

**ANNUAL REPORT OVER  
EL24092**

**PINE CREEK DISTRICT, NORTHERN TERRITORY**

**VOLUME 1 OF 1**

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## **1.0 Introduction**

Exploration Licence (EL24092) covering 314.2 square kilometres is located approximately 230 km south of Darwin in the Northern Territory (Figure 1).

EL 24092 is situated in the southern part of the Pine Creek Geosyncline, which consists of Early Proterozoic metasedimentary rocks overlying a gneissic and granitic Archaean basement. A regional shear zone, the Pine Creek Shear, extends from Pine Creek in the south and passes through the centre of the exploration licence. The Pine Creek Shear has been a major locus for the passage of gold-bearing fluids and is spatially related to the majority of gold occurrences in the Pine Creek Geosyncline.

Union Reef Goldfield (located on MLN1109 excised from EL24092) kilometres north of the Pine Creek Township was discovered in 1873. In 1991 the Shell Company of Australia Ltd purchased the Union Reef tenements. By 1998, 8.07t gold was produced from ore average 1.4 g/t Au. As at December 1998 total resources were estimated to be 17.6Mt at 1.7 g/t Au. Union North was delineated a few kilometres north of the main open cut. In April 1994, the total reserve at this orebody was 8.1Mt at 2.21 g/t Au. EL24092 is within a 10 kilometer radius of the major Union Reef gold resources.

Copper mining was also carried out between 1875 and 1917, producing 3,450 tons of ore grading greater than 25% copper. United Uranium N.L (1967) has estimated a possible 90,000 tons of ore remaining, grading 6.1% Cu and 185 g/t Ag. The copper bearing areas are located in the southern portions of the exploration licence.

EL24092 is the subject of an executed Sale of Mining Property Agreement between Davos Resources Pty Ltd and Mr Chris Savage, the registered holder of EL24092. The Agreement is due to complete shortly.

## **2.0 Work Performed on EL24092 during Year 2**

Over the period of May 2006 Kastellco Geological Consultancy & Tenement Management conducted a review program over existing historical exploration data within the Northern Territory Geological Survey Database was conducted over EL24092 to identify any high potential exploration targets. The following was delineated from the review program:

1. Five first and second order gold bearing geochemical trends were identified varying from 320 to 1,200 metres of strike length with gold values between 0.27 to 6.6 g/t which warrant further exploration.
2. Detail exploration work is required on the highly prospective Anomaly 1 & Anomaly 3 areas which is hosted within the Esmeralda Tendon (highly prospective structural target for potential gold mineralisation)
3. Detail exploration work is required on the highly prospective West Copperfield area which is hosted within the Playford Creek Anticlinal Tendon (highly prospective structural target for potential gold-copper mineralisation)
4. In NW portion of the tenement, the Pine Creek Shear zone (potential to host gold mineralisation) is striking 6.1 kilometres by 2.1 kilometres in width. In the SE area of the exploration licence, the shear zone has a strike length of 3.4 kilometres by 2.1 kilometres. These trends represent structural targets which hosts the major gold deposits in the Pine Creek area.

In accordance with the recommendations of the review program:

1. Structural geologists, RSG Global, were retained to conduct a detail structural interpretation over the anticlinal structures over EL24092 with emphasis on the identification of potential gold bearing mineralised structures. RSG Global have completed this work and are currently finalising their report; and
2. Geophysicists, ASIS, were retained to examine the existing radiometric and magnetic survey data held by the Northern Territory Geological Survey. The purpose of the re-interpretation and modeling of the magnetic anomalies over the area is to increase the

confidence of potential future gold drill targets. ASIS have completed this work and are currently finalising their report.

In addition, Al Maynard and Associates were commissioned to provide an Independent Geologists Report (Competent Person's Report) on EL24092 to the Company. This report has been completed.

### 3.0 EL24092 - Expenditure Statement

The following amounts were expended on EL24092 in Year 2:

<b>Title</b>	<b>\$Expenditure</b>
Kastellco Geological Consultancy & Tenement Management	\$4,567.00
RSG Global, Structural Geologist	\$12,597.38
ASIS Pty Ltd, Geophysicists	\$4,200.00
Al Maynard & Associates, Consulting Geologists	\$7,000.00
Tenement Management & Consultancy	\$6080.00
Administration	\$5,000.00
Legal	\$5,000.00
<b>TOTAL</b>	<b>\$44,444.38</b>

(Against an expenditure commitment of \$43,878)

### 4.0 Location and Access

EL 24092 is within a 10 kilometre radius of the major Union Reef gold resources (Figure 1). As a consequence the area is strategically placed in major infrastructure such as the Stuart Highway, regional townships and the Alice Springs-Darwin railway.

The southern and northern boundaries of the Licence are situated approximately 8kms south and 20 km north respectively of the mining town of Pine Creek. The eastern portions of the tenements are accessible from the Kakadu Highway.

Access along the Stuart Highway is possible during the wet season except during periods of extremely high rainfall. The highway provides access from the northwest to the southeast part of the licence area, whilst other tracks provide access to the northern and southern part of the exploration licence areas. The areas are traversed by graded, locally steep tracks accessible to four wheel drive vehicles.

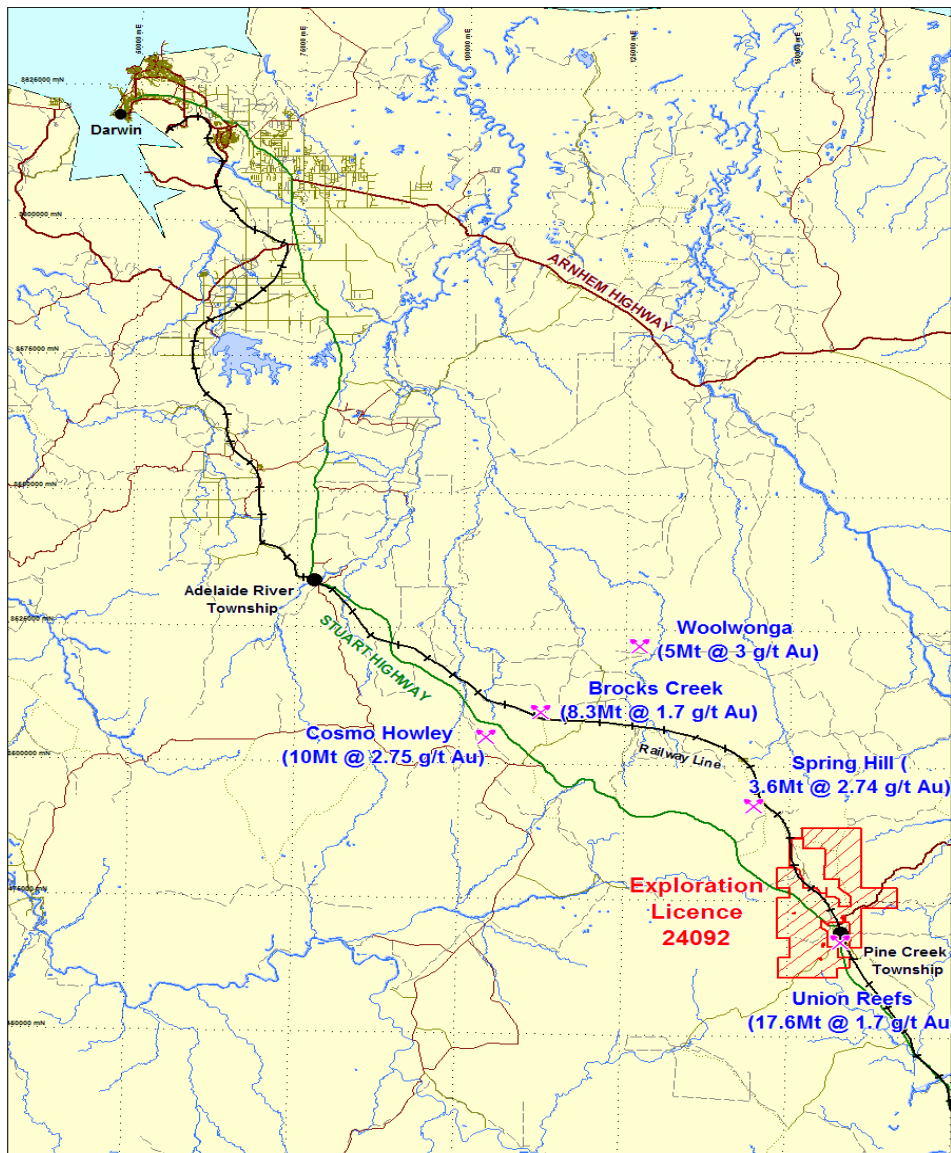


Figure 1: EL 24092 and Nearby Gold Deposits with Total Resource Calculations

## 5.0 Regional Geology and Mineralisation

EL 24092 lies near the northern apex of the Pine Creek Embayment. This is a south-southeast trending fold belt composed of Lower Proterozoic sediments and volcanics which remain as a pendant on the intrusive Cullen Batholith. A broad south-southeast zone of shear deformation – the Pine Creek Shear – extends from Pine Creek in the south and passes immediately east of the Spring Hill area. The Pine Creek Shear Zone has been a major locus for the passage of gold bearing fluids and hosts the majority of gold occurrences in the Pine Creek Geosyncline.

EL 24092 is located in the southern part of the Pine Creek Geosyncline which contains Early Proterozoic metasedimentary rocks resting on a gneissic and granitic Archaean basement. The geosynclinal sequence is dominated by mudstones, siltstones, greywackes, sandstones, tuffs, and limestones. The Pine Creek Geosyncline was folded and metamorphosed up to the amphibolite facies from  $\pm 1870 - 1899$  Ma. Transitional igneous rocks, including pre-tectonic dolerite sills and syn- to post-tectonic granitoid plutons and dolerite lopoliths and dykes, intrude the geosynclinal sequence. Detailed geology of the Pine Creek Geosyncline is discussed by Nicholson, Ormsby, and Farrar (1994).

Stratigraphy in the central Pine Creek Geosyncline has been simplified by Nicholson, Ormsby, and Farrar (1994) into the Batchelor, Frances Creek, and Finniss River Groups. The Batchelor Group consists of shallow water coarse clastics and crystalline carbonates that are conformably overlain by the Frances Creek Group. The Frances Creek Group is subdivided into the Whites Formation, Acacia Gap Quartzite, Mundogie Sandstone, Koolpin Formation, Gerowie Tuff, and Mount Bonnie Formation. The Gerowie Tuff is a basin-wide mudstone-rich sequence with interbeds of diagenetically altered distal tuff which is overlain by greywacke, mudstone, chert, and ironstone of the Mount Bonnie Formation. The Finniss River Group overlies the Frances Creek Group and consists of a thick flysch sequence of greywacke and mudstone.

Two major phases of deformation that pre-date granitoid intrusions have been recognised in the Pine Creek Geosyncline. The earliest widely recognised structures in the Pine Creek Geosyncline are bedding-concordant fabrics and breccia zones ( $D_1$ ). The second phase of deformation produced the north to north-west trending folds dominant today ( $D_2$ ). The folds vary from open and upright to overturned and isoclinal, and were accompanied by the development of a penetrative slaty cleavage.

The Pine Creek Fault Zone is a 300 km long structure which strikes at  $150^\circ$  (magnetic) and can be mapped from Darwin to Katherine. The fault zone trends north-northwest and consists of a number of sub-parallel faults, over a 5 km corridor, with apparent sinistral movement of up to 2 km. The Pine Creek Fault Zone postdates  $D_2$  and the granite intrusions. Where not seen in outcrop, the Pine Creek Structure is defined by linear magnetic anomalies caused by magnetic bearing dolerite dykes. This structure is located a centre portion of the Exploration Licence.

The bulk of the gold resources of the Inlier occur in quartz-sulphide stockworks and sheeted vein systems and in association sulphides dissemination and which attain dimensions suitable for open pit bulk mining. Many of these deposits occur along the sheared hingelines of anticlinal folds, particularly in interbedded greywackes and siltstones of the Mount Bonnie and Burrell Creek Formations towards the top of the Early Proterozoic succession. The prime examples included Union Reef, Fountain Head, Spring Hill, Woolwonga Mines and Yam Creek. Presently identified gold resources and reserves in the Inlier are estimated to total more than 130,000 kg (4,000,000 ounces).

The Enterprise orebody at Pine Creek provides a model for proposed exploration in the Pine Creek Exploration Licence 24092. This deposit occurs at the boundary of the Mount Bonnie Formation and the Burrell Creek Formation, the principal host rocks being greywackes, siltstone, shale, mudstone, chert and tuff. The main structure is the Enterprise anticline, a simple, upright, moderately tight fold which plunges gently to the south. Extensive fracturing and shearing occur throughout the deposit, frequently concentrated about the anticlinal axis so that locally, the bedding hinge is not recognizable.

Most ore grade mineralisation occurs within 50 metres of the fold axis, and the orebody extends for approximately 1,000 metres along the axis of the fold. Mineralisation consists of quartz-sulphide veining with pervasive alteration of the host rocks. Common sulphides are pyrite-arsenopyrite and pyrrhotite, with lesser sphalerite, galena and chalcopyrite. Most rock alteration consists of the assemblage silica-potash feldspar-chlorite-biotite. Vein types include saddles, spurs and stockworks in the hinge zone, ladder and sheeted veins restricted to the west fold limb, and late-stage vuggy quartz veins and beccias which are relatively rich in sphalerite and galena.

Pine Creek Goldfields commenced mining the Enterprise deposit in 1885 and to July 1993 had produced approximately 20 tonnes of gold.

## **6.0 Pine Creek Local Geology**

EL 24092 lies on the south western margin of the Pine Creek Geosyncline with metasediments of the Mount Bonnie and Burrell Creek Formations trending in a north westerly direction. The geology of the exploration licence is dominated by the intrusive Allamby Springs Granite, McMinns Bluff Granite and Tabletop Granite. Turbiditic greywackes and shales exposed in the

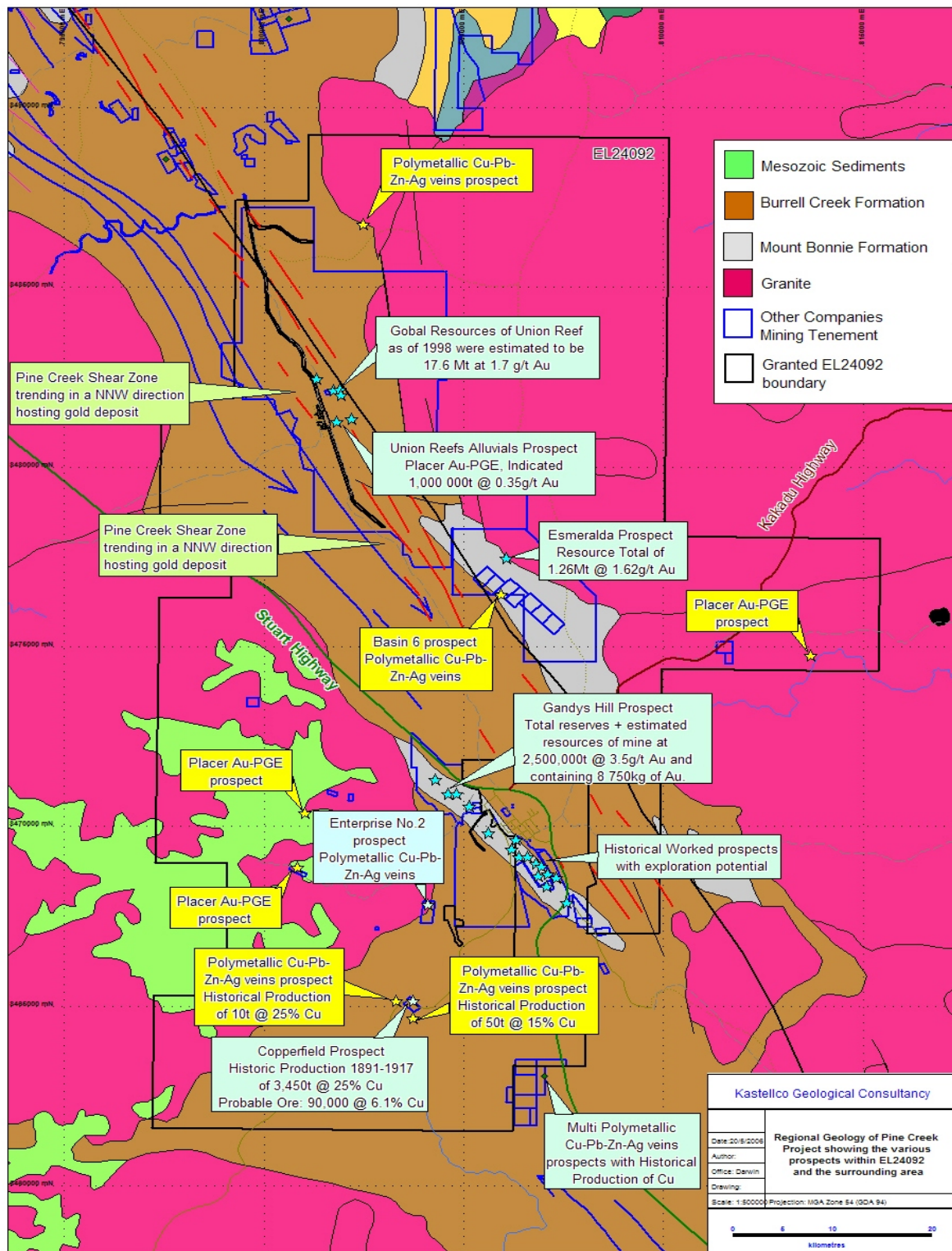
tenement areas have been assigned to the Burrell Creek and Mount Bonnie Formations. These rocks have been folded to produce upright NNW trending folds and sub-vertical to steeply dipping bedding throughout the area. Greenschist facies metamorphism appears to be broadly synchronous with this deformation. The Pine Creek Shear trends north-northwest direction within the exploration licence and consists of a number of sub-parallel faults.

## **7.0 Conceptual Model**

The principal conceptual model applicable to exploration of the Pine Creek Area is the (Enterprise Orebody) well established successful delineation of gold deposits based on specially anticlinal folding in Burrell Creek and Mount Bonnie Formations, and the presence of gold and lead mineralisation, or of anomalies associated with anticlinal trends, indicate a favourable geological environment for the occurrence of economic mineralisation of the Enterprise style.

Exploration during the last 25 years the identification of major gold resources and reserves have been very successful within the Pine Creek Geosyncline. The results of past exploration have been identified three main mineralised anticlinal trends which provided immediate targets for exploration.

1. The Esmeralda Trend can be recognised over a length of at least 15 kilometres, which extends from the Esmeralda Prospects (located on ERL130) in the northwest, through the mineralised area at Anomaly 1 and continues southeasterly through Anomaly 3. Union Reef lies close to the northwesterly projection of this trend.
2. Pine Creek Shear Zone which hosts the major Union Reef mineralised orebodies.
3. The Playford Creek Trend extends over a length of a least 5 kilometres, including the gold-copper mineralisation of the Copperfield West area and the anomalous BLEG drainage gold anomalies in Copperfield Creek. Further extensions of some 5 kilometres of this trend may exist beneath soil cover within the tenement.



**Figure 2 Regional Geology showing the various prospects within EL24092 and the surrounding area**



## 8.0 Previous Exploration

### 8.1 Mining History

Union Reef Goldfield (located on MLN110915 excised from EL24092) kilometres north of the Pine Creek Township was discovered in 1873 by prospectors Adam Johns and Phil Saunders. It produced 1.76 t of gold from 0.58Mt of ore during 1880-1910. The old workings consisted of 1,600 pits, open cuts and shafts concentrated in an area 5 kilometres long and 450 metres wide in two sub-parallel northwest trending zone 200 metres apart. The western zone is known as the Union Reef Line and the eastern one as the Lady Alice Line. The Lady Alice Line hosts the Millars, Ping Ques, Lady Alice and Lady Alice North workings. The Union Reefs Lone hosts the Union South, Crosscourse, Union Central, Millars Prospecting Claim and Union North Workings.

In 1991 the Shell Company of Australia Ltd purchased the Union Reef tenements and carried out detailed exploration, resulting in resource delineation and open cut mining by Acacia Resources Ltd in January 1995. To 31<sup>st</sup> December 1998, 8.07t gold was produced from ore average 1.4 g/t Au. As at December 1998 total resources were estimated to be 17.6Mt at 1.7 g/t Au. Union North was delineated a few kilometres north of the main open cut. In April 1994, the total reserves at this orebody was 8.1Mt at 2.21 g/t Au.

A small abandoned mine, the Caledonian, is located on MCN541 excised from the central eastern part of EL24092. The historical production is about 460 ounces of gold.

The Copperfield copper mine (located on the southern portion of the EL, located MLN21 excised from EL) was worked between 1875 and 1917, producing 3,450 tons of ore grading greater than 25% copper. Most of the ore was obtained from the 30 metres thick oxidation zone. The working consisted of at least 15 shafts, the deepest being 40 metres (down to primary ore) and an open cut 30 x 2 x 4 metres in dimensions. Second phase of production was associated with the southern extension of the lode which was 1.5 metres wide. Several hundred tonnes of copper ore grading 12-26% Cu was raised from a 50 metre shaft. United Uranium N.L (1967) has estimated a possible 90,000 tons of ore remaining, grading 6.1% Cu and 185 g/t Ag.

The Enterprise No.2 copper prospect is located about 2.5 kilometres southwest of the Pine Creek Township on MLN95 which is excised from EL24902. Access to the prospect is by a vehicle track some 750 metres southwest from the T intersection of the gravel road to Brian May's property and a gravel road to the Enterprise Gold Mine.

The prospect lies within hornfelsed arenites of the Burrell Creek Formation in the contact aureole of the Tabletop Granite.

The main copper bearing quartz vein strikes north-northeast and (010°-020°) and outcrops discontinuously over a strike length of 330 metres. Where the shaft is located the vein is about 0.5 metres thick and dips 60° to the west. Malachite is the main copper mineral present, commonly staining the joints surfaces of vein quartz. The mineralisation at depth is largely in the form of veinlets and disseminations of chalcopyrite within the granoblastic quartz gänge, however stockwork veinlets exist in the brecciated wallrock.

The prospect was investigated during 1974-75 by the Northern Geological Survey which conducted geological mapping and a diamond drilling program of 5 holes totalling 402 metres, which targeted possible enrichment of two copper bearing quartz veins at depth. The best drillhole intersected by Newton (1975) was 0.5 metres (35.5-36 m) grading 1.6% Cu from a quartz vein which contained veinlets of chalcopyrite along with minor chalcocite and bornite in DDH 1. Results indicate that there is no significant mineralisation at depth. The workings consist of a 6 metre shaft and two shallow costeans. Two parcels of ore totalling 28.5 tons were treated at the Mt Wells battery for evaluation purposes in 1974. Results were not encouraging with grades averaging about 1% Cu.

A second quartz vein is exposed about 100 metres west of the shaft and appears to outcrop again in the creek where it contains malachite and minor cuprite, chalcocite and koechlinite. The failure to intersect significant grades in the main copper lode at depth in the drilling

program severely downgrades any economic potential for copper bearing quartz veins in the area.

## **8.2 Exploration History**

### **8.2.1 Exploration 1979 to 1980**

Arnhem Land Mining Ltd conducted systematic reconnaissance geochemical and ground radiometric surveys over the Allamber Springs Granite, northeastern portion of the exploration licence. The results of the stream sediment sampling indicated that several drainages contained anomalously high leachable uranium values (CR1998/0128).

### **8.2.2 Exploration 1981 to 1987**

Greenbushes Tin Ltd carried out stream sediment sampling targeting acid intrusives for cassiterite, tantalite and tungsten mineralisation over granitic plutons in the north eastern part of the exploration licence area. The work included evaluation of previous exploration, which included replotting previous geological and geochemical data and airphotographic studies for potential accumulation of alluvial/eluvial deposits. Anomalous Ta, Sn and W stream sediment samples were returned from the program which may be the result of "skarn type" mineralisation.

Enterprise Gold Mines NL and Circular Quay Holdings Pty Ltd conducted gold exploration targeted extensions of gold mineralisation along the Enterprise Gold Mine. A number of areas of low order anomalous gold were detected, the most notable being in the vicinity of the old Copperfield Workings along the Jindare Road south of Pine Creek where rock chip samples assayed up to 6.94 ppm gold which were obtained from gossanous outcrop adjacent to the workings.

Nineteen water bore holes, totalling 874 metres was completed for the first program assaying for gold, copper, lead, zinc and silver. During the second program, 15 holes totalling 810 metres were completed. The maximum gold recorded was 0.34 ppm gold in bore W28 from 24-27 metres. The highest copper value of 470 ppm was recorded in W22 at 63-66 metres depth. The highest zinc value of 2,700 ppm was recorded in W18 from 20-22 metres.

### **8.2.3 Exploration 1987 to 1989**

Geonorth and Apple Management conducted exploration activities on the north-north western portion of exploration licence. Rock chip sampling was the main exploration activity for the locating sulphides in quartz veins, with soil samples taken then panned to locate any visible gold grains. The sampling delineated anomalous results approximately 3 square kilometres in size and open in all directions.

Union Reefs Gold NL conducted a desktop study on the central eastern portion of the tenement in 1989. A completed review of the exploration work conducted was undertaken to define targets for future exploration. A reconnaissance RAB drilling program was planned to obtain bedrock geological information which would indicate the presence of any significant gold mineralisation beneath the soil cover (interpreted as the Burrell Creek Formation) east of the historical Caledonian gold workings. Other target areas include the presence of a discrete southerly plunging anticlinal structure within the Mt Bonnie sediments adjacent to the Allamber Springs Granite contact. Field inspection carried out in this area located outcrops of gossanous cherty sediments which show evidence of widespread silicification and sulphide mineralisation, where it appears to be parallel to bedding along the limbs of the anticline.

Rockquartz Mining NL conducted rock chip sampling which yielded 0.11 g/t Au from large outcropping quartz vein in the vicinity of an anticlinal structure. Trenching was recommended along the anticlinal axis due to extensive soil coverage. Soil samples taken from colluvium found to be unreliable as an exploration technique with all assays returning very low gold values.

#### **8.2.4 Exploration 1992 to 1995**

Geonorth Pty Ltd indicated that favourable anticlinal structures and stratigraphy are present on the central east part of the tenement where the Mt Bonnie Formation/Burrell Creek Formation outcrops. Exploration activities included photogeology, geological mapping, detail gridding and sampling of rock chips and soils, concentrating mainly over Mt Bonnie Formation in the central part of the area, including the Anomaly One Prospect.

At the Anomaly One Prospect, rock chip sampling disclosed locally high gold values (up to 7.7 g/t Au) in small quartz-sulphide veins associated with more extensive gold-anomalous zones (0.28 to 1.41 g/t Au) characterized by chloritic alteration, quartz-sulphide stockworks and pyretic disseminations in shales and greywackes of the Mt Bonnie Formation, located in the axial zone of a south-plunging anticline.

Acacia Resources Ltd conducted geological mapping, gridding, stream sediment and soil sampling on the western area of the exploration licence. Grid based residual soil sampling of the Pine Creek Shear Zone and other structurally complex areas was complex with 31 line kilometres (over 1,000 samples) of soil samples taken. The results were inconclusive with thick alluvial cover hindering sample collection in some areas. A number of narrow low NW trending zones are indicated based on low level Au values of 4-16 ppb Au. Anomalous stream sediment samples ranged from 8-177 ppb.

#### **8.2.5 Exploration 1996 to 1998**

Acacia Resources Ltd conducted gridding (5.2 line km) traversed within the outcropping Burrell Creek Formation to the north of the exploration licence. The surveyed grid was orientated at 331.5° (magnetic) north. A soil program (composed of 207 samples) was collected using either hoe pick or power auger from the gridded area. A weakly anomalous gold anomaly was delineated striking a NW direction, with the area subsequently relinquished.

On the western side of the exploration licence, Acacia Resources Ltd carried out exploration targeting large tonnage low grade gold resources. Ten line kilometres of 200 x 50 spaced lines were gridded on the regional grid. The regional grid was orientated north south on a surveyed baseline at 331.5° (magnetic) north. Some 490 soil samples were taken and analysed for Au, Pb, Zn and As. Exploration results have returned a maximum result from the spot soil sampling of 270 ppb Au. Geological traversing has confirmed that these areas of anomalous gold in soil are coincident with quartz veining within the Burrell Creek metasediments.

In 1997, (central eastern side of the tenement) Acacia Resources Ltd completed a soil sampling program which included 391 samples. Anomalous gold results, up to 650 ppb Au were spread well over the area with higher results in clusters rather than spot highs. The results have been contoured on 10 ppb Au and 100 ppb Au contours and show a north westerly anomalous trend. Exploration was followed up in 1998, with a vacuum drilling program totalling 1,103 metres drilled and 277 residual samples taken. Drill holes are on average 4 metres deep. The vacuum soil results confirmed the broader lower level 10-50 ppb Au anomaly defined in the previous year and constrained the halo of higher results to width between 25 and 75 metres. The best results included are 915, 295, 170, 165 and 125 ppb Au. The proposed costean program to follow up the encouraging soil and vacuum results was abandoned due to transported cover, which was between 2 and 3 metres thick. Three costeans were proposed and each one was only partially completed with no assays submitted for analysis. In 1999, 7 RC drill holes, totaling 293 metres were completed over the gold anomaly. A blanket of up to 5 metres of quartz rich gravel was intersected in every hole drilled. This gravel layer assayed up to 100 ppb Au. The indication is that the anomalous gold results defined in earlier soil sampling are alluvial in origin.

Peel Investments Pty Ltd used the GIGIAC method of exploration. A detailed study involving a new method of delineating fold axes using various imagery was completed over areas of poor outcrop exposure to identify fold axes before an regional targeting commenced. The field work which followed the application of this technique and the GIGIAC concept was immediately successful in that new, previously unknown low grade gold mineralisation was located. This gold mineralisation has been named the Peel Gold Prospect which was

subsequently explored by Explor Min Pty Ltd in 1998. Soil sampling on the Peel Gold Prospect revealed moderate gold, silver and arsenic anomalism in soil coincident with an area of patchy quartz reef. RC drilling of the anomalies did not intercept any significant mineralisation and results were disappointing.

Explore Min Pty Ltd conducted a first pass soil sample program on the East Copperfield, located on the southern portion of the exploration area. The results highlighted three areas of gold in soil anomalism that warrant further investigation.

#### **8.2.6 Exploration 2000 to 2001**

Anglogold Australasia Ltd completed a gridding program on the eastern side of the exploration licence designed for an extensive soil sampling program. Regional magnetic/radiometric survey was also flown. Three hundred & fifty two (352) soil samples were collected and assayed for Au, Pb, Cu, Zn and As. A peak of 33 ppb Au was returned from the program.

### **9.0 Targets Identification and Generation**

Over the period of May 2006 a review program over existing historical exploration data within the Northern Territory Geological Survey Database was conducted over EL24092 to identify any high potential exploration targets. This resulted in the identification/conformation of several targets in the Pine Creek Inlier that warrant further work.

The targeting was undertaken at a high level to identify areas of interest that stand out in the regional data. Historical prospects were reviewed to determine the effectiveness of the previous exploration and determine remaining potential.

#### **9.1 Methodology**

The targeting process was undertaken as follows:

1. Compilation of any existing drillhole and geochemical data into a maximum assay in hole spreadsheet and a surface geochemistry spreadsheet
2. Import of the above into Mapinfo and subsetting into different sample types and grade ranges (soil and LAG) for presentation/analysis
3. Compilation of fact geology to assist in determining effectiveness of surface geochemical sampling and to provide geological information for targeting.
4. Identification of available airborne geophysical and remote sensing data
5. Compilation of information on individual prospects from prospect files, this should form the basis of future target ranking and prioritization.
6. Review of each target in the data above with an initial assessment of their potential to host significant mineralisation.
7. Review of all data mentioned above to identify new targets and assess the potential of existing targets.
8. Identification and listing of targets with the potential to contain significant mineralisation.

### **10.0 TARGETS**

The gold targets identified from the above process are described in Table 2. The locations of these targets are shown in Figure 3. Favourable structural, stratigraphic and geophysical targets are shown on Figure 4.

#### **10.1 Anomaly 1**

Location: Anomaly 1 is situated approx 1,630 m northeast from the abandoned Caledonian Gold Mine which is wholly situated on EL24092.

**History:** Several successive sampling programs were undertaken by Goldfields, Union Reef and J Niddrie. Initial work reported low values (up to 0.65 g/t Au) in rock chip samples. Soil sampling undertaken by Tans Pty Ltd in 1988 failed to detect significant gold values, however more detail rock chip sampling by Bourke/Orridge/Niddrie revealed a wide spread of samples reported between 0.1 and 13.9 g/t Au.

Mineralisation occurs as sulphides disseminations, and quartz-chlorite-sulphide bedding conformable veins and fine stockworks in fractured and brecciated meta-greywackes. The strongest mineralisation occurs in an area of some 100 x 300 metres at the southeastern edge of the outcrop and adjacent to the granite. Values in selected vein material assay up to 7.7 g/t Au, while more extensive zones of veining and country rock give values between 0.28 and 1.41 g/t Au over chip sample widths up to 10 metres.

**Target:** The overall structure of the belt is anticlinal and is analogous to the Mount Bonnie Formation inlier of the Enterprise Anticline, which contains the main Pine Creek orebody on the opposite flank of the Embayment. At Anomaly 1 the position of the inferred dyke corresponds with a possible anticlinal hingeline which is indicated by opposing dips in the metasediments

Part of the Esmeralda Trend (anticlinal trend) provides a highly prospective structural target for potential gold mineralisation. Remains untested through shallow drilling and warrants a detail ground gravity/EM survey to delineate any sulphides rich quartz veining at depth and along strike.

### **10.2 Anomaly 3**

**Location:** Anomaly 3 is situated approx 1,000 m south of Anomaly 1 (wholly situated on EL24092).

**History:** Initial rock chip sampling by Goldfields obtained values between 0.16 and 2.5 g/t Au in five out of six samples collected along a 600 metre strike length of gossanous quartz vein. Three trenches excavated across the northern projection of the zone disclosed quartz veined greywacke up to 25 metres wide, but gold values were low, reaching a maximum of only 0.07 g/t Au. Sampling of superficial quartz material by Tanas, on a series of traverses west of Anomaly 3, recorded highly anomalous gold values ranging up to 1.6 g/t Au over an ENE section some 400 metres wide. No follow up was concluded in the area, the origin of gold is not yet determined.

**Target:** Part of the Esmeralda Trend (anticlinal trend) which provides immediate targets for gold exploration. The overall structure of the belt is anticlinal and is analogous to the Mount Bonnie Formation inlier of the Enterprise Anticline, which contains the main Pine Creek orebody on the opposite flank of the Embayment.

At Anomaly 3 the position of the inferred dyke corresponds with a possible anticlinal hingeline which is indicated by opposing dips in the metasediments. Remains untested through shallow drilling and warrants a detail ground gravity/EM survey to delineate any sulphides rich quartz veining at depth and along strike.

### **10.3 Copperfield West**

**Location:** Copperfield West is situated approx 2,000 m WSW from the abandoned Copperfield Mine which is wholly situated on EL24092.

**History:** Rosequartz undertook geological mapping, rock chip sampling and steam sediment geochemical sampling in 1991. At Copperfield West values of

3.34 and 3.5 g/t Au were encountered in two samples of gossanous quartz reef, up to 1.0 metres thick, and dipping at a low angle to the northeast on a southwestern anticlinal limb. In small prospecting pits and shafts located some 500 metres to the southeast of the site gold assays of 0.1 to 0.62 g/t Au were found in thin gossans and gossanous quartz veins which also reported up to 11.8% copper and 3,450 ppm arsenic. A sample of massive milky quartz lends, up to 5 metres wide, from a site 700 metres west of the copper showings reported a value of 1.19 g/t Au

**Target:** Playford Creek Anticlinal Trend extends over a length of at least 5 kilometres, which includes the gold-copper mineralisation of the Copperfield West area. The area is predominately of meta-sedimentary rocks which are assigned to the Burrell Creek Formation. They appear to be folded into rather broad, SE trending anticlines, but the detail of the structure is hard to resolve due to the effects of contact metamorphism and poor exposure. The hornfels area is traversed by several prominent NNW to NNE trending zones of chloritisation, brecciation and quartz veining.

Requires substantial BLEG geochemical sampling, (assaying for gold and copper) followed by detailed ground magnetic/EM survey to delineate any sulphides rich zones.

Through detailed thematic mapping of the historical gold assay results, the following geochemical anomalies were identified. Table 2 shows the strike length of the anomalies with the highest spot gold assays within the geochemical anomaly. The locations of the anomalies are represented in Figure 3.

**Table 1: Geochemical Targets warranted for follow up exploration work**

Name	Easting (GDA94, Zone 52)	Northing (GDA94, Zone 52)	Assay Result (g/t Au)	Strike Length of Anomaly (m)	Geological Setting
Geochemical Anomaly 1	800500	8480100	0.539	1,200	Burrell Creek Formation, west of the Enterprise Anticlinal Trend
Geochemical Anomaly 2	803330	8477850	0.27	610	Burrell Creek Formation, west of the Enterprise Anticlinal Trend
Geochemical Anomaly 3	806280	8476000	0.02	1,000	Mt Bonnie Formation, west of the Enterprise Anticlinal Trend
Geochemical Anomaly 4	805910	8472190	2.04	670	Burrell Creek Formation, west of the Enterprise Anticlinal Trend
Geochemical Anomaly 5	808400	8467240	6.6	320	Mt Bonnie Formation, along strike of the Enterprise Anticlinal Trend

Note: AMG coordinates are given at the centre of anomaly

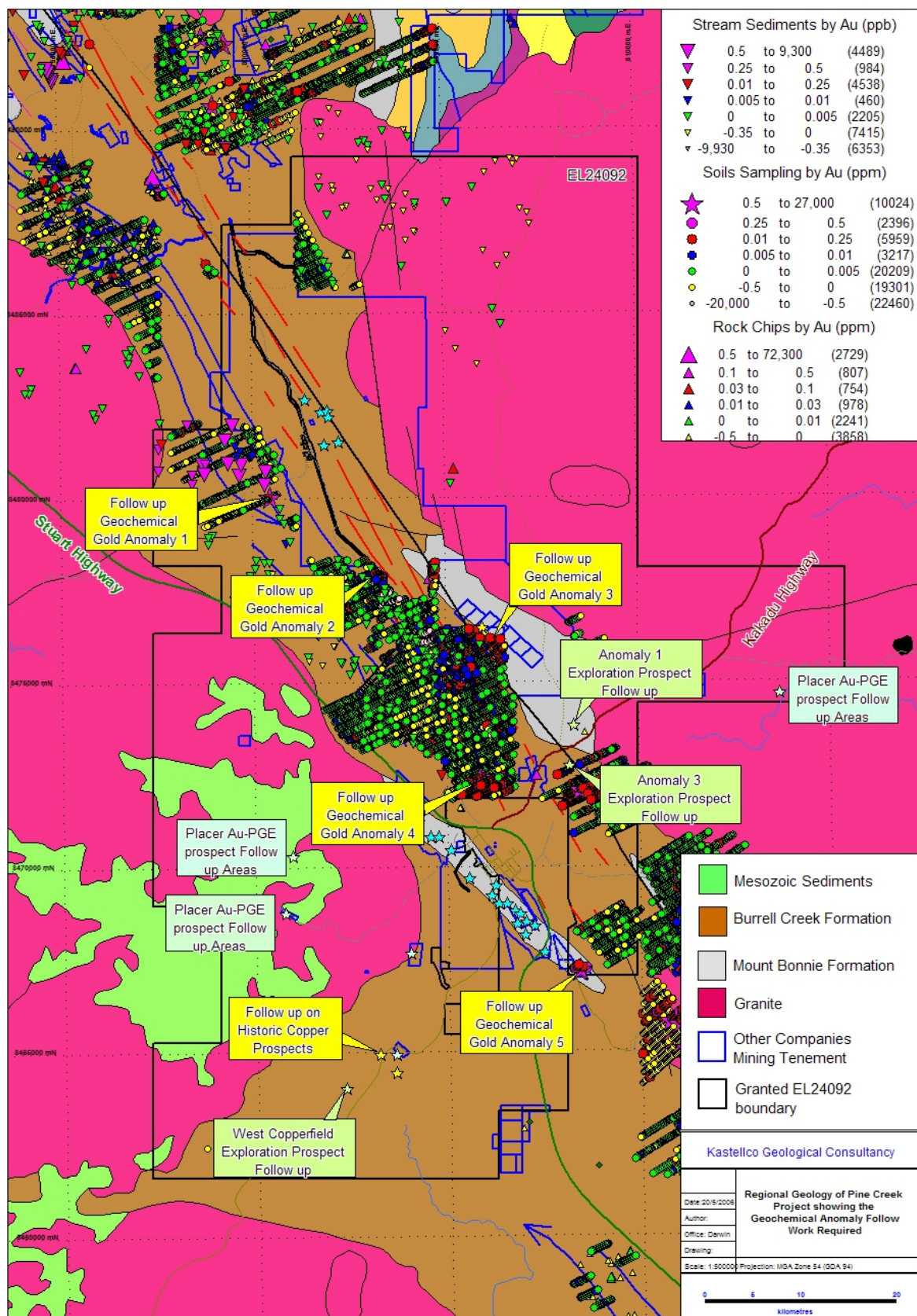


Figure 3: Regional Geology showing the Geochemical Anomaly required for follow up



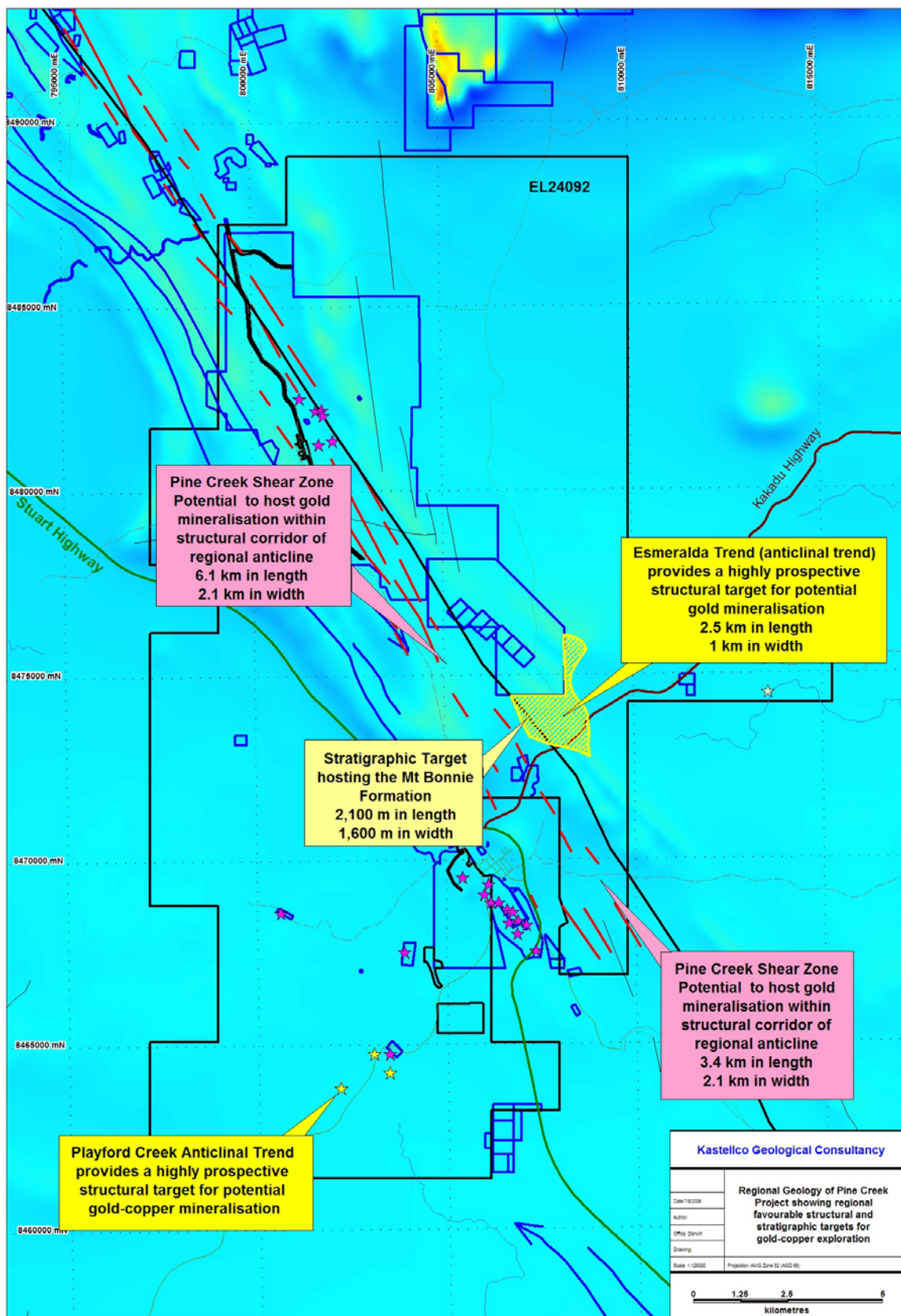


Figure 4: Regional Geology showing favourable structural/stratigraphic targets



## 11.0 EL24092 – Exploration Proposal for Year 3

During Year 3, the company proposes to complete a surface soil/rock chip sample program to follow up on the historical geochemical anomalies and historical copper-gold prospect. Approximately 700 auger (soil) samples will be taken from the B or C horizon and assayed for Au, As, Cu, Pb, Zn, Fe and U. Around 300 rock chip samples will be extracted from outcrops, specially targeting any shear/faults and quartz veining on the surface. They will be analysed for the same elements as the auger samples.

A RAB program consisting of approximately 1,000 metres will also be completed to test any new delineated geochemical anomalies at depth and along strike.

Pending the outcome of the geophysical and structural interpretation, funds will be allocated in testing the anomalous areas as well. The total expenditure for Year 3 will be approximately \$100,000 dollars as per the table below outlines.

Exploration Budget for Year 3			
Project: Pine Creek Exploration Program	Year 3		Total AUD\$
<b>Soil and Rock Chip Sampling (1,000 samples)</b>			
Geologist and Field Hand	\$10,000.00		\$10,000.00
Vehicle (\$120/day)	\$3,000.00		\$3,000.00
Accommodation Pine Creek Hotel - Geo (\$180/day)	\$4,500.00		\$4,500.00
Fuel (\$1.80/litre with usage over 80 litres/day)	\$3,600.00		\$3,600.00
<b>Sub-total</b>		<b>\$21,100.00</b>	
<b>Heavy Earth Moving Equipment Hire</b>			
Mob/Demo + Clearing of Drill Lines/Pads	\$8,000.00		\$8,000.00
<b>Sub-total</b>		<b>\$8,000.00</b>	
<b>RAB Drilling for 33 Holes, totaling 1,000 metres</b>			
Drill Torque Contractor			
-Mobilisation/Demobilisation	\$5,000.00		\$5,000.00
-RAB Blade - 0 to 100m (15.00/m) (estimated at 500m)	\$7,500.00		\$7,500.00
-RAB Hammer - 0 to 100m (28.00/m) (estimated at 500m)	\$14,000.00		\$14,000.00
Work Time \$450.00/hr	\$2,000.00		\$2,000.00
Rig Moves (charged after first half hour) \$350.00/hr	\$1,360.00		\$1,360.00
Fuel (\$1.80/litre with usage over 200 litres/day)	\$1,800.00		\$1,800.00
<b>Sub-total</b>		<b>\$31,660.00</b>	
<b>Assay Laboratories Analysis</b>			
Geochemistry for RAB Drill Samples (\$16.15/sample for 400)	\$7,200.00		\$7,200.00
<b>Sub-total</b>		<b>\$7,200.00</b>	
<b>Drilling Consumables/General Consumables</b>			
Drilling Consumables (foam, oils, PVC pipes etc)	\$2,000.00		\$2,000.00
General Consumables (PVC Bags, calcio bags, pens, markers etc)	\$2,000.00		\$2,000.00
<b>Sub-total</b>		<b>\$4,000.00</b>	
<b>Trucking Bulk Sample to Perth</b>			
Transportation of RAB samples from site to WA	\$2,000.00		\$2,000.00
<b>Sub-total</b>		<b>\$2,000.00</b>	
<b>Professionals Services for RAB Drilling</b>			
Principal Geologist (6 Days @ \$600/day)	\$3,600.00		\$3,600.00
Geologist (6 Days @ \$450/day)	\$1,920.00		\$1,920.00
Field Assistant (6 Days @ \$320/day)	\$720.00		\$720.00
Vehicle (6 Days @ \$120/day)	\$720.00		\$720.00
Accommodation Pine Creek Hotel - Geo (6 Days @ \$90/day)	\$540.00		\$540.00
Accommodation Pine Creek Hotel - Tech Hand (6 Days @ \$90/day)	\$540.00		\$540.00
<b>Sub-total</b>		<b>\$8,040.00</b>	

Interpretation Reports Writing & Drafting			
Professional Geologist @ \$600/day	\$9,000.00		\$9,000.00
<b>Sub-total</b>		<b>\$9,000.00</b>	
Overheads			
Overheads (10%)	\$9,000.00		\$9,000.00
<b>Sub-total</b>		<b>\$9,000.00</b>	
<b>Total</b>	<b>\$100,000.00</b>	<b>\$100,000.00</b>	<b>\$100,000.00</b>

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