# ANNUAL REPORT EL 28222

PERIOD: 30/3/2011 TO 29/3/2012 PLENTY RIVER REGION, NORTHERN TERRITORY

ACACIA MINERALS Pty Ltd PO Box 8281 Subiaco WA 6008

# Plenty Rivers Project

1:100 000 Mapsheets: 5952 Dneiper, 5953 Macdonald Downs

1:250 000 Mapsheets: SF5311 Huckitta Commodities: Cu, Pb, Zn, Mo, Au, Ag



#### **Abstract:**

EL 28222 forms part of Acacia Minerals Plenty Rivers Project which consists of 11 granted exploration licences covering 3,720km<sup>2</sup> in the Harts Range/ Plenty River area of the Northern Territory, see figure 2. This licence contains the Perenti Cu Prospect which was located and drilled in the late 1960s.

The area is considered to be prospective for base metals, precious metals and industrial minerals. Work conducted in the first year consisted of a comprehensive literature survey of the whole of the areas that form the Plenty Rivers Project. Preliminary field exploration has proven encouraging for the interpretation of existing datasets with further work recommended for the coming year. 5 rock samples were analysed in the field using a Niton portable XRF.

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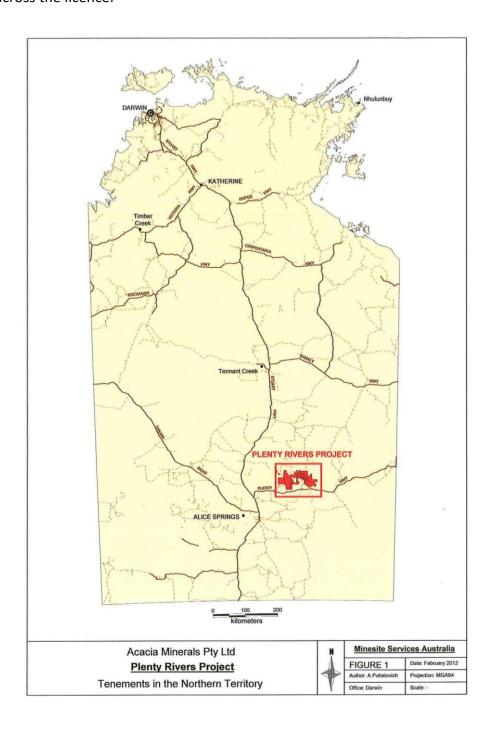
Appendix 1 EL 28222 Expenditure Report.

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# 1. LOCATION

EL 28222 is located some 150km to the northeast of Alice Springs in the Northern Territory. The licence has an irregular shape having a north-south length of 20km with an average eastwest width of 12km and lies between 22° 24′S to 22° 35′S and 135°E to 135° 7′E. The licence is located on the 1:250K Mapsheet SF5311 "Huckitta" and the 1:100K Mapsheets 5952 "Dneiper and 5653 "Macdonald Downs".

The licence is located upon the Macdonald Downs pastoral lease to the north of the Harts Range Police Station and Atitire Community. The Mt Swan to Macdonald Downs station access road traverses across the licence.



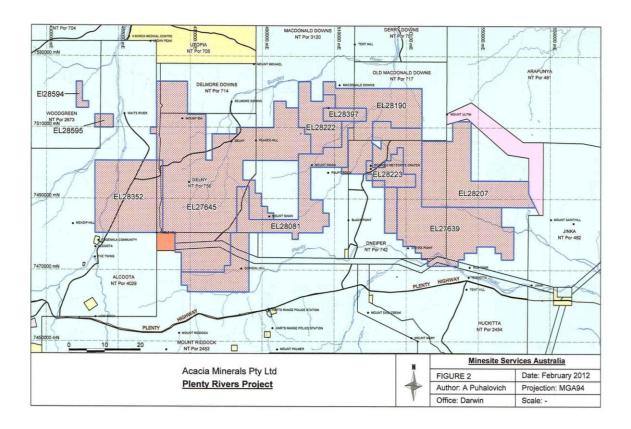
# 2. TITLE HISTORY

#### **Mineral Tenure**

EL 28222 was granted on 30/03/2011 and this report is the First Annual Technical Report which covers activities in the period 30/03/2011 to 29/03/2012, being the first year of tenure. The licence has an area of 47 graticular blocks (149 km<sup>2</sup>).

EL 28222 forms part of the Plenty Rivers Project which consists of 11 granted exploration licences covering a total area of 1,179 graticular blocks (3,720km²)

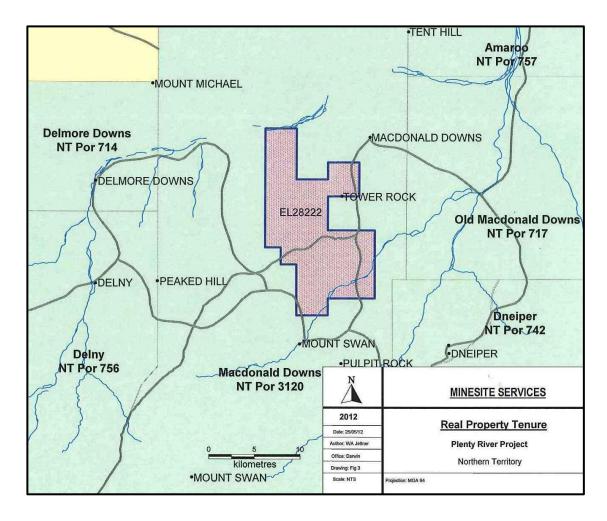
The regional area has a mineral exploration history going back to the 1880s when the Harts Range garnet and mica fields were found and exploited by small scale miners. This style of mining has continued on and off to the present day with the Mud Tank Mine still operating in the eastern Arunta Region today.



# **Real Property**

EL 28222 is located on the following real property parcel:

NT PPL 1116 (NTP 3120) "Macdonald Downs Station" which is owned by the CM Chalmers, (PMB 81 Alice Springs NT).



#### Other Stakeholders

Other stakeholders in the area, (but not on the licence), are the Irriliree aboriginal community which is located to the southeast of this licence.

# 3. PHYSIOGRAPHY

The landforms and geology of the Plenty River Project Area of which EL 28222 forms an integral part consist of 3 geological domains, the northern Jinka Domain, the central Kanandra Domain and the southern Harts Range Domain.

EL 28222 occurs in the Jinka Domain. For consistency all three domains are described here.

#### i. Geomorphology

#### Jinka Domain

The geomorphology of the Jinka Domain consists of low rounded hills that are desiccated by drainage systems heading north into the Georgina Basin. The number and frequency of these hills are much less than that found in the Kananadra Domain to the south. This licence mainly is located on the fan-like anastomosing drainage systems.

#### Kanandra Domain

The Kanandra Domain primarily consists of low angular and rounded hills that are incised by numerous drainage lines forming a fenestral pattern. Erosion along these drainage lines can give rise to quite steep slopes on occasion.

#### **Harts Range Domain**

The Harts Range Domain contains wide open sandy plains in the areas on the southern edge of the licence along the Plenty Highway. To the north of this area east-west trending rocky hills consisting of Harts Range Group rocks occur. Areas of low ridges with incised drainage lines are formed upon rocks of the Tertiary Waite Formation.

#### ii. Biogeography

#### Jinka Domain

In this domain three vegetation types occur in the licence area, they are: low open woodlands consisting of Coolibah low-open woodland with an open-grassland understorey in the main drainage systems, a mixed species low-open woodland consisting of Ironwood and Whitewood low open woodland with a open grassland understorey, and thirdly a tall open scrubland containing a Mulga tall open scrubland with a Woolybutt open grassland understorey.

#### Kanandra Domain

The vegetation in this domain may be classified as a mixed species low open woodlands containing Ironwood and Whitewood with a low open grassland understorey in areas on soils derived from the Tertiary Waite Formation. In other areas along drainage lines the Melaleuca and Eucalypt species increase in numbers to a woodland regime.

#### **Harts Range Domain**

The vegetation in this domain may be classified as a mixed species low open woodland containing Ironwood and Whitewood with a low open grassland understorey in areas on soils derived from the Tertiary Waite Formation. In other more sandy areas an Acacia dominated very open woodland with an open grass understorey is present.

### iii. Hydrology

The surface hydrology is very limited in this arid area of central Australia. Seasonal rains fall during the northern wet season, (depending on the year), and quickly runoff. The licence area is held under real property tenure as cattle stations whose main pursuit is open range cattle grazing. For the majority of the year water is supplied by bores, either to earth dams (turkeys nests) or to sealed tanks and dispensed to the cattle via regulated cattle troughs. The ground water regimes of the three domains are described here:

#### Jinka Domain

The groundwater of the Jinka Domain consists of locally fractured rocks based around the known shear zones. Bores drilled in this area generally give the best flows of the three domains. Flow rates are greater than 0.5 l/s.

#### Kanandra Domain

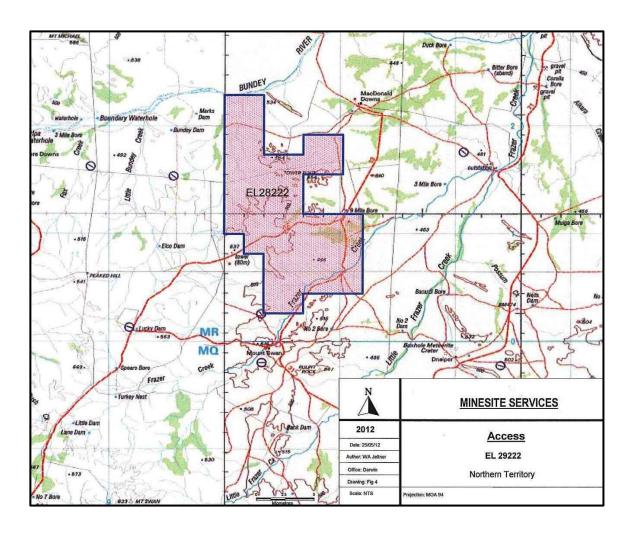
The groundwater of the Kanandra Domain consists of locally fractured rocks based around shear zones and faults. They have flow rates of between 0.05 and 0.51/s and generally higher salinities.

#### Harts Range Domain

The groundwater of the Harts Range Domain is again based on localised fracturing associated with structural elements and have low flow rates (0.05 - 0.5l./s) and high salinities (>1500mg/l).

#### 4. ACCESS

Access to the exploration licence from Alice Springs is northwards along the Stuart Highway for 68km to the intersection of the Plenty Highway then 166 km along the Plenty Highway to the Harts Range Police Station, then another 22km to the Derry Downs turnoff. Traversing 25km northwards along the Derry Downs road to the Mt Swan Station Turnoff. From here past the Mt Swan homestead to the Macdonald Downs Station access road and 6km along this road the licence is entered and traversed for a distance of 10km. Access throughout the remainder of the licence is via the Macdonald Downs Station roads and fence lines and may be considered to be poor to fair due to the vegetation density.



# 5. GEOLOGICAL SETTING

The Plenty River Project is located in a northeast-southwest traverse across the Aileron Province from the Georgina Basin in the north to the Irindina Province in the south.

#### Georgina Basin

The Georgina Basin is a Paleaoproterozoic sedimentary basin that contains dolostone, limestone, sandstone, siltstone and shale. It is a widespread intracratonic basin that was initiated as part of the Centralian Superbasin and extends east into Queensland. It unconformably overlies the Aileron Province, Tennant Region, Murphy Inlier, McArthur and south Nicholson Basins and Lawn Hill Platforms. It is interpreted to be contiguous at depth with the Wiso and Daly Basins and conformably overlies the Kalkarinji Province.

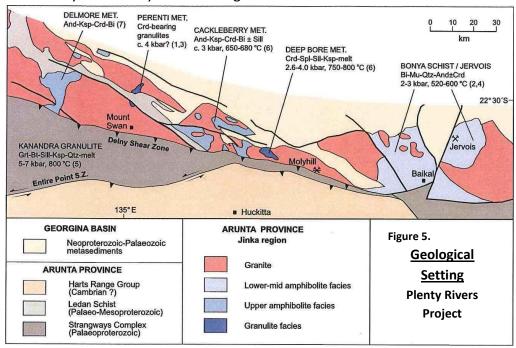
#### Aileron Province

The Aileron Province is a Palaeoproterozoic metamorphic and igneous terrain containing variably metamorphosed sediments, meta-volcanic rock, calc-silicate rocks, dolerite, mafic rocks and granites. It forms part of the Arunta Region and is a poly-deformed and metamorphosed basement terrain along the southern margin of the North Australian Craton. It is unconformably overlain by the Ngalia, Amadeus, Murraba, Georgina and Eromanga Basins and has largely faulted relationships with the Wurumpi and Irindina Provinces.

#### Irindina Province

The Irindina Province is characterised by a Neoproterozoic metamorphic terrain that contains metasedimentary gneiss, quartzite, mafic amphibolite and felsic migmatites.

It forms part of the Arunta Region and is a fault bounded metasedimentary and igneous province that formed a deep depocentre within the Centralian Superbasin and was metamorphosed in the Ordivician. It is fault contacted with the Aileron Province to the north and unconformably overlain by the Eromanga Basin to the south.



(after Scrimgour I and Raith J, 2001).

# i. Regional Geology

The regional geology can be divided into 3 main tectonic elements, separated by west trending shear systems. The southernmost of these elements, the Harts Range Domain, comprises upper amphibolite to granulite facies metasediments belonging to the Harts Range Group. Dominant lithologies include migmatite, metapelite, metabasite, garnet-biotite gneiss and subordinate calc-silicate rock marble and quartzite. The Harts Range Group underwent peak metamorphism during the Larapinta Event at 480-460 Ma.

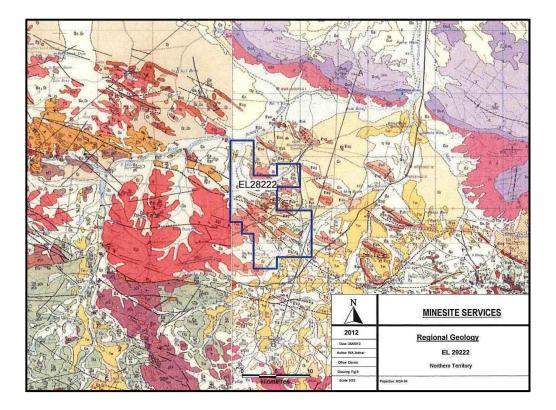
To the north of the Harts Range Domain is the Kanandra Domain, this contains the Kanandra Granulite which belongs to the palaeoproterozoic Strangways Metamorphic Complex. The Kanandra Granulite forms part of a 150-200km long, west trending belt of intermittently outcropping belt of pelitic and mafic granulites that includes the Bleechmore Granulite to the west. This domain comprises felsic and mafic granulites with garnet-bearing pelitic and semi-pelitic migmatite and rare calc-silicate rock, intruded by deformed granite.

The third major geological element in the licence area is located to the north of the Kanandra Granulite, and is termed the Jinka Domain.

This comprises a narrow (5-25km wide) belt of low-pressure amphibolite to granulite facies metasediments intruded by extensive granites. It extends from the Perenti Metamorphics in the west to the Jervois Range in the east, a total distance of more than 100km.

Two major shear zones separate the three tectonic elements in this region: the Entire Point Shear Zone which separates the Harts Range Domain from the Kanandra Domain and the Delny Shear Zone which separates the Kanandra Domain from the Jinka Domain to the north. The Entire Point Shear Zone trends east-northeast, dips steeply south and merges with the east-southeast striking Delny Shear Zone in the Plenty Rivers Project area.

The Delny Shear Zone is a major east-southeast striking structure more than 150km in length and is locally up to 3km wide. A substantial gravity gradient is evident across the shear zone, implying it is a major crustal feature.



# ii. Licence Geology

Locally the basement rocks of interest are covered by a thin veneer of Tertiary to recent sediments. The Tertiary Waite Formation forms a significant impediment to exploration of underlying bedrock.

EL 28222 occurs in the northern Jinka Domain and comprises metasedimentary rocks intruded by granites. Metamorphism occurred at amphibolite to granulite facies and low pressures during the Strangways Event. The rocks of the Jinka Domain in the licence area include the following:

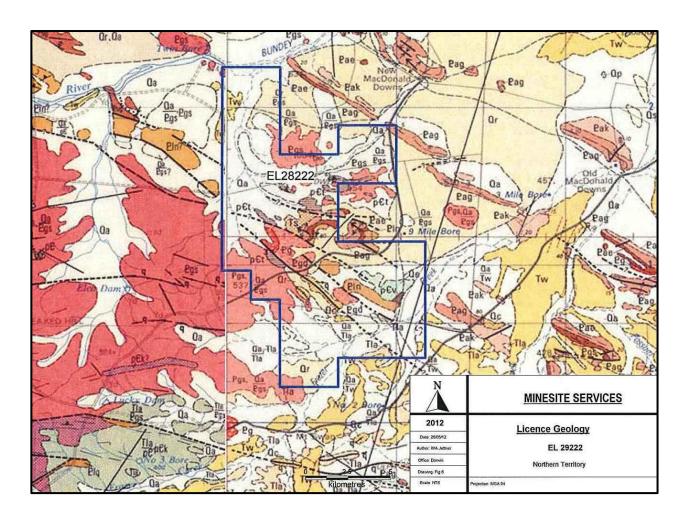
- Elyauh Formation, (Pae); micaceous siltstone to sandstone, dolostone horizons some of which are stromatolitic.
- Grant Bluff Formation, (Pag); fine-grained fissile quartz arenite to quartz-wacke, cross bedded and ripple marked grey quartz arenite.
- Ledan Schist, (Pln); two-mica schist with minor metaconglomerate.
- Dneiper Granite, (Pgd); Grey biotite granite, grading into orthogneiss locally hornblende bearing or quartz deficient.
- Mt Swan Granite, (Pgs); Pink porphyritic hornblende biotite granite.
- Perenti Metamorphics, (PCt); quartzo-feldspathic gneiss, partly-hypersthene bearing, calc-silicate bearing, metadolerite

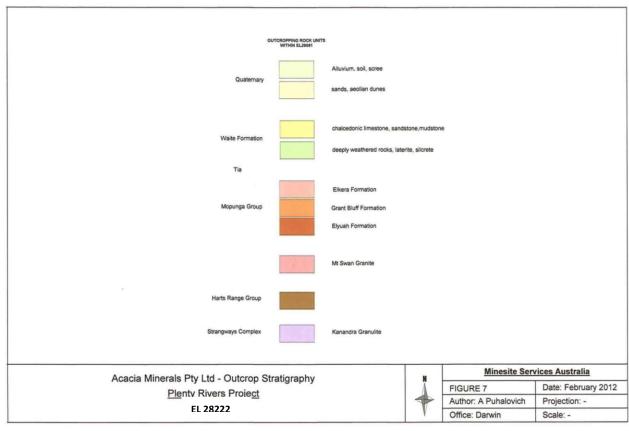
The Jinka Domain is separated from the Kanandra Domain by the Delny Shear zone. The Delny Shear Zone is a steeply south-dipping shear zone locally up to 3km wide.

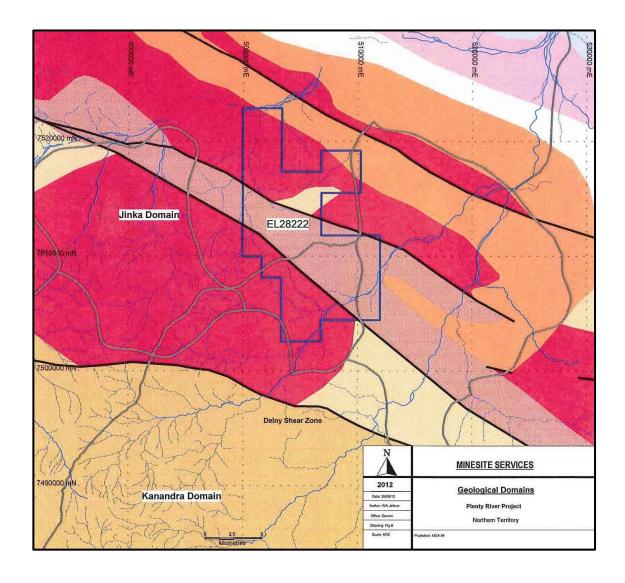
The central tectonic element is the Kanandra Domain, and consists of:

• Kanandra Granulite, (PEk); quartzo-feldspathic schist containing local retrograde shear zones.

The Kanandra Domain is separated from the Harts Range Domain by the Entire Point Shear Zone. The Entire Point Shear Zone is a steeply south dipping upper amphibolite shear zone.







# 6. EXPLORATION AND MINING HISTORY

#### **Exploration**

Table 1. Historical Exploration Licences and Open File Reports

Licence	Licence Licence		Period	Open File Company
No	Holder	From	То	Reports
AP 2162	Central Pacific Minerals	09/12/1968	08/12/1970	CR1970-0098
AP 2587	Kratos Uranium	27/01/1970	26/01/1972	CR1971-0040
EL 32	Neptide Mineral Exploration	21/03/1972	20/03/1973	CR1973-0208
EL 2789	CRA Exploration	16/02/1981	15/02/1982	CR1982-0195
				CR1983-0107
				CR1983-0294
EL 5902	Track Minerals	20/06/1988	02/06/1989	CR1989-0705

Exploration activities have been conducted in the licence area for a number of years by exploration companies, a brief summary of each is presented here:

#### AP 2162

In 1968 Central Pacific Minerals explored Authority to Prospect (AP) No. 2162 (jointly held with Magellan Petroleum (NT) Pty Ltd) covering the western part of the Plenty River project area following up reports of previous prospecting and uranium mineralisation. A small tungsten show was found 7km NE of Delny Homestead in thin quartz veins in garnetiferous gneiss along a contact with the Mount Swan Granite. Several workings (including a 4m deep shaft) extend for about 900m along the contact. Several other small workings were reported which may be mica shows developed in muscovite pegmatite intruded into the Arunta Complex. A weakly anomalous phosphate value of 750ppm P2O5 was recorded from the Arltunga Beds in the eastern part of the AP.

#### AP 2587

Kratos Uranium explored AP 2587 in 1970-1971 for uranium in joint venture with Pechiney (Australia) Exploration Pty Ltd and completed an airborne radiometric survey. The AP extends from Delny Homestead south to the Harts Range Police Station and extends eastward over Mt Swan with about 50% within the Plenty River Project area. Fifteen anomalies were identified; only 1 was in the Mt Swan Granite and the remainder within basement rocks or Tertiary or Quaternary sediments. Ground follow-up of the 4 best anomalies was made with detailed descriptions, spectrometer readings and colorimetric assays of various samples, and cross section sketches and photographs at each locality. No anomalous U was found.

#### EL 32

In 1973 Neptide Mineral Exploration completed limited reconnaissance rockchip sampling on EL 32 and assayed for a range of elements including base metals. Sample MC1 assayed 1000ppm Cu and 2000ppm Pb. Samples MC24 and MTS5 assayed 1000ppm Cr. Samples JV1 assayed 100ppm Cu, 2500ppm Pb, 1500ppm Cr and 2000ppm Ni, and JV2 assayed 0.2% Cu, 1000ppm Pb and 1000ppm Zn. The exact location of the MC, MTS and JV series samples are not specified in the reports with the maps showing only the numbers.

#### EL 2789

In 1981-1983 CRA Exploration explored for base metals and kimberlitic rocks by completing reconnaissance geochemical drainage surveys, with follow up ground magnetometer surveys, rock chip sampling, auger soils and heavy mineral-gravel sampling, in the Delmore Downs (EL 2498), Frazer Creek (EL 2788), and the MacDonald Downs (EL 2789) areas.

EL 2789 MacDonald Downs is located immediately north of CRAE EL 2788 and covers part of Plenty River EL 28081. In 1981, follow up drainage anomalies included detailed drainage, soil and rock chip sampling, reconnaissance geological mapping and a ground magnetometry survey. Geochemical methods did not indicate large scale mineralisation, although a high order lead anomaly was identified which was not substantiated by detailed follow-up. The geology consists of extensive Tertiary sediments and weathering surfaces developed on various granites and gneisses of the Arunta metamorphic complex and onlapping Upper Proterozoic to Palaeozoic sediments of the Georgina Basin.

#### EL 5902

In 1989 Track held EL 5902, and completed stream sediment sampling, geological traverses and rockchip sampling, which failed to locate any signs of gold or base metal mineralisation. The EL is centred on Delmore Downs on the Bundey River, in the north western part of the Plenty River project area (EL 28081).

# **Mining**

**Table 2. Historical Mines and Prospects** 

Mine/Prospect	Modat	Mineral		
Name	Site Id	Field	Commodity	Orebody Type
Perenti	940		Copper	Vein

There are no known mining fields in the area of EL 28222 and only one mineral occurrence is listed in the MODAT Database.

#### 7. EXPLORATION RATIONALE

EL 28222 forms an integral part of the Plenty Rivers Project which consists of 11 exploration licences having an aggregate area of 3,720km<sup>2</sup>. This licence traverses the entire project area from north to south in an irregular shape..

The northern part of the Plenty River Project area comprising the Metamorphic-Granite Complex (Jinka Belt) is prospective for volcanic hosted Cu-Pb-Zn-Ag-Au deposits and Cu-W-Au-Mo skarns and other replacement deposits, stockwork vein gold occurrences, and granite hosted Sn-Ta-W deposits. The southern and western areas of the tenements cover an uplifted block of Strangways Metamorphics (the Kanandra Granulite), which contains rocks that elsewhere are known to consist of acid and basic volcanogenic rocks and immature sediments which host iron formations, Cu-Pb-Zn-Au mineralization, and are usually metamorphosed to granulite facies. Basement rocks exposed are quartz-feldspar granulites, basic granulites, magnetite bearing amphibolites and other calc-silicates. Float shows massive magnetite and hematite and suggests iron formation occurs beneath cover. Basement is also intruded by ultramafic dunite-serpentinite and granite bosses which are fracture related. Fracturing, volcanism and igneous intrusion began in Lower Proterozoic time and extended to the Carboniferous (Alice Springs Orogeny). Isolated patches of Ledan Schist are present northeast of Mount Swan. The Ledan Schist is considered to be prospective for quartz-vein-hosted Au-only mineralisation, as it has a low metamorphic grade and is situated close to the NW-SE trending Delny Shear Zone structure.

Specific mineralisation models are:

1. Nickel-copper-cobalt in serpentinised ultramafics interpreted to be intrusive gabbroperidotite-dunite bodies. Maximum nickel value is 1.2% Ni, 240ppm Cu and 300ppm Co in a lateritised serpentinite dunite south of No. 4 Dam. Another serpentinised ultrabasic body is at the Hammer Prospect near No. 1 Dam (also called Middle Dam) with 4700ppm Ni and 750ppm Cu. Several other ultrabasic bodies have been reported (Figure 16). The ultramafic bodies occur both in the central Kanandra Granulite and the Metamorphic- Granite Complex to the north. Those within the Kanandra Granite have been compared with Alpine-type (ophiolitic) serpentinites. However, the No. 4 Dam occurrence is in the Metamorphic-Granite Complex Belt. This sequence is located to the north of the major east-west orientated retrograde shear zone, the Delny Fault Zone. This shear transects the tenement, separating granites to the north from (previously Irindina Metamorphics) to the south. It flanks the southern margin of a west-northwest trending deep crustal fracture which has been the locus for series of granite intrusions. Rocks within the fault zone appear to be lower units of the Strangways Metamorphic Complex and/or younger felsic volcanics up-domed by granitic intrusion. Deep crustal fracturing is supported by extensive baritefluorite veining in the vicinity of the fault and deep sourced ultramafic intrusions.

- 2. <u>Orogenic shear zone hosted gold mineralisation</u>. Gold has been discovered in gossanous sulphidic quartz vein breccias along the DMSFZ 4km east of the tenement atBruces Copper Prospect with maximum values up to 53g/t Au. The breccias are either copper-rich or copper-poor:
- Gossanous sulphidic copper poor breccia veins associated with Type 2 quartz veins, possibly focused on straights rather than jogs.
- Gossanous copper rich veins in Type 2 shears. Pyritic veins that may be related to reverse movement on the Type 3 faults.

Geochemical sampling along the Delny Fault Zone in the eastern part of the Plenty River project area in the Halfway Dam area has reported some anomalous gold in stream sediments and silicified ridges and quartz veins that require systematic sampling.

- 3. <u>Base metal mineralisation</u>. Within the Arunta Province, significant Zn-Cu-Pb (Ag-Au) mineralisation is restricted to the SE Aileron Province (1810-1800 Ma and 1765 Ma) and the Warumpi Province (1620-1610Ma) (Hussey, Huston and Claoué-Long, 2005; Huston, Hussey and Frater, 2006). The Perenti Copper Prospect is the most advanced copper prospect in the Plenty River project. Copper mineralisation occurs in a quartz-filled shears which cut across the Mount Swan Granite. Chalcopyrite varies from 2 to 4% in the host rock, but one hole drilled by Central Pacific in 1970 intersected 11.9m at 0.6% Cu (with Pb and Zn >50ppm, and Au and Ag <0.5 dwt/ton). The target was 18km shear zone along which quartz veins with disseminated boxworks and weak copper had been recorded.
- 4. <u>Tungsten-molybdenum mineralisation</u>. At the Delmore Downs wolfram prospect (Delny 1 and 2), wolframite occurs in pegmatite veins close to a granite contact. Eluvial wolframite occurs in this area (1.32t WO3 concentrate, 0.6t WO3 concentrate). Small quantities of tantalite have been produced from the Bundey River prospect and from the Utopia prospect; in both situations, the tantalite occurs within pegmatite. Scheelite has been discovered at Anomaly C38 and a location 3.5km to the north; Anomaly C38 assayed 2.65% W in calc-silicate rock near a pegmatite dyke.
- 5. <u>Fluorite-barite mineralisation</u> is recorded to the east of the Plenty River project area along major crustal fractures mentioned above within the northern Metamorphic-Granite Complex. Examples of fluorite/barite occurrences within the easternmost Plenty River EL include:
- 1. NTGS Site 1531 fluorite/barite, breccia fill
- 2. NTGS Site 1532 fluorite/barite, breccia fill
- 3. NTGS Site 2003 barite
- 4. NTGS Site 2004 barite/fluorite
- 5. NTGS Site 2005 barite
- 6. <u>Plenty River Mica Field</u>. Multiple mica workings in pegmatite occur throughout the southern part of the tenement within the Harts Range Group. Most of these were exploited in the 1950s.

#### 8. EXPLORATION INDEX MAP

There has been no exploration index map constructed at this time.

#### 9. GEOLOGICAL ACTIVITIES

#### Office Studies.

During the year a broad scale literature survey was conducted on the whole of the Plenty Rivers Project area (11 ELs), which consisted of examining previous explorers data as submitted to the DoR as well as current thinking on mineralising systems in the eastern Arunta Region. EL 28222 is an integral part of this project area and is included in this ongoing study. Data presented in these reports is in the process of being collated into a GIS database.

#### **Field Studies**

Field work on the licence during the year consisted of a site visit by Mr A Jettner of Minesite Services and Mr P Harris of Stratus Resources for a general site familiarisation and examination of existing sites of interest with the intention of planning a future on ground exploration strategy. A second site visit to locate the Perenti Cu Prospect was also conducted during the year. There are no roads located closer than 5km to the position located in the MODAT database. Examination of the location did not show any sign of previous geological exploration (remembering that the activity was 43 years ago!) and a site 1.2km to the southeast was located that matched the geological description, although no drillholes were located as yet. The drill cores are listed as being stored at the Alice Springs Core Library and will be examined shortly.



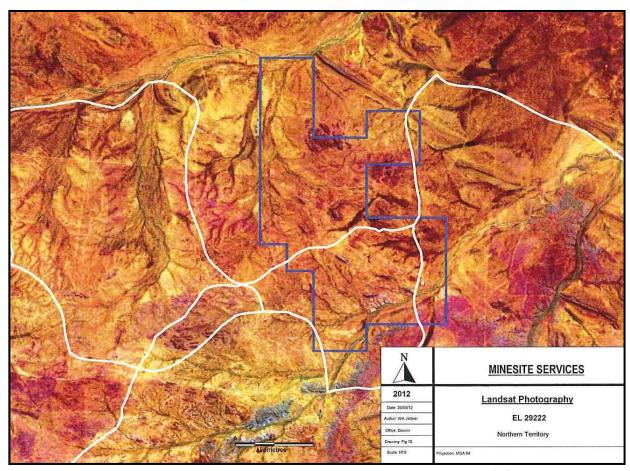
Fig 9. Perenti Cu Prospect (looking south).

# 10. REMOTE SENSING

There were no remote sensing surveys done during the year.

Included below is an image taken from the DoR Strike dataset, LANDSAT 7.

The tiles are: Landsat 7 Run W2, Path 101, Row 75 and 76, Path 102, Row 76, Acquisition date is 1999.



(After DoR Strike Dataset)

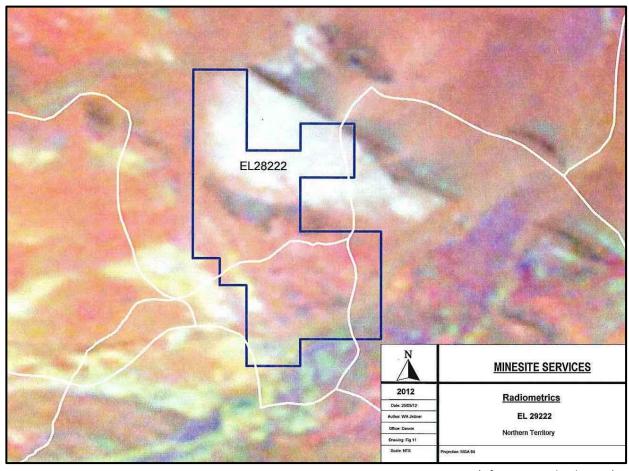
# 11. GEOPHYSICAL ACTIVITIES

#### **Radiometrics**

There have been no radiometric surveys conducted during the year.

As can be seen from the following image obtained from the DoR STRIKE dataset, the radiometrics closely follow the modern drainage systems and the underlying geology.

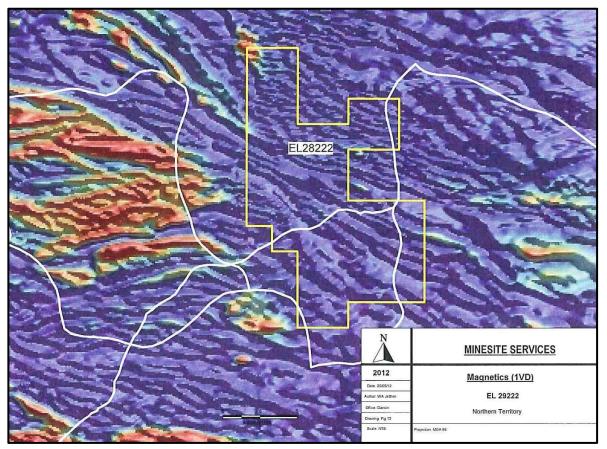
The Kanadra Granulite has elevated levels of thorium, whilst the Jinka domain has elevated levels of potassium. Minor uranium is shown as the blue areas of which none appears in the licence area.



(After DoR Strike dataset)

# Magnetics

As can be seen from the image below (taken from the DoR STRIKE dataset) the area encompassed by the Kanandra Granulite exhibits a generally higher magnetic signature than the two surrounding terrains to the north and south of this region. The bounding shear zones (Delny Shear Zone to the north and Entire Point Shear Zone to the south) can also be picked quite clearly along with a number of other shear zones that can be inferred by the disruption to the overall magnetic signature.



(After DoR Strike dataset)

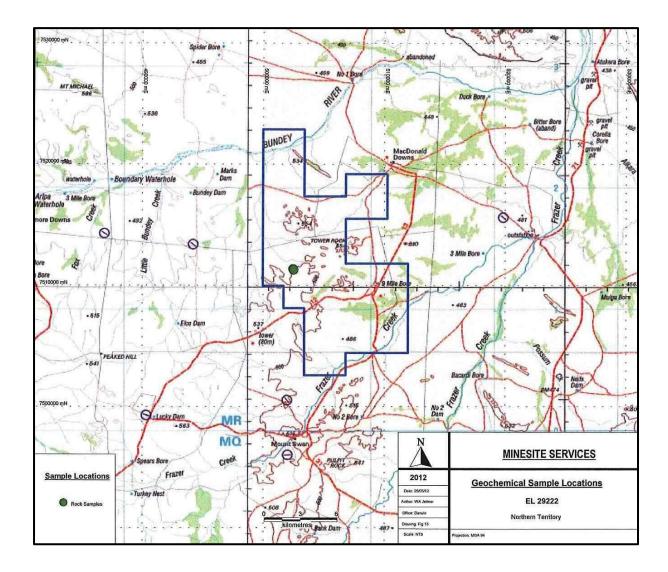
# 12. SURFACE GEOCHEMISTRY

There were 5 surface geochemical samples taken during the year. Their locations are shown on the map below.

The following are recorded in the DoR Strike dataset for the licence area.

- 11 rock chip samples
- 0 soil samples
- 3 whole rock samples
- 8 stream sediment samples
- 0 diamond indicator mineral samples

These sample results are not recorded in this technical report dataset.



# 13. DRILLING

There were no drilling activities undertaken during the year.

There are no drill holes recorded on the DoR drill database for the licence area, although we know that 3 diamond drill holes were drilled into the Perenti Prospect in 1969 by Central Pacific Minerals. The core from these holes is located at the Govt Core Farm in Alice Springs.

# 14. GEOTECHNICAL STUDIES

There were no geotechnical studies on rock mechanics conducted during the year.

# 15. RESOURCES AND RESERVE ESTIMATION

There were no resource or reserve estimations done during the year.

#### 16. CONCLUSIONS AND RECOMMENDATIONS

From the limited field exploration conducted during the first licence year the author feels that further exploration is definitely warranted with base metal commodities and IOCG models being targeted.

Initial exploration has indicated the problem relying on the stream sediment sampling and soil sampling of past workers. With the streams being flooded with sands derived from the abundant granites in the area the reliability of using this method must be questioned. The same goes for soil sampling when done in areas that are not residual soils as the wind transported sands and soils render this exploration method ineffective where it is tried without understanding the nature of the regolith.

Further exploration is recommended; concentrating on geological mapping, rock chip sampling of available outcrop and soil sampling in areas of residual soils. In the first instance exploration will be concentrated on locating definitively the Perenti Cu Prospect and further examining this.

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