprised two adjacent survey grids – Bundara Creek and Toudinny Creek. The surveys covered a combined area of approximately 1,100 square kilometres. The Toudinny Creek grid was surveyed first, with gravity data acquired on a regular square grid at 1000m station spacing. Some stations were unable to be accessed due to thick vegetation in the north-eastern area of the grid. Once the Toudinny Creek grid was completed the Bundara Creek grid was surveyed, with gravity data acquired at 500m station spacing measured along four lines spaced 2000m apart orientated 090°/270°, and a single line orientated 180°/360° (Figure 6).
Figure 6: Location of gravity survey stations
6. DISCUSSION OF RESULTS
The gravity survey has assisted in definition of the Beetaloo Sub-basin and has defined interesting residual gravity anomalies in both areas (Figures 8 and 9). In particular, the Bundara Creek anomaly is approximately 8mgals, which is a significant anomaly not inconsistent with IOCG deposits. Modelling of the data has not yet been completed, and it is anticipated this will enable direct drilling targets to be defined.

Figure 7: Toudinny Creek Residual Gravity Image
7. FURTHER WORK

Further work will include modelling of the gravity data and identification of drill sites.

8. REFERENCES


