



## ASX ANNOUNCEMENT

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### **IMPACT MINERALS AND INVICTUS GOLD TO ACQUIRE 100% OF ENDEAVOUR MINERALS PTY LTD: FOUR GOLD, BASE METAL AND NICKEL-COPPER-PGE EXPLORATION AND RESOURCE DEVELOPMENT PROJECTS WITH WORLD CLASS EXPLORATION POTENTIAL**

#### **SUMMARY**

- Impact Minerals Limited (ASX: IPT) and its 75% owned Invictus Gold Limited (ASX: IVG) have jointly agreed to acquire 100% of Endeavour Minerals Pty Ltd, a private company with four exciting exploration and resource development projects in Australia, consisting of two 100% owned gold and base metal projects and the rights to farm-in to two nickel-copper-PGE gold projects.
- Invictus and Impact will each acquire 50% of the outstanding shares in Endeavour for \$1,050,000 comprising \$650,000 cash and \$400,000 in shares as follows:-
  1. a partly refundable payment of \$100,000 on signing of a Binding Term Sheet (completed) for an exclusive option to complete due diligence by 28<sup>th</sup> February 2013;
  2. a payment of \$200,000 cash payable on exercise of the option; and
  3. a further payment of \$350,000 cash, \$200,000 in shares in Impact and \$200,000 in shares in Invictus within 16 weeks of the exercise of the option.
- The four projects comprise:-
  1. **The Commonwealth Mine, NSW (100% Endeavour)**
    - high grade gold and silver rich VMS deposit with recorded fresh sulphide production in the early 1900's of **6,476 t at 6 g/t gold, 150 g/t silver, 2% copper, 15% zinc and 7% lead;**
    - poorly explored: 69 drill holes at an average depth of 53 metres;
    - very high grade true width drill results that are open at depth and along strike and including:  
**7 m at 6.2 g/t gold, 346 g/t silver, 0.22% copper, 3.2% lead and 9.2% zinc in Hole CM85-1;  
3 m at 8 g/t gold, 158 g/t silver, 0.1% copper, 0.8% lead and 2.9% zinc in Hole CM85-2; and  
6 m at 4 g/t gold, 124 g/t silver, 0.5% copper, 2.5% lead, 18.5% zinc in Hole CM85-3.**

- a historic resource estimate in the top 50 m of:  
**83,000 t at 5.9 g/t gold, 275 g/t silver, 11.4% zinc, 3% lead and 0.3% copper (16.5 g/t gold equivalent) for 44,000 oz gold equivalent (see Notes 1 and 2);**  
**Investors should note that this estimate was not calculated in accordance with the JORC Code.**
- significant potential for gold-and silver-only mineralisation along strike and in the footwall of the VMS deposit with drill intercepts of up to:  
**17 m at 3.5 g/t gold and 206 g/t silver from 40 m;**  
**24 m at 2.6 g/t gold and 21 g/t silver from 32 m; and**  
**32 m at 0.95 g/t gold and 16.5 g/t silver from 28 m;**
- a potential **Exploration Target** of between 2.8 Mt and 2.9 Mt at between 7 g/t and 8 g/t gold equivalent for a contained 0.6 Moz to 0.7 Moz of gold equivalent in 300 m of strike down to 500 m with the potential to more than double this along strike (see Notes 2 and 3).

## 2. The Broken Hill Ni-Cu-PGE Project, NSW (Endeavour earning 80%)

- extensive gossans and some drill intercepts 20 km from Broken Hill with some of the highest grade PGE assays in Australia including rare high grades of osmium, iridium and ruthenium:
  - a representative 120 kg sample of gossan which returned **19.6 g/t platinum, 50 g/t palladium, 3 g/t rhodium, 3 g/t osmium, 4.4 g/t iridium, 2 g/t ruthenium, 0.57 g/t gold, 0.34% nickel and 0.71% copper;**
  - drill intercepts in fresh sulphide at about 45 m depth of:  
**4 m at 17.9 g/t Pt+Pd+Au, 2.3% nickel and 3.2% copper from 43 m; and**  
**2.1 m at 8.3 g/t Pt+Pd+Au, 3% nickel and 3.5% copper from 45 m;**
- demonstrated potential for the discovery of large deposits of very high grade nickel-copper-precious metal massive sulphides and bulk tonnage PGE mineralisation among many tens of strike kilometres of mafic-ultramafic sills, dykes and stocks similar to those at Norilsk in Russia and Jinchuan in China.
- untested gossans with assays in separate samples of up to:  
**27 g/t platinum, 27 g/t palladium, 14 g/t gold, 115 g/t silver, 9% copper and 2.65% nickel;**
- significant high grade drill assays not followed up including:  
**1.5 m at 3.1 g/t platinum, 4.3 g/t palladium, 1 g/t gold, 0.5% copper and 1.3% nickel from 136.5 m;**
- potential for near surface bulk tonnage PGE mineralisation recently recognised by Endeavour with drill intercepts of:  
**14 m at 0.82 g/t Pt+Pd+Au and 12 m at 0.46 g/t Pt+Pd+Au;**

- previous exploration focussed only on a few kilometres of strike and the remaining extensive strike length is poorly explored;
- Endeavour to earn 80% by spending \$550,000 by November 2017.

### 3. Mulga Tank Nickel-Gold Project, WA (Endeavour earning 50%)

- very poorly explored Archaean greenstone belt 200 km east of Kalgoorlie and close to major deposits at Tropicana (gold) and Nova (nickel-copper-cobalt);
- significant potential for the discovery of a bulk tonnage nickel deposit in an ultramafic intrusion similar to the Mt Keith deposit, WA and the giant Dumont deposit in Quebec (>3 Bt at 0.27% nickel for 8 Mlb of nickel);
- three widely spaced diamond drill holes within the 4.7 km by 3.2 km sized ultramafic returned best intercepts of:

**264 m at 0.2% nickel and 218 m at 0.18% nickel;**

- petrographic work confirms widespread nickel sulphide and nickel-cobalt minerals;
- limited bedrock-cover interface drilling of the contact of the ultramafic with the surrounding rocks returned anomalous intercepts that suggest potential for higher grade nickel sulphides at depth, including:

**2 m at 2% nickel, 0.3% chromium and 445 ppm copper from 67 m; and**

**9 m at 0.5% nickel and 0.3% chromium from 40 m;**

- numerous untested soil geochemistry anomalies for nickel, copper, gold and silver;
- Endeavour to earn 50% by spending a further \$2.8 million by November 2015;

### 4. Rangitira Gold Project, NSW (100% Endeavour)

- 50 km of strike of the poorly explored 50 km long Yarrara Goldfield, with 20 dormant mines and numerous workings in the southern part of the Lachlan Fold Belt;
- the Yarrara Goldfield produced about 33,000 oz of gold from shear zones at grades of 15 g/t to 100 g/t in the early 1900's. Most of the mines have not been drill tested;
- gold was also mined from quartz pyrite stockworks and silica-pyrite (with copper) altered granites. These areas are prospective for bulk tonnage deposits similar to Cadia-Ridgeway;
- the project also hosts the Carboona fluorite-silver-lead mine that was operated by BHP until 1925. In 1969 an historic resource estimate of 35,000 t at 35% fluorite, 7% lead and 140 g/t silver was reported. There has been no follow up work.

**Investors should note that this estimate was not calculated in accordance with the JORC code.**

A detailed strategy for managing the Endeavour Minerals projects will be formulated when a decision to exercise the option has been made. Both Invictus and Impact are reviewing their exploration strategies.



## **IMPACT MINERALS AND INVICTUS GOLD TO ACQUIRE 100% OF ENDEAVOUR MINERALS PTY LTD: FOUR GOLD, BASE METAL AND NICKEL-COPPER-PGE EXPLORATION AND RESOURCE DEVELOPMENT PROJECTS WITH WORLD CLASS EXPLORATION POTENTIAL**

Invictus Gold Limited (ASX: IVG) and its 75% shareholder Impact Minerals Limited (ASX: IPT) are pleased to announce that they have jointly agreed to acquire 100% of Endeavour Minerals Pty Ltd, a private company that has four significant and exciting exploration and resource development projects in Australia.

The four projects comprise two 100% owned gold and base metal projects in New South Wales (NSW) and the rights to farm-in to two nickel-copper-PGE-gold projects, one in NSW and one in Western Australia (Figure 1).

### **TERMS OF THE ACQUISITION**

Impact and Invictus will each acquire 50% of the outstanding shares in Endeavour for a total purchase price of \$1,050,000 comprising \$650,000 in cash and \$400,000 in shares under the following terms:

1. A payment of \$100,000 by 31<sup>st</sup> January 2013 for an exclusive option to complete due diligence by 28<sup>th</sup> February 2013. A refund of \$50,000 will be payable to Impact/Invictus if they do not exercise the option because of material issues that were not known to Endeavour or not disclosed at the time of the signing of the Binding Term Sheet;
2. A payment of \$200,000 cash payable on exercise of the option;
3. A further payment of \$350,000 cash, \$200,000 in shares in Impact and \$200,000 in shares in Invictus within 16 weeks of the exercise of the option.

### **1. COMMONWEALTH MINE, NSW (100% Endeavour)**

The Commonwealth Mine project is located 95 km north of Orange in New South Wales and consists of one exploration licence (EL5874) covering 8.6 sq km in the northern part of the Lachlan Fold Belt that is host to many major gold and copper mines including Cadia-Ridgeway (Resources and Reserves of 69.8 Moz of gold and 12.4 Mt of copper) (Figure 1).

The project area covers the dormant Commonwealth gold-silver-base metal mine, the Commonwealth South gold deposit and a further 2 km of strike extensions (Figure 2). The mineralisation has been interpreted as a gold-rich volcanogenic massive sulphide deposit and is possibly similar to that being mined at the Mineral Hill copper-gold-silver-lead-zinc mine 150 km to the east (Kimberley Metals Limited).

Mining and previous exploration drilling has focussed on 300 m of strike from the Commonwealth Mine to the Commonwealth South area. Endeavour has completed a compilation of all previous drill data and constructed long sections for gold and zinc (Figure 3).

The area is poorly drilled and only 69 drill holes for 3,713 m (average depth of 53 m) have been completed on the project and most holes do not have a consistent set of assays for all the ore metals. Despite this, the results indicate excellent exploration potential for the mineralisation to extend along strike and at depth either as a tabular body or as a series of lenses (Figure 3).

### **The Commonwealth Mine: a high-grade gold-silver rich VMS deposit**

The Commonwealth Mine was discovered in 1900 and mined intermittently until the 1930's. Early production amounted to 470 oz of gold from 480 tons of oxide ore. A blast furnace was installed in 1905 and 6,476 t was mined at a grade of 6 g/t gold, 150 g/t silver, 2% copper, 15% zinc and 7% lead. Operations were suspended in 1908 following flooding and there are no records of significant mining activity since.

In 1985 Cluff Resources Pacific Limited dewatered the mine and completed extensive sampling and mapping of the remnant ore zones as well as four airleg drill holes. The mapping showed that the massive sulphide lens has a true width of between 4 m and 7 metres. The airleg drill holes returned the following intercepts over about 50 m of strike:

**7 m at 6.2 g/t gold, 346 g/t silver, 0.22% copper, 3.2% lead and 9.2% zinc in Hole CM85-1;**

**3 m at 8 g/t gold, 158 g/t silver, 0.1% copper, 0.8% lead and 2.9% zinc in Hole CM85-2;**

**6 m at 4 g/t gold, 124 g/t silver, 0.5% copper, 2.5% lead, 18.5% zinc in Hole CM85-3;**

**3.2m at 7 g/t gold, 363 g/t silver, 0.35% copper, 2.9% lead and 18% zinc in Hole CM85-4.**

Cluff used these results and the sampling data to calculate a (historic) resource estimate (see Note 1) for the Main Shaft area at the Commonwealth Mine down to 50 m below surface of:

**83,000 tonnes grading 5.9 g/t gold, 275 g/t silver, 11.4% zinc 3% lead and 0.3% copper  
or 16.5 g/t gold equivalent for a contained 44,000 ounces of gold equivalent (see Notes 1 and 2).**

*Investors should note that this is a historic resource estimate that was not calculated in accordance with the JORC Code and should not be construed as such. Further drilling and assays will be required in order to define a resource calculated in accordance with the JORC Code and there is no guarantee that a resource will be defined.*

### **The Commonwealth South Gold Deposit**

The mine workings at Commonwealth were developed on the high-grade poly-metallic massive sulphide lenses. However exploration drilling by Cluff and more recently by Endeavour has shown that there is significant potential for bulk tonnage lower grade gold and silver deposits that were unrecognised by early miners.

Reverse circulation drilling by Cluff outlined a 200 m long area of anomalous gold and silver 120 m south of the South Shaft with better intersections of:

**32 m at 0.95 g/t gold and 16.5 g/t silver from 28 m in hole PHC04; and**

**24 m at 2.6 g/t gold and 21 g/t silver from 32 m in PHC09.**

Together with other drill holes this area has helped define the Commonwealth South gold deposit (Figure 3).

Endeavour completed six drill holes close to the Commonwealth Mine and returned a best intercept in the footwall beneath the massive sulphide zone of:

**17 m at 3.5 g/t gold and 206 g/t silver from 40 m in Hole EMC06.**

**These drill intercepts have not been followed up.**

Historic resource estimates have been completed for the Commonwealth South deposit. However these are not calculated in accordance with the JORC Code and further work is required to properly define resources and reserves.

### **Exploration Target**

A review of all the drill data indicates the potential for an Exploration Target within the 300 m of strike between the Commonwealth Mine and the Commonwealth South deposit of:

**between 2.8 Mt and 2.9 Mt at between 7 g/t and 8 g/t gold equivalent for between 640,000 oz and 700,000 oz of gold equivalent** (see Notes 2 and 3).

This potential is demonstrated in the long sections for zinc and gold (Figure 3).

In addition, untested magnetic and VLF EM anomalies located along strike to the north of the Main Shaft and to the south of the Commonwealth South deposit suggests excellent potential to significantly increase this Target Mineralisation to over 1 million ounces gold equivalent.

There has been no significant drilling outside the 300 m of strike between the Commonwealth Mine and the Commonwealth South gold deposit.

## **2. BROKEN HILL Ni-Cu-PGE Project, NSW (Endeavour earning 80%)**

The Broken Hill Ni-Cu-PGE Project is located 20 km east of the World Class Broken Hill silver-lead-zinc mine in New South Wales and consists of one Exploration Licence (EL7390) covering 200 sq km in the south east part of the richly mineralised Curnamona Province (Figures 1 and 4).

Endeavour has the farm-in rights to nickel-PGE projects in mafic-ultramafic complexes within EL7390, which is owned by Golden Cross Resources Limited. Endeavour can earn a 51% interest by spending \$400,000 by November 2015 and an 80% interest by spending a further \$200,000 by November 2017. Endeavour has spent about \$50,000 to date.

**The project area contains many tens of strike kilometres of mafic-ultramafic sills, dykes and stocks that contain gossans and fresh outcrops with very high grade PGE's, nickel, copper, gold and silver mineralisation (Figure 5).**



**There is significant potential for the discovery of bulk tonnage PGE mineralisation together with very high grade nickel-copper-precious metal massive sulphides throughout the project area.**

Previous work was focussed along the basal contact of the Mulga Springs Gabbro, a series of shallow northeast dipping mafic-ultramafic sills extensively developed over 10 km of strike from the Mulga Springs Prospect in the south to Moorakie in the north (Figure 6).

### High Grade PGE-Ni-Cu-Au-Ag Assays

Outcrops of some of the highest grade PGE gossans in Australia occur in many places along the Mulga Springs Gabbro and include the very rare PGE metals osmium, iridium and ruthenium. Together with assays from limited drill intercepts of fresh rock, these results are comparable to the world's highest grade platinum deposits (Table 1).

### Mulga Springs PGM Comparisons to Known Deposits

Metal	Australia			South Africa	USA	Zimbabwe
	<u>Mulga Springs</u>		Munni Munni	Bushveld Merensky Reef	Stillwater	Hartley
g/t	Gossan (ii)	Best Hole GMS006	Best Hole MMD28	Av.	Av.	Av.
Platinum	19.6	10.9	2.25	3.24	4.2	2.64
Palladium	50.0	23.6	3.77	1.37	14.7	1.81
Rhodium	3.0	1.0	NA	0.16	1.68	0.21
Gold	0.57	0.94	0.71	0.26	0.11	0.47
<b>Total PGM + Gold</b>	<b>82.6</b>	<b>36.4</b>	<b>6.73</b>	<b>5.57</b>	<b>22.10</b>	<b>5.49</b>

**(ii)** An average of assays for Pt, Pd and Au produced by six laboratories, and an average of assays for Osmium 3.0 g/t, Iridium 4.4 g/t, Ruthenium 2.0 g/t and Rhodium 3.0 g/t from three laboratories. Gossan sample of 120 kg prepared by Australian Geostandards Pty Ltd.

**Table 1.** Comparison of PGM grades at Mulga Springs with major PGE deposits and mines.

For example:

- a representative 120 kg sample of gossans from the basal contact of the gabbro returned assays that averaged **19.6 g/t platinum, 50 g/t palladium, 3 g/t rhodium, 3 g/t osmium, 4.4 g/t iridium, 2 g/t ruthenium, 0.57 g/t gold, 0.34% nickel and 0.71% copper.**

*These are the only samples that have been assayed for the entire suite of Platinum Group Metals;*

- high grade massive nickel-copper sulphides and precious metals have been found at the Mulga Springs Prospect with best intercepts from shallow drill holes of:  
**4 m at 17.9 g/t Pt+Pd+Au, 2.3% nickel and 3.2% copper** from 43 m in Hole GMS-006; and  
**2.1 m at 8.3 g/t Pt+Pd+Au, 3% nickel and 3.5% copper** from 45 m in Hole DD4 (Figures 7 and 8);
- at Moorkaie samples from small pits dug on the gossans returned assays with grades (from separate samples) up to:  
**27 g/t platinum, 27 g/t palladium, 14 g/t gold, 115 g/t silver, 9% copper and 2.65% nickel** (Figure 6).

This area has not been drilled.

In addition significant drill intercepts have not been followed up such as PMS7 located 900 m west of Mulga Springs which intersected **1.5 m at 3.1 g/t platinum, 4.3 g/t palladium, 1 g/t gold, 0.5% copper and 1.3% nickel from 136 m.**

### Potential for Bulk Tonnage PGE Mineralisation

Early explorers focussed on the basal contact of the Mulga Springs Gabbro and mostly only analysed for PGE if the combined nickel plus copper grade (Ni+Cu) was greater than 0.3%. Work by Endeavour has shown that the main body of the gabbro also contains extensive PGE mineralisation in areas with less than 0.3% Ni+Cu with better intercepts of:

- 14 m at 0.82 g/t Pt+Pd+Au in Hole GMS017; and**
- 12 m at 0.46 g/t Pt+Pd+Au in Hole GMS-013 (Figure 8).**

**Therefore, many of the previous drill holes may contain previously unrecognised PGE mineralisation and there is potential for bulk tonnage mineralisation of very rare platinum group metals.**

In addition there are many tens of kilometres of untested strike of the ultramafic intrusions elsewhere within Endeavour's project area (Figure 5).

The mafic-ultramafic sills are interpreted to be similar to those that host major deposits such as Norilsk in Russia and Jinchuan in China. The Little Broken Hill Gabbro, which forms a part of the mafic-ultramafic suite within the Endeavour's project, has been dated at 826.5 +/- 9.4 million years old, similar to the host intrusion at Jinchuan.

## 3. MULGA TANK PROJECT, WA (Endeavour earning 50%)

The Mulga Tank Project is located 200 km east of Kalgoorlie in Western Australia and consists of seven Exploration Licences covering about 425 sq km of the Minigwal greenstone belt in the emerging mineral province of the south eastern Yilgarn Craton and Albany-Fraser Mobile Belt (Figure 9).

The project is located about 120 km north west of the recently discovered Nova nickel deposit (Sirius Resources Limited), 50 km south west of the recent discovery of disseminated nickel sulphide at the Dragon Project (BHP Billiton Limited/St George Mining Limited), 100 km south east of the gold



deposits at Tropicana (Anglogold/Independence Group Limited) and 50 km west of the large and significant uranium deposit at Mulga Rocks (ERA Limited: Inferred Resource of 24,520 t at 550 ppm  $U_3O_8$ ) (Figure 9).

Endeavour can earn a 50% interest in five licences (E39/1439-1442, E39/1513) held by Golden Cross Resources Limited (GCR) and a 40% interest and 37.5% interest in two licences (E39/988 and E39/1072) held by GCR and another party by spending \$3 million by November 2015. To date Endeavour has spent \$250,000 on the project.

The area is prospective for:

1. **bulk tonnage nickel deposits** such as Mount Keith near Leinster, WA and the very large and significant Dumont deposit in Quebec that is progressing towards development (Royal Nickel Corporation (TSX:RXN): Reserve 1.1 Bt at 0.27% nickel, Measured, Indicated and Inferred Resources of 2.1 Bt at 0.26% nickel for a contained 8 million tonnes of nickel with significant credits for contained cobalt, PGE's and magnetite);
2. **high grade nickel sulphide deposits** similar to those at the nearby major mining centres of Kambalda and Forrestania in Western Australia;
3. **gold deposits hosted in faults and shear zones** within the greenstone belt stratigraphy similar to the many multi-million ounce deposits found throughout the Eastern Goldfields Province of the Yilgarn Craton;
4. **uranium deposits hosted by Cainozoic palaeochannels** such as the nearby Mulga Rock deposit.

Exploration in the area has been hindered because of extensive sand cover.

### Nickel Exploration

Previous exploration for nickel was focussed on an ultramafic intrusive unit 4.7 km by 3.2 km in dimension and visible as a very strong magnetic anomaly in regional airborne data (Figure 10).

Three diamond drill holes were completed within the ultramafic unit. Significant drill intercepts are:

**264 m at 0.2% nickel from 68 m in Hole MTD01; and**

**218 m at 0.18% nickel from 70 m in Hole MTD02.**

Disseminated sulphides occur in many places in the drill holes and detailed petrographic and scanning electron microscope work confirmed extensive pentlandite, violarite and various nickel-cobalt minerals with limited iron sulphides. **This is very encouraging.**

A total of 29 reverse circulation drill holes were completed at five places to test the bedrock-cover interface along the interpreted southern contact of the ultramafic unit. Anomalous intercepts were returned in several places and include:

**6 m at 1.2% nickel, 0.2% chromium and 280 ppm copper** from 64 m in Hole MRC09 including **2 m at 2% nickel, 0.3% chromium and 445 ppm copper** from 67 m; and

**9 m at 0.5% nickel and 0.3% chromium** from 40 m in MRC03 (Figure 10).

An ionic leach soil geochemistry survey at 400 m and 200 m infill sample spacing was completed by Endeavour over the central part of the project area. Anomalous nickel, copper, gold and silver results were returned from several places above the ultramafic intrusion. In particular strongly anomalous results were returned from the northwest part of the magnetic anomaly where linear magnetic units abut the ultramafic unit. These linear units have been interpreted as a possible feeder zone to the intrusion and this area is prospective for massive nickel-copper sulphides.

**These anomalous drill and soil geochemistry results have not been followed up and are priority areas for further work.**

### Gold Exploration

The area is poorly explored for gold. The ionic leach soil geochemistry survey identified a number of areas with anomalous gold and silver results that have not been drill tested.

Aircore drilling by previous explorers has occurred in a few places. A narrow intersect of 1 m at 0.6 g/t gold, 0.5 g/t silver and 411 ppm tungsten was returned from one prospect.

## 4. RANGITIRA PROJECT, NSW (100% Endeavour)

The Rangitira Project is located 70 km east of Albury in NSW and consists of one Exploration Licence EL7732 that covers 50 km of strike of the Yarrara Shear Zone which contains 20 dormant gold mines and numerous old gold workings as well as the Carboona lead-silver-fluorite mine that was operated by BHP in the early 1900's (Figure 11).

Statutory annual expenditures over the next 3 years will total a modest \$198,000.

There has been very limited exploration of this area in the past 30 years. An initial review of the available data by Invictus and Impact indicates that the area is prospective for three styles of mineral deposit:

1. high grade gold deposits in shear zones in the metasedimentary rocks;
2. bulk tonnage gold deposits in granites; and
3. poly-metallic deposits, mainly silver, lead and zinc, in mineralised contact zones between granites and metasedimentary rocks.

The Rangitira Project is located in the southern part of the Lachlan Fold Belt that is host to many major gold and copper mines including Cadia-Ridgeway (Resources and Reserves of 69.8 Moz of gold and 12.4 Mt of copper) and North Parkes.

### Gold Mineralisation

Gold production within the Rangitira project area occurred at various times from 1877 to the 1930's and mostly came from four mines, Billabong, Rangitira, Just-in-Time and Perseverance in the northern part of the Yarrara Shear Zone (Figure 11).

Total recorded production was about 26,000 oz of gold at grades of up to 100 g/t from shallow depths of less than 70 m (Table 2). Gold was mostly hosted in quartz veins with pyrite in chlorite-graphite shear zones in the metasedimentary host rocks.

Mine	Max Workings Depth	Production dates	Average Grade (Au)	Production (oz Au)
Billabong	47 m	1910-12, 1915, 1931-34	15 g/t to 100 g/t	230
Rangatira	45 m	1877, 1905, 1935	60 g/t	781
Just-In-Time	24 m	1876, 1905, 1935	30 g/t	22,515
Perseverance	66 m	1875-81, 1905-10, 1935-37	45 g/t	2,540
Four Mile Creek, Mountaineer & Unnamed	Up to 50 m	1870's, 1902-6 and 1935	16-37 g/t	Unknown (in excess of 200)
<b>TOTAL</b>				<b>26,036+</b>

**Table 2** Production from the Northern Yarrara Goldfield

Very little exploration has been done near these mines. A bulk cyanide leach soil geochemistry survey in 1989 identified several anomalous areas for follow up work including the Rangatira and Meribong Prospects. Trench samples returned very anomalous results of up to 25 m at 5.6 g/t with grab samples up to 314 g/t gold. Follow up diamond drilling at Rangatira returned intercepts of 3 m at 5.7 g/t from 93 m (including 1 m at 16.9 g/t) and 1.5 m at 6.3 g/t from 124 m (including 0.5 m at 13.2 g/t).

**These results have not been followed up and there is significant exploration potential for high-grade shear zone hosted gold deposits in the area.**

Gold production is also recorded from granite-hosted deposits in several places in the southern part of the Yarrara Shear Zone. The Peep-O-Day reefs comprise quartz-pyrite-arsenopyrite stockworks that produced 6,900 z of gold at an average grade of up to 50 g/t gold from 1875 to 1906. At the Great Boulder Mine (production unknown) samples of a silica-pyrite altered granite with visible copper minerals returned assays of up to 1.2 g/t gold and 2.5 g/t silver.

**These results indicate very significant potential for the discovery of bulk tonnage granite-hosted gold deposits similar to those at Cadia-Ridgeway and Timbarra (13.7 Mt at 0.95 g/t gold for a contained 417,000 oz of gold).**

**There has been no exploration for this style of deposit in the project area.**

### Other mineralisation

The southern part of the Yarrara Shear Zone is also host to numerous occurrences of gold, silver, copper, lead, tin, zinc and fluorite associated with the contact zones of the granites. The Carboona fluorite-silver-lead mine (also known as Coppabella, Figure 11) was mined by BHP from 1905 to 1925 and produced about 5,000 tonnes of fluorite from high grade ore that was also reported to average 62 g/t silver and 4% lead. Limited grab samples also returned assays of up to 0.3 g/t gold.

A resource estimate reported in 1969 suggested the Carboona deposit still contained 35,000 tonnes at 35% fluorite (CaF<sub>2</sub>), 7% lead and 140 g/t silver.



*Investors should note that this is a historic resource estimate that was not calculated in accordance with the JORC Code and should not be construed as such. Further drilling and assays will be required in order to define a resource calculated in accordance with the JORC Code and there is no guarantee that a resource will be defined.*

An Induced Polarisation survey was completed over the mine area in 1969 that defined a chargeability anomaly. Drill testing encountered disseminated mineralisation that was not assayed.

These results have not been followed up and there has been no exploration of the area since that time.

**These results indicate significant potential for high grade poly-metallic deposits associated with the mineralised contact zones between the granite intrusions and surrounding rocks.**

## STRATEGY POST-ACQUISITION

A detailed strategy for managing the Endeavour Minerals projects will be formulated when a decision to exercise the option has been made.

Both Impact and Invictus are currently reviewing their exploration strategies. Impact recently announced that it is in discussions regarding a possible joint venture on the 100% owned Botswana Uranium Project and that options for the 51% owned Xade Project where diamond drilling is in progress were being assessed ([see Impact's announcement dated 25<sup>th</sup> January 2013](#)).

Invictus Gold recently announced that it was completing a review of its Queensland gold projects following the successful drilling campaign at the Retro Extended Project. A diamond drill programme is still in progress at the Himmetdede South Project in Turkey ([see Invictus Gold's announcement dated 25<sup>th</sup> January 2013](#)).



**Dr Michael G Jones**  
**Managing Director**

*The review of exploration activities and results contained in this report is based on information compiled by Dr Mike Jones, a Member of the Australian Institute of Geoscientists. Mike Jones is a working director of Invictus Gold Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the December 2004 edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mike Jones has consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

**Note 1: Parameters used for the historic resource estimate by Cluff.**

Average thickness: 6 m as defined by underground mapping and drilling;  
 Length: 131 m as defined by drilling between Main and South Shaft;  
 Specific gravity: 5 kg/t as defined from samples taken underground.

**Note 2: Calculation of gold equivalent grades.**

Metal prices used for the gold equivalent grades are:

Gold: \$1,650/oz, Silver: \$30/oz, Copper: \$7,500/t, Zinc: \$2,000/t, Lead: \$2,300/t

Given the high grade base metal results it is assumed that very high recoveries of all metals will be achieved. However investors should note that the gold equivalent grades and contained ounces quoted are for comparative purposes only. They should not be used as a basis for investment.

**Note 3: Parameters used for the calculation of the Exploration Target.**

The Exploration Target described in this report is conceptual in nature and should not be construed as a resource calculated in accordance with the JORC Code. The Exploration Target is based on projections of established grade ranges over appropriate widths and strike lengths having regard for geological considerations including mineralisation style, specific gravity and expected mineralisation continuity as determined by qualified geological assessment. There is insufficient information to determine whether further exploration will result in the definition of a mineral resource.

The Exploration Target quoted is based on a combined Exploration Target for the VMS mineralisation at the Commonwealth Mine and the gold-silver mineralisation discovered in the footwall and along strike to the Commonwealth South area.

For the Commonwealth Mine area the following parameters were used:

Average thickness: 5 m to 6 m as defined by underground mapping and drilling;  
 Length: 130 m to 150 m as defined by drilling between Main and South Shaft;  
 Depth: 500 m;  
 Specific gravity: 5 kg/t as defined from samples taken underground;  
 Grades: 5.9 g/t gold, 275 g/t silver, 0.3% copper, 3% lead and 11.4% zinc.

For the Commonwealth South area the following parameters were used:

Average thickness: 4 m to 5 m as defined by underground mapping and drilling;  
 Length: 300 m to 350 m as defined by drilling;  
 Depth: 500 m. Specific gravity: 2.5 kg/t;  
 Grades: 1.8 g/t gold, 34 g/t silver.



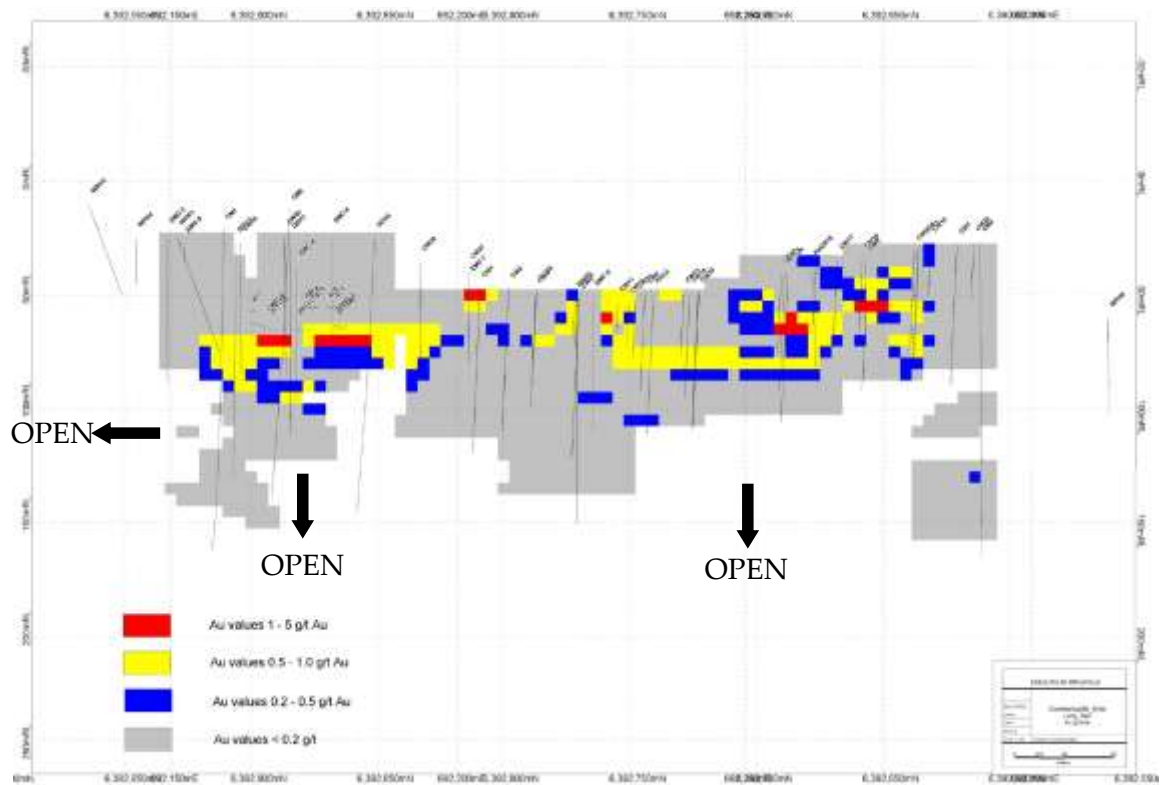
**Figure 1.** Location of Endeavour Minerals' Projects.



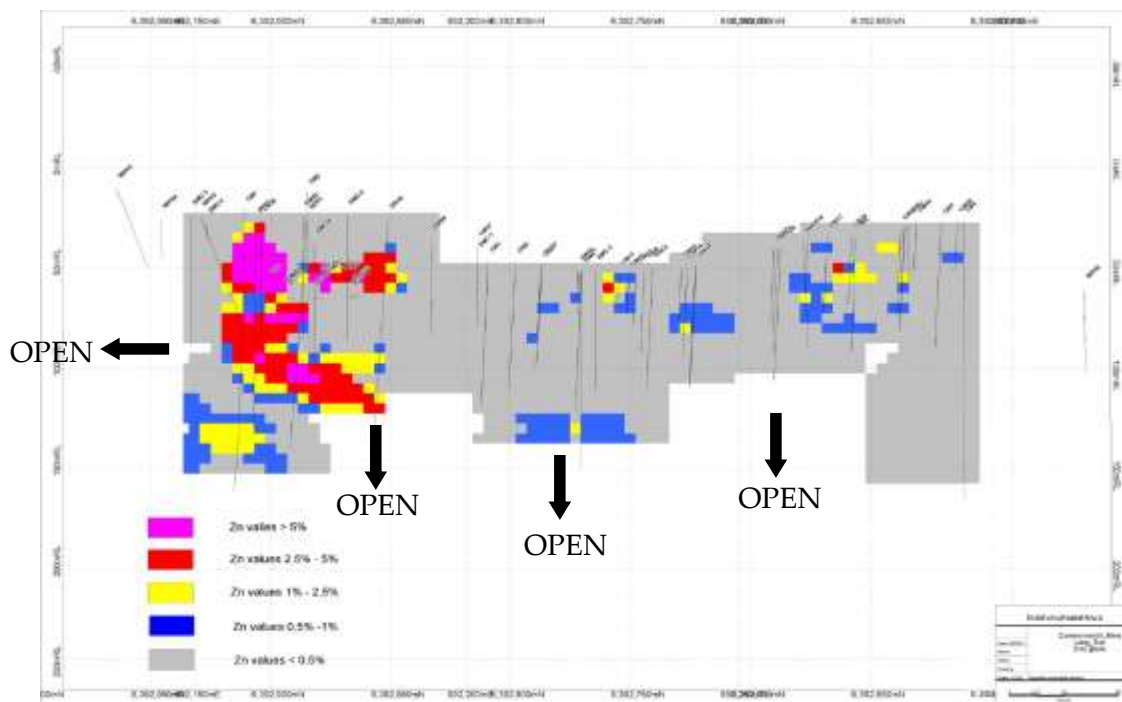
**Figure 2.** Commonwealth Mine and Commonwealth South Prospect



### Gold block model



### Zinc block model

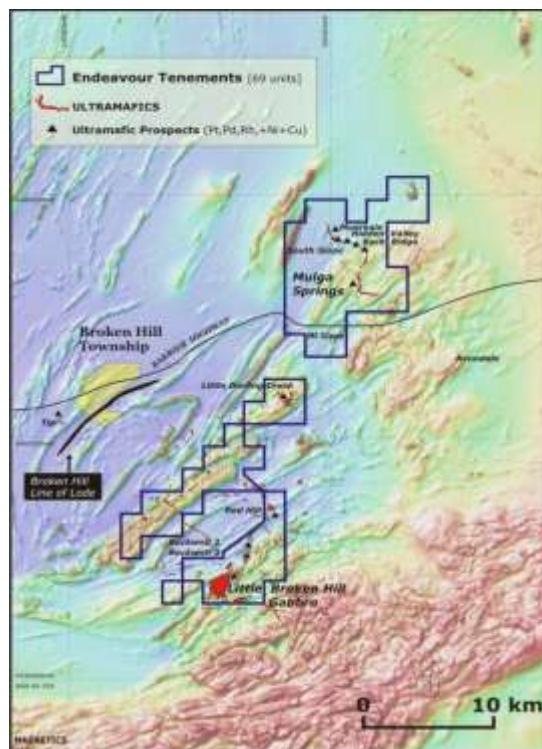


**Figure 3.** Long section from the Commonwealth Mine to the Commonwealth South area showing block models for gold and zinc.

Note that the mineralisation is open at depth and along strike



**Figure 4.** Location of the Broken Hill Ni-Cu-PGE Project



**Figure 5.** Broken Hill Ni-Cu-PGE Project: Image of magnetic data showing mapped mafic-ultramafic units.

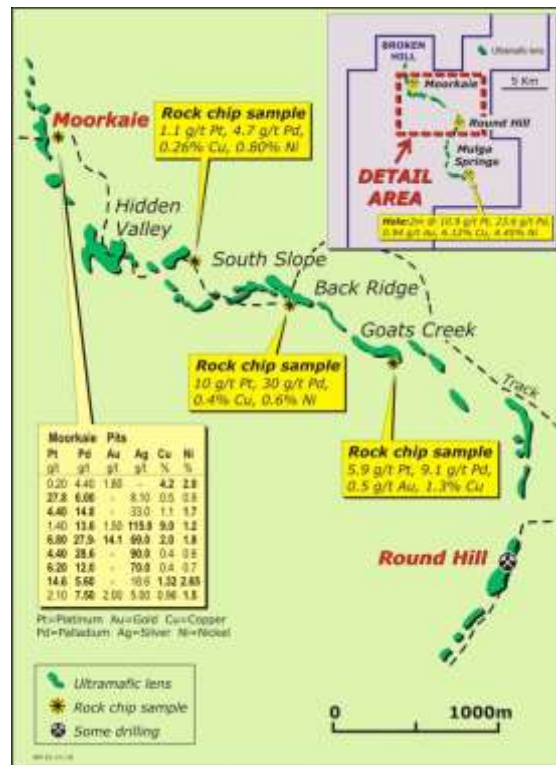


Figure 6. The Mulga Springs Gabbro with locations of strongly anomalous samples of gossan.

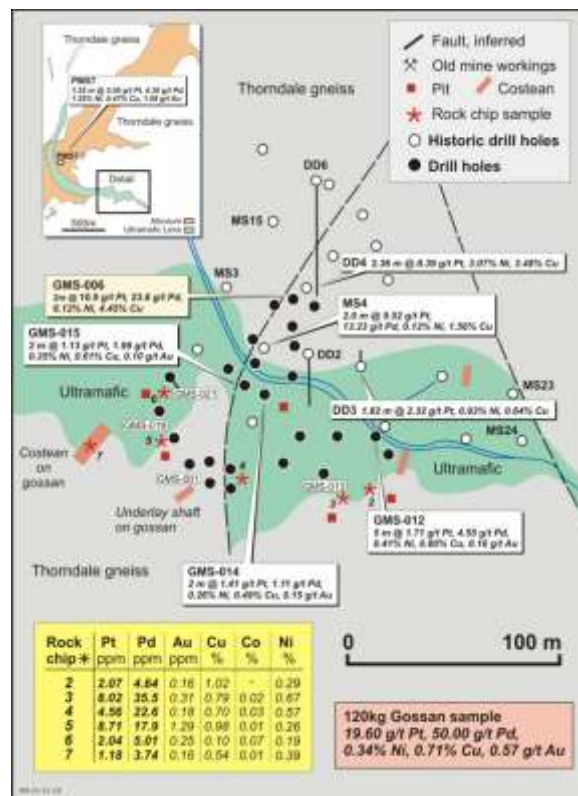
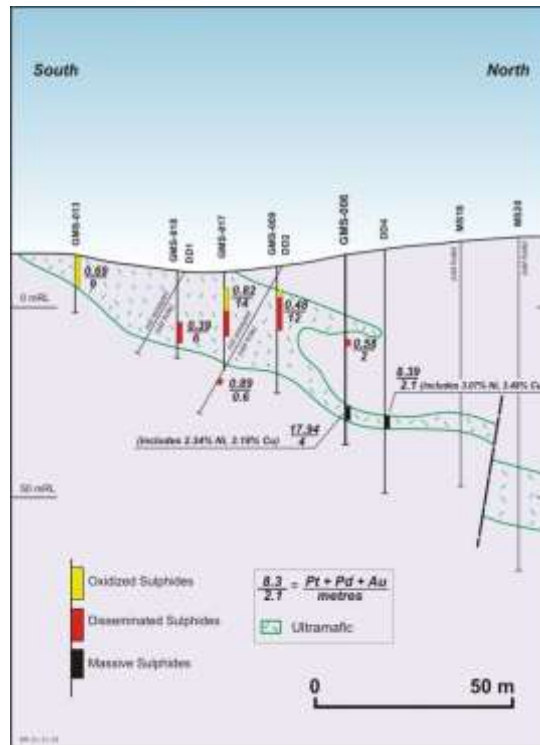
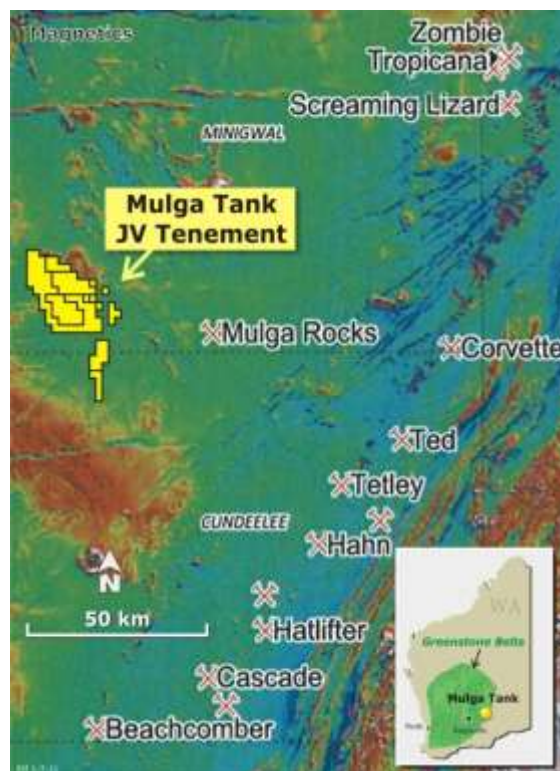


Figure 7. Geology of the Mulga Springs Prospect showing previous drill holes.

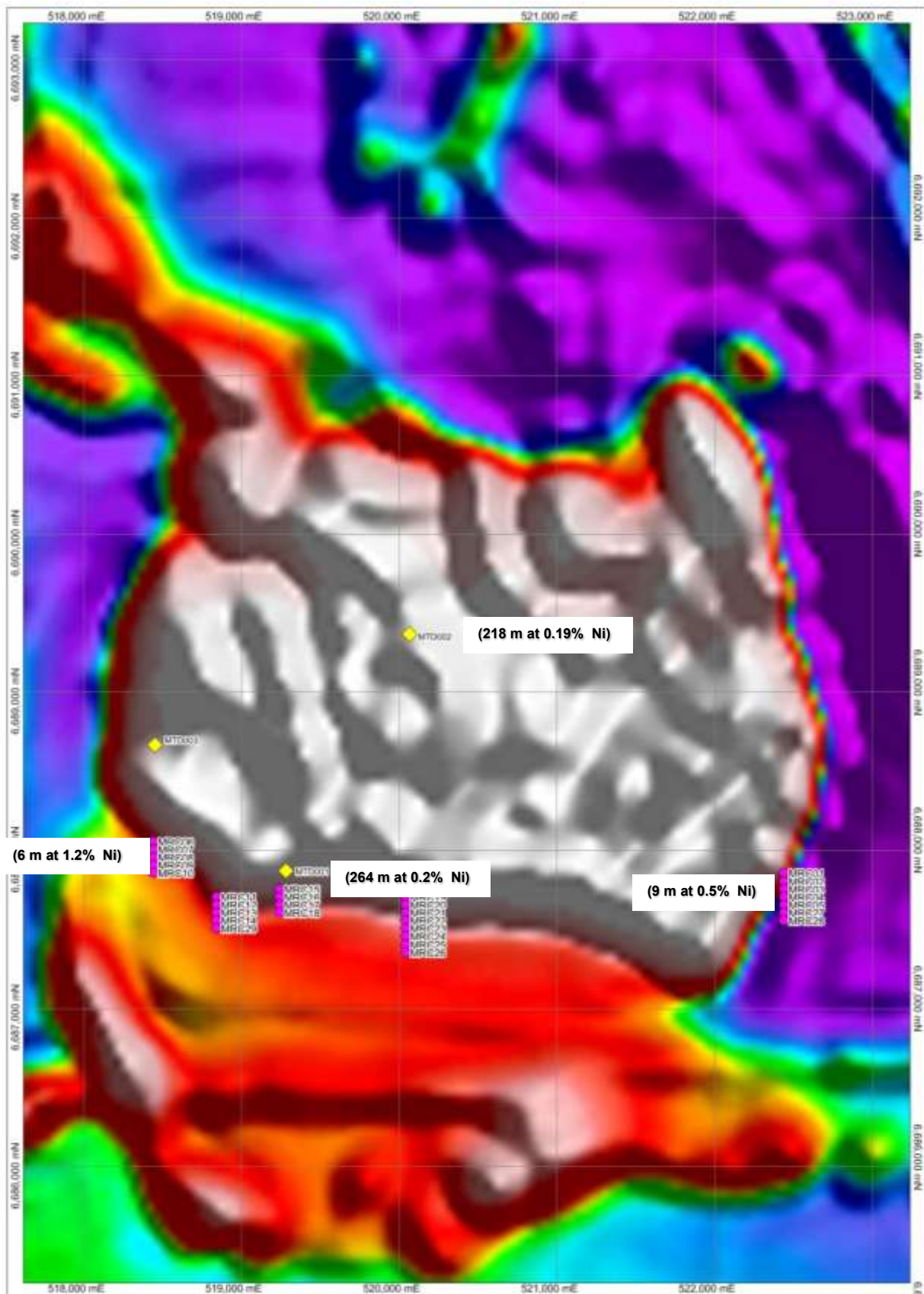




**Figure 8.** Cross-section through the Mulga-Springs Prospect showing high grade nickel-copper-PGE drill intercepts and extensive areas of previously unrecognised lower grade PGE mineralisation.



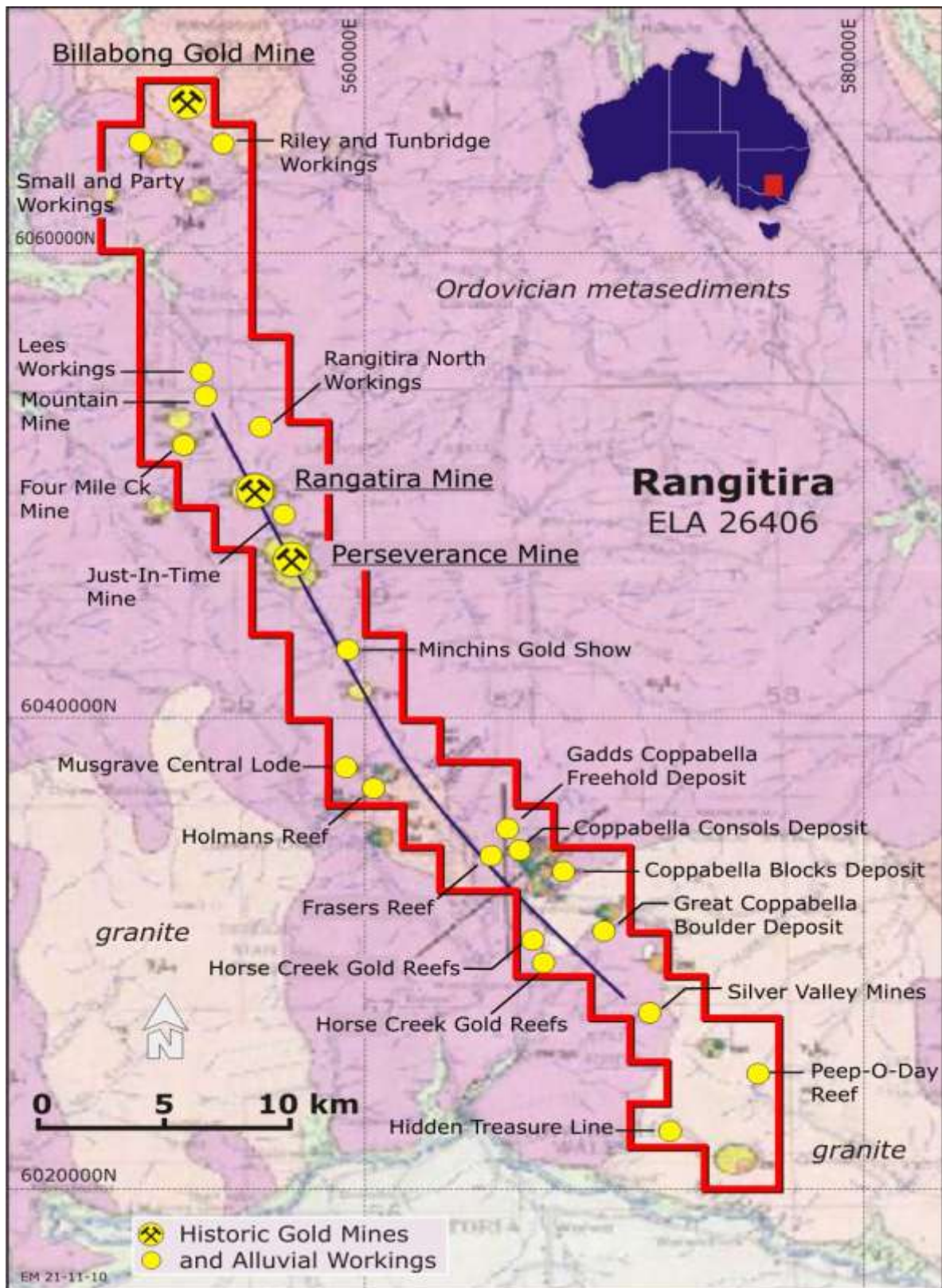
**Figure 9.** Location of the Mulga Tank Project.



**Figure 10.** Location of drill holes and key results from the Mulga Tank Ultramafic intrusion.

*An ASX listed Australian company focused on uranium and copper-nickel-PGE exploration in Botswana*





**Figure 11.** Location, geology and mineral deposits of Rangitira Gold Project.





ASX Code: **IPT**

## Company Information

### Impact Minerals Limited

ACN 119 062 261

ABN 51 119 062 261

### Directors

Peter Unsworth Non-Executive Chairman

Michael Jones Managing Director

Paul Ingram Non-Executive Director

Markus Elsasser Non-Executive Director

### Company Secretary

James Cooper-Jones

### Registered & Administrative Office

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Email:

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### Australian Stock Exchange Listing

Shares IPT

### Major shareholders as at 15.1.13

Ms Susanne Bunnenberg	45.10%
M. Elsasser & Cie (Director)	5.13%
China Growth Minerals	3.64%
Directors	11.22%
Top 20	71.97%
Top 50	79.94%

### Capital Structure as at 15.1.13

Ordinary Shares on Issue	325,199,670
Total Unlisted Options	28,250,000