

# **EL 24539**

## **Annual Report for Exploration Licence 24539 Period ending 15 August, 2016.**

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Mapsheet Location:  
250k Mt Evelyn, SD53-05  
100k Ranford Hill, 5370

Coordinate System: MGA Zone 53

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## **SUMMARY / CONCLUSION**

A new varied Authority Certificate was issued by the AAPA which has allowed an extension of the area which can be explored and is to be commenced in the new year.

Significant work was put into cutting of diamond core from the previous drilling program on the property, but more work is required to complete the task of cutting.

A geophysicist made a visit to Darwin to carry out various pXRF tests and measurements, and magnetic susceptibility measurements of the available drill core. More work is required to complete this task and is anticipated in the first part of the new year. Results of this work will be submitted to the department when measurements and analysis of the raw data are complete.

A mine management plan was reviewed and updated. The current MMP allows for continued and follow up drilling of the current area of exploration.

Rehabilitation of 3 diamond core drill holes was carried over the period. There will be a continued review and site visitations of the rehabilitation area.

Data processing was carried out using Landsat data. Various combinations of data were generated including ratio data for use in interpretation.

SRTM data was processed for use in exploration and survey planning.

The program for the new year includes survey work and geological mapping with sampling over new areas of clearance and areas of previous drilling. It is anticipated assay and / or pXRF work will be carried out.

# 1 LOCATION

Exploration Licence 24539 falls within Pastoral Lease No. 1134, Mary River Cattle Station, and is located 30 kilometres east-north-east of Pine Creek, within the Cullen Mineral Field. It is located on the Ranford Hill 1:100,000 map sheet, and the Moline and Wandie 1:50,000 map sheets. Access is via the Stuart Highway to Pine Creek and then via the Kakadu Highway and along station tracks (Figure 1). These tracks are only accessible by 4x4 vehicles in the dry season.

The tenement, consists of 5 graticule blocks, 16.7 square kilometres in area, and lies between latitudes 13°40' south and 13°43' south and longitudes 132°03' east and 132°05' east.

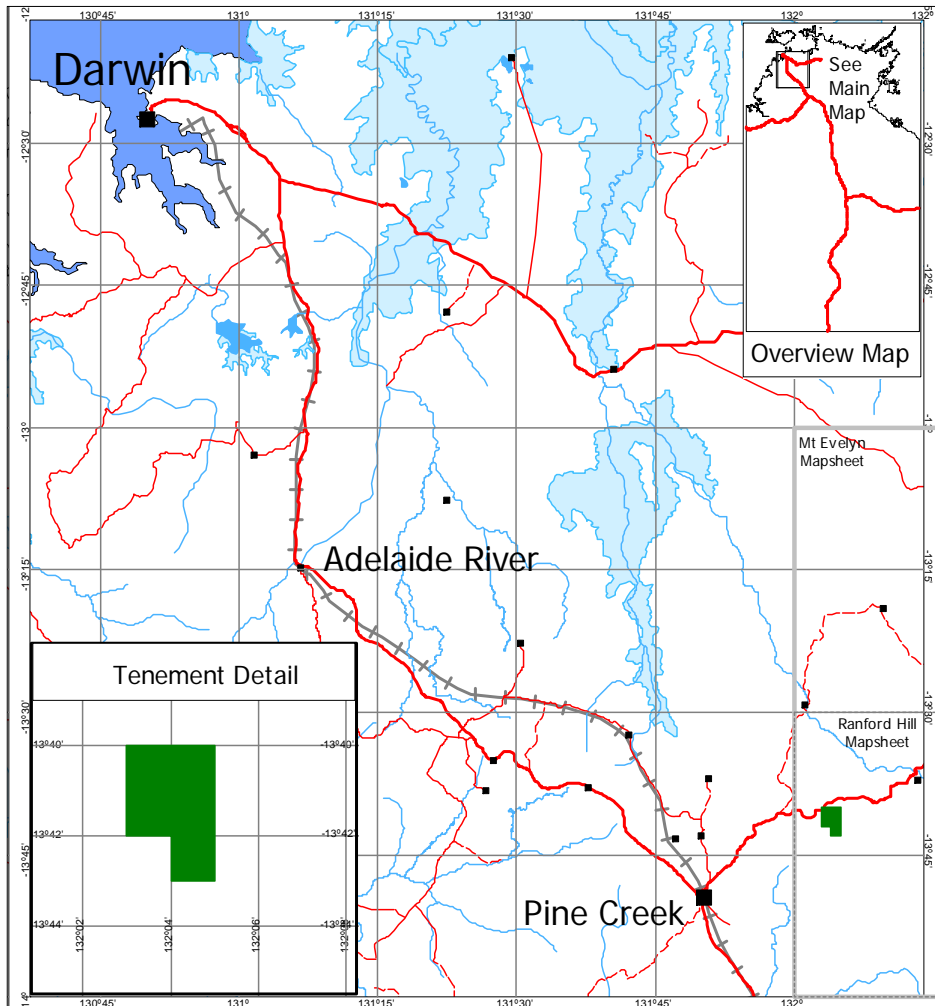


Figure 1 – EL 24539 Location Diagram

## 2 REGIONAL GEOLOGY

Exploration Licence 24539 is located within the Pine Creek Geosyncline with Early Proterozoic metasediments of the Mt Partridge, South Alligator and Finnis River Groups exposed in the area.

The Cullen Batholith granite outcrops to the west and south of the tenement area.

A geology map on the regional area is shown in

Figure 2.

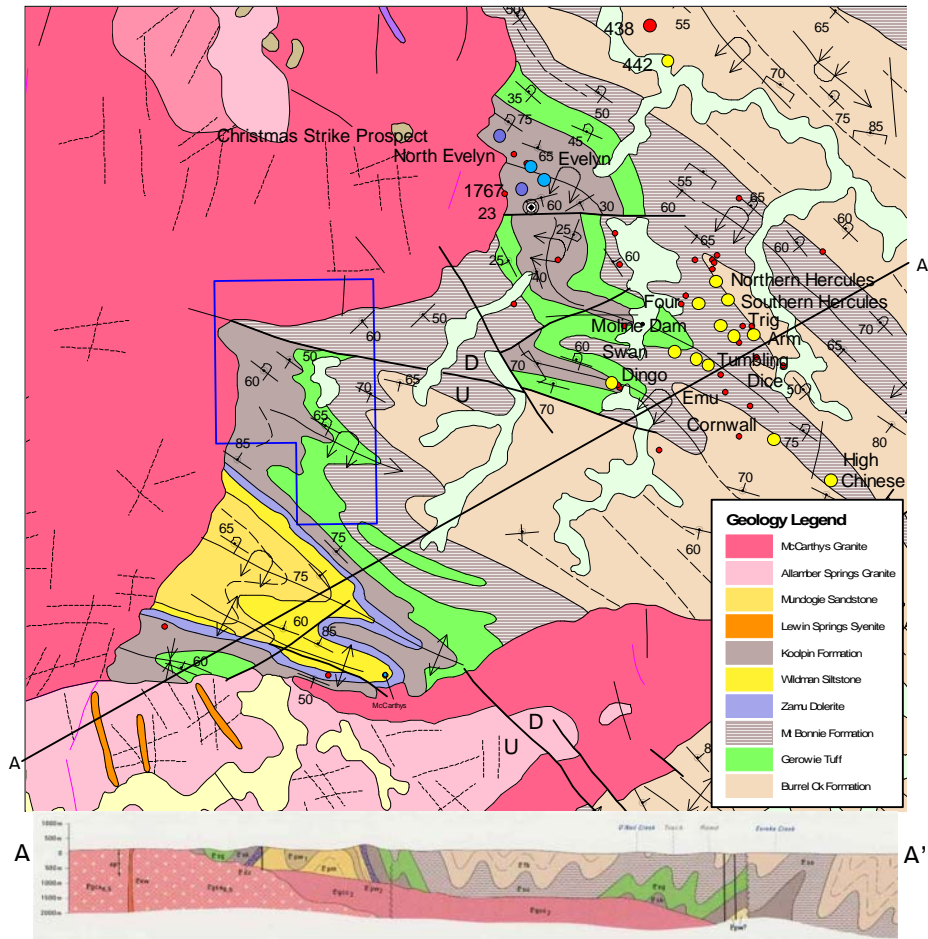


Figure 2 – Regional Geology (from NTGS 1:250k Mt Evelyn Geology Map, 2004). Cross section from NTGS/BMR 1:100k Ranford Hill Geology Map, 1986.

### 3 LOCAL GEOLOGY

Descriptions of the lithological units occurring within EL24539 have been provided in previous annual reports. The lithologies are related stratigraphically as shown in Figure 3. (McCoy, 2011)

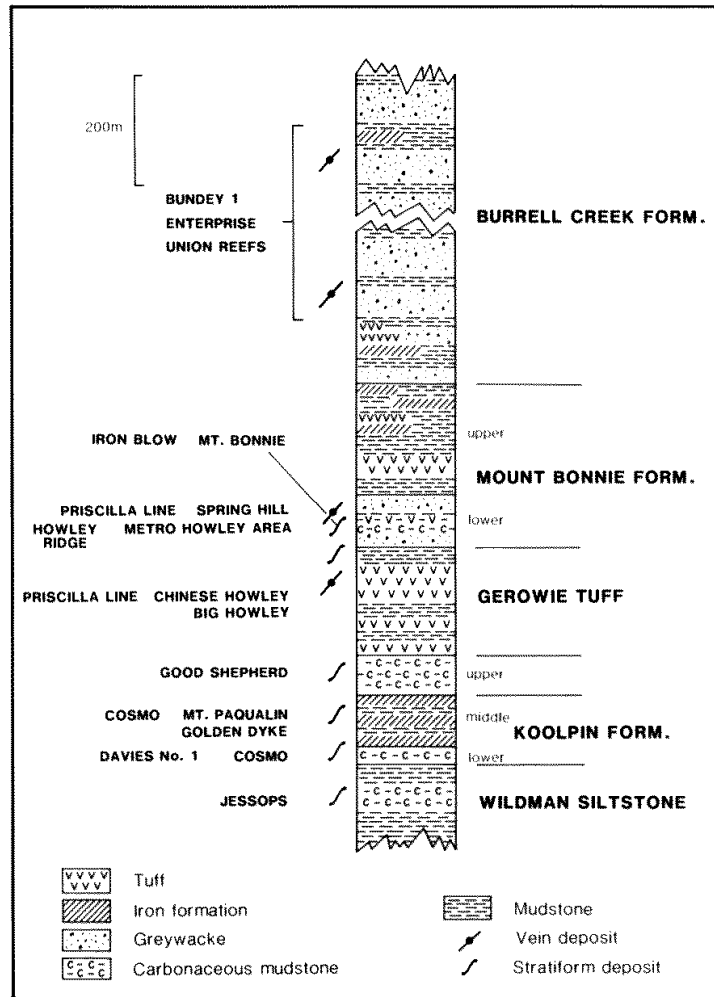


Figure 3 – Stratigraphy and Mineralisation (Nicholson & Eupene, 1984)

## **4 MINERAL POTENTIAL**

Target mineralisation styles include sulphide hosted gold and silver and base metal deposits associated with folded stratigraphy and shear zones.

Lead and zinc mineralisation in northerly and west northwest trending structures have previously been identified and drill tested by previous explorers.

## **5 PREVIOUS EXPLORATION**

The licence area has been sporadically investigated by previous explorers since the 1960's with the main activity being surface sampling and outcrop mapping. A very limited costeaning and single drill-hole program was completed by Normandy Poseidon in 1995 and outlined concordant and discordant gossanous limonitic and siliceous structures that trend to the north and west north west. Significant intervals of base metal mineralisation were intersected beneath the gossans both in the oxidised zone and below the base of oxidation where wide intervals of actinolite-chlorite-carbonate alteration commonly with siderite breccias and anomalous zinc were identified. No further work was carried out on the lease area after the ground was relinquished by Normandy Poseidon (McCoy, 2011).

A review of all work completed by the current tenement holders prior to 2011 can be found in the Year 6 Annual Report (McCoy, 2011). This work included a high resolution airborne magnetic and radiometric survey and some lines of AEM in a separate survey.

Since 2011 three RC/diamond core holes totalling 724 meters have been drilled with some assay analysis still being carried out.

Access restrictions imposed by an AAPA Authority Certificate had severely hindered the scope and progress of exploration. However an expansion of the area available to explore has recently been achieved.

## **6 WORK COMPLETED IN CURRENT YEAR**

### **Clearances**

A new varied Authority Certificate was issued by the AAPA and will allowed an extension of the area which can be explored.

### **DIAMOND CORE**

Significant work was put into cutting of diamond core from the previous drilling program on the property. More work is required to complete the cutting task.

A geophysicist made a visit to Darwin to carry out various pXRF tests and measurements and magnetic susceptibility measurements of the available drill core. More work is required to complete this task and is anticipated in the first half of the new year. Results of this work will be submitted to the department when measurements and analysis of the raw data are complete.

### **MINE MANAGEMENT PLAN REVIEW**

A mine management plan was reviewed and updated. The current MMP allows for continued and follow up drilling of the current area of exploration.

### **FIELD WORK / REHABILITATION**

Rehabilitation of 3 diamond core drill holes was carried over the period. There will be a continued review and site visitations of the rehabilitation area.

### **REMOTE SENSING DATA**

Data processing was carried out using Landsat data. Various combinations of data were generated including ratio data for use in interpretation.

Some data are shown in Figures 4 and 5.

Figure 4 shows a 7, 5, 2 band data composite. Figure 5 shows panochromatic channel data.



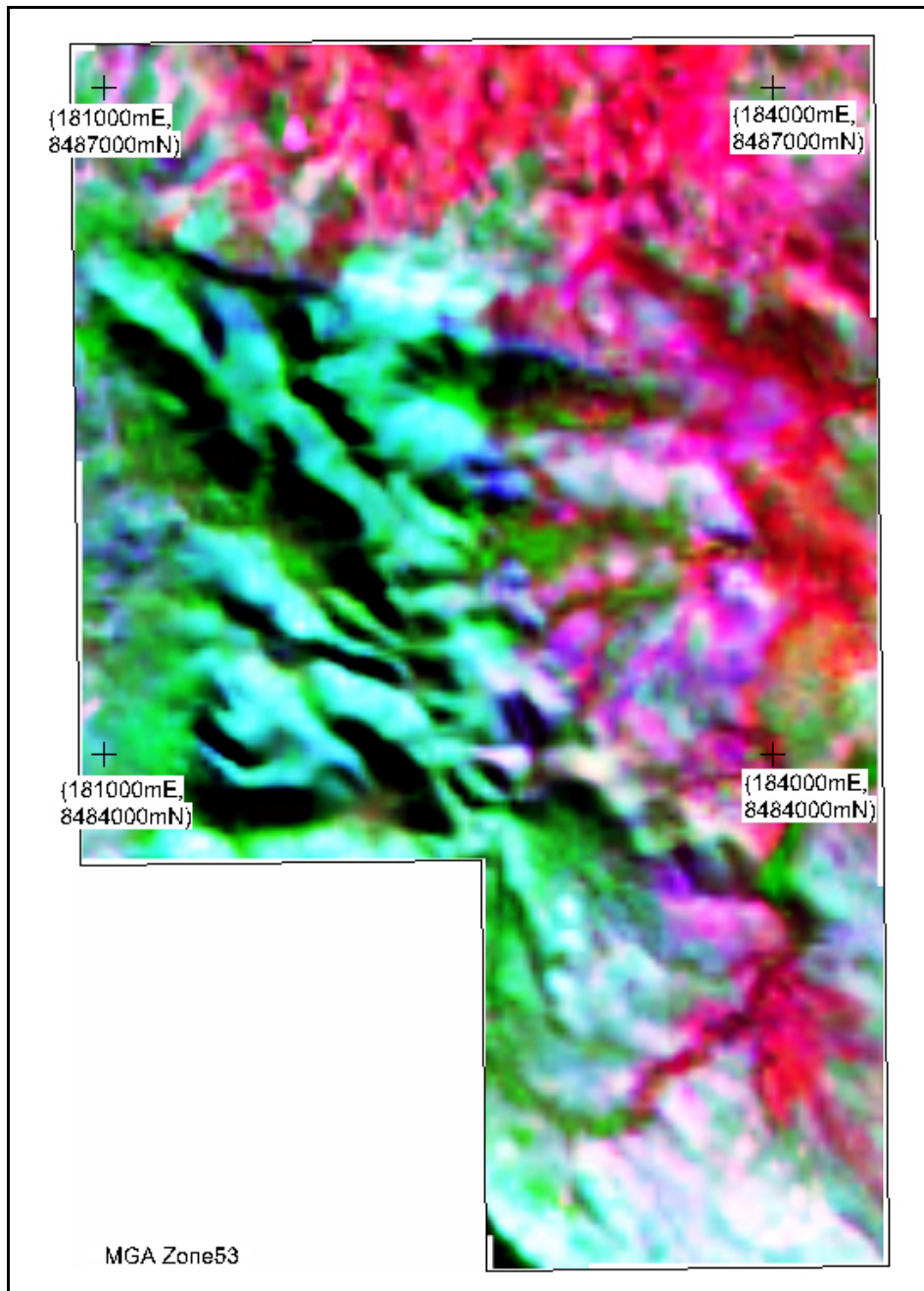


Figure 4. EL24539 7, 5, 2 band data composite.

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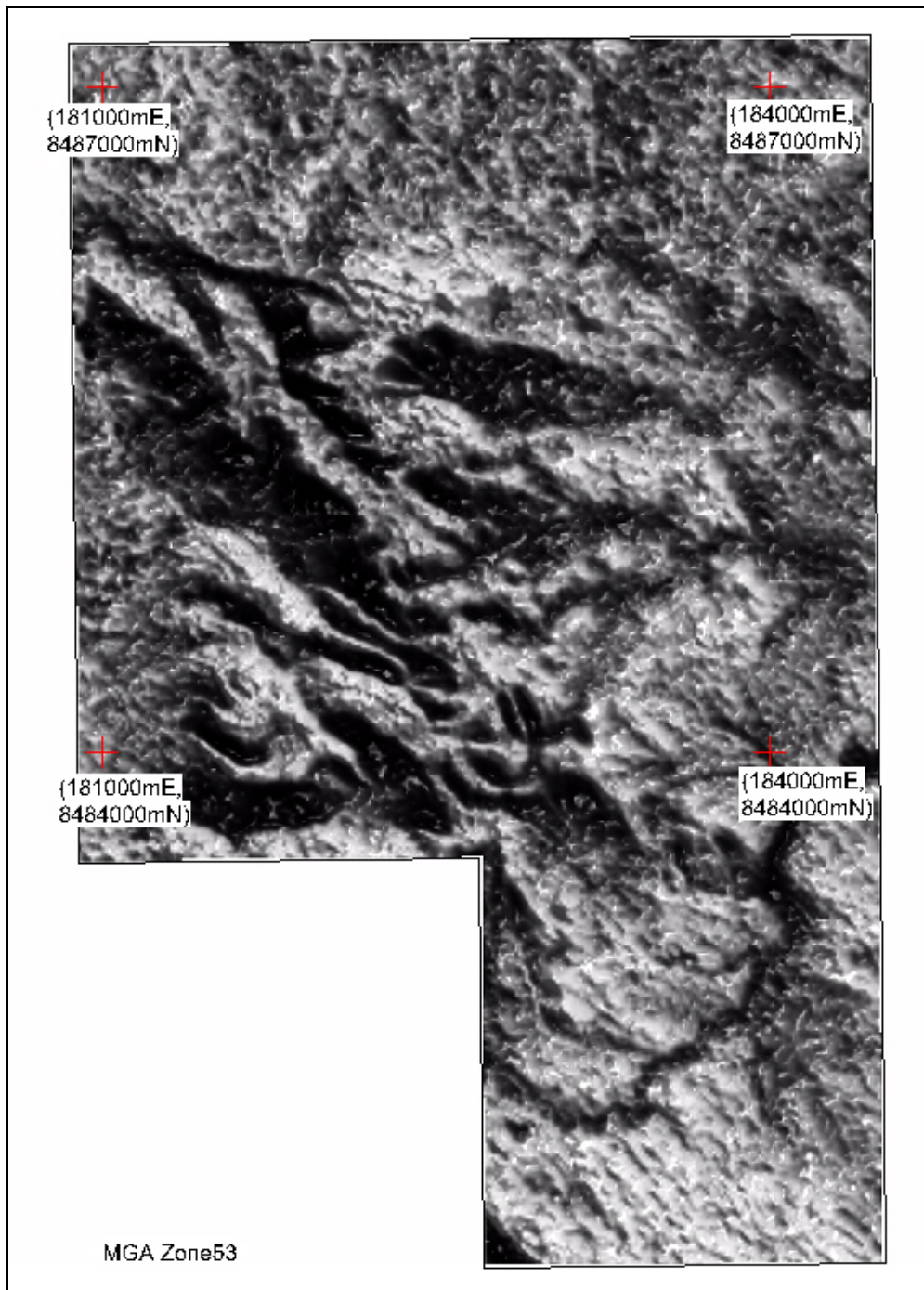


Figure 5. EL24539. Panochromatic channel data.

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## SRTM DATA

Work was done with SRTM processing. An SRTM image is shown in Figure 6.

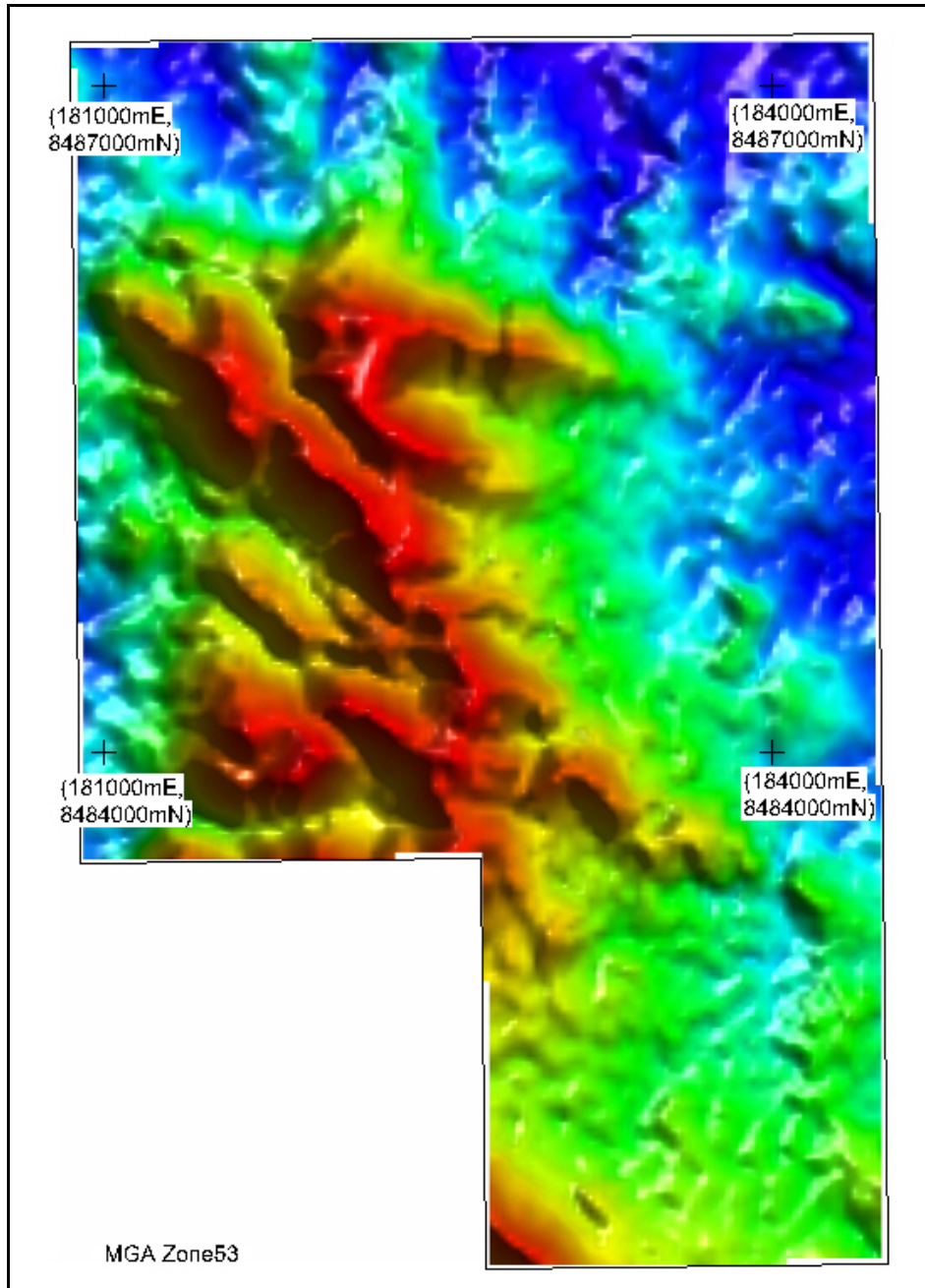


Figure 6. EL24539. SRTM imagery.

## 7 PROPOSED PROGRAM FOR NEW YEAR

The program for the new year includes survey work and geological mapping with sampling and assay and / or pXRF work. Some coverage is anticipated over new areas of clearance.

Laboratory assay and extended pXRF of previously drilled diamond core and analysis is planned. Extension of core cutting work is required.

Soil sample surveying is to be carried out over the general area in the vicinity of prior diamond core drilling.

There will be a continued review of rehabilitation of previous drill hole sites.

### REFERENCES

McCoy, A.D., 2011. Annual Report for Exploration Licence 24539. Period ending August 15, 2011. Report for Northern Territory Department of Mines and Energy.

Nicholson, P.M. & Eupene, G.S., 1984. Controls on gold mineralisation in the Pine Creek Geosyncline. In *Proceedings of Australasian Institute of Mining and Metallurgy Conference, Darwin, NT 1984*, pp 377-396. Aust. Inst. Mining Metall., Parkville