



MINERALS EXPLORATION | INDUSTRIAL MINERALS | ENERGY RESOURCES | TENEMENTS MANAGEMENT

EL25671 - Copper Flats 2012 Annual Report Suplejack Pty Ltd Year Ending: Geos Mining Job No.

6 August 2012

2389-02c

Report Date:

14 September 2012

Prepared for:

Geoscience Information Northern Territory Geological Survey Department of Resources Copy:

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Report Title Page

Titleholder	Suplejack Pty Ltd	
Operator (if different from above)		
Tenement Manager / Agent	M & M Walter Consulting	
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Summary

EL25671 is located in the East Kimberly region adjacent to the border between Northern Territory and Western Australia. The tenement covers a portion of the Ord Basin sediments and volcanics within the Hardman Syncline.

Mineralization found in the Copper Flats region consists of stratabound layers of chalcopyrite and chalcocite in the Nelson Shale and stratabound replacements of chalcocite with lesser pyrite and chalcopyrite and secondary malachite at the base of the Headleys Limestone and at the top of the Antrim Plateau Volcanics. Vein style and disseminated copper mineralization is also present.

Previous stream sediment sampling has highlighted an area of highly anomalous copper in the north western part of this tenement and these anomalies have not yet been followed up.

Work completed during the reporting period included:

- Desktop studies on past exploration results
- Partial relinquishment of 39 sub blocks (December 2011)

Work proposed during the next reporting period includes:

- Complete additional streams sediment sampling followed by soil sampling in selected areas
- Ground geophysics surveys (IP) over anomalies defined by the above program

These programs are estimated to cost \$125,000 and will be designed to define drilling targets in subsequent years.

Disclaimer

While every effort has been made, within the time constraints of this assignment, to ensure the accuracy of this report, Geos Mining accepts no liability for any error or omission. Geos Mining can take no responsibility if the conclusions of this report are based on incomplete or misleading data.

Geos Mining and the authors are independent of Suplejack Pty Ltd, and have no financial interests in Suplejack Pty Ltd or any associated companies. Geos Mining is being remunerated for this report on a standard fee for time basis, with no success incentives.

Table 1 - Licence Information

LICENCE	EL25671
Project Name	Copper Flats
Area	290.15km²
Licensee	Suplejack Pty Ltd (wholly owned subsidiary of Ord River Resources Ltd.) Suite 2, Level 5, 71 Macquarie Street SYDNEY NSW 2000
Date of grant	7/08/2007
Date of Expiry	6/08/2013

Table 2 - Digital Data Verification List

FILE NAME	FORMAT	DESCRIPTION
EL25671_20120806_01_Annual Report	pdf	Body of Text

Table 3 - Key Words

KEY WORDS:			
Location Name:	Copper Flats		
Earth Science Related Terms:	Flood Basalt, stratabound mineralisation, Hardman syncline		
Environment of Mineralisation:	Stratabound chalcopyrite and chalcocite, vein style mineralisation		
Commodities:	Copper		
Exploration Methods:	Aerial Photography, Geophysics, Geochemistry		
Stratigraphic Name:	Birrindudu group, Kalkarindji Continental Flood Basalt, Antrim Plateau Volcanics, Goose Hole Group, Headleys Limestone, Nelson Shale, Linnekar Limestone, Panton Formation, Negri Subgroup, Elder Subgroup, Eaglehawk Sandstone, Overland Sandstone		
Lithologic Name:	Tholeiitic basalt, dolerite, andesite, minor trachyte, microdolerite, basaltic flow breccia, peperite, pyroclastic deposits, quartz sandstone, siltstone, sedimentary breccia, limestone, chert		
Geological Province:	Kalkarindji Province		
Geological age:	Cambrian		

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Introduction

This report relates to EL25671, Kirkimbie, and describes exploration completed in the period of 07 August 2011 to 06 August 2012. The licence forms part of the Copper Flats Project with other tenements E80/3286, 3288, 3316, 3773, 3786-3789, 4013, 4060 and 4062, all of which are located in Western Australia.

LOCATION AND ACCESS

EL25671 is located in the East Kimberly region on the border between the Northern Territory and Western Australia. The tenement is approximately 165km north north-east of Halls Creek, WA and 490km southwest of Katherine in the NT (Figure 1).

Access is via the Buntine Highway from Katherine and the access road to the Kirkimbie Airport. Access to the tenement is affected by the monsoonal climate with road access restricted during and after the wet season.



Figure 1 - Location of EL25671

TENEMENT STATUS

EL25671 of 181 blocks (572 km²) was granted on 7 August 2007 to Suplejack Pty Ltd (a subsidiary of Ord River Resources) for a period of 6 years, expiring on 7 August 2013. The licence was subsequently reduced to 129 blocks (416 km²) on 7 August 2010 and 90 blocks (290 km²) on 7 August 2011 (Figure 2).



Figure 2 - EL25671 Relinquishment history

Geology

REGIONAL AND LOCAL GEOLOGY

The tenement covers a portion of the Ord Basin sediments and volcanics within the Hardman Syncline (Figure 3). Deposition of post orogenic sequences in the region began with the continental Lower to Middle Proterozoic Birrindudu Group, commencing probably about 1.7Ga and composed of coarse clastic sediments with minor felsic volcanics, shale and limestone. This sequence is overlain unconformably by the Victoria Basin succession, commencing with siliciclastic sequences with minor tuff and carbonates. Carbonates and evaporates become more important towards the middle of the succession and was succeeded by siliciclastic sequences and a final carbonate shelf sequence.

Regional uplift terminated deposition prior to the Cryogenian (Neoproterozoic) period which commenced at 850 Ma. Remnants of several thousand metres of Cryogenian age glacial and periglacial sediments overlie parts of the Victoria Basin in the Wolfe Creek Basin.

Cambrian sequences, now preserved in the Hardman Syncline, commenced with the very widespread Kalkarindji Continental Flood Basalt, with the Antrim Plateau Volcanics being a major unit in the NT and WA. Correlatives to the Antrim Plateau Volcanics are known in Qld and SA, and also possibly in NSW, and indicate the continental scale of the Kalkarindji Continental Flood Basalt Province.

The Cambrian period is characterized by a series of major turns in the apparent polar wandering path (APWP) for Australia and is thought to be the time for assembly of Gondwanaland. Major turns in the Gondwanaland APWP at about 530, 510, and 490-480 Ma represent periods when stress fields within Australia and other Gondwanan continents would have been significantly changed. The APWP bend at about 510 Ma could have been the trigger for the extrusion of the Antrim Plateau Volcanics and correlatives and stratigraphic equivalents in Queensland, western NSW, South Australia and Northern Territory. Recent age dating of basalt from the Kalkarindji Continental Flood Basalt Province relatively close to the Copper Flats area gave ages of 504±2 Ma and similar basalts east of the Copper flats area close to the Stuart Highway gave ages of 508±2 Ma. These dates are Middle Cambrian, the same as the paleontologically dated Headleys Limestone, which is now considered to conformably overlie the Antrim Plateau Volcanics. Dated equivalents in NSW and SA are Botomian (524-517 Ma) or late Early Cambrian, the same age as a 250km long dyke in the west Kimberley (513±12Ma) that is considered to be an Antrim Plateau Volcanics equivalent.

The Antrim Plateau Volcanics in the Northern Territory and Western Australia are succeeded by limestone deposits dated at early Middle Cambrian. The Middle Cambrian extends from about 509-500Ma. The interpretation is that there is only a short time lapse between the extrusion of the Antrim Plateau Volcanics in a continental scale event and crustal sag with sedimentation of the limestones and overlying formations.

Overlying the Antrim Plateau Volcanics is the Goose Hole Group, consisting successively of the massive micritic Headleys Limestone with minor stromatolitic units, particularly near the base, the Nelson Shale which consists of carbonatic siltstones and mudstones and thin gypsum beds at numerous intervals, the richly fossiliferous Linnekar Limestone and the Panton Formation, consisting of siltstone and lesser arkosic sandstones and mudstones and minor limestones. These units form the Negri Subgroup of the Goose Hole Group and are overlain by the Elder Subgroup that consists of the Eaglehawk Sandstone, a marginal marine to fluvial fine feldspathic sandstone and minor siltstone, overlain by the Overland Sandstone, a clayey lithic arkose unit (Temby, 2007).

MINERALISATION

Mineralization found in the Copper Flats region consists of stratabound layers of chalcopyrite and chalcocite in the Nelson Shale and stratabound replacements of chalcocite with lesser pyrite and chalcopyrite and secondary malachite at the base of the Headleys Limestone and at the top of the Antrim Plateau Volcanics. Vein style mineralization is also present in the contact zone and below the contact between the Headleys Limestone and the Antrim Plateau Volcanics as well as disseminated veinlets in possibly stratabound zones within the upper parts of the Antrim Plateau Volcanics.



Figure 3 - EL25671 Regional Geology

Previous Exploration

Table 4 - Previous Exploration 1970-2009

Tenement	Year	Company	Commodity	Exploration Activities
AP2327	1970	Metals Exploration/Freeport of Australia/Anglo America Corporation (Australia)	Copper	Copper Mineralisation
AP2367	1970	Metals Exploration	Copper	Copper Mineralisation
EL2297	1981	Ashton Mining/Aberfoyle Exploration/AOG Minerals	Diamond	No kimberlite indicator minerals found.
AP2068	1968	Metals Exploration	Copper	9 major anomalies and 35 minor copper anomalies have been located. A three year program is planned to further explain these targets.
EL3535	1984	BHP Minerals	Diamond	Proposed follow-up includes; examination of aeromagnetic data, anomalies and drill testing.
EL3535	1984	x	Diamond	Negative results from the bulk and stream sediment sampling did not warrant further work being carried out. It is unlikely kimberlites will be found in the relinquished portion of the EL. No assay results attached.
EL3535	1985	BHP Minerals	Diamond	The magnetic anomaly was drill tested, no kimberlitic evidence was found. The licence was surrendered.
EL3535	1985	BHP Minerals	Diamond	One anomaly (An1), indicates kimberlite potential, it will be drilled, August, 1985. Bulk sampling will be undertaken if the drill hole proves prospective.
EL3535	1983	BHP Minerals	Diamond	No indicator minerals detected so far.
EL3144	1984	Turner, AC	Barite	Work carried out included travelling to the area and setting up. Finding vehicle access into the Eastern portion of EL 3144 and a foot traverse of the area. No barite was found and repairs were completed on the previously constructed access tracks
EL3144	1988	Rathin	Barite	EL 3144 ran for a full years years during which a resource of barite was located within the Bingy Bingy Basalt Member of the Antrim Plateau Volcanics
EL3144	1986	B E Cornish and Associates	Barite	During the annual period to March 1, 1986 the writer visited the locality and conducted further geological and logistical assessment of the commercial viability of a large scale Barites mining and milling project based at Kirrkimbie Yard, Inverway Station and using some ore mined from the Bingy Bingy Springs area of EL 3144.
EL3144	1986	Antrim Barite Corporation	Barite	

Tenement	Year	Company	Commodity	Exploration Activities
EL3144	1983	Turner, A J	Barite	Two steeply dipping barite veins occur approximately 20 km north west of Kirkimbie Station Homestead and 43 km. west of Kirkimbie Yard Barite Deposits. A full analysis of the material has not yet been carried out.
EL3144	1987	Rathin	Barite	Two steeply dipping barite veins occur approximately 20 km north west of Kirrkimbie Station Homestead and 43 km west of Kirrkimbie Yard Barite Deposits.
EL10096	1985	B E Cornish and Associates	Barite	The western vein crosses the headwater of Forrest Creek and is referred to as the "Forrest Creek lode". Its average strike Is N.W. and its total length is 6km. Both Lodes appear to be .lenticular, with numerous well defined lenses along their length.
EL10096	2005	GeoDiscovery Group/Kajeena Mining Company	Barite, Base metal, Copper, Diamond	Several nickel anomalous drainage areas, defined by previous workers, were field checked. No obvious mineralized source to the anomalism is evident however outcropping nearby basic dykes are possible contributors. The area remains prospective for diamonds and a proposed program of drainage sampling is currently with the CLC for clearances before work can commence.
EL10096	2004	GeoDiscovery Group/Admiralty Resources	Barite, Base metal, Copper, Diamond	The area was considered prospective for base metals and diamonds. Exploration work consisted of; review of the mineral potential of the Mistake Creek area by Pacific Consulting; construction of a GIS-based evaluation project; and Joint Venture negotiations between Kajeena Mining Ltd and Admiralty Resources NL for Admiralty to farm-in to the project.
EL10096	2005	GeoDiscovery Group	Diamond	The prospectivity of the EL10096 is considered low for large base metal deposits and the widespread cover of Cambrian Antrim Plateau basalt make it difficult to identify discrete targets in the magnetics data for diamonds.
EL10096	2007	Kajeena Mining/Dingo Resources	Base metal, Diamond, Barite, Gold	The Kajeena Mining Company Pty Ltd holds exploration licences 10096 and 10097 in the Mistake Creek area which are considered to have excellent exploration potential for lead – zinc, gold and diamond deposits. In December 2006 Kajeena entered into a Joint Venture Agreement with Dingo Resources Pty Ltd. A 50 % reduction of area for both tenements was lodged. No on ground exploration had been conducted on the relinquished area.
EL10096	2009	Kajeena Mining Company	Base metal, Diamond, Barite, Gold	Dingo Resources had proposed that further sampling, several 3D IP surveys and drill testing be conducted in the next year of tenure. This work was not carried out.
EL10096	2001- 2002	Kajeena Mining Company	Base metal, Diamond, Barite, Gold	The most likely prospective targets to be found in this area are: Barite – Vein Type; Copper - Various styles; Lead \ Zinc ± Silver - Various Styles; Nickel, Copper & PGE's - Noril'sk Style; Diamonds - Alluvial and/or Pipe.
EL10096	2008	Pacific Consulting Services/Kajeena Mining Company	Base metal, Diamond, Barite, Gold	Soil and stream sediment sampling has failed to delineate clear geochemical anomalies over prospective magnetic features. Stream sampling in the area of previously drill tested copper mineralisation shows a low order anomaly which is not considered to be culturally derived. It is proposed that further sampling, several 3D IP surveys and drill testing be conducted in the next year of tenure.

Tenement	Year	Company	Commodity	Exploration Activities
EL10096	2003	Kajeena Mining Company/Pacific Consulting Services	Base metals, Gold, Diamond/ Kimberlite pipes	Exploration during 2003 has entailed processing and interpretation of the NTGS magnetic data and re-appraisal of the mineral targeting and proposed exploration program. A consultants report was prepared for the Kajeena which indicates prospectivity for gold mineralisation in the basement Inverway Metamorphics in addition to the prospectivity of the Birrindudu Gp. For large base metal deposits and the regional prospectivity for diamond deposits.
EL10096	2006	Dingo Resources/Kajeena Mining Company	Base metal, Diamond, Barite, Gold	In December 2006 Kajeena entered into a Joint Venture Agreement with Dingo Resources Pty Ltd. Dingo completed an orientation trip and sampling program in December for which results are pending.
EL10096	2007	Pacific Consulting Services/Kajeena Mining	Base metal, Diamond, Barite, Gold	Stream sampling in the area of previously drill tested copper mineralisation shows a low order anomaly which is not considered to be culturally derived. It is proposed to conduct further sampling, several 3D IP surveys and drill testing in the next year of tenure.

PREVIOUS WORK CONDUCTED BY SUPLEJACK PTY LTD

Exploration has consisted of a regional review of the mineralisation model, compilation of previous exploration data locally and regionally and review of appropriate exploration methods. Additional stream sediment sampling (125 samples) analysis and interpretation of geochemical results was carried out together with regional structural mapping (Temby, 2008) (Figure 4).



Figure 4 - EL25671 Stream Sediment Sampling

Highly anomalous copper values in the northwest corner highlight the favourable contact between Antrim basalts and Headleys Limestone, which has been traced into EL25671 from other tenements in Western Australia.

Regional mapping of structures in the Hardman Syncline within the areas covered by the Copper Flats tenements was undertaken to determinate whether the structures could be used as a guide to mineralization (Figure 3). With the compilation of the structural mapping and regional geochemical data, it is possible that the dominant structural orientations (E-W and SE-NW) have a controlling influence on the location of highly anomalous copper geochemistry in the northwest area of EL25671, but there is a need for further closer spaced stream sediment sampling to confirm the relationship between structural and high grade mineralization.

Exploration Completed During 2011-2012

No field work was completed during the reporting period and exploration has been confined to data interpretation and program planning.

In December 2011, a total of 39 sub-blocks covering 124.6 km² were selected for relinquishment from EL25671. Within the relinquished area, stream sediment sampling did not return any significant anomalies (See Partial Relinquishment Report 2011 for detailed information).

Proposed Exploration for 2012-2013

The initial work program will involve follow up stream sediment sampling (58 samples, Figure 5) in the northern part of the tenement with subsequent soil sampling of selected areas. A total of three prospect areas are budgeted for soil sampling, each with 200 samples.

Due to the remoteness of the area, the programs are planned to be carried out in conjunction with programs in other Copper Flats tenements.



Figure 5 - EL25671 Proposed Stream Sediment Sampling

Proposed Expenditure

The budget for the 2012-2013 program is estimated at \$125,000 (Table 5).

Description	Budget
Geological staffing	\$20,000
Travel, accommodation, sustenance, freight	\$10,000
Stream sediment / soil sampling & assays	\$20,000
Geophysical surveys (IP)	\$40,000
Reporting	\$20,000
Overheads	\$15,000
TOTAL	\$125,000

Table 5 - Proposed budget for 2012-2013

Conclusions

The Kirkimbie licence EL25671 covers part of the contact between the Headleys Limestone and Antrim Volcanics where, regionally, copper mineralisation has been known to occur as stratabound chalcopyrite/ chalcocite and vein style and disseminated copper mineralisation, especially in areas of structural complexity.

Previous stream sediment sampling has highlighted an area of highly anomalous copper in the north western part of this tenement and these anomalies have not yet been followed up.

It is proposed to complete additional streams sediment sampling followed by soil sampling in selected areas. Anomalies defined by this program will be targeted for RC drilling in subsequent years.

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