# High grade Ni-Cu-PGE sulphides confirmed at Panton

27 July 2022



## **Highlights**

- Multiple new exploration targets for sulphide-rich (Ni, Cu, Au, Co & PGM) zones identified outside of the area containing
   Future Metal's significant 6.9Moz PdEq Mineral Resource Estimate ("MRE")
- Targets identified following a detailed prospectivity review of Panton's existing geological data, supported by a review by Ni-Cu-PGE expert Jon Hronsky of Western Mining Services.
- The Lower Zone is the lowest portion of the stratigraphy, closest to the feeder conduit of the intrusion where sulphides containing base metals, gold and PGM are most likely to accumulate during emplacement. Panton's structure is such that a large portion of this Lower Zone is exposed from surface enabling the potential for discovering sulphide-rich zones at relatively shallow depths along the basal contact ('Basal Contact Zone') and the fold of the syncline ('Keel Zone').
- The Lower Zone is seen as highly prospective for large accumulations of sulphide-rich mineralisation, supported by:
  - o high-grade base metal (Ni, Cu, Co) and gold intercepts uncovered in historical drilling, associated with local sulphiderich lenses
  - o highly anomalous base metals and gold throughout entire zone (eg 522m @ 0.94 g/t PdEq² (0.34 g/t PGM3E² & 0.23% Ni & 0.016% Co) from 100m (PS260)
  - o numerous late time airborne electromagnetic ("**EM**") conductors
  - o intrusion-scale geological analysis
- Trends in metal distribution and thickness variations in lithological units support the potential for a highly mineralised 'Keel Zone' or 'Feeder Conduit' to have developed at depth.
- Recently acquired airborne EM data has identified multiple strong EM conductors within the Main and Lower Zones, as well
  as in the southern portion of the project, which may represent massive sulphide bodies that have not been previously
  recognised at Panton ('Southern Conductors').
- Mineralisation at Panton is interpreted to have formed from both a primary emplacement event and a secondary hydrothermal event, which remobilised mineralisation into shear zones, creating further potential for accumulation of sulphide rich mineralisation. Multiple high grade base metal and gold sulphide intercepts & EM conductors within and near the Main Zone support this observation.
- Following a review of all drill data for zones evidencing increased concentration of sulphides the Company has identified the following high-grade intercepts:

#### **Lower Zone**

- o 19m @ 0.51 g/t PGM3E<sup>1</sup> & 0.49% Ni & 0.28% Cu & 0.022% Co from 88m (PS158) including:
  - o 3m @ 0.81 g/t PGM3E1 & **1.16% Ni & 0.66% Cu & 0.053% Co** from **88m**
  - o 1m @ 0.67 g/t PGM3E1 & 0.46% Ni & **1.57% Cu** & 0.022% Co from **95m**
  - o 2m @ 1.09 g/t PGM3E1 & 1.01% Ni & 0.22% Cu & 0.044% Co 104m

#### **Main Zone**

- o 4m @ 2.18 g/t Au & 1.18% Ni & 1.05% Cu from 242.5m (PS053) including:
  - o 1m @ 6.80 g/t Au & 0.62% Ni & 2.05% Cu from 242.5m (PS053)
  - o 2m @ 0.92 g/t Au & 1.93% Ni & 0.76% Cu from 243.5m (PS053)
- o 1m @ 23.04 g/t Au & 0.20% Ni & 0.03% Cu from 35m (PS083)
- o 1m @ 1.78 g/t Au & 0.19% Ni & 1.42% Cu from 5m (PS180)
- o 2m @ 0.14 g/t PGM3E1 & 0.09% Ni & **0.73% Cu** & 0.012% Co from 28m (PS269)
- o 1m @ 0.72 g/t PGM3E1 & 0.16% Ni & **1.02% Cu** & 0.023% Co from 20m (PS128)



- Notable new and historical intercepts from the Lower Zone, which is not included in the MRE, include (unconstrained 0.5 PdEq cut-off) (refer to Table One and Appendix Two for full details):
  - 522m @ 0.94 q/t PdEq² (0.34 q/t PGM3ε² & 0.23% Ni & 0.016% Co) from 100m (PS260)
  - o **166.4m @** 0.92 g/t PdEq<sup>2</sup> (0.35 g/t PGM<sub>3E<sup>2</sup></sub> & 0.22% Ni & 0.015% Co) **from 2m** (PS406)
  - o **120m @** 1.12 g/t PdEq<sup>2</sup> (0.46 g/t PGM<sub>3E</sub><sup>2</sup> & 0.26% Ni & 0.013% Co) **from 0m** (PS158)
  - o 108m @ 1.13 g/t PdEq<sup>2</sup> (0.59 g/t PGM3E<sup>2</sup> & 0.23% Ni & 0.013% Co) from 0m (PS160)
  - o **122.9m @** 1.07 g/t PdEq<sup>2</sup> (0.67 g/t PGM<sub>3E<sup>2</sup></sub> & 0.17% Ni & 0.015% Co) from 121m (PS029)
- The Company is currently planning follow up exploration activities as part of the 2022 field season which is to include ground-based EM & gravity surveys leading into exploration drilling of its highly prospective targets.
- A scoping study on the existing MRE, examining different project development scenarios has commenced and the Company is aiming to release an update on this study to market by the end of 2022.

Future Metals NL ("**Future Metals**" or the "**Company**", **ASX | AIM: FME**), is pleased to announce it has identified multiple exploration targets prospective for sulphide accumulations at its 100% owned Panton PGM Project ("**Panton**" or the "**Project**")). These targets have been identified from a geological prospectivity review where significant sulphide-rich (PGM, Cu, Au, Ni, Co) intercepts and electromagnetic conductors have been identified, supported by intrusion-scale geological analysis.

Additionally, the Company is pleased to report shallow, wide PGM & base metals assay results from the exploration drill holes at the 'Northern Anomaly'. The Northern Anomaly sits within the 'Lower Zone' towards the basal contact of the Panton intrusion and further validates the prospectivity of the untested basal contact. Assay results have been received from four holes recently drilled into the Lower Zone.

#### Mr Jardee Kininmonth, Managing Director & CEO of Future Metals, commented:

"Panton's 6.9Moz PdEq MRE relates solely to our Main Zone, being the 'reef-style' mineralisation and the enveloping bulk mineralisation. While this style of mineralisation is known for its continuity, the Lower Zone, which sits at a lower section in the stratigraphy is considered to be 'contact-style' mineralisation. Contact-style deposits often exhibit more short-range variation in mineralisation thickness and grade. The Lower Zone is considered highly prospective for hosting zones of matrix, semi-massive and massive sulphide mineralisation.

The prospectivity review has highlighted the exciting exploration potential at Panton, with possible high-grade zones of base metal and gold sulphides outside of the Main Zone associated with one or multiple feeder (or conduit) zones to the intrusion. To date exploration at Panton beyond the PGM's in the chromite reefs has been limited and this review shows that there is more at play at Panton than our already significant PGM deposit.

Given these excellent base metal & gold intercepts were intersected purely by chance in drilling which was targeting the chromite reefs, it is very exciting what we might uncover when specifically targeting zones identified to be the most prospective for increased sulphide mineralisation.

The Company is currently planning a follow-up ground-based EM and gravity survey to provide better granularity on targets, as well as covering the northern portion of the tenements where the Lower Zone outcrops. Following these surveys, the company intends to test each respective target with diamond drilling and down-hole electromagnetics.

These exploration activities offer significant upside to what is an already compelling high grade, large PGM project. Scoping study activities have commenced to assess the different development pathways that may be progressed on Panton's significant MRE. Exploration activities will be run in parallel to the study, with any further discoveries of highly mineralised zones clearly being complimentary to the existing orebody."

<sup>&</sup>lt;sup>1</sup> PGM3E = Palladium (Pd) + Platinum (Pt) + Gold (Au)

<sup>&</sup>lt;sup>2</sup> Refer page 10 for palladium equivalent (PdEq) calculation



## **Exploration Model**

The Company has identified three exploration concepts it will focus on moving forward: the Keel Zone, the Basal Contact Zone, and the Southern Conductors. The Keel Zone coincides with the interpreted syncline axis in the Lower Zone. Such positions are commonly associated with more prospective positions in other mafic-ultramafic intrusions, because of proximity to a likely feeder position. The Basal Contact Zone is the relatively thick lowermost section of the ultramafic section of the Panton layered intrusion and encompasses what both Platinum Australia Limited and Future Metals have been calling the "Northern Anomaly" mineralisation. Drilling to date has demonstrated the bulk mineralisation potential of these rocks and this review has highlighted the potential for zones (or lenses) of sulphide rich mineralisation to exist within this extensive host unit. The Southern Conductors have been identified following the acquisition and analysis of airborne EM data over the tenement, which indicates there are several strong late time features suggesting they are relatively deep (~200-300m) and are possibly caused by sulphide rich mineralisation. Anomalous soil samples correlate well with the position of the Southern Conductors.

Future Metal's current MRE relates solely to the 'reef-style' mineralisation and the spatially associated disseminated bulk tonnage mineralisation which sits in the immediate hanging wall and foot wall of the high-grade reefs (Main Zone). Reef-style mineralisation is known to demonstrate strong continuity in thickness and grade. The Main Zone chromite reef mineralisation occurs in the middle of the stratigraphic sequence of the Panton layered intrusion, close to the contact between overlying gabbro and an underlying ultramafic sequence. The Lower Zone is hosted by this basal ultramafic which is comprised primarily of mesocumulate dunite. The Lower Zone mineralisation was first defined by surface geochemical sampling in the northern part of the outcropping Panton layered intrusion and has been referred to as the "Northern Anomaly".

Figure One below shows the stratigraphy of the Panton layered intrusion.

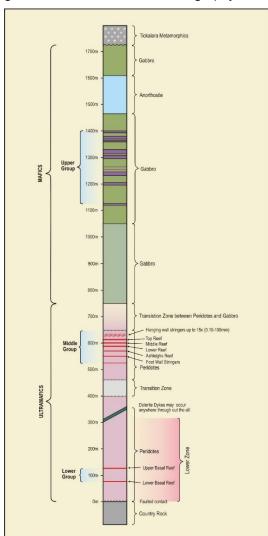


Figure One | Panton Stratigraphic Sequence



#### **Basal Contact and Keel Zone**

The following images show how the Lower Zone is exposed on the northern and eastern limbs of the main syncline that deforms the Panton layered intrusion. Although there are zones of reef mineralisation within the Lower Zone, these are less thick, continuous, and lower grade than the Main Zone reefs. Importantly, the Lower Zone is consistently mineralised throughout its entire width, with low grades of PGE, Ni, Cu and Co and demonstrates a higher proportion of base metals to PGE than the Main Zone, consistent with the 'contact-style' of mineralisation. This is best exemplified by the 522m @ 0.94 g/t PdEq intercept in PS260. The Lower Zone is considered prospective for zones of increased sulphide-rich mineralisation with higher grades of base metals and gold. The sulphide-rich intercepts in PS158 (including 3m @ 0.81 g/t PGM3E<sup>2</sup> & 1.16% Ni & 0.66% Cu & 0.053% Co) demonstrate the capacity of these Lower Zone ultramafics to host zones of high-grade base metals and gold.

It is interpreted that at the time of emplacement of the Lower Series ultramafics of the Panton layered intrusion, local variations in the geometry of the base of the magma chamber, as seen in the change between the Platreef and Flat Reef within the Bushveld in South Africa, may have caused significant localised variation in the amount of sulphide mineralisation deposited. This can lead to the formation of localised high-value deposits of PGE and base-metals. Importantly, these postulated higher-grade zones are likely to host enhanced sulphide mineralisation that may be sufficient to allow electromagnetic survey methods to be employed in their detection.

Figure 2 shows a generic model for mineral deposition within a layered mafic-ultramafic intrusion. When applied to the understanding of the Panton layered intrusion, only the 'Reef Hosted' and 'Disseminated Sulphide' zones have been tested by drilling to date. Given Panton is a relatively thin intrusion (1.5-2.0km) and it has been subject to relatively steep folding, it is highly prospective for the various zones of matrix, semi-massive and massive sulphides which form in these layered intrusions.

Figure 3 illustrates the Company's current 3D geological model for the Panton Intrusion. The inferred Keel Zone and Feeder Conduit position are high-priority targets for local accumulation of contact style PGE-Ni-Cu mineralisation. Such positions are common sites of enhanced mineralisation in many other magmatic sulphide hosting intrusions. The Keel Zone at Panton is interpreted to be shallowing as it trends North-East given the deposit is interpreted to be shallowly plunging to the South-East.

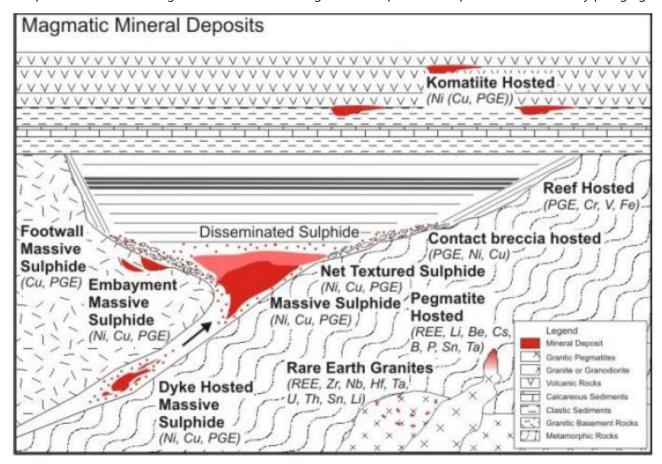
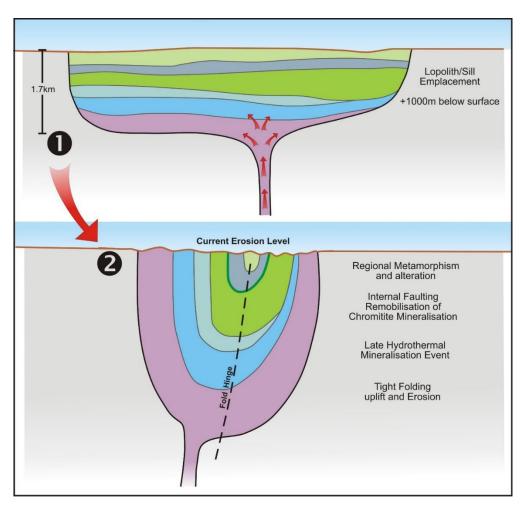


Figure Two | Generic Model of Mineral Deposition in Layered Mafic-Ultramafic Intrusions (Earth Science Australia)





**Figure Three | Panton Stratigraphy and Structural Architecture** 

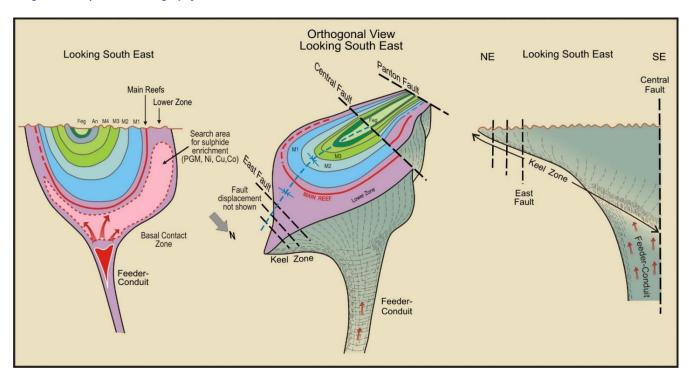


Figure Four | Panton 3D Geology Model



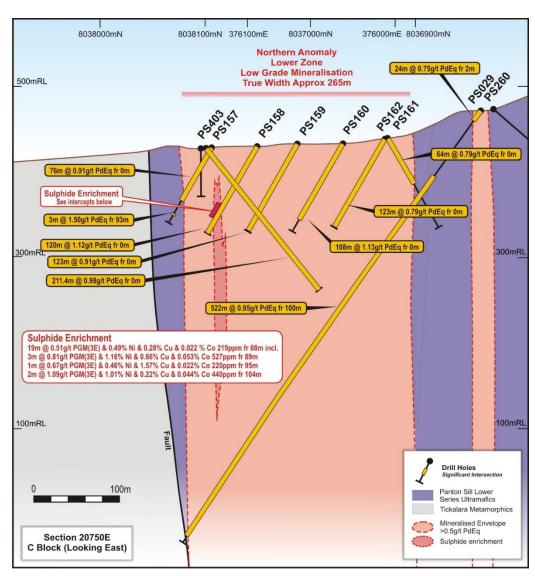


Figure Five | Lower Zone - Sulphide Enrichment - Cross Section

#### **Shear-zone Hosted High-grade Mineralisation in the Main Zone**

Additionally, the ongoing geological review has identified shear zones within the Main Zone, which cross-cut and run adjacent to the reefs, and are potentially responsible for the presence of high-grade base metals and gold. This is demonstrated in PS053 where 4m @ 2.18 g/t Au & 1.18% Ni & 1.05% Cu was intercepted in the hanging wall of the chromitite reef. It is known that a late-stage hydrothermal mineralisation event has over-printed the rocks of the Panton layered intrusion and it is interpreted that these occurrences of high-grade base metals and gold are a product of this mineralisation event and controlled by structure. To date no exploration has specifically targeted this mineralisation, with any intersections of this style of mineralisation occurring by chance from drilling targeting PGM's hosted in the chromitite reefs. The existing airborne EM data and planned ground-based geophysical surveys will facilitate targeting this style of mineralisation.



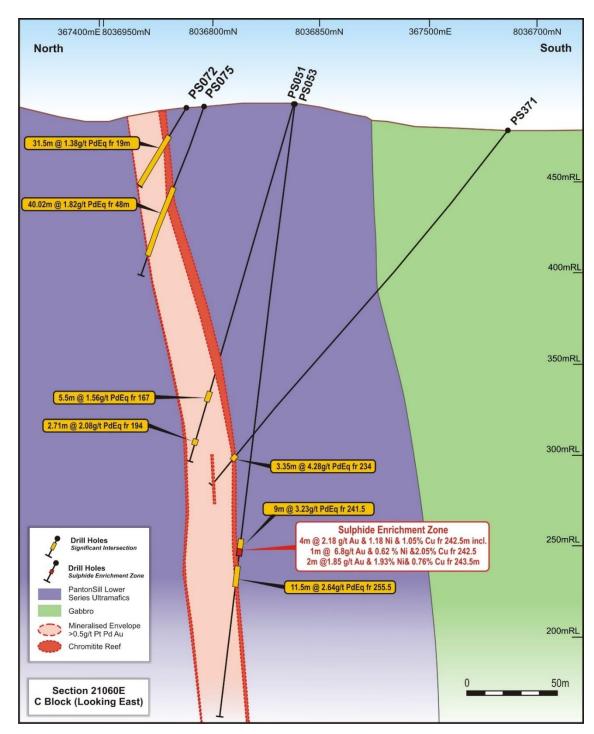


Figure Six | Main Zone - Shear Hosted Sulphide Enrichment - Cross Section



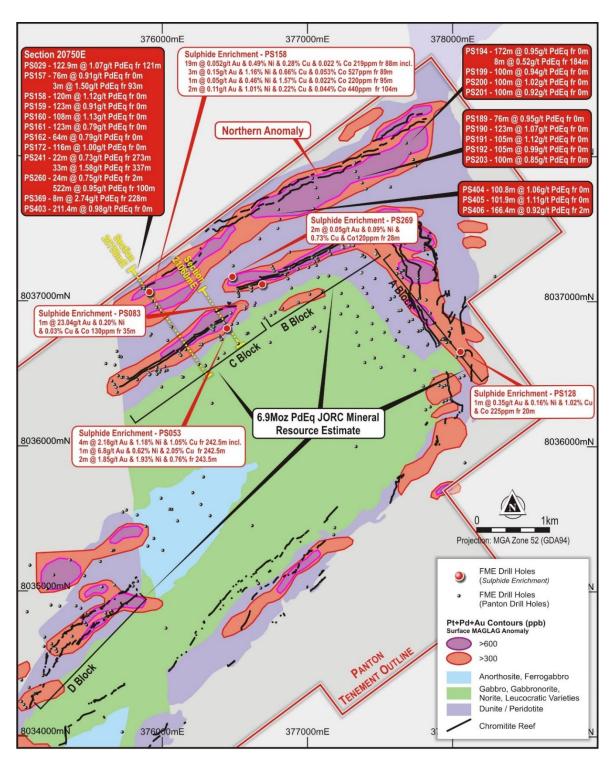


Figure Seven | Panton Plan View

## **Airborne Electromagnetic Analysis**

Figure Seven shows a number of late time EM conductors of various quality that have been identified within the Company's Mining Leases. The conductors highlight areas of potentially increased sulphide mineralisation, both in the Main Zone, the Lower Zone and in the southern portion of the project area. The conductors within the Main and Lower Zone provide targets interpreted to be sulphide rich zones possibly containing high grade base metals and gold. The conductors in the south (Southern Conductors), are not easily explained by the existing understanding of the geology, however they are strong, late time conductors and are overlain by anomalous geochemical readings of sulphide, gold and copper. The Company is currently planning follow up ground-based EM work to provide greater granularity on the targets identified in the EM data and also to extend coverage in the north of the Project area where there is currently no data. This ground-based EM surveying will assist in later exploration drill planning.



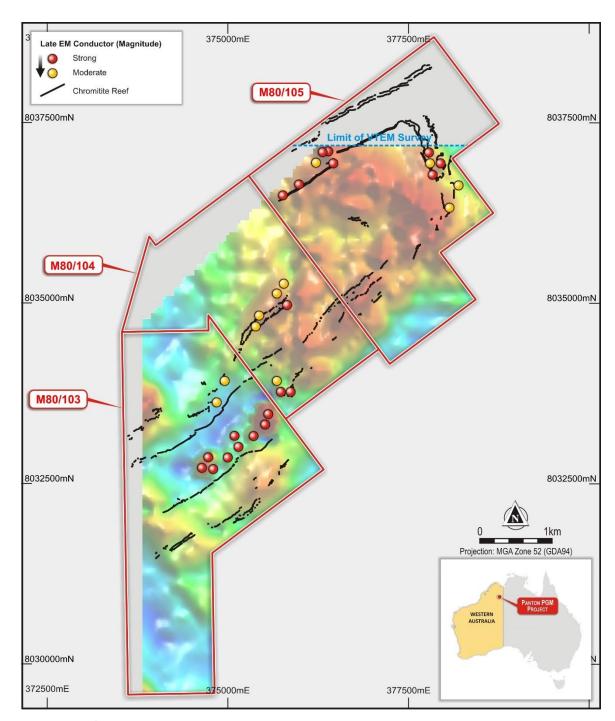


Figure Eight | Late EM Conductors – Panton Plan View

## **Exploration Drillhole Assay Results**

The new and historical intercepts within the Lower Zone demonstrate both the bulk tonnage resource growth potential for Future Metals already substantial resource as well as the potential to host sulphide rich zones at depth. The latest exploration drilling assay results from the Lower Zone are set out in Table One below. Table Two sets out historical intercepts containing sulphide enriched mineralisation. (refer to Appendix Two for the drill hole details):



	From	То	Interval	Pd	Pt	Au	PGM <sub>3E</sub> <sup>1</sup>	Ni	Cu	Co	PdEq <sup>2</sup>
Hole ID	(m)	(m)	(m)	(g/t)	(g/t)	(g/t)	(g/t)	(%)	(%)	(ppm)	(g/t)
Intersection	ns based on 0	.5 g/t PdEq²	cut-off grade	, unconstra	ined						
PS403	0	211.4	211.4	0.2	0.16	0.89	0.45	0.22	0.039	139	0.98
PS404	0	100.8	100.8	0.228	0.17	0.09	0.552	0.23	0.04	144	1.06
PS405	0	101.9	101.9	0.24	0.22	0.11	0.55	0.22	0.046	148	1.11
PS406	2	168.4	166.4	0.14	0.13	0.071	0.35	0.22	0.052	150	0.92
PS260	0	26	26	0.038	0.065	0.064	0.16	0.16	0.12	168	0.75
PS260	100	622	522	0.14	0.12	0.076	0.34	0.23	0.058	157	0.94
PS157	0	76	76	0.18	0.13	0.05	0.37	0.22	0.047	123	0.91
PS157	93	96	3	0.29	0.19	0.19	0.68	0.28	0.19	167	1.54
PS158	0	120	120	0.22	0.18	0.067	0.46	0.26	0.079	133	1.12
PS159	0	123	123	0.16	0.14	0.058	0.36	0.22	0.041	132	0.91
PS160	0	108	108	0.24	0.23	0.12	0.59	0.23	0.048	134	1.13
PS161	0	123	123	0.1	0.098	0.81	0.28	0.19	0.05	130	0.79
PS161	0	64	64	0.12	0.092	0.082	0.29	0.19	0.042	139	0.79
PS161	0	116	116	0.25	0.23	0.085	0.57	0.18	0.032	146	1
PS029	121	243.9	122.9	0.33	0.27	0.061	0.67	0.17	0.023	150	1.07
PS241	273	295	22	0.144	0.073	0.015	0.23	0.2	0.012	151	0.73
PS241	337	370	33	0.51	0.48	0.15	1.14	0.21	0.033	160	1.58
PS369	193.45	198	4.55	0.18	0.098	0.006	0.29	0.18	0.003	160	0.74
PS369	228	236	8	1.16	1.16	0.094	2.4	0.23	0.034	166	2.74
PS194	0	172	172	0.2	0.17	0.061	0.43	0.21	0.044	130	0.95
PS194	184	192	8	0.028	0.032	0.015	0.075	0.14	0.053	140	0.52
PS199	0	100	100	0.18	0.17	0.08	0.42	0.2	0.053	134	0.94
PS200	0	100	100	0.22	0.22	0.049	0.49	0.21	0.046	135	1.02
PS201	0	100	100	0.15	0.16	0.07	0.38	0.21	0.06	132	0.92
PS194	0	76	76	0.17	0.15	0.1	0.42	0.22	0.05	122	0.95
PS194	0	123	123	0.25	0.19	0.087	0.53	0.23	0.043	136	1.07
PS194	0	105	105	0.3	0.23	0.07	0.6	0.22	0.047	131	1.12
PS194	0	105	105	0.2	0.19	0.072	0.46	0.21	0.056	134	0.99
PS194	0	100	100	0.12	0.12	0.065	0.31	0.2	0.06	137	0.85
PS204	0	72	72	0.18	0.17	0.093	0.45	0.21	0.044	119	0.95
PS205	0	142	142	0.23	0.19	0.1	0.52	0.22	0.049	124	1.06
PS206	0	150	150	0.25	0.2	0.083	0.53	0.23	0.05	142	1.09
PS267	0	200.8	200.8	0.11	0.12	0.079	0.31	0.21	0.055	148	0.87
PS266	18	304	286	0.13	0.12	0.075	0.32	0.22	0.055	151	0.9
PS262	0	298	298	0.16	0.15	0.086	0.4	0.22	0.057	144	0.96
PS268	0	30	30	0.036	0.057	0.063	0.16	0.17	0.11	157	0.69
PS268	50	149.8	99.8	0.035	0.04	0.049	0.12	0.18	0.076	154	0.69
PS269	0	30	30	0.164	0.1	0.03	0.29	0.11	0.09	149	0.73
PS269	80	130	50	0.014	0.024	0.033	0.072	0.15	0.091	152	0.6
PS207	0	110	110	0.13	0.14	0.09	0.36	0.23	0.061	160	0.98

**Table One | Lower Zone Assay Results**<sup>1</sup> Refer page 10 for palladium equivalent (PdEq) calculation



	From	То	Interval	Pd	Pt	Au	PGM₃ <sub>F</sub> ¹	Ni	Cu	Co
Hole ID	(m)	(m)	(m)	(g/t)	(g/t)	(g/t)	(g/t)	(%)	(%)	(ppm)
Lower Zone										
PS158	88	107	19	0.28	0.18	0.052	0.51	0.49	0.28	219
PS158	88	91	3	0.47	0.19	0.15	0.81	1.16	0.66	527
PS158	95	96	1	0.17	0.45	0.05	0.67	0.46	1.57	220
PS158	104	106	2	0.54	0.44	0.11	1.09	1.01	0.22	440
Main Zone										
PS269	28	30	2	0.07	0.02	0.05	0.14	0.09	0.73	120
PS128	20	21	1	0.22	0.15	0.35	0.72	0.16	1.02	225
PS053	242.5	246.5	4	0.54	0.05	2.18	2.86	1.18	1.05	n/a
PS053	242.5	243.5	1	Na	0.03	6.80	7.18	0.62	2.05	n/a
PS053	243.5	245.5	2	1.80	0.08	0.92	1.86	1.93	0.76	n/a
PS083	35	36	1	0.01	0.01	23.04	23.06	0.20	0.03	130

Table Two | Historical Drilling Assay Results - Sulphide Enriched

#### Palladium Equivalent (PdEq)

Based on metallurgical test work completed on Panton samples, all quoted elements included in the metal equivalent calculation (palladium, platinum, gold, nickel, copper and cobalt) have a reasonable potential of being ultimately recovered and sold.

Metal recoveries used in the palladium equivalent (PdEq) calculations are the midpoint of the range of recoveries for each element based on metallurgical test work undertaken to date at Panton. It should be noted that palladium and platinum grades reported in this announcement are lower than the palladium and platinum grades of samples that were subject to metallurgical test work (grades of other elements are similar).

Metal recoveries used in the palladium equivalent calculations are shown below:

Palladium 80%, Platinum 80%, Gold 70%, Nickel 45%, Copper 67.5% and Cobalt 60%

Metal prices used are also shown below:

Palladium US\$1,700/oz, Platinum US\$1,300/oz, Gold US\$1,700/oz, Nickel US\$18,500/t, Copper US\$9,000/t and Cobalt US\$60,000/t

Metal equivalents were calculated according to the follow formula:

PdEq (Palladium Equivalent g/t) = Pd(g/t) +  $0.76471 \times Pt(g/t) + 0.875 \times Au(g/t) + 1.90394 \times Ni(%) + 1.38936 \times Cu(%) + 8.23 \times Co(%)$ 

This announcement has been approved for release by the Board of Future Metals NL.

#### For further information, please contact:

**Future Metals NL** +61 8 9480 0414

Jardee Kininmonth <u>info@future-metals.com.au</u>

**Strand Hanson Limited** (Nominated Adviser) +44 (0) 20 7409 3494

James Harris/James Bellman

**W H Ireland Limited** (UK Broker) +44 (0) 207 220 1670

Harry Ansell/Katy Mitchell

White Noise Communications (Australian IR/PR) + 61 400 512 109

Fiona Marshall

<sup>&</sup>lt;sup>1</sup> Refer below for palladium equivalent (PdEq) calculation



#### Competent Person's Statement:

The information in this announcement that relates to Exploration Results is based on, and fairly represents, information compiled by Mr Shane Hibbird, who is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Hibbird is the Company's Exploration Manager and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a competent person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves" (JORC Code). Mr Hibbird consents to the inclusion in this announcement of the matters based upon his information in the form and context in which it appears.

The information in this announcement that relates to Mineral Resources is based on, and fairly represents, information compiled by Mr Brian Wolfe, who is a Member of the Australian Institute of Geoscientists. Mr Wolfe an external consultant to the Company and is a full time employee of International Resource Solutions Pty Ltd, a specialist geoscience consultancy. Mr Wolfe has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a competent person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves" (JORC Code). Mr Wolfe consents to the inclusion in this announcement of the matters based upon his information in the form and context in which it appears.

The information in this announcement that relates to Metallurgical Results is based on, and fairly represents, information compiled by Mr Brian Talbot, a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy. Mr Talbot is a full-time employee of R-Tek Group Pty Ltd (R-Tek) a specialist metallurgical consultancy. Mr Talbot has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a competent person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves" (JORC Code). Mr Talbot consents to the inclusion in this announcement of the matters based upon his information in the form and context in which it appears.

The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulation (EU) No. 596/2014 as is forms part of United Kingdom domestic law pursuant to the European Union (Withdrawal) Act 2018, as amended.



#### **Notes to Editors:**

#### **About the Panton PGM-Ni Project**

The 100% owned Panton PGM-Ni Project is located 60kms north of the town of Halls Creek in the eastern Kimberly region of Western Australia, a tier one mining jurisdiction. The project is located on three granted mining licences and situated just 1km off the Great North Highway which accesses the Port of Wyndham (refer to Figure Nine).

PGM-Ni mineralisation occurs within a layered, differentiated mafic-ultramafic intrusion referred to as the Panton intrusive which is a 12km long and 3km wide, south-west plunging synclinal intrusion. PGM mineralisation is hosted within a series of stratiform chromite reefs as well as a surrounding zone of mineralised dunite within the ultramafic package.



Figure Nine | Panton PGM Project Location

### **About Platinum Group Metals (PGMs)**

PGMs are a group of six precious metals being Platinum (Pt), palladium (Pd), iridium (Ir), osmium (Os), rhodium (Rh), and ruthenium (Ru). Exceptionally rare, they have similar physical and chemical properties and tend to occur, in varying proportions, together in the same geological deposit. The usefulness of PGMs is determined by their unique and specific shared chemical and physical properties.

PGMs have many desirable properties and as such have a wide variety of applications. Most notably, they are used as auto-catalysts (pollution control devices for ICE vehicles), but are also used in jewellery, electronics, hydrogen production / purification and in hydrogen fuel cells. The unique properties of PGMs help convert harmful exhaust pollutant emissions to harmless compounds, improving air quality and thereby enhancing health and wellbeing.



## **Appendix One**

## Panton JORC (2012) Mineral Resource Estimate

Resource	Category	Mass					Grade							Containe	d Metal			
		(Mt)	Pd (g/t)	Pt (g/t)	Au (q/t)	PGM3E (g/t)	Ni (%)	Cu (%)	Co (ppm)	PdEq (g/t)	Pd (Koz)	Pt (Koz)	Au (Koz)	PGM3E (Koz)	Ni (kt)	Cu (Kt)	Co (Kt)	PdEq (Koz)
Reef	Indicated	7.9	1.99	1.87	0.31	4.16	0.24	0.07	190	4.39	508	476	78	1,062	19.1	5.2	1.5	1,120
	Inferred	17.6	1.59	1.49	0.22	3.30	0.23	0.07	193	3.63	895	842	123	1,859	41.1	13.1	3.4	2,046
	Subtotal	25.4	1.71	1.61	0.24	3.57	0.24	0.07	192	3.86	1,403	1,318	201	2,922	60.3	18.2	4.9	3,166
Dunite	Inferred	103.4	0.31	0.25	0.07	0.62	0.17	0.03	145	1.12	1,020	825	225	2,069	179.6	30.2	15.0	3,712
	Subtotal	103.4	0.31	0.25	0.07	0.62	0.17	0.03	145	1.12	1,020	825	225	2,069	179.6	30.2	15.0	3,712
All	Indicated	7.9	1.99	1.87	0.31	4.16	0.24	0.07	190	4.39	508	476	78	1,062	19.1	5.2	1.5	1,120
	Inferred	121	0.50	0.43	0.09	1.01	0.18	0.04	147	1.49	1,915	1,667	348	3,928	221	43	18	5,758
	Total	129	0.59	0.52	0.11	1.20	0.18	0.04	150	1.66	2,423	2,143	426	4,990	240	49	20	6,878



## **Appendix Two**

## **Exploration Drill Hole Details**

Hole ID	Hole Type	Easting	Northing	RL (m)	Total Depth (m)	Inc (deg)	Azi (deg)
PS403	HQ3 Core	375871.5	8037097	427.8	211.4	-50	144
PS404	HQ3 Core	376794.6	8037635	444.9	100.8	-50	330
PS405	HQ3 Core	376807.2	8037570	447.3	101.9	-50	330
PS406	HQ3 Core	376796	8037504	452.0	168.4	-50	330
PS029	RC	376067.3	8036829	476.5	243.9	-40	121.5
PS053	RC	376455.9	8036810	493.0	339.5	-82	356.5
PS083	RC	376706	8037123	488.5	101.9	-55	334
PS128	HQ3 Core	378055.9	8036648	450.5	152.8	-55	45
PS157	RC	375873.6	8037088	431.5	105	-60	324
PS158	RC	375906.2	8037046	431.8	120	-60	324
PS159	RC	375934.4	8037007	437.1	123	-60	324
PS160	RC	375964.7	8036965	437.0	123	-60	324
PS161	RC	375993.3	8036925	441.8	123	-60	324
PS194	RC	377681.8	8038097	478.0	207	-60	324
PS199	RC	377707.2	8038027	489.0	100	-58	320
PS200	RC	377731.3	8037983	478.8	100	-61.5	324
PS201	RC	377749.7	8037941	472.8	100	-60.5	326
PS204	RC	377036	8037855	490.6	129	-53.5	329
PS205	RC	377059	8037789	478.4	150	-59.5	324.5
PS206	RC	377072.4	8037721	476.5	150	-58	324
PS207	RC	377043.1	8037644	474.3	110	-61.5	329
PS241	RC	376253.7	8036573	488.2	371	-55.64	324.54
PS260	RC	376060	8036834	475.3	629.3	-55.06	335.95
PS262	RC	376464.9	8037346	482.0	368.4	-56.16	335.8
PS266	RC	377572.9	8037794	494.6	391.4	-58.85	335.67
PS268	RC	376671.9	8037437	491.9	200.8	-56.5	337.5
PS269	RC	376489	8037251	474.3	149.8	-55.5	334.5
PS369	RC	376487.1	8037165	471.8	149.8	-56	334



## **Appendix Three | JORC Code (2012) Edition Table 1**

## **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Sampling methods used for the samples referred to in this announcement were HQ3 Diamond Core which was cut in half, one half is sent for assay, the remaining half is retained for reference. Sample intervals were generally 1m in length but modified to honour geological changes such as lithology contacts. Minimum sample length was 30cm.</li> <li>All sampling was either supervised by, or undertaken by, qualified geologists.</li> <li>         √2 core samples were sent to Bureau Veritas, Canning Vale, Western Australia.     </li> <li>To ensure representative sampling, for each hole, the same half of the original core was sent for assay, for example when looking at the core down hole, the right-hand side was retained in the core tray as a reference sample, and the left-hand side of the core was always sent for assay. At the laboratory the entire ½ core sample was crushed, a 300g split was pulverised to provide material for fire assay and ICP-MS.</li> <li>Versatile Time Domain Electromagnetic         <ul> <li>Open file Versatile Time Domain Electromagnetic (VTEM) Data was acquired from the Geological Survey of Western Australia and processed by Southern Geoscience Consultants. The data was originally acquired by Panoramic Resources Ltd in 2010. The survey contractor was Geotech Airborne Limited. Flight line spacing was 150m with a line direction of 090 degrees and a mean terrain clearance was 40m.</li> <li>Transmitter</li> <li>Transmitter receiver geometry In-loop: Vertical dipole</li> <li>Transmitter coil: Octagon shape - vertical axis, 17.4m diameter</li> <li>Base frequency: Standard 30Hz or 25Hz depending on powerline frequency</li> <li>Pulse shape: Polygonal Pulse width 3.4 - 7ms in length</li> <li>Peak dipole moment: Up to 240,000 NIA</li> <li>Peak dupole moment: Up to 250 Amperes Receiver</li> <li>Coils: Z only</li> <li>Sample rate: 192kHz over entire waveform</li></ul></li></ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</li> </ul>	<ul> <li>All drill holes referred to in this announcement were drilled HQ3 (61.0mm diameter).</li> <li>Core is orientated, the orientation tool used for the historical drill holes has not been identified.</li> <li>The drilling contractor was Mt Magnet Drilling. Standard tubes were employed.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Each core run is measured and checked against the driller,s core blocks. Any core loss is noted. To date, core recoveries have been excellent with very little core loss reported.</li> <li>The drilled widths of mineralisation in these drill holes are larger than the true widths.</li> <li>No relationship between recovery and grade has been identified.</li> </ul>



Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	<ul> <li>All drill core was logged onsite by geologists to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>
	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> </ul>	<ul> <li>Logging is qualitative and records lithology, grain size, texture, weathering, structure, alteration, veining and sulphides. Core is</li> </ul>
	The total length and percentage of the relevant intersections logged.	digitally photographed.  • All holes are logged in full.
Sub-sampling	If core, whether cut or sawn and whether quarter, half or all core taken.	All core that is sampled is cut using a diamond saw. HQ3 core is
techniques and sample	<ul> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	cut in half and one half sent to the laboratory for assay, and the remaining half core kept as a reference.
preparation	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	<ul> <li>Generally, core samples are 1 metre in length, with a minimum sample length of 30 centimetres. Sample lengths are altered from</li> </ul>
	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	the usual 1 metre due to geological contacts, particularly around the chromitite reefs.
	<ul> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> </ul>	<ul> <li>The sample size is considered appropriate for the material being sampled.</li> </ul>
	<ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	
Quality of assay data and	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or</li> </ul>	<ul> <li>Core samples were sent to Bureau Veritas, Canning Vale, Western Australia.</li> </ul>
laboratory tests	<ul> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> </ul>	<ul> <li>Future Metals NL's analysis of samples had Pt, Pd and Au determined by lead collection fire assay with a 40 gram charge with ICP-MS finish providing a lower detection limit of 1ppb. Determination of As, Co, Cr, Cu, Ni and S was by Inductively Coupled Plasma following a mixed acid digest. Both ICP and fire</li> </ul>
	<ul> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>assay analytical methods are total.</li> <li>No geophysical tools were used.</li> <li>Laboratory repeat analysis is completed on 10% of the samples submitted for assay.</li> </ul>
Verification of sampling and	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> </ul>	<ul> <li>Significant intercepts are calculated as composites and reported using 0.50g/t PGM3E (Pt + Pd + Au) cut-off grade. A maximum of</li> </ul>
assaying	<ul> <li>The use of twinned holes.</li> </ul>	4m consecutive internal waste is allowed in composites.
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>All significant intercepts are calculated by the Company's Exploration Manager and checked by management.</li> </ul>
	Discuss any adjustment to assay data.	
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	■ Drill hole collars are located differential GPS. Surtron Technologies were contracted by Platinum Australia Pty Ltd to complete downhole directional gyroscopic surveys using a Gyroscopic Deviation Tool (9095). Survey readings are recorded every ten metres and at the surface. The Gyro accuracy is +/- 1.0° for the azimuth and +/- 0.10 for the inclination. The Gyro readings are not influenced by strongly magnetic rocks within the drill hole.
		<ul> <li>Grid system used is Map Grid of Australia 1994, Zone 52.</li> </ul>
		• The topographic control is considered better than < 0.5m.
Data spacing and	Data spacing for reporting of Exploration Results.	Data spacing down hole is considered appropriate at between
distribution	<ul> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> </ul>	<ul><li>0.3m and 1m intervals.</li><li>Samples have not been composited.</li></ul>
	Whether sample compositing has been applied.	
Orientation of data in relation to geological	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> </ul>	<ul> <li>The orientation of the drill hole relative to the geological target is as orthogonal as practicable however drilled intersections will be larger than true widths.</li> </ul>
structure	<ul> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	



Criteria	JORC Code explanation	Commentary				
Sample security	The measures taken to ensure sample security.	<ul> <li>All core sample intervals are labelled in the core boxes, recoded digitally and captured with the core photography. Cut core samples are collected in bags labelled with the sample number. Samples are delivered to the Company's transport contractor in Halls Creek directly by Company personnel. Samples are then delivered to the laboratory by the transport contractor.</li> </ul>				
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>The Company employed industry-standard protocols. No independent audit has been conducted.</li> </ul>				

## **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Panton PGM Project is located on three granted mining licenses M80/103, M80/104 and M80/105 ('MLs'). The MLs are held 100% by Panton Sill Pty Ltd which is a 100% owned subsidiary of Future Metals NL.</li> <li>The MLs were granted on 17 March 1986 and are currently valid until 16 March 2028.</li> <li>A 0.5% net smelter return royalty is payable to Elemental Royalties Australia Pty Ltd in respect of any future production of chrome, cobalt, copper, gold, iridium, palladium, platinum, nickel, rhodium and ruthenium.</li> <li>A 2.0% net smelter return royalty is payable to Maverix Metals (Australia) Pty Ltd on any PGMs produced from the MLs.</li> <li>There are no impediments to working in the area.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The Panton deposit was discovered by the Geological Survey of Western Australia from surface mapping conducted in the early 1960s.</li> </ul>
		<ul> <li>Pickland Mather and Co. drilled the first hole to test the mafic- ultramafic complex in 1970, followed by Minsaco Resources which drilled 30 diamond holes between 1976 and 1987.</li> </ul>
		<ul> <li>In 1989, Pancontinental Mining Limited and Degussa Exploration drilled a further 32 drill holes and defined a non- JORC compliant resource.</li> </ul>
		<ul> <li>Platinum Australia Ltd acquired the project in 2000 and conducted the majority of the drilling, comprising 166 holes for 34,410 metres, leading to the delineation of a maiden JORC Mineral Resource Estimate.</li> </ul>
		<ul> <li>Panoramic Resources Ltd subsequently purchased the Panton PGM Project from Platinum Australia Ltd in May 2012 and conducted a wide range of metallurgical test work programmes on the Panton ore.</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	The Panton intrusive is a layered, differentiated mafic to ultramafic body that has been intruded into the sediments of the Proterozoic Lamboo Complex in the Kimberley Region of Western Australia. The Panton intrusion has undergone several folding and faulting events that have resulted in a south westerly plunging synclinal structure some 10km long and 3km wide.
		PGM mineralisation is associated with several thin cumulate Chromitite reefs within the ultramafic sequence. In all there are three chromite horizons, the Upper group Chromitite (situated within the upper gabbroic sequence), the Middle group Chromitite (situated in the upper portion of the ultramafic cumulate sequence) and the Lower group Chromitite (situated toward the base of the ultramafic cumulate sequence). The top reef mineralised zone has been mapped over approximately 12km.



Criteria	JORC Code explanation	Commentary			
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>		all drill holes reported in this announcement are n Appendix Two.		
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Significant intercepts are reported as down-hole length weighted averages of grades above 0.50g/t PGM3E (Pt/Pd/AL No top cuts have been applied to the reporting of the assaresults.</li> <li>4 metres of internal dilution is allowed in the reported interval.</li> <li>Higher grade intervals are included in the reported gradintervals; and have also been split out on a case-by-case bas where relevant.</li> <li>Where palladium equivalents are reported, these values are based on the following assumptions</li> <li>Prices in USD</li> </ul>			
		Cu %	9,000		
		Pt ppm	1,300		
		Au ppm	1,700		
		Pd ppm	1,700		
		Ni %	18,500		
		Co ppm	60,000		
		<ul> <li>Metal recoveries are based on past metallurgical test work.</li> <li>Recovery</li> </ul>			
			<u> </u>		
		Cu	67.5%		
		Pt	80.0%		
			70.0%		
		Au Pd	80.0%		
		Ni Ca	45.0%		
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	low angle maximise t test work. T	and drill holes have been deliberately orientated at a to the dip of the mineralised chromitite reefs to the amount of material recovered for metallurgical The drilled thickness is considerably greater than the ess in these drill holes as a result.		
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul> <li>Drill hole announcen</li> </ul>	plan included in Figure One of the body of this nent.		
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>All results a reported.</li> </ul>	at hand at the time of this announcement have been		



Criteria	JORC Code explanation	Commentary
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	No other exploration data is relevant.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Next stage of work will consist of follow up ground based geophysical surveys and exploration drilling to test identified targets.</li> </ul>