



## Dr Michael Green Growth company & Resources analyst

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### Business

Development of a polymetallic tailings project in Tasmania and exploration in Queensland, Australia.

### Key data

EPIC: NQMI, NQMLF  
Share price: 14.5p  
52 week high/low: 14.77p – 6.1p  
Listing: NEX, OTCQX  
Shares in issue: 302.6m  
Market Cap: £43.9m  
Sector: Mining

### Website

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

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### **Highly cash generative tailings project is a sound foundation on which to build a substantial mining company**

**Company-making acquisition.** NQ Minerals (NQ) recently acquired the Hellyer gold polymetallic tailings project in Tasmania for £22m in a cash and shares deal. The tailings represent substantial reserves of zinc, lead, silver, gold and copper resulting from the mining of the very rich polymetallic Hellyer Gold Mine in the 1990s. Processing these tailings over a 10-year project life is expected to generate compelling economics at today's metal prices. Aggregate revenue is suggested to be over A\$1.3bn with an estimated annual EBITDA of US\$42m (£30m) for 10 years.

**Production planned to begin later this year.** This acquisition is a low-risk world-class deal which consisted of tailings dams and a 1.6Mtpa fully automated flotation plant. Start-up costs are very low at £11.25m due to the well-maintained mill and extensive infrastructure which includes direct access to an 80km railway link to the Port of Burnie from where zinc, lead and precious metals concentrates will be shipped to smelters which will extract the metals. To ensure the project runs smoothly the management includes key members of the team that used to run Hellyer mine including ex-Senior Metallurgists.

**Strong cash flow to fuel corporate growth.** The tailings acquisition clearly demonstrates that the board not only has the necessary mining expertise and execution skills, but also the deal flow to drive NQ to become a leading gold and base metal production, developer and exploration company. The expected annual EBITDA of £30m looks likely to provide the board with the necessary capital to propel the company towards this goal.

**Impressive project pipeline.** NQ also has highly prospective gold and silver projects in North Queensland. At Ukalunda, silver stockpiles are estimated to contain 48,000t of high grade silver which can be processed upon the granting of a Mining Licence, which is expected soon. Whilst at Square Post, an exposed gold breccia is planned to be drilled for the first time. Breccia hosted gold deposits are seen as a major exploration target in this area where there are well-known breccia hosted gold mines like Kidston (5Moz), Mt Leyshon (3Moz) & Mt Wright (1Moz).

**Shares deserve a significant re-rating.** The CPR in November 2017 outlined a project with 9.25 Mt of reserves with a ten year life of mine project and determined an NPV(10) of US\$113.2m with an IRR of 90.94%. It has to be pointed out that this valuation was arrived at using much lower zinc and lead prices than are currently prevailing. Truth is that the zinc price could halve, and the operation would remain profitable. It does look as though shares in NQ Minerals deserve a strong re-rating. The current market capitalisation means that the stock is trading on less than 1.5 times prospective earnings which looks like a derisory valuation.

*Annual EBITDA of  
US\$42m for 10  
years*

*9.25Mt of high  
grade tailings*

## INTRODUCTION

NQ Minerals Plc (NQ) is focused on becoming a leading gold and base metals production, development and exploration company.

The flagship project is the 100%-owned Hellyer Gold Mine in Tasmania, Australia, which has a polymetallic (copper, lead, zinc, gold and silver) tailings project. NQ holds consolidated granted mining leases CML103M/1987 for an area containing the tailings dam and the associated processing plant. Production from the tailings treatment project is expected to begin in June 2018 and generate an annual EBITDA of US\$42m (£30m) for ten years. In addition, NQ also has gold and silver projects at Ukalunda and Square Post, which both lie in highly prospective mining districts in North Queensland.

## HELLYER GOLD POLYMETALLIC TAILINGS PROJECT

In June 2017, the company completed the purchase of the Hellyer Gold Mine with its associated tailings retreatment project. The acquisition cost was £22.1m (A\$20 million plus shares equivalent to a then 29.9% stake in NQ) with some of the vendors joining the board including Roger Jackson. Following the acquisition, a program of refurbishment has begun and the updated permitting for tailings reprocessing was granted in October 2017.

The Hellyer Mine is located in NW Tasmania 80km south of the port of Burnie. The Hellyer deposit is a volcanic polymetallic massive sulphide (VMS) deposit that lies within the Mount Read volcanic arc of western Tasmania. This region which has seen extensive historical mining and hosts similar deposits which include Hercules, Que River, Roseberry and Mount Lyell. The mineralisation here is sulphide hosted and mainly comprised of pyrite, with lesser sphalerite, galena and arsenopyrite.

From 1989 to 2000, the Hellyer deposit was mined by underground methods for lead, zinc, copper, gold and silver. Between 2006-08 the tailings were partially dredged by Polymetals Group and later on, between 2010-12 saw further mining by Bass Metals of the Fossey deposit that extends down plunge from the Hellyer deposit. Tailings from the mill in 1989-2000 were deposited in a depression 1km away and the area flooded to prevent oxidation of the sulphides. Between 2010 and 2012 the tailings were partially dredged by Polymetals and retreated with the reprocessed tailings deposited in the Shale Pit and Western Arm. Tailings from processed Fossey deposit were also discharged into the Western Arm.

### Hellyer Tailings Storage Facility, Mineral Resource Estimate (CPR 20-11-17)

JORC Classification	Gross total & Net Attributable to NQ Minerals					
	Tonnage Mt	Zinc %	Lead %	Silver g/t	Gold g/t	Copper %
Measured	2.05	3.31	3.35	94	2.63	0.2
Indicated	5.99	2.29	2.95	93	2.55	0.18
Inferred	1.21	1.00	2.60	86	2.57	0.19
<b>Total</b>	<b>9.25</b>	<b>2.35</b>	<b>2.99</b>	<b>92</b>	<b>2.57</b>	<b>0.19</b>
	Tonnage Mt	Zinc (t)	Lead (t)	Silver (Moz)	Gold (oz)	Copper (t)
Measured	2.05	67,900	68,700	6.195	173,300	4,100
Indicated	5.99	137,200	176,700	17.910	491,000	10,800
Inferred	1.21	12,100	31,500	3.345	100,000	2,300
<b>Total</b>	<b>9.25</b>	<b>217,400</b>	<b>276,600</b>	<b>27.360</b>	<b>764,300</b>	<b>17,600</b>

In November 2017, a Competent Person Report (CPR) was published providing a Mineral Resource Estimate and an Ore Reserve Estimate plus outlining compelling economics and a review of mine design, environment, permitting and metallurgy.

*1.6Mtpa fully automated flotation plant*

**PRODUCTION**

The acquisition of the Hellyer Gold Mine came with impressive infrastructure and a mill which had processed material from the previous mining operations at this site. The mill was built in 1988 and is a 1.6Mtpa fully automated flotation plant equipped with a semi-autogenous grinding (SAG) mill, ball mills and floatation cells. Whilst under a care and maintenance program, the mill seems to have been well looked after.



*Extensive infrastructure*

In addition, there is an existing tailings dredger plus extensive infrastructure that includes an undercover concentrator loading station and direct access to an 80km railway to the port plus concentrate housing, handling and loading facilities at the port. Ongoing development work involves the refurbishment of the existing operation facilities to allow the extraction and treatment of the large high-grade tailings deposit on site to produce three marketable concentrates with the residual going to storage.

**Annual production of concentrate products**

Concentrate products	Annual production	Shipping destination
Lead	36.2ktpa @ 36%Pb, 2.7% Zn, 850g/t Ag and 6.9g/t Au	Smelter in South East Asia
Zinc	28.6ktpa @ 46% Zn, 2.3% Pb, 160g/t Ag and 1.8g/t Au	Smelter in Hobart, Tasmania
Precious metals/pyrite	553ktpa @ 48% S, 64g/t Ag and 2.8g/t Au	Smelter in China

The Hellyer tailings project offers the prospect of significant short-term cash flow. The 7-month refurbishment program began in early-2018 and production is expected to start later this year. The three concentrate products are to be transported from the project’s own railhead to the Port of Burnie for shipping to smelters where the pure metal will be extracted.

*NPV(10) of  
US\$113.2m*

*Aggregate  
revenues of  
A\$1.3bn+*

*Low start-up capex  
of £11.25m*

*Further VMS  
deposits nearby*

## ECONOMICS

The Hellyer gold polymetallic tailings project is a company-making project with impressive economics from the mining and processing over 9Mt of high grade zinc, lead, gold and silver tailings. Few small caps acquire a project of this sort of scale. The CPR published in November 2017 outlined a project compelling economics with an NPV(10) of US\$113.2m (US\$128.4 excluding acquisition costs) and an IRR of 90.94% (197% excluding the acquisition cost). Importantly, this NPV(10) valuation in the CPR was calculated using much lower zinc and lead prices than are prevalent today.



**Hellyer - 1.6Mtpa base metal processing plant**

The 10-year Hellyer mine-life plan that has been outlined is expected to deliver strong cash flow and profitability coupled with a quick payback of capital to maximise shareholder value. In terms of gold equivalent, the production costs are around \$600 an ounce, so there is a gross margin of 50% plus. Certainly, the project is economically robust as the zinc price could halve, and the operation would still remain profitable. Over the current 10-year life the project is expected to generate aggregate revenues of in excess of A\$1.3 billion (US\$1bn) resulting in an estimated annual EBITDA of £30m.

The 1.6mtpa fully automated flotation plant and extensive existing infrastructure means that the start-up capital expenditure to get the project into production is low at £11.25m. Strong project economics have been highly attractive to lenders allowing the majority of the acquisition cost and the start-up capex to be debt financed. By financing growth in this manner, dilution has been strictly limited which protects shareholders' interests.

Stretching out ahead of the company over the next ten years is a long-term earnings stream of large and reliable revenue, cash flow and profits from the Hellyer tailings projects. At the end of this period, the company will have an empty tailings dam and the processing plant which was designed to process the original production from the Hellyer mine. So, NQ will have the capacity to take advantage of other high grade polymetallic VMS deposits in the area.

NQ already has the option over nearby exploration leases. Underneath the mill there are some amazing prospects, with apparently very high grade. Investors need to realise that the Hellyer Mine in 11 years of operation produced 15Mt of ore that yielded 610,000t of bulk concentrate, 2.7Mt of zinc concentrate and 728,000 tonnes of lead concentrate; by mining material with a combined zinc and lead grade of 20%. Hellyer was an extremely high-grade mine with high-grade tailings from which NQ will be benefitting for the next 10 years and the real possibility of further potential beyond that time.

*190 years of  
combined mining  
& public company  
experience*

## MANAGEMENT

### **Walter Doyle – Director, CEO and Founder**

Walter has more than 30 years' experience of mining and resources projects in Australia. The Doyle family has three generations of mining history participating in the discovery of several large resources properties, including the initial discovery of the Century Mine, one of Australia's primary silver/lead deposits. Walter is a venture capitalist specialising in worldwide equity markets with a wealth of contacts in North America and London. He was behind the resurrection of Sirius Minerals (AIM:SSX) which was turned from being a shell to be capitalised at over £1 billion.

### **Brian Stockbridge – Chairman**

Brian is an investment banker based in London who has held senior positions in well-respected City firms such as Grant Thornton, Noble & Company, Allenby Capital and Zeus Capital. As a regulator for the Panel of Takeovers & Mergers, he was the primary case officer for over 150 transactions valued up to and over £1 billion.

### **Roger Jackson – Executive Director**

Roger has over 25 years' experience of the mining industry gained from both underground and surface operations. He is a Founding Director of numerous public and private entities in Australia including Hillgrove Gold Mines, Ark Mines Ltd, Every Day Mine Services Ltd, Augur Resources and Georgetown Gold Mine. Roger has significant concentrate marketing experience and has the following qualifications BSc. (Geology, Geophysics) Dip. Fin. Man. Dip. Ed. MAus. IMM AICD.

### **Colin Sutherland – CFO and Director**

Colin is a CPA with over 20 years of financial and operational experience. Most recently, he served as President of McEwen Mining (NYSE:MUX) (TSX:MUX). Prior to this Colin was the Chief Executive Officer and Managing Director of Archipelago Resources Plc and has held senior financial and executive roles with Timmins Gold, Capital Gold, Nayarit Gold and Aurico Gold.

### **Frederick Bryan Smart – Non-Executive Director**

Frederick is a Chartered Accountant with over 40 years' experience in finance both in professional and commercial roles.

### **Alan Ambrose – Non-Executive Director**

Alan has 30 years' experience in exploration, project evaluation and project management within the mining industry. He has been a geological consultant in the US, Venezuela and Argentina and is a Director of Minera Andes (McEwen Mining).

### **Greg Lane – Non-Executive Director**

Greg has more than 30 years' experience in operations, engineering, design, study and project management, with industry leading knowledge of concentrator design, particularly comminution and flotation circuit design. Currently, Greg is the CTO at Ausenco, but began his career as a Senior Metallurgist at Hellyer Gold Mines.

### **Adrian Lungan - Non-Executive Director**

Adrian is a geologist with 37 years' experience. He started his career in Australia with multi-national companies such as CSR Ltd, Placer Pacific Ltd, Newmont Mining Corporation and Pasminco Ltd; in project evaluation and acquisitions. He founded UraMin Inc. and the Chinese coal company CCEC Ltd. Adrian is a Director of number of other mining companies and a former Director of Hellyer Gold Mines Pty Ltd.

### **Bob Quilliam – General Manager Operations at Hellyer**

Bob is a qualified Metallurgist with 22 years specialising in flotation processing. His career began a Metallurgical Technician for Aberfoyle and Bob was integral in developing the Hellyer project. He remained at Hellyer as Senior Metallurgist until its closure in 2000. Subsequently Bob worked at Beaconsfield Gold as Mill Manager, at Copper Mines of Tasmania and at Zeehan as a Senior Metallurgist.

*20+ million ounces  
of gold*

*37kg/t silver grade*

*Breccia hosted  
gold deposits*

## **PROJECT PIPELINE**

NQ has two 100%-owned exploration projects known as Ukalunda and Square Post, in North Queensland, Australia. Both these projects are located in prospective mining districts that form part of the well-known Charters Towers Gold Province, where more than 20 million ounces of gold has been mine. The exploration target here is Charters Towers style gold with its legendary high grade and deep structures which are well-known for holding substantial amounts of gold ore. These two projects are at an earlier stage than Hellyer and are now being rapidly driven up the valuation curve.

### **Ukalunda**

The Ukalunda tenements lie close to the mining town of Charters Towers and almost half way between the Lake Dalrymple-Burdekin Dam and the historic Wirralie gold mine (1.1Moz). In the permit there are 23 sub-blocks which cover an area totalling 64.4km<sup>2</sup>. So far, 33 prospects have been identified across the tenement area by wide spread exploration of stream sediments together with rock chip sampling. Follow-up drilling has produced highlighting including 27.2m @ 290,7g/t silver and 13m at 214g/t silver.

Ukalunda has stockpiles of saleable silver, walk up drill targets and rich mineralisation of gold, silver and a number of associated base metals. The silver stockpiles have been estimated to contain 48,000t @ 200-300g/t silver. The permit area includes the historic Sunbeam Mine, which produced 600,000 ounces of silver with bonanza grades of up to 37 kilograms per ton, which equates to an extraordinary 37,000 grams per ton, reported as native silver (pure silver in its metallic form) within the formation. The plan is to process these high-grade stockpiles upon approval of the Mining Lease at Ukalunda, which is expected to be granted soon.

### **Square Post**

The Square Post tenements lie close to the Flinders Highway, 10km NNE of Mingela and 50km south of Townsville. The permit consists of 47 sub-blocks covering an area of 168km<sup>2</sup>. This area remains largely under explored due to its rugged terrain. Historical gold production within the tenement are has had grades of 33.76g/t gold (1887-1910) and 331.4g/t gold (1934-40).

Square Post has exploration targets, gold prospects and advanced drilling targets. Assays taken in more recent years have confirmed the strong presence of gold in the system including rock chip samples of 29.6g/t gold at Breccia Knob and 79.3g/t gold at Blue Doe. Breccia Knob is a highly prospective gold breccia exposed at the surface that has yet to be drilled. This permit area seems to contain two types of gold mineralisation which are breccia hosted as seen at Breccia Knob and quartz vein hosted in the Blue Doe-June Ellen area.

In this region of Northern Queensland, breccia hosted gold deposits are seen as the major gold exploration target. There are four major North Queensland breccia-hosted gold mines which between them have seen a total of 9Moz mined – Kidston (5 Moz), Mt Leyshon (3Moz), Mt Wright (1Moz) and Welcome (0.2Moz). In these structures, the gold is associated with hydrothermal/magmatic breccia pipes. The largest deposits Kidson and Mt Leyshon lie in breccia pipes, which are big structures with a diameter of around 1km and that extend to a depth of 1km.

*Trading at less than  
1.5x prospective  
earnings*

## STRATEGY FOR GROWTH

Undoubtedly, the acquisition of the Hellyer Gold Mine was a company-making deal as this move has given NQ a low-risk world-class project with a well-defined path to near term revenue, cash flow and profitability. The initial capex necessary to restart production was low due to substantial existing infrastructure and resources. The project's estimated annual EBITDA of US\$42m over the next ten years should provide the capital to fuel the growth of NQ towards its goal of becoming a leading gold and base metal production, development and exploration company.

The company has an impressive pipeline of projects which are currently at the exploration and development stage. The first step here is expected to be the process high grade silver stockpiles upon the granting of a Mining Lease at NQ's Ukalunda North Queensland project which is expected soon. This move is likely to be coupled with drilling at both Ukalunda and Square Post to begin to define the true scale of the mineralisation and moving ahead to define a JORC-complaint resources which would allow an informed valuation to be placed on both these projects by analysts.

Beyond Ukalunda and Square Post, the amount of cash likely to be generated at the Hellyer tailings operation annually will go a long way to fund the acquisition and development of further projects. The board has already proved that they have both the deal flow and the necessary skill set to negotiate the acquisition of world class projects and also manage a refurbishment program to bring such mines back into production with impressive economics and in a cost-effective manner.

Shares in NQ Minerals look like they deserve a strong re-rating. The current market capitalisation means that the stock is trading on less than 1.5 times prospective earnings which looks like a derisory valuation.

### 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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