

12 July 2016

ASX Release: PGM

## **PLATINA DELIVERS NEW MINERAL RESOURCE CLASSIFICATION AND INCREASE AT OWENDALE SCANDIUM PROJECT**

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### **Highlights**

- **Total Owendale Mineral Resource increased by 2.2 million tonnes, or 9%, to 25.9 million tonnes at a grade of 380 ppm (parts per million) scandium**
- **Total in-situ content of 15,100 tonnes of scandium oxide, a 9% increase**
- **Previous drilling has improved confidence in the resource over previous estimate, with a maiden Measured Mineral Resource of 4.3 million tonnes at a grade 405 ppm Sc**
- **The size and consistency of the Mineral Resource indicates potential for high grade mining with 220 kt at 665 ppm Sc included in the Measured and Indicated estimate, with the highest grade areas at Owendale North remaining open.**
- **Owendale exhibits a similar resource scale and Sc, Ni and Co grade profile to Clean TeQ Holdings Limited's nearby Syerston project**
- **Updated resource estimate further strengthens Owendale as the highest quality scandium Mineral Resource with associated platinum credits and considerable opportunity for further exploration drilling to increase the resource.**

Platina Resources Limited (ASX: PGM) is pleased to advise that a new Mineral Resource estimate has recently been completed for its Owendale Scandium, Platinum, Nickel and Cobalt project in central New South Wales, Australia. The estimate incorporates new drilling completed in late 2013 and 2014 and a classification targeting a scandium dominated project development.

At a cut-off of 300 ppm Sc the scandium Mineral Resource is:

Measured Mineral Resource	4.3 Mt @ 405 ppm Sc
Indicated Mineral Resource	5.9 Mt @ 375 ppm Sc
Inferred Mineral Resource	15.6 Mt @ 380 ppm Sc
<b>Total Mineral Resource</b>	<b>25.9 Mt* @ 380 ppm Sc</b>

Containing a total in-situ content of 15,100 tonnes of scandium oxide

\* Each resource classification is rounded individually

The Mineral Resource includes significant components of platinum, cobalt, nickel and that offer valuable potential by-products from any scandium processing development. Details of these and the technical aspects of the Mineral Resource estimate are presented further in this announcement.

ResEval Pty Ltd prepared the updated resource estimate with an emphasis on scandium as part of Platina's planning process for its upcoming Feasibility Study. This will include a drilling program at Owendale that will concentrate on development aspects such as plant site and bulk metallurgical sampling. Drilling will also include some regional exploration and targeted infill and extension drilling around the higher grade Scandium pods at Owendale North.

Platina Managing Director Rob Mosig said, *"We are extremely pleased to have delivered a Mineral Resource increase at Owendale. The Measured Resource included in the updated estimate now provides us with more confidence in our Owendale deposit, and demonstrates that Owendale has the attributes to make Platina into Australia's first scandium producer with potential platinum credits."*

*"While Owendale is similar to Clean TeQ's (ASX: CLQ) neighbouring Syerston project in that both projects contain cobalt and nickel credits, Owendale also contains significant platinum credits, which can also be recovered."*

*"This updated resource estimate is an important step in our Feasibility Study for Owendale, which we hope to have completed in 2017, and we are continuing to work towards securing project partnerships and off-take partners to de-risk the project's development."*

### **Resource statement**

ResEval Pty Ltd has estimated the Mineral Resource for the Owendale laterite project, which is 100% owned by Platina Resources Ltd (Platina). The updated resource estimate is consistent with the methodology adopted for the previous resource estimate and public announcement in 2013. Changes to the estimate area result of:

- Addition of the late 2013 drilling results (announced 11 Nov 2013) that include 21 RC drill holes for 1170 m. This was largely in extension areas east of Owendale North and Cincinnati at mostly 200 m and 100 m spacing, respectively.
- Addition of 3 diamond drill holes in 2014 near existing drilling at Owendale North and completed for the purposes of metallurgical sampling.
- To accommodate development studies there has been a change in classification and Mineral Resource statement process to concentrate on scandium and exclude reporting on the basis of platinum that has a higher variability.

The Mineral Resource estimate is provided at a moderate grade cut-off of 300 ppm Sc. The scandium Mineral Resource (additional details are provided in Table 1): is

Measured Mineral Resource	4.3 Mt @ 405 ppm Sc, 0.53 g/t Pt, 0.12% Ni, 0.07% Co
Indicated Mineral Resource	5.9 Mt @ 375 ppm Sc, 0.35 g/t Pt, 0.11% Ni, 0.07% Co
Inferred Mineral Resource	15.6 Mt @ 380 ppm Sc, 0.29 g/t Pt, 0.12% Ni, 0.06% Co
Total Mineral Resource	25.9 Mt @ 380 ppm Sc, 0.34 g/t Pt, 0.12% Ni, 0.06% Co

Appendix A contains additional technical details relevant the JORC Mineral Resource statement.

The resource estimate is essentially based on the scandium results from Platina drilling completed between 2010 and 2014 (mostly RC and some diamond core) and some re-assayed older diamond core, for a total of 338 drill holes and 16 288 samples. Other older drilling with limited geochemistry has only been used to help inform Inferred Mineral Resource areas.

**Table 1: Owendale Mineral Resource estimate at a 300 ppm Sc cut-off**

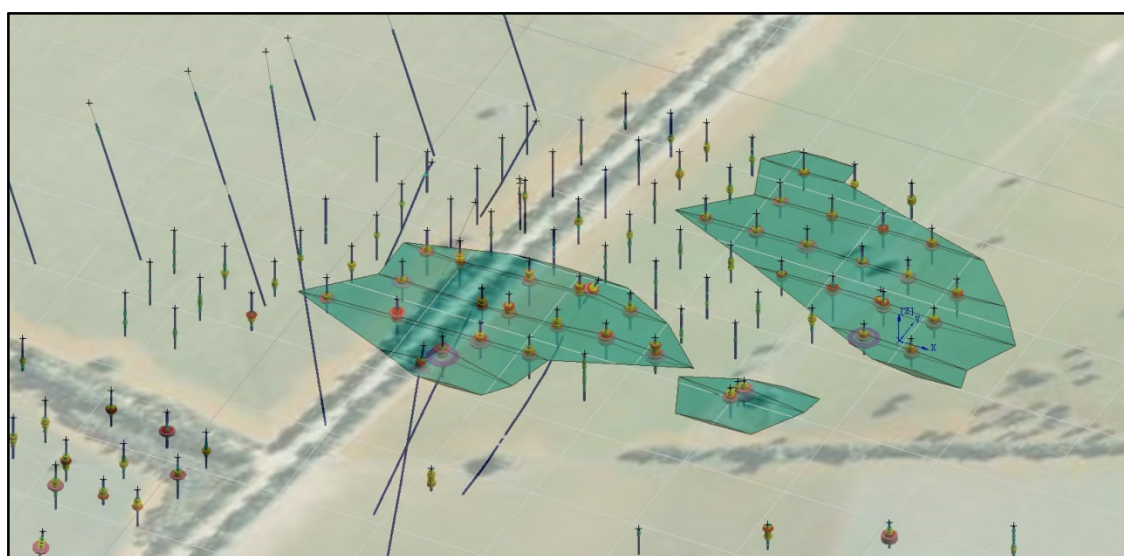
Classification	Mt	Sc ppm	Pt g/t	Ni %	Co %	Pd ppb	Fe <sub>2</sub> O <sub>3</sub> %	MgO %
Measured	4.3	404	0.53	0.12	0.07	42	53	1.1
Indicated	5.9	373	0.35	0.11	0.07	45	51	1.1
<b>Subtotal (Meas + Ind)</b>	<b>10.3</b>	<b>386</b>	<b>0.42</b>	<b>0.11</b>	<b>0.07</b>	<b>44</b>	<b>52</b>	<b>1.1</b>
Inferred	15.6	378	0.29	0.12	0.06	41	51	1.1
<b>Total</b>	<b>25.9</b>	<b>381</b>	<b>0.34</b>	<b>0.12</b>	<b>0.06</b>	<b>42</b>	<b>51</b>	<b>1.1</b>

There are several higher grade zones at Owendale North which display continuity at 500 to 600 ppm Sc cut-offs. Table 2 provides an indication of the Mineral Resource potential at a higher cut-off grade of 600 ppm Sc. Since this is based on block estimates within the laterite horizon smoothing of the estimates can potentially affect reporting at high grade cut-offs with smoothing and dilution resulting in both lower grade and less tonnage above the cut-off.

A manual interpretation of the main high grade scandium zones was undertaken to confirm that the estimates in Table 2 provide a suitable indication of quantum and grade of high grade material currently defined by drilling. This interpretation at 500 ppm Sc and a minimum thickness of 2 m and targeting the main 600 pm scandium zones is displayed in perspective view in Figure 1. This interpretation demonstrates several thick zones with good lateral continuity of a thinner high grade horizon. More work is required with short spaced drilling to fully understand the continuity of the thick high grade zones as well as step out drilling to extend the zones that are currently open to the south and the east.

**Table 2: Owendale Mineral Resource estimate at a 600 ppm Sc cut-off**

Classification Area	Mt	Sc ppm	Pt g/t	Ni %	Co %	Pd ppb	Fe <sub>2</sub> O <sub>3</sub> %	MgO %
Measured	0.12	664	0.52	0.17	0.17	55	55	0.7
Indicated	0.10	668	0.56	0.20	0.18	47	54	0.9
<b>Subtotal (Meas + Ind)</b>	<b>0.22</b>	<b>666</b>	<b>0.54</b>	<b>0.18</b>	<b>0.17</b>	<b>51</b>	<b>54</b>	<b>0.8</b>
Inferred	0.39	652	0.39	0.21	0.12	48	54	0.9
<b>Total</b>	<b>0.61</b>	<b>657</b>	<b>0.44</b>	<b>0.20</b>	<b>0.14</b>	<b>49</b>	<b>54</b>	<b>0.9</b>



*Perspective view of Owendale North viewed from the SW with 100 m grid lines displayed  
Drilling grades displayed as discs with 500 to 1000 ppm Sc thresholds in hotter colours ranging from red to pink.*

*Interpretation sections and wireframe based on 500 pm Sc threshold*

**Figure 1: Owendale North high grade scandium drilling and interpretations**

### 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 the Fifield Deep Lead where platinum had been mined in the past.

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 (Figure 3). The licence measures approximately 9.3 km north-south and 7.8 km east-west.



Figure 2: Owendale project location

### 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 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 particular lithologies and are: platinum-copper mineralisation overlying dunite-wehrlite rocks with variable cobalt, nickel and gold content; cobalt-nickel mineralisation with platinum credits associated with underlying olivine pyroxenites; and elevated chrome and scandium has been noted where dunite-wehrlite lithologies predominate but mainly occur with clinopyroxenite lithologies.

The lateritisation process developed in the past over a long period of leaching which removed some elements and concentrating 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 and 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 4.

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



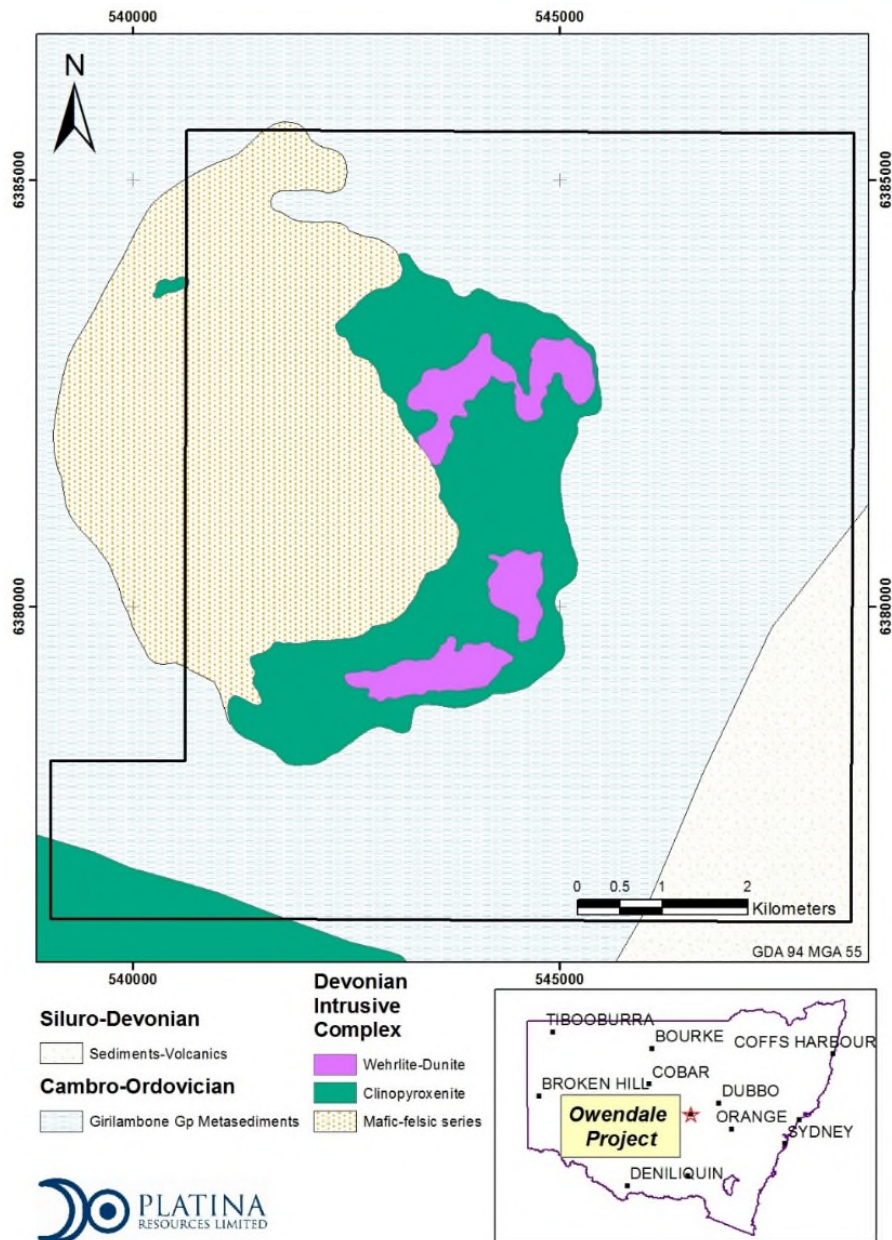


Figure 3: Owendale local geology and exploration lease

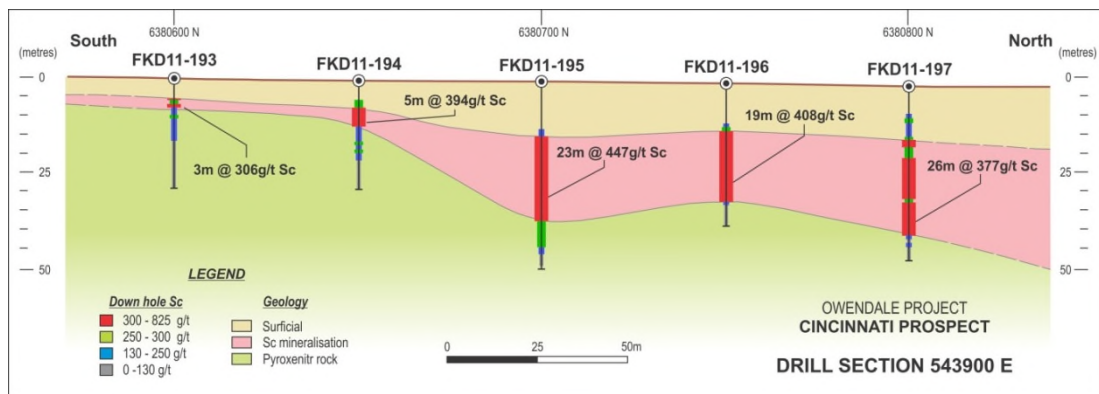


Figure 4: Cincinnati - Cross section 543900E

## Drilling and sampling

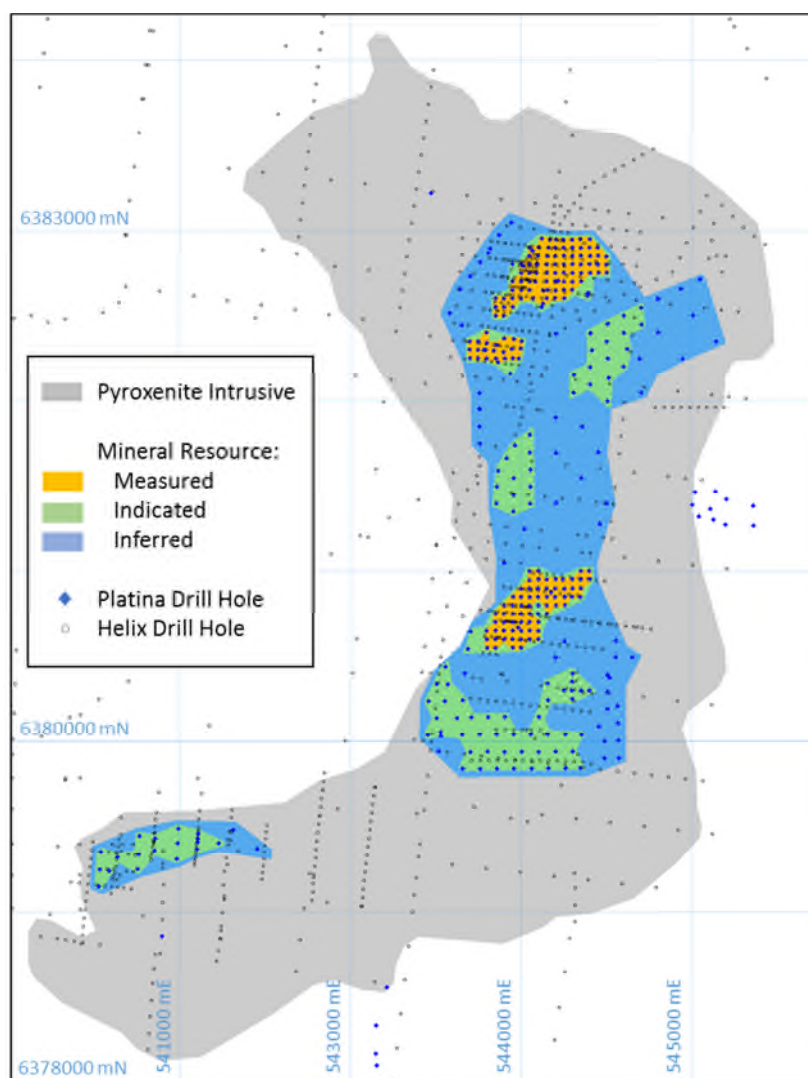
Exploration is principally over two phases including:

- By Helix and various joint venture partners from 1986 to 2006
- By Platina from 2007 with most drilling and sampling from 2011 to 2013.

Though costeans and geophysical surveys were undertaken during exploration the resource definition relies on drilling results which is summarised in Table 3 and Figure 5.

**Table 3: Owendale drill hole summary**

Company	Drill Type	Year	Holes	Metres Drilled	Maximum Depth (m)	Number of Samples by Element					
						Pt	Sc	Ni	Co	Fe	Mg
Anaconda	DDH	1966-67	2	628	320	0	0	0	0	0	0
Helix	DDH	1986-95	13	5326	718	2911	445	1274	663	712	605
	RAB	1988-98	968	38960	89	10175	0	6679	4127	0	0
	RC	1989-99	78	9897	204	2468	0	979	340	0	0
Platina	DDH	2010-14	14	2529	502	2357	1869	2298	2232	1886	533
	RC	2008-13	344	15090	201	14307	13974	13974	13974	13436	8759
<b>Total</b>			<b>1419</b>	<b>72430</b>		<b>32218</b>	<b>16288</b>	<b>25204</b>	<b>21336</b>	<b>16034</b>	<b>9897</b>



**Figure 5. Owendale drilling campaigns and resource classification**

Both phases of exploration include some diamond drilling that targets platinum and sulphide mineralisation potential in the ultramafic bedrock. Laterite targeted diamond drilling was largely for bulk density and metallurgical sampling.

Helix undertook widespread regional drilling targeting the platinum enriched in the laterite profile as well as definition and regional sampling of the bedrock material. Helix drilling is principally by rotary air blast (RAB) and some reverse circulation (RC) on mostly 2 m samples often composited to 4 m with selective sampling for platinum. After recognising some enriched nickel-cobalt laterite mineralisation some reassaying for Ni and Co was undertaken along with definition drilling of some target platinum and nickel-cobalt zones. Limited QAQC is available but indicates some early drilling may understate platinum. Due to the limited geochemistry Helix drilling is excluded from the Mineral Resource estimate where within 50 m of a Platina drill hole such that it only contributes to the estimation of the geological volumes and Pt, No and Co grade for Inferred Mineral Resource areas.

Platina drilling was regularly sampled in 1 m intervals from principally RC drilling using face sampling hammer bit with nominal hole diameter of 114 mm. One metre samples were collected directly from the cyclone and subsampled with a 3 or 2 tier Jones Riffle splitter. Platina drilling included some diamond core which was half or quarter core sampled in 1 m intervals. Diamond core recovery exceeds 90% and RC recovery is estimated to exceed 80% based on weighed samples mass.

Platina sample preparation from 2008 to mid-2013 was undertaken at SGS West Wyalong and included a dry, crush and pulverize to 75  $\mu\text{m}$ . 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.

Platina analysis was principally 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 that included:

- Pt, Pd and Au analysis by 25 g fire assays and ICP finish
- Sc, Ni, Co, Zn, Fe analysis by four acid digest and ICP and at time multi-element analysis by ICP
- In phases multi-element analysis was by glass fusion XRF for a range of elements along with loss on ignition (LOI) analysis.

Multi-element analysis by XRF provides a whole rock composition but is not complete within the database and is only available for 50% of the Platina laterite samples. The selective the analyses were undertaken in a manner to provide sufficient geochemical information for the current phase of work. Work will commence on re-assaying the samples in key areas to complete the geochemical profile.

### **Estimation**

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.

Block grade were estimated using Ordinary kriging (OK). Unfolding to the top 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. Figure 6 displays an example of the block model estimates from Owendale North which crosses from a high Platinum zone into a high scandium zone with some overlap of the mineralisation.

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 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.



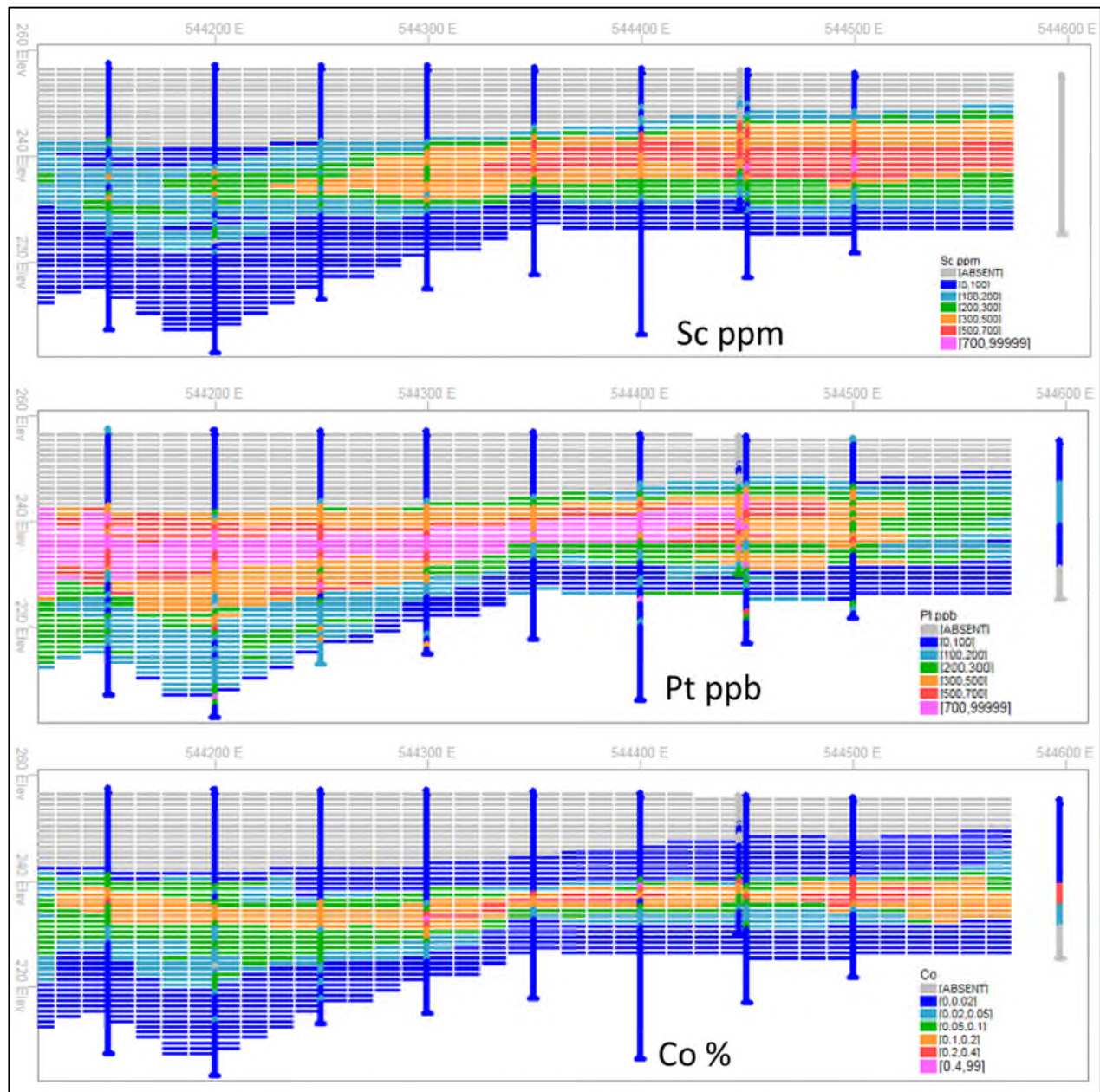


Figure 6: Owendale North section 6382800mN – block model grades for scandium, platinum and cobalt

### Resource comparison

Previous resource estimates includes report at both scandium and platinum cut-offs and as a result incorporated both elements into the classification. Exclusion of the more variable platinum from the classification has allowed the classification to be reconsidered based on the greater continuity displayed by scandium.

A comparison of the previous statement by Golder Associates Pty Ltd (Golder) and current Mineral Resource statements in Table 4 at the 300 ppm Sc cut-off indicates a small global change but a significant upgrade in classification based on the continuity of scandium. The changes incorporate some small boundary changes after exclusion of the platinum for classification as well as some extensions from the last phase of RC drilling in late 2013.



**Table 4: Owendale resource estimate comparison for 300 ppm Sc cut-off\***

Classification	2013 Estimate (Golder)			2016 Estimate		
	Mt	Sc ppm	Sc <sub>2</sub> O <sub>3</sub> t	Mt	Sc ppm	Sc <sub>2</sub> O <sub>3</sub> t
Measured				4.3	404	2700
Indicated	4.2	400	2600	5.9	373	3400
Inferred	19.4	380	11300	15.6	378	9000
<b>Total</b>	<b>23.7</b>	<b>380</b>	<b>13900</b>	<b>25.9</b>	<b>381</b>	<b>15100</b>

Note

Scandium is commonly sold as scandium oxide (Scandia) Sc<sub>2</sub>O<sub>3</sub>.

Conversion factor from Sc to Sc<sub>2</sub>O<sub>3</sub> is 1.5338

Scandium oxide presented is in-situ and includes no mining or metallurgical recovery factors

### Classification

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 now reassessed based solely 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.

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 2):

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.

Only Platina drilling with scandium assays available were considered for classification purposes. Older Helix drilling was used where more than 50 m from a Platina drill hole to help model the geology and estimate grades for Ni, Co and Pt, where available.

### Mining

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 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.

### Metallurgy

Platina has completed some preliminary metallurgical test work for various acid leach processing with chlorination of the residue from the leach for platinum recovery. These indicate recoveries in the order of:

Atmospheric Leach            Sc 60%; Ni 70%; Co 60%

Pressure acid leach          Sc 80%; Ni 90%; Co 95%

High pressure acid leach    Sc 90%; Ni 95%; Co 95%

Chlorination                    Pt 95%

### Cut-off grade

Previously Mineral Resources were stated for both cut-off grade of 0.3 g/t Pt and 300 ppm Sc, which overlapped in significant areas. The dominance of scandium as a more immediate target

for development has resulted in the concentration on for classification and reporting. This does not discount the potential development of a standalone Platinum operation.

There is currently 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 a marginal economics which at current metal prices would include majority of laterite profile at Owendale as potentially economic. Instead a 300 ppm scandium cut-off was selected to present a significant Mineral Resource, effectively reporting 22% for the laterite profile over all drilled areas. The 300 ppm Sc cut-off represents a robust cut-off with extensive lateral continuity that should not present any mining selectivity issues. Better definition of the higher grade zones will be the focus of future drilling and Mineral Resource updates.

### **Competent Person statements**

This Mineral Resource estimate 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 resource estimation.

The Mineral Resource estimate is based on 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.

Yours faithfully,

Robert W. Mosig  
Managing Director

Electronic copies and more information are available on the Company website:  
[www.platinaresources.com.au](http://www.platinaresources.com.au)

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## 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
<i>Sampling techniques</i>	<p>Exploration is principally over two phases, including:</p> <ul style="list-style-type: none"> <li>By Helix and various joint venture partners between 1986 to 2006</li> <li>By Platina from 2007 with most drilling and sampling between 2011 to 2013</li> </ul> <p>Helix surface costeans and other surface samples were not considered for resource evaluation purposes.</p> <p>Helix and Platina drilling samples were generally collected via a cyclone mounted on the drill rig or trailer and split using a riffle splitter for field sampling.</p> <p>Some Helix drilling was noted to use spear sampling methods. Though spear sampling methods can have issues with particulate materials they are generally not an issue with sampling of laterites which are usually more finely sized and evenly distributed. There is no available trial sampling to verify the spear sampling robustness nor are there sufficient records to indicate how many Helix samples used spear sampling.</p> <p>Helix drilling was primarily by RAB with analyses initially on composited 4 m intervals, with selective re-assaying on the original 1 m or composited 2 m intervals. Limited assaying for Pt was later expanded to some other elements.</p> <p>Platina drilling was regularly sampled in 1 m intervals from principally RC drilling.</p> <p>Platina drilling included some diamond core which was half or quarter core sampled in 1 m intervals.</p>
<i>Drilling techniques</i>	<p>Anaconda completed two diamond drill holes in 1967 but there are no assays available.</p> <p>Helix drilling (1986 to 1999) consists of:</p> <ul style="list-style-type: none"> <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 spears. Some early drill holes are likely to have used cross over subs susceptible to down hole contamination.</li> <li>Diamond drilling (13 holes for 5326 m) by a Warman 1000 drill rig using HQ after a short RAB precollar. Down hole surveys were collected using an Eastman single shot camera.</li> <li>RAB drilling (968 holes for 38 960 m) sampled via a cyclone on 2 m intervals and riffle split.</li> </ul> <p>Platina drilling (2008 to 2014) consists of:</p> <ul style="list-style-type: none"> <li>RC drilling (344 holes for 15 090 m) by a small reverse circulation drill rig with a face sampling hammer bit with nominal hole diameter of 114 mm. One metre samples were collected directly from the cyclone and subsampled with a 3 or 2 tier Jones Riffle splitter.</li> <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 resource estimate. Down hole surveys were collected using an Eastman single shot camera.</li> </ul> <p>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.</p>
<i>Drill sample recovery</i>	<p>Helix drill recovery is not reported.</p> <p>Snowden estimated Platina RC drill recovery in 2011 and 2012 averaged around 15 kg which</p>



<b>Criteria</b>	<b>Explanation</b>
	<p>equates to about 80% of the expected sample for the current assumed density.</p> <p>Platina core recovery exceeded 90%.</p>
<b>Logging</b>	<p>Helix database records contain logged rock type and magnetic susceptibility.</p> <p>Platina drilling is logged in more detail with records indicating:</p> <ul style="list-style-type: none"> <li>• Detail geology, oxidation, colour, texture, minerals, drill type and sampling method</li> <li>• Diamond drill core is photographed prior to sampling</li> <li>• RC chips trays are retained for all RC drilling</li> </ul> <p>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. Data is saved interactively via wireless connection onto the main server reducing the risk of data loss on the notebooks.</p>
<b>Sub-sampling techniques and sample preparation</b>	<p>Diamond core generally quarter core sampled.</p> <p>Field RC and RAB samples were generally riffle split and sometimes spear sampled to create a 3 to 5 kg primary sample.</p> <p>Helix sample preparation was by Classic Comlabs at Temora. Pulverisation using a 4 kg mixer mill produced 95% passing &lt;75 microns and was subsampled to 200 g pulps.</p> <p>Platina sample preparation from 2008 to Mid 2013 was undertaken at SGS West Wyalong and included a dry, crush and pulverize to 75 µm. 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.</p> <p>Platina sample preparation after Mid 2013 was undertaken at ALS in Orange using a similar commercial sample preparation process.</p> <p>The subsampling methods are considered suitable for the laterite material.</p>
<b>Quality of assay data and laboratory tests</b>	<p><b>Helix</b></p> <p>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.</p> <p>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 reassaying had revealed that previous assaying 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 reassayed for other elements such as copper, nickel, cobalt and iron.</p> <p><b>Platina</b></p> <p>Platina analysis was principally 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 that included:</p> <ul style="list-style-type: none"> <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> <p>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 resource estimation.</p> <p>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.</p>

<b>Criteria</b>	<b>Explanation</b>
	<p>Results from the Duplicate assays showed that high grade Pt samples were harder to repeat within a <math>\pm 10\%</math> tolerance; however most were repeatable within a <math>\pm 15\%</math> tolerance. This suggests that a possible nugget effect maybe occurring within the higher grade samples and selective repeat assaying of sub-grade to ore-grade samples is recommended.</p> <p>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.</p>
<i>Verification of sampling and assaying</i>	<p>Helix completed a check sampling program in 1995. 1519 previously drilled RAB samples were selected for resampling and analysed for base metals only.</p> <p>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 <math>&gt;1000</math> 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.</p> <p>Platina also undertook check sampling for density measurements.</p> <p>In 2011 the Platina RC drilling program (Figure 2) 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.</p>
<i>Location of data points</i>	<p>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 <math>+6^{\circ}25'</math> rotation from grid north to the previous local grid north.</p> <p>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 drilling was surveyed internally using an Omnistar corrected GPS.</p> <p>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 resource estimate.</p> <p>Topography data is provided by a detailed ground gravity survey completed by Platina in 2011. This provides sub-meter topography accuracy implemented in a topography surface model using 1 m contours</p>
<i>Data spacing and distribution</i>	<p>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.</p> <p>The sample spacing is adequate to define the continuity and thickness of the laterite profile.</p> <p>Lateral drill hole spacing is reflected by the resource classification and is principally at regular spacings of 50, 100 and 200 m.</p>
<i>Orientation of data in relation to geological structure</i>	<p>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.</p>
<i>Sample security</i>	<p>No specific security measures were undertaken by Platina.</p> <p>All samples were collected and organised by Platina personnel. Sampling procedures have been documented in internal reports. Snowden personnel audited the process in 2011 and 2013 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</p>

<b>Criteria</b>	<b>Explanation</b>
	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.
<i>Audits or reviews</i>	<p>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.</p> <p>Snowden subsequently reviewed exploration field procedures on a site visit 14 April 2013.</p> <p>Geo Logical Pty Ltd independently compiled and reviewed the QAQC data for Platina drilling programs in 2013 and 2014.</p> <p>During the 2013 resource update Golder Associates Pty Ltd undertook drill hole database validation, statistical review, established laterite domaining process and reviewed the previous QAQC data.</p>

## Section 2: Reporting of Exploration Results

<b>Criteria</b>	<b>Explanation</b>
<i>Mineral tenement and land tenure status</i>	<p>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 (Figure 3).</p> <p>The licence measures approximately 9.3 km north-south and 7.8 km east-west.</p>
<i>Exploration done by other parties</i>	<p>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:</p> <ul style="list-style-type: none"> <li>• 1964 to 1967 Anaconda Australia Inc and Quality Earths Pty Ltd</li> <li>• 1969 to 1970 Platina Developments NL</li> <li>• 1982 to 1983 CRA Exploration Pty Ltd</li> <li>• 1979 to 1980 Shell Company of Australia Ltd</li> <li>• 1985 to 2006 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 2013 Platina Resources Ltd</li> </ul> <p>Initial exploration focused on vermiculite, kaolin and deep lead platinum mineralisation.</p> <p>Helix undertook the first extensive drilling program with 39 000 m of RAB drilling, 10 000 m of RC 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.</p> <p>Platinum production is limited to the Fifield deep lead deposits to the south of Owendale.</p>
<i>Geology</i>	<p>The nickel-cobalt laterite at Owendale is developed over ultramafic 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 resources, is consistent with the lower grade of the underlying ultramafic rocks.</p> <p>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 ultramafic units.</p> <p>Enrichment of platinum in the laterite profile appears to be from residual processes as there is no evidence of supergene processes.</p>
<i>Drill hole</i>	Exploration results and individual drill holes are not presented in this report.



<b>Criteria</b>	<b>Explanation</b>
<i>information</i>	
<i>Data aggregation methods</i>	Exploration results and aggregates are not presented in this report. No metal equivalent calculations are used or reported.
<i>Relationship between mineralisation widths and intercept lengths</i>	Exploration results are not presented in this report.
<i>Diagrams</i>	A map is provided in Figure 5. Example sections are provided in Figure 6, Figure 7 and Figure 8.
<i>Balanced reporting</i>	Exploration results are not presented in this report.
<i>Other substantive exploration data</i>	Mineral Resources are primarily defined by drilling and assaying. Geophysics and surface geochemistry are used in exploration but have no meaningful input to the resource definition.
<i>Further work</i>	Recent wide spaced drilling requires additional infill drilling to bring the Inferred Mineral Resources to Indicated Mineral Resources and allow economic assessments. Additional mineralised areas defined by older Helix drilling require verification drilling to allow inclusion into the resource estimate. High grade scandium is noted in several areas as apparent pods at Owendale North. The inter-connection and local continuity of the very high grades requires infilling and extension of the current 50 m drilling grid. Scandium requires further investigation to determine the process and economics of extraction as well as the purity of the expected product from a future operation on site.

### **Section 3: Estimation and reporting of Mineral Resources**

<b>Criteria</b>	<b>Explanation</b>
<i>Database integrity</i>	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. Platina is yet to fully integrate the Helix data into their database but maintain their own drilling data to an acceptable standard incorporating QAQC data and using external expertise.
<i>Site visits</i>	Consulting geologists from Snowden who completed previous 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 2016. The site was last visited in March 2016.
<i>Geological interpretation</i>	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 from 30 to 80 ppb Pt. 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

<b>Criteria</b>	<b>Explanation</b>
	<p>assayed the thresholds of 2% (limonite-transition) and 8% (transition-saprolite) MgO were used. Where iron 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.</p> <p>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.</p>
<i>Dimensions</i>	<p>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.</p> <p>The estimated geological resource cover 341 Ha with an average thickness of 18 m of laterite and 5 m of overburden.</p> <p>The scandium Mineral Resource Statement covers a smaller area of 169 Ha with an average resource thickness of 8 m and 13 m of overburden.</p> <p>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.</p>
<i>Estimation and modelling techniques</i>	<p>Block grade were estimated using Ordinary kriging (OK). Unfolding to the top 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.</p> <p>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.</p> <p>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.</p>
<i>Moisture</i>	<p>All density samples are calculated on a dry basis and dry bulk density used for the resource estimation.</p> <p>Average moisture content derived from sample drying weights was also estimated and average 13%.</p>
<i>Cut-off parameters</i>	<p>Previously Mineral Resources were stated for both cut-off grade of 0.3 g/t Pt and 300 ppm Sc, which overlapped in significant areas. The dominance of Sc as a more immediate target for development has resulted in the concentration on for classification and reporting. This does not discount the potential development of a standalone Platinum operation.</p> <p>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.</p> <p>Consequently the selection of cut-off grade is not based on a marginal economics which at current metal prices would classify the majority of 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.</p>
<i>Mining factors or assumptions</i>	<p>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.</p> <p>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 Sc. Block estimation and inherent smoothing will have introduced most of the expected mining dilution required for mine planning.</p>
<i>Metallurgical</i>	<p>Platina has completed some preliminary metallurgical test work for various acid leach</p>

<b>Criteria</b>	<b>Explanation</b>								
<i>factors or assumptions</i>	<p>processing with chlorination of the residue from the leach for platinum recovery. These indicate recoveries in the order of:</p> <table> <tr> <td>Atmospheric Leach</td><td>Sc 60%; Ni 70%; Co 60%</td></tr> <tr> <td>Pressure acid leach</td><td>Sc 80%; Ni 90%; Co 95%</td></tr> <tr> <td>High pressure acid leach</td><td>Sc 90%; Ni 95%; Co 95%</td></tr> <tr> <td>Chlorination</td><td>Pt 95%</td></tr> </table>	Atmospheric Leach	Sc 60%; Ni 70%; Co 60%	Pressure acid leach	Sc 80%; Ni 90%; Co 95%	High pressure acid leach	Sc 90%; Ni 95%; Co 95%	Chlorination	Pt 95%
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High pressure acid leach	Sc 90%; Ni 95%; Co 95%								
Chlorination	Pt 95%								
<i>Environmental factors or assumptions</i>	<p>There are no significant known environmental liabilities on the Platina exploration licence.</p> <p>Dry bulk density determinations (823) were derived from 5 Platina PQ core metallurgical drill holes using standard water immersion methods.</p>								
<i>Bulk density</i>	<p>Down hole gamma tools density measurements were also recorded and help to support the density assumptions for each domain.</p> <p>Average dry bulk density for the resource material is 1.8 t/m<sup>3</sup>.</p> <p>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.</p> <p>Classification is now reassessed based solely 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 &gt;100 ppm Sc as well as higher enrichment in the upper iron rich part of the laterite profile.</p>								
<i>Classification</i>	<p>Only Platina drilling with scandium assays available were considered for classification purposes. Average drill spacing was used to determine the confidence categories of the mineralisation as follows (see Figure 2):</p> <table> <tr> <td>Measured Mineral Resource</td><td>regular pattern of 50 m spaced drill holes</td></tr> <tr> <td>Indicated Mineral Resource</td><td>regular pattern of 100 m spaced drill holes</td></tr> <tr> <td>Inferred Mineral Resource</td><td>generally 200 m drill hole spacing</td></tr> </table> <p>Older Helix drilling was used where more than 50 m from a Platina drill hole to help model the geology and estimate grades for Ni, Co and Pt, where available.</p>	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		
Measured Mineral Resource	regular pattern of 50 m spaced drill holes								
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<i>Audits or reviews.</i>	<p>The Mineral Resource estimate has not been independently reviewed.</p> <p>Comparison of the resource estimate to the previous estimate (completed by separate consultants) has demonstrated similar results when using the same areas and data.</p>								
<i>Discussion of relative accuracy/ confidence</i>	<p>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: density of the drilling data as indicated in the classification and quality of the drilling data.</p> <p>Future work will assess the removal or exclusion of the older Helix drilling where it has been effectively replaced.</p>								