

**Dr Michael Green**

**Growth company & Resources analyst**

DOC Investments Limited

Kemp House,  
152 City Road,  
London EC1V 2NX  
doc@docinvest.co.uk

Asset report

**Salopia & Earlscliffe prospects-  
Ukalunda Project EPM 26204  
(Percy Douglas).**

**Historic impressive high-grade  
gold assays with drilling planned.**

Key data

**Metals: Epithermal gold, silver  
and base metals.**

**Assays results: 127g/t gold and  
94.9g/t gold.**

**Drilling results: best 3m @ 11g/t  
gold.**

Website

[www.nqminerals.com](http://www.nqminerals.com)

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## **SALOPIA – UKALUNDA**

**Drilling planned to follow up on historic  
high-grade gold assays in the renowned  
Charters Towers gold province**

**Gold exploration at a very good address.** More than 20 million ounces of gold have been mined in the Charter Towers gold province in Queensland. In 2016, NQ Minerals was awarded EPM 26204 which substantially increased the area of its Ukalunda project area providing a total of more than 15km<sup>2</sup> of the Drummond Basin sequence. The Drummond Basin is famous for hosting a number of significant high grade epithermal gold deposits, the most notable is probably the 3 million ounce Pajingo Mine along with the Wirralie gold mine which lies 25km to the south of Ukalunda project area.

**Right geological setting for a major orebody.** These tenements boast many mineral discoveries and are the site of a number of historic mines. Plus, the area is peppered with many polymetallic mineral shows (gold, silver and base metals). These factors combine to suggest that NQ's Ukalunda Project could provide the right geological setting for a major orebody to be discovered. Despite compelling evidence of potential economic ore deposits associated with polymetallic vein, skarn, epithermal, breccia and intrusion related mineral systems, EPM 26204 remains largely unexplored.

**Economic gold intersection lay hidden for years.**

Modern online tools have allowed the team to rapidly assess EPM 26204 and find new orebodies in old data. In fact, poor record keeping by a previous licence owner led to a 3m at 11g/t gold drilling intersection at the Salopia Prospect being wrongly labelled at just 0.43g/t and so had attracted little interest over the years. Whilst, the nearby Earlscliffe Prospect has seen historic assays as high as 127g/t gold and 94.9g/t gold.

**Drilling to test historic gold intersections.**

A well designed initial drilling program at Salopia and Earlscliffe is planned. The target in EPM 26204 is clearly gold as NQ is seeking to confirm the gold mineralisation at these two prospects, ahead of outlining mineable gold resources which will allow a real valuation to be placed on these interests by peer comparisons. NQ is also seeking to establish the scale of the important Drummond Basin basal volcanics in the EPM and their prospectivity for gold along with assessing the potential of other formations for gold and other metals.

**Rapidly add value by defining a JORC resource**

Once discoveries have been made, step-out drilling could establish a resource footprint followed by infill drilling to increase the statistical confidence that is required for the definition of a resource. Further drilling carried out on a tighter matrix will improve the quality of the resources under JORC standards as geological certainty improves increasing the value of the asset even more. This work will allow a comprehensive mine design plan to optimise the full economic potential of any future mining operation at Salopia and Earlscliffe.



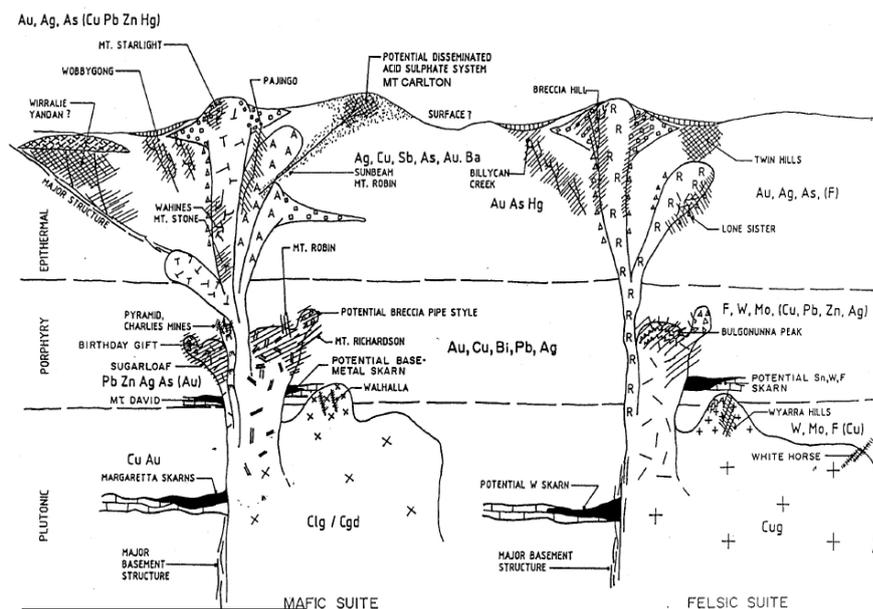
## Geological setting for a major orebody

### GEOLOGY

More than 20 million ounces of gold have been mined in the Charter Towers gold province, with EPMs 18019 & 26204 boasting many mineral discoveries and being the site of a number of historic mines. The permit area is also peppered with many polymetallic mineral shows (gold, silver, copper, lead, zinc etc). It is the combination of these two important factors which is increasingly suggesting that these tenements could provide the right geological setting for a major orebody to be discovered in the future.

EPM 26204 covers parts of both the Anakie and Drummond Basin Provinces. This includes a NE trending faulted anticlinal structure of basement early Devonian metasediments (sedimentary rock which shows signs of metamorphism) and Anakie metamorphics lying beneath rocks of the Ukalunda Formation, Devonian Cycle 1 Drummond Basin volcanics and by Permo-Carboniferous Bulgonunna Volcanics.

The Anakie Province mainly consists of weak to moderately metamorphosed early Palaeozoic marine sediments of the Thomson Orogen. Both the basement metamorphics and the Drummond basin rocks are overlain by late Carboniferous acid lava flows Bulgonunna Volcanic Group ignimbrites (ash-flow tuff deposited by a pyroclastic-flow) and rhyolites (the extrusive equivalent of granite). The area was intruded by hornblende-bearing granitic rocks and mafic (ferromagnesian minerals such as pyroxene and olivine) during the late Carboniferous to early Permian. There are widespread gold and polymetallic mineralisation seen across this area. Geologists believe that this is just the sort of geology across major deep-seated faults which creates an ideal location for economic ore bodies to be present.



**Mineralisation styles in the Drummond Basin**

Whilst, the Drummond Basin is a prominent region in Australia for large world class epithermal vein and stockwork style (lying in a solid mass rather than veins) gold. This gold mineralisation is widespread in its lower sequence and related to faults caused by the stretching of the earth's crust which occurred around the same time as the basin was being formed.

The Drummond Basin hosts significant epithermal gold orebodies. The major deposits are low-sulphidation epithermal gold-silver deposits hosted by Cycle 1 (there were three cycles in total) sedimentary and volcanic rocks. Significant gold-silver production has come from open cut and underground operations at: Pajingo, Wirralie, Yandan and Mount Coolon.

## Significant epithermal gold orebodies

*Drummond Basin  
epithermal gold  
discoveries*

*Multi-million ounce  
gold deposits*

*3m @ 11g/t gold*

**HISTORIC EXPLORATION**

The region has a mining history that can be traced back over the last 150 years or so, which seemed to have begun with discovery of the Mt Wyatt goldfield in the 1860s, followed by the Ukalunda silver rush in the 1890s. Modern gold exploration really began forty years ago, in the early 1980's, encouraged by the discovery of epithermal gold at Mount Coolon which was followed the discovery of the bonanza Scott Lode at Pajingo by Battle Mountain. Within 25 kilometres of south of the Ukalunda Project, epithermal gold deposits were discovered and subsequently mined at Wirralie.

The discovery of all these epithermal gold discoveries rekindled interest in the Drummond Basin, south and south-east of Charters Towers. These deposits are seen to outcrop out of a small window in areas of Tertiary cover and served to incentivise exploration under this cover. By the late 1980's the Ukalunda project area was split up into a lot of smaller EPMs held by a number of different owners. Rock chip sampling and soil sampling is known to have been carried out at a number of prospects including: Salopia, Earlscliffe, Mt William Philpott, Joe De Little and Wild Goose. Follow-up work by Australian Consolidated Minerals on a gold in soil sampling anomaly in 1991 led to the discovery of Polka Dot gold mineralisation, just one kilometre south of the historic Sunbeam silver mine in EPM 18091.

Despite past exploration efforts, EPM 26204 still remains largely underexplored especially given the potential for economic ore deposits associated with polymetallic vein, skarn, epithermal, breccia and intrusion related mineral systems. Certainly, the tenement is located in the same geological province in NE Queensland which hosts a number of multi-million ounce gold deposits plus significant base metal mines. Geologist believe that there is plenty of scope for the discovery of more such orebodies. Modern online tools have allowed the team to rapidly assess EPM 26204 and find new orebodies in old data which has led to exploration activity initially being focused on the gold potential of the Salopia and Earlscliffe prospects.

**SALOPIA**

The sub-blocks in the south of EPM 26204 show skarn/granitic contact related gold mineralisation at the Salopia and Salopia Road Skarn. The team made an important discovery when routinely searching through the Queensland Government's QDEX Data which allows access to a vast amount of geoscience spatial data including geochemistry and down-hole assays. At Salopia, an assay of a best intersection (SAL1) was wrongly recorded as 3 metres @ 0.43g/t gold, whereas the original assay sheet showed 11g/t.

Sample type	Length of intersection	Gold grades
Drill hole	3 metres	11.0g/t
Rock chip		94.9g/t
Rock chip		49.4g/t

**Historical high-grade sampling at the Salopia prospect in EPM 26204**

Work done in the past at Salopia included the mapping of low order gold in soil anomalies and old workings which were tested with two drill holes. SAL1 from 33-36m assayed 3m at 11.0g/t gold. A second hole SAL2 intersected 3 metres of 0.1g/t gold/0.34% arsenic (which can be an important indicator for gold). Tate (1989) found small veins in arsenopyrite/quartz arsenopyrite in pods near quartz veins with an assay of 49.4g/t gold and 1% arsenic in arsenopyrite ore. Whilst the Salopia Road Skarn is a gently dipping 2-4m bed in the Ukalunda Formation sandwiched between a diorite sill and weathered volcanolithic sandstone. Best historic assays are 0.28g/t and 0.3g/t gold.

## EARLSCLIFFE

In EPM 26204, the highest-grade rock chip sample of 127g/t gold was found at the Earlscliffe prospect. Other niche style rock chip samples found in this prospect assayed up to 9.9 g/t gold and 61.5g/t gold.

Drill intersection	Costean sample	Grab sample
1 metre @ 1.72g/t gold	61.5g/t gold	127g/t gold

### Historical high grade sampling at the Earlscliffe prospect in EPM 26204

Geochemical surveys have shown that there are widespread anomalous gold values in soils of up to 1620 ppb gold (which equates to 1.62g/t gold). Results from costeans, which are small shallow pits, included 3 metres @ 0.5g/t gold, whilst the best intercept from drilling by Hunter was 1 metre @ 1.72g/t gold.

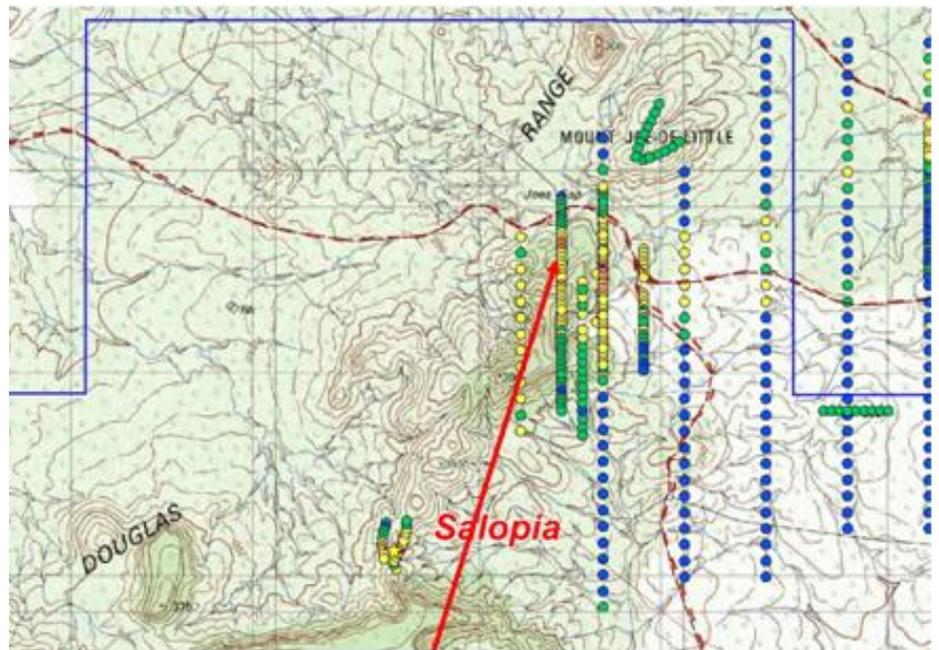
*127g/t gold*

### WORK BY NQ MINERALS

The planned exploration program on EPM 26204 is based on the success enjoyed by the company using conventional exploration on the adjacent EPM 18019. The target in this tenement is clearly gold as NQ is seeking to confirm the gold mineralisation at Salopia and Earlscliffe, ahead of outlining mineable gold resources.

In addition, the company is not only seeking to establish of the scale of the important Drummond Basin basal volcanics within the EPM with their prospectivity for gold; but also assess the potential of other formations for gold and other metals.

*Gold in soil anomaly highlighted*



Soil gold geochemistry, Joe's Gap – Salopia area

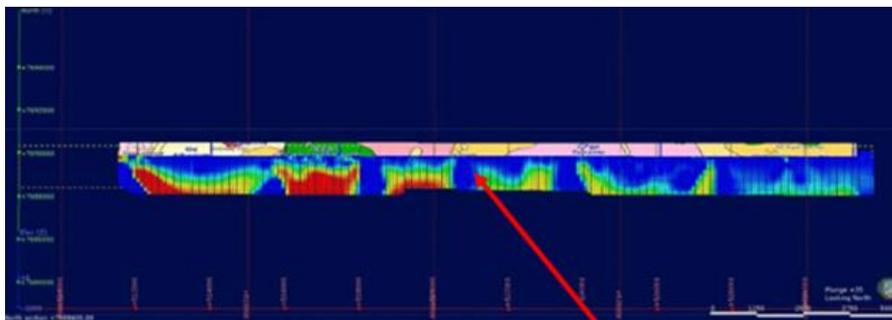
In 2017, the team undertook the detailed evaluation of the results of previous explorers on EPM 26204. This process involved taking a long and hard look at the detailed geological mapping that had been undertaken in the 1980's which has allowed the boundaries of the highly important Mt Wyatt Formation within the EPM to be refined. This work was undertaken following the reprocessing historic geophysical data. All this critically important work has led to some key findings which will allow for more targeted exploration in the field work planned to follow up on previous promising drill intersections at Salopia, Earlscliffe and at other targets.

*Lots of new geological information to be interpreted*

*Following up on previous gold intersections*

## REPROCESSING GEOPHYSICAL DATA

Queensland-based Planetary Geophysics undertook the comprehensive job of reprocessing the existing geophysical data using innovative technologies to help provide improved interpretation. This was a thorough job which involved taking 200 metre spacing multi-client aeromagnetic and radiometric data from 1987 combined with detailed digital maps (including TMI, RTO, 1VD and TD) along with a suite of radiometric images. All this work has allowed results like a gold in soil anomaly in the Salopia area to be highlighted (as shown on page 5).



**3D Magnetic Inversion model to 1,000m through Salopia looking north**

Magnetic inversion modelling was also undertaken on the aeromagnetic data. This is powerful technology which allows the most likely distribution of physical rock parameters to explain the results of exploration work. The result was fed into Leapfrog 3D geological modelling software system which provides an improved geological understanding by evaluating multiple models to test various hypothesis. Such a technique is used to reduce geological risk and has served to generate a lot of new geological information to be interpretation. Early inspection has revealed that the Salopia gold deposit is located on a major vertical contact.

## DRILLING

A re-examination of the geological mapping (Tate 1989) reported the Salopia workings to be concentrated in a rebrecciated comb quartz vein hosted by hornfelsed Ukalunda Formation sediments and calc-silicate skarn. Additionally, the mineralisation was found to occur as massive patches of arsenopyrite both, in the vein and the surrounding skarn. Tate reported that the mineralisation at Salopia had a much higher gold content than the copper dominated skarns in the Mount Wyatt area, with one sample of massive arsenopyrite returned 94.9g/t gold.



**Salopia drill hole location looking SSW from Joe De Little**

A drilling program is planned to follow up on previous gold intersections at Salopia and Earlscliffe. Painstaking work has identified other targets at Leonie, Leonie South, Joe De Little, Python South and the SE Mag anomaly. Access roads have been planned to the Salopia and Earlscliffe drill sites, and an initial drilling program of three holes for a total of 300 metres. This will involve drilling two 100 metre holes at Salopia (Salo\_01 & Salo\_02), and one 100 metre hole at Earlscliffe (Earl\_01).

*Easiest way to add value is by drilling*

*Increase the value of these assets still further*

## **STRATEGY FOR GROWTH**

NQ Minerals has revisited NE Queensland using new powerful online tools and up-to-date geological models to set about reinterpreting historic data from previous exploration and old abandoned mines in order to generate new exploration targets. Although a number of large gold orebodies and significant base metal mines have been discovered, the team believe that there is scope for further discoveries.

The company is now embarking on a more detailed program exploration using the same techniques that have successfully been applied by NQ's team at Square Post and the Ukalunda Projects, most notably at Sunbeam. The short-term strategy is aimed at increasing value by targeted exploration and the easiest way to add value is by drilling. The two main gold drill targets in EPM 26204 are Salopia and Earlscliffe. Although, the truth is, the company has a number of other highly compelling targets, but these two offer the best gold potential at the current time.

Drilling at both Salopia and Earlscliffe is designed to test historical high-grade gold assays. Once discoveries have been made the company will start step-out drilling to establish a resource footprint followed by infill drilling to increase the statistical confidence that is necessary for the definition of resources. It is required that resource be estimated to the necessary standards required to become JORC-compliant, which will allow a reliable value to be placed on these two prospects by peer comparisons.

Moving further ahead, as further drilling is carried out on a tighter matrix, the quality of the resources under JORC standards can improve as geological certainty improves. Such a move will allow more ounces of gold resources to move up from an inferred mineral resources category into the higher indicated or measured categories which acts to increase the value of these assets still further. The goal is to define a mineral reserve and resource base which will allow comprehensive planning to be undertaken in order to optimise the full economic potential of any future mining operation at Salopia and Earlscliffe.

### **About the author**

Dr Michael Green is an independent analyst who specialising in growth companies and resources companies. He gained a BSc and PhD in Mining Engineering from Nottingham University. Having been involved in consultancy work, he began working in the London financial market in the 1980s as a Resources Analyst with stockbrokers Buckmaster & Moore and then HSBC-owned Greenwell Montagu Securities. Subsequently, he was involved in analysing a wide range of growth companies and became Head of Research at stockbroker Everett Financial which specialised in the small cap market. Since, 2006 Michael has been an independent analyst. UK-based DOC Investments Ltd provides research and investor relations.

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