

# HIGH-GRADE SCANDIUM AND COBALT ASSAYS FROM RESOURCE DRILING AT OWENDALE PROJECT

#### **02 AUGUST 2018**

### **Key highlights:**

- Significant scandium intercepts, including:
  - o 15 metres at 515 ppm Sc, including 5 m at 710 ppm Sc
  - o 16 metres at 535 ppm Sc, including 5 m at 670 ppm Sc
  - o 9 metres at 555 ppm Sc, including 3 m at 725 ppm Sc
- High-grade cobalt intercepts, including:
  - o 2 metres at 0.42% Co, including 1 m at 0.68% Co
  - o 3 metres at 0.76% Co, including 1 m at 1.36% Co
- High-grade platinum intercepts, including:
  - 8 metres at 2.2 g/t Pt, including 1 m at 5.5 g/t Pt
- Assay results will be incorporated into an updated JORC Mineral Resource
- Drilling identified potential water resources for future mine usage

Platina Resources Limited (ASX: PGM) is pleased to report the assay results from the recent drilling program at its Owendale Scandium, Cobalt, Nickel and Platinum project in central New South Wales, Australia.

Of the 31 Mineral Resource definition holes drilled, 15 intersected more than one-metre widths at scandium grades greater than 550 ppm (including 5 metres at 710 ppm Sc) and 25 holes with cobalt grades greater than 0.15% (including 3 metres at 0.76% Co) – see Table 1 for a summary of the assay results.

The results are very encouraging with higher than expected scandium mineralisation and a southwards extension of the high-grade cobalt and platinum areas previously defined at North Box Cowal. The data from the drilling program will be used to update the JORC Mineral Resource for inclusion into the Definitive Feasibility Study ("DFS"), and development permit applications.

The aim of the drilling program was to infill drill two additional prospect areas as part of the DFS and assist in modelling the widened area for mine permitting. In addition, a number of holes were drilled for environmental sampling, ground water monitoring and trial water bores.

The drilling has added ground water monitoring and environmental information required for the DFS as well as increasing the Mineral Resource confidence for the additional areas. One drill hole successfully intersected a water resource that has the potential to supply the future mine water requirements.

Platina Managing Director, Corey Nolan, commented "It's very pleasing to have intersected high-grade scandium and cobalt mineralisation in areas which can be incorporated into an updated JORC Mineral Resource for the DFS which is due for completion in Q4/2018.

Owendale has cemented itself as one of the world's high-grade scandium projects and the new results will enhance the overall economics and competitive position of the project".

#### **Overview**

The Owendale drilling (Figure 1) was designed to infill drill two additional prospect areas as part of the Feasibility Study and assist in modelling the widened area for mine permitting.

A program of 42 drill holes were completed in May and June 2018, including:

- 21 holes at Box Cowal prospect within the Owendale project area;
- 12 holes at Cincinnati prospect within the Owendale project area; and
- 9 holes at the Condobolin plant site for water monitoring.

Some of the drill holes also targeted other aspects including environmental sampling (2 holes), ground water monitoring (3 holes) and trial water bores (2 holes). Only one water bore location was in a non-prospective area.

Sampling from the new drilling at Owendale includes 968 additional assays from 1,182 metres of predominantly aircore and some RC drilling. Samples are on one metre intervals though occasionally these are composited to 2 metres for logged overburden intervals. A summary of the intercepts are summarised in Table 1 and shown in Figures 2 to Figure 5.

**Table 1: New drilling intercept summary** 

				2m at			1 m at			1 m at			2 m at					
Hole	Total	East	North		300	ppm S	c cut-c	off		550 ppm Sc cut-off		0.15% Co cut-off		ıt-off	1000 ppb Pt cut-off		cut-off	
Name	Depth	mE	mN	Depth	Len	Pt	Sc	Ni	Co	Depth	Len	Sc	Depth	Len	Co	Depth	Len	Pt
	m			m	m	ppb	ppm	%	%	m	m	ppm	m	m	%	m	m	ppb
FKD18_592	35	543974	6382000	15	14	580	485	0.14	0.10	22	4	630	23	4	0.27			
FKD18_593	32	543924	6382000	21	6	270	465	0.10	0.07				25	2	0.16			
FKD18_594	33	543874	6382001	27	2	245	400	0.08	0.03									
FKD18_595	31	543900	6382049	18	8	255	540	0.09	0.11	20	3	685	23	3	0.21			
FKD18_596	33	543991		12	15	650	515	0.13	0.08	21	5	710	22	4	0.25	22	2	1360
FKD18_597	35	543998	6382101	9	18	430	475	0.11	0.05	20	4	640	23	2	0.23			
FKD18_598	36	543948	6382101	14	10	640	365	0.13	0.05				22	3	0.17			
FKD18_599	32	543897	6382101	16	13	445	490	0.10	0.05	24	1	650	27	1	0.26			
FKD18_600	32	543850	6382100	17	11	285	445	0.07	0.08	20	2	605	23	1	0.22			
FKD18_601	33	543799	6382100	23	5	260	400	0.11	0.14				27	1	0.23			
FKD18_602	32	543800	6382150	18	10	290	425	0.12	0.05				26	1	0.23			
FKD18_603	39	543900	6382151	28	2	865	305	0.39	0.09				26	2	0.21	20	8	2220
FKD18_604	27	543999	6382148	6	16	330	535	0.12	0.07	15	5	670	19	2	0.33			
FKD18_605	26	543999	6382200	14	6	165	360	0.13	0.15				18	2	0.42			
FKD18_606	24	543950	6382200	10	11	510	490	0.08	0.03	19	1	650	19	1	0.19			
FKD18_607	30	543899	6382201	14	2	960	330	0.09	0.01				20	4	0.22	15	7	1575
FKD18_608	30	543850	6382191	16	9	295	555	0.10	0.09	20	3	725	22	2	0.32			
FKD18_609	32	543797	6382202	18	6	255	395	0.09	0.02				27	3	0.26			
FKD18_610	42	543750	6382150	21	5	440	350	0.12	0.04									
FKD18_611	27	543849	6381301	15	9	430	550	0.06	0.03	19	2	730						
FKD18_612	27	543899	6381351	14	9	260	495	0.06	0.05	18	3	625	22	1	0.23			
FKD18_613	26	543900	6381452	13	13	260	530	0.06	0.05	19	5	650	24	1	0.21			
FKD18_614	28	543900	6381551	13	13	230	560	0.07	0.04	19	5	700						
FKD18_615	28	543949	6381599	10	15	320	420	0.06	0.03									
FKD18_616	27	544000	6381651	15	12	210	370	0.07	0.03				23	1	0.16			
FKD18_617	24	543949	6381701	21	3	165	440	0.05	0.01									
FKD18_618	40	543823	6381546	15	11	205	485	0.09	0.09	19	2	665	22	2	0.39			
FKD18_619	27	543807	6381449	17	8	640	475	0.07	0.05	20	1	610	24	2	0.24	20	2	1600
FKD18_620	28	543801	6381350	19	6	450	445	0.07	0.05				25	1	0.18			
FKD18_621	73	543781	6381271	22	7	175	345	0.15	0.07									
FKD18_622^	55	545173	6382534	29	5	35	455	0.15	0.14				30	1	0.40			
FKD18_623*	60	543625	6382364															
FKD18_624	67	543773	6382344	21	5	1465	395	0.30	0.48				22	3	0.76	21	3	1955
Total Length	1180				285						46			50			22	

<sup>\*</sup> Trial water bore in non-prospective area

<sup>^</sup> Trial water bore location to NW of Figure 1

The significant drilling intercepts are provided with the following cut-offs:

- 2 metre minimum width at 300 ppm Sc cut-off corresponding to the current Mineral Resource statements;
- 1 metre minimum width at 550 ppm Sc cut-off to highlight sub-intervals of high grade scandium and report intervals over 600 ppm scandium;
- 1 metre minimum width at 0.15% Co cut-off to highlight higher grade cobalt enrichment zones and corresponding to the current Mineral Resource statements; and
- 1 metre minimum width at 1,000 ppb Pt cut-off to highlight higher grade platinum intervals.

The cobalt and platinum intercepts both underlap and overlap the scandium intervals.

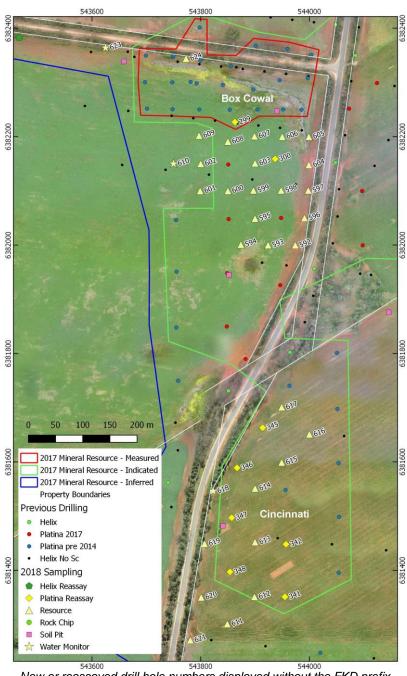


Figure 1: Drilling location

New or reassayed drill hole numbers displayed without the FKD prefix

The drilling program intersected scandium mineralisation in all but one water bore location. This is despite drilling designed to define the Mineral Resource limit. Consequently the results are expected to slightly increase the overall lateral extent of the Mineral Resource.

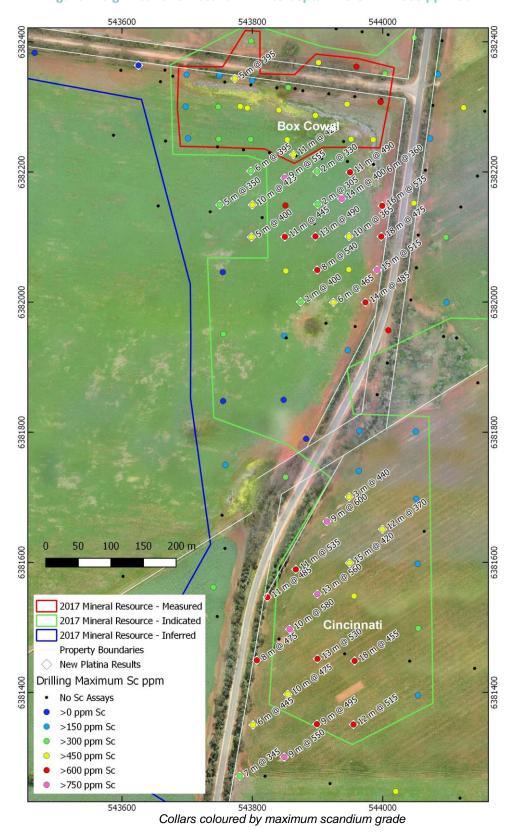


Figure 2: Significant new scandium intercepts where 2 m >300 ppm Sc

High grade scandium occurs in the lower zone of the limonite through many of the drill in the core of the areas tested.

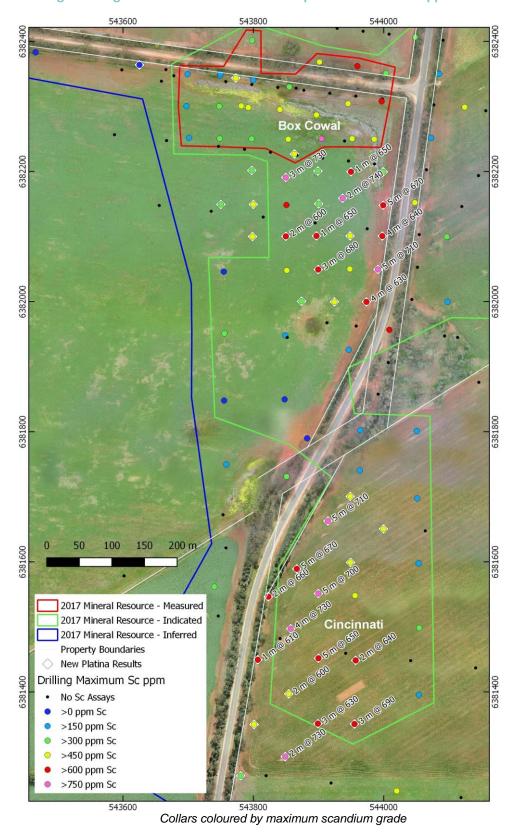


Figure 3: Significant new scandium intercepts where 1 m >550 ppm Sc

A small high grade cobalt enrichment zone is present throughout the recent Box Cowal drilling and most of the Cincinnati drilling. This is accompanied by a broader zone of more typical laterite cobalt enrichment. The consistency of the high grade cobalt enrichment at the two focus areas is encouraging.

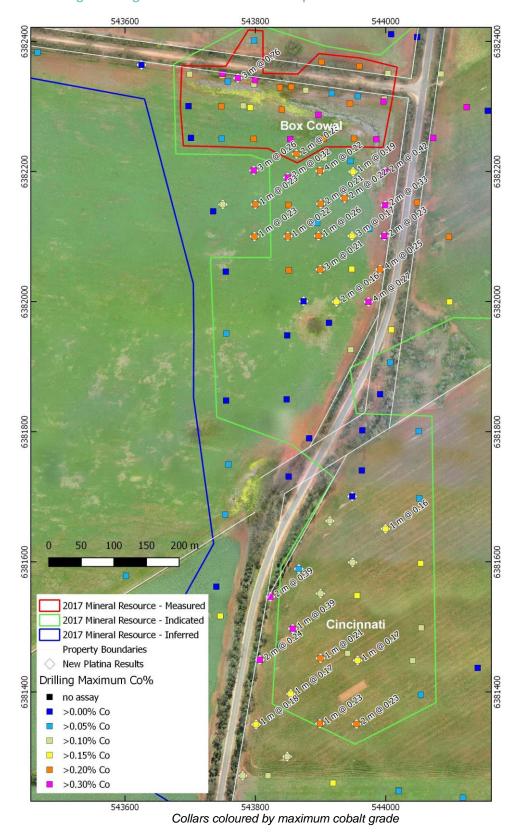


Figure 4: Significant new cobalt intercepts where 1 m >0.15% Co

Owendale has a consistent level of low grade platinum enrichment within the laterite that is typically between 200 and 500 ppb Pt. Previous exploration by Helix and Platina worked out from known platinum occurrences where grades above 1 g/t platinum (1,000 ppb) are more common. The 2018 drilling has reported several significant platinum intercepts only one of which was in a known high platinum area. Two intercepts now support a new platinum pod at Box Cowal and two other intervals are in new areas.

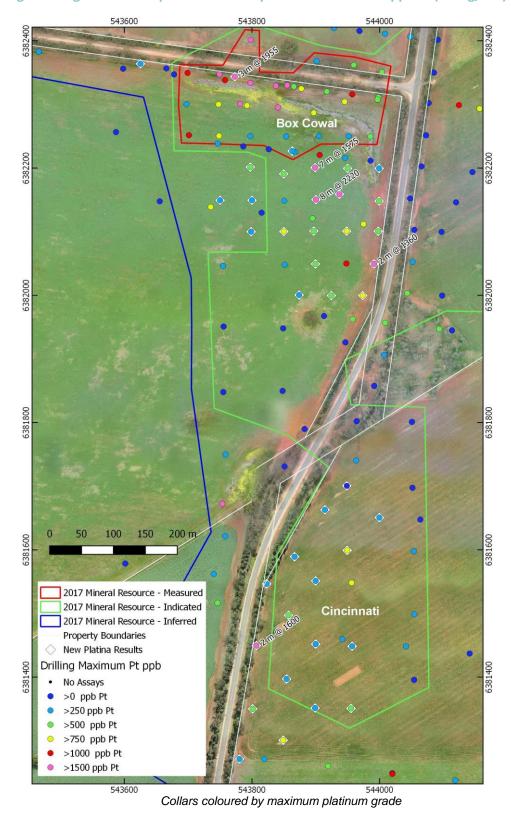


Figure 5: Significant new platinum intercepts where 1 m >1000 ppb Pt (i.e. 1g/t Pt)

#### **Re-assayed Platina drilling**

Historic drilling prior to 2014 by Platina used ICP analysis, with earlier versions of scandium analysis now largely replaced with methods considered more reliable for scandium. Limited re-assaying of some early Platina drill pulps was undertaken in 2017. This was limited to the 2017 drilling area at Loomvale in 2017. The results indicated that the early ICP analyses were significantly and consistently biased low, when compared to current glass fusion XRF assaying and check assaying by Neutron Activation Analysis (NAA) and XRF.

Previous Platina drilling from around the current exploration focus area was selected for re-assay. Currently 8 previous drill holes from 2013 and 2012 have been re-assayed by glass fusion XRF analysis. The samples were selected from contiguous intervals >300 ppm Sc with one neighbouring sample also included.

The initial results have returned Sc grades 22% higher than previously reported. At cut-offs higher than 300 ppm the increase in scandium grade has a more significant net effect. For example at the 450 ppm Sc cut-off the previous ICP analysis includes 28 one meter samples at an average grade of 550 ppm Sc. Following reanalysis by XRF there are 51 one meter samples at an average grade of 600 ppm Sc. Resulting in an 82% increase in intercept length and a 9% increase in scandium grade. The differential increases more markedly for even higher cut-off grades.

Though the area of coverage is still relatively small the results will significantly increase the scandium grade in the two focus areas in addition to the new drilling results. The results also confirm that there is potentially significant upside for the Mineral Resource at Owendale, where information is derived from pre 2015 drilling that has not been re-assayed yet.

Recent re-assaying of Platina drilling includes 106 additional assays from 106 m of RC drilling.

Though previously reported the new re-assays are significantly higher grade and are summarised in Table 2.

Cobalt grades are also marginally higher using XRF, but platinum was not re-assayed and the original results considered accurate.

This new re-assay data is expected to be included in an upcoming Mineral Resource update.

Table 2: New Platina drilling re-assayed intercept summary

Hole	Total	Reassayed	Easting	Northing		2 m at	300 p <sub>l</sub>	pm Sc c	ut-off		1 m at 550	ppm S	c cut-off
Name	Depth	Interval			Depth	Len	Pt	Sc	Ni	Со	Depth	Len	Sc
	m	m			m	m	ppb	ppm	%	%	m	m	ppm
FKD12_299	123	11	543863	6382227	16	11	320	425	0.14	0.08			
FKD12_300	123	14	543937	6382159	12	14	810	400	0.21	0.05	22	2	740
FKD13_341	28	14	543955	6381351	8	12	440	515	0.07	0.04	15	3	695
FKD13_342	34	20	543957	6381448	8	18	345	455	0.07	0.03	18	2	640
FKD13_345	28	9	543914	6381663	18	9	215	600	0.07	0.05	21	5	715
FKD13_346	34	14	543867	6381589	13	11	155	535	0.07	0.02	18	5	670
FKD13_347	34	12	543857	6381497	14	10	235	580	0.07	0.06	17	4	730
FKD13 348	34	12	543854	6381397	15	10	175	475	0.08	0.04	19	2	600

#### Re-assayed Helix drilling

The original Helix drilling in the 1990s was platinum focused and did not include scandium analysis and was often selectively sampled for nickel and cobalt. The current Mineral Resource announced in August 2017 incorporates new areas or extensions as a result of previous Helix drilling re-assays completed in 2017.

During 2018 Platina has continued to re-assay Helix drill pulps from the 1990s. In most cases this has involved follow-up sampling to close out mineralisation intervals previously assayed. Most of the 2018 follow-up is in regional Owendale intrusive areas. Though they are expected to add to an upcoming Mineral Resource update, the overall results are not considered significant enough for separate reporting.

Re-assaying in 2018 has included 672 additional assays from 1743 m of RAB and RC drilling.

The re-assaying also targeted Helix drilling over anomalous copper and zinc targets inside the Owendale intrusive but now known not to have ultramafic intrusive units. The results do not provide encouragement for further sampling and suggest the Owendale intrusive areas towards the west and northwest and within EL7644 are not prospective.

#### Water sampling

All new and some existing water monitoring dill holes continued to be sampled for water depth and quality both at the Owendale Mineral Resource and Condobolin plant site. These have continued to indicate that ground water at Owendale is well below the anticipated depth of laterite mining.

Some drilling targeted testing for potential water supply for the mine site where Platina anticipates modest water requirement to support the planned mine only operation. One drill hole was successful and developed as a potential future water bore. Pump tests suggest that this has potential to supply the mine requirements. In addition an old abandoned homestead bore was tested and would support a backup feed of lower quality water.

Water sampling at Condobolin indicates a saline water table around plant site.

#### Owendale other sampling

Over the last few months Platina completed 17 soil pits and sampling sites. These were aimed at agronomy studies and though sampled and assayed they are not within any prospective or significant horizons.

#### **Condobolin exploration (EL8672)**

The proposed Condobolin plant site is situated in rock units that contain the Condobolin Mineral Field several kilometres to the north-east. Hence it has exploration potential though previously unexplored by previous workers in favour of the known historic mining areas.

Water monitoring drilling and soil contamination pitting at the proposed Condobolin plant site afforded exploration sampling opportunities that have not revealed any significant anomalies for gold or base metals to date. No results for the Condobolin tenement are presented.

Recent geotechnical drilling at Condobolin was also recently sampled as part of the sterilisation sampling program.

#### **Competent Person statement**

This Mineral Resource and exploration reporting was undertaken 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 10 years of experience with Scandium Laterite Mineral Resource estimation.

Assessment of the JORC 2012 Table 1 criteria follow.

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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) Table 1.

Section 1: Sampling Techniques and Data

•	<u> </u>						
Criteria	Explanation						
	Sampling was from percussion drilling returning sample through a cyclone from predominantly aircore drilling and reverting to reverse circulation for deeper holes or intervals						
Sampling techniques	All sampling was undertaken on regular 1 m intervals which was bagged weighed at the drill rig and then split through a three tier riffle splitter to achieve a 2 to 3 kg target sub-sample. Samples greater than 3 kg were dried and riffle split at the laboratory until under the 3.2 kg maximum capacity of the pulveriser.						
	Samples were prepared at a commercial laboratory by pulverisation to provide 200 g master pulp sample, 100 g splits for fire assay for platinum group minerals and 20 g split for XRF analysis.						
	Drilling was undertaken by UDR 650 rig, capable of aircore, open hole and reverse circulation.						
Drilling techniques	The drilling program included a sampled exploration program of predominantly aircore drilling using a 95 mm diameter aircore drill bit to sample the laterite profile down to the first 1 m of bedrock.						
	Exploration holes were also used or opened up for water monitoring bore holes. Where large diameter or open hole drill was planned for water monitoring drilling sampling was taken from an 95 mm aircore or a 115 mm reverse circulation pilot hole.						
Drill sample recovery	Sample recovery was consistently high. Based sample weights and an assumed wet density of 2 the calculated recovery of the aircore samples average 77%.						
	Logging was undertaken by experienced Platina staff and included:						
	Sample weight and number						
Logging	<ul> <li>QAQC samples including duplicates and reference material</li> </ul>						
ggg	Lithology, colour, drill type and sampling method						
	RC chips trays are retained and photographed for all RC drilling						
	Handheld XRF analysis used in the field to help refine geological understanding						
Sub-sampling techniques and sample preparation	Aircore and RC samples were generally riffle split using a three tier riffle splitter to obtain a 1/8 subsample. Initially a two tier riffle splitter was used but this was discontinued due to the excellent recovery and achieved the target split of 3 kg or less. Samples greater than 3.2 kg were dried and split at the laboratory.						
	In rare instances where wet or puggy clays were encountered, for a few metres down hole, the samples were spear sampled using a scoop through the bags when laid on their side.						
	Field samples were placed in calico bags and bundled in groups of 6 to 8 samples in zip-tie locked poly-weave bags for submission to the laboratory. Samples were transported to the laboratory by either Platina personnel.						
	Samples at ALS were dried for 24 hr at 110°C in the calico bags						
	Pulverisation using a 3 kg mixer mill produced 95% passing <75 microns						
	Pulp material was sampled for the master and any other pulp splits.						
	Pulps were dispatched to ALS in Brisbane for XRF assay and ALS in Perth for fire assay						
	The preparation and subsampling methods are considered suitable for the laterite material.						
Quality of	Platina QAQC procedures comprise inserting of certified reference materials (CRMs), field						

Outranta	Form large of a con-					
Criteria	Explanation					
assay data and laboratory tests	blanks (FBs), and duplicates (DPs) into sample dispatches. Field duplicates were obtained from Aircore samples by re-splitting the reject sample after selecting a suitable drill holes to resplit.					
	Field blanks use a locally sourced material which has been used for this purpose since 2011.					
	ALS engages a number of QAQC tests including 1 in 20 checks on the pulp passing, and regular certified reference material, and re-assays.					
Verification of	Platina sampler, geologist and site manager were present for the entire drilling program.					
sampling and	Blind certified reference material were inserted within the sample stream during the program.					
assaying	Check laboratory analyses were instigated and results are in progress.					
	Drilling was initially surveyed by the by a hand help GPS using point averaging to achieve 1.5 m accuracy.					
Location of	All holes were resurveyed by a register surveyor at completion of the program using a differential GPS to sub-metre accuracy.					
data points	Several previous drill holes with permeant collar markers were resurveyed to ensure acceptable survey accuracy.					
	A detailed site survey by drone was completed in late 2016 and provides additional photography and surface elevations for the site for reference and validation of the collar survey.					
Data angains	The drill holes were sampled on regular 1 m intervals.					
Data spacing and distribution	Drill spacing targeted 50 m spacing at Box Cowal and an offset 100 m at Cincinnati to achieve a nominal 71 m spacing					
Orientation of data in relation to geological structure	The drill holes are vertical and intersect the flat laterally extensive laterite profile at the optimal perpendicular angle.					
Sample	No specific security measures were undertaken.					
security	Drilling, sampling and dispatch were supervised by Platina staff.					
Audits or	No specific reviews of the current program were undertaken.					
reviews	The program was undertaken by Platina staff.					

# Section 2: Reporting of Exploration Results

Criteria	Explanation						
Mineral tenement and land tenure status	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.  The licence measures approximately 9.3 km north-south and 7.8 km east-west.  All areas drilled are well within the granted tenement.						
Exploration done by other parties	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:  • 1964 to 1967 Anaconda Australia Inc and Quality Earths Pty Ltd  • 1969 to 1970 Platina Developments NL  • 1982 to 1983 CRA Exploration Pty Ltd						

Criteria	Explanation						
	1979 to 1980 Shell Company of Australia Ltd						
	<ul> <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> </ul>						
	2006 to current Platina Resources Ltd						
	Initial exploration focused on vermiculite, kaolin and deep lead platinum mineralisation.						
	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.						
	Platinum production is limited to the Fifield deep lead deposits to the south of Owendale						
	The nickel-cobalt laterite at Owendale is developed over both ultramafic and intermediat intrusive 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 pyroxenite 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 ultramafic units.						
	Enrichment of platinum in the laterite profile is from residual processes as there is no evidence of supergene processes.						
	The completed drilling and assaying is summarised in Table 1.						
Drill hole	All holes are vertical with depths indicating true thickness.						
information	There are no exclusions except for drilling where results that are not yet available or which are previously reported.						
Data	Exploration results presented are length weighted averages.						
aggregation	No grade cutting is employed.						
methods	No metal equivalents are used with reports for both Sc and Co presented separately.						
Relationship between mineralisation widths and intercept lengths	Drill intercepts are effectively perpendicular to the laterite profile and represent close to true thickness of the mineralisation.						
Diagrams	Maps are provided in the accompanying figures.						
Balanced reporting	All drilling is reported with significant intercepts indicated in accompanying tables and figures						
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 resource definition						
Further work	Further work is not currently planned and will dependant on the results from current Feasibility Study in progress and project funding.						
	If the project were to proceed to development design and construction phases would require						

Criteria	Explanation
	grade control definition drilling of the initial mining areas.