

# **FINAL REPORT**

**on**

**EL 25208 Suplejack**

**Gap**

**To JULY 18 2008**

Report prepared for

**Suplejack Pty Ltd**

ACN 109 034 228

by

Ord River Resources Ltd

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Date: April 2009

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## **1 Summary**

Suplejack Pty Ltd was granted EL 25208 on January 10 2007. EL 25208 was then automatically cancelled (section 31A.) on 18 July 2008 upon the grant of Substitute Exploration Licence 26484.

This final report covers work done in the period 10 January 2007 to 18 July 2008. It also relates to some work prior to these dates to get clearance from CLC for the tenement

The tenement is located in the Tanami Desert, approximately 650 km northwest of Alice Springs. Access is by the Tanami Road and the Tanami-Lajumanu road to Suplejack Downs station. Access to the tenement is affected by the monsoonal climate with road access restricted during and after the wet season.

The tenement is wholly contained within Suplejack Downs station.

Previous explorers on the tenement area have been MJ Kidd and various partnerships and JV's between Kidd and P Messenger, Dominion Gold, Acacia Resources and AngloGold. In excess of \$5 million had been spent by previous explorers on the group of tenements, which resulted in identification of a small resource at Tregony on EL 23454, delineation of a major zone of gold occurrences and identification of a series of untested targets with potential for structurally controlled gold deposits similar to the Groundrush deposit. A substantial regional database also exists for the tenements, which has been used to assist in reinterpretation of potential on EL 25208.

Geology is partly equivalent in age with host sequences for the gold deposits at Tanami. Major D5 age structures are thought to control the majority of gold deposits in the Tanami region and major structures of the same age control gold mineralisation within and adjacent to the tenement.

Work carried out by Suplejack Pty Ltd has been ongoing review of previous data, identification of major mineralised structures on EL 23454 not targeted by previous exploration which continue into EL 25208 and seeking permission from the CLC to work on the tenement.

Due to lack of progress with the CLC a heritage survey was commissioned via the AAPA who have carried out the survey.

Expenditure by Suplejack Pty Ltd on EL 25208 in its first year of tenure was \$13,572.

## **2 Introduction**

This is a final report on EL 25208 and covers work completed between 10 January 2007 and 18 July 2008. This tenement was granted on 10 January 2007 and was applied for to carry out work on extensions of known structurally controlled mineralization on EL 23454 along the Old 8 Mile Fault.

EL 25208 was automatically cancelled (section 31A.) on 18 July 2008 upon the grant of Substitute Exploration Licence 26484.

## **3 Location, Access and Climate**

The Suplejack project region is located in the northern Tanami region approximately 650 km NW of Alice Springs, approximately 80 km north of the Tanami mine and 30 km north of the Groundrush mine. Location is shown on figure 1.

Access is via the Tanami Road from Alice Springs to the Tanami Mine then via the Lajumanu-Tanami Road to Suplejack Downs station. The tenement is wholly within the boundaries of Suplejack Downs station and access to the tenement is via station tracks and by new access put in place by the previous explorers.

Climate is monsoonal with an average of less than 400 mm annual rainfall, predominantly between December and March. Rainfall is usually experienced in October and always in November in the build up to the wet season. In heavy or late wet seasons road access to the tenements may be restricted for heavy vehicles until late May.

The region has generally low relief with a regional fall to the inland drainage areas of Lake Buck and associated salt pans. Local relief in the tenement is approximately 50 metres and consists of broad drainage areas with local channels with desert woodlands and scrublands between low ridges with scrublands and spinifex dominated areas.

## **4 Geology of the Suplejack Project Region**

The tenements lie in the northeastern part of the Tanami SE 52-15 1:250,000 map sheet area in the northern Tanami region. The area has been recently been remapped, however the stratigraphy is still being revised as additional data becomes available. Figure 2 shows the regional geology and the tenements held by Suplejack Pty Ltd.

The area is underlain by sequences belonging to the Tanami Group, which was deposited on extended Archaean basement. The Tanami Group is thought to be broadly correlatable to the Pine Creek Geosyncline sequences and to the Eastern Halls Creek Belt.

Current understanding of the stratigraphy is that the oldest lithological unit present in the tenements area is the MacFarlane Peak Group which is now included in the Dead Bullock Formation which is the basal unit in the Tanami Group, dated at about 1840 Ma. The MacFarlane Peak Group consists of mafic volcanics, turbiditic sandstone, siltstone and minor calcsilicate. Killi Killi Formation, which also belongs to the Tanami Group, is also mapped in the area in the eastern part of the tenements area. The Killi Killi Fm. dated at about 1835 Ma, consists of fine grained turbiditic sediments, mostly siltstones,

some of which are carbonaceous and also rare cherts and calcareous units. Dolerite sills were intruded into the Killi Killi Fm during deposition.

The Tanami Group was deformed and variably regionally metamorphosed up to greenschist and amphibolite facies at about 1830 Ma by the Tanami Orogenic Event (TOE) and is unconformably overlain by the Ware Group.

The Ware Group consists of basal Mount Winneke Formation, which is not present in the Supplejack area, the Nannygoat Volcanics and the Wilson and Century Formations. The Century Formation consists of conglomeratic sandstone, siltstone and fine-grained sandstone and is overlain by the Wilson Formation, which consists of greywacke, quartz wacke and siltstone. The Ware Group was laid down between about 1825 and 1815 Ma in a post TOE environment associated with D4 extensional rifting. This is a similar environment to and is partly coeval with that proposed for the Mt Charles Formation, which is the host to the gold deposits at Tanami.

The Nannygoat Volcanics in the tenements area have been identified as feldspathic quartz sandstones, some of which are lithic and pebbly to cobbly, olivine basalts and fine grained felsic igneous rocks including dacites, some of which may be ignimbrites. The discrepancy between bedrock geology as mapped by Acacia Gold and by the Geological Survey suggests that there may be considerably more basalt intercalated in the Nannygoat Volcanics than appears on the Geological Survey 2001 1:250,000 scale geological map of the Tanami Sheet.

Post orogenic granites have intruded the sequences in the Tanami region and portions of two different granite suites, one strongly magnetic in the south-east of EL23454 and in EL 23492, and one weakly magnetic in the southwest and just to the south of EL 23454, are present in and adjacent to the tenements.

Peneplanation of the Tanami and Ware groups took place after emplacement of the late and post orogenic granite suites and postdates 1800 Ma. Deposition of the Supplejack Sandstone, which consists of fine grained quartzose sandstone units with thick interbedded siltstone units, took place after this time and by correlation with similar sequences in the NT, probably was deposited in the 1790-1760 Ma time span, but may be significantly younger.

Supplejack Downs Sandstone is currently correlated with the Birrindudu Group, which has similar lithologies. Earlier stratigraphic interpretations suggest that the Supplejack Downs Sandstone underlies the Birrindudu Group and structural interpretation shows that the Supplejack Downs Sandstone was folded with the regional scale Tanami Synform and is cut by the structures that control gold mineralisation at Tanami. The Supplejack Downs Sandstone contains significant siltstone units that are micaceous, red coloured and are recessive in the landscape. The structural history, molasses type lithologies, and probable unconformable relationship to the overlying Birrindudu Group suggests it may be an equivalent of the Pargee Sandstone, though not necessarily of the same age and correlatable. Probable thrust faults that appear to be mineralised are present in the Supplejack Sandstone immediately west of the Boco prospect area in EL 23454.

Overlying this platformal cover is Cambrian age Antrim Plateau Basalt. Alluvium, partly related to palaeochannels, is present overlying other lithologies. Aeolian sand is widespread

and may be up to several metres thick (Temby 2007).

#### **4.1 Structure and Mineralisation**

The Black Peak Fault, trending NNE from the Tanami Goldfield, is a major D5 structure that merges northward with the NS trending Supplejack Shear Zone. These D5 structures and others are associated with significant mineralisation throughout the Tanami region, including The Granites, Tanami and Dead Bullock goldfields. They postdate the intrusion of the granite suites and are thought to predate deposition of the platformal sequences of the Birindudu Group.

D6 structures cut all prior structures and are of unknown age. Reactivation of structures belonging to D5 and D6 and possibly older structures has occurred since formation and affects younger lithologies and Cainozoic regolith distribution.

Mineralisation at Tregony, Thomas, Tregony North, Maly's Knobs, Boco and other prospects within the Nanny Goat Volcanics and Killi Killi Formation, within the group of tenements held by Supplejack Pty Ltd, is associated with the NS trending Supplejack Shear Zone or with closely spatially associated parallel structures and splay faults. Mineralisation at Crusade South, Normandy Hill PHD, PHD North, Joshs, Burnt Ridge and Arrow Hill are related to structures cutting through the Supplejack Sandstone, which are thought to be D5 structures where the same structures cut the Nannygoat Volcanics.

Mineralisation at Crusade, immediately northeast of the tenement area, is related to D5 reverse thrusting within the Nannygoat Volcanics.

Figure 3 shows the relationship between mineralisation in the vicinity of the Supplejack tenements and regional scale structures.

It should be noted that the age of mineralisation interpreted for Callie Deposit at Dead Bullock Soak overlaps with the age of the base of the Birindudu Group, ie possibly younger than or of an equivalent age to the Supplejack Sandstone (Temby 2007).

### **5 Previous Work on the Tenement Areas**

The current tenement area was originally applied for by MJ Kidd in 1987 and is adjacent to areas that have been worked by Kidd in JV with Messenger, Dominion Gold, Acacia Resources and AngloGold. Work carried out in the immediately adjacent area has been regional soil sampling and follow up by RC drilling resulting in discovery of a major mineralized zone associated with the Old 8 Mile Fault. Geology underlying the anomalous zone consists of Supplejack Sandstone, acid volcanic thought possibly to be Nannygoat Volcanics and fine grained sediments which may be part of the Dead Bullock Formation, which are cut by the Old 8 Mile Fault and associated parallel shears and splay faults.

AngloGold carried out a review of the previous work on the tenements prior to withdrawing from the JV with Kidd and Messenger and identified a number of areas with untested

structural targets similar to Groundrush and a series of other geochemically undertested areas. Areas overlain by Supplejack Sandstone were not tested to any significant extent previously, due to perceived lack of potential for gold mineralisation.

Little attention had been given to the possibility that splay faults off the Supplejack Shear Zone may have been mineralized and the initial work carried out over extensions of these splay faults in EL 23454 indicated that gold and base metal anomalism was spatially associated with these structures. Further work on these structures in EL 23454 indicated that these crosscutting structures may have been a major control on distribution of mineralization and that the association with the Supplejack Shear zone did not mean the mineralization was oriented or locally controlled in the direction of the Supplejack Shear zone (Temby 2007).

## **6 Exploration Efforts by Supplejack Pty Ltd**

Works conducted that are reported here have been abstracted from past annual reports of EL 25208 by Peter Temby (2007). Reader is referred to these reports for the detail evaluation and conclusions.

Due to no CLC clearance being given in the past year the programs proposed were not able to be carried out.

As a result of the lack of correspondence from the CLC the Aboriginal Areas Protection Authority was requested to quote on and carry out a heritage survey over EL 25208 as well as all other tenements held by Supplejack Pty Ltd. This survey was completed.

### **6.1 Regional Structural Control on Gold Mineralisation**

Large resources of gold mineralisation have been found associated with the Supplejack Shear Zone and the Black Peak Fault regionally, including the Tanami group of deposits, Groundrush, Jasper Hill, Tregony and Crusade. Not all mineralisation is associated with the generally north trending Supplejack Shear Zone or the north north-east trending Black Peak Fault. Splay faults control mineralisation at Groundrush, the largest individual deposit found so far associated with the Supplejack Shear Zone. Figure 3 shows the main resources known close to the Supplejack tenements and relation to structures at 1:250 000 scale mapping.

Regional scale magnetic interpretation of splay faults off the Supplejack Shear Zone had been carried out previously by the NTGS and by Acacia Gold and a series of structures interpreted. Some additional structures can be inferred from the magnetic data over the granite present in EL 23492 and more continuity of structures can be interpreted from the distribution of gold anomalies in the Acacia gold interpretations. Soil grids were orientated to sample these crosscutting structures within EL 23492.

Gold anomalies within the tenements held by Supplejack Pty Ltd can be interpreted to be trending obliquely to the Supplejack Shear zone and to be associated in several instances with

mapped faults that appear to be splay faults off the Supplejack Shear Zone. These prospects include Donald, Tregony, Thomas, Tregony North, Boco, Trucks, Pink Ridge and Tinderbox, Far south East, Five Mile-PHD and Joshs.

All faults that pass through EL 25208 were sampled previously in EL 23454 with reconnaissance soil lines and multi element-gold anomalies were found associated with the Old 8 Mile Fault. The location of the prospects in relation to the mapped and inferred structures is shown on figure 2.

The potential of EL 25208 is now seen to be potentially significant under a cover of Antrim Plateau Volcanics (Temby 2007).

## **7 Environmental and Aboriginal Issues**

Gridding for soil sampling has been proposed which would involve hand cleared lines only and would not require any rehabilitation work.

## **8 Conclusions and Recommendations**

It is concluded that previous exploration on areas along structural strike adjacent to the EL 25208 area has resulted in recognition of potential not previously recognized.

Access to the land is required to allow drilling of the tenement area so that anomalies can be located and tested.

## **10 Expenditure**

Expenditure by Supplejack Pty on EL 25208 From January 10 2007 up to January 10 2008 has been a total of \$13,572.

A breakdown of expenditure is given in appendix 1.



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**Appendix 1**

**Expenditure Statement**

**EL 25208**

**For the period ended January 10 2008**

**SUPLEJACK PTY LTD**  
**EL 25208 EXPLORATION EXPENDITURE**  
**YEAR TO 10 JANUARY 2008**

	<b>10/01/2008</b>	<b>10/01/2007</b>	<b>EXPENDITURE</b>
	<b>\$</b>	<b>\$</b>	<b>\$</b>
Travel & accommodation	1,817		1,817
Tenement services	1,360	1,155	205
Application fees	1,754	1,754	-
Telephone & Internet	309		309
Rent and rates	240	120	120
Vehicle Expenses	70		70
Soil Program-Geologist Snr	701		701
Drafting	1,072		1,072
Drilling - Consultants	2,000		2,000
Depreciation charges	7,278		7,278
Total Exploration Licence ELA25208	<u>16,601</u>	<u>3,030</u>	<u>13,572</u>

## **Appendix 2**

**CLC Letter June 2007 EL 24167**

Central Lands Council  
33 Stuart Highway  
Alice Springs NT  
June 26, 2007

Attention: Mr B Anderson Steele

Dear Sir

**Re: Work Program Approvals for EL 24167 and 25208 for 2007**

Ord had requested clearance over EL 24167 in 2005 and we understood from a meeting between Mr B Anderson Steele and Ord personnel at the time that we would be allowed to work the area as it would be considered a continuance. This was never put in writing and subsequently not acknowledged. In the mean time we had carried out some reconnaissance spaced soil sampling but stopped when we were advised that there was no agreement.

We subsequently requested clearance at the beginning of 2006 but have not yet had any reply and all work on the tenement has ceased.

We also applied for clearance for soil sampling on EL 25208 in 2006 but have not had any replies in relation to that tenement.

We have attached maps of the areas requested for soil sampling, which we anticipate will lead to RC drilling in selected areas at a later date. We will request clearance for that activity when we know where we wish to drill.

In addition we received a letter dated 6 December 2004 in which you advised of an exclusion zone around a point at 610500E and 7871000N with a radius of 1500 metres. This area lies within areas shown by the previous explorers, Acacia Resources and AngloGold Australia, to be within an area approved for geochemical soil sampling, posthole RAB and angled RAB drilling and significantly overlaps an area cleared for RC drilling.

We are not aware of an exclusion zone in this area and would like your advice on whether there is an error in the Acacia and AngloGold maps or an error in the grid reference shown above.

Yours truly,



Peter Temby, General Manager Mining Operations