KAJEENA MINING COMPANY PTY LTD

2002 Annual Combined Report

On

EXPLORATION LICENCE's
EL 10055 & EL 10060

Kulgera Area

Period Beginning 13th December 2001
And the Period Ending 12th December 2002

LICENCEE:	**Kajeena Mining Company Pty Ltd**
OPERATOR:	**Kajeena Mining Company Pty Ltd**
STANDARD 1:250,000 SHEET:	**SG 53 – 05 Kulgera**
	SG 53 – 06 Finke
STANDARD 1:100,000 SHEET:	**Victory 5446**
	Kulgera 5546
	Umbeara 5646
AUTHOR:	**Scott Hall Consulting Geologist**
DATE:	**December 2002**

SUMMARY

This report contains a review and compilation of previously reported mineral exploration within the Licence areas. From this review and compilation, a GIS database of all geochemical sampling and drilling has been created to aid in target generation.

The structural and lithological settings of the region have also been reviewed and compared with mineralisation models to target potential resources and lithologies for further work.

This area has not undergone any focussed exploration for any commodity, although a few previous explorers have undertaken grassroots regional scale exploration. Their main targets have been sedimentary uranium mineralisation; and opal / gemstone exploration.

With the NTGS reprocessed magnetics data now freely available, interpretation of this data will enable far better targeting and structural interpretations for possible economic mineralisation.

The most prospective targets to be found in this area are:

- Lead \ Zinc ± Silver - Mount Isa Style possibly Broken Hill Style
    - Prospective regional setting
- Diamonds - Alluvial and/or Pipe
    - Pipe recently found in area
- Gemstones – Opals, Beryl and possibly zirconium
    - Have been previously reported in area
- Uranium – Sedimentary
    - Previously Investigated
- Pegmatite - Possible mineralisation
    - Sn, U, W, Ta, Mo and Beryl

This area is quite prospective and has yet to be explored. Remote sensing techniques are the best method for closing in on the target areas.

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1. INTRODUCTION

Kajeena Mining Company is a privately owned company, which has numerous granted Exploration Licences and several Exploration Licence Applications within the Northern Territory. Joint Venture Partners have been found for many of the tenements. The tenements within the Kulgera Area also show considerable potential for Joint Venture Partners with many resource possibilities available in the tenement areas.

The Kulgera area is comprised of two Exploration Licences EL 10055 & EL 10060. The EL's, because of their close proximity and lithological similarities, can be viewed as a single entity in terms of exploration targeting and have a large and varied commodity resource potential base.

These Exploration Licences have all had indigenous land use agreements negotiated on them.

2. LOCATION & ACCESS

The tenement areas are located on the Northern Territory South Australian Border straddling the Adelaide – Alice Springs Railway near Kulgera. Access via the Stuart Highway, then via station tracks from Kulgera and Umbera and Mount Cavenagh Homestead. Vehicle access over most of the tenements is good via station tracks and fence lines.

The region in semi-arid with long hot summers reaching 40°C + for much of January and February, winters are milder with temperatures ranging from 0°C overnight to high 20°'s during the day. Rainfalls are generally late summer with 250-300mm a year the average. Land usage is for pastoral properties with beef the main stock.

Low scrubby vegetation and gentle sand dunes form the topography for the main part with small hills and some ridgelines present.

2.1 Tenement Details

Table 1 Tenure Details

Exploration Licence	No. Blocks (Area km^2)	Grant Date	Expiry Date	Expenditure Covenant
EL 10055	500 (1528)	13/12/2001	12/12/2007	$40,000
EL 10060	372 (1121)	13/12/2001	12/12/2007	$40,000

Figure 1 Tenement Location Map

3. REGIONAL GEOLOGY

The are four distinct tectonic units within the Kulgera region, comprising the Meso-Neoproterozoic Musgrave Block which has been divided into the Fregon and Mulga Park Terrains; the Neoproterozoic to Palaeozoic intracratonic Amadeus Basin; the Mesozoic Eromanga Basin; and the surfical rocks and deposits of Cainozoic, Tertiary and Quaternary age.

3.1 Musgrave Block

3.1.1 Mulga Park Terrane

The oldest units in the basin are assigned the Mulga Park Terrane contains Porphyritic foliated granulites of unknown age and contains some quartzite intervals. Mylonitic foliations are present, striking EW and dipping at 30° with an age determination of 729 Ma, representing the earliest possible age for thrusting and may represent a precursor to the Petermann Orogeny.

Unit Name	Unit Description	Field Relationship	Depositional Environment
Sentinel Beds	Quartzite, foliated; Quartz – mica ± garnet schist	Associated with Granite 1	Vein Quartz
Granite 2	Granite, medium grained, garnet bearing, unfoliated, intruded by pegmatite's		Intrusive
Granite 1	Granite, medium grained, porphyritic, with a strong mylonitic fabric (does not crop out (DDH K6))	Metamorphosed to upper green schist – amphibolite facies	Intrusive

3.1.2 Fregon Terrane

The Fregon Terrane occupies the majority of the Exploration Licences where low hills with relatively good exposure are separated by sand plains with scattered outcrops. Comprised of metamorphosed acid volcanics, quartzo-feldspathic gneiss, and peraluminous gneiss they have been divided into several units as tabulated below. Peak metamorphism occurred at ≈ 1200Ma, Extension and intrusion of the Alcurra Dolerite Swarm related to the onset of the opening of the Amadeus Basin at ≈ 1050 Ma.

The table below gives a breakdown of the units contained within the Fregon Terrane.

Unit Name	Unit Description	Field Relationship	Depositional Environment
Alcurra Dyke Swam:-Dolerite Dykes		Intrude Ayers Ranges and Kulgera Adamellites and gneisses of Fregon Terrane	Intrusive
Kulgera Adamellite	Granite; adamelite; porpyritic; with porphyritic microgranite dykes	Intrudes Calamity, Outounya and Kalamurta gneissic units	Intrusive
Ayres Ranges Adamellite	Monzonite; granodiorite; both porphyritic	Intrudes Calamity, Outounya and Kalamurta gneissic units	Intrusive
Gneissic Granite / Granite Gneiss	Well layered with quartz – feldspathic bands, partial melts, intruded by quartz feldspar and microgranite dykes	Intrudes Calamity, Outounya and Kalamurta gneissic units	Intrusive
Calamity Gneissic Unit / Granite Gneiss	Tonalitic biotite gneiss, well layered; clinopyroxene – hornblende gneiss; later cross cutting red granite dykes	Metamorphosed to transitional granulite grade. Intruded Outounya and Kalamurta gneissic units prior to metamorphism	? Sediments Intrusives
Outounya Gneissic Unit / Acid Gneiss	Quartzo – feldspathic gneiss + amphibole + garnet	Metamorphosed to transitional granulite grade. Extruded or intruded approximately simultaneously with deposition of sediments of Kalamurta Gneissic Unit	Extrusive acid volcanics and/or intrusives
Kalamurta Gneissic Unit / Peraluminous Gneiss	Cordierite and Silliminite ± garnet; quartzo feldspathic gneiss; minor amphibole	Metamorphosed to transitional granulite grade. Deposited and/or intruded simultaneously with extrusion/intrusion of volcanic\intrusives of Outounya Gneissic Unit	Sedimentary ? / altered intrusives

3.2 Amadeus Basin

The Amadeus Basin is poorly exposed within the tenement areas with only two units of the Devonian Finke Group exposed. Most exposures are thin and incomplete suggesting the basin has had a very complex evolutionary history.

3.2.1 Finke Group

The Finke group is more restricted than the other units of the Amadeus Basin, it is also poorly exposed, minimum thickness for the group is ≈200m but its true width is unknown.

3.2.1.1 Horse Bend Shale

The Horse Bend Shale is the most widely exposed of the group and is remarkably uniform over its large outcrop area, it may be found shallowly buried under Quaternary sediments in some areas. In outcrop the shale consists of interbedded fine sandstone and dominant shale. The colour of the out crops is distinctive being a strong chocolate brown colour broken by thin khaki – green intervals. The shale is extremely fragmented and sedimentary structures such as ripple marks are common. Biotite is common along bedding planes demonstrating its detrital nature. Calcrete is commonly found capping the unit and helps in its preservation.

3.2.1.2 Idracowra Sandstone

Identification within the Kulgera region is relatively simple as it directly overlies the Horse Bend Shale; it is a highly weathered unit with bedding generally moderately cross-bedded to well bedded. Tertiary silcrete and ferricrete commonly caps the unit preserving it. The sandstone itself is a pale quartz rich and heavily kaolinised unit the lower part may consist of coarser pebble layers

3.3 Eromanga Basin

The early edition mapping, as demonstrated on most of the geological plots contained within this report, shows a far greater coverage of the Eromanga Basin within the area than actually exists from the more recent mapping (full digital versions of these maps are not yet available at time of writing). This extensive Mesozoic Basin covers large portions of SA, QLD and the NT and cohesion with naming of similar groups has not taken place.

The coverage of the Eromanga Basin within the Exploration Licence Areas is limited to the De Souza Sandstone

3.3.1 De Souza Sandstone

The De Souza Sandstone is thought to be of Jurassic Age and covers small areas fringing the Musgrave Block basement. The unit is derived from the basement rocks and is a strongly kaolinised sandstone / siltstone; and quartz and granite pebble conglomerates. It is well bedded and may be ferriginised at surface resulting in a resistant cap and is predominantly overlain by tertiary silcretes. The conglomerate units contain well-rounded and sometimes polished pebbles.

The unit was probably deposited in a fast moving fluvial system demonstrated by the extensive cross bedding, and has equivalent systems in the Eromanga Basin in Queensland and South Australia.

This unit is considered the most prospective in the area for sedimentary uranium deposits.

3.4 Surficial Rocks and Deposits

3.4.1 Tertiary Deposits (Cainozoic)

Deposits of Tertiary Age consist predominantly of duricrusts, with some consolidation and largely unconsolidated sedimentary deposits also occurring. They have been divided into the following units: Silcrete, Ferricrete, Sandstones and Siltstones, Talus and scree. Tertiary-age rocks form-scattered outcrops across the area.

3.4.2 Quaternary Deposits

Quaternary Deposits cover about 70% of the surface area, and consist mostly of unconsolidated material. Because of the arid climate, deposition by fluvial means is rare, wind and groundwater chemical deposition are the significant deposition mechanisms in the area. The Quaternary Units are: Calcrete, Transported sand, Alluvium, Colluvium (sheet-wash deposits), Talus and Scree.

Figure 2 Regional Geology Map

4. PREVIOUS EXPLORATION AND MINING

4.1 Mining History

Reports of mining in the area consist of a small isolated patch of muscovite Mica being mined from near Umbera Well during the Second World War, and a small quantity of Beryl being mined from a pegmatite near Kulgera.

4.2 Previous Exploration

Most previous exploration has been focused on Hydrocarbon potential (not reported), Uranium and Opal and almost no work has been done on the search for metallic ores or diamonds.

Summary of Previous work by Company and Tenure

Agip Nucleare Australia Pty Ltd (EL 1215)

Agip were exploring for Uranium, completing 10 RC holes for 918m of drilling with no success. The collars can be seen in Figure 4, most of this work was completed outside the current area. These disappointing results meant the ground was relinquished.

Cultus Pacific NL (EL 1494)

Exploring the area for potential sedimentary uranium. The water was sampled from the bores in the region and analysed for uranium, with a peak result of 12ppm, this was decided not worth pursuing. Tenement was relinquished.

R.J. Burke (EL 5602)

This exploration is the only work found looking for base metals and gold, 390 sediment pan concentrates were collected for analysis from various parts of the EL. However no analytical results and no location plan have been submitted. It was stated that no visible gold was found in the concentrates and magnetite was the only accessory mineral found.

J.W. Benger (EL 5862)

Benger was exploring for opal bearing strata via auger drilling, however his joint venture partner withdrew, before it got underway, so the ground was relinquished.

Doug Young & Associates (EL 6896)

This company was investigating the potential for dimension stone and crushed aggregate in the area.

5. CURRENT EXPLORATION

5.1 Current Explorers

Companies currently exploring within this area are Kajeena Mining Company, Statistics and Solutions and Gem Part Pty Ltd.

5.2 GIS Data Base / Drilling

The only valid data found to incorporate in the GIS database is the drilling by Aqip in 1978, the collars are tabulated below and displayed graphically in Figure 4.

Table 3 Drill Collar Co-ordinates (AMG)

Hole ID	Northing	Easting
ACP 01	7152938.84	383261.93
ACP 02	7151299.08	382988.63
ACP 03	7154123.1	383899.63
ACP 04	7161638.65	387042.5
ACP 05	7164417.13	393237.13
ACP 06	7158040.29	365452.35
ACP 07	7159998.88	366363.34
ACP 08	7162686.28	368230.82
ACP 09	7165191.46	369733.94
ACP 10	7167286.7	371328.14

5.3 DME Magnetics & Radiometrics

DME magnetic and radiometric data (Kulgera (1981) & Kulgera West (1986) Airborne Geophysical Surveys) which was flown at 500m line spacing 100m terrain clearance has been reprocessed and stitched together, is freely available to companies from the NTGS, this should prove to be a very valuable tool in this terrain for target generation via magnetic features and structural interpretations. The NT wide magnetics stitch, which incorporates this data, is shown in Figure 5.

The BMR undertook gravity surveys in the area during 1962 & 1968 and by the NTGS during 1982 this data has been combined and should currently be available to utilise.

5.4 Interpretations

Magnetics and lineament interpretations should be undertaken on this area utilising the newly flown and processed DME data for major structural controls and magnetic targets. It is envisaged this will take place during the 2003 tenement year.

5.5 DME Digital Mapping

Second Edition 1:250,000 geological maps and explanatory notes are now available for the Kulgera Finke Sheets and digital geology will be available in the near future to further aid exploration. Generalised geology of the NT has been utilised for plotting at 2.5 million scale.

Polygons of units, structural measurements, joints, faults, dykes are all currently available and shown in Figure 4. Filled Geology polygons are available for Kulgera and the Finke data should be available in the near future.

6. EXPLORATION / CONCEPTUAL MODELS

6.1 Mineral Commodity Targets

The possible mineral and commodity targets in this area are:

- Lead \ Zinc ± Silver - Mount Isa Style possibly Broken Hill Style
    - Prospective regional setting
- Diamonds - Alluvial and/or Pipe
    - Pipe recently reported in area
- Gemstones – Opals, Beryl and possibly zirconium
    - Have been previously found in area
- Uranium – Sedimentary
    - Previously Investigated
- Pegmatite - Possible mineralisation
    - Sn, U, W, Ta, Mo and Beryl

6.2 Conceptual Model / Target Unit

6.2.1 Mount Isa Type Pb / Zn

The Mount Isa type deposits are set in rift basins with volcanic basin fills (Outounya Gneiss) and contain diverse sedimentary host lithologies (Kalanurta Group). Host rocks are dolomitic, carbonates, siliclastic and carbonaceous units.

They are stratiform deposits metamorphosed as high as granulite facies and have a major fault some near by as in the Kulgera area.

6.2.2 Diamonds

A newspaper article in the NT News 12/11/2002 presented an interview with a local prospector who has finally had an Exploration Licence Application granted over an elliptical magnetic anomaly which he believes, and states he has indicators, is a kimberlite pipe.

His tenement is nearby to this area so the possibility for alluvial diamonds in the tenements is feasible, there may also be sister pipes within Kajeena tenements.

6.2.3 Gemstones/Opals

Opal Potch has been reported in the region, which is consistent with the geological setting and arid conditions.

6.2.4 Uranium

Uranium from sources such as the gneisses, granites and pegmatites may have concentrated in the De Souze Sandstone, which overlies and is comprised of these units.

6.2.5 Pegmatites

Melt separation during formation may have resulting in concentration of Sn, U, W, Ta, Mo and Beryl

7. EXPENDITURE

The minimum expenditure covenants for these tenements were not met during the first year. Exploration expenditures for the EL's are itemised below, a variation of covenants will be submitted with this report.

7.1 Expenditure EL 10055

Expenditure Type	Cost
Landowner Negotiations	$1,000
Travel & Accommodation	$ 300
Vehicle Expenses	$ 200
Tenement Maintenance	$ 500
Geological Consultants	$1,500
Administration	$ 350
Total	**$3,850**

7.2 Expenditure EL 10060

Expenditure Type	Cost
Landowner Negotiations	$1,000
Travel & Accommodation	$ 300
Vehicle Expenses	$ 200
Tenement Maintenance	$ 500
Geological Consultants	$1,525
Administration	$ 350
Total	**$3,875**

8. RECOMMENDATIONS

Interpretations of the newly available NTGS magnetic data need to be completed and used in target EM Flights or tEMpest Flights over those areas. The base metal potential of the area has promising stratigraphy and structure but very little good out crop and no current geochemistry.

Following combined reinterpretation of the EM and magnetics data the next stage would be groundwork with mapping; ground based magnetics and EM; and geochemical sampling; followed up by drilling.

This area has basically not been substantially explored utilising the latest data. It has the potential to host large scale base metal ore bodies. This style of exploration also increases the chances of finding blind ore bodies and those with little or no surface expression.

8.1 Forward Work Programs Year 2

Exploration on these tenements during Year 2 will involve target generation via magnetic interpretations with follow up ground work and / or EM flights. Following year's work, depending on results would probably involve drilling.

8.1.1 EL 10055 Forward Work Program

Expenditure Type	Cost
Magnetic Processing & Interpretations	$10,000
Travel & Accommodation	$ 2,000
Geological Consultants	$ 3,500
Vehicle Expenses	$ 1,000
Sampling and Analysis	$ 1,000
Tenement Maintenance	$ 1,000
Administration	$ 1,500
Total	**$20,000**

8.1.2 EL 10060 Forward Work Program

Expenditure Type	Cost
Magnetic Processing & Interpretations	$10,000
Travel & Accommodation	$ 2,000
Geological Consultants	$ 3,500
Vehicle Expenses	$ 1,000
Sampling and Analysis	$ 1,000
Tenement Maintenance	$ 1,000
Administration	$ 1,500
Total	**$20,000**

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APPENDIX 1 GEOLOGY LEGEND FOR FIGURE 4

Figure 3 Base Geology Plan

Figure 4 Digital Geology Polylines & Drill Collars Overlay

Figure 5 Magnetics NT Stitch Data