

# Annual Report for Saunders Rush Project

Mineral Lease 29915

For period 4 June 2017 to 3 June 2018

31 July 2018

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## 1 Bibliographic Data Sheet

Project Name:	Saunders Rush Project			
Title Number:	ML 29915			
Title Holder:	Mineral Contracting Australia Pty Ltd			
Project Operator:	Mineral Contracting Australia Pty Ltd			
Authorisation:	0970-01			
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Report Prepared By:	Cameron Hardie			
Report Reviewed By:	Ian Hawkins BSc (Applied Geology)			
Report Date:	31 July 2018			
1:250,000 Map Sheet:	SD5305 (Mount Evelyn)			
1:100,00 Map Sheet:	5370 (Ranford Hill)			
Target Commodity:	Gold			
Contact Details:	cameron@tsolutions.com.au			

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#### 2 Abstract

Mineral Contracting Australia Pty Ltd (MCA) acquired ML 29915 during the reporting period. An Instrument of Dealing – Transfer was registered on 6 March 2018. MCA plans to process low grade mineralised stockpiles and re-process tailings from previous alluvial processing operations on the Wandie Project (ML 29909) and Saunders Rush Project (ML 29915). A Mine Management Plan (MMP) was approved on 5 July 2018. During the reporting period numerous site visits have been conducted on ML 29909 & ML 29915 with geologists, metallurgists, environmentalists and various other contractors to assist in compiling the required data for the MMP and for planning purposes for the processing plant and activities.

#### 3 Introduction

ML 29915 was granted on 4 June 2013 for a period of 5 years and due to expire on 3 June 2018. A renewal application has been submitted 28 May 2018. The current lease replaced the previous titles MCN 931 & MCN 932.

The original title holders of ML 29915 were as follows;

- K. C. Padgett 25%
- S. A. Padgett 25%
- G. L. Wood 25%
- S. M. Wood 25%

MCA recently acquired 100% of ML 29915 and an Instrument of Dealing – Transfer D94010 was approved by the Delegate of the Minister in accordance with Section 123 of the *Mineral Titles Act* and was registered on 6 March 2018.

MCA plans to process low grade mineralised stockpiles and re-processing of tailings from previous alluvial processing operations on the Wandie Project (ML 29909) and Saunders Rush Project (ML 29915).

#### 4 Location & Access Details

The Saunders Rush project is located approximately 40km east of Pine Creek in the Northern Territory, around 210km south-east of Darwin. From the Kakadu Highway the project is accessed via an un – sealed track.



Figure 1: Location

## 5 Title Details

Ti	tle ID	Project	Holder	Ownership	Area	Grant	Expiry
ML	29915	Saunders Rush	Mineral Contracting Australia Pty Ltd	100%	40 Ha	04/06/2013	Renewal Application 28/05/2018



Figure 2: Title Plan

#### 6 Geology

### 6.1 Regional Geology

The tenements are situated within the Pine Creek Geosyncline, a tightly folded sequence of mainly pelitic and psammitic (continental to shallow water) Lower Proterozoic sediments with interlayered tuff units. All the lithologies in the area have been metamorphosed mostly to low and in places medium grade metamorphic assemblages. The sequence has been intruded by pre-orogenic dolerite sills and a number of late syn-orogenic to post-orogenic Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Palaeozoic and Mesozoic strata, as well as Cainozoic sediments and laterite overlie the Pine Creek Geosyncline lithologies. (N. Socic, 1997).



Figure 3: Regional Geology

#### 6.2 Local Geology

The historical diggings, workings and mineshafts are located in metamorphosed sediments of the Burrell Creek Formation of Lower Proterozoic age, namely phyllites, whilst the surrounding alluvial flats are covered by transported Quaternary soils. The Burrell Creek Formation metagreywackes, phyllites, slate, mudstones, pebble conglomerates and quartz-mica schists form part of the Finnis River Group in the Pine Creek Orogen geological province.

At Wandie and Saunders Rush primary gold is associated with considerable pyrite-arsenopyrite sulphides in the host quartz vein reefs. The gold bearing shear/fracture related hydrothermal quartz veins conform with the NW regional trend and occupy the crests of low strike ridges. Typically, there is a narrow main central reef (perhaps 0.5 metres wide) which is relatively barren (buck quartz) from which a stockwork of small quartz splays and stringer veinlets branch, which generally carry the richer gold values. Very long periods of erosion have led to strong residual concentration of gold in the eluvial regolith (weathered bedrock). Host quartz from these veins has been eroded and transported resulting in 0.5-1 m thick accumulations of quartz colluvium ("eluvial quartz wash") near the auriferous quartz reef mineralisation and several metres of extensive flat lying alluvial deposits in and around local drainage systems and their tributaries.

At the Wandie mine NNW trending quartz reefs with very steep to vertical dips are strike parallel to the host rocks. The old workings follow gold in regolith over a series of persistent ferruginous quartz veins. The gravels in the alluvial flats are fairly widespread and developed over substantial thicknesses, whilst the presence of well-rounded pebbles indicates transport from a distal source.

## 7 Previous Exploration

Gold was discovered in the Wandie area in 1882 and attracted miners who adopted both alluvial and hardrock mining extraction techniques. Alluvial gold yields were found to be sporadic and many leases in the area were abandoned as other goldfields of the nation attracted miners. Although incomplete reporting has historically lead to reliability issues, government records indicate total gold production of the Wandie Goldfield in excess of 30,000 ounces. Following the early European extraction of gold from the area, Chinese miners re-worked the alluvial deposits applying the 'dry-blowing' technique in which wind is used to separate the lighter gangue materials from the gold bearing ores. The Wandie dry-blown tailings were re-treated in the late 1980's and early 1990's via simple gravity techniques by New Wandie Mines and Ranford Gold Mines. This most recent mining at the Wandie site also included the alluvial processing of material transported from outside the current ML's, 59.9 kT of ore was treated for an average grade of 0.33 g/t gold recovered.

Significant exploration activities have also occurred on and proximal to the Wandie and Saunders Rush leases including; Eupene (1985 – 86), Gold Fields (1988), Renison & Aardeau Mining (1987 – 90), Moline Managements (1991), Dominion Mining (1993 – 94), Territory Goldfields (1995 – 96). Results consistently confirm the presence of low – grade gold within alluvium and hardrock in the area along with anomalous sulphide mineral base metals including Pb and Zn. (Note that the current activity plan does not include the processing of (noticeably) sulphide ores, or ores containing significant quantities of base metals).

Man-made disturbances in the form of infrastructure are limited in the project area. An un – sealed dirt track links both Wandie and Saunders Rush to the Kakadu Highway approximately 20km to the north – west. Water bores either on or proximal to the project sites have been drilled to facilitate mining operations. Other infrastructure including fences have been installed by station landholders for the purpose of stock management. Processing equipment utilised by Ranford Gold Mines in the most recent mining activity was relocated to Saunders Rush and as per terms of purchase agreement of the ML's of this project, is to be removed upon the rehabilitation of the site detailed.

Both the Wandie and Saunders Rush sites currently contain significant stockpiles of processed alluvial materials in large stacks up to 5m higher than the surrounding flats. The Wandie site also contains a significant stockpile of hardrock overburden which has been identified as a potential economic ore source. This hardrock material is not known to contain significant quantities of sulphide minerals.

Although the sites are considered heavily disturbed given their history of sporadic mining, the presence of flora re-growth on tails piles supports the ability to successfully rehabilitate the site at the conclusion of mining operations.



Figure 4: Site Layout

#### 8 Current Exploration

The previous title holders reported that 10.5 grams of gold was recovered during the reporting period by detecting only.

MCA conducted numerous site visits with geologists, metallurgists, environmentalists and various other contractors to assist in compiling the required data for the MMP and for planning purposes for the processing plant and activities.

#### 8.1 Office Studies / Data Review

In 1982 New Wandie Mines (NT) set up a plant at the Wandie deposits to re-treat the dryblown Chinese workings and any other auriferous gravels in the district. They determined that at Wandie the main Chinese workings contain possible mineralization of 1,000,000 cubic metres in situ with a recoverable grade of 0.5-0.6 grams Au per cubic metre and noted that further material exists that has not been tested. At Saunders Rush possible mineralization is contained in 75,000m3 of Chinese diggings and alluvials at a grade of 1.6g/ m3, and 100,000m3 of untested alluvials. Economic pre-feasibility to definitive feasibility with engineering/metallurgical studies are recommended to update the current situation.

At Wandie the old hard-rock workings have been covered by plant tailings and slurry dams from historical alluvial operations. Alluvial mining was carried out in the Wandie area by Wandie Gold Mines Pty Ltd between June 1983 and December 1985. From 1986 to December 1991, ore was processed through an alluvial plant located on the mineral claims, by Wandie Gold Mines Pty. Ltd. and Ranford Gold Mines Pty. Ltd. The ore was sourced from areas outside the historical mining tenements MCN921&923, from surface material stripped from the Wandie, Lake Wandie (2km N of the Wandie Alluvial Plant), Aston Hill, Kim's and Saunders Rush prospect areas. Exact details on the processing of the tailings are not available. Systematic grade control drilling is suggested for robust confident resource calculations to assist mining reconciliation scenarios.

## 8.2 Proposed Processing Activities / Mine Planning

Both the Wandie and Saunders Rush project sites currently exist in a disturbed state following sporadic mining activities since European settlement.

Mining at Wandie and Saunders Rush will involve a simple process of excavation of unconsolidated surface tails stockpiles and re-handling to the processing plant where treatment will focus on the recovery of gold.

With close proximity to the processing plant, material at the Wandie lease can be re-handled with a front-end loader while tailings from Saunders Rush will require loading and truck haulage over the 8km route to the Wandie processing plant. The mining operation would utilise a front-end loader and surface tipping truck

A small-scale and semi-portable mineral processing plant is planned to be established at the Wandie site with material from this claim being fed directly to the proximal mill while the Saunders Rush material would be trucked the 8.2 km from its current location to also be processed at Wandie. The

small scale and modular nature of the planned processing plant lends itself to flexible application to low grade gold recovery from tailings with a smaller rehabilitation footprint than would be created with a fixed plant

The proposed processing flow diagram was designed with the intention of recovering gold previously locked within gangue materials when alluvial mining was conducted. Heavy minerals containing both free and sulphide hosted gold will be liberated through a crushing and screening circuit prior to concentration via gravity techniques



Figure 5: Mine Operations Layout Plan Located on ML 29909





#### 9 Conclusion and Recommendations

In order to conduct grade control for the processing activities, MCA is required to complete a drilling program over the disturbed sites. A drilling program is planned to be conducted over the "disturbance envelopes" as show in Figure 7.

The program is proposed to consist of a 25m x 25m and a 50m x 50m, area over both the Wandie and Saunders Rush sites. As both sites are highly disturbed areas, no pad construction or clearing would be required.

It is proposed to drill 200 x 12metre holes combined across Wandie and Saunders Rush sites. All drill holes will be filled in on competition of the hole being drilled.

Once assaying has been completed and the data compiled and interpreted, MCA will progress the project with equipment procurement, construction of plant and begin operations.



*Figure 7: Disturbance Envelope* 

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