EXPLORATION LICENCES
23512, 25616, 26507, 26528

MCARTHUR PROJECT

COMBINED ANNUAL REPORT – GR143/09

FOR THE PERIOD
3 FEBRUARY 2011 TO 2 FEBRUARY 2012

BY
A. Raza
TENEMENT REPORT INDEX

TENEMENT HOLDER: Legend International Holdings Inc.

TENEMENT MANAGER: Legend International Holdings Inc.

PROJECT: McArthur Project

COMBINED REPORTING GROUP: GR143/09

TENEMENTS: EL23512, EL25616, EL26507, EL26528

JOINT REPORT PERIOD: 3 February 2011 to 2 February 2012

DUE DATE: 3 March 2012

AUTHOR: A. Raza

STATE: Northern Territory

LATITUDE: 16°32'S - 16°50'S

LONGITUDE: 136°7'E - 136°14'E

MGA (easting): 619056mE - 656525mE

MGA (northing): 8138515mN - 8169703mN

1:250,000 SHEET: SE53-03 Bauhinia Downs

1:100,000 SHEET: 6064 Mallapunyah, 6065 Batten, 6164 Glyde, 6165 Borroloola

MINERAL FIELD: Merlin diamond field, McArthur River HYC Pb-Zn

COMMODITY: Diamonds, Base metals

KEYWORDS: Diamonds, HMA sampling
Contents
TENEMENT REPORT INDEX ........................................................................................................... ii
SUMMARY OF EXPLORATION ACTIVITIES .................................................................................. 1
TENEMENT STATUS ...................................................................................................................... 1
LOCATION AND ACCESS ............................................................................................................... 3
GEOLOGY ...................................................................................................................................... 3
   Regional Geology ...................................................................................................................... 3
   Local Geology .......................................................................................................................... 5
EXPLORATION ............................................................................................................................. 5
   Summary .................................................................................................................................... 5
   Exploration Rational ................................................................................................................ 5
   HMA Sampling ........................................................................................................................... 5
FUTURE WORK ............................................................................................................................. 8
BIBLIOGRAPHY ........................................................................................................................... 9

List of Figures
Figure 1: Exploration Index McArthur Project ............................................................................... 1
Figure 2: McArthur Project Location ............................................................................................ 2
Figure 3: Regional Geology McArthur Project .............................................................................. 4
Figure 4: HMA Sampling ............................................................................................................ 7

List of Tables
Table 1: Summary of work completed in 2011-2012 .................................................................. 5
Table 2: Sample locations collected in 2011-2012 .................................................................. 6
Table 3: Summary of HMA results ............................................................................................. 6
SUMMARY OF EXPLORATION ACTIVITIES
This report describes the exploration activities conducted over tenements comprising the McArthur Project Combined Reporting Group GR-143/09 for the period between 3 February 2011 and 2 February 2012. During the reporting period, the principle focus remained on diamond exploration. Helicopter-assisted program of Heavy Mineral Analysis (HMA) sampling was conducted over selected tenements within the reporting group. Eleven samples were collected as either to follow-up historic positive results or infill reconnaissance sampling to ensure adequate data points are available to draw meaningful assessment on the prospectivity of the project.

TENEMENT STATUS
Tenements listed in this report are held and managed by Legend International Holdings Inc (Legend) (Figure 1). History of each tenement within the McArthur reporting group is outlined below.

EL23512: The EL23512 was granted on 3 March 2003, covering twenty two (22) sub blocks, and has undergone four (4) reduction deferrals at the third, fourth, fifth and sixth anniversaries. An application for renewal was granted on 16 March 2009 extending the term of the licence for a further 2 years, which expired on 3 March 2011. Approval of second renewal application has extended the tenement term to 2 March 2013.

Figure 1: Exploration Index McArthur Project
**EL25616**: The EL25616 was granted on the 23 August 2007, and has undergone one (1) reduction. The waiver of reduction for the fifth year was approved on 13 October 2011 allowing Legend to retain all ten (10) sub-blocks until 22 August 2013.

**EL26507**: The EL26507 was granted on 18 July 2008, covering twenty two (22) sub-blocks. One (1) reduction deferral was approved on 6 July 2010 at the third anniversary, permitting to retain 22 blocks.

**EL26528**: The EL26528 was granted on 18 July 2008, and covered ninety eight (98) sub blocks. The licence was due for a 50% statutory reduction at the third anniversary. Complying with the refusal of waiver of reduction by the Department, licence was reduced to 45 blocks on 29 December 2011. Term of licence expires on 17 July 2014.

**LOCATION AND ACCESS**
Tenements consisting of McArthur Project are contiguous and are located approximately fifty-five (55) kilometres south of Borroloola (Figure 2). Access to the tenements is limited and varied depending on their proximity to access tracks leading to the area. The northeast of EL26507, the centre of EL23512 and parts of EL25616, can be accessed via the Carpentaria Hwy-Merlin Mine road and then by the adjoining station tracks. However, access to EL26528 is not possible by vehicle. Helicopter remains the only form of transport to this tenement.

**GEOLOGY**

**Regional Geology**

The McArthur Basin is one of many basins that developed above the North Australian Craton (NAC) during the ~1800-1500 Ma. Its sedimentary package comprises of unmetamorphosed and mildly deformed rocks of carbonate, siliciclastic and interbedded volcanics deposited in overall shallow intracratonic setting. The sedimentary sequence of the basin has been divided into four groups separated by regional unconformities. They are from oldest to youngest, the Tawallah, McArthur, Nathan and Roper Groups.

The McArthur Basin is overlain by the remnants of the Cambrian Bukalara Sandstone and the Cretaceous sediments of the Dunmarra Basin. There is a widespread distribution of Cainozoic sandy soil, laterite and alluvium along drainage systems.

The major structural elements of the basin include two north-trending structural corridors known as Batten Fault Zone and its northern equivalent the Walker Fault Zone separated by the east-west trending Urapunga Fault Zone (Pietsch et al. 1991). The Urapunga Fault Zone divides the basin into two parts—the Northern McArthur Basin and the Southern McArthur Basin. In the Southern McArthur Basin the Batten Fault Zone is flanked to the east and west by the tectonically stable shelves-Wearyan Shelf and Bauhinia Shelf respectively.

The McArthur Basin hosts world class base metal deposits and several small occurrences of uranium mineralization. The spatial association between the major basinal faults and base metal deposits in the McArthur Basin suggests that these fault zones provided an important control on mineralization.

A number of varying sized economical and sub-economical diamond-bearing kimberlite pipes have been discovered in the basin. They are part of sporadically occurring post-Cambrian volcanic activity on the NAC.
Figure 3: Regional Geology McArthur Project
Local Geology
The McArthur Project mostly overlies the Batten Trough of the Southern McArthur Basin. The N-S trending Emu Fault Zone is the main structural feature in the project area (Figure 3).

The Proterozoic geology of tenements is dominated by the sequence of the McArthur Group. It consists of interbedded succession of stromatolitic and evaporitic dolostone, sandstone and mudstone. Overlying the Proterozoic sequence is the Cambrian Bukalara Sandstone forming the Merlin Plateau. Remnants of flat-lying Cretaceous sediments occur at places covering the pre-Mesozoic units.

The Batten Trough is characterised by world-class HYC Zn-Pb-Ag deposit located along the Emu Fault just north of EL25616. The McArthur Project also lies in the North Australian microdiamond field. The Merlin diamond mine consisting of 14 kimberlite pipes, located on a fault splay off the Emu Fault Zone, is situated approximately 10 km southeast of EL26507.

Owing to the proximity to known diamonds and base metals deposits and having all relevant geological features that control their occurrence, the project area is considered prospective and holds excellent potential for a major discovery.

EXPLORATION

Summary
During the reporting period, exploration activities were focused on prospecting diamond on EL23512, EL26528, and EL26507. Eleven (11) stream gravel samples were collected for heavy mineral analysis HMA. The sampling program was conducted in June 2011 using an R44 helicopter to access remote locations.

<table>
<thead>
<tr>
<th>Tenement</th>
<th>Work completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL23512</td>
<td>6 HMA Samples collected</td>
</tr>
<tr>
<td>EL26528</td>
<td>4 HMA samples collected – helicopter assisted</td>
</tr>
<tr>
<td>EL26507</td>
<td>1 HMA sample collected– helicopter assisted</td>
</tr>
</tbody>
</table>

Table 1: Summary of work completed in 2011-2012

Exploration Rational
Review of historical HMA data suggests that earlier explorer extensively sampled the project region. Most samples returned negative results yielding no microdiamond or diamond indicator minerals (DIM). Legend considered that paucity of DIM or microdiamond in those samples was due to selection of searched grain-size fraction that was too coarse (+0.4mm). It is now realized that coarse DIM do not survive in the extreme tropical weathering environment of Northern Australia and finer fraction needed to be examined for indicator recovery. Therefore, a reconnaissance-sampling program was initiated to re-establish the project potential for hosting kimberlite by searching finer grain-size fraction (+0.2mm) in bulk stream/loam sediment samples.

HMA Sampling
Diamond exploration on the McArthur tenements is in its early stages with distinct targets yet to be identified. The project area is considered prospective for hosting kimberlite pipe due to its location on a structural corridor that extends from the Merlin Kimberlite Field (Figure 3).
First pass sampling was conducted in 2009 and identified several areas of interest (Figure 4). These areas were followed-up in the 2010-2011 field season to enhance understanding of distribution of DIM. The results obtained from previous two phases required further sampling in some areas to ensure sufficient data points are available to make a meaningful assessment on prospectivity of the project. These areas have been focus of current work.

A total of 11 bulk stream sediments samples were collected with the support of helicopter where needed (Table 1 and Figure 4). Samples weighed between 40-60 kg, comprising either -1mm or -2mm sieve fraction from selected stream locations. Most of the samples were collected as either to follow-up historic positive results or infill reconnaissance sampling. Often, damp/wet sample was available because of continuous groundwater discharge in stream. All samples were sent to NADL Wangara Laboratory in Perth for analysis where processing of the fine fraction between 0.2mm – 1.0mm was conducted.

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Date sampled</th>
<th>Tenement ID</th>
<th>Easting GDA94</th>
<th>Northing GDA94</th>
<th>Sample Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-230-001</td>
<td>08/06/2011</td>
<td>EL23512</td>
<td>632846</td>
<td>8156593</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-230-002</td>
<td>08/06/2011</td>
<td>EL23512</td>
<td>628527</td>
<td>8154481</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-230-003</td>
<td>08/06/2011</td>
<td>EL23512</td>
<td>631462</td>
<td>8155688</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-230-004</td>
<td>08/06/2011</td>
<td>EL23512</td>
<td>630027</td>
<td>8154494</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-230-005</td>
<td>09/06/2011</td>
<td>EL23512</td>
<td>630016</td>
<td>8154399</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-230-006</td>
<td>09/06/2011</td>
<td>EL23512</td>
<td>624865</td>
<td>8152159</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-231-001</td>
<td>10/06/2011</td>
<td>EL26507</td>
<td>629049</td>
<td>8139858</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-223-001</td>
<td>08/06/2011</td>
<td>EL26528</td>
<td>630369</td>
<td>8161351</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-223-002</td>
<td>08/06/2011</td>
<td>EL26528</td>
<td>631318</td>
<td>8160444</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-223-003</td>
<td>08/06/2011</td>
<td>EL26528</td>
<td>630359</td>
<td>8159738</td>
<td>HMA-S</td>
</tr>
<tr>
<td>11-223-004</td>
<td>08/06/2011</td>
<td>EL26528</td>
<td>631654</td>
<td>8160032</td>
<td>HMA-S</td>
</tr>
</tbody>
</table>

Table 2: Sample locations collected in 2011-2012

Four (4) samples, 11-230-001, 11-230-003, 11-231-001 and 11-223-001, returned chromites and two (11-230-003 and 11-231-1) of these samples have coexisting microdiamond. Among the chromite positive samples, 11-223-001 returned the highest number of chromite grains (16 grains). Sample 11-223-004 yielded only one microdiamond but without coexisting DIM. Laboratory data is summarized in Table 2 and results are depicted in Figure 4.

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Tenement ID</th>
<th>Easting GDA94</th>
<th>Northing GDA94</th>
<th>Chromite Result</th>
<th>Diamond Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-230-001</td>
<td>EL23512</td>
<td>632846</td>
<td>8156593</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>11-230-002</td>
<td>EL23512</td>
<td>628527</td>
<td>8154481</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11-230-003</td>
<td>EL23512</td>
<td>631462</td>
<td>8155688</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>11-230-004</td>
<td>EL23512</td>
<td>630027</td>
<td>8154494</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11-230-005</td>
<td>EL23512</td>
<td>630016</td>
<td>8154399</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11-230-006</td>
<td>EL23512</td>
<td>624865</td>
<td>8152159</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11-231-001</td>
<td>EL26507</td>
<td>629049</td>
<td>8139858</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>11-223-001</td>
<td>EL26528</td>
<td>630369</td>
<td>8161351</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>11-223-002</td>
<td>EL26528</td>
<td>631318</td>
<td>8160444</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11-223-003</td>
<td>EL26528</td>
<td>630359</td>
<td>8159738</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11-223-004</td>
<td>EL26528</td>
<td>631654</td>
<td>8160032</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3: Summary of HMA results
Figure 4: HMA Sampling
**EL26507:** Sample 11-231-001 was collected from the southern part of EL26507, which is closest to the Merlin Kimberlite Field. It is located immediately downstream of last year’s four negative samples. Occurrence of DIM in this sample has re-established the prospectivity of this area and validated previous positive results from two samples collected in its close vicinity during 2009 and 2010. Detailed assessment of this area is needed, however distribution of drainage suggests that source of DIM may lie outside the tenement boundary.

**EL23512:** Six samples (11-230-001 to 006) were analysed from EL23512 targeting drainage in its northeastern and south central parts. Samples 11-230-001 and 11-230-003 returned positive results yielding seven chromites and a micro-diamond. These positive samples are located on streams that have returned negative or unresolved results during the previous two sampling phases (i.e. in 2009 and 2010). The positive results have re-establishing the prospectivity of this area. The headwaters of these streams emanate from Legend’s neighboring EL26528 indicating occurrence of an anomalous region upstream. This region needs to be followed-up in future.

Remaining four samples (11-230-002, -004, -005 and -006) are negative; all of them are repeat of negative or unresolved results received during 2009 and 2010 sampling. Absence of DIM in 11-230-002, -004 and -005 is consistent with the earlier negative/unresolved results collected from the same stream, downgrading the prospectivity of the area. However, sample 11-230-006 is located downstream of the last year’s two positive samples (Figure 4). Distribution of drainage indicates that source of this stream lies outside the tenement.

**EL26528:** Four samples (11-223-001 to 004) from EL26528 were analysed for DIM from an area that was sampled during 2009 by Legend. Return of two positive samples (11-223-001 and 11-223-004) is consistent with the earlier positive results from the same stream and suggests further follow-up work is needed in future.

**FUTURE WORK**

Preliminary assessment of HMA results received from follow-up stream sampling is encouraging. Presence of chromite and microdiamond in stream samples suggests that project area is prospective for kimberlite. There remained parts of the project that have not so far been sampled. These include western part of EL26528 and nearly all of EL25616.

Number of samples has yielded chromites but their significance is not yet apparent due to lack of information about their origin whether they are kimberlitic or non-kimberlitic. In particular, the chromites grains recovered from EL26528 and northeastern part of EL23512 require detailed geochemical assessment. These samples have been collected from those streams having their headwaters located within the McArthur Project.

In summary, three phases of HMA sampling has indentified some areas with indicator mineral anomalies. These areas need further investigation. Therefore, proposed future work will comprise close spaced HMA stream sampling followed by loam sampling of the prospective areas. Once a defined source location has been outlined, it will be mapped by ground geophysics to generate drilling targets. The priority target will be drilled to confirm the presence of kimberlite pipe.

Legends International Holdings Inc., Combined Annual Report GR143/09: EL23512, EL23515, EL25616, EL26406, EL26528, McArthur Project, for the period 3 February 2009 to 2 February 2010.

Legends International Holdings Inc., Combined Annual Report GR143/09: EL23512, EL23515, EL25616, EL26406, EL26507, EL26528, McArthur Project, for the period 3 February 2010 to 2 February 2011.