REWARD MINERALS LTD

ANNUAL REPORT

EL 25960

Northern Territory

Annual Report for the year ending
24 October 2008
KEY WORDS

RODINGA
BITTER SPRINGS FORMATION
PROTEROZOIC
CHANDLER FORMATION
MAGELLAN PETROLEUM
BLUEBUSH FORMATION
AMADEUS FORMATION
GILLEN MEMBER
DIAPIR
ISOPACH
TABLE of CONTENTS

SUMMARY

PRECIS

1. INTRODUCTION

2. LOCATION and ACCESS

3. TENURE

4. GEOLOGICAL SETTING

5. PREVIOUS EXPLORATION

6. DISCUSSION

7 WORK COMPLETED AND RECOMMENDATIONS

REFERENCES

LIST OF FIGURES

<table>
<thead>
<tr>
<th>Fig No</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location Diagram</td>
</tr>
<tr>
<td>2</td>
<td>Location of Petroleum Wells</td>
</tr>
<tr>
<td>3</td>
<td>Isopach Map of Chandler Formation</td>
</tr>
<tr>
<td>4</td>
<td>Wells with Salt Intersections</td>
</tr>
<tr>
<td>5</td>
<td>Map showing bore locations and geology</td>
</tr>
<tr>
<td>6</td>
<td>Isopach Map of the Chandler Formation</td>
</tr>
<tr>
<td>7</td>
<td>Seismic Line MCF 81-15 Showing planned Drillhole Locations in Section</td>
</tr>
<tr>
<td>8</td>
<td>Drillhole Plan showing Shotput Locations, Geology and Proposed Drillholes</td>
</tr>
</tbody>
</table>
SUMMARY

AIM

To explore and evaluate the potential for economic potash mineralisation.

OBJECT of REPORT

To document exploration activities and results achieved on Exploration Licence 25960

LOCATION

EL 25960 is located 120 kilometres south east of Alice Springs on the Rodinga 1: 250 000 map sheet (SG53-2).

TENURE

EL 25960 was granted to Holocene Pty Ltd on 24th October 2007 for a period of six years. It is bounded by Longitudes 134°29’ and 134°54’ and Latitudes 24°30’ and 24°52’.
PRECIS
During this reporting year, drill targets were selected and site visits made to mark out drill collars

RECOMMENDATIONS
Drilling of target zones.
1. **INTRODUCTION**

Exploration Licence 25960, is located in the southeastern sector of the Amadeus Basin in the Northern Territory (Figure 1). The Amadeus Basin covers approximately 150,000km² and is located in the southwestern part of the Northern Territory extending into Western Australia. It is comprised of a Neoproterozoic to mid-Palaeozoic succession of shallow marine sediments and attains a thickness of up to 14,000m.

The purpose of this report is to detail exploration conducted on EL 25960 during the year ended 24 October 2008.

2. **LOCATION and ACCESS**

EL 25960 is located 120 kilometres south east of Alice Springs on the Rodinga 1:250 000 map sheet (SG53-2). (See Figure 1).

Access is via a graded gravel road to Allambi Station. Historical exploration and mine tracks, as well as limited station tracks provide local access throughout the tenement which is located over a portion of the Rodinga Pastoral Lease.

![Fig 1](Location Diagram)

3. **TENURE**

EL 25960 was granted to Holocene Pty Ltd on 24 October 2007 for a period of six years. Holocene is a wholly owned subsidiary of Reward Minerals Ltd.

It comprises 493 blocks encompassing a total area of 1538 sq km.
4. GEOLOGICAL SETTING

EL 25960 lies on the Rodinga 1: 250 000 map sheet (SG53-2), for which geological notes are available.

The Amadeus Basin contains two sequences prospective for potash mineralisation; the Neoproterozoic Bitter Springs Formation and the Early Cambrian Chandler Formation. Both of these formations occur within the basin at exploitable depths.

Figure 2
Showing Location of Petroleum Wells

4. PREVIOUS EXPLORATION

In 1982, Magellan Petroleum carried out a seismic survey on an area called Camel Flat, part of which is covered by the tenement. A total of seven seismic lines (MCF 1, 10, 13, 14, 15, 18 and 19) were shot within the tenement, the positions of which are shown in Figure 3. The area has been geologically mapped as the Camel Flat Nappe. From the seismic interpretation a series of isopach maps were produced displaying the following:

- Depth to bottom of the Chandler Formation
- Depth to the bottom of the Proterozoic
- Combined Chandler-Arumbera Isopach

These interpretations were combined to produce a map indicating areas where the Chandler Formation was at its lowest, providing a target zone for end stage bitterns to collect, including potash. The tenement was sited to cover this target zone. (Fig 3)
5. DISCUSSION AND RECOMMENDATIONS

The Chandler Formation is the primary target for potash mineralisation. In the eastern part of the Amadeus Basin, the Chandler Formation contains thick sequences of evaporitic rocks. Halite beds range in thickness from less than 50m to over 1,000m and average 470m thick in the Rodinga area. These thickness variations are accentuated in areas of structural thickening due to salt tectonics. Within the Rodinga project area the Mt Charlotte No1 well intersected a 225m thick section of Chandler Formation halite from 710 metres depth to the bottom of the hole and the Bluebush No1 well intersected 690m of halite from 786 metres depth (Fig 4). These intersections occurred between depths of 700 and 1,500m, within the depth range of economic exploitation. The Chandler salt has high bromine levels that suggest precipitation from late stage brines which is a positive indicator for the presence of potash salts.

The main Chandler Formation target interpreted from seismic surveys in the Rodinga Project is a basinal depression target at Camel Flats, just north of Bluebush No1 (see Fig 2). Other targets are areas of thickening of the Formation in localised basin depressions adjacent to salt diapirs and salt walls derived from the underlying Bitter Springs Formation. Potential exists for large flat-lying Canadian-type potash deposits as well as diapir related European-style potash deposits.
Further analyses will be carried out using existing and new geophysical, geochemical and geological data to better define potash mineralisation targets within the Chandler Formation.

Within the Bitter Springs Formation, the evaporitic Gillen Member is the target horizon for potash mineralisation. It was deposited in the Neoproterozoic and comprises interbedded carbonates, sulphates and halite beds typical of a marine evaporitic sequence. It is widely distributed throughout the Amadeus Basin covering an area significantly greater than the Chandler Salt. The thickness of the Gillen Member averages 800m but varies from 100m to more than 2,000m with the thickening of the beds mainly due to salt tectonism. Halite units are common within the Gillen Member but have been poorly tested by drilling, with a number of holes terminating in halite units at considerable depths.

In the Rodinga project area, two drill holes ended in the Gillen Member, *Mt Charlotte No1* after intersecting 556m and *Bluebush No1* after intersecting 85m of this formation. Halite beds up to 60m thick were intersected in the Gillen Member in the Mt Charlotte hole.

Bromine levels in the Gillen Member vary from 130-190ppm indicating precipitation of salts occurred from late stage brines. Potential exists for both large, flat-lying, Canadian style as well as diapir related potash
mineralisation within the Bitter Springs Formation. Further work is required to establish the best target areas for potash mineralisation.

Bore hole location and analytical data was purchased from the Conservation and Natural Resources Group to cover the whole of the Rodinga 1:250,000 sheet. Unfortunately no assays for K and TDS corresponding to the bore holes were taken. Figure 5 displays the location of the wells and geological units. The blue dots indicate the drill holes from which the water samples were taken. Figure 6 shows the thicknesses of the Chandler Formation from the surface vertically.

Figure 5
Location of Water Bores and Geology

Figure 6
Isopach Map of the Chandler Formation, showing thicknesses of the Chandler Formation compiled from outcrop, well and seismic data
6. WORK COMPLETED

Following identification of suitable targets, three drill targets were selected, based on depth to the salt horizon and probability of intersecting economic salt horizons. (See Figure 7,8)

Several field visits were completed in order to position the sites on the ground and locate a base for accommodation and water supplies.

Several drilling companies were contacted but none were available and/or had rigs capable of drilling to 1000 metres depth.
Figure 8
Drillhole Plan showing Shotput Locations, Geology and Proposed Drillholes
REFERENCES