# YEAR 4 FINAL REPORT

# **For Relinquished Ground**

# **EXPLORATION LICENCE EL31524**

# **Michelles Hope**

For the reporting period 17th January 2018 to 16th January 2022

# **Rockwash Pty Ltd**

Project Name: Michelles Hope

Map Sheets: Ranford Hill, 5370 1:100,000

Mt Evelyn SD5305 1:250,000

Commodities: Gold, Silver Base Metals

Licensee: Rockwash Pty Ltd.

Author: A Chapman

Date: March 2022

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#### **SUMMARY**

Exploration License EL31524 is located approximately 210kms southeast of Darwin approximately 20km east of Pine Creek.and is wholly owned by Rockwash Pty Ltd. This report covers exploration activities on this tenement during the second year of tenure.

At the end of year 4, 9 of the 18 blocks were relinquished. This report covers work done on the relinquished ground for the period it was held.

No exploration was undertaken on the relinquished blocks during years 1 to 4 as the blocks were over granitic ground and far from any possible alluvial gold source. There is little alluvial gold potential on the relinquished ground.

# 1.0 LOCATION

Exploration License EL31524 is located approximately 210kms southeast of Darwin (Figure 1) approximately 20km east of Pine Creek. Access to the tenement is via the Stuart Highway, the Kakadu Highway, then station tracks. The tenement is within pastoral leases Mary River east and Bonrook (see table below).

Most of the license may be accessed during the dry season, by four-wheel-drive vehicles, during the wet season the license is inaccessible.

Figure 2 shows the location of the Exploration License in relation to the main highways and cadastre.

Table 1 Landowner details

Parcel	Туре	Name	Address
000 01630	Pastoral Lease (PPL)	Mary River West	PO Box 474 Carlton South, Victoria 3053
000 00695	Pastoral Lease (PPL)	Ban Ban Springs	PO Box 7207, St Kilda Road, Vic 8004

#### **Native Claims:**

Tenement ID	ID	Date Effective
EL31524	DC2001/018	1/03/2001

No determinations.

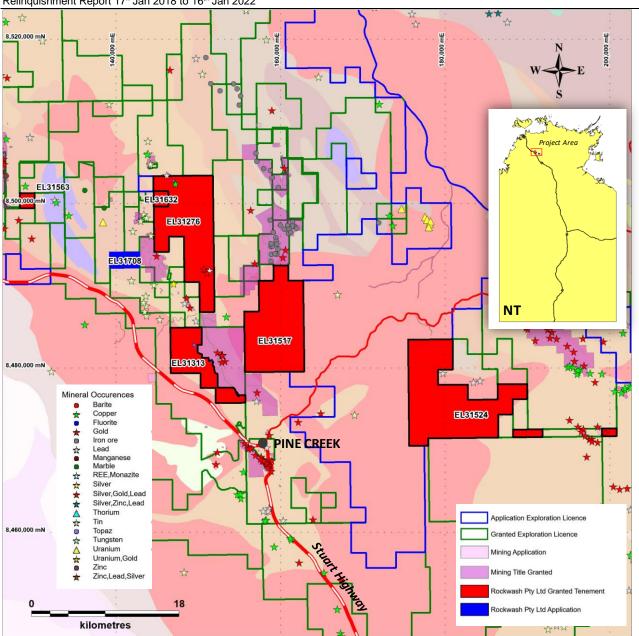
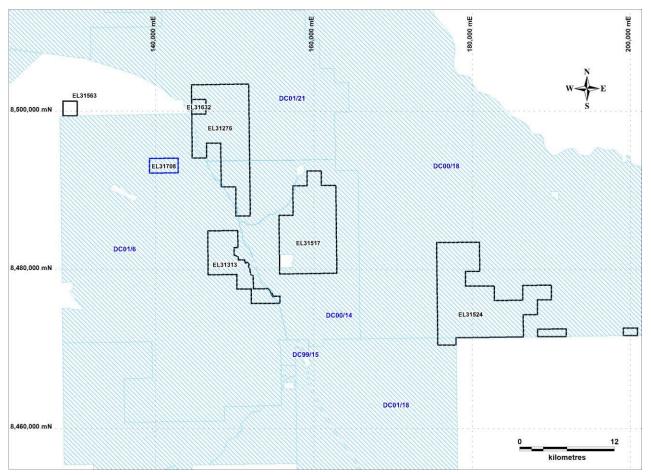


Figure 1: Project Location Plan



**Figure 2: Native Title Claims** 

# 2.0 TENURE

Rock Wash Pty Ltd was granted the title on 17th of January 2017, and cover's an area of ~105km². The title is located both over the Mary River East Pastoral lease and Bonrook Pastoral lease.

At the end of year 2 18 of the 36 blocks were relinquished (figure below). This report covers work done on the relinquished ground for the period it was held.

At the end of year 4, 9 blocks were relinquished.

Tenement Details are given in the table below:

**Table 2 Tenement Details** 

Title number	Title holder	Area (blks)	<b>Grant Date</b>	Expiry Date
EL31254	ROCKWASH PTY LTD	9	17/1/18	16/1/24

This report covers work done on the relinquished ground for the period it was held.

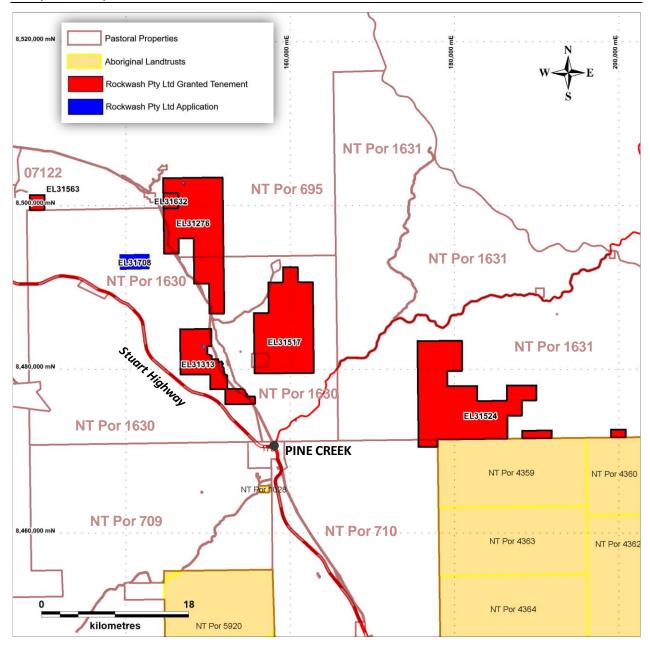


Figure 3: Tenement Location and cadastre

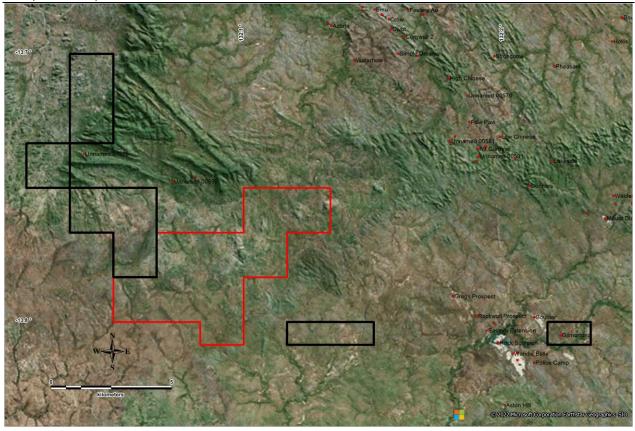


Figure 4: EL31524 year 4 reduction: blocks relinquished red, blocks retained black.

#### 3.0 GEOLOGY

#### 3.1 Regional Geology

The tenement is situated within the Pine Creek Geosyncline in the Darwin-Katherine region of the Northern Territory. These basins contain Archaean and Early Proterozoic rocks, which are bounded by younger, largely undeformed sedimentary rocks. The oldest rocks in the region are Archaean granites and metamorphics of the Rum Jungle, Waterhouse and Nanambu Complexes. These rocks formed a shallow intracratonic basin in to which the Early Proterozoic sediments were deposited. This Early Proterozoic sequence has been sub-divided four main groups from oldest to youngest as follows:

- (a) **Namoona Group** is composed of conglomerates, sandstones, quartzites, carbonates and minor banded iron formation which lie unconformably on Archaean basement rocks.
- (b) **Mount Partridge Group** consists of conglomerates, sandstones, siltstones, shales, quartzites, cherts, carbonates and basic volcanics which lie unconformably on Namoona Group.
- (c) **South Alligator Group** is made up of greywackes, quartzites, siltstones, cherts, tuffs, phyllites, carbonates, and banded iron formation and lies unconformably on Mount Partridge Group.
- (d) **Finniss River Group** is composed of conglomerates, greywackes, siltstones, shales and slates and lies conformably on South Alligator Group. Intrusion of this sequence by basic intrusives of the Zamu Dolerite occurred prior to green schist facies metamorphism and a major phase of deformation. This metamorphic event and polyphase deformation occurred about 1870 1800Ma and was followed by the intrusion of granites around 1760Ma.

#### 3.2 Local Geology

The tenement has outcropping rocks of the Finniss River Group (Burrell Creek Formation) to the east and granites of the McCarthy Granite in the west.

The Burrell Creek Formation includes greywackes, siltstones, and shales which are intruded by northwest trending lamprophyre dykes. The lithological descriptions show brown to grey-green, thickly bedded to massive, fine to coarse feldspathic metagreywacke with graded bedding in places and minor lenses of volcanilithic pebble conglomerate; brown to grey, laminated phyllite, slate and mudstone.

The area has undergone polyphase deformation, and folding is tight to isoclinal with the fold axes trending north to north-northwest and plunging to the northwest. Bedding strikes north-northwest and varies from steeply dipping to subvertical. The rocks exhibit lower greenschist facies metamorphism and possess localised zones of weak hornfelsing.

Exploration potential exists for gold and precious metals including: alluvial Au, vein Au, vein Sn, polymetallic Cu, Pb, Zn, Ag veins and vein-type U.

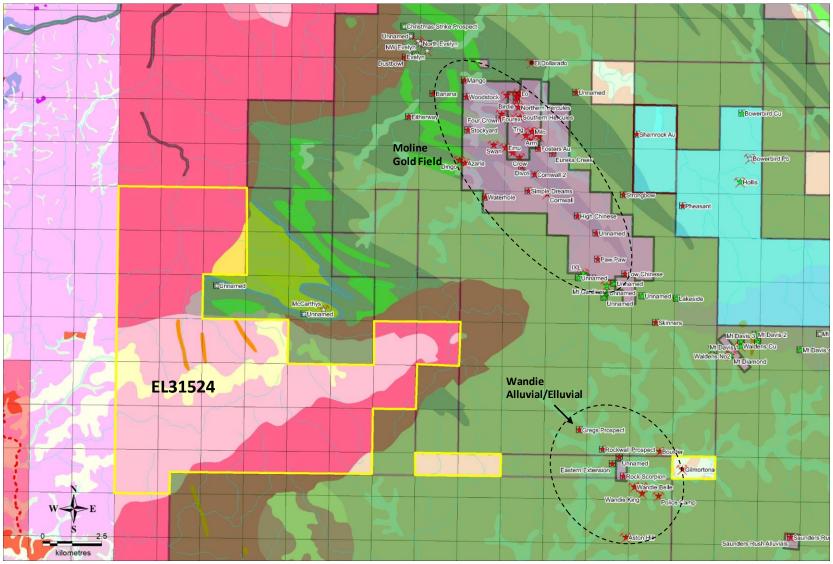


Figure 5: Tenement Outline, Prospects and 1:250K Geology

#### 3.3 Known mineralisation

#### **Mineralisation Styles:**

#### Stratiform Gold - Base Metal Mineralisation.

All significant known deposits of this type occur within the South Alligator Group although some small deposits have been found in upper Mount Partridge Group and Cahill Formation equivalents. Gold is concentrated within lenses of bedded sulphides hosted by iron formation, carbonaceous mudstones and cherts. The Cosmo Howley, Golden Dyke Dome and Iron Blow/Mount Bonnie deposits are of this style.

#### Quartz Vein and Stockwork Gold + Base Metal Mineralisation

Economically this is the most important style of mineralisation in the area. This type of mineralisation is found in upper South Alligator and Finniss River Groups. Veining occurs as continuous, often conformable to bedding veins and stockworks. Vein systems are typically located near anticlinal axes and associated with lamprophyre dykes intruded parallel to cleavage. Included in this style are the Enterprise, Goodall, Tom's Gully, Mount Todd, Woolwonga, Moline, Union Reefs and Brooks Creek deposits.

Gold mineralisation in the Spring Hill goldfield is hosted predominantly within the Mount Bonnie Formation. Tin mineralisation as cassiterite occurs in quartz-filled fractures in Mt Bonnie Formation carbonaceous sediments close to or at a contact with a quartz-syenite intrusive (Ahmad et al 1993). Copper and tin mineralisation is also present to the north west of the tenement at Mount Wells where a moderate mining operation has is currently in hiatus.

#### Alluvial Gold

There are numerous alluvial gold deposits in the Pine Creek region with gold being eroded from primary deposits, washed down stream and deposited at trap sites where fluid flow velocity has dropped.

#### **Local Mineralisation:**

Within the tenement there are a number of old workings and significant prospects (figure above) including the Union Extended and Isabel mines (currently under mining leases held by Genat for alluvial potential). To the west of the tenement (1km) is the Spring Hill Gold field, 7km to the east the Frances Creek Iron Field and 4km to the south is the Pine Creek gold field with the main Union reefs deposits and mines. Also numerous alluvial deposits have been mined in the southern part of the tenement, with some under current mining leases (figure above).

## 4.0 PREVIOUS EXPLORATION

Historical exploration licences over the area range from 1963 to 2014. Companies include Newmont, Dominion mining, Territory Goldfields, Vista Gold and Pegasus Gold. Acacia Resources also explored in the area in 1990's.

The focus of historical research is on the eastern block of the lease. Extensive alluvial and eluvial gold mining has occurred in the area. The lease is proximal to the extensive workings of the Wandie prospect. Within the lease is the Gilmortona prospect which appears to be eluvial gold scrapings. There appears to be no significant exploration within the eastern block of the lease. Previous exploration in the area has been carried out by Dominion mining, Territory Goldfields, Vista Gold and Pegasus Gold.

A historical data review is ongoing.

## 5.0 WORK DONE DURING YEAR 1 to YEAR 4

No exploration was undertaken on the relinquished blocks during year 1 to year 4 as the blocks were over granitic ground and far from any possible alluvial gold source.

# 7.0 Conclusion and Recommendations

No exploration was undertaken on the relinquished blocks during year 1 to 4 as the blocks were over granitic ground and far from any possible alluvial gold source. There is little alluvial gold potential on the relinquished ground.

## **BIBLIOGRAPHY**

Bureau of Mineral Resources, 1995. Geology of the Batchelor Hayes Creek Region. 1:100,000 Geological Special.

Needham, R.S. and DeRoss, G.J., 1990. Pine Creek Inlier-regional geology and mineralisation, in : Geology of the Mineral Deposits of Australia and Papua New Guinea (Ed: F.W. Hughes) pp. 727-737. (The Australasian Institute of Mining and Metallurgy : Melbourne).