RELINQUISHMENT REPORT
EL 28222
PERIOD: 30/3/2011 TO 29/3/2013
PLENTY RIVER REGION, NORTHERN TERRITORY

FAR RESOURCES Pty Ltd
PO Box 96
Palmerston
NT 0831

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

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Minesite Services Australia
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Abstract:
EL 28222 forms part of FAR Resources Plenty Rivers Project which consists of 11 granted exploration licences covering 3,720km² 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 relinquished area is located to the north of this area.
The area is considered to be prospective for base metals, precious metals and industrial minerals. There was no field work conducted on the relinquished portion of this licence other than geological reconnaissance.

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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 east-west 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 Atitjre 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 km²). The licence underwent a reduction of 14 graticular blocks at the end of the second year of tenure, this was a partial statutory reduction.

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 Irrileree aboriginal community which is located to the southeast of this licence.
3. 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.
4. 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 Paleoproterozoic 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 Kalkarindji 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 Ordovician. It is fault contacted with the Aileron Province to the north and unconformably overlain by the Eromanga Basin to the south.

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, (PcK); 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.
5. GEOLOGICAL ACTIVITIES

Office Studies.
During the period 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 DME as well as current thinking on mineralising systems in the eastern Arunta Region. EL 28222 is an integral part of this project area and was included in this study.

Field Studies
During the period there was no field work done on the relinquished area other than geological reconnaissance.

7. CONCLUSIONS
From the limited field exploration conducted during the first two licence years the author feels that further exploration is definitely warranted with base metal commodities and IOCG models being targeted. This area was relinquished due to the statutory requirements and due to prioritisation of exploration activity within the licence.

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.