# YEAR 2 ANNUAL REPORT

# **EXPLORATION LICENCE EL31276**

# Mary River West/Ban Ban

For the reporting period 24th November 2017 to 23rd November 2018

# Rockwash Pty Ltd

Project Name: Mary River West/Ban Ban

Map Sheets: McKinlay River, 5271 1:100,000

Pine Creek SD5208 1:250,000

Commodities: Gold, Silver Base Metals

Licensee: Rockwash Pty Ltd.

Author: A Chapman

Date: Jan 2019

# **CONTENTS**

~ ~ 1,111	MARY	iii
1.0	LOCATION	4
2.0	TENURE	5
3.0	GEOLOGY	7
3.1	Regional Geology	7
3.2	Local Geology	7
3.3	Known mineralisation	
4.0	PREVIOUS EXPLORATION	10
5.0	WORK DONE DURING YEAR 1	11
6.0	WORK DONE DURING YEAR 2	13
7.0	Conclusion and Recommendations	16
BIBLI	OGRAPHY	17
	OF FIGURES	
	1. Project I ocation Plan	1
Figure	21: Project Location Plan	
	2: Tenement Location and cadastre	5
Figure	2: Tenement Location and cadastre	5 6
Figure Figure	2: Tenement Location and cadastre 2: Blocks retained at the end of year 2	5 6 8
Figure Figure Figure	2: Tenement Location and cadastre	5 6 8
Figure Figure Figure Figure	2: Tenement Location and cadastre	5 6 8 10
Figure Figure Figure Figure Figure Figure	2: Tenement Location and cadastre	5 6 8 10 11 12
Figure Figure Figure Figure Figure polygo	2: Tenement Location and cadastre	5 6 8 10 11 12 reen 14
Figure Figure Figure Figure Figure Figure polygo Figure	2: Tenement Location and cadastre	5 6 8 10 11 12 reen 14

## **Appendix A:** Exploration Data

EL31276\_CosteanCoords\_2018A EL31276\_RockChipCoords\_2018A

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#### **SUMMARY**

Exploration License EL31276 is located approximately 165kms southeast of Darwin and is wholly owned by Rockwash Pty Ltd. This report covers exploration activities on this tenement during the first second year of tenure.

During year 2 an MMP was completed and approved for exploration on Rockwash's Pine Creek tenements including EL31276. Subsequently a total of 10 costeans were completed with 61 samples taken. Also 8 rock chip samples were taken.

Indications of free gold from panning of concentrates from the costean samples is promising however assays are pending and further work will be based on these results.

Further exploration is planned with mapping of alluvial/colluvial cover recommended around the main creeks to identify and prioritise areas worth testing prior to more costean work.

#### 1.0 LOCATION

Exploration License EL31276 is located approximately 165kms southeast of Darwin (Figure 1) between Adelaide River and Pine Creek. Access to the tenement is via the Stuart Highway, the Mount Wells Rd, then station tracks. The tenement is within pastoral leases Ban Ban Springs and Mary River West (see table below).

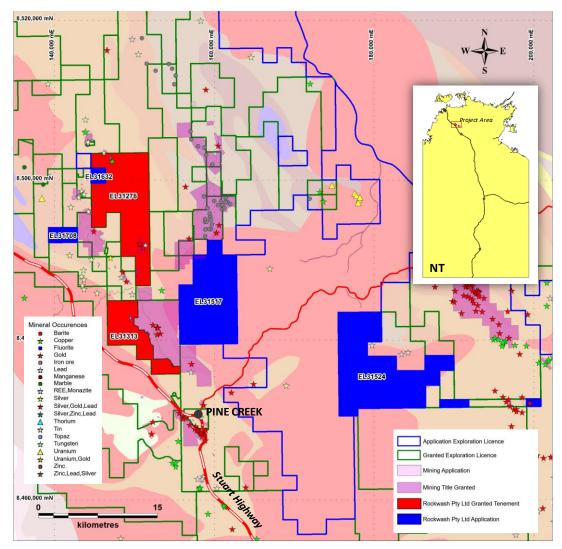
Most of the license may be accessed during the dry season, by four-wheel-drive vehicles, during the wet season the license is inaccessible.

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

There are no native title claims over the tenement.

Table 1 Landowner details

Parcel Type		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	



**Figure 1: Project Location Plan** 

### 2.0 TENURE

EL 31276 is located 25km North-Northwest of Pine Creek (Figure 1 and 2). Rock Wash Pty Ltd was granted the title on 24th of November 2016, and cover's an area of ~80km². The title is located both over the Mary River West Pastoral lease and Ban Ban Springs Pastoral lease. There are several small mining leases within the title area, including several over the historical gold mine, Union Extended.

At the end of year 2 a partial waiver from reduction was submitted and accepted with four blocks relinquished (figure below).

Tenement Details are given in the table below:

**Table 2 Tenement Details** 

Title number	Title holder	Area (blks)	Grant Date	Expiry Date
EL31276	ROCKWASH PTY LTD	24 (now 20)	24/11/16	23/11/22

This report covers exploration activities on this tenement during the first year of tenure.

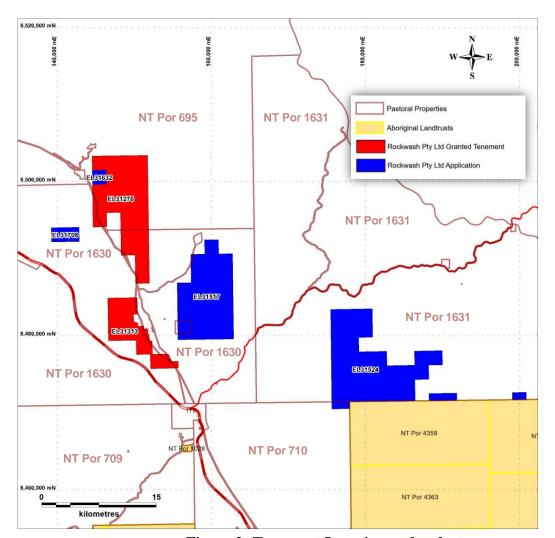


Figure 2: Tenement Location and cadastre

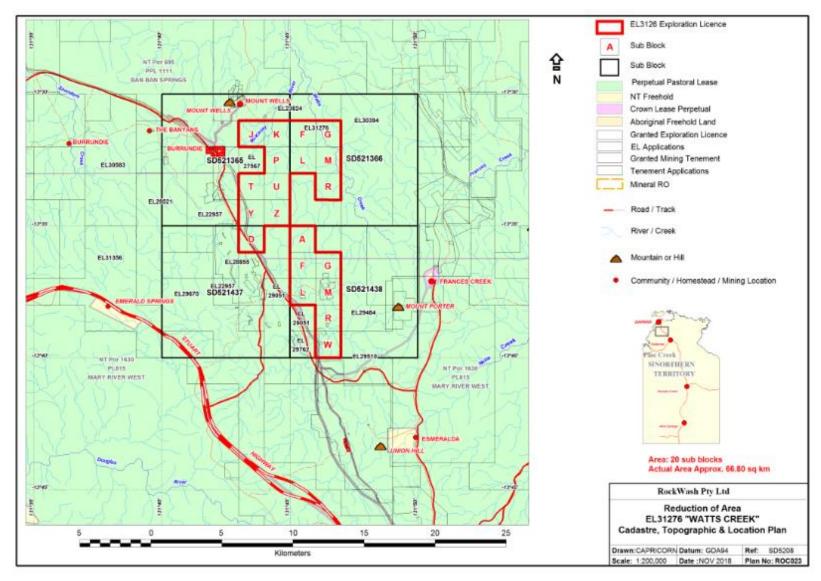


Figure 3: Blocks retained at the end of year 2.

#### 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 primarily has outcropping rocks of the Finniss River Group (Burrell Creek Formation). In the central parts of the tenement the Mckinlay Granite of the Palaeoproterozoic Cullen Batholith outcrops. This granite is proposed to be the heat and metal source for the Spring Hill deposit.

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.

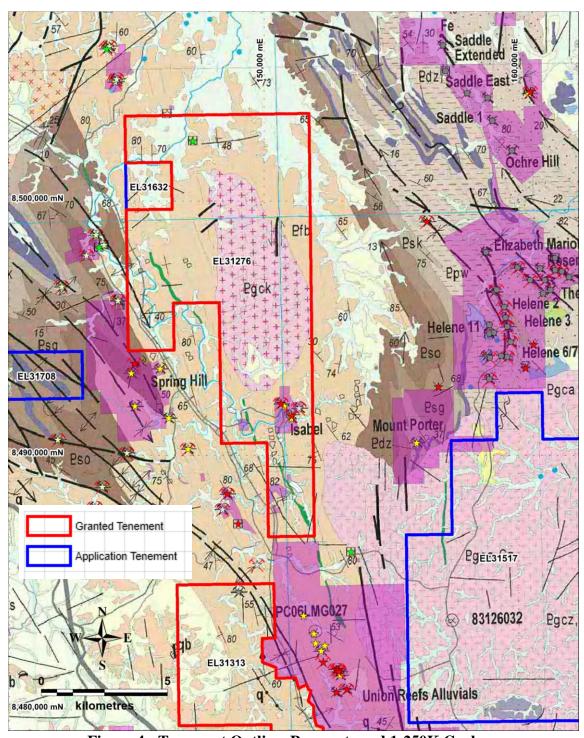


Figure 4: Tenement Outline, Prospects and 1:250K Geology

#### 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

Exploration over the tenement area has been conducted by a few Exploration companies including Billiton Australia and Dominion Gold Operations between 1988 and 1993. Acacia Resources also explored in the area in 1990's. Exploration primarily involved stream, soil and rock chip sampling. Some soil samples were taken with a mechanical auger or back hoe.

Historical data review shows that considerable alluvial gold mining has been completed within the tenement boundary, in the southern part of the tenement. The figure below shows known areas and estimated volumes of alluvial mining activity from 1990 to present.

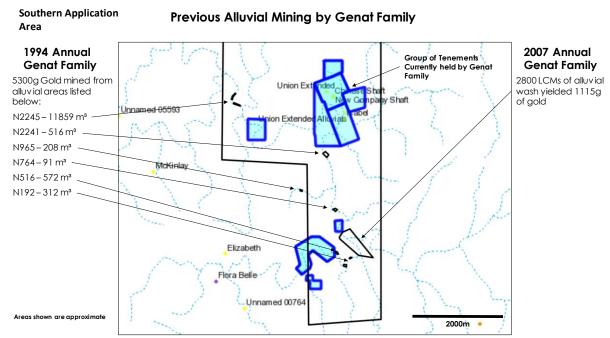


Figure 5: Known previous alluvial gold mining on EL31276

A historical data review is ongoing and will be summarized in next year's annual report.

### 5.0 WORK DONE DURING YEAR 1

During year 1 preliminary reconnaissance was conducted on the tenement and an exploration review of the tenement/ available historic data was commenced. Also, the company purchased equipment needed for a costean sampling program which is planned to start in 2018 (including a \$40,000 transportable gravity/centrifugal test unit with miniature hopper, trammel and centrifuge bowl - Figure 6).

Preliminary findings from the ongoing exploration review are summarized below:

The tenement covers ground highly prospective for alluvial gold as well as prospective ground for primary gold, base-metal, unconformity related uranium and rare earth element mineralisation. It primarily covers rocks of the Burrell Creek Formation (host to the Pine Creek Gold Field) but there is also potential for near surface occurrence of the prospective Alligator River Group stratigraphy, in anticlinal fold hinges along the north western margin of the application.

Numerous creeks within the tenement have primary sources of gold 'up stream' and also there are a number of abandoned alluvial gold workings/mines along these prospective creek lines. Exploration should target depositional areas on these prospective creek lines in areas where fluid flow is/was slower, such as the outside of creek bends and channel widenings. Also historic exploration for palaechannel deposition sites was inadequate leaving significant potential for new discoveries along buried/concealed tributaries.

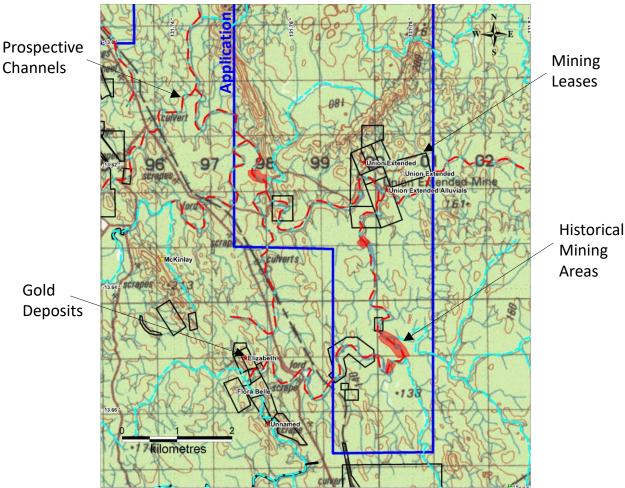


Figure 6: Southern tenement area and most prospective creek lines



Figure 7: Test unit purchased by Rockwash for costean sampling programme in 2018

During the preliminary field reconnaissance, 2 samples were taken from a creek on the western side of EL31276 downstream of the Spring Hill gold project. No significant gold results were returned; however, the sampling size is considered too small.

#### 6.0 WORK DONE DURING YEAR 2

During the year an MMP was completed and approved for exploration on Rockwash's Pine Creek tenements including EL31276. Subsequently a total of 10 costeans were completed with 61 samples taken. Also a total of 8 rock chip samples were taken.

Costeans were dug with a digger and material was placed beside the costean in two piles relating to the sedimentary horizons encountered. All costeans were more than 20m from the riparian vegetation edge along current creeks (not within existing creeks). The costeans were dug to base of alluvial cover or as deep as possible, the maximum depth of the digger was 3.5m and the bucket width was approximately 0.8m. Once a costean was completed the piles were divided into shallower sands and deeper coarse gravels (down to the contact with bedrock if reached). This material was then fed through the portable test unit (figure above). The following samples were taken during each costean:

- Pre-processed test pile
- Intermittent feed sample of oversize from test unit
- Intermittent feed sample of tails from test unit
- Materiel caught in oversize outlet matts of test unit
- Material caught in tails outlet matts of test unit
- Concentrate from the centrifuge bowl of test unit

The concentrate was then panned to give a relative indication of the presence of free gold. All samples have been sent to Perth and an analysis method is still being decided.

All costeans were back filled and fully rehabilitated after sampling was completed.

The figure below show the location of the costeans and rock chip samples.

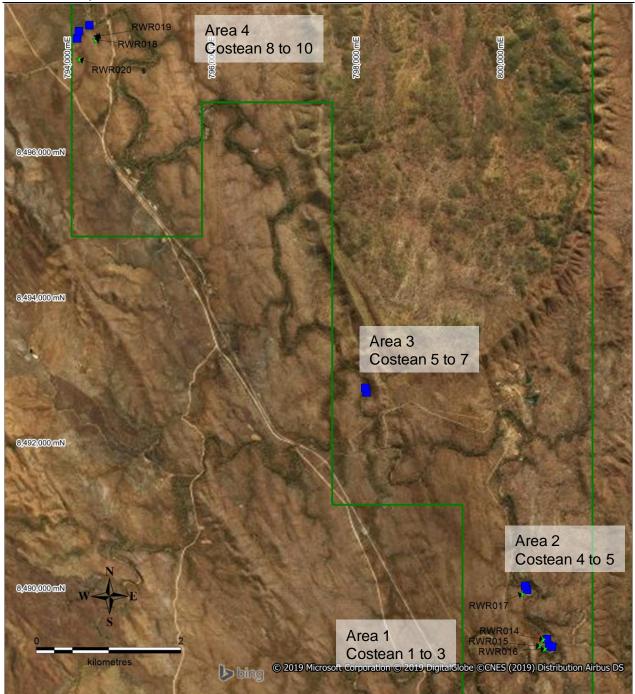


Figure 8: Map of costean (blue squares) and rock chip (green stars) locations EL31276 (green polygon)

Areas 1 to 3 are on the western side of bows in the main creek where colluvial run off has met with palaeo-deposition zones to form large areas of gravel cover. Most costeans reached bedrock providing a rough profile of the palaeosurface. Panning of concentrate samples showed moderate to strong indications of free gold in concentrate samples (based on panning).



Figure 9: Costean 2, Area 1 showing coarse mixed gravel, quarzt and siltstones.

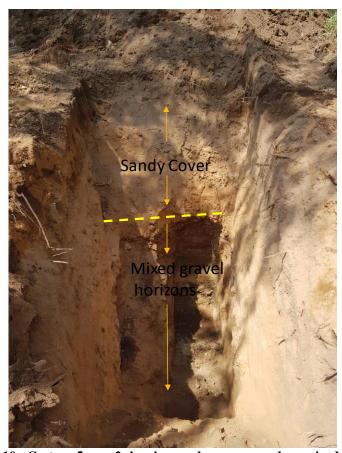


Figure 10: Costean 5 area 2 showing sandy cover over deep mixed gravels

Area 4 is on the northern side of a main east west creek. The area covers a large paleao-deposition zone of very deep, coarse, mixed alluvial gravels, the 3 costeans that were dug did not reach bed rock indicating a depth greater than 3.5m. The gravels are covered by approximately 1.5m of clayey sands. Panning of concentrate samples gave weak to moderate indications of free gold in concentrate samples (based on panning).

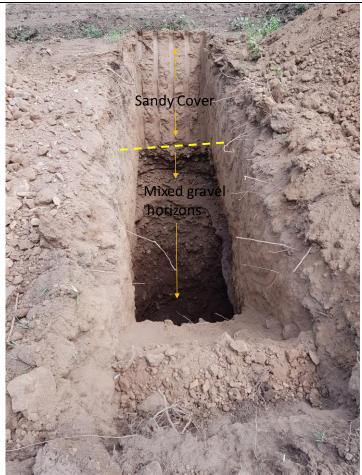


Figure 11: Costean 9 area 4 showing sandy cover over deep mixed gravels

Location data of costeans and rock chip samples is provided in appendix A, assays results are pending.

Eight Rock chip samples were taken from quartz veins close to costean work; three from area 1, one from area 2, and three from area 3. Also, one rock chip sample was taken in the north east corner of the tenement from a sub-cropping vein on the side of a hill. Assays are pending for all samples.

#### 7.0 Conclusion and Recommendations

EL31276 has excellent alluvial gold exploration potential. The main target creeks are those that are downstream from the Spring Hills Gold Project immediately to the west of the southern part of the tenement and downstream of the Elizabeth gold deposit. There are numerous sites where historical alluvial mining has been done within in the tenement

Indications of free gold from panning of concentrate samples from the costeans is promising however the panning only gives relative indications and assays are pending.

Further exploration is planned with mapping of alluvial/colluvial cover recommended around the main creeks to identify and prioritise areas worth testing prior to more costean work.

### **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).

# **Appendix A:** Exploration Data

File Name: EL31276\_CosteanCoords\_2018A EL31276\_RockChipCoords\_2018A