

### PO Box 1095, West Leederville WA 6901

Project Name: Litchfield

Tenement Numbers: EL23619

Tenement Operator Pacific Ore Limited

Tenement Holder: Discovery Metals Limited

Report Type: Annual

Report Title: Annual Report, Litchfield Project, EL23619

22 October 2006 to 21 October 2007

**Report Period:** 22 October 2006 to 21 October 2007

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**1:250 000 map sheet:** SD 5208 Pine Creek

**1:100 000 map sheet:** 5071 Reynolds River

Target Commodity: Gold and base metals

**Keywords:** Wangi Basics, Litchfield Province, geophysics

**Prospects drilled** 

**List of Assays** 

ABSTRACT:

**Location:** The tenement is located 90km southwest of Darwin

**Geology:** Palaeoproterozoic Litchfield Province

Work done Field reconnaissance

### CONTENTS

1.	Location and Access	3
2.	Tenement Status	3
3.	Geological Setting	3
4.	Previous Exploration	7
5.	Current Exploration	7
6.	References	7
	FIGURES	
Figu	re 1: Tenement location plan	4
Figu	re 2: Regional geology of the Halls Creek Belt and Lichfield Province	5
Figu	re 3: Local geology	6

### **APPENDICES**

**Appendix 1: Review of Mineral Occurrences on Litchfield tenements** 

Appendix 2: Report on Field Trip to Trajan Minerals Limited's Northern Territory Exploration Licences

### **Summary**

Pacific Ore Limited ("POL") is exploring the Palaeoproterozoic rocks of the Litchfield Province for mafic hosted nickel-copper sulphide deposits. The area is interpreted to be an extension of the Western Australian, Halls Creek Mobile Belt, and host to the Sally Malay Ni deposit.

EL23619 forms part of the POL Litchfield Project along with EL22961, EL22959 and the applications EL23623 and EL22960.

During the reporting year two field visits were undertaken with the aim of identifying mineral occurrences and providing a focus for ongoing exploration.

#### 1. LOCATION AND ACCESS

EL23619 is located 90km southwest of Darwin, Figure 1. The project area can be accessed via the all weather Stuart Highway that runs between Darwin and Alice Springs then via the main road leading to the Litchfield National Park via Batchelor. Batchelor is a township of 5 thousand people 40km west of EL23619.

The region is considered accessible however the area is subject to the summer monsoons and quite often during this period can be cut off due to flooding.

### 2. TENEMENT STATUS

EL23619 of 78 sub-blocks was granted to Falconbridge Australia Pty Ltd on 22 October 2003 for a period of six years. Falconbridge's interest in the tenement was transferred to Discovery Nickel Limited (precursor to Discovery Metals Limited) under an agreement dated 15 October 2003 that covered all of Falconbridge's tenements in the Litchfield Project. In 2007 Discovery entered into a joint venture agreement with Trajan Minerals Limited whereby Trajan had the right to earn a majority interest in the project by fulfilling nominated expenditure requirements. Later that year Trajan changed its name to Pacific Ore Limited.

### 3. GEOLOGICAL SETTING

The Litchfield Province is part of the western Pine Creek Inlier and southern extensions and is correlated with the Halls Creek Mobile Belt of the Kimberleys, Figure 2, which contains numerous significant magmatic nickel occurrences and deposits such as Sally Malay. The Province contains Proterozoic to Quaternary geological units, including Proterozoic meta-mafic and meta-ultramafic units referred to as the Wangi Basics. These mafic and ultramafic rocks are considered to be a likely host for Cu-Ni sulphide mineralization similar to that in the Halls Creek area.

In the tenement area, there is considerable cover of Cambro-Ordovician sediments over Palaeoproterozoic basement of Myra Falls Metamorphics and Nourlangie Schist, together with Palaeoproterozoic granite (Mount Litchfield Granite). One body of northwest trending mafic-ultramafic intrusive is mapped in the Wangi area. Aeromagnetic data suggest northwest, north northeast and north-south structural controls and the possibility of other similar mafic/ultramafic bodies.

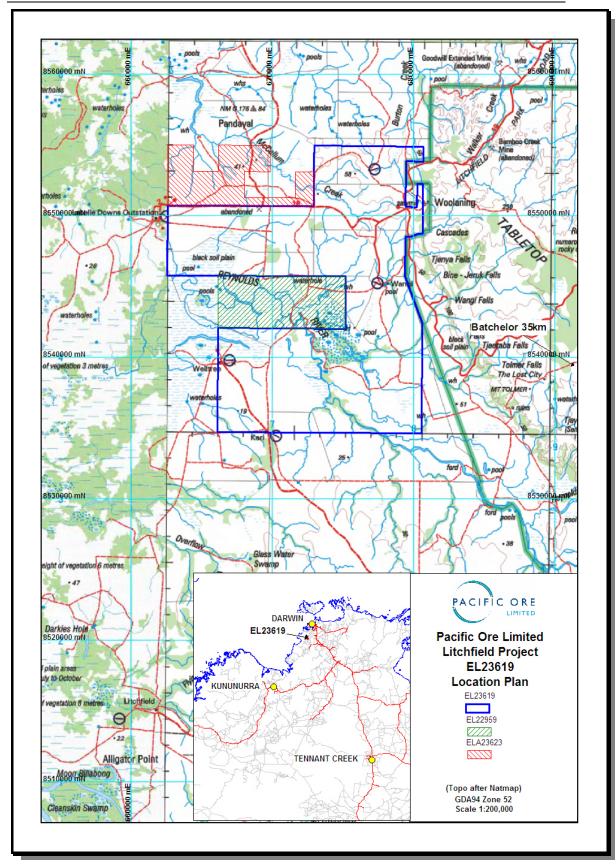


Figure 1: Tenement location plan

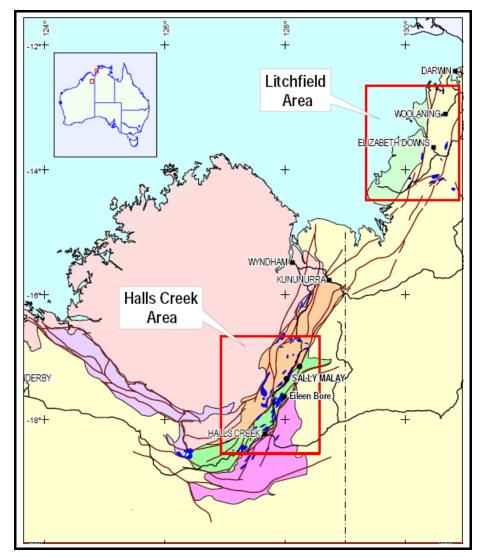


Figure 2: Regional geology of the Halls Creek Belt and Lichfield Province

The Proterozoic Wangi Basic rocks, Figure 3, contain a range of largely mafic to ultramafic rocks including gabbro, felsic gabbro, dolerite, basalt, anorthosite, diorite, periodotite, pyroxenite, hartzbergite and troctolite. These rocks have undergone a single episode of high greenschist to low-amphibolite facies metamorphism. They are considered to be mainly intrusive however minor extrusive varieties have been noted due to presence of interpreted pillow lava structures. In the general region, the Wangi Basics have been dated as ~1850-1840 Ma (Page et al. 1984) and have intruded the older rocks of the Hermit Creek Metamorphics (~2400 Ma) and also the Finnis River Group (~1880 Ma). The Wangi Basics are considered to be slightly older than the Mount Litchfield Granites (~1850-1840 Ma) that are widespread in the Litchfield area.

It has been suggested that the Daly River Metadolerites (Wangi Basics) are probably oceanic tholeiitic basalt and that these "Si-rich" mafic rocks (relative to the other basalts in the Pine Creek Geosyncline) are related to the Golden Dyke Metadolerites (exposed further to the northeast), and were derived from the progressive differentiation of a single basic magma.

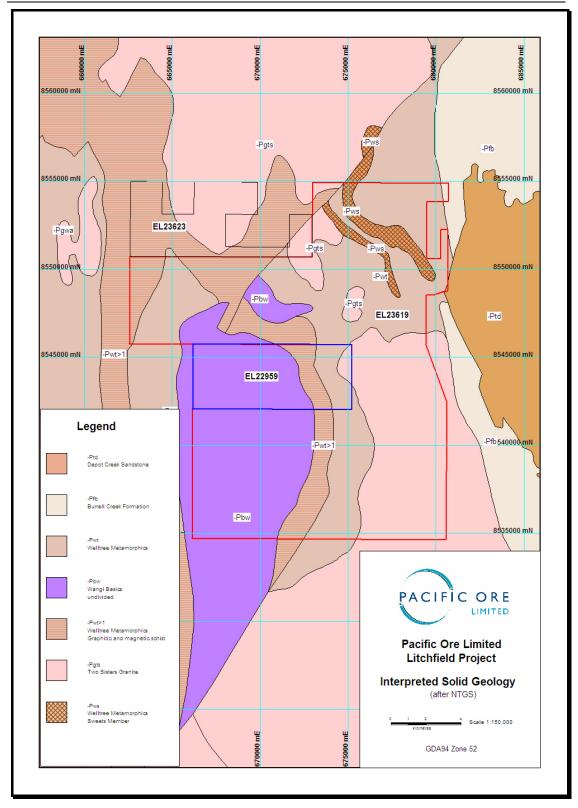


Figure 3: Local geology

#### 4. PREVIOUS EXPLORATION

The Litchfield area has received a large amount of diversified regional-scale (greenfields) exploration work over the past forty years. A large proportion of the previous work was for uranium and diamonds, using regional stream geochemistry, aeromagnetics and radiometrics as the main exploration tools. Only a very small proportion of the previous work was dedicated towards Ni-sulphide exploration. The base metal exploration efforts have been mainly for Cu and Zn within the Proterozoic submarine volcanics, (e.g. along strike of the Daly River Copper Mine). In many cases, no Ni analyses were conducted in the previous geochemical surveys.

More recently exploration completed within EL23619 has included the following:

- Airborne EM survey (Geotem) in 2004;
- Collection of ground EM (SmartEM) in 2005;
- Interpretation and modelling of geophysical data;
- Drill testing of conductive anomalies with two diamond core holes.

#### 5. CURRENT EXPLORATION

During the current reporting period Company consultants undertook two field reconnaissance visits to the tenure. The reports detailing the areas inspected the results of sampling and recommendations for further exploration are included as appendices to this report.

#### 6. REFERENCES

Johnstone, A, 2006. Annual Report for Exploration Licence EL23619, Litchfield Project, Northern Territory, for the year ended 21 October 2006. Discovery Metals Limited.



## **Review of Mineral Occurrences on Litchfield Tenements**

# Andrew Johnstone August 2007

Four prospects/mineral occurrences have been identified on the Trajan Litchfield tenements. These localities provide a focus for further follow up and show potential for Tin Tantalum, Uranium and Gold on the Trajan ground.

# Labelle, Tin Tantalum (Wangi)

The Labelle notes suggest a small operation producing Tin, Tantalum Beryllium and Niobium operated at this location and alludes to a reserve being recorded in historical data. Granites are mapped in the northern part of the Wangi tenements.

MineralCategory	Alloying metals			
MajorCommodity	MajorCommodity Tantalum, Tin			
MinorCommodit	<b>y</b> Be,Niobium			
Status	Abandoned mine			
CoxClassificatio	<b>n</b> Sn-Ta pegmatites			
MineralField				
TectonicUnit	Pine Creek Orogen			
SubUnit	Litchfield Province			
Age	PALAEOPROTEROZOIC			
Map100K	Reynolds River			
Map250K	PINE CREEK			
MGA_E	669530			
MGA_N	8550265			
MGA_ZONE	52			
Comments	Reserves given above also contain about 190ppm Be			
Size	Small			
MiningMethod	Open Cut			
Depth	50			
ProductionCom	nents			
Resource	Comments			

# Far West, South, Tin Tantalum (Wangi)

The Far West south notes suggest an occurrence where six pegmatite veins have been mapped. These veins are usually associated with a volatile phase (last part of granite to crystalise) is squeezed out of a granite chamber into the surrounding stratigraphy/geology. More historical research is needed here.

MineralCategory Alloying metals				
MajorCommodity	MajorCommodity Tin			
MinorCommodity Niobium,Tantalum				
Status	Mineral occurrence			
CoxClassification	<b>n</b> Sn-Ta pegmatites			
MineralField	Bynoe Tin-Tantalum Field			
TectonicUnit	Pine Creek Orogen			
SubUnit				
Age	PALAEOPROTEROZOIC			
Map100K	Reynolds River			
Map250K	PINE CREEK			
MGA_E	674630			
MGA_N	8550565			
MGA_ZONE	52			
Comments	At least six pegmatite veins trending N to NNE are present at this locality			
Size	Occurrence only			
MiningMethod				
Depth	0			
ProductionComments				
ResourceComments				

# Wilsons Creek Uranium (Wangi)

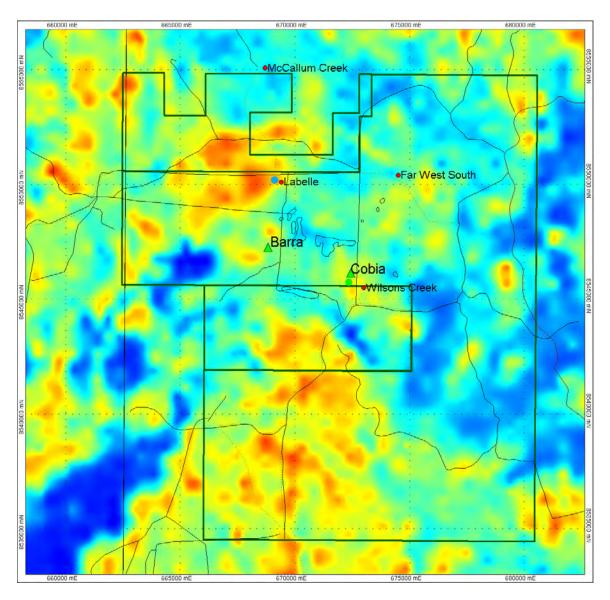
The Wilsons Creek U occurrence seems real, however the notes suggest it's only a sample associated with sulphide bearing shales/carbonaceous schists. The location is very close to the Barra hole and is probably related to the stratigraphy (conductor) intersected in the drilling. Both historical holes (DML 05) show elevated U but no economic. Once again more research is needed to determine the grade of the samples reported from Wilsons Creek.

MineralCategory Radioactive minerals			
MajorCommodity Uranium			
MinorCommodity			
Status	Mineral occurrence		
CoxClassificatio	n		
MineralField			
TectonicUnit	Pine Creek Orogen		
SubUnit			
Age			
Map100K	Reynolds River		
Map250K	PINE CREEK		
MGA_E	673129		
MGA_N	8545661		
MGA_ZONE	52		
Comments	Supergene anomaly caused by pyrrhotite and pyite within carbonaceous schists.		
Size	Occurrence only		
MiningMethod			
Depth	25		
ResourceComments			

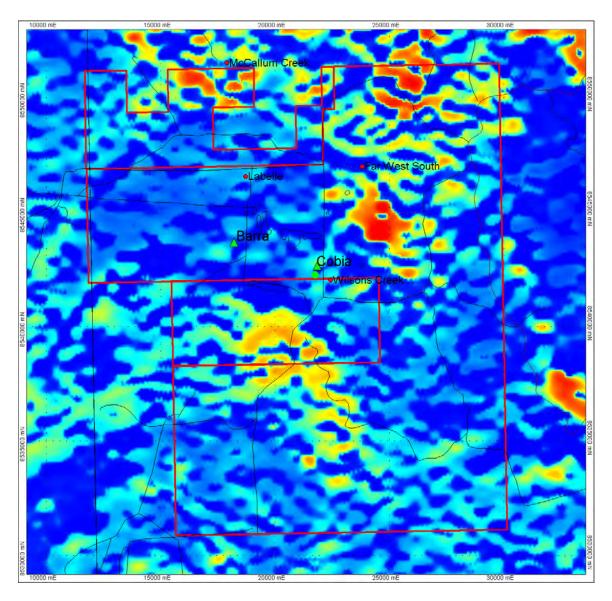
# Terry's Prospect G, Gold (SW Daly)

The occurrence in the southern part of the SW Daly tenements is part of a series of occurrences and prospects making up the Fergusson River Gold field. It's a remote location, and the prospect looks to be a result of a sampling trip conducted in 1985. Once again further research is need however the four samples with average grade of 11g/t is quite exciting and defiantly worth follow-up. The magnetic and satellite data both reveal interesting structures in the area.

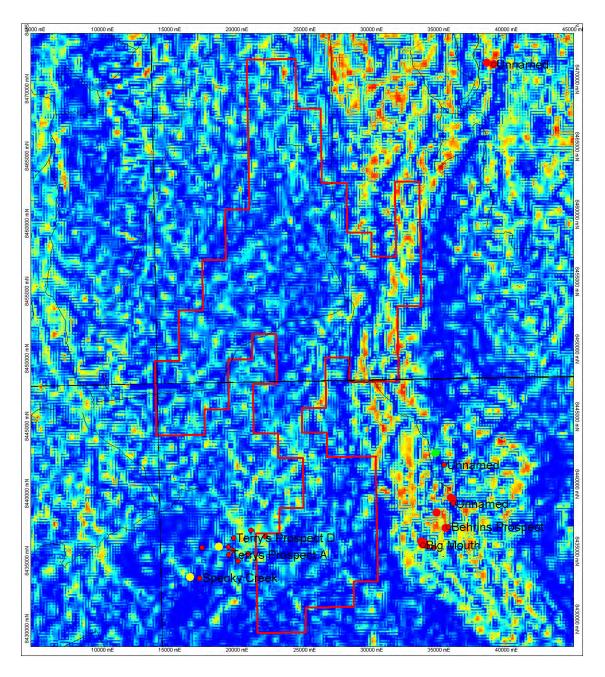
MineralCategory Precious metals			
MajorCommodity Gold			
MinorCommodit	у		
Status	Mineral occurrence		
CoxClassificatio	n		
MineralField			
TectonicUnit	Pine Creek Orogen		
SubUnit	Litchfield Province		
Age			
	Wingate Mountains		
	FERGUSSON RIVER		
MGA_E	669850		
MGA_N	8440400		
MGA_ZONE	52		
Comments	Four selected rock chip samples from outcropping veins averaged		
	11g/t Au (Simpson,1985)		
Size	Occurrence only		
MiningMethod			
Depth	0		
ProductionComments			
Resource	Comments		



Wangi Tenements, Radiometrics data Thorium, Labelle, Far West South and Wilsons prospects all shown. Barra and Cobia Drill holes are shown.



Wangi Tenements, Regional Radiometrics data Thorium, Labelle, Far West South and Wilsons prospects all shown.



SW Daly Tenements, Regional Radiometrics data Thorium, Ferguson River prospects shown. Unfortunately data is not very good, and may have only limited use in targeting surface U related anomalism.



# Report on Field Trip to Trajan Minerals Limited's Northern Territory Exploration Licences

Trajan Minerals Limited listed on the ASX on 12th June 2007. The Company has entered into a Farmin Agreement with Discovery Metals Ltd in regards to the Litchfield project, located in the Northern Territory.

The Litchfield Project comprises two project areas, the Litchfield and Daly River that include three granted exploration licences and two applications for exploration licences.

#### **Summary**

William Witham carried out a two-day research and field reconnaissance trip to the NT on Friday 7<sup>th</sup> and Saturday 8<sup>th</sup> September 2007.

On Friday, WW visited the NT Department of Minerals and Energy (NTDME). A desktop study was done on pre-existing exploration licences of the areas.

### Labelle

WW drove to Labelle Downs Station on Saturday morning and met with Garth Camm, who flew in a Robinson 22. They visited all sites and found a few more around Labelle.

The Labelle Project includes two granted Exploration Licences EL22959 and EL23619 and application EL23623. The first tenement, EL22959, covers 10 sub-blocks (31.7 km2) and was granted on 17 February 2003. EL23619 covers 84 sub-blocks (266.3 km2) and was granted on 22 October 2003. The application covers 63.4 km2 bringing the total area to 361.4 km2 when all the tenements are granted. Expenditure commitment for the granted tenements is \$62,074.

The Labelle project has been explored for Nickel. This trip was to look also at other minerals such as Tin and Tantalum.

### Tin and Tantalum

Rare element pegmatites crop out in the area form the Litchfield pegmatite belt. The Bynoe pegmatite field is 70km in length and 15km in width. All pegmatites are believed to have been derived from the Two Sisters Granite (Ahmad 1995), which is considered to dip to the east under the Burrell Creek Formation, below the exposed pegmatites. The pegmatites typically occur in clusters,

Location	Easting (Zone 52 L)	Northing (Zone 52 L)	Description
Mount Bundy	0731421	8536588	3kms East of Adelaide River
Homestead (Base)			
Labelle Station	0662048	8550094	Helicopter Pad at End of
			runway – Uranium rich laterite
Far West South (B)	0674631	8550566	Tin Tantalum Veins – Not
			Seen from helicopter - On
			Twin Hills Station
Wilson's Creek Uranium	0673129	8545662	Laterite Outcrop – Sample
			Taken
Labelle Tin Mine	0669444	8549786	Small Pit producing tin,
			tantalum, beryllium and
			niobium.
			Very Micaceous
North of Labelle Tin Mine	0669530	8550265	NTDME Location, no mining
			but much drilling north of
			Labelle Tin mine
Garth Anomaly	0669016	8548044	Drill holes 2km south of tin
			mine
Annaliese Anomaly	0668824	8547152	Drill holes and diggings 3km
			south of tin mine



**Micaceous Soil South of Tin Mine 1** 



 $Sample\ LB\ 003-Labelle\ Tin\ Mine-Coords-0669444mE\ and\ 8549786mN\ \ Small\ Pit\ producing\ tin,\ tantalum,\ beryllium\ and\ niobium.\ Very\ Micaceous$ 



Sample LB 006 - Labelle Tin Mine - Coords - 0669444mE and 8549786mN Greywacke from Country Rock



Labelle Tin Mine 1



Labelle Tin Mine 2

### **Labelle Uranium**

There is uranium potential in the area both in the laterite and within the underlying rocks. Anomalies reported to the NTDME seem to occur on outcrops of laterite.



**Uranium Mineral Occurrence 1** 



Sample LB 001 – Wilson's Creek - Laterite Outcrop– Thorium or uranium?? (10c piece for scale). Coords - 0673129 8545662



Sample LB 002 – Garths Anomaly - Laterite Outcrop– Thorium or uranium?? (10c piece for scale). Coords - 0669016 8548044 Drill holes 2km south of tin mine

### Nickel

Through compilation efforts, Falconbridge (Australia) Pty Limited identified the Litchfield/Batchelor area of the Northern Territory as being favourable to host Proterozoic, intrusive related, magmatic Ni-Cu-PGE sulphide mineralisation. The tenements are considered to have excellent potential for magmatic Cu-Ni mineralisation related to the Proterozoic Wangi Basics. The Litchfield Province is the continuation of the prospective Halls Creek Province of the Kimberley's, a known significant magmatic Cu-Ni province (e.g. Sally Malay Deposit).

### **DALY RIVER GOLD and NICKEL PROJECT**

The Terry's prospect is situated at 0669850mE and 8440400mN, right on the western boundary of the EL. It was discovered in 1975 by a grab sample of oxidised vein quartz which returned 5.5g/t Au. The prospect is located in a heavily altered granophyre (Ti Tree granophyre) close to the Giants Reef fault and just east of a large regional magnetic anomaly associated with a differentiated mafic complex. Exploration has included stream sediment sampling, soil sampling, percussion drilling, costeaning, and induced polarisation surveys



Sample LB 004 - Daly River - Stream Sediment Sample at bottom left





**Just East of Terry's Prospect 1** 

Daly River Project approximately 100 kilometres south of Labelle includes granted exploration licence EL22961 and application EL22960. The granted tenement, EL22961, covers 111 sub-blocks (351.9 km²) and is 20km SSW of Daly River Crossing. The other application covers 14 sub-blocks (44.4 km²) and is 15 km NW of Daly River Crossing and together they bring the total area to 396.3 km² when granted. Expenditure commitment for the granted tenement is \$38,324.

### Coordinates

Terry's Gold Prospect	0669850	8440400	Qtz Breccia
Helicopter Landing Site	0670137	8440128	Sample LB 004 – Daly River – Stream Sediment Sample
Daly River Copper Mine	0683430	8487656	
Daly River Crossing	0684592	8477320	