

Pacific Consulting Services Pty Ltd

Report on the Exploration Potential of the Mistake Creek Project – Northern Territory for the Kajeena Mining Company Pty Ltd.

Exploration Licences 10096,10097 & 10098.

Exploration Licence Applications 22696, 22697 & 22698.

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Geologist.

Summary.

The Kajeena Mining Company's Mistake Creek Project is located on the Northern Territory side of the Western Australian border some 160 km south east of the Argyle Diamond Mine. The tenements are highly prospective for Proterozoic sediment hosted lead – zinc mineralisation, gold mineralisation in the underlying Tanami Province and diamondiferous diatremes. Minimal exploration to date has highlighted the prospectivity of the area without testing the target areas.

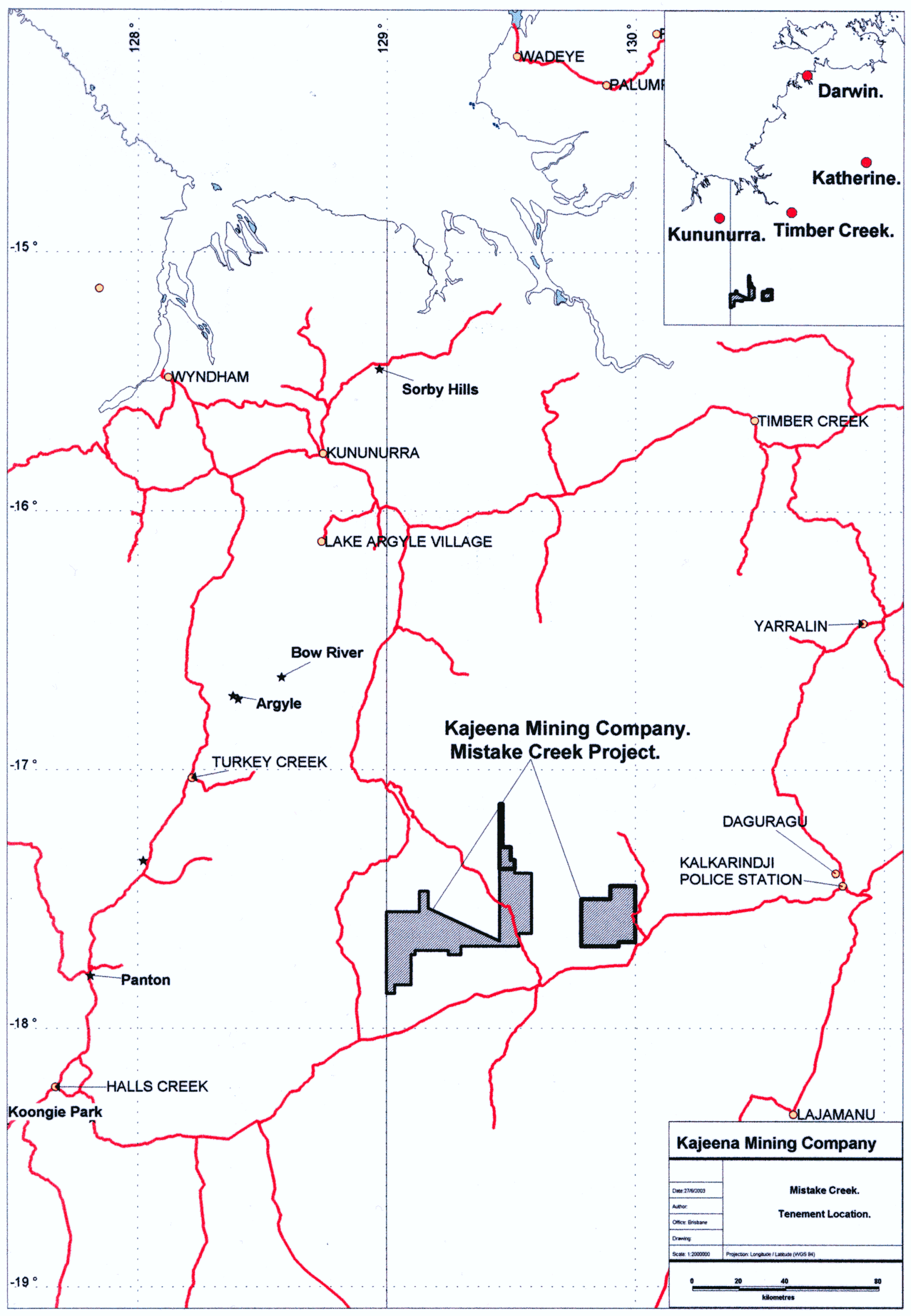
The tenements cover outcrop of the Limbunya Group of the Birrindudu Basin. This package of carbonate dominated sediments with carbonaceous shale horizons is dated to 1640 Ma, circa the age of the Mt Isa, Century, McCarthur River and Broken Hill orebodies. Rock chip and drill samples confirm elevated lead – zinc levels in the sediments. Exploration to date has not been targeted on the structural features instrumental in the deposition of world class orebodies in the North Australian Craton.

Basement in the tenement area is the northern extension of the Tanami Province. These lithologies are poorly outcropping in the Limbunya area. An area of elevated magnetic signature on a basement high has reported elevated gold in BLEG samples to a level of 31 ppb. This anomaly is noted as outcropping siliceous sediments and has not been followed up.

Previous diamond explorers in the area have included Ashton who recovered indicator minerals and three diamonds on adjacent tenements. The tectonic setting and regional geotherms indicate that the tenements are prospective for diamondiferous diatremes.

The tenements are considered prospective on the basis of lithological and structural assessment. The limited exploration conducted to date highlights the prospectivity of the area without downgrading the exploration potential of the tenement areas.

The potential for exploration success through application of new technology, such as airborne gravity surveys and selective leach soil assays, accompanied by compilation of the existing data and re-mapping and sampling areas of interest on the basis of considered targeting is considered to be high.



**Kajeena Mining Company.
Mistake Creek Project.**

Kajeena Mining Company	
Date: 27/6/2003	Mistake Creek. Tenement Location.
Author:	
Office: Brisbane	
Drawing:	
Scale: 1:2000000	Projection: Longitude / Latitude (WGS 84)

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1. Introduction

The Kajeena Mining Company's Mistake Creek Project is located on the Northern Territory side of the Western Australian border some 160 km south east of the Argyle Diamond Mine. The tenements are highly prospective for Proterozoic sediment hosted lead – zinc mineralisation, gold mineralisation in the underlying Tanami Province and diamondiferous diatremes. Minimal exploration to date has highlighted the prospectivity of the area without testing the target areas.

The tenements cover outcrop of the Limbunya Group of the Birrindudu Basin. This package of carbonate dominated sediments with carbonaceous shale horizons is dated to 1640 Ma, circa the age of the Mt Isa, Century, McArthur River and Broken Hill orebodies. The regional NW trending Limbunya Fault which is interpreted as a major syndepositional basin fault and a control on focus of mineralising brines trends through the Project area.. The tenements cover the intersection of this fault and a regional N – NNW trending fault which is interpreted as a locus for mineralising fluids and a priority exploration target. Stream sampling adjacent this intersection reports elevated base metal geochemistry and has not been followed up.

The basement Inverway Metamorphics are correlated with the Tanami Complex flysh sediments which have produced some 188 t of gold. Domal structures and a co-incident gravity low are associated with a zone of elevated magnetic signature and several elevated gold BLEG samples. Values of 31, 7.3, 8.9, 1.9, 2.1, 0.9 and 1.5 ppb Au are reported within the tenement area. This target is considered highly prospective given the regional geological setting.

Previous diamond explorers in the area have included Ashton who recovered indicator minerals and three diamonds on adjacent tenements. The tectonic setting and regional geotherms indicate that the tenements are prospective for diamondiferous diatremes.

The Mistake Creek Project is comprised of three Exploration Licences EL 10096, EL 10097 & EL 10098 and three Exploration Licence Applications ELA 22696, ELA 22697 & ELA 22698.

2. Location & Access

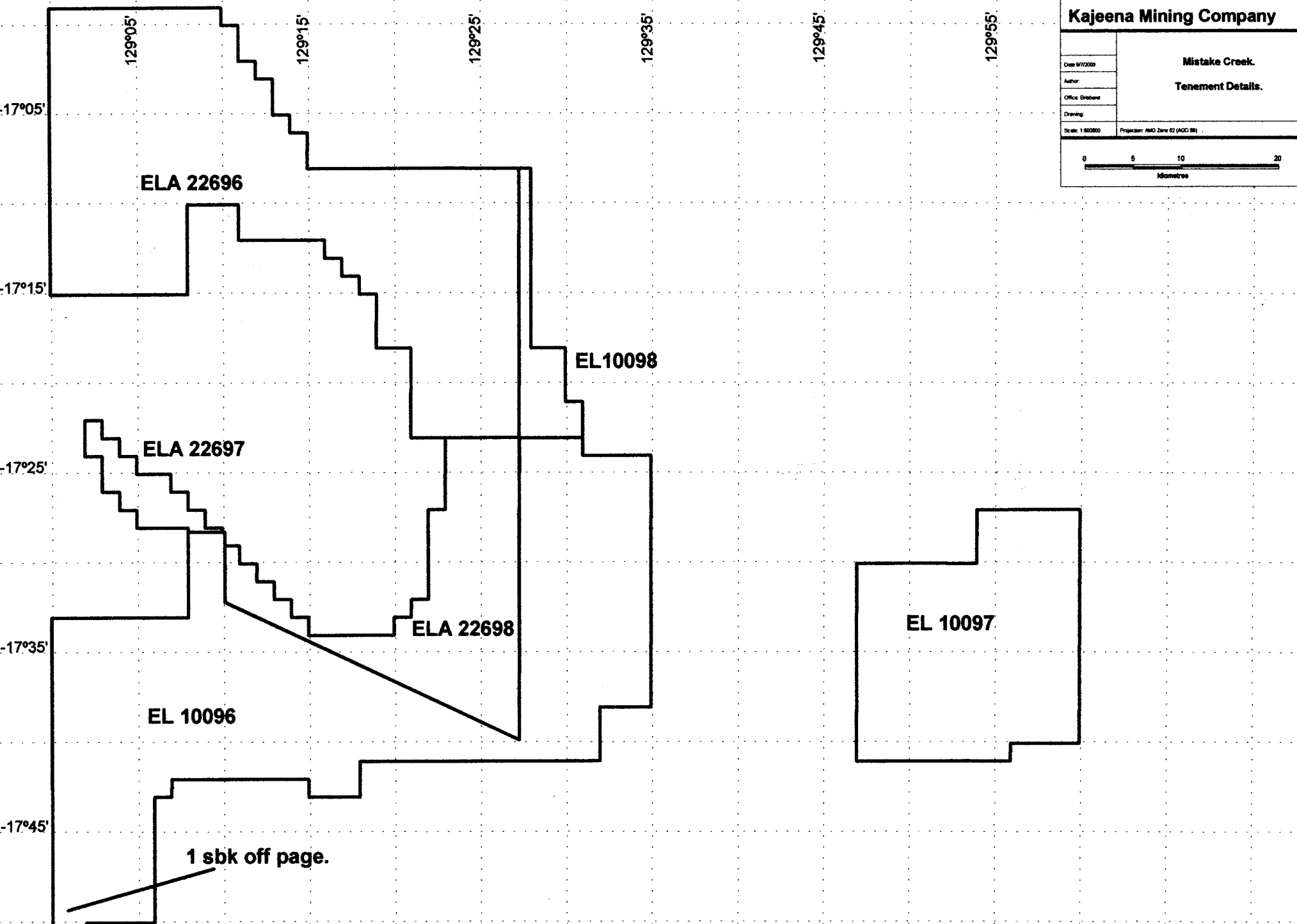
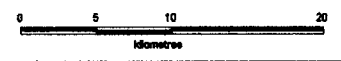
The tenement areas are located on the Northern Territory \ Western Australian Border approximately 125km NW of Lajamanu and 200km SE of Kununurra. Access to the area is via the Buchanan Highway, then via station tracks from Inverway Homestead. Vehicle access over most of the tenements is good via station tracks and fence lines, some of the creeks and particularly the Negri River can prove difficult apart from designated crossings.

The region is sub-tropical. With long hot summers days ranging from 20°C – 40°C+ and mild winters days varying from 5°C to high 20°C's. Tropical monsoonal rains occur during January to March making access to all areas difficult and averaging 400-500mm per year. Pastoral leases generally run beef stock.

3. Tenement Details

Exploration Licence	No. Blocks (Area km ²)	Grant Date	Expiry Date	Expenditure Covenant
EL 10096	398 (1232)	13/12/2001	12/12/2007	\$25,000
EL 10097	157 (514.1)	13/12/2001	12/12/2007	\$40,000
EL 10098	27 (73.76)	13/12/2001	12/12/2007	\$7,000
ELA 22696	339 (1074)			
ELA 22697	32 (58)			
ELA 22698	143 (350)			

Mistake Creek.	
Tenement Details.	
Date: 9/7/2009	
Author:	
Office: Brisbane	
Drawing:	
Scale: 1:50,000	Projection: AMG Zone 52 (AGD 84)



4. Regional Geology

The tenements are located over the northern extension of the Tanami Province - to the east of the Halls Creek Mobile Zone and to the south of the Pine Creek Orogen. They encompass elements of the Palaeoproterozoic Birrindudu Basin and overlying Mesoproterozoic Victoria Basin which comprise platform cover to the underlying Tanami Region basement, elements of which outcrop in the tenement area.

These carbonate dominated basins are in turn partially covered by the flood basalts of the Cambrian age Antrim Plateau Volcanics and the Ord Basin Sediments.

4.1 Orogenic Basement

Inverway Metamorphics

The Palaeoproterozoic Inverway Metamorphics are correlated with the Tanami Complex pre Barramundi Orogen (1880 –1840) flysch sedimentation. Regional gravity and magnetic interpretation indicates a continuity beneath the later sedimentary basins and basalt cover.

Two small inliers on the Inverway Metamorphics are exposed along the core on a NE trending anticline within the middle of EL10097. The exposures are comprised of steeply dipping muscovite schist, which has at least two cleavages, grey to reddish – grey volcanics and minor siltstone. Metamorphic grade is sub – greenschist to greenschist facies. Concordant quartz veins are common and form massive 2-4m thick reefs of white quartz, which cut the schist and volcanics

4.2 Birrindudu Basin

The Birrindudu Basin contains Paleo-Proterozoic sandstone, mudstone and shallow water evaporitic carbonate rocks . The Limbunya Group is dated at 1.7 – 1.6 Ga and is a time equivalent of host sediments to the extensive syn – epigenetic lead-zinc province of the eastern part of the North Australian Craton.

The Mt Isa Group sediments of the Mt Isa Trough, the McNamara Group of the Lawn Hill Platform and the McArthur Group of the Batten Trough were deposited during the period 1700 – 1600 Ma. This period of widespread lead – zinc mineralisation was generated via circulation of basinal brines and deposition into chemically active sediments. Fluids were focussed on the intersection of NW – WNW pre-Barramundi extensional basement faults and later (post Barramundi) N – NNW trending growth faults.

Undifferentiated ? Birrindudu Group

An interval of steeply dipping mudstone, which is commonly dolomitic and carbonaceous with siltstone and minor thin intervals of quartz arenite and rhyolitic volcanics, has been intersected by drilling. Black carbonaceous mudstone up to 55m thick has been reported in drill logs. The rocks are not obviously metamorphosed and are unconformably overlain by the Limbunya Group of the Birrindudu Basin.

Limbunya Group

The Proterozoic Limbunya Group is divided into eleven formations as tabulated below and has a composite thickness of 1300m.

The group is a succession of cyclic carbonate and siliclastic package. Gently folded and un-metamorphosed. A gentle anticline can be seen to the North of Kirkimbie Homestead within EL 10096 extending into the application areas.

All internal contacts are conformable (after Cutovinos et al 2002)

Unit and Typical Thickness	Lithology	Depositional Environment
Killaloc Formation 104m	Dolostone, dolarenite stromatolitic dolostone, dololutite, dolomitic siltstone; minor sandstone	Marine / Lagoonal
Fraynes Formation 165m	Laminated dolomitic siltstone and mudstone; minor silty dolostone, dolostone, tuffite, siltstone and very fine sandstone	Low-energy, near shore shallow marine
Campbell Springs Dolostone 160m	Stromatolitic dolostone; minor dolarenite, dolorudite and dolosiltite; rare tuffite	Shallow to very shallow marine reworked by waves and currents; some storm deposits
Blue Hole Formation 330m	Dolomitic mudstone, stromatolitic mudstone, siltstone; minor tuffite, dolarenite, sandstone and shale	Shallow marine with periods of low-energy deeper marine
Farquharson Sandstone 40-110m	Fine sublith-arenite and quartz arenite, dolomitic siltstone; minor dolostone and mudstone	Shallow marine/fluvial with periods of sub-aerial exposure
Kunja Siltstone 60-65m	Green and grey mudstone and siltstone (some dolomitic) carbonaceous in lower intervals; rare dolostone and tuffite	Low-energy shallow marine, below wave base
Mallabah Dolostone 10-100m	Laminated to thinly bedded dololutite, dolarenite and shale, stromatolitic dolostone; minor carbonaceous mudstone; rare silty dolostone	Storm-influenced, shallow marine with periods of low-energy deeper marine, below wave base
Amos Knob Formation 40-50m	Stromatolitic dolostone, dolarenite, mudstone, siltstone and shale	Low-energy shallow marine; upper levels higher energy, shallow marine
Pear Tree Dolostone 75-92m	Dolarenite, dolrudite, dololutite, stromatolitic dolostone, dolomitic mudstone and oolitic dolostone; minor carbonaceous mudstone	Storm-influenced shallow to very shallow marine
Margery Formation 116-125m	Stromatolitic dolostone (silicified), dolarenite, dololutite, siltstone, sandstone and claystone	Shallow marine to inter-tidal, basal part terrestrial
Stirling Sandstone 120m	Quartz-arenite, dolomitic sandstone, conglomerate, minor clay laminations	Shallow marine with periods of sub-aerial exposure, syntectonic

4.3 Victoria Basin

Unconformably overlying the Birrindudu Basin, the mesoproterozoic Victoria Basin contains several thousand meters of sedimentary material divided into four groups. This package is only represented in the tenement area by the Wattie Group and Auvergne Group.

Wattie Group

The Wattie Group is a dominantly siliclastic succession with subordinate carbonates with a total thickness >400m and contains seven identified formations. It overlays the Limbunya Group with a marked angular unconformity. Of the seven formations only the basal Wickham Formation is well exposed in the area. The others are mainly recessive and form low ridges.

Wickham Formation

The Wickham Formation is characterised by fine to medium, well-sorted sandstone; minor inter-bedded sandstone, conglomerate and chert; and rare siltstone. Significant exposures are present with the tenement areas. Sedimentary structures may be readily seen. The Wickham formation is interpreted to have been deposited during a shallow marine transgression, with some sub-aerial exposure.

Auvergne Group

The Auvergne Group contains seven formations, of which only two are preserved or exposed in the area. It unconformably overlays the Wattie Group and the Limbunya Group.

The Jasper Gorge Sandstone and the Angalarri Siltstone are not thought to outcrop in the tenement areas, but are present on the Limbunya Map Sheet.

4.4 Cambrian Antrim Plateau Volcanics

The Antrim Plateau Volcanics are assigned a Cambrian age and outcrop extensively over the tenement area. They comprise part of the largest Phanerozoic flood basalt province in Australia.

Antrim Plateau Volcanics

The greatest exposure is within the Victoria River Region but attain their greatest thickness in the Kimberley Region WA. The flows consist of 20-60m thick lava flows, mostly of massive fine basalt with vesicular flow tops; less commonly of plagioclase-phyric basalt. The eruptive centres are difficult to determine.

Their upper contact with the Headley's Limestone, Negri Sub-group – Ord Basin is considered prospective for copper mineralisation.

Barite vein type mineralisation and copper mineralisation are noted associated with the basalt.

4.5 Ord Basin

The Ord Basin straddles the NT / WA border. It contains three distinct synclines of which only the Hardman Syncline is present in the NT and preserves the most complete stratigraphic succession.

Goose Hole Group

Containing all the Middle and Late Cambrian Sediments of the Ord Basin, it is split into two subgroups and has a thickness of 700m. This Group is the dominant lithology in the Application areas but has limited outcrop within the granted tenements.

Negri Subgroup (Headleys Limestone)

The Headleys Limestone is the basal unit of the subgroup, which has a maximum thickness of 530m and unconformably overlies the Antrim Plateau Volcanics. It has limited exposure within the granted areas but the contact is considered highly prospective for copper

mineralisation. It is a peritidal carbonate sediment shown at the start of the widespread marine transgression into the Northern Australian Craton. No age diagnostic fossils are present but it is considered to be Ordovician in age. It is predominantly stromatolitic limestone and is expressed as bold ridge like outcrops making access difficult.

4.6 Mesozoic Cover.

Cretaceous sandstone and minor conglomerate outcrop over small areas on the Limbunya map sheet.

4.7 Cenozoic Cover.

Cenozoic units cover a substantial portion of the tenement area

Silcrete.

A unit of internally brecciated chert was originally mapped as the upper unit of the Fraynes Fm. of the Limbunya Gp. This unit is now recognised as a Cenozoic duricrust.

Laterite.

Ferruginous laterite is particularly developed over the Antrim Volcanics. A thin lateritic horizon is also present over the Limbunya Group lithologies.

Grey clay rich soil.

This soil is noted along Sturt Creek and tributaries and overlying basalt areas of low relief.

Superficial soils and calcrete.

Superficial sand, soil, eluvium and calcrete occur through the Limbunya area.

Quaternary Alluvium.

The majority of rivers and streams are entrenched in alluvium.

5. Structural Elements & Tectonic History.

The Inverway Metamorphics which are correlated with the Tanami Complex display several foliations and have undergone at least one tectonic event although only metamorphosed to greenschist facies.

The Birrindudu and Victoria Basin lithologies display evidence of mild deformation and no tectonic related metamorphic history. The Birrindudu Group sediments which have been intersected in drilling are folded and distinctly unconformable with the Limbunya Group.

In its current configuration the Limbunya Group sediments in the tenement area present as an inverted basin with stratigraphy younging toward the basin margins attributed to a compressional event, which was in part transgressive and initially focussed on this area.

Tectonic History.

The tectonic history evident in the stratigraphy is summarised in point form as follows:

The pre Barramundi Inverway Metamorphics (pre 1880 Ma) display at least 2 deformations.

The post Barramundi Birrindudu Gp – Birrindudu Basin are folded and eroded but unmetamorphosed and unconformable with the overlying Stirling Sandstone – Birrindudu Basin.

Following folding and uplift of the Birrindudu Group a marine transgression resulted in deposition of the Stirling Sandstone which was followed by a shallow water carbonate dominated sequence.

Tectonic down warp is indicated by a change to deep water sedimentation of the Kunja Siltstone comprising siltstone & shale with minor tuffite (1640 Ma) .

Tectonic uplift saw a reversion to shallow marine conditions.

Minor tectonism is indicated by mild folding of the Limbunya Gp

Deposition of the Wattie Gp. Victoria Basin correlative of the Nathan Gp. McCarthur Basin.

Uplift – erosion.

Deposition of the Auvergne Gp. Victoria Basin. 810 – 750 Ma.

Reactivation of strike - slip faults and uplift circa 560 Ma was associated with the King Leopold Orogeny and extensive flood basalts –Antrim Plateau Volcanics.

Structural Elements.

The distinct structural elements observable in outcrop, gravity and magnetic data are:

The north west trending structural corridor bounded by the Limbunya fault to the north and in part by the Negri Fault to the south.

The discontinuity between the distinct gravity low to the south west of the tenement area and the generally high gravity readings through the tenement area. This discontinuity is coincident with a northerly trending zone of folding and faulting which trends to the north west into the Negri fault.

The west south west trending Neave Fault to the south of the tenements which is discriminated by the abrupt break in magnetic signature of the Antrim Plateau Volcanics which abut the fault from the southern side.

A regional monoclinial synform which trends north to north north west into the Limbunya Fault Zone and is interpreted as indicative of a regional basement fault.

The north-north west trending folds and faults to the south of the Limbunya fault.

The north east trending faults to the north of the Limbunya Fault.

A large wavelength anticline or domal structure (wavelength ~ 35 km) to the north of the Limbunya Fault , north of EL 10097 is interpreted as resulting from basement warping.

A zone of extensional faulting in an apparent jog in the Limbunya Fault to the north of and adjacent EL 10097.

Displacement mapped on the Limbunya Fault is south block up and on the Neave Fault south block down.

Interpretation.

The Limbunya Fault and the north east trending structural grain are interpreted as representing the orthogonal extensional fault pattern established during early Palaeoproterozoic extension evident through the North Australian Craton. The Limbunya Fault was active during deposition of the Limbunya Group and later periodically reactivated.

The north to north north west trending gravity discontinuity and faulting including the Negri Fault is interpreted as marking a major basement boundary between the Tanami Province and the Sturt Element.

This discontinuity parallels the north trending post Barramundi extensional normal faults which control the Mt Isa, Walker and Batten Fault Troughs in the eastern Orogen.

The Negri Fault (and it's southerly continuation) are mapped as evincing east block down displacement syndepositional with the Stirling Sandstone of the Limbunya group.

The downwarp which resulted in deposition of the Kunja Siltstone at ~ 1635 Ma is tentatively correlated with rifting associated with deposition of the mineralised cover sequence 3 of the eastern orogen.

The minor gravity lows to the immediate north and south of EL 10097 are interpreted as granitic intrusions associated with diapiric domal upwarp.

6. Previous Mining and Exploration

Mining History

Barite.

In the Kirkimbie deposit six steeply dipping barite veins outcrop at surface with a strike length of 6km and range in width from approximately 0.8 – 2.5m, two of which were mined by South Australian Barytes Pty. Ltd. During 1971 – 72, approximately 30,000t @ 97% BaSO₄ of product was extracted to 5m depth. Nimbar Mining & Rathin held the area under MCN's and EL's during the mid 1980's and put an estimated resource of 500,000 tonnes to 20m grading 95 – 98% BaSO₄.

This resource lies within EL 10096 and potential exists for further deposits of this type throughout the area.

Mapped barite veins used for resource calculations can be seen in Figure 3. The possibility of chemical grade $\geq 98\%$ BaSO₄ is very feasible by selective mining which substantially increases the product value over industrial grade BaSO₄.

Prospecting of copper occurrences is evident in the Antrim Volcanics and Headleys Lst.

Previous Exploration

Exploration activities dating back to the late 1960's have targeted copper and barite mineralisation associated with the Antrim basalts, lead – zinc mineralisation in the Limbunya Group and diamonds.

The most recent exploration, by GeoPeko, comprised stream sediment sampling, geological reconnaissance, geophysical surveys, rock chip and soil sampling and drilling. This work was focussed on an outcrop of the lower Limbunya Group in and adjacent the northern part of EL 10097.

The area targeted encompasses in part the southern extent of the outcrop of Limbunya Group units uplifted & exposed by a north trending anticlinal / domal structure north of the Limbunya Fault. Elevated stream sediment samples that are coincident with this area are interpreted as attributable to the background lead and zinc noted in the Mallabah Dolostone. A carbonaceous shale horizon within the carbonates hosts disseminated pyrite and minor veinlets of galena and sphalerite in diagenetic dolomite concretions on bedding planes (NTGS). Rock chips assay up to 750 ppm Zn. The intersection of a NNE trending fault represents a secondary target for remobilised mineralisation as noted on NNE structures around the Century deposit.

The interpretation of the stream sediment sampling needs to level samples according to the background in the drainage lithologies.

Elevated copper assays were reported from the Birrindudu Group sediments with assays up to 6m @ 0.4% Cu in LMDH8.

Summary of Previous work by Company and Tenure

Metals Exploration (EL 709)

Metals Exploration and Joint Venture Partner Freeport collected almost 4000 stream sediment samples covering 50,000km². Not all of this data has been presented in this report. At least nine copper anomalies were delineated and upon investigation all were found to contain Native Copper in flow tops of basalt lavas or in agglomerates, up to 2kg was found at one site. Caves, which has a resource of 2000t @ 2-20% Cu, is one such anomaly.

Amoco Minerals Australia Company (EL 799)

Amoco's exploration focus was on the basalt / limestone contacts for copper mineralisation, utilising ground magnetics, stream sediment sampling and limited costeaning. The program was successful in locating mineralisation but it was viewed to be small, low grade and erratic in distribution. RAB Drilling and soil sampling was also undertaken with moderate success, this work was concentrated in the ELA 22696-98 area so has not been entered at this stage

Anaconda Australia (EL 1681)

Anaconda obtained Exploration Licences totalling 12,000km² to explore initially by fixed wing aircraft, so limited work was completed within the current area of interest. 40 rock chips were collected from the overlapping EL. 3 samples containing mildly anomalous lead and zinc values were recorded and stated the potential for barite.

Western Mining Corporation (EL2186).

During 1980 – 82 WMC conducted regional stream sediment sampling and delineated several target areas. No further work was conducted due to a rationalisation and the anomalies were later followed up by GeoPeko.

Rathin Pty Ltd & Nibar Minerals (EL 3144 & EL 3239) (MCN reports not found)

B E Cornish & Associates geologically consulted to the above holders and gave an estimated resource of 500,000t to 20m grading 95 – 98% BaSO₄. Due to economic conditions at the time (The Gulf War) this project was never developed further.

Stellar Minerals (EL 4224)

As a follow up to Negri River Corporation's finding of diamond indicator minerals which were at the time considered to be non kimberlitic / diamond range, prior to the discovery of Argyle. Stellar collected five bulk stream samples to test the main river systems in the area through a heavy media separation plant. No diamonds or indicator minerals were recovered.

Linc Enterprises (EL 5817 & EL 5819)

No groundwork was completed and the ground was relinquished.

GeoPeko (EL7140, 7141)

During 1991 – 93 Peko Exploration conducted exploration for Pb-Zn deposits based on follow up of earlier WMC work. Targeting was conducted based on stream sediment anomalies from the exposed Mallabah Dolostone and contact between the Blue Hole Fm and Campbell Springs Dolomite. Drilling indicated that a black shale unit in the Mallabah Dolostone was anomalous in Pb – Zn. Drilling also intersected lithologies correlated with the Birrindudu Gp below an unconformity with the Stirling Sst. These sediments assayed as anomalous for copper to 1% over narrow zones.

Anomalous gold in stream sediment was also reported from Swan Crk.

The tenements were relinquished following testing of the initial Pb – Zn target areas.

GeoPeko (EL 7668)

EL was acquired to cover the proposed extension from a neighbouring tenement but when drilling in EL 7141 was completed results were not encouraging enough to follow up with further groundwork.

Burdekin Resources NL (EL 8308)

Burdekin Resources completed a GIS package of stream sediments and rock chips utilising INTERDEX and their own orientation data. Several anomalies were delineated and significant mineralisation potential was apparent but the tenements were relinquished without further work.

Watts McKeddies Mining (EL 9203)

No groundwork was completed and the ground was relinquished.

7. Exploration Targets.

Proterozoic Lead Zinc Mineralisation.

The platform sedimentary package of the Limbunya Group, Birrindudu Basin is dated between 1700 and 1600 Ma with the prospective Kunja Siltstone dated at 1635 +/- 19 Ma. This period witnessed extensive lead – zinc mineralisation in the North Australian Craton in the Mt Isa and Batten Troughs and associated platform cover. The Broken Hill orebody also dates to this period.

Limited exploration over the Limbunya Group and minor drill testing in and adjacent EL ... has highlighted the prospectivity of the Group for lead zinc mineralisation. A shale unit in the Mallabah Dolostone intersected by GeoPeko in drilling assayed 115 ppm Pb and 370 ppm Zn. Pb isotope analysis indicated a Mesoproterozoic age and more than one hydrothermal source.

Rock chip sampling by the NTGS indicated elevated Zn in the Mallabah Dolostone and the Campbell Springs Dolostone and elevated Pb in the Fraynes Fm. and Blue Hole Fm.

The drill testing conducted to date focussed on the zones of elevated stream and rock chip geochemistry in the Mallabah Dolostone adjacent the Limbunya fault. Whilst geochemically anomalous lithologies were encountered no economic mineralisation was intersected.

A more comprehensive model of sedimentation and basin geometry is necessary to direct exploration in this package however some preliminary targeting can be proposed based on knowledge of analogous mineralisation to the target style.

Basin fluid flow in the Mt Isa Inlier and McCarthur Basin was focussed along NW trending basement faults resultant from the pre Barramundi extension. The intersection of these craton scale basement faults and NNW to N trending extensional normal faults which were marginal to the Mt Isa and Batten Rifts focussed mineralising fluids into ore grade zones of mineralisation in prospective pyretic carbonaceous shale horizons.

The target stratigraphic horizons are the shale beds within the carbonate units and the Kunja Siltstone. The prime structural targets are the intersection of the NE trending linear trending through the SE corner of EL 10097 and it's intersection with the NW trending linears including the Limbunya Fault. These linears and target zones are indicated on Fig. ...

Elevated lead and zinc assays from stream sampling are indicated on the Figure and show co-incident anomalism adjacent the intersection of this NNE trending structure with the Limbunya Fault. The target is located immediately adjacent the EL on a Kajeena Application and trends into EL...

Proterozoic Gold Mineralisation.

The tenement area is underlain by basement of the Tanami Province with the Inverway Metamorphics, which outcrop on the tenement area, correlated with the Tanami Complex flysh sediments. Anomalous gold geochemistry in stream sediment samples is reported associated with a sinuous magnetic feature in the SW corner of EL 10097.

Gold assays of up to 6.7 ppb are reported to the west of the tenement boundary and 1.9 ppb within. Downstream the highest value reported is 31 ppb.

The gold anomaly is not co-incident with the basal Stirling Sandstone.

This area has a broad domal magnetic signature and is accompanied by a minor gravity low. The interpretation is of a granite body at depth roofed by gold mineralised Inverway Metamorphic lithologies. The mineralised and altered sediments are represented by the elevated sinuous magnetic feature and warrants follow up as a Tanami Goldfield style target.

Diamond Pipes.

The tenement area lies to the east of the Halls Creek Mobile Zone and is underlain by cool continental crust at 5 km depth (AGSO). The region is prospective for lamproite diamond pipes.

Diamond exploration on the Inverway, Bartons Creek and Gregory's Depot 100,000 scale map sheet areas by Ashton in the early 1980's has resulted in the recovery of indicator minerals and three diamonds. One diamond was recovered from EL 2300 on the Mt Barton Sheet and two diamonds from EL 2557 over the Limbunya, Bartons Creek and Gregory's Depot 100,000 scale map sheet areas.

Prospectivity in the area is considered high with crustal linears the target zone.

Copper Mineralisation.

Several types of small scale copper mineralisation related to the Antrim Plateau Volcanics have been identified by the NTGS in the area. Copper mineralisation has been reported from carbonaceous sediments in the Birrindudu Group. This Group is not currently known in outcrop with current knowledge based on limited drilling by GeoPeko. Further data is required to assess this mineralisation which may be associated with felsic dykes intersected in drilling which did not themselves contain sulphides.

8. Exploration Techniques.

Gravity Data.

Airborne gravity data is considered applicable for location of diamond pipes and large base metal deposits and could be considered in regard to these tenements.

Magnetics Data.

Infill airborne magnetics data should be flown over the target areas to assist geological and geochemical data interpretation and would greatly assist drill hole targeting.

Geological Mapping.

Interpretation of geological structure and geochemical data cannot be attempted without geological mapping over the target areas at an applicable scale. Geological mapping of sedimentary lithologies, basement and Mesozoic – Cenozoic cover should be accompanied by competent structural mapping.

Mapping should be undertaken on an airphoto base with input from existing or acquired magnetic and radiometric data.

Geochemistry.

The existing geochemical data set should be re-interpreted on the basis of an accurate geological map and understanding of the background geochemistry of the exposed lithologies.

Infill sampling should be undertaken as necessary prior to orientation soil geochemistry and detailed soil geochemistry over target areas.

Drill testing.

Following compilation of the available data sets and interpretation and targeting drill testing should be planned to test the target mineralisation and provide confirmation of the key lithological and structural elements of the geological interpretation to guide further work.

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