Lagoon Creek Resources Pty Ltd.

Exploration Licence 24645

Annual Report For The Period Ending 16th March 2010

LICENCEE: Lagoon Creek Resources Pty Ltd.
OPERATOR: Lagoon Creek Resources Pty Ltd.
STANDARD 1:250,000 SHEET: SE53-8 Calvert Hills
AUTHOR: Lagoon Creek Resources Pty Ltd.
DATE: April, 2010.
Summary

Location and Access

Tectonic Setting

Regional Geology

Regional Geophysical setting

Historic Exploration

Lagoon Creek Exploration

Planned Expenditure

References

Figures

Appendices
Summary

Lagoon Creek Resources Pty Ltd. is exploring EL 24645 for unconformity related uranium and gold mineralisation associated with the Westmoreland Conglomerate.

Lagoon Creek Resources is a wholly owned subsidiary of Laramide Resources Ltd, a public company listed on the Toronto Stock Exchange. Laramide hold the ~ 50Mlb Westmoreland – Redtree Uranium Deposit in Qld. Exploration and study of the mineralization at Redtree is providing additional exploration vectors to guide exploration in the Northern Territory.

Exploration during the past year has comprised minor fieldwork and compilation of results received from the previous years exploration. An MMP was submitted to conduct drill testing of the unconformity in the north of the tenement however wet conditions late in the year prevented this.

Following further structural interpretation of the airborne magnetic survey and integration of field and assay results eight key prospect areas have been defined for exploration work in 2010.
Location and Access

EL24645 consists of 171 sub blocks and was acquired by Lagoon Creek Resources Pty Ltd on the 15th March 2006, for a period of 6 years. The EL covers 740km² and is located within the Calvert Hills Pastoral station, straddling the Calvert Road, just south of the intersection with the Savannah Highway.

Fig 1: EL24645 Location and Access

The climate is sub tropical, with wet summers and warm dry winters. Average rainfall over the past 26 years is 923mm per annum, of which almost all falls between the months of December and March making access a great difficulty. The area has an average annual temperature of around 19°C; however extremes of 0°C and 46°C have occurred.

The Lagoon Creek Project covers part of the western exposed margin of the Murphy Inlier, a mid Palaeoproterozoic, latitudinal, basement ridge (Figure 10). This tectonic feature, some 200 km in length by 20-230 km in width, extends beneath Cretaceous sediments in the east, and is partly covered by Neoproterozoic sediments and alluvium in the west. The Inlier consists of metasediments (~2000 to 1870 My) and late orogenic granitoids and co-magmatic felsic volcanics (~ 1855 to 1850 My). It represents an actively long-lived tectonic remanent of the North Australian Craton (NAC). Following the terminal phase (circa 1850 My) of the mid Palaeoproterozoic Barramundian orogenic cycle and its associated voluminous felsic magmatism, the NAC underwent large scale tectonic fragmentation and collapse during the late Palaeoproterozoic (1800-1550 My), with subsequent development of widespread successor basins. These basins extend in an arc from the Kimberley (Western Australia) eastwards through the Pine Creek region of the Northern Territory and into the McArthur-Mt Isa province.

At the initiation (~ 1800 My) of rift and basinal development, the Murphy Inlier was substantially larger, extending over 400 km by 120 km. As an active tectonic horst, it effectively separated the northern McArthur from the southern Mt Isa basinal terranes.

Recent re-mapping, basinal analysis (sequence stratigraphy) and accurate radiometric age dating, in this region, has significantly changed the understanding of its tectono-stratigraphic evolution during the late Palaeoproterozoic. In addition, the genesis of the associated major uranium (e.g. East Alligator) and base metals (e.g. Mt Isa) deposits of the region have been re-defined.

The McArthur-Mt Isa successions have been subdivided into three temporal, superimposed super basins, with distinct structural architecture; namely the Leichhardt (1800-1740 My), Calvert (1740-1690 My) and Mt Isa (1690-1550 My) super-basins. Thick (in excess of 10,000m) accumulations of sediments were developed with associated bimodal felsic and mafic volcanics, particularly in the Leichhardt and Calvert super basins. It is suggested that, within an intra-cratonic/orogenic setting, these basins were subjected to episodic, deep crustal-mantle, thermal diapirism with concomitant pulses of major uranium and base metals mineralisation.

Recent radiometric dating of uranium mineralisation at Westmoreland, likewise confirms a primary metallogenic episode at 1665 My. The Lagoon Creek Project, centred over the poorly exposed western, or Benmara part of the Murphy Inlier, is particularly favourable sited as it coincides with all three major structural elements. Recent drilling beneath relatively shallow (~20m) alluvial cover, has identified two phases of mantle magmatism in this area: the Benmara Alkaline complex (1830 My) and the Coanjula nepheline/alkali basalt diatremes (~ 1665 My). In the recent past, exploration has focused on diamonds, with several micro-diamond occurrences discovered, however, the potential significance of possible uranium mineralisation was not pursued.
Figure 2: Tectonostratigraphy.
Compiled by A. Teluk, edited by REM, Brisbane.
NB: figure shows old tenure boundaries
Regional Geology

The area is located within the McArthur Basin and consists of the McArthur Basin group which is unconformable to the older underlying Tawallah group.

The Tawallah group consists of:
- Wollogorang Formation
- Aquarium Formation
- Sly Creek Sandstones
- McDermott Formation

With representations from the McArthur Basin of
- Masterton Sandstone
- Karns Dolomite

Much of the area is under early Cretaceous and early Cambrian fluvial deposits (Fig. 4). The south shows north west trending faults relating to intrusive granites of the Nicholson Granite Complex. This area is better exposed and was one of the main focuses of our exploration in 2008, especially where Granite intrudes an older sandstone unit. Aerial geophysics pinpointed this as an area of interest. This area is also hosts an existing Uranium occurrence known as ‘Anomaly 1’.

Figure 3, below, shows the local geology of EL24645.
Figure 3: EL24645 with geology
Figure 4: Generalised geology, Westmoreland area.
Compiled by D G Jones from published data; for legend see Figure 6 below.
NB: figure shows old tenure boundaries

Figure 5: Simplified Stratigraphy in the Westmoreland Region.
Compiled by D G Jones from published data

GEOLOGICAL LEGEND
- CANOZOIC
- MIOCENOPLIOCENE
- MIOZOIC
- PALAEOZOIC
- PALAEOPROTEROZOIC
The Rob Search report describes the geology as:

“The Lagoon Creek area encompasses the western portion of the Murphy Inlier, and is referred to as the Benmara area.

Palaeoproterozoic sediments and volcanics along the northern and western margins are poorly exposed, and are overlain by younger, Neoproterozoic-age beds of the South Nicholson Basin in the south, and in the north by a relatively thin blanket of Cambrian and Cretaceous sandstones and siltstones. Early Tertiary lateritic soils and laterite form a widespread relict plateau over the Cretaceous beds, which are in turn, extensively incised and infilled by Mio-Pliocene alluvium, and younger black soil planes.

Complex syn- and post-depositional faulting and uplift has partitioned the western portion of the Inlier and the Leichhardt-Calvert basin successions into three distinct tectonic domains, with varying implications for potential uranium metallogenesis and exploration methodologies.

The central Benmara area comprises a NW-elongated horst block of basement granitoid and metamorphic rocks, with the northern faulted margin representing the western arcuate continuation of the Tin Hole hinge zone. A complex, discontinuous and conjugate ENE- and NW-trending fault and fracture pattern is similar to the main areas of mineralisation in the Westmoreland uranium field.

Rock units susceptible to chemical weathering, such as granite, basaltic volcanics and dykes, are poorly exposed. Nevertheless, sporadic outcrops, and geophysical magnetic survey data show that a cover of Westmoreland Conglomerate and Seigal Volcanics extends over the northwestern part of the older metamorphic and granitic rocks of the Inlier. Thus the gross lithological and structural elements related to uranium mineralisation in the Westmoreland field are also present in the Benmara area.

Further north, the tenement covers part of the WNW-trending ridge, informally called the Seigals Tectonic Ridge (STR). It is an elongated, diapir-like, faulted upwarp, somewhat similar to a number of dome in basin structures in the southern McArthur Basin. This ridge is largely covered by a veneer of lateritised soils, alluvium and Cretaceous sediments, however, from limited rock outcrops and aeromagnetic data, it is possible to infer the presence of shallow basement with overlying Westmoreland Conglomerate and Seigal Volcanics. The ridge appears to have favourable lithological and structural criteria for uranium mineralisation.

The southern part of the Benmara area, however, differs substantially. Recently released (late 2006), second-generation, geological mapping (NT Geological Survey) and past diamond exploration drilling data indicate a more complex interplay of structure and stratigraphy with tectonic evolution.

Sequence stratigraphy and basin tectonic models provide the following observations and inferences are apparent:

In the initial Leichhardt phase of tectonic evolution, the Murphy tectonic high was substantially wider (100 km+) and longer (300 to 400 km). This is indicated by attenuated and overlapping unconformable units in the Carrara Dome region, some 120 km southeast of Benmara.

In the far southwestern part of the Lagoon Creek ELs, beneath shallow (20m) alluvial cover, the granitic-metasedimentary basement has been intruded by the Benmara Alkaline Igneous Complex which ranges in composition from pyroxenite and monzogabbro to syenite and trachyandesite. This zoned ring
complex is dated at 1830 My and is part of a late post-orogenic intrusive and volcanic cycle (cf. Edith River and Leichhardt Volcanics). In the same area, numerous small alkalic/basaltic diatremes of younger age (circa 1665 My) are present in the basement and adjacent basin sediments. Ongoing tectonism and uplift during the Leichhardt cycle of development, across the southern and southwestern parts of the Inlier, resulted in erosional stripping of the older sequences. Consequently there is overlap of upper Calvert cycle dolomitic and clastic sediments and felsic (trachytic) volcanics (Benmara Group) onto basement. This unconformable relationship of sandstones and volcanics over basement is similar to the older Leichhardt-basement unconformity.

In summary, the western Benmara part of the Inlier is extensively present beneath shallow alluvial cover, with litho-structural characteristics similar to the main uranium field at Westmoreland. In addition, the uplifted Seigals Tectonic Ridge across the northern tenement may have similar potential. As well, the recently discovered Benmara igneous complex may have similarities to other Proterozoic zoned alkaline ring complexes, such as the uraniferous Ilimaussaq and Pocos de Caldas intrusions.”


Regional Geophysical Setting

The most regionally significant structure is that of the Northwest, Southeast trending Calvert Fault which can be picked out on magnetic data easily. This corresponds with radiometric highs, especially on the south side of the fault structure.

The Rob Search review of the geophysical data is as follows

“An evaluation of reprocessed regional airborne magnetics and radiometrics has highlighted a complex structural pattern. There is a W- to WSW-trending continuity of the Inlier beneath shallow cover, and the presence of an intra-basin, WNW-trending tectonic ridge, (the Seigals Tectonic Ridge), immediately to the north of the basement block. The magnetic response over the Nicholson Granite is generally flat, in contrast to the moderately magnetic Cliffdale Volcanics and dolerite dykes. The strongest magnetic response is over the Seigal Volcanics, a basin-wide basalt formation. A strong, but less intense, magnetic response is associated with alkalic (trachyte, latite, rhyolite) volcanics higher in the succession, called the Gold Creek Volcanics. The distribution of these magnetic units has provided the basis of the structural interpretation, in particular the definition of the intra-basin Seigals Tectonic Ridge (Figure 11). The Seigal Volcanics, despite their characteristic magnetic signature, have not been mapped at a regional scale west of the Tin Hole Hinge. Intense lateritic chemical
weathering, however, has largely created a negative profile over this unit, nevertheless, discontinuous low-profile outcrops of Westmoreland Conglomerate adjacent to poor magnetic anomalies reinforces the geological interpretation. Thus, despite the extensive veneer of cover sediments, the airborne magnetic data provides a clear basis for exploration targeting for both structural and/or stratabound uranium mineralisation.

The uranium channel radiometric image shows a strong coherent anomaly over the eastern granite-acid volcanic part of the Inlier. Moderately strong, but less coherent, anomalies overlie the more poorly exposed Benmara horst. Widespread anomalies, however, are also associated with the early Tertiary (Oligocene) lateritic plateau, with capping fluviatile sediments most probably formed as sheet-like outwash fans from the adjacent granitoid basement.

A more subtle but distinct radiometric anomalism is associated with the McDermott Formation, a sandy dolomitic, stromatolitic and glauconitic sedimentary unit with depositional affinities to a sabhka environment (i.e. shallow marine-coastal). An intra-formational palaeo-silcrete unit indicates probably emergent conditions which may have facilitated uranium deposition. A similar palaeofacies in the Proterozoic Cuddapah Basin in India has known uranium deposits. Drilling data in the southwestern portion of the Project shows the presence of the same dolomitic facies overlying basement granites.

Exploration targeting of surface radiometric anomalies will, however, require a detailed regolith map. Such a map is not currently available over the Project area.”


Historic Exploration

Historic exploration has generally been focused on diamonds and base metals. Uranium exploration was documented in 1953 however little work has been undertaken since the late 50’s and early 60’s. Stockdale prospecting, BHP, Rio and Ashton mining carried out the majority of exploration within the area post 1980’s.

“Uranium exploration over the Project area has been minimal. Major exploration or mining company work activity during the early to mid 1970s included airborne and ground magnetic/radiometric surveys, water bore and rock sampling with only 50m of diamond drilling. Minor uranium occurrences were located at anomalies 1 and 7B. The latter anomaly was related to supergene-lateritic enrichment over trachytic volcanics of the Benmara Group.

The masking effect of widespread, basement-derived, anomalously radioactive, alluvial cover, has largely limited further uranium exploration in this area. Subsequently, exploration has been focused on the diamond potential of the district.” (Teluk, A. 2007. Independent Geological Report on Portfolio of Uranium Projects)
Lagoon Creek Exploration

2007

Lagoon Creek Resources initial focus was to have the radiometric and magnetic data, previously flown by The Australian Geological Survey, reworked and reprocessed by GeoDiscovery Group. This was followed by flying an airborne magnetic and radiometric survey over the most prospective areas of the tenement.

Initial reconnaissance work was undertaken as well as the collation and review of previous exploration activities. A work proposal for two specific areas was established and ground reconnaissance of the two study areas showed access to be reasonable.

Alex Teluk from Rob Search was contracted to prepare an independent Geological Report on the Lagoon Creek Tenement package within Benmara and Calvert Hills.

2008

LCR undertook a series of orientation sampling programs. Initial focus was on geological outcrop mapping and a stream sediment, soil, and rock chip sampling program. Additionally, a scintillometer (radiometric) survey with four recently purchased GF Instruments Gamma Surveyor units was completed over potential targets. The focus in EL24645 was to concentrate sampling in two specific areas of elevated Uranium radiometric response. The fieldwork was carried out in August 2008 by a 6-man team over a period of 12 days.

Significant results were observed mainly in areas of outcrop, especially at ‘Anomaly One’ and granite and sandstone contacts. The results obtained have also confirmed the presence of anomalies identified from Airborne Geophysics.

Soil sampling comprised collection of B horizon -2mm soils submitted to ALS for ICP_MS assay.

Stream Sediment samples were collected as -5mm and screened to -80# prior to ICM-MS assay by ALS.

Geophysics

Airborne Geophysics

Lagoon commissioned UTS to fly a detailed airborne magnetic and radiometric survey over the portion of the tenement initially considered most prospective. Field work to date has been focussed on ground follow up of high U-Th radiometric response.
Ground Scintillometry

Three GF Instrument Geosensor scintillometers were used to study ground radiometrics. A series of lines were walked and results confirm the presence of the anomalies identified from radiometrics. In total 179 sample points were recorded, with the highest values observed around the area of ‘Anomaly One’. A spreadsheet of results was attached to the previous report.
2009

Soil samples

During the previous year 97 soil samples were taken and are reported here. The samples were analysed by ALS laboratories using ICPMS providing a suite of 51 elements. A full spreadsheet of results is attached (EL24645_soils.xls).

Samples were taken within study areas A and B in the southern portion of the tenement area.

The highest result for uranium, at around 8 ppm, are found at ‘Anomaly One’ in study area A and over a radiometric anomaly 3.8 km to the south east where values reached 6.8 ppm U.

The results showed a degree of low order anomalism associated with the historic prospect and co-incident airborne radiometric response.

Fig 8 Study Area 1 Soil Sample Location.
Fig 9 Study Area 1 Soil Sample U ppm.

Fig 10 Study Area 2 Soil Sample Location.
Stream sediment samples

During the previous year 15 stream sediment samples were taken with assay data reported here in EL 24645_Stream sediment_assay.xls

The maximum uranium value was 26.7 ppm within 1 km of the anomaly one prospect which reported rock chip sample at 339 ppm U.
Fig 12 Study Area 1 Stream Sediment Sample Location.

Fig 13 Study Area 1 Stream Sediment Sample U ppm.
Rock chip Samples

During the previous year 28 rock chip samples were taken from EL 24645, covering the main radiometric anomalies when outcrop was observed. Assay results from the rock chips are attached (EL24645_2010_rockchipassay.xls).

The maximum value was 339 ppm U at the historic prospect anomaly one.

Fig 14 Study Area 1 Rock Chip Sample Location.
Exploration Conducted During Current Term.

Switzer Geological Consultants undertook a desktop study of the tenements. The study involved an interpretation of the existing geological data and UTS airborne magnetic survey to interpret the covered Westmoreland – Siegals unconformity and the basal Westmoreland unconformity and fault geometries.

The report is appended. EL24645_2010_SwitzerReport

On the basis of this study 8 priority target areas were identified in EL 24645 for follow up.

During 2009 work was curtailed due to the uncertainty for corporate financing resultant from the GFC.

A MMP was lodged and drilling scheduled for late in 2009 to test the upper Westmoreland unconformity identified as Target 8. This drilling has been postponed due to access difficulties caused by wet conditions.

A further 6 soil samples were taken from the vicinity for reference purposes.
## Proposed Expenditure for 2010

<table>
<thead>
<tr>
<th>Activity</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geologist</td>
<td>(60 days @ $450)</td>
<td>$27,000</td>
</tr>
<tr>
<td>Field assistants</td>
<td>(60 days @ $300)</td>
<td>$18,000</td>
</tr>
<tr>
<td>Stream sediment sampling</td>
<td>(50 @ $25)</td>
<td>$1,250</td>
</tr>
<tr>
<td>Soil sampling</td>
<td>(300 @ $25)</td>
<td>$7,500</td>
</tr>
<tr>
<td>Rock chip sampling</td>
<td>(50 @ $25)</td>
<td>$1,250</td>
</tr>
<tr>
<td>Spectrometry survey</td>
<td></td>
<td>$2,000</td>
</tr>
<tr>
<td>Equipment and operations</td>
<td></td>
<td>$20,000</td>
</tr>
<tr>
<td>Reporting and drill targeting</td>
<td></td>
<td>$10,000</td>
</tr>
<tr>
<td>Drilling (if warranted) using Company owned drill rigs</td>
<td>500m @ $200/m</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

**TOTAL**                                      |            | **$187,000** |

## References/Sources of information

**Open File Company Reports:**

- CR 1980/0194  AFMECO. Annual Report, ELs 2111, 2136-2137
- CR 1981/0123  AFMECO. Annual Report, ELs 2111, 2136-2137
- CR 1985/0149  Stockdale Prospecting. Final report to 1985, ELs 4475-4477, 4480, 4482, 4484-4489
- CR 1985/0279  Stockdale Prospecting. Annual report, EL 4438
- CR 1990/0060  Stockdale Prospecting. Common Report to 31/01/90, ELs 6286-6301
- CR 1990/0633  Carpentaria Exploration Company. 1st Annual Report, EL 6560
- CR 1991/0213  Stockdale Prospecting. Common Report to 31/01/91, ELs 6286-6301
CR 1993/0083  Roebuck Resources N.L, Report to support exploration retention licence, ERL(A) 129
CR 1993/0131  Stockdale Prospecting. Annual Report, ELs 6287 and 6288
CR 1993/0306  Stockdale Prospecting. Partial Relinquishment Report 04/93 ELs 6287 and 6288
CR 1996/0241  CRA Exploration. 1st and Final Report ELs 8938,8940,8942-8944
CR 2000/0328  Ashton Mining. Annual Report, EL 6566

Geological map: 1: 250,000 Sheet (SE53-08 Calvert Hills)
