Mineral Securities Limited

Annual Technical Report

Exploration Licence 23639 (Kiana Project)

Wallhallow (SE5307) 1:250,000 sheet, Kilgour (6063) and Lancewood (6163) 1:100,000 sheets

Northern Territory, Australia

For the period 5th March 2003 to 4th March 2004.

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Mineral Securities Limited
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Abstract

A review of past exploration on EL23639 (Kiana Project) covering about 529km^2 on the Wallhallow 1:250,000 in the southern section of the McArthur River Basin identified prospectivity for diamond and base-metal mineralization. Diamond indicator minerals (chromite and micro-diamonds) are reported from drainages in Palaeoproterozoic folded and lightly metamorphosed rocks in the west of the tenement and less deformed Cambrian rocks overlying a Palaeoproterozoic basement in the east. In addition, four copper occurrences in Palaeoproterozoic rocks adjacent to major faults structures in the western section of EL23639 indicate potential for replacement-style base-metal mineralization. A programme of follow-up exploration is planned for 2004 as outlined herein.

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1.0 Summary

Exploration licence 23639, located in the southern section of the McArthur River Basin approximately 950km southeast of Darwin is prospective for diamondiferous kimberlitic rocks and base-metal mineralization. Drainage sampling for diamond indicator-minerals has reported chromite and micro-diamonds sporadically across the licence suggesting that diamondiferous kimberlites may be located on the tenement. In addition, four occurrences of copper mineralization in Palaeoproterozoic rocks show that the processes associated with base-metal accumulation have been active in the area. Follow-up exploration is required.

2.0 Introduction

Exploration licence 23639, granted on the 5th of March 2003 consists of 528.9km^2 on the Wallhallow (SE5307) 1:250,000 and the Kilgour (6063) and Lancewood (6163) 1:100,000 map sheets. The region is located on the North Australian Craton in the southern section of the McArthur River Basin near the northern margin of the overlapping Georgina Basin (Figure 1). The North Australian Craton is a region that has not undergone any major tectonic events in the past 1500MA (Palaeoproterozoic). In the region of EL23639, the Palaeoproterozoic rocks are only gently metamorphosed, folded, and faulted. Since the Proterozoic, the region has been subjected to periods of erosion and sedimentation in an intra-continental setting. In the EL23639 region, the Palaeoproterozoic rocks are overlain by unconformable deposits of Cambrian, Cretaceous and more recent deposits of soil and laterite are preserved.

The prospectivity of EL23639 was initially identified through the regional setting. The North Australian Craton contains the only significantly diamondiferous kimberlitic rocks in Australia including the Proterozoic age, Argyle Diamond Mine which produces 40% of Worlds diamonds and the nearby Merlin Pipes which were mined over a five-year period from 1998 to 2003 and produced both large and high quality (+US$100/ct) diamonds. In addition, the McArthur River Basin contains large base-metal (Ag-Pb-Zn) deposits and an abundance of Cu-Pb-Zn-Ag-Ba occurrences. As such, the tenement is regarded as prospective for the discovery of both diamond and base-metal deposits.

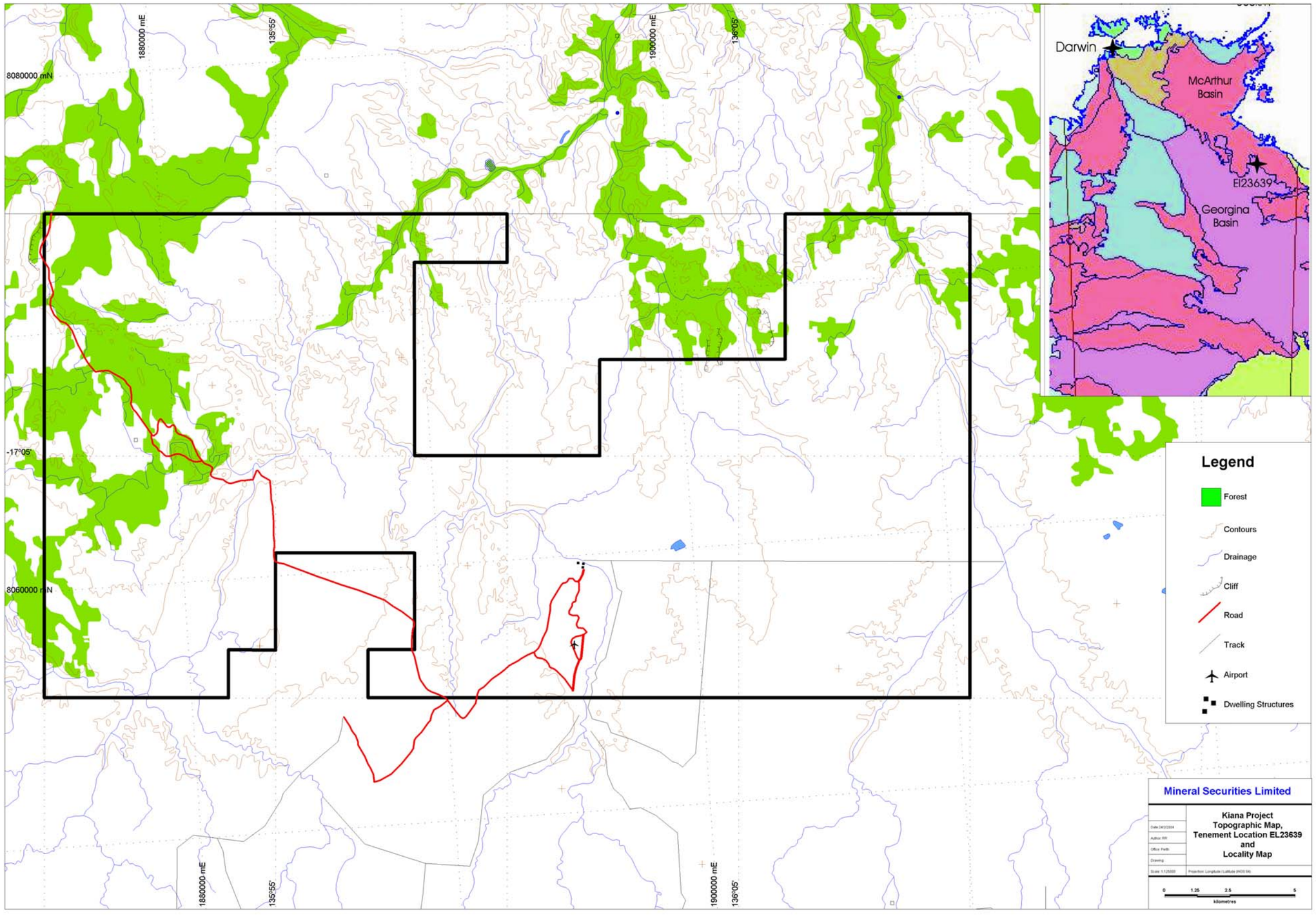
3.0 Location and Access

The exploration licence is located approximately 950km south east of Darwin and is centred on Kiana station homestead (Figure 1). Access to the region is via the bituminized Tablelands Highway which links towns and grazing properties in the McArthur River area. Part of this road travels North-South approximately 7km from the western boundary of the tenement. A road through Mallapunyah Station to Kiana Station homestead traverses part of the tenement and local station tracks provide further access. In many cases, past exploration in the region has used helicopters as a rapid, low impact access method.

4.0 Climate, Vegetation and Topography

The tenement is located in the subtropics with a warm dry season from May to October followed by a warm wet-season characterised by torrential tropical storms. Vegetation in the region is dominated by an open Eucalyptus woodland, extensive areas of grassland with scattered shrubs and trees and smaller areas of Eucalyptus forest.

The region has relatively little topographic relief with most elevations between 150 and 200m above sea level. Locally, the eroding northern edge of the Cambrian-age sandstones forms a retreating escarpment. Most streams in the region are tributaries of the northwards


1880000 mE
135°55'
1900000 mE
136°05'
8080000 mN
8060000 mN
-17°05'
Darwin
McArthur Basin
EI23639
Georgina Basin
Legend
Forest
Contours
Drainage
Cliff
Road
Track
Airport
Dwelling Structures
Mineral Securities Limited
Kiana Project
Topographic Map,
Tenement Location EL23639
and
Locality Map
0
1.25
2.5
5
kilometres

flowing Kilgour River. Streams are generally ephemeral and flow along and parallel to the main geological structures.

Exploration is often impeded during wet periods by the low regional gradients and saturation of clay-rich soils in the area which restrict vehicle movement.

5.0 Geology

Outcrop on the Kiana licence has the north-south folded and faulted Palaeoproterozoic rocks of the McArthur Basin (Tawalla Group and overlying McArthur Group) as a basement that is unconformably overlain by generally flat-lying Bukalara Sandstone of Cambrian age (Figure 2). In places, the Bukalara Sandstone is capped by recent deposits of soil and laterite.

In more detail, the stratigraphy of the Palaeoproterozoic rocks as mapped at 1:250,000 scale from youngest to oldest can be summarised from Plumb *et al*., (1962) as follows.

Unit Name	Description
McArthur Group	
Tooganinie Formation	In places contains a lower member of flaggy, medium grained, sandstone, dolomitic sandstone and sandy dolomite, but elsewhere consist of a sequence of purple to grey dolomite, purple siltstone, algal dolomite, sandstone, sandy dolomite and oolitic dolomite.
Tatoola Sandstone	Flaggy purple to white, medium grained sandstone and dolomitic sandstone, siltstone and sandy dolomite.
Amelia Dolomite	Pink silty dolomite, massive dolomite and algal dolomite, fissile green siltstone and oolitic dolomite.
Mallapunyah Formation	Purple siltstone, medium grained sandstone, dolomitic sandstone, dolomite, oolitic dolomite and chert.
Tawalla Group	
Masterton Formation	Flaggy to blocky, pink to purple, medium grained sandstone, feldspathic sandstone and flaggy fine ferruginous sandstone.
Wollorgorang Formation	Flaggy purple and grey dolomite, dolomitic siltstone and sandstone, sandy dolomite and ferruginous sandstone.
Settlement Creek Volcanics	Basalts, tuffs and tuffaceous sandstones.
Sly Creek Sandstone	Massive to flaggy, medium grained, ferruginous sandstone and a pink, medium grained sandstone.

Palaeoproterozoic rocks of the McArthur Basin represent shallow marine and fluvial sequence with inter-bedded basaltic volcanics that were deposited in a geosynclinal setting. After deposition these rocks were gently metamorphosed, folded, faulted and partially eroded.

Unconformably overlying the Palaeoproterozoic rocks is the Cambrian age, Bukalara Sandstone. This unit consists predominantly of a red-brown, thin to thick bedded, commonly feldspathic, fine to very coarse grained, quartz-rich sandstone with minor shale and conglomerate beds. Cross-bedding, ripples and slump features are common.

6.0 Prospectivity and Past Exploration

The Kiama exploration licence is located on the North Australian Craton and within the McArthur River Basin. The tenement is proximal to the following areas.

a. 50km south west of the diamondiferous Merlin Kimberlites – a cluster of 14 small (less than 1 hectare) pipes that averaged about 20ct/100tonnes of high quality (+US$100/ct) gem-diamonds with stones up to 100ct. These pipes contain highly altered rocks, capped by up to 50m of younger overburden and were discovered using detailed soil sampling and ground-based electro-magnetic surveys followed by drilling.

b. 35km south-south east of the diamondiferous Abner Range breccia pipe – a small, kimberlitic breccia pipe that is reported to contain traces of diamonds. The pipe was discovered by detailed sampling, followed by mapping and drilling.

c. 70km south of the giant McArthur River base metal deposit – with reserves reported as 125 million tonnes at 12.9% Zn, 5.6% Pb and 59g/t Ag.

The tenement has undergone some previous exploration for base metals and diamonds with both Cu-mineralization and diamond-indicator minerals reported.

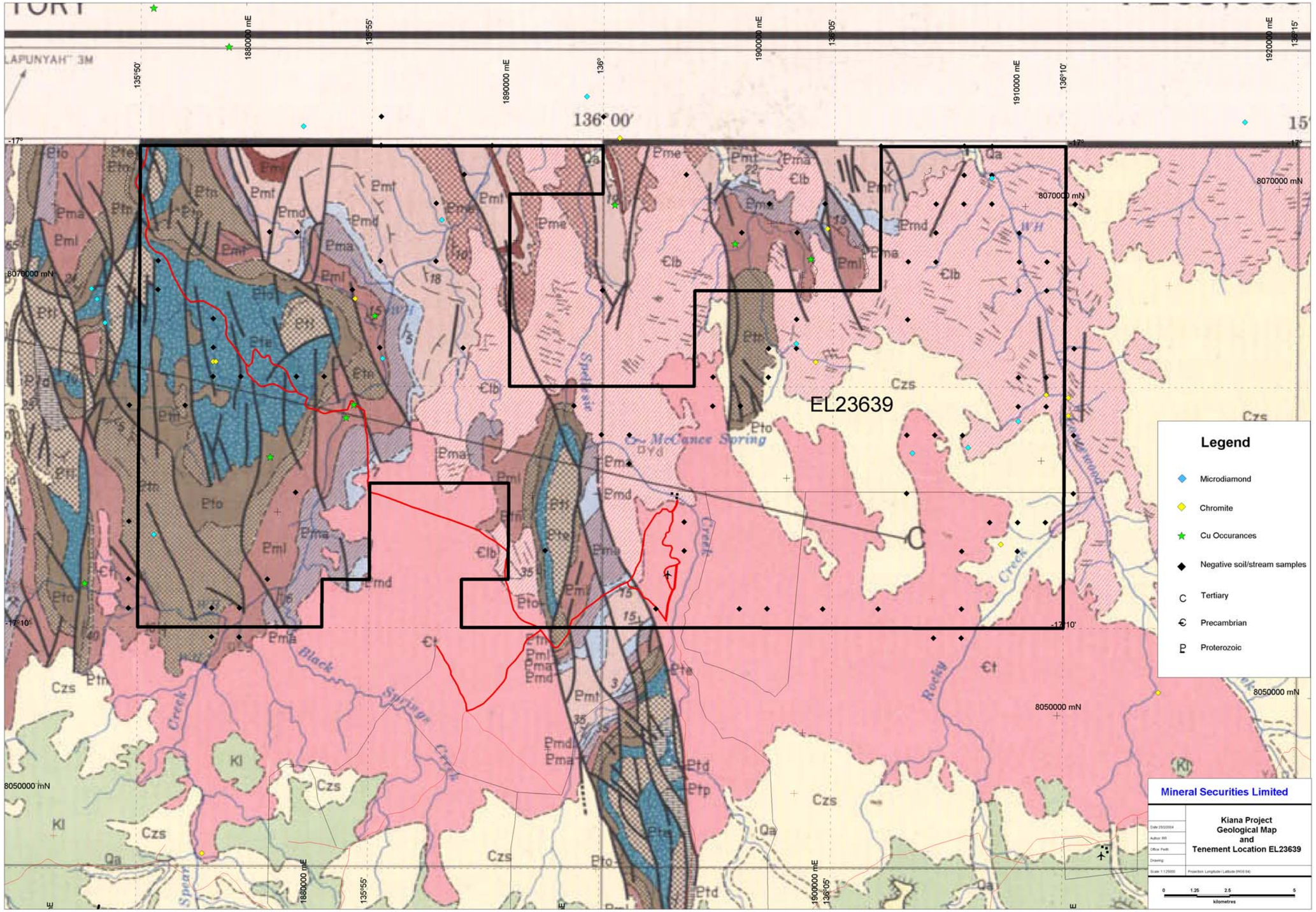
Results from past diamond exploration programmes in the region have been reported by Ashton Mining, CRA Exploration (now Rio Tinto Ltd) and Normandy. These studies delineated a major micro and macro-diamond anomaly approximately 8km west of EL23639 and traces of chromite and micro-diamonds within the tenement. In total, EL23639 contains 163 drainage and loam samples that were processed for indicator-mineral recovery. In total, seven (7) samples report micro-diamonds and six (6) samples report chromite. The distribution of grains on the tenement shows that drainages from both the Palaeoproterozoic rocks in the West and the Cambrian rocks in the East report traces of chromite and diamond. The distribution of grains suggests that Palaeozoic or older pipes could be present on the tenement.

Previous exploration for base-metals in the region has identified four Cu-occurrences in the Palaeoproterozoic rocks in the western section of the tenement. According to the NT mineral deposits database, three of the occurrences are classified as disseminated stratabound accumulations of Cu minerals (bornite and chalcocite or chalcopyrite with secondary bornite and chalcocite) sometimes with galena, pyrite and sphalerite. The remaining occurrence is classified as a hydrothermal Cu-deposit with open-space filling of chalcopyrite with secondary bornite and chalcocite and a gangue of calcite in a sequence of siltstone and dolomite.

7.0 Work Programmes Undertaken During 2003-2004

During 2003-2004 (the period that is the subject of this Annual Report) Mineral Securities Limited undertook work as follows in relation to the tenement.

1. Reviewed the geological setting of the tenement and mineral deposit styles in the region and determined the prospectivity for base-metals and diamond mineralization.
2. Compiled published geological and topographic maps.
3. Undertook a review of previous exploration work and associated results.
4. Using the past results, identified areas that are prospective for either base-metal mineralization or diamondiferous kimberlites.
5. Prepared a preliminary exploration programme.
6. Desktop review of access and logistical issues relative to the region (prepared by the Project Manger responsible for the development of the Merlin Diamond Mine).


EL23639
136° 00'
135°50'
135°55'
136°
136°05'
136°10'
136°15'
1880000 mE
1890000 mE
1900000 mE
1910000 mE
1920000 mE
8070000 mN
8050000 mN
-17°
-17°10'
Legend
Microdiamond
Chromite
Cu Occurances
Negative soil/stream samples
Tertiary
Precambrian
Proterozoic
Mineral Securities Limited
Kiana Project
Geological Map
and
Tenement Location EL23639
kilometres
McCance Spring
Black Springs Creek
Rocky Creek
Spear Creek

Between early June and late October 2003, Gravity Capital Limited undertook discussions with Mineral Securities Limited on a joint venture proposal over EL23639. The main opportunity in the joint venture was the application of the Falcon gravity system over the tenement. This new airborne geophysical system is useful in structural mapping and the detection of diamondiferous kimberlites and sulphide-rich ore deposits.

In early January 2004, Eureka Limited, a company to be listed on the ASX commenced discussions with Mineral Securities to acquire EL23639. An arrangement is expected to be completed prior to the commencement of the 2004 field season.

Expenditure related to the above work totalled $34,940.84 and can be tabulated as follows.

Activity	*Amount*
Drafting	$750.00
Geological Review and Reporting	$20,690.00
Rents and Rates	$2500.84
Tenement Management	$500.00
Administration/ JV Negotiation	$10,500.00
Total	*$34,940.84*

8.0 Proposed work programmes

Future work programmes are designed to assess both the diamond and base-metal prospectivity of the tenement and ground-work is proposed to include the following:

1. Infill gravel and loam sampling for the recovery of indicator-minerals to determine the abundance and distribution of grains on the tenement.
2. Geochemical sampling for base-metals and associated pathfinder elements.
3. Geological and structural mapping in areas regarded as anomalous for either base-metals or diamond indicator-mineral.
4. Assessment of the base-metal prospects as potential supergene Cu-oxide targets.
5. Review and determine the opportunity for detailed ground-based or low-level aerial magnetic, electromagnetic and gravity surveys in anomalous areas.
6. Review the grass-roots exploration results and select targets for drilling to determine whether they contain kimberlitic rocks or base-metal mineralized targets.
7. Preparation of summary field reports.

A budget of $25,000 is proposed for the 2004-2005 programme.

9.0 References.

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