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MARTINGALE & HALE RIVER
HALE RIVER PROJECT

EL 28065 & EL 27962

3rd Annual Report
(2nd Amalgamated Report)
For period ending 8th January 2014

Michael Green

Licence Holder	CROWL CREEK EXPLORATION LIMITED
Operator	KIDMAN RESOURCES LIMITED
Map 1: 250,000	SG53-03
Map 1:100,000	5949, 6049
Datum/Zone	GDA94, Zone 53
Report reference:	EL28065_EL27962_Third Annual Report_Amal_08032014.pdf
Target Commodity:	REE, copper, gold
Expenditure email:	michael@kidmanresources.com.au

SUMMARY

This report summarises the work completed on Exploration Licenses 28065 and 29762 for the 2nd Amalgamated Annual Report. This is the 3rd Annual Report written for EL 28065 with the grant date of 1/3/2011 and the 3rd Annual Report for Hale River with the Grant date of 30/09/2010. The primary objective of the exploration has been rare earth elements, with secondary targets copper and gold.

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1.0 Introduction

The licenses are centered 170 km east-southeast of Alice Springs in the southeast Northern Territory. The primary objective of the exploration has been rare earth elements (REEs), with secondary targets copper and gold.

Due to postponement of work program, no field-based exploration activities were performed during the year 2013-2014 however an extensive desktop study of prospective structural settings for mineralised positions was undertaken.

2.0 Location & Tenure

Martingale, EL 28065 & Hale River, EL 27962 is located in southeastern Northern Territory, near the northern side of the Hale River (SG53-3) 1:250,000 sheet and straddling the boundary between the Todd (5949) and Hale (6049) 1:100,000 standard map sheets. It is centered 170 km east-southeast of Alice Springs along the northwestern margin of the Simpson Desert. Access from Alice Springs is via the Ross Hwy for 33 km and then 148 km along the Ringwood-Numery Road. There are few station tracks within the tenements, so field access is typically across country (Figure 1). All activities have been completed using GDA94 Zone 53 datum. The tenements lie on perpetual pastoral leases 1091 and 995.

The Hale River tenement, EL 29762, was granted 30th September 2010. The 2nd year compulsory reduction reduced the ground area of Hale River EL 629 from 168.71 km2 to 78.39 km2. The Martingale tenement consists of Exploration License 28065 and was granted 1st March, 2011. Both licenses are owned by the registered title holder Crowl Creek Exploration Limited which is a wholly owned subsidiary of the public company Kidman Resources Limited . Kidman Resources Ltd is the nominated operator.

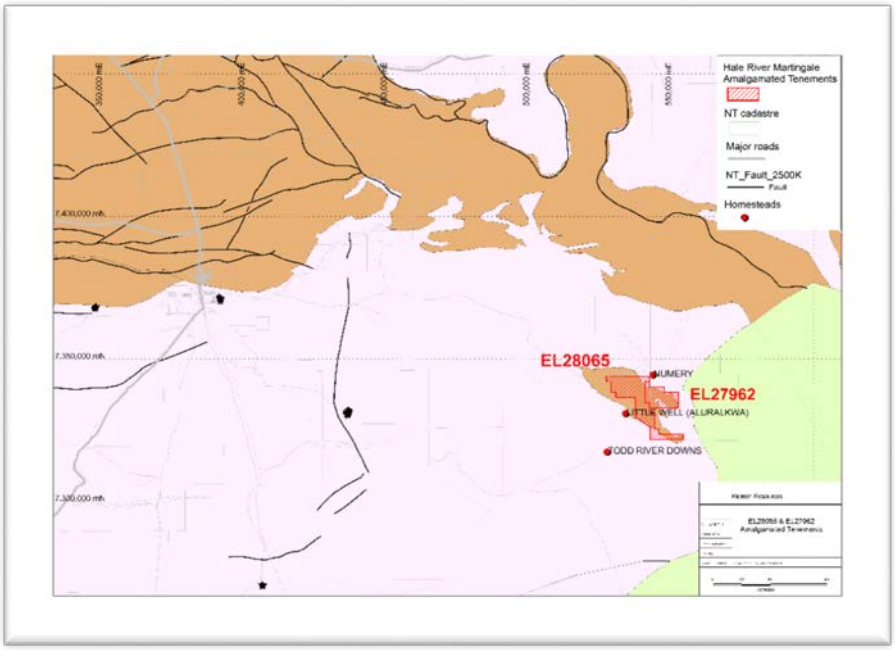

Figure 1: Location and Tenure Map

3.0 Geology

The license area is underlain by mid Proterozoic basement inliers of high grade mafic and felsic gneiss of the Arunta and Warumpi Province. These inliers are known together as the Casey Inlier. The basement contains deformed ultramafic and mafic boudins.

Unconformably overlying the basement is the Neoproterozoic Heavitree quartzite which forms flat topped plateaus (Frew, 1968). A number of dark coloured dykes are visible around the plateau, and strike to the east-northeast. No reference to these dykes has been previously published.

Mineralisation is contained within multiple 1-3 metre thick carbonate rich veins that can be tracked for up to 3 kilometres. A siliceous (quartz rich) sample collected by the Northern Territory Geological Survey contained 7.99% copper. No drilling by previous explorers is reported on these indications of copper mineralisation.

4.0 Current Exploration

Initial activity has consisted of a historical literature review and the collation and capture of all available digital data. A structural review of the Arunta block and possible mineralised positions was undertaken in order to determine the most prospective terrains within the Martingale and Hale River Tenements. The data has been analysed and the next stage of exploration has been planned for 2014.

5.0 Historical Exploration

Previous historical exploration within the greater area has been for various styles of mineralisation but there had been no systematic exploration for REE. A siliceous rock chip sample collected by the Northern Territory Geological Survey in 2006 contained **7.99%** Cu; however, no drilling has been implemented by previous explorers to follow-up this sample.

5.1 Summary of Previous Exploration for Martingale, EL 28065.

Historical exploration within the Casey Inlier has been for various styles of mineralisation. There had been no systematic exploration for Ni-Cu sulphides; the main historic work includes:

Regional exploration for Cu-Pb-Zn in the sedimentary rocks of the Amadeus Basin was undertaken during the mid-1960s to 1970 with disappointing results.

In 1967 **Australian Geophysical Pty Ltd** reported the results of exploration in the Ringwood area. **Kratos Uranium NL** explored the Ringwood Cu-Pb-Zn prospect (AP 2652) and released a report in 1970.
North Broken Hill Ltd released a final report in 1970 on AP 2459 in the Hale River area.

Otter Exploration also went looking for uranium. Their focus was on roll front unconformity style mineralisation in the Ringwood Copper prospect, Waldo Peddlar syncline and the Brewer Conglomerate. Reconnaissance work concluded that the geological settings of these locations were unsuitable for this style of mineralisation.

Base metal and uranium mineralisation along the Amadeus Basin and Arunta boundary was targeted by **Esso**. Radio magnetic surveys identified over 50 anomalies, two of which were Albarta and Tourmaline Gorge. Further work seemed to focus on these two prospects especially Albarta. Uranium was identified at Albarta but mineralisation is in highly brecciated sheared gneiss with chlorite- sericite-quartz alteration. No further work was recommended in 1980.

The 1980's saw uranium remain a target in the area along with gold. **Alcoa** and **AFMECO** both undertook exploration for uranium. Drilling and down-hole gamma logging identified uranium

mineralisation with the best result being 56ppm. **Subminco** searched for gold mineralisation over the Casey Inlier. Areas of gold prospectivity were identified and further work was recommended but not carried out.

Pancontinental Exploration targeted mineral sands in the Hale River alluvial plain. Bulk sampling returned >7% garnet rich heavy minerals but sub economic concentrations of zircon and monzonite. Further work was carried out but confirmed low occurrences of zircon and monzonite.

In the early 90's, **Poseidon Exploration** explored for sedimentary hosted Pb-Zn and SEDEX mineralisation. Stream sediment, lag and rock chip sampling identified numerous base metal anomalies. Further work undertaken to test anomalies included diamond and RAB drilling. No further work was recommended in 1995.

CRA Exploration again targeted copper mineralisation on their tenure. This time, they were looking for sediment hosted copper mineralisation in a previously untested stratigraphic layer. An airborne geophysical survey identified over 60 anomalies of which 39 required follow up. 24 of the 39 were reviewed. Results were not reported.

Rio Tinto Exploration obtained ground covering the Albarta prospect. They targeted uranium and diamond mineralisation however after gravel sampling and a ground magnetic survey, it was recommended that the ground be dropped.

Gutnick Resources NL focussed on identifying gold mineralisation in the north east of the Amadeus Basin, Casey Inlier and the south west Arunta. Six anomalous areas were reported. Stream sediment sampling and BLEG were carried out. The tenement was relinquished in 2004.

Imperial Granite and Minerals and **Robert Bruce Cleaver** conducted a small scale exploration programme for Ni, Cu, Au, U and Co as well as other minerals. Soil sampling returned anomalous copper (853 ppm Cu), zinc (106 ppm Zn) and uranium (10 ppm U3O8) from the project area.

Atom Energy, later renamed **Excelsior Gold Ltd** acquired the tenement by purchase from Imperial Granite and Minerals Pty Ltd and Mr Robert Bruce Cleaver. Work undertaken included Water bore sampling; A moving loop ground EM survey of approximately 8.5 line kilometres over an area of reversely polarised mafics in the central west of the project; Rock chip sampling and Regolith mapping

During the final year of the license term a review of the HyVista hyperspectral scanning survey which was flown in April 2008, was undertaken to delineate further targets for evaluation. No new targets were defined and no further ground work was undertaken. The tenement was allowed to expire in 2010.

Mithril Resources implemented the Casey Project to look for Ni-Cu-PGE sulphide mineralisation associated with mafic-ultramafic intrusions in the exposed basement of the Casey Inlier. The prospectivity of the area was demonstrated when the Northern Territory Geological Survey identified some ultramafic intrusions, which yielded moderately elevated abundances of Ni and Cu.

In the first year of tenure, Mithril Resources undertook reconnaissance surface sampling across the exposed Arunta basement. This included rock chip sampling and stream sediment sampling. Three areas of interest were highlighted (Pipeline, Central Ultramafic, Western Ultramafic) and follow-up work was undertaken.

The stream sediment survey was carried out at a density of approximately 1 sample per 5 km2 over the exposed Arunta basement. No significantly elevated Ni results were recorded. A number of rock chip samples were also collected, predominantly from mafic-ultramafic intrusions. No Ni-Cu sulphide mineralisation was noted. However, mineralisation was discovered in Amadeus Basin sediments and returned very elevated Cu (5137 ppm) and Zn (2909 ppm) values.

Work completed in the second year of tenure included ground magnetic surveys, two lines of Dipole-dipole IP surveys, prospect- and regional-scale geological mapping and sampling. The work during the second year also discovered that carbonate veins are associated with copper mineralisation at Arthur Pope's Prospect. These veins have not been reported previously. The veins were discovered to be widespread and associated with elevated REE and Y.

Some spectacular copper grades were returned, but the mineralisation found was small and discontinuous. A magnetic anomaly was detected proximal to the mineralisation at Arthur Popes but this was attributed to outcropping mafic bodies located on the margins of the anomaly. Regional work looking for exposed mafic-ultramafic Ni-Cu-PGE sulphide mineralisation was disappointing, with only one significant Cu anomaly returned.

5.2 Summary of Previous Exploration for Hale River, EL 27962

Agip Australia explored the current area under licence EL 1726 during 1978 - 1979 for uranium by flying a helicopter mounted gamma spectrometer using a line spacing of 250 metres and ground clearance of 100 metres. Six low order targets were selected and ground visited but were found to be granite gneiss or schist and not considered to be of further interest (Agip, 1979).

Sabminco, under exploration licence EL 5363 explored for Copper mineralisation at 3 localities reported, including Arthur Pope's Prospect, but no evidence that any work was undertaken at these localities. Numerous stream sediment and soil samples were collected in the Central and Western Basement Domains. However, their best stream sediment result of 6400 ppt Au (bulk cyanide leach) was collected from EL27362 (northwestern entrance to Casey pound, CR19890017).

Pacific Arc Exploration held EL5576 over the eastern side of current tenement between 1988 and1989. The target was alluvial gold and diamonds, but other than a helicopter reconnaissance visit no further work was completed. The extensive recent sand and alluvial cover was considered overwhelming (Szabo, 1989).

During 1989 – 1991, **Pancontinental** focused on zircon-monazite mineral sand exploration within the Hale River alluvial fan. Ground magnetic and shallow drill hole traverses across the Hale River. None of these are within current Hale River EL27962 as their tenements followed closely Hale River. Heavy mineral concentrates averaged 7-8%, but were predominantly garnet with little zircon or monazite (Graham, 1990)

Poseidon Exploration, under licences EL 6997, EL 6998 and EL 7392 was targeting Cu, Pb, Zn and Ag and completed very detailed work on the Amadeus Basin sediments overlying the northern part of the Casey Inlier and flanking the inlier. This included exploration activities at the Limbla and Ringwood Copper prospects, which are east and west of the Casey Inlier, respectively. Extensive lag, soil, stream sediment and rock chip sampling identified 14 areas for follow-up work. Ground geophysics and drilling were also undertaken at these key areas. None of this work was within current Hale River EL27962, but it is still relevant to the greater area. (CR1992007, 19930015, 19930784).

During 1996 – 1998, **Rio Tinto** took on extensive landholding with licences: EL9332, EL9335, EL9337 & EL9340, including about half of the Arunta basement in the Casey Inlier. Regional airborne magnetic and radiometric survey completed over entire area delineated 64 discrete dipolar magnetic bodies. Follow-up gravel samples collected from 34 of these anomalies yielded no kimberlitic mineral indicators. Other focus was the Amadeus Basin sediments, particularly the contact between the Heavitree Quartzite and Gillen Member (Bitter Springs Formation) looking for stratabound, sediment-hosted copper (African Copper Belt, Kupferschiefer) and unconformity-

related uranium mineralisation. Extensive stream sediment and rock chip sampling, followed by 150 percussion drill holes (Davies, 1998; CR19970431, 19970543)

During 2006-2010, **Mithril Resources** under the Exploration licence 24646, targeted Ni-Cu-PGE sulphide mineralisation associated with mafic-ultramafic intrusions in the exposed basement of the Casey Inlier. The prospectivity of the area was demonstrated when the Northern Territory Geological Survey identified some ultramafic intrusions, which yielded moderately elevated abundances of Ni and Cu. A total of 71 stream sediment samples were collected but no significantly elevated Ni results were recorded. 22 rock chip samples were also collected, predominantly from mafic-ultramafic intrusions. No Ni-Cu sulphide mineralisation was noted. However, mineralisation was discovered in Amadeus Basin sediments and returned very elevated Cu (5137 ppm) and Zn (2909 ppm) values at a new prospect which became known as Pipeline.

The Pipeline mineralisation is located in the Bitter Springs Formation, stratigraphically near the volcanic part of the Loves Creek Member. Mapping revealed a structurally complex zone of polymict conglomerate, quartz sandstone, laminated carbonate, and mafic volcanic and extensive silica-iron- manganese alteration. Abundant malachite was noted in several samples and adjacent units. Sampling results confirmed Cu-Zn mineralisation, with maximum values of 3.4 % Cu and 0.74 % Zn at Pipeline Prospect. Six lines of conventional fixed-loop EM were collected, diamond drilling (3 holes for 590m), ground magnetic surveys (69.6 line km) at Pipeline and Arthur Popes, dipole-dipole IP surveys (6 lines) at Pipeline and Arthur Popes. It also became known that carbonate veins are associated with copper mineralisation at Arthur Pope's Prospect.

In 2004, the **Northern Territory Geological Survey** started mapping the Casey Inlier focusing only on the Arunta basement. This work is ongoing and has included extensive rock chip sampling and the discovery during 2006 of copper mineralisation returned 7.99% Cu and a sample of nearby chert returned 1.66% REO+Y2O3. Follow-up work by Mithril uncovered a series of dolomite-quartz veins related to copper and rare earth mineralisation. These veins are interpreted to be related to carbonatite magmatism. Reconnaissance mapping and sampling, a ground magnetic survey and two IP lines were completed at Arthur Popes.

The veins were discovered to be widespread and associated with elevated Rare Earth Elements and Yttrium. Five samples returned values for REO+Y2O3 0.5% with values of 1.66%, 1.05%, 0.90%, 0.75% and 0.62% though the majority of the samples returned lesser amounts. Some spectacular copper grades were returned, but the mineralisation found was small and discontinuous. A magnetic anomaly was detected proximal to the mineralisation at Arthur Popes but this was attributed to outcropping mafic bodies located on the margins of the anomaly. Regional work looking for exposed mafic-ultramafic Ni-Cu-PGE sulphide mineralisation was disappointing, with only one significant Cu anomaly returned.

6.0 Remaining Potential

Potential remains for a large strata bound copper mineralising system under thin sand cover proximal to the Pipeline Prospect. In addition, the anomalous copper intersected by CRAE and Mithril in shallow drilling warrants further work.

Grassroots explorations of REO's by Kidman Resources in 2012 confirmed REO content of the dykes with the sample by the Geological Survey that had previously showed the dykes to contain up to 1.66% REO (including yttrium oxide). This represents a new REO province in the Northern Territory. Further rock chip and pXRF will be conducted in 2014 to determine further occurrences and to rank the prospectivity potential within the tenement.

7.0 Conclusions & Recommendations

Site locations and mineralized outcroppings have been identified, as well interesting structural features from historic geophysical data collected. A designed exploration program due to begin this dry season will consist of rock chip sampling, geological mapping, and handheld pXRF analysis of rock outcrops. Results from this program will be assessed and targets generated for follow-up work. This may entail an airborne magnetic and radiometric survey, ground based moving loop magnetic survey and more rigorous rock chip sampling, with the potential for a first-pass drilling program.

In preparation for a planned drilling program an Application for Authority Certificate will be lodged in with the Aboriginal Areas Protection Authority (AAPA) and an MMP with the Mines Office.

8.0 References

Cooper, S.A., & Marx, W.T., 2005; Timber Creek Diamond Project Third Annual Report EL10358 22 April 2004 to 12 April 2005. Unpublished report by Tawana Resources NL.

Cuney, M. & Mathieu, R., 2000. Extreme light rare earth element mobilization by diagenetic fluids in the geological environment of the Oklo natural reactor zones, Franceville basin, Gabon. Geology **28**, p743-746.

Davies, A. 199. EL9330 Cleary Creek, EL9332 Loves Creek, EL9335 Moonlight Bore EL9337 Salt Hole EL9340 Albarta Dam Second and Final Report for Period Ending 30 May 1998. Unpublished report 23804 by Rio Tinto Exploration Pty Ltd. *CR1998/565*.

Duncan, 1990. Mt Weld 1990 Report on Lanthanide and Yttrium Bulk Sample Drilling (Report for 1990; M38/58-59) MW90/34. Carr Boyd Minerals Ltd Unpublished report, *WAGS A32360.*

Graham, J.M., 1990. Combined Annual Report for Period 11 February to 10 February 1990 Hale River project NT, for Exploration License 6382 and 6550. Unpublished report 90/10 by Pancontinental Resources (Exploration) Pty Ltd. *CR1990-0180*

Hackett,2007, EL 24249 "Gaylad Creek", Annual Report to the NT, Dept. of Primary Industry for the period ending 08 December 2007. Unpublished report 24249 by Atom Energy. *CR2007-0630*

Hussy, K.L. 2003 Rare earth element mineralisation in the eastern Arunta Region. Northern Territory Geological Survey *Record 2003-04.*

McKinnon-Mathews, J, Mar 2010, Casey Project EL 24646, 50% relinquishment Report. 4th year of Tenure. Mithril Resources Ltd. *CR2010-0880*

O'Conner, D, Aug 1982, Report on EL 1302 – Gunawyle, NSW. 6 months to 15 August 1982. CRA Explorations Pty Ltd.

Scrimgeour, 2011, Exploration in the Territory: The Boom continues. In Annual Geoscience Exploration Seminar (AGES) 2011. Record of Abstracts. Northern Territory Geological Survey *Record 2011-003.*

Shaw, R.D., 1968. Hale River, NT Sheet SG53-03 1:250,000 Geological Series Explanatory Notes. BMR Canberra.

Szabo, L., 1989. Final Report on EL5576 Hale River, Period 16 March 1988 to 8 February 1989. Unpublished report by Pacific Arc Exploration NL. *CR1989-0178*