

# 9 AUGUST 2017

# Significant increase to the Owendale Mineral Resource

# **Key highlights**

- 127% increase in the higher grade 600 ppm cut-off scandium Mineral Resource, which is the focus of immediate project development
- 21% increase in the 300 ppm cut-off scandium Mineral Resource
- Substantial upgrades to the Measured and Indicated scandium Mineral Resource
- Mine planning commences for scandium Ore Reserves
- Encouraging tonnage increment to the Cobalt Mineral Resource from recent drilling
- Company assessing the potential economics of cobalt/scandium and a further drilling program

Platina Resources Limited ("Platina", ASX: PGM) is pleased to announce an updated scandium Mineral Resource estimate at its 100% owned Owendale project, outlined in Table 1 and Table 2.

Owendale is a scandium-cobalt-nickel-platinum project located 7 km from Clean TeQ's (ASX: CLQ, A\$436m market capitalisation) analogous Syerston deposit in central NSW, Australia.

The new Mineral Resource estimate positions Owendale as the largest and highest-grade scandium, cobalt and platinum deposit so far reported. The current scale and grade of the Owendale Measured and Indicated Mineral Resource is expected to provide the basis of mining Ore Reserves (due in September quarter 2017) which will be utilised in the upcoming feasibility study.

Status	Tonnage Mt	Scandium ppm	Platinum g/t	Nickel %	Cobalt %	Scandia t <sup>*</sup>	Platinum koz	Nickel t	Cobalt t
Measured	0.71	690	0.39	0.17	0.16	800	9	1,200	1,100
Indicated	0.56	675	0.29	0.17	0.13	600	5	900	700
Inferred	0.27	645	0.22	0.14	0.09	300	2	400	200
Total	1.54	675	0.32	0.16	0.14	1,600	16	2,500	2,100

# Table 1: Owendale Mineral Resource at a 600 ppm Scandium cut-off (August 2017)

\*Scandium is typically sold as Scandia or Scandium Oxide (Sc<sub>2</sub>O<sub>3</sub>) product and is calculated from scandium metal content and a 1.53 factor to convert to the oxide form

#### Table 2: Owendale Mineral Resource at a 300 ppm Scandium cut-off (August 2017)

	Status	Tonnage Mt	Scandium ppm	Platinum g/t	Nickel %	Cobalt %	Scandia t <sup>*</sup>	Platinum koz	Nickel t	Cobalt t
	Measured	6.9	440	0.42	0.13	0.07	4,700	94	9,200	5,000
	Indicated	11.6	400	0.26	0.11	0.07	7,100	99	13,200	7,700
2	Inferred	15.1	375	0.23	0.09	0.05	8,600	111	13,700	7,500
	Total	33.7	395	0.28	0.11	0.06	20,400	304	36,100	20,200

\*Scandium is typically sold as Scandia or Scandium Oxide ( $Sc_2O_3$ ) product and is calculated from scandium metal content and a 1.53 factor to convert to the oxide form

### Main changes from the February 2017 Mineral Resource announcement

The new resource estimate incorporates data from the 3,792 m drilling program completed in June 2017 and the results from a re-assaying program of historical drilling. The intention of the June 2017 drilling program was to upgrade the Mineral Resource in the key Owendale North development focus area to Measured and Indicated category and include some exploration and extension drilling.

The updated Mineral Resource estimate represents a 21% increase in the size of the scandium Mineral Resource to 33.7 Mt at a 300 ppm cut-off level (up from 27.9 Mt), and a 3% increase in scandium grade to 395 ppm (up from 385 ppm).

# Of most significance is the high-grade scandium Mineral Resource, which has increased 127% to 1.54 Mt @ 675 ppm Sc (up from 0.7 Mt @ 650 ppm Sc in February 2017).

The August 2017 Mineral Resource estimate has confirmed that the Owendale North region of Owendale, which was the key focus of the recently completed preliminary feasibility study ("PFS") and drilling (refer to ASX announcement dated 10 July 2017), now contains sufficient Measured and Indicated Mineral Resource to define Ore Reserves. Mining studies have commenced in this regard and will consider a 40+ year mining schedule using similar parameters outlined in the PFS.

# Platina Managing Director, Robert Mosig, commented:

"The Owendale resource expansion provides an upgrade to our measured and indicated scandium resources at Owendale which will form the basis for the upcoming studies including mine planning and operations activities. An important focus in the short term is to assess the optimal strategy to unlock shareholder value from Owendale's high-grade cobalt potential."

#### **Cobalt Mineral Resource**

The cobalt resource at Owendale now stands at 17.6 Mt @ 0.12% Co at a cut-off grade of 0.08% Co (Table 3). This compares to the February 2017 estimate of 9.0 Mt @ 0.15% Co at a cut-off grade of 0.10% Co.

The Company will assess the potential economics of cobalt by-product credits as part of the upcoming Owendale feasibility study.

The August 2017 Owendale cobalt Mineral Resource provides compelling evidence that Owendale's unique cobalt mineralisation, which is associated with the highest recorded scandium contents from a laterite, will provide excellent financial credits in any potential future mining operation. As previously disclosed, Owendale contains significant cobalt mineralisation which is expected to be extracted using similar pressure acid leach processing methods to what is utilised for scandium.

Status	Tonnage Mt	Scandium ppm	Platinum g/t	Nickel %	Cobalt %	Scandia t <sup>*</sup>	Platinum koz	Nickel t	Cobalt t
Measured	3.9	370	0.50	0.31	0.14	2,220	63	11,970	5,620
Indicated	6.2	345	0.27	0.21	0.12	3 300	55	13,000	7 400
Inferred	7.5	245	0.22	0.21	0.11	2 800	52	15,500	8 100
Total	17.6	310	0.30	0.23	0.12	8,270	169	40,480	21,140

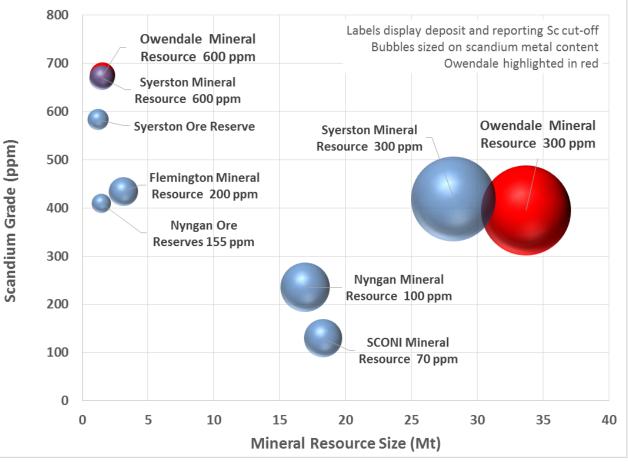
#### Table 3: Owendale Mineral Resource at a 0.08% Cobalt cut-off (August 2017)

\*Scandium is typically sold as Scandia or Scandium Oxide (Sc<sub>2</sub>O<sub>3</sub>) product and is calculated from scandium metal content and a 1.53 factor to convert to the oxide form

#### Scandium benchmarking

The August 2017 resource update for Owendale consolidates its position as a leading scandium development opportunity in Australia. Compared to its Australian peers, Owendale contains the largest contained scandium resource (refer to Figure 1).

#### Figure 1: Australian scandium laterite Mineral Resource and Ore Reserve comparison



Source: Flemington JORC announcement ASX: JRV dated 19 August 2015

Nyngan NI43-101 report dated 15 April 2016 – available at <u>www.sedar.com</u> under Scandium International Mining Corp Syerston feasibility study announcement ASX: CLQ for Mineral Resources and Ore Reserves dated 30 August 2016 SCONI combining the Sc deposits announcements ASX: MLM for Kokomo dated 2 July 2012 and Lucknow dated 28 March 2013

#### **August 2017 Mineral Resource Information**

The August 2017 Owendale Mineral Resource update was conducted by ResEval Pty Ltd and includes the April/June 2017 aircore drilling program which targeted the high grade Owendale North region. The Owendale North region was selected as the focus for the PFS. A total of 136 new assayed aircore drill holes were included into the drilling database.

The update also includes a selective re-assaying program for available historic sample pulps from 146 RC and RAB drill holes. Platina is currently conducting follow-up re-assaying to broaden some intervals and include additional holes. The re-assaying targeted drilling that would extend or infill key areas, providing Mineral Resource extensions and regional geochemistry.

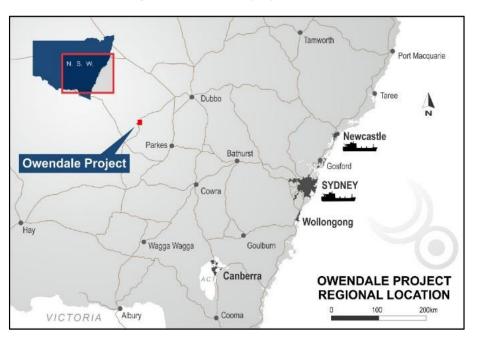
The August 2017 Mineral Resource estimate is consistent with the methodology adopted for the February 2017 Owendale Mineral Resource estimate (refer to ASX announcement dated 14 February 2017).

Appendix A and the following sections contain additional technical details relevant to the JORC Mineral Resource statement.

#### **Location and tenure**

The Owendale project is located in central New South Wales, approximately 75 km northwest of Parkes, and 45 km northeast of Condobolin (Figure 2). Owendale is also located 12 km north of Fifield Deep Lead where platinum was mined in the past.

The Owendale deposit falls within Exploration Licence EL7644. This licence is 100% owned by Platina and was granted on the 2 December 2010. Renewal has been offered for a further term of 5 years expiring in 2020 (Figure 2). The licence measures approximately 9.3 km north-south and 7.8 km east-west.





#### Geology

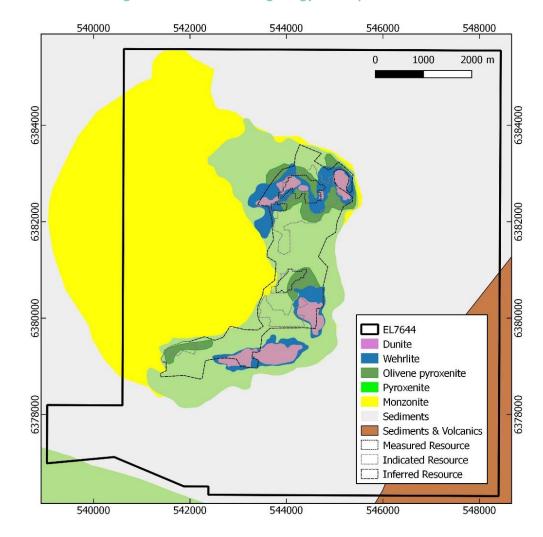
Owendale is a Devonian age Alaskan-style intrusive complex that can be divided into mafic-felsic series (monzonite) and an ultramafic series (Figure 3). The ultramafic series comprises dunite-wehrlite, olivine-pyroxenites and olivine-clinopyroxenite rocks. The relative abundance of nickel, cobalt, scandium and

platinum in these ultramafic rocks has been enriched to higher grades in the laterite profile due to either a residual or supergene enrichment processes. The variations in element abundance in the original ultramafic basement rock affect the enriched concentrations in the laterite along with the development of the laterite and any erosion of the laterite profile.

The types of laterite-hosted mineralisation identified thus far show strong correlations with certain lithologies, including platinum-copper mineralisation overlying dunite-wehrlite rocks with variable cobalt, hickel and gold content; cobalt-nickel mineralisation with platinum credits associated with the underlying olivine pyroxenites; and elevated chrome and scandium has been noted where dunite-wehrlite lithologies predominate but mainly occur with clinopyroxenite lithologies.

The lateralisation process developed in the past over a long period of leaching which removed some elements and concentrated others by residual processes. Movement of water can also result in dissolution and precipitation of some elements by supergene processes. The Owendale area is relatively flat and supergene enrichment appears to only result in vertical enrichment within the profile as there is no evidence of significant lateral movement or enrichment. The lateritisation process results in a thin laterally extensive zone depicted in the section in Figure 3.

Much of the Owendale Mineral Resource is covered by alluvial material comprised of quartz gravels and sands. This develops into a significant alluvial channel to the north-west of Owendale North prospect, which is up to 40m in depth.



#### Figure 3: Owendale local geology and exploration lease

#### **Drilling and sampling**

Costeans and geophysical surveys were undertaken on the prospectively enriched region during exploration and although this data was used for geological interpretation, the Mineral Resource definition relies solely on drilling results.

Exploration has principally been conducted over two phases including:

- Historical exploration completed by Helix Resources (ASX:HLX) and various joint venture partners from 1986 to 2006 with the completion of 17 diamond, 78 Reverse Circulation ("RC") and 966 Rotary Air Blast ("RAB") drill holes
- More recent exploration completed by Platina (ASX:PGM) from 2007, with the most drilling and sampling having been conducted from 2011 to 2013 and in 2017 with the completion of 21 diamond, 344 RC and 136 Aircore drill holes

The majority of the historical exploration drilling, which includes over 1,000 drill holes, was only assayed for platinum and inconsistently for nickel and cobalt. Many of these holes have been effectively redrilled or are collared outside the prospective laterite. A selection of 196 holes was used to assist in the geological modelling of the laterite where their inclusion added valuable interpretable information. 146 drill holes re-assayed in 2016 and 2017 were the only historical drill holes used directly for grade evaluation purposes.

The location of the drilling completed at Owendale is indicated in Figure 4, highlighting:

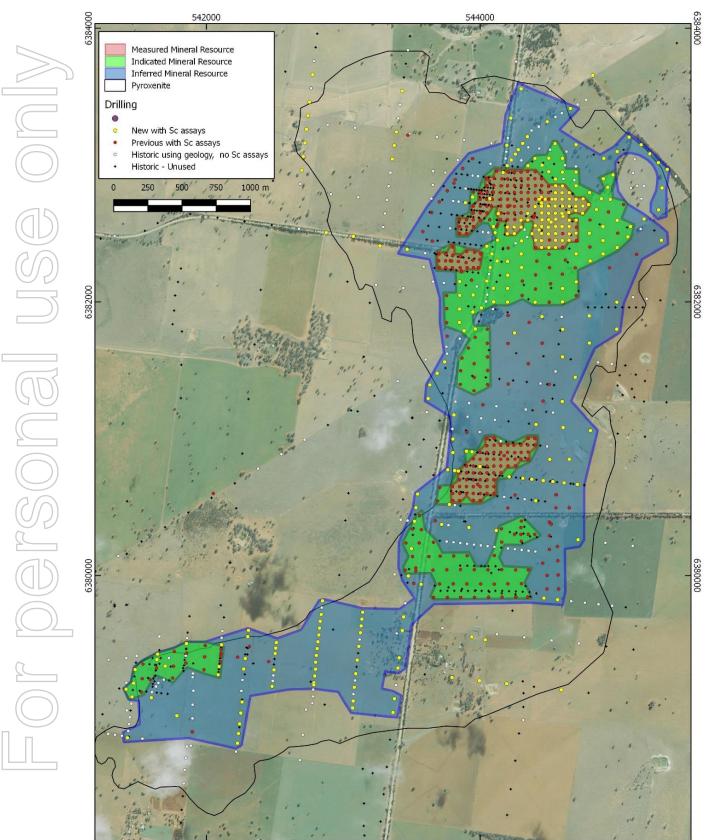
- 622 drill holes with modern scandium, nickel and cobalt assays used for grade evaluation
- 196 historical drill holes used for geological interpretation and domain thickness modelling
- Other unused historical drilling

Approximately 25% of drilling completed by Platina comprises deep bedrock drilling focused on primary platinum and sulphide mineralisation targets. Table 4, indicates the drilling specifically applicable to the laterite Mineral Resource. Samples located more than 5 m below the lowermost laterite horizon and well into bedrock are excluded from this summary. All assaying used in the evaluation postdates 2008 and has a full complement of assays for Pt, Ni, Co and Sc, as well as additional multi-element analyses, with the exception of some historical platinum assays.

			Drill		Drill	Total Depth	Samples Retained	Average Sampled
	Company	Period	Туре	Hole Name Range	Holes	(m)	(m) <sup>*</sup>	Interval (m)
	Helix	1988-1988	DD	FKD012	1	718	12	12.0
		1988-1990	RAB	FIR003 - FIR511	124	4,615	1,943	15.7
		1989-1989	RC	FRC0004 - FRC0046	22	3,103	462	21.0
	Platina	2010-2014	DD	FKD10_109 - OWDD004	9	2,315	211	23.5
		2011-2013	RC	FKD11_110 - FKD13_448	330	14,287	11,163	33.8
		2017	Aircore	FKD17_449 - FKD17_584	136	3,654	3,228	23.7
_	Total				622	28,692	17,020	27.4

#### Table 4: Owendale drill hole summary where scandium assays available (excluding bedrock)

\*Excludes bedrock samples, selective sampling of alluvium, samples outside selective interval re-assaying



### Figure 4. Owendale drilling campaigns and Mineral Resource classification

542000

544000

Exploration has also included some diamond drilling that targeted platinum and sulphide mineralisation potential in the ultramafic bedrock. Laterite targeted diamond drilling was largely used for bulk density and metallurgical sampling.

Helix undertook widespread regional drilling, targeting the platinum enriched laterite profile, as well as definition and regional sampling of the local bedrock material. Drilling undertaken was principally RAB with some RC on mostly 2 m samples, often composited to 4 m with selective sampling for platinum. After recognising some enriched nickel-cobalt laterite mineralisation re-assaying for Ni and Co was undertaken along with definition drilling of target platinum and nickel-cobalt zones. Limited quality assurance and quality control ("QAQC") information is available but the information that is indicates that some early drilling may understate platinum mineralisation. Due to the limited geochemistry, Helix drilling has been excluded from the Mineral Resource estimate except where re-assayed by XRF in 2016 or 2017. Only the original platinum (Pt) assays are retained for estimation purposes.

Platina drilling has predominantly involved RC and Aircore drilling regularly sampled in 1m intervals. RC drilling utilised a face sampling hammer bit with nominal hole diameter of 114 mm (2011 to 2013), and Aircore drilling a bit diameter of 112 mm (2017). One metre samples were collected directly from the cyclone and subsampled with a 3 or 2 tier Jones Riffle splitter. Exploration completed through 2010-2014 included diamond core drilling which was half or quarter core sampled in 1 m intervals. Select diamond core programs, including the campaign drilled in 2017, were not regularly sampled and are excluded from the Mineral Resource estimate.

Diamond core recovery exceeds 90% and percussion recovery is estimated to exceed 80% for RC and 90% for Aircore, based on weighed sample masses.

Further, Platina sample preparation completed from 2008 through to mid-2013 was undertaken at SGS West Wyalong and included a dry, crush and pulverize to 75  $\mu$ m. Samples greater than 3 kg were put through a rotary split stage to reduce the pulverization size to 3 kg. Sample weight was recorded before and after drying to define sample moisture content.

Sample preparation undertaken after mid 2013 was completed at ALS in Orange or Brisbane using a similar commercial sample preparation process.

Analysis undertaken by Platina was principally completed by SGS in Townsville and Perth except for the last program in 2013 that was undertaken by ALS in Orange and Brisbane. Both laboratories used similar methods of analysis that included:

- Pt, Pd and Au analysis by 25 g fire assays and ICP finish
- Sc, Ni, Co, Zn, Fe analysis by 4 acid digest and ICP and at time multi-element analysis by ICP
- Multi-element analysis was by glass fusion XRF for a range of elements along with loss on ignition (LOI) analysis where:
  - $\circ$  until 2013 XRF was undertaken in phases with some providing Ni and Co analyses; and
  - $\circ~$  from 2016 all sampling and re-assaying used XRF instead of ICP and included Sc analysis

#### **Mineral Resource estimation**

A block model was constructed to represent the laterite profile using a regular block size of 12.5 m by 12.5 m by 1 m with no sub-blocking except to 0.1 m at surface.

Block grades were estimated using Ordinary Kriging. Unfolding of each laterite domain was used to reflect the geological profile and improve sample selection during estimation. Grades were estimated on a parent block basis using block discretisation of 5 by 5 by 1 points. A three-pass search ellipse was used during estimation at an increasing radius of 70 m, 140 m and 420 m.

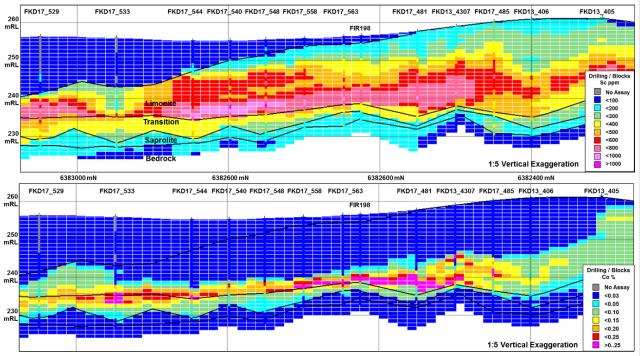
Extreme grades for potential economic elements were restricted by applying top-cut values determined from summary statistics (the 99.9<sup>th</sup> percentile). Applying the top-cut values to the drill hole assay data does not have a significant impact on the average grades except for platinum, which has a more skewed distribution.

The estimate was validated by: visual inspection of the model, construction of swath plots in easting, northing and RL comparing drilling with model estimates and comparison with the previous Mineral Resource.

In-situ dry bulk density values were assigned to each laterite horizon based on average measurements from drill core and is supported by geophysical density measurements.

Figure 5 displays an example section from the new 2017 drilling program for scandium and cobalt.

Examples of the scandium and cobalt mineralisation is presented in Figure 6 and Figure 7 as the maximum grade estimated over the Owendale North area assessed for the previous PFS. This highlights the extension of the high grade area where new drilling or assays are now available.



#### Figure 5: Owendale North cross section 544600 mE

Tel: +61 7 5580 9094 • Fax: +61 8 9380 6761 • Email: admin@platinaresources.com.au • Website: www.platinaresources.com.au

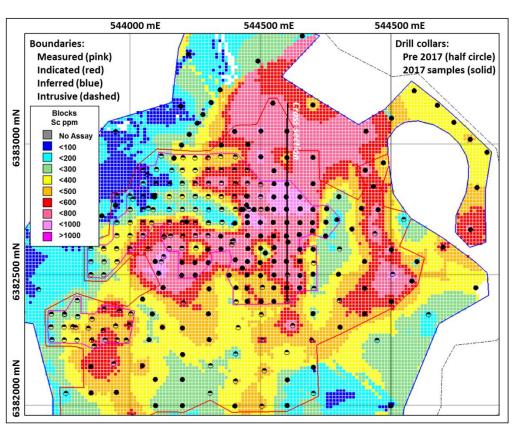
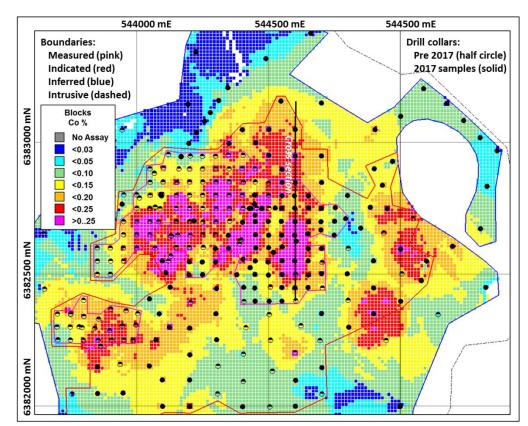


Figure 6: Owendale North plan of maximum estimated Sc grade

Figure 7: Owendale North plan of maximum estimated Co grade



#### **Resource comparison**

A comparison of the updated Mineral Resource to the previous estimate, illustrated in Table 5, indicates a significant increase in the estimate despite the application of lower bulk density assumptions.

The comparison displays a significant increase in the proportion of Mineral Resource classified as Measured and Indicated compared to Inferred.

The 2017 drilling program has added to the bulk density data and prompted a significant review of the in-situ bulk density and moisture content. A revision of the assumed bulk density was considered necessary and contributed to a 12% decrease in the total Mineral Resource (if considered in isolation).

The effect of removing the older Helix nickel and cobalt assays from the Mineral Resource estimate could not previously be quantified, however, it was made possible by new re-assaying of available historical samples and removes any risks associated with using the older analyses.

The new drilling and assay information has allowed for an upgrade of the Mineral Resource classification in many areas and has also provided a significant extension to the overall Mineral Resource area. This is reflected at lower geological cut-offs which indicate that 33% of additional mineralised laterite has been included in the updated Mineral Resource.

Previous estimate (Feb 2017)						ι	Jpdated e	stimate	Aug 2017	7)
Classification	Mt	Sc ppm	Pt g/t	Ni %	Co %	Mt	Sc ppm	Pt g/t	Ni %	Co %
Measured	4.4	405	0.53	0.13	0.07	6.9	440	0.42	0.13	0.07
Indicated	6.5	380	0.33	0.11	0.06	11.6	400	0.26	0.11	0.07
Inferred	17.1	385	0.28	0.12	0.06	15.1	375	0.23	0.09	0.05
Total	27.9	385	0.33	0.12	0.06	33.7	395	0.28	0.11	0.06

# Table 5: Owendale Mineral Resource estimate comparison for 300 ppm Sc cut-off

# Classification

Classification is based on scandium, the current focus for development. Scandium is enriched through supergene processes and as a result has significant lateral continuity. This is evident as consistent enrichment throughout the laterite profile to levels typically >100 ppm Sc as well as higher enrichment in the upper iron- rich part of the laterite profile that is the basis of the 300 ppm cut-off and Mineral Resource statement.

Cobalt displays a similar enrichment process to scandium, although it is generally enriched in a narrowed horizon towards the lower half of the laterite profile. With similar assaying coverage, the classification approach is equally applicable to cobalt given there is sufficient scandium throughout the laterite to make lower grade cobalt cut-offs potentially economic.

The Mineral Resource classification is based on strict drill hole spacing criteria used to determine the confidence categories of the mineralisation as follows (see Figure 4):

Measured Mineral Resource:	regular pattern of 50 m spaced drill holes
Indicated Mineral Resource:	regular pattern of 100 m spaced drill holes
Inferred Mineral Resource:	generally 200 m drill hole spacing

Extrapolation is limited to one quarter of the target drill spacing for each classification. This is restricted further when adjacent to less prospective monzonite or ultramafic units which have inadequate drill sampling and account for several embayments in the classification boundary.

#### Mining

The laterite Mineral Resource at Owendale is thin, laterally extensive and has minimal overburden. Pit depths will be generally in the range of 20 m to 25 m in depth. Geotechnical reviews have indicated the material will be free dig and relatively competent. The topography is flat making strip mining feasible and simple mining excavation is expected. Hence, there are no technical impediments to mining the estimated Mineral Resources.

The Mineral Resource is based on block grade estimates within the laterite profile. At the 300 ppm Sc cut-off the Mineral Resource is drawn from within the upper laterite horizon. The estimation of Sc grade does not use any selective grade boundary interpretations, instead using block grade estimation to define blocks above 300 ppm or 600 ppm Sc. Block estimation and inherent smoothing has introduced most of the expected mining dilutions required for mine planning.

### Metallurgy

Platina completed a PFS (see announcement dated 10 July 2017) for a pressure acid leach processing facility with solvent exchange to extract scandium and mixed sulphide precipitation for nickel and cobalt. Total recoveries assumed include:

- 85.7% for cobalt (80% payable)
- 83.1% for nickel (75% payable)
- 90.3% for scandium

### **Cut-off grade**

Previous Mineral Resources were stated using 300 ppm and 600 ppm Sc cut-off grades. These are both above the marginal economics for Sc described in the recent PFS which indicates they adequately define the lower and higher grade Mineral Resource.

For scheduling purposes, the PFS assessment used 450 ppm and 550 ppm Sc cut-off grades for mining selection. The significant additions to the updated Mineral Resource will allow these mining targets and cut-offs to be reviewed with respect to the strategy for the mine schedule in further studies. Since they are likely to change during the next mine planning review they are not adopted for the Mineral Resource reporting.

A cut-off of 0.08% Co was adopted for the current report to better reflect the breadth of cobalt mineralisation. The high scandium content throughout most areas of cobalt mineralisation means that such a cut-off is a potentially viable economic target and is practicable if cobalt became the focus for production.

# Sensitivity

The Mineral Resource update is based on modern assays undertaken since 2010, with the exception of some remaining 1980s and 1990s platinum assays. However, the early drilling was assayed using four ICP and acid digest methods. Re-assaying by glass fusion XRF has revealed analytical biases. Using the available assay pairs, an average correction factor has been applied to examine the sensitivity of the 300 ppm Sc Mineral Resource to any potential upgrade if the samples were re-assayed or a correction applied.

Table 6 presents two situations based on assaying methods:

- The potential change in grade to the existing Mineral Resource
- The potential change in tonnes and grade if using the adjusted Sc grade

These results indicate that the Mineral Resource is still dominated by the biased four acid digest ICP analysis for scandium and that the net effect if corrected or re-assayed would be a possible increase the Mineral Resource by 10% at similar grade. Given the net effect is on tonnage and that the development currently proposed is relatively modest there is no immediate need to further assess or correct the suspected assay biases and the ICP analyses have been used. The issue will have minimal impact on the future mining studies that will target the recent Aircore

		Existing Miner	ral Resource	Adjusted Mine	ral Resource
D	Component	% Resource informed by ICP	Resource component change	% Resource informed by ICP	Resource component change
	Mt	-	-		13.2%
	Sc	76%	3.8%	79%	1.3%
	Ni	50%	0.5%	52%	(0.6%)
	Со	50%	0.6%	52%	(2.2%)

#### Table 6: 300 ppm Sc Mineral Resource sensitivity to assaying method

The understanding of the in-situ bulk density and moisture content remain one of the more challenging technical aspects to assess. The interaction of moisture content with dry bulk density in laterites means that core measurements can easily become biased due to their ability to absorb drilling fluid during diamond core drilling, complicating the measurement process and the interpretation of results. Until an open pit is undertaken a full understanding of the true in-situ moisture content and dry bulk density will retain some level of uncertainty.

The recent reduction in dry bulk density was required after collection of more data and a reappraisal of the previous work. It is considered that this now places the bulk density assumptions for Owendale within the bounds of ±10%. This area will be a focus of further work including the collection of further data from last core drilling program which has been wrapped since completion to preserve the core moisture and integrity.

#### **Competent Person statements**

This Mineral Resource estimate and the 2017 exploration program was undertaken or supervised by Mr John Horton, Principal Geologist, who is a Fellow and Chartered Professional of the Australasian Institute of Mining and Metallurgy and a full time employee of ResEval Pty Ltd. Mr Horton has sufficient experience that is relevant to the style of mineralisation and the type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves'. This includes over 20 years of experience in Nickel Laterite deposits and over 8 years of years of experience with Scandium Mineral Resource estimation.

The Mineral Resource estimate is based on previous exploration data compiled by Mr Robert Mosig who is a full time employee of Platina Resources Limited and who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Mosig has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

# For further information, please contact:

Robert Mosig, Managing Director Tel: (+61) 7 5580 9094 Email: admin@platinaresources.com.au Grace Caixing Deng, China Representative Tel: (+86) 185 6669 1727 Email: graced@platinaresources.com.au

# Appendix A JORC 2012 Table 1 criteria assessment

A technical report has been prepared that documents aspects of the Mineral Resource estimate. The following tables provide a brief summary of that information in the order and form of the JORC (2012) Table1.

#### Section 1: Sampling Techniques and Data

Criteria	Explanation					
	Exploration is principally over four principal phases, including:					
	<ul> <li>Initial diamond drilling by Anaconda in the 1960s discovering the intrusive system and related copper and platinum mineralisation</li> </ul>					
	• Platinum exploration by Helix and various joint venture partners between 1986 to 2006					
	<ul> <li>Platinum focused exploration by Platina from 2007 with laterite drilling between 2011 to 2013</li> </ul>					
	• Platina Mineral Resource definition drilling in 2017 and re-assaying focusing on scandium					
	Helix surface costeans and other surface samples were not considered for Mineral Resource evaluation purposes.					
	Diamond core is limited and where available generally half core sampled.					
- "	Helix and Platina percussion drilling samples were generally collected via a cyclone mounted on the drill rig or trailer and split using a riffle splitter for field sampling.					
Sampling techniques	When too wet spear sampling methods were used for splitting. Owendale is generally a dry laterite in 2017 spear sampling was necessary over only short runs in occasional holes and is estimated to be used in less than 1% of the sample intervals. Though spear sampling methods can have issues with particulate materials they are generally not an issue with sampling of laterites which are fine and the elements evenly distributed. There is no available trial sampling to verify the spear sampling robustness nor are there sufficient records to indicate how many previous samples used spear sampling.					
	Helix drilling was primarily by RAB with analyses initially on composited on 2 m or 4 m intervals, with selective re-assaying on the original 1 m or composited 2 m intervals. Limited assaying for Pt was late expanded to some other elements.					
	Platina drilling was regularly sampled in 1 m intervals from principally RC drilling.					
	Platina drilling included some diamond core which was half or quarter core sampled in 1 m intervals.					
	Limited re-assaying of Helix RAB samples was completed from late 2016 and involved re-assaying of the remaining pulped samples.					
	Anaconda completed four diamond drill holes in 1967 but there are no assays available.					
	Helix drilling (1986 to 1999) consists of:					
Drilling techniques	<ul> <li>RC drilling (78 holes for 9897 m) by a Warman 650 drill rig with both vertical and inclined drilling. This used blade bit to refusal followed by an RC hammer bit. Sampling over 2 m intervals was via a cyclone bag which was subsampled on site to 2-3 kg using several spear Some early drill holes are likely to have used cross over subs susceptible to down hole contamination.</li> </ul>					
	• Diamond drilling (13 holes for 5326 m) by a Warman 1000 drill rig using HQ after a short Rapre-collar. Down hole surveys were collected using an Eastman single shot camera.					
	• RAB drilling (968 holes for 38 960 m) sampled via a cyclone on generally 2 m intervals and riffle split.					
	Platina drilling (2008 to 2014) consists of:					
	• RC drilling (344 holes for 15 090 m) by a small reverse circulation drill rig with a face sampli hammer bit with nominal hole diameter of 114 mm. One metre samples were collected					

Criteria	Explanation
	directly from the cyclone and subsampled with a 3 or 2 tier Jones Riffle splitter.
	<ul> <li>Diamond drilling (14 holes for 2529 m) initially triple tube HQ (63.5 mm) to approximately 50 m followed by conventional NQ (47.6 mm) tail to EOH. Subsequent PQ diamond drill holes were for metallurgical samples and have no assay data used for the Mineral Resource estimate. Down hole surveys were collected using an Eastman single shot camera.</li> </ul>
	Recent Platina drilling (2017) was by a UDR 650 rig with air pressure of 350 psi and 1150 cfm, and capable of aircore, open hole, reverse circulation and diamond core drilling. The drilling included:
	• Aircore drilling (136 holes for 3654 m). The drilling program included a sampled exploration program of predominantly aircore drilling using a 112 mm diameter drill bit to sample the laterite profile down to the first 2 m of bedrock.
	• RC hammer and bladed drilling used for water bores were drilled as open holes and drilled over existing sampled Aircore drilling.
	• Diamond PQ triple tube drilling (7 holes for 132.5 m) were completed for geotechnical and environmental analysis but were not regularly sampled and assayed for Mineral Resource definition purposes.
	Drilling methods are generally suitable and acceptable in their day. Resource definition drilling has and will continue to replace early RC and RAB drilling by Helix.
	Helix drill recovery is not reported.
Drill comple	Snowden estimated Platina RC drill recovery in 2011 and 2012 averaged around 15 kg which equates to about 80% of the expected sample for the current assumed density.
Drill sample recovery	Aircore drilling in 2017 averaged 16.2 kg from 3575 samples for a smaller 113 mm diameter hole. 1.5 kg is estimated to have been lost due to fines build-up in the cyclone that was cleaned out for each hole. Together this approximates the expected wet weight indicating >90% recovery.
	Platina core recovery exceeded 90%.
	Helix database records contain logged rock type and magnetic susceptibility.
	Platina drilling is logged in more detail with records indicating:
	• Detail geology, oxidation, colour, texture, minerals, drill type and sampling method
Logging	Diamond drill core is photographed prior to sampling
	RC chips trays are retained for all RC drilling
	Platina drill hole logging data is entered either directly into LogChief or excel spreadsheet using notebook computers. Validation of the drill hole logging data is done during data entry.
	Diamond core generally half or quarter core sampled.
	Field RC and RAB samples were generally riffle split and sometimes spear sampled to create a 3 kg primary target sample.
Sub-sampling	Helix sample preparation was by Classic Comlabs at Temora. Pulverisation using a 4 kg mixer mill produced 95% passing <75 microns and was subsampled to 200 g pulps.
techniques and sample preparation	Platina sample preparation from 2008 to Mid-2013 was undertaken at SGS West Wyalong and included a dry, crush and pulverize to 75 $\mu$ m. Samples greater than 3 kg included a rotary split stage to reduce the pulverization size to 3 kg. Sample weight was recorded before and after drying to define sample moisture content.
	Platina sample preparation after Mid 2013 was undertaken at ALS in Orange using a similar commercial sample preparation process except oversize samples were riffle split after drying. For the 2017 drilling program the majority of samples were redirected to ALS Brisbane for preparation using an identical arrangement as used by ALS Orange.

Criteria	Explanation
	The subsampling methods are considered suitable for the laterite material.
	Helix
	Helix drill sample analysis was undertaken at Classic Comlabs principally for Pt by fire assay. Ni and Co analysis was selectively undertaken using an AAS method.
	There is little available information recorded on the Helix QAQC processes. Exploration reports indicate that in 1989 the assaying process was improved to account for incomplete dissolution of the sample during assaying. Helix (1989) noted that some re-assaying had revealed that previous assayin by Helix-Chevron understated platinum by approximately 50% when assays were above 0.3 g/t Pt. Other exploration reports indicate some RAB samples were selectively re-assayed for other elements such as copper, nickel, cobalt and iron.
	Platina (previous)
	Platina analysis was principally by SGS in Townsville and Perth except for the last program in 2013 the was undertaken by ALS in Orange and Brisbane. Both laboratories used similar methods that include
	<ul> <li>Pt, Pd and Au analysis by 25 g fire assays and ICP finish</li> <li>Sc, Ni, Co, Zn, Fe analysis by four acid digest and ICP</li> <li>In phases multi-element analysis was by glass fusion XRF for a range of elements along with loss on ignition (LOI) analysis.</li> </ul>
	The Platina drilling sample preparation, analytical, and security procedures were adequate to ensure high quality drill hole assay data acceptable for geological modelling and reliable Mineral Resource estimation.
Quality of assay data and laboratory tests	Platina QAQC procedures comprise inserting of certified reference materials (CRMs), field blanks (FBs), and duplicates (DPs) into sample dispatches. Three types of duplicate samples were collected: field, coarse, and pulp. Field duplicates were obtained from RC samples; coarse duplicates, from crushed samples; and pulp duplicates, from pulverized samples. In addition, the analytical laboratory used internal reference materials and pulp replicates. CRMs are used to measure accuracy; FBs, to check for contamination and mix-ups; and DPs to monitor precision at several stages of sample preparation.
	Results from the Duplicate assays showed that high grade Pt samples were harder to repeat within a $\pm 10\%$ tolerance; however most were repeatable within a $\pm 15\%$ tolerance. This suggests that a possible nugget effect maybe occurring within the higher grade samples and selective repeat assayin of sub-grade to ore-grade samples is recommended.
	Platina field banks reveal very low level Pt values indicating no significant contamination. Platina undertakes regular check analyses programmes and has monitored the current SGS method for platinum and scandium for several years. The regular QAQC samples and periodic check sample programmes have not resulted in any significant assaying issues There is some evidence of underreporting of scandium by up to 9% in standards and check samples that require further follow-up.
	Platina (2016-2017)
	From 2017 all primary analyses were undertaken by ALS Brisbane for fused bead XRF for Sc, Ni, Co and multi-element analysis and ALS Perth for fire assay for Au, Pt and Pd.
	Analysis of the field duplicates, blanks and standards for the 2017 drilling program raise no concerns Umpire sampling is in progress with samples for all batches selected for analysis with a separate ICP method for Sc, XRF and fire assay at another commercial laboratory and neutron activation for definitive Sc and co verification. The later samples will take several months to be returned and will be

reviewed as part of the feasibility study.

Criteria	Explanation
	Re-assaying included:
	<ul> <li>1142 Helix sample pulps from 146 drill holes to obtain Sc, Ni and Co</li> <li>745 previous Platina samples to obtain a full multi-element suite of elements including loss of ignition (LOI) in the Owendale North development area</li> </ul>
	The validity of re-assaying the Helix pulps samples was tested and verified with two holes that effectively twinned existing Platina drilling prior to embarking on the re-assay program.
	The re-assays indicate previous Ni, Co, Cr and Cu result were similar or lower as would be expected for the previous partial digestion assay method. These previous assay results are now replaced and no other Helix assays used except for the original fire assay Pt analyses. Pt displays a similar though less pronounced possible bias in the high grade range. Helix Pt result may be slightly conservative in the high grade range.
	The validity of re-assaying the Platina pulps samples was tested and verified with two holes that re- assayed where existing multi-element chemistry was available. Following this samples were re- assayed where they could be located and from the Owendale North development area. The re- assaying confirmed the previous ICP analyses for Ni, Co and Sc were biased low. Where available XRF analyses are now used in preference to ICP and was discussed in the PGM announcement dated 14 Feb 2017. The laterite Mineral Resource database currently comprises
	<ul> <li>82% Ni and Co derived from XRF and 18% by ICP four acid digest with ICP reporting between 3% and 7% less grade for Ni and Co</li> <li>32% Sc derived from XRF and 68% by ICP four acid digest with ICP reporting an average 15% less grade for Sc</li> </ul>
	Helix completed a check sampling program in 1995. 1519 previously drilled RAB samples were selected for resampling and analysed for base metals only.
	Platina completed a check sample programme in 2011 and 2013. Umpire laboratory pulps were collected from the pulped original sample packets and were submitted to the ALS laboratory in Orange (2013) and Genalysis in Perth (2011). Results from 2011 show that overall there is minor bias in samples >1000 ppb Pt between the check sample assays and the original assays but no weight is attributed to the discrepancy due to the small number of samples involved. Results from 2013 show that overall there is bias in some samples between the check sample assays and the original assays.
Manifia atiana af	Platina also undertook check sampling for density measurements.
Verification of sampling and assaying	In 2011 the Platina RC drilling program was principally designed to verify known mineralisation drilled previously by Helix with RAB drilling at Owendale North, Box Cowal, Cincinnati and Kelvin Grove prospects as well as some other anomalies.
	Re-assaying in 2016 of Platina drilling from 2011 to 2013 was used to confirm previous result and determine suspected underreporting.
	Re-assaying in 2017 of Helix drilling from the 1980s and 1990s largely confirmed the previous result though generally high grades were reported with the improved XRF analysis method. A few outliers indicate a difference in chemistry and potential error in the assignment of grades for the original Helix re-assays for Ni and Co in the late 1990s. This highlights possible database issue with the Helix re-assay information, avoided in the current estimate by the exclusion of all assays except to assist geological interpretation.
Location of data points	Helix drilling was undertaken on a local grid and surveyed by undisclosed methods. The collar coordinates were converted to MGA Zone 55 regional grid coordinates by an independent surveyor (LVIS) based on differential global positioning locations of 13 drill holes. This resulted in a +6°25' rotation from grid north to the previous local grid north.
	Drilling by Platina was initially surveyed by an independent surveyor (K.I. Lupis) with a Trimble TSC2 Controller, 5800 receiver, 5700 Base and Zephyr Geodetic antenna. Subsequently since 2012 Platina

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Criteria	Explanation
	drilling was surveyed internally using an Omnistar corrected GPS.
	Platina 2017 drilling was surveyed after drilling using a differential GPS (Trimble DGPS Geoexplorer 6000) to sub-metre accuracy.
	Drilling is generally vertical and short and consequently is not surveyed down hole. This does not present significant location issues for the thin laterite zone comprising the current Mineral Resource estimate.
	Most of the Mineral Resource is covered by a detailed drone survey completed in late 2016. This is supplemented over a broader area using locations from a detailed ground gravity survey completed by Platina in 2011.
Data spacing	Majority of the drill holes were sampled on regular 1 m intervals with some wider samples and composite samples for older drilling. The drill hole samples were composited to 1 m down hole intervals by laterite domain.
and distribution	The sample spacing is adequate to define the continuity and thickness of the laterite profile.
	Lateral drill hole spacing is reflected by the Mineral Resource classification and is principally at regula spacings of 50, 100 and 200 m. Limited 25 m and 12.5 m spaced drilling was also completed.
Orientation of data in relation to geological structure	The drill holes are mostly vertical with only a few inclined drill holes used when targeting deeper fresh rock zones. This intersects the flat laterally extensive laterite profile at the optimal angle.
	No specific security measures were undertaken by Platina.
Sample security	From 2011 to 2014 samples were collected and organised by Platina personnel. Sampling procedures have been documented in internal reports. Snowden personnel audited the process in 2011 and 201 and found that the process was well organised and consistently applied and maintained. Sample location integrity was maintained through the use of sample bag numbering and by the inclusion of numbered tags, with sampling records maintained and monitored by the supervising geologist. Sample dispatch from site to laboratory was undertaken through commercial transport companies, laboratory personnel or Platina personnel. Sample dispatch forms were forwarded to laboratories and reconciled upon receipt.
	In 2017 drilling, sampling and dispatch were supervised by a subcontracting exploration service company. All work was overseen by Platina staff.
	Snowden Mining Industry Consultants Pty Ltd (2012) prepared an NI43-101 format technical report that was not publically released. Snowden report completing a 10% audit of the Platina database against hard copy assay certificates, a reviewed 2011 QAQC and a site visit in April 2011.
	Snowden subsequently reviewed exploration field procedures on a site visit 14 April 2013.
	Geo Logical Pty Ltd independently compiled and reviewed the QAQC data for Platina drilling program in 2013 and 2014.
Audits or reviews	During the 2013 Mineral Resource update Golder Associates Pty Ltd undertook drill hole database validation, statistical review, established laterite domaining process and reviewed the previous QAQC data.
	In 2016 and 2017 Platina undertook re-assaying of two Helix RAB drill holes that twin existing Platina RC drilling to ensure there were no indications of degradation of the Helix pulp sample material. Re- assaying also includes 745 re-assayed intervals from earlier previous Platina drilling. Both programs resulted in similar grade tenors though some bias was determined.

### Section 2: Reporting of Exploration Results

Section 2: Reportin	
Criteria	Explanation
Mineral tenement and land tenure	The Owendale deposit falls within Exploration Licence EL7644. This licence is 100% owned by Platina Resources Ltd and was granted on the 2 Dec 2010 and renewal has been offered for a further term of 5 years expiring in 2020.
status	The licence measures approximately 9.3 km north-south and 7.8 km east-west.
Exploration done by other parties	<ul> <li>The Owendale intrusive was first recognised in 1961 by a Bureau of Mineral Resource aeromagnetic survey. The area has been held under a series of exploration licences and companies since 1964 including: <ul> <li>1964 to 1967</li> <li>Anaconda Australia Inc and Quality Earths Pty Ltd</li> <li>1969 to 1970</li> <li>Platina Developments NL</li> <li>1982 to 1983</li> <li>CRA Exploration Pty Ltd</li> <li>1979 to 1980</li> <li>Shell Company of Australia Ltd</li> <li>1985 to 2006</li> <li>Helix Resources Ltd and in joint ventures with Chevron Exploration Corporation (1985 to 1988) and Black Range Minerals (1999 to 2004)</li> <li>2006 to 2017</li> <li>Platina Resources Ltd</li> </ul> </li> <li>Initial exploration focused on vermiculite, kaolin and deep lead platinum mineralisation.</li> <li>Helix undertook the first extensive drilling program with 39 000 m of RAB drilling, 10 000 m of RC</li> </ul>
	drilling and 6 000 m of costeans. This identified a number of platinum group mineral anomalies that included placer, residual and primary mineralisation. Helix also explored for copper porphyry systems and nickel laterite mineralisation. Platinum production is limited to the Fifield deep lead deposits to the south of Owendale.
	The nickel-cobalt laterite at Owendale is developed over ultramafic and pyroxenite rocks and is typical for laterite mineralisation which forms through both residual and supergene enrichment processes. The relatively low grade of nickel at Owendale, compared to other nickel laterite Mineral Resources, is consistent with the lower grade of the underlying ultramafic rocks.
Geology	The enrichment of scandium occurs during lateritisation through similar processes to nickel- cobalt and is similar to other known occurrences nearby at Syerston and in North Queensland. The high scandium grades are also consistent with higher than usual scandium grades in the underlying pyroxenite units.
	Enrichment of platinum in the laterite profile appears to be from residual processes as there is no evidence of supergene processes.
Drill hole information	Exploration results and individual drill holes are not presented in this report. Recent drilling and re- assaying by Platina is provided in announcements dated 29 May, 15 June, 19 June and 26 June 2017
Data	Exploration results and aggregates are not presented in this report.
aggregation	No metal equivalent calculations are used or reported.
methods	1 m composites were used for the Mineral Resource estimate.
Relationship	
between minoralisation	Exploration results are not presented in this report.
mineralisation widths and intercept lengths	The vertical drilling is effectively perpendicular to the horizontal laterite providing the optimal intersection angle.
Diagrams	Maps are provided in Figure 3 to Figure 5.
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	Criteria	Explanation
	Balanced	Exploration results are not presented in this report.
	reporting	All recent drilling results have been reported on receipt and include announcements dated 20 May, 15 June, 19 June and 26 June 2017.
	Other substantive exploration data	Mineral Resources are primarily defined by drilling and assaying. Geophysics and surface geochemistry are used in exploration but have no meaningful input to the Mineral Resource definition.
	Further work	Additional follow-up sampling is in progress for the Helix drilling and includes
		<ul> <li>Further sampling around identified intersections</li> <li>Additional drill holes where mineralisation is indicated by current re-assaying</li> </ul>
		Further review, validation and interpretation of the Helix logs is required to extract the best regional geological model to assist exploration and ground water modelling.
05		Extension of the Mineral Resource to the north east of Owendale North in recent drilling is still open and requires extension and definition drilling to close out the high grade zone.
		Additional prospects have been identified from the recent Helix resampling that deserve follow-up exploration.
		Infill drilling below 50 m will be required for the start-up pit design following the feasibility study to confirm the production basis for the initial small production throughput current envisaged.
	Section 2: Ectimati	ion and reporting of Mineral Resources
((U))	Criteria	Explanation
	Database integrity	Platina have engaged a database management company Maxwell Geoservices to maintain their drill hole database in Datashed and Microsoft Access.
		The Helix drilling database remains in its original format in a Microsoft Access database.
R		Platina is yet to fully integrate the Helix data into their database as additional data entry and validation has been progressively undertaken. Platina maintain their own drilling data to an acceptable standard incorporating QAQC data and using external expertise.
	Site visits	Consulting geologists from Snowden who completed previous Mineral Resource estimates and visited the site for review purposes in 2011 and again in early 2013 to review field practises.
		Exploration by Platina was overseen by Robert Mosig, CEO who was involved with previous Helix exploration. Robert has visited the site on multiple occasions since 1986 through to 2017,

including during the Helix exploration program.

from 30 to 80 ppb Pt.

Geological

interpretation

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Exploration and Mineral Resource evaluation from mid-2016 was supervised by John Horton,

Interpretation of the laterite profile is based on anomalous platinum and scandium grade. This was initially undertaken on a 100 ppb Pt or 100 ppm Sc thresholds. These thresholds were progressively reduced to values of 50 ppb Pt and 50 ppm Sc in lower grade and marginal areas to assist the lateral extension of the laterite domaining. The geochemical domaining process defined the mineralised

laterite zone which is abruptly lower grade in platinum going up into the alluvial cover and a more gradational lower boundary going down into the saprock and bedrock where basement grades range

Where Platina drilling was available with multi-element chemistry the laterite profile was subdivided

into vertical zones for limonite, transition and saprolite. Where magnesium was assayed the thresholds of 2% (limonite-transition) and 8% (transition-saprolite) MgO were used. Where iron

encompassing several site and laboratory visits, with the last site visit in June 2017.

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	Criteria	Explanation
		assays existed but no magnesium assays then the thresholds of 22% (limonite-transition) and 38% (transition-saprolite) Fe <sub>2</sub> O <sub>3</sub> were used.
		This approach reflects the systematic geochemical laterite profile and is consistent with other laterite deposits where geochemical domaining is more reliable than qualitative geological logging.
		The laterite deposit is thin (up to 55 m in depth) and laterally extensive. The main area has an extent of about 3 km (north-south) by 1 km (east-west) and is horizontal. The deposit is covered by alluvium over all areas.
1	Dimensions	The estimated geological Mineral Resource cover 1141 Ha with an average thickness of 15.4 m of laterite and 10.5 m of overburden.
)		The scandium Mineral Resource Statement covers a smaller area of 389 Ha with an average Mineral Resource thickness of 7.5 m and 13 m of overburden.
)	Estimation and modelling techniques	A block model was constructed to represent the laterite profile using regular block size of 12.5 by 12.5 by 1 m with no sub-blocking, except at surface with vertical definition to 10 cm.
) 1 )		Block grade were estimated using Ordinary kriging (OK). Unfolding of each laterite domain was used to reflect the geological profile and improve sample selection during estimation. Grades were estimated on a parent block basis using block discretisation of 5 by 5 by 1. A three pass search ellipse was used during estimation at an increasing radius of 70, 140 and 420 m.
1		Extreme grades for potential economic elements were restricted by applying top-cut values determined from summary statistics (the 99.9 percentile). Applying the top-cut values to the drill hole assay data do not have a significant impact on the average grades except for platinum, which has a more skewed distribution.
1		The estimate was validated by: visual inspection of the model, construction of swath plots in easting, northing and RL comparing drilling with model estimates and comparison with the previous Mineral Resource.
)		All density samples are calculated on a dry basis and dry bulk density used for the Mineral Resource estimation.
)	Moisture	Average moisture content derived from sample drying weights was also estimated and average 13%. Diamond core samples return greater moisture content but are contaminated with drilling fluid and the results considered misleading.
)		Mineral Resources are stated for both cut-off grades of 0.1 % Co and 300 ppm Sc, which overlapped in significant areas.
)	Cut-off parameters	There is not a significant Scandium market and the first stable mine production will affect both supply and demand. Owendale also presents a large relatively high grade Mineral Resource.
)		Consequently the selection of cut-off grade is not based on marginal economics which at current metal prices would classify more of the laterite profile at Owendale as potentially economic. Instead a 300 ppm scandium cut-off was selected to present a significant Mineral Resource, effectively reporting 15% for the laterite profile or 28% of the upper laterite profile. The 300 ppm Sc cut-off represents a robust cut-off with extensive lateral continuity that should not present any mining selectivity issues.
	Mining factors or assumptions	The laterite at Owendale is thin, laterally extensive and has minimal cover. The topography is relatively flat making strip mining feasible where free digging is expected. Hence there are no technical impediments to mining the estimated Mineral Resources.
_		The Mineral Resource is based on block grade estimates within the laterite profile. At the 300 ppm Sc cut-off the Mineral Resource is drawn from within the upper laterite horizon. The estimation of Sc grade does not use any selective grade boundary interpretations, instead using block grade

	Criteria	Explanation
		estimation to define blocks above 300 ppm Sc. Block estimation and inherent smoothing will have introduced most of the expected mining dilution required for mine planning.
	Metallurgical factors or assumptions	The Owendale PFS announced on 10 July 2017 included HPAL (high pressure acid leach) processing with sulphuric acid leach and downstream metal extraction with SX (solvent exchange) and refining for scandium to produce a scandia (scandium oxide) product and a circuit to precipitate nickel and cobalt as a MSP (mixed sulphide product). Overall recoveries included: 85.7% for cobalt (80% payable)
)		83.1% for nickel (75% payable) 90.3% for scandium
-	Environmental	90.3% for scandium
)	factors or assumptions	There are no significant known environmental liabilities on the Platina exploration licence.
		Wet and dry bulk density measurements are derived from a number of sources including:
		<ul> <li>Down hole gamma tools density measurements for five diamond holes with 19794 long and short wavelength readings</li> <li>Archimedes method for five diamond holes drilled for density in 2011 with 823 wet and 343</li> </ul>
/     	Bulk density	<ul> <li>Archimedes method for five diamond holes drilled for density in 2011 with 823 wet and 343 dry measurements</li> <li>Calliper method for three diamond holes drilled for density in 2014 with 45 wet measurements</li> <li>Seven diamond holes drilled for geotechnical sampling in 2017 with         <ul> <li>Calliper method with 53 wet and 20 dry measurements</li> <li>Laboratory method with 4 wet and dry in-situ measurements</li> </ul> </li> </ul>
)		The 2017 program targeted a greater understanding of the density and moisture content and has resulted in a reinterpretation of the previous work and a re-evaluation of the laterite in-situ moisture content and bulk density.
/		Average dry bulk density for the Mineral Resource material is
)		<ul> <li>Limonite 1.6 dt/m<sup>3</sup></li> <li>Transition 1.3 dt/m<sup>3</sup></li> <li>Saprolite 1.5 dt/m<sup>3</sup></li> </ul>
)		Classification previously considered Platinum that is residually enriched in the laterite profile and has inherent variability present in the bedrock that is passed on into the laterite profile.
)		Classification is based on Scandium, the current focus for development. Scandium is enriched through supergene processes and as a result has significant lateral continuity. This is evident as consistent enrichment throughout the laterite profile to levels typically >100 ppm Sc as well as higher enrichment in the upper iron rich part of the laterite profile.
)	Classification	Only Platina drilling or recently re-assayed historic holes with scandium assays available were used for estimation and considered for classification purposes. Average drill spacing was used to determine the confidence categories of the mineralisation as follows (see Figure 4):
1		Measured Mineral Resource regular pattern of 50 m spaced drill holes
1		Indicated Mineral Resource regular pattern of 100 m spaced drill holes
		Inferred Mineral Resource generally 200 m drill hole spacing
_		Where not re-assayed selected older Helix drilling was used only for geological interpretation, controlling the laterite thickness beyond the sampled drilling.

Criteria	Explanation	
Audits or reviews.	The Mineral Resource estimate has not been independently reviewed. Comparison of the Mineral Resource estimate to the previous estimate has demonstrated increases consistent with the additional sample data.	
Discussion of relative accuracy/ confidence	No statistical or geostatistical method (non-linear or simulation) was used to quantify the relative accuracy of the estimate within confidence limits. Accuracy of the estimate is strongly dependent on the spacing of the drilling data as indicated in the classification and quality of the drilling data. The exclusion of the older Helix drilling, except where re-assayed, has removed reliance on the less reliable Ni and Co assayed from the 1980s and 1990s.	