

December 18, 2018

**Mine development now underway on the 850-metre level at Ivanhoe's Platreef platinum-group metals, nickel, copper and gold project in South Africa**

**Shaft 1's continuing advance has intersected **29 metres** of high-grade mineralization from underground mine development, beginning at a depth of 780 metres**

**Platreef's long-term processed wastewater agreement finalized to supply most of the bulk water needed for the first phase of production**

**Platreef is positioned to become a major producer of palladium, which recently became more valuable than gold**

**Platreef's Indicated Mineral Resources contain an estimated **26.8 million ounces** of palladium, **25.6 million ounces** of platinum, **4.5 million ounces** of gold, and **1.8 million ounces** of rhodium (a combined **58.7 million ounces** of PGMs plus gold), plus **4.1 billion pounds** of nickel and **2.1 billion pounds** of copper, at a cut-off grade of 1 gram per tonne**

**Platreef's Inferred Mineral Resources contain an additional **43.0 million ounces** of palladium, **40.4 million ounces** of platinum, **7.8 million ounces** of gold, and **3.1 million ounces** of rhodium (a combined **94.3 million ounces** PGMs plus gold), plus **7.7 billion pounds** of nickel and **4.1 billion pounds** of copper, also at a cut-off grade of 1 gram per tonne**

**At the base-case cut-off grade of 2 grams per tonne, Indicated Mineral Resources contain an estimated **42.0 million ounces** of PGMs plus gold, plus **2.4 billion pounds** of nickel and **1.2 billion pounds** of copper, with an additional **52.8 million ounces** of PGMs plus gold, **3.4 billion pounds** of nickel and **1.8 billion pounds** of copper in Inferred Resources**

**Platreef's T1 and T2 high-grade mineralized zones interpreted as much thicker versions of the high-grade mineralized reefs found on the Western and Eastern limbs of South Africa's Bushveld Complex**

**MOKOPANE, SOUTH AFRICA – Ivanhoe Mines’ (TSX: IVN; OTCQX: IVPAF) Co-Chairmen Robert Friedland and Yufeng “Miles” Sun, and Ivanplats’ Managing Director Dr. Patricia Makhsha, announced today that Platreef’s Shaft 1 has reached a depth of 850 metres below surface and development work has begun on the 850-metre station – the second of three horizontal mining access stations planned for Shaft 1.**

The first mining access station has been constructed at the 750-metre level, following earlier development of a water-pumping station at the 450-metre level. The third mining access station will be developed at a mine-working depth of 950 metres. Shaft 1 is expected to reach its projected, final depth of approximately 980 metres below surface, complete with all four of the stations, in early 2020.

The Platreef mining team delivered the first high-grade mineralization from underground mine development to surface stockpiles for metallurgical sampling three months ago. The high-grade mineralization intersected in Shaft 1 is contained within two mineralized zones (T1 and T2) totalling 29 metres of the Turfspruit Cyclic Unit (TCU). A total of fifty grab samples from individual 3.2-metre-blast stockpiles yielded an average grab sample grade of 6.35 grams per tonne (g/t) platinum, palladium and rhodium plus gold (3PE+Au), ranging up to 9.6 g/t 3PE+Au, as well as significant quantities of nickel and copper.

The 29-metre mineralized intersection in Shaft 1 yielded approximately 3,500 tonnes of ore that will be used for bulk-scale metallurgical test work. Based on the estimated resource grade of the pilot hole for Shaft 1 (GT008), the 3,500 tonnes are expected to contain more than 400 ounces of platinum-group metals (PGMs).

Ivanhoe Mines indirectly owns 64% of the Platreef Project through its subsidiary, Ivanplats, and is directing all mine development work. The South African beneficiaries of the approved broad-based, black economic empowerment structure have a 26% stake in the Platreef Project. The remaining 10% is owned by a Japanese consortium of ITOCHU Corporation; Japan Oil, Gas and Metals National Corporation; and Japan Gas Corporation.

***Photo: Stockpiles of Flatreef ore from the sinking of Shaft 1, with Shaft 1 headframe in the background.***



### **Long-term wastewater agreement finalized to supply most of the bulk water needed for the first phase of production at Platreef**

Ivanplats, led by Dr. Makhsha, announced that it has finalized a long-term agreement with the Mogalakwena Local Municipality for the supply of local, treated wastewater to supply most of the bulk water needed for the first phase of production at the Platreef platinum-group metals, nickel, copper and gold mine now being constructed in South Africa.

Ivanplats signed a memorandum of agreement earlier this year with the Mogalakwena Local Municipality for the supply of a minimum of five million litres of treated water a day for 32 years, beginning in 2022, from the town of Mokopane's new Masodi Treatment Works. Last week, the agreement was officially approved in a signing ceremony in Mokopane.

Ivanplats expects to begin receiving a small quantity of processed wastewater early next year after the Masodi plant has been commissioned. Further treatment will be conducted at the Platreef Mine's on-site filtration plant to ensure compliance with Ivanplats' quality standards. The initial supply will be used in Platreef's ongoing underground mine development and surface infrastructure construction.

Ivanplats estimates that it will require approximately 7.5 million litres per day (ML/day) of bulk water during the first-phase of steady-state production. A water-balance model

developed for the mine calls for the bulk water for the first phase of production to consist of five Ml/day from the Masodi treatment plant, with the balance provided from ground water from local, licenced boreholes, and rainwater collected in storage ponds at the mine.

*Photo: Platreef's long-term wastewater agreement finalized between Dr. Patricia Makhsha, Ivanplats' Managing Director (left), and Kenneth Maluleke, Mogalakwena Acting Municipality Manager.*



In July 2017, Ivanhoe issued an independent, definitive feasibility study (DFS) for Platreef covering the first phase of production at an initial mining rate of four million tonnes per annum (Mtpa). The DFS estimated that Platreef's initial, average annual production rate will be approximately 219,000 ounces of palladium, 214,000 ounces of platinum, 30,000 ounces of gold and 14,000 ounces of rhodium (combined 477,000 ounces of 3PE+Au), plus 21 million pounds of nickel and 13 million pounds of copper.

The Platreef DFS was based on the development of a large, mechanized, underground mine with an initial, four Mtpa concentrator and associated infrastructure. Platreef would rank at the bottom of the cash-cost curve, at an estimated US\$351 per ounce of 3PE+Au produced, net of by-products and including sustaining capital costs, and US\$326 per ounce before sustaining capital costs.

The thick Flatreef orebody at the Platreef Project is ideal for bulk-scale, mechanized mining. As underground development progresses, the mine plan calls for the addition of large, mechanized mining equipment, such as 14- and 17-tonne load-haul-dump machines and 50-tonne haul trucks to support the planned long-hole mining method.

The mineral resources used as the basis of the Platreef DFS were those amenable to underground selective mining. Detailed information about assay methods and data verification measures used to support the scientific and technical information is set out in the Platreef 2017 Feasibility Study NI 43-101 Technical Report dated September 2017, available under Technical Reports at [www.ivanhoemines.com](http://www.ivanhoemines.com) and on Ivanhoe Mines SEDAR profile at [www.sedar.com](http://www.sedar.com).

Key features of the 2016 Platreef Mineral Resource estimate include:

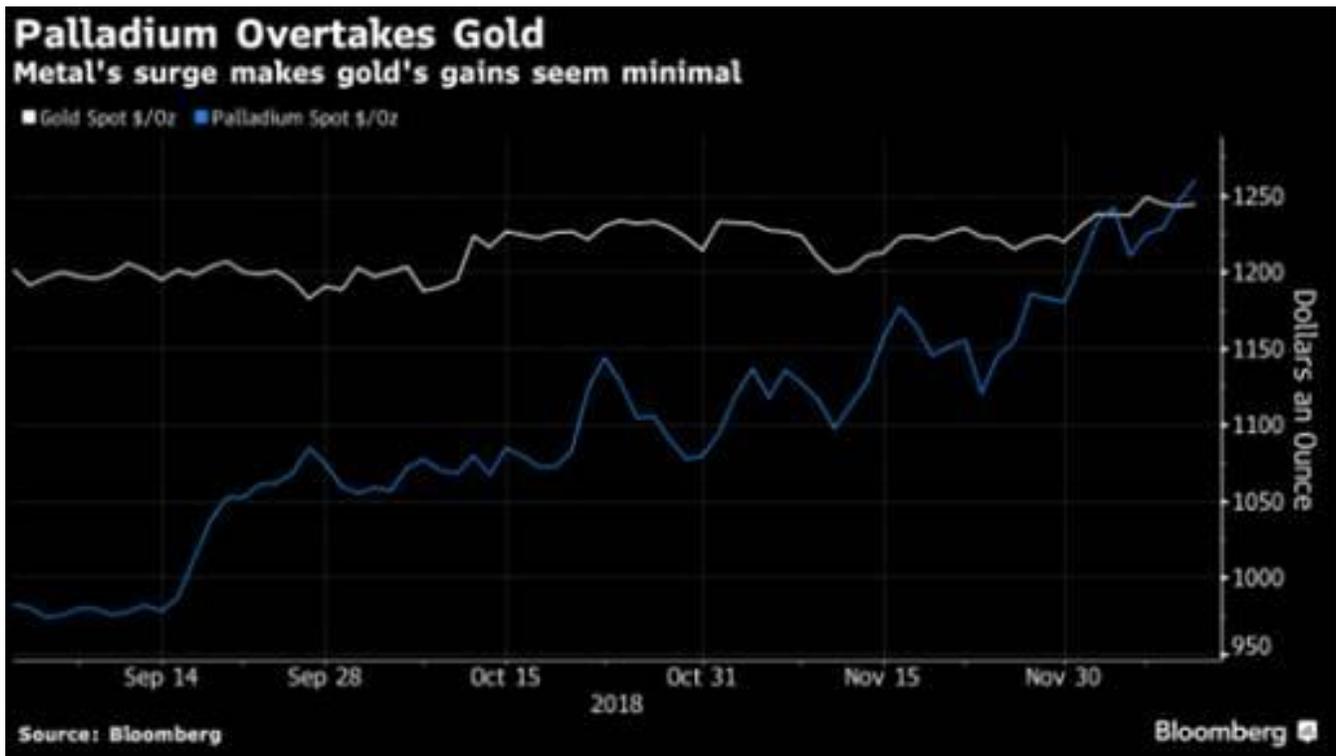
- Indicated Mineral Resources contain an estimated 41.9 million ounces of platinum, palladium, rhodium and gold with an additional 52.8 million ounces of platinum, palladium, rhodium and gold in Inferred Resources (using a cut-off grade of 2.0 g/t 3PE+Au).
- Indicated Mineral Resources contain an estimated 2.44 billion pounds of nickel and 1.23 billion pounds of copper, with an additional 3.44 billion pounds of nickel and 1.78 billion pounds of copper in Inferred Mineral Resources (using a cut-off grade of 2.0 g/t 3PE+Au).
- Indicated Mineral Resources totalling 346 million tonnes, at an average grade of 3.77 g/t 3PE+Au, 0.32% nickel and 0.16% copper, at a cut-off grade of 2.0 g/t 3PE+Au.
- Inferred Mineral Resources totalling an additional 506 million tonnes, at a grade of 3.24 g/t 3PE+Au, 0.31% nickel and 0.16% copper, at a cut-off grade of 2.0 g/t 3PE+Au.

The 2016 Mineral Resource estimate was prepared by Ivanhoe Mines under the direction of Dr. Harry Parker, RM SME, of Wood Group (formerly Amec Foster Wheeler E&C Services Inc.). Dr. Parker and Timothy Kuhl RM SME, also of Wood Group, have independently confirmed the Mineral Resource estimate and are the Qualified Persons for the estimate, which has an effective date of April 22, 2016.

The platinum-to-palladium ratio at the Platreef Mine is approximately 1:1. Palladium and rhodium are used as catalysts to control exhaust emissions in gasoline-fuelled vehicles, while diesel vehicles mostly use platinum. Platinum also is used as the catalyst in zero-emission, hydrogen-powered, fuel-cell electric vehicles now being developed by leading, global automakers including Honda, Toyota, Hyundai, BMW, Mercedes-Benz and Hyundai.

A sustained palladium-supply deficit, coupled with robust demand from automakers, has seen palladium prices increase by approximately 50% during the past four months, making it more valuable than gold for the first time since 2002.

**Chart: Palladium's price increase since August 2018 (in blue) compared to gold (in white).**



### **Flatreef's T1 and T2 mineralized zones are 29 metres thick at Shaft 1 intersection**

The mineralized zones (reefs) at Ivanhoe's Platreef Project are the thickest (Platreef's T2MZ averages 24.7 metres at a 1 g/t 3PE+Au cut-off) among the known reefs in South Africa's Bushveld Igneous Complex. Although substantially thicker on Ivanhoe's Platreef Project, Flatreef's exceptional T1 and T2 reefs have been correlated with the Bushveld Complex's Bastard and Merensky reefs by Dr. Danie Grobler, Ivanplats' Head of Exploration and Geology, and other Ivanplats geologists (Grobler et al., published in the international journal, *Mineralium Deposita*, 2018).

The Turfspruit Cyclic Unit (TCU), which hosts the majority of the Platreef's selectively mineable Mineral Resources, has two mineralized zones that are laterally continuous across the Platreef Project. The T1 mineralized zone (T1MZ) occurs within cyclical magmatic units and feldspathic pyroxenite (ultramafic igneous rock) immediately below the Main Zone. The T2 mineralized zone (T2MZ) is hosted within a mineralized, PGM-enriched, very coarse-grained pegmatoidal pyroxenite distinct from the feldspathic pyroxenite above it and bound by a top chromite stringer.

The T2MZ occurs at a stratigraphic position similar to the world-renowned Merensky Reef. The T2MZ can be subdivided into an upper pegmatoidal orthopyroxenite, referred to as the T2 Upper, and a lower, less continuous pegmatoidal harzburgite, referred to as

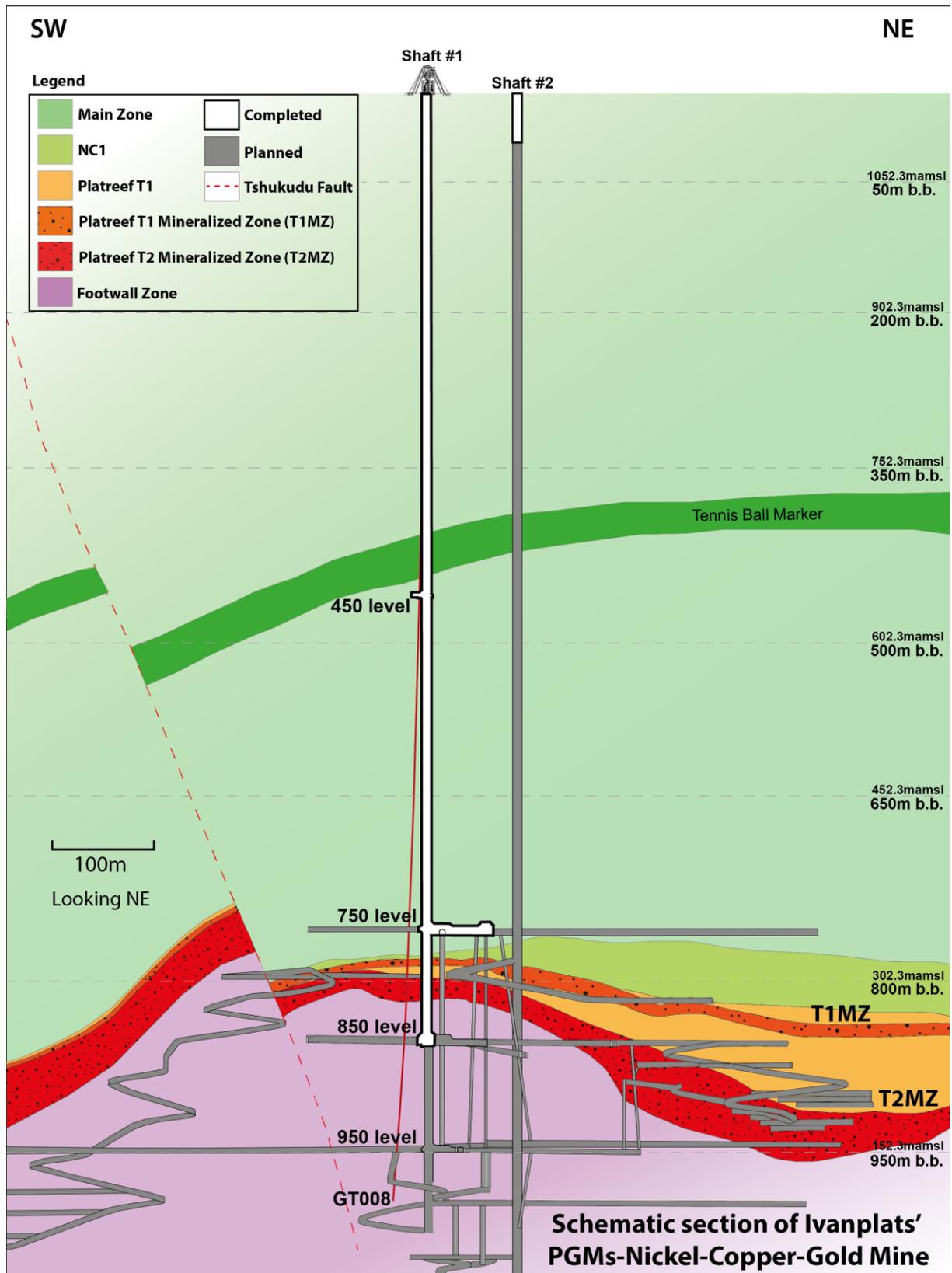
the T2 Lower. Recognition of the TCU and the pegmatoidal pyroxenite in 2012 was a key interpretive breakthrough for the Platreef Project.

Shaft 1 intersected the TCU below the Main Zone of the Bushveld Complex in September 2018. The upper T1 mineralized reef was intersected at a depth of 780.11 metres below the shaft bank (Figure 1). Shaft sinking proceeded to intersect the main T2 mineralized reef at a depth of 798 metres, beneath the upper chromitite stringer. The T2 mineralization gradually decreases over a vertical interval of 11 metres to the footwall norite contact at a depth of 809 metres. The total TCU width intersected within the shaft is 28.9 metres.

*Photo: Dr. Danie Grobler, Ivanplats' Head of Exploration and Geology (left), Jan Mapeka, Ivanplats Geologist (centre), and Gerick Mouton, Ivanplats' Vice President and Project Director (right), at the intersection of the T1 mineralized reef in Shaft 1 at a depth of approximately 780 metres.*

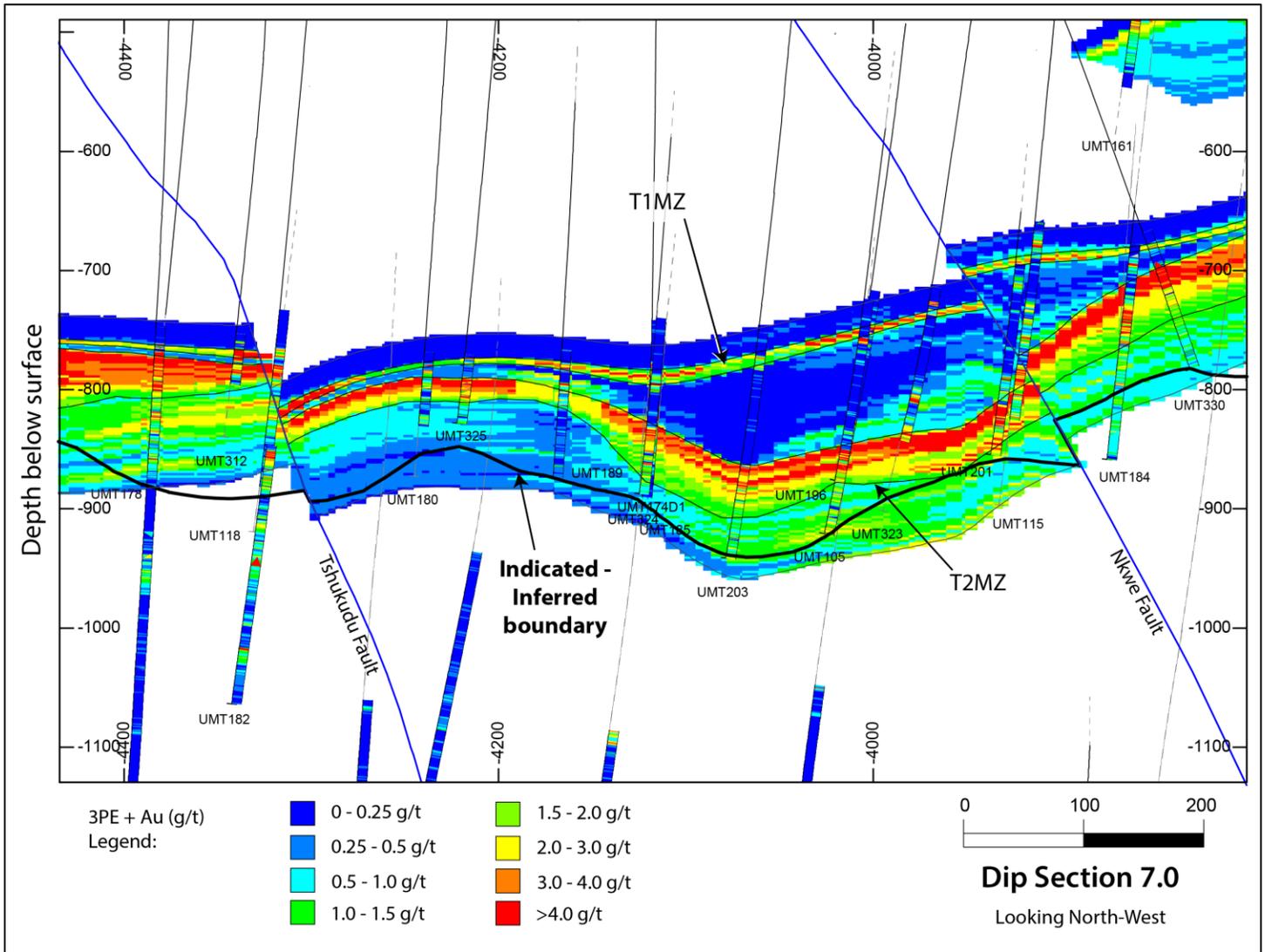


**Figure 1: Schematic section of the Platreef Mine, showing Flatreef's T1 and T2 thick, high-grade mineralized zones (red and dark orange), underground development work completed to date in shafts 1 and 2 (white), and planned**



development work (gray).

**Figure 2: Flatreef cross section showing T1 and T2 mineralized zones (T1MZ and T2MZ) and the significant top loading of high-grade PGMs mineralization in the T2**



*mineralized zone.*

**Photo: Members of the Platreef Project team and its South African sinking contractor, Aveng Mining, in Shaft 1 at its intersection of the 29-metre Flatreef Deposit in September.**



**Photo: Platreef's underground mine development team includes three members from local communities (from left): Nkone Madubana, Learner Sinker; Katlego Nkwana, Learner Sinker; and Caroline Dzivhani, Geologist – who recently became fully certified underground miners.**



***Photo: Members of Platreef's underground mining team using a 'cactus grab' mucker to excavate broken rock from the bottom of Shaft 1.***



The 2016 consolidated Mineral Resources for the Platreef Project are shown in Table 1 (2.0 g/t 3PE+Au base case highlighted; other cases are included to show the sensitivity of the Mineral Resources to changes in cut-off grades).

**Table 1: Platreef Mineral Resource – all mineralized zones (2.0 g/t base case).**

<b>Indicated Mineral Resources - Tonnage and Grades</b>								
<b>Cut-off Grade (3PE+Au)</b>	<b>Mt</b>	<b>Pt (g/t)</b>	<b>Pd (g/t)</b>	<b>Au (g/t)</b>	<b>Rh (g/t)</b>	<b>3PE+Au (g/t)</b>	<b>Cu (%)</b>	<b>Ni (%)</b>
3.0 g/t	204	2.11	2.11	0.34	0.14	4.7	0.18	0.35
2.0 g/t	346	1.68	1.70	0.28	0.11	3.77	0.16	0.32
1.0 g/t	716	1.11	1.16	0.19	0.08	2.55	0.13	0.26
<b>Indicated Mineral Resources - Contained Metal</b>								
<b>Cut-off Grade (3PE+Au)</b>		<b>Pt (Moz)</b>	<b>Pd (Moz)</b>	<b>Au (Moz)</b>	<b>Rh (Moz)</b>	<b>3PE+Au (Moz)</b>	<b>Cu (Mlbs)</b>	<b>Ni (Mlbs)</b>
3.0 g/t		13.86	13.86	2.23	0.92	30.86	800	1 597
2.0 g/t		18.66	18.94	3.12	1.23	41.95	1 226	2 438
1.0 g/t		25.63	26.81	4.49	1.82	58.75	2 076	4 108
<b>Inferred Mineral Resources - Tonnage and Grades</b>								
<b>Cut-off Grade (3PE+Au)</b>	<b>Mt</b>	<b>Pt (g/t)</b>	<b>Pd (g/t)</b>	<b>Au (g/t)</b>	<b>Rh (g/t)</b>	<b>3PE+Au (g/t)</b>	<b>Cu (%)</b>	<b>Ni (%)</b>
3.0 g/t	225	1.91	1.93	0.32	0.13	4.29	0.17	0.35
2.0 g/t	506	1.42	1.46	0.26	0.10	3.24	0.16	0.31
1.0 g/t	1431	0.88	0.94	0.17	0.07	2.05	0.13	0.25
<b>Inferred Mineral Resources - Contained Metal</b>								
<b>Cut-off Grade (3PE+Au)</b>		<b>Pt (Moz)</b>	<b>Pd (Moz)</b>	<b>Au (Moz)</b>	<b>Rh (Moz)</b>	<b>3PE+Au (Moz)</b>	<b>Cu (Mlbs)</b>	<b>Ni (Mlbs)</b>
3.0 g/t		13.78	13.96	2.33	0.94	31.01	865	1, 736
2.0 g/t		23.17	23.78	4.26	1.56	52.77	1,775	3, 440
1.0 g/t		40.38	43.01	7.81	3.06	94.27	4,129	7,759

1. Mineral Resources have an effective date of April 22, 2016. The Qualified Persons for the estimate are Dr. Harry Parker, RM SME, and Timothy Kuhl, RM SME, who are employees of Wood Group (formerly Amec Foster Wheeler E&C Services Inc.) and independent of Ivanhoe. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
2. The 2 g/t 3PE+Au cut-off is considered the base case estimate and is highlighted. The rows are not additive.
3. Mineral Resources are reported on a 100% basis. Mineral Resources are stated from approximately -200 m to 650 m elevation (from 500 m to 1,350 m depth). Indicated Mineral Resources are drilled on approximately 100 x 100 m spacing (locally 150 m spacing); Inferred Mineral Resources are drilled on 400 x 400 m (locally to 400 x 200 m and 200 x 200 m) spacing.
4. Mineral Resources have been estimated on an externally undiluted basis and without consideration for mining recovery. Dilution and mining recoveries will vary with the geometry (dip, thickness, faulting and or irregularities in contacts) of the mineralization and the eventual mining method used.

5. Reasonable prospects for eventual economic extraction were determined using the following assumptions. Assumed commodity prices are Pt: \$1,600/oz, Pd: \$815/oz, Au: \$1,300/oz, Rh: \$1,500/oz, Cu: \$3.00/lb and Ni: \$8.90/lb. It has been assumed that payable metals would be 82% from a smelter/refinery and that mining costs (average \$34.27/t) and process, G&A, and concentrate transport costs (average \$15.83/t of mill feed for a 4 Mtpa operation) would be covered. The processing recoveries vary with block grade but typically would be 80%-90% for Pt, Pd and Rh; 70-90% for Au, 60-90% for Cu, and 65-75% for Ni.
6.  $3PE+Au = Pt + Pd + Rh + Au$ .
7. Totals may not sum due to rounding.

## **Grab sample assay results for Shaft 1 TCU intersection**

Mineralized material from the Flatreef Deposit was extracted during the sinking of Shaft 1 through the TCU mineralized zones and then stockpiled on surface for individual 3.2-metre blasts. A total of 50 grab samples were collected for the T1 and T2 reefs, at surveyed shaft depths ranging from 780.11 to 808.9 metres.

The individual stockpile assay grades from the T1 feldspathic pyroxenite zone vary from 2.47 to 9.65 g/t 4E (platinum, palladium, rhodium and gold), with significant nickel and copper. A composite of individual grab samples for the different T1 stockpiles yielded an average grade of 6.04 g/t 4E and 0.40% nickel plus 0.19% copper (Table 2).

The T2 pegmatoidal pyroxenite composite grab sample assay grades are 6.72 g/t 4E, 0.50% nickel and 0.24% copper. The average grade of all of the stockpile grab samples for the T1 and T2 mineralized zones is 6.35 g/t 4E, 0.45% nickel and 0.21% copper (Table 2).

The grab sample results reported above and listed in Table 2 are included for indicative purposes only as they were not subject to Ivanhoe's normal rigorous internal QA/QC procedures applied to diamond drilling for Mineral Resources estimation. No standards, blanks or duplicates were included in the sample submissions, although internal QC was undertaken by Set Point laboratories (a division of Torre Analytical Services) in Mokopane, South Africa. The sampling methods employed to collect the grab samples, while thorough, are not considered adequate to produce an unbiased grade estimate of either the individual stockpiles or the shaft intersection as a whole. There also is considerable uncertainty as to the amount of cross contamination of each stockpile due to the degree of re-handling of material from shaft bottom to final stockpile position.

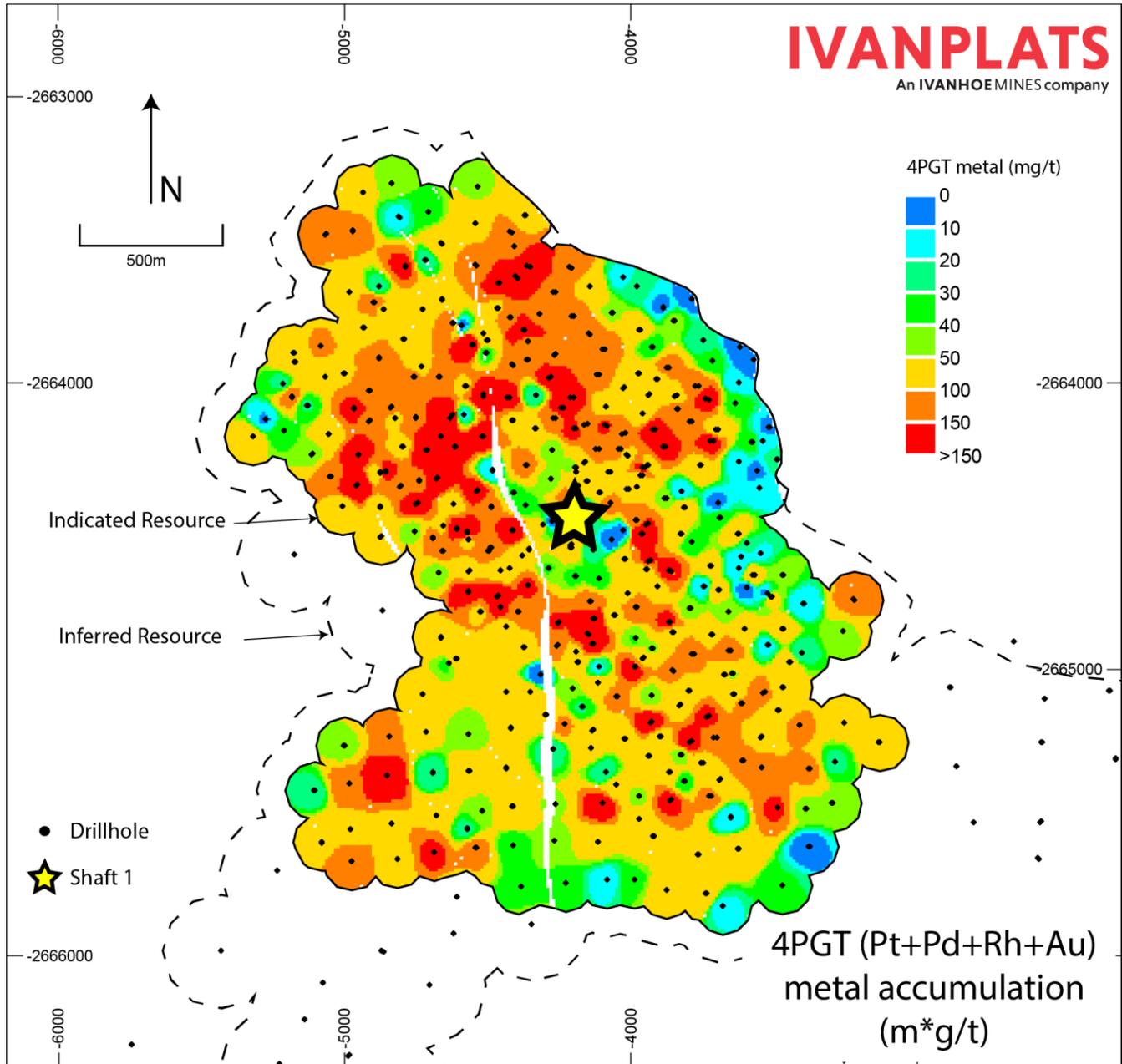
Platreef's shafts 1 and 2 are located in an area of the project's Indicated Resources that has lower grade and thickness than the adjoining mining areas; it will form part of the shaft pillar – a solid block of rock left around the shafts to protect the shafts and the surface buildings.

Figure 3 below is a grade-thickness plot (3PGE grade [g/t] multiplied by the thickness [m], which gives a metre-grams-per-tonne [mg/t]) of the Platreef Indicated Resources, showing the position of Shaft 1 (identified by the black star in the centre of Figure 3). The blue colours represent the lowest grade thickness, which are clustered around the yellow star marking the location of Shaft 1.

Ivanhoe's initial mining plan at Platreef will focus on the thick, high-grade Indicated Resources (identified by the brown, orange and red zones) in close proximity to shafts 1

and 2. Drill intercepts in the thick, high-grade zones include hole TMT006, which intersected 90.64 metres (297 feet) with an average grade of 4.51 g/t 4E, plus 0.37% nickel and 0.20% copper. TMT006 was drilled approximately 360 metres south of Shaft 1.

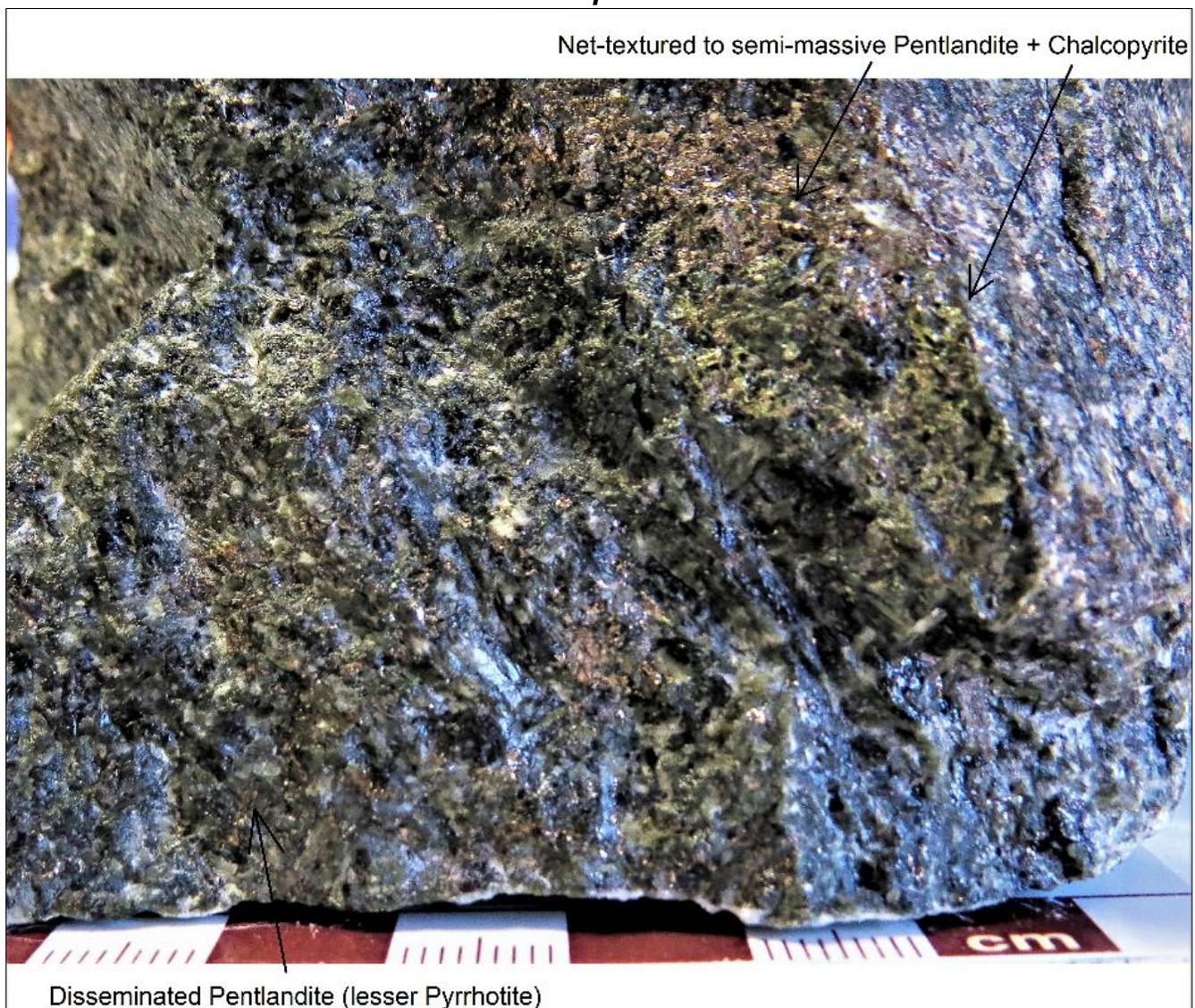
**Figure 3: Grade-thickness plot of the T2 mineralized zone surrounding Shaft 1 (yellow star).**



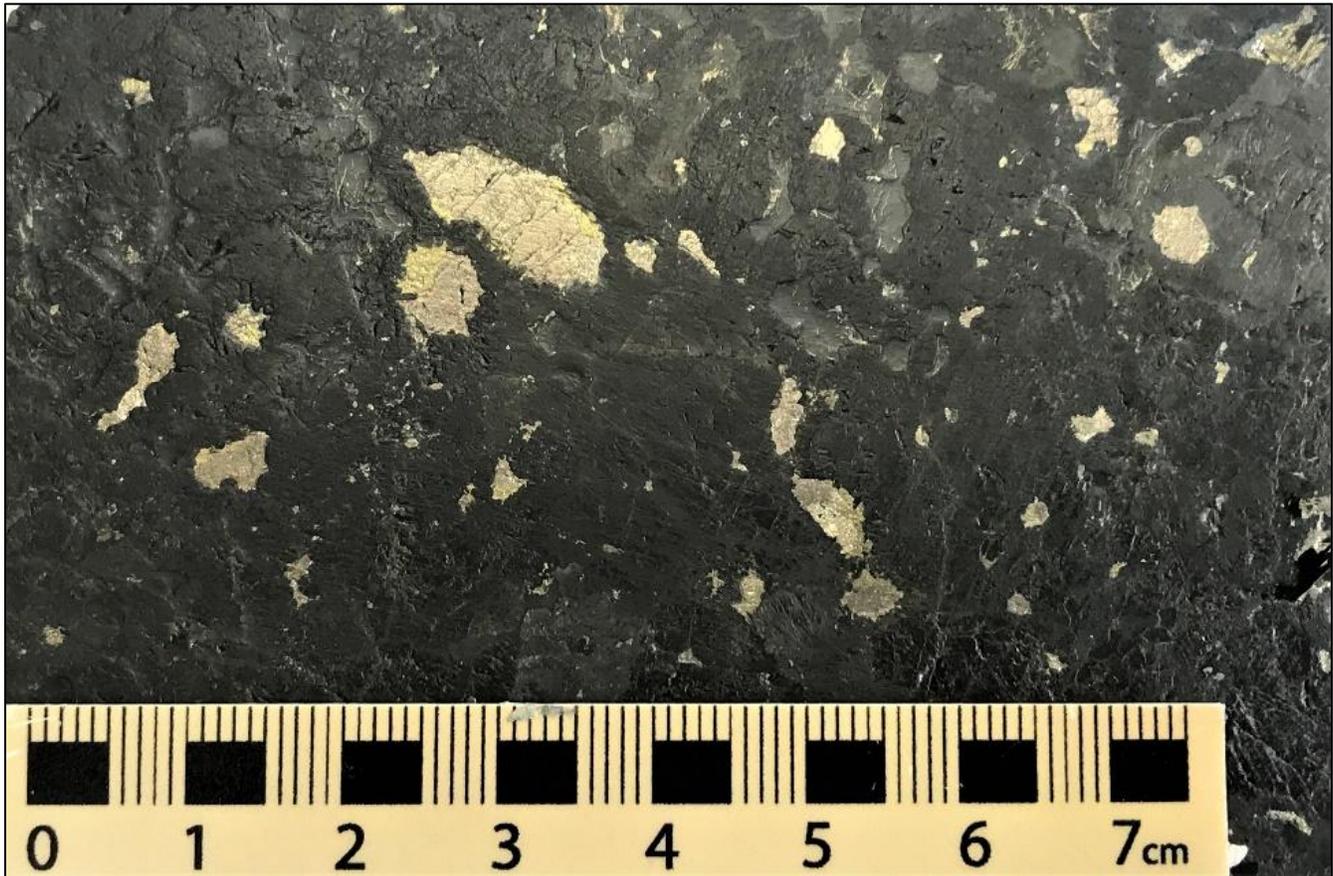
## Geology and mineralogy of the Shaft 1 Flatreef intersection

The dominant sulphide species in the T1MZ and T2MZ are represented by pentlandite (a nickel-rich sulphide mineral) and chalcopyrite (a copper-rich sulphide mineral), with lesser amounts of pyrrhotite and pyrite (iron sulphide minerals) in both reefs. Sulphide abundance is variable, but visually estimated in the shaft at an average of 5% for the T1MZ and up to 10% in the T2U, with large composite blebs (bubble-like inclusions of one mineral within a larger mineral) very common.

*Photo: T1 mineralization within weakly-altered (chloritized) feldspathic pyroxenite at a depth of 784 metres. Sulphide mineralization is pentlandite (nickel sulphide) dominant, with lesser chalcopyrite (copper sulphide), and occurs as interstitial, disseminated to net-textured in the specimen shown.*



**Photo: The T2 (Merensky) pegmatoidal orthopyroxenite, with large composite sulphide blebs consisting of pentlandite (nickel sulphide)-chalcopyrite (nickel sulphide)-pyrrhotite (iron sulphide).**



### **Scientific collaboration and academic studies**

In September 2015, Ivanhoe Mines, Laurentian University (Sudbury, Canada) and the University of Limpopo (Turffloop, South Africa) forged an educational partnership. The principal goal was to develop and equip the University of Limpopo's geology department to become a centre of excellence in geosciences. Since then, several Limpopo University students commenced postgraduate MSc and PhD studies at Laurentian University. Several of these studies are focused on the Platreef Project.

In April 2018, Ivanhoe geologists, together with Professor Wolfgang Maier, of Cardiff University, published a scientific paper detailing the first stratigraphic system for Ivanhoe's Flatreef PGE deposit. The paper, titled "Litho- and chemostratigraphy of the Flatreef PGE deposit, northern Bushveld Complex", was published in the prestigious, international, scientific journal *Mineralium Deposita*. The paper documents the down-dip and along-strike litho- and chemostratigraphy of the Flatreef Discovery, and its footwall and hanging-wall rocks. Based on stratigraphic, lithological and compositional comparisons to the layered rocks in the western Bushveld Complex, the layered sequence of the Flatreef Discovery, with its chromite-bearing footwall rocks, is

unequivocally correlated with the interval between the UG2 chromitite, the Merensky and the Bastard Reef.

**Shaft 1's 750-metre, 850-metre and 950-metre stations will provide lateral underground mining access to the Flatreef orebody**

The 750-metre and 850-metres stations on Shaft 1 will provide initial, underground mining access to the high-grade orebody, enabling lateral mine development to proceed during the construction of Shaft 2, which will become the mine's main production shaft. As shaft-sinking advances, a third shaft station will be developed at a mine-working depth of 950 metres. The mining zones in the current Platreef Mine plan occur at depths ranging from approximately 700 metres to 1,200 metres below surface.

Shaft 1's 750-metre station also will allow access for the first raise-bore shaft, which will have an internal diameter of six metres, to provide ventilation to the underground workings during the mine's ramp-up phase.

*Photo: Miners on the Shaft 1's 750-metre level. The 750-metre and 850-metre stations will provide initial, underground access to the high-grade orebody.*



**Excavation complete at Shaft 2 surface box cut;  
construction of concrete hitch (foundation) now underway**

Excavation of the Shaft 2 box cut to a depth of approximately 29 metres below surface has been completed and construction now is underway of the concrete hitch (foundation). The hitch will provide the foundation for the 103-metre-tall concrete headgear (headframe) that will house the Shaft 2's permanent hoisting facilities and support the shaft collar.

Shaft 2, to be located approximately 100 metres northeast of Shaft 1, will have an internal diameter of 10 metres, will be lined with concrete and sunk to a planned, final depth of 1,104 metres below surface. It will be equipped with two 40-tonne rock-hoisting skips with a capacity to hoist a total of six million tonnes of ore per year – the single largest hoisting capacity at any mine in Africa. Headgear for the permanent hoisting facility was designed by South Africa-based Murray & Roberts Cementation.

*Photo: Platreef's Shaft 2 box cut (now completed to a depth of 29 metres) alongside Shaft 1 headframe. Construction of the concrete hitch (foundation) for Shaft 2 now is underway.*



*Photo: Platreef's geotechnical engineers inspecting the 29-metre-high walls of Shaft 2's box cut.*



## **Development focused on construction of a highly-mechanized underground mine**

The Platreef Project is located on the Northern Limb of the Bushveld Complex, adjacent to Anglo Platinum's Mogalakwena Mine.

The Platreef Project, which contains the Flatreef Deposit, is a tier-one discovery by Ivanhoe Mines geologists. Based on the findings of the July 2017 independent DFS, Ivanhoe plans to develop the Platreef Mine as a major underground mining operation in three phases to achieve: 1) An initial rate of four million tonnes per annum (Mtpa) to establish an operating platform to support future expansions; 2) a doubling of production to eight Mtpa; and 3) expansion to a steady-state 12 Mtpa.

Mining zones in the current Platreef mine plan occur at depths ranging from approximately 700 metres to 1,200 metres below surface. Primary access to the mine will be by way of a 1,104-metre-deep, 10-metre-diameter production shaft (Shaft 2). Secondary access to the mine will be via a 980-metre-deep, 7.25-metre-diameter ventilation shaft (Shaft 1), which is under construction. During mine production, both shafts also will serve as ventilation intakes. Three additional ventilation exhaust raises (Ventilation Raise 1, 2, and 3) are planned to achieve steady-state production.

Mining will be performed using highly productive mechanized methods, including long-hole stoping and drift-and-fill. Each method will utilize cemented backfill for maximum ore extraction.

**Table 2: Composites of grab sample assay results for individual blast stockpiles.**

Reef type	Depth From	Depth To	4E g/t	Au g/t	Pt g/t	Pd g/t	Rh g/t	Cu %	Ni %
T1	780.0	783.2	2.47	0.43	1.24	0.77	0.07	0.15	0.32
T1	783.2	785.1	3.85	0.49	1.93	1.35	0.09	0.17	0.33
T1	785.1	788.7	8.32	0.67	4.23	3.23	0.19	0.20	0.43
T1	788.7	791.7	9.65	1.14	4.74	3.71	0.13	0.34	0.61
T1	791.7	795.7	5.48	0.48	3.03	1.87	0.11	0.16	0.36
T1	795.7	798.7	6.51	0.36	3.74	2.29	0.13	0.12	0.34
		<b>18.7</b>	<b>6.04</b>	<b>0.59</b>	<b>3.15</b>	<b>2.20</b>	<b>0.12</b>	<b>0.19</b>	<b>0.40</b>
T2	798.7	800.4	8.43	0.40	4.34	3.44	0.25	0.27	0.55
T2	800.4	801.3	5.68	0.33	2.72	2.46	0.17	0.22	0.46
T2	801.3	802.2	5.95	0.31	2.92	2.57	0.16	0.21	0.44
T2	802.2	805.6	7.59	0.42	3.78	3.21	0.18	0.26	0.53
T2	805.6	808.9	5.95	0.34	2.78	2.68	0.16	0.26	0.54
		<b>10.2</b>	<b>6.72</b>	<b>0.36</b>	<b>3.31</b>	<b>2.87</b>	<b>0.18</b>	<b>0.24</b>	<b>0.50</b>
<b>T1 + T2</b>		<b>28.9</b>	<b>6.35</b>	<b>0.49</b>	<b>3.22</b>	<b>2.51</b>	<b>0.15</b>	<b>0.21</b>	<b>0.45</b>

## Qualified person

The scientific and technical information in this news release has been reviewed and approved by Stephen Torr, P.Geo., Ivanhoe Mines' Vice President, Project Geology and Evaluation, a Qualified Person under the terms of National Instrument (NI) 43-101. Mr. Torr is not independent of Ivanhoe Mines. Mr. Torr has verified the technical data disclosed in this news release.

Detailed information about assay methods and data verification measures used to support the scientific and technical information is set out in the Platreef 2017 Feasibility Study NI 43-101 Technical Report dated September 2017, available under Technical Reports at [www.ivanhoemines.com](http://www.ivanhoemines.com) and on Ivanhoe Mines' SEDAR profile at [www.sedar.com](http://www.sedar.com).

## About Ivanhoe Mines

Ivanhoe Mines is a Canadian mining company focused on advancing its three principal projects in Southern Africa: the development of new mines at the [Kamoa-Kakula](#) copper discovery in the Democratic Republic of Congo (DRC) and the [Platreef](#) palladium-platinum-nickel-copper-gold discovery in South Africa; and the extensive redevelopment and upgrading of the historic [Kipushi](#) zinc-copper-germanium-silver mine, also in the DRC.

## Information contacts

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## Forward-looking statements

Certain statements in this news release constitute “forward-looking statements” or “forward-looking information” within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and other factors, which may cause actual results, performance or achievements of the company, the Platreef Project, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as “may”, “would”, “could”, “will”, “intend”, “expect”, “believe”, “plan”, “anticipate”, “estimate”, “scheduled”, “forecast”, “predict” and other similar terminology, or state that certain actions, events or results “may”, “could”, “would”, “might” or “will” be taken, occur or be achieved. These statements reflect the company’s current expectations regarding future events, performance and results, and speak only as of the date of this news release.

The forward-looking statements and forward-looking information in this news release include without limitation, (i) statements regarding the 29-metre intersection of the Flatreef Deposit at Shaft 1 is expected to contain more than 400 ounces of platinum-group metals (PGMs); (ii) statements regarding Ivanplats expects to begin receiving a small quantity of grey water from the Masodi water treatment plant early next year; (iii) statements regarding the expectation that Shaft 1 will reach its projected, final depth of 980 metres below surface, complete with the stations, in 2020; (iv) statements regarding Ivanhoe’s plans to develop the Platreef Mine as a major underground mining operation in three phases to achieve: 1) An initial rate of four million tonnes per annum (Mtpa) to establish an operating platform to support future expansions; 2) a doubling of production to eight Mtpa; and 3) expansion to a steady-state 12 Mtpa; and (v) statements regarding Platreef would rank at the bottom of the cash-cost curve, at an estimated US\$351 per ounce of 3PE+Au produced, net of by-products and including sustaining capital costs, and US\$326 per ounce before sustaining capital costs.

In addition, all of the results of the Platreef DFS constitute forward-looking statements and forward-looking information. The forward-looking statements include metal price assumptions, cash flow forecasts, projected capital and operating costs, metal recoveries, mine life and production rates, and the financial results of the Platreef DFS.

Readers are cautioned that actual results may vary from those presented.

All such forward-looking information and statements are based on certain assumptions and analyses made by Ivanhoe Mines’ management in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors management believe are appropriate in the circumstances. These statements, however, are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information or statements including, but not limited to, unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities; the failure of parties to contracts to perform as agreed; social or labour unrest; changes in commodity prices; unexpected failure or inadequacy of infrastructure, industrial accidents or machinery failure (including of shaft sinking equipment), or delays in the development of infrastructure; and the failure of exploration programs or other studies to deliver anticipated results or results that would justify and support continued studies, development or operations. Other important factors that could cause actual results to differ from these forward-looking statements also include those described under the heading “Risk Factors” in the company’s most recently filed MD&A, as well as in the most recent Annual Information Form filed by Ivanhoe Mines. Readers are cautioned not to place undue reliance on forward-looking information or statements. Certain of the factors and assumptions used to develop the forward-looking information and statements, and certain of the risks that could cause the actual results to differ materially are presented in the “Platreef 2017 Feasibility Study, September 2017” available on SEDAR at [www.sedar.com](http://www.sedar.com) and on the Ivanhoe Mines website at [www.ivanhoemines.com](http://www.ivanhoemines.com).

Although the forward-looking statements contained in this news release are based upon what management of the company believes are reasonable assumptions, the company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this news release and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this news release.