FORM 51-102F3 MATERIAL CHANGE REPORT

Item 1 Name and Address of Company

Ivanhoe Mines Ltd. ("**Ivanhoe Mines**", "**Ivanhoe**" or the "**Company**") Suite 654, 999 Canada Place Vancouver, British Columbia Canada, V6C 3E1

Item 2 Date of Material Change

July 31, 2017

Item 3 News Release

A news release with respect to the material change referred to in this report was disseminated through the facilities of recognized newswire services on July 31, 2017 and subsequently filed under the Company's profile on the System for Electronic Document Analysis and Retrieval ("**SEDAR**"). The statements in such news release under the heading "Forward-Looking Statements" are incorporated in this material change report.

Item 4 Summary of Material Change

On July 31, 2017, the Company announced the positive findings of an independent definitive feasibility study ("**DFS**") of the planned initial four million tonnes per annum ("**Mtpa**") mine and concentrator in the first phase of development of the Company's Platreef platinum, palladium, rhodium, gold, nickel and copper mine.

Ivanhoe Mines plans to develop the Platreef Mine in three phases: 1) An initial rate of four 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.

Item 5 Full Description of Material Change

On July 31, 2017, the Company announced the positive findings of an independent DFS of the planned initial four Mtpa mine and concentrator in the first phase of development of the Company's Platreef platinum, palladium, rhodium, gold, nickel and copper mine.

Ivanhoe Mines plans to develop the Platreef Mine in three phases: 1) An initial rate of four 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.

The independent Platreef DFS covers the first phase of development that would include construction of a state-of-the-art underground mine, concentrator and other associated infrastructure to support initial concentrate production by early 2022. As Phase 1 is being developed and commissioned, there would be opportunities to refine the timing and scope of subsequent phases of expanded production.

Key features of the Platreef DFS 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.

- Enhanced Mineral Reserve containing 17.6 million ounces of platinum, palladium, rhodium and gold an increase of 13% following stope optimization and mine sequencing work.
- Development of a large, safe, mechanized, underground mine with an initial four Mtpa concentrator and associated infrastructure.
- Planned initial average annual production rate of 476,000 ounces ("oz.") of platinum, palladium, rhodium and gold ("**3PE+Au**"), plus 21 million pounds of nickel and 13 million pounds of copper.
- Estimated pre-production capital requirement of approximately US\$1.5 billion, at a ZAR:USD exchange rate of 13 to 1.
- 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.
- After-tax Net Present Value ("NPV") of US\$916 million, at an 8% discount rate.
- After-tax Internal Rate of Return ("**IRR**") of 14.2%. The actual return to project equity owners is expected to be higher as a result of the significant amount of project financing which is being raised.

The Platreef DFS was prepared for Ivanhoe Mines by principal consultant DRA Global, with economic analysis led by OreWin, and specialized sub-consultants including Amec Foster Wheeler, Stantec Consulting, Murray & Roberts Cementation, SRK Consulting, Golder Associates and Digby Wells Environmental. The full technical report will be filed on SEDAR at <u>www.sedar.com</u> and on the Ivanhoe Mines website at <u>www.ivanhoemines.com</u> within 45 days of the issuance of the news release dated July 31, 2017.

Item	Units	Total / Average Life of Mine
Mined and processed		
Mineral Reserves	Million tonnes	125
Platinum	g/t	1.95
Palladium	g/t	2.01
Gold	g/t	0.30
Rhodium	g/t	0.14
3PE+Au	g/t	4.40
Copper	%	0.17
Nickel	%	0.34
Key financial results		
Life of mine	Years	32
Pre-production capital	US\$ million	1,544
Peak funding	US\$ million	1,485
Mine-site cash cost	US\$ per ounce 3PE+Au	399
Total cash cost after credits	US\$ per ounce 3PE+Au	326
All-in cash cost after credits	US\$ per ounce 3PE+Au	351
Site operating costs	US\$ per tonne milled	48.79
After-tax NPV _{8%}	US\$ million	916
After-tax IRR	%	14.2
Project payback period	years	5.3

Table 1.0: Platreef DFS results.

1. The economic analysis is based on Probable Mineral Reserves only.

2. 3PE+Au = platinum, palladium, rhodium and gold.

3. Metal prices used in the Mineral Reserve estimate are as follows: US\$1,600/oz platinum, US\$815/oz palladium, US\$1,300/oz gold, US\$1,500/oz rhodium, US\$8.90/lb nickel and US\$3.00/lb copper.

4. A declining Net Smelter Return ("NSR") cut-off of US\$155/tonne-\$80/tonne was used in the Mineral Reserve estimate.

5. Metal price assumptions used for the DFS economic analysis are as follows: US\$1,250/oz platinum, US\$825/oz

palladium, US\$1,300/oz gold, US\$1,000/oz rhodium, US\$7.60/lb nickel and US\$3.00/lb copper.

6. All-in cash costs include sustaining capital costs.

Summary of financial results

The DFS economic analysis used life-of-mine ("**LoM**") price assumptions of US\$1,250/oz platinum, US\$825/oz palladium, US\$1,300/oz gold, US\$1,000/oz rhodium, US\$7.60/lb nickel and US\$3.00/lb copper. These prices were based on a review of consensus price forecasts from financial institutions and similar studies that had been published recently.

The results of the financial analysis show an after-tax NPV_8 of US\$916 million, an after-tax IRR of approximately 14% and a payback period of approximately five years. The cash flow estimates have been prepared on a real basis, as at January 1, 2017, and using mid-year discounting to calculate the NPV. A summary of the financial results is shown in Table 1.1.

Table 1.1: Financial results.

	Discount Rate	Before Taxation	After Taxation
Net present value (NPV)	Undiscounted	8,897	6,471
(US\$ million)	5.0%	2,794	1,961
	8.0%	1,392	916
	10.0%	838	500
	12.0%	461	217
Internal rate of return (IRR)		16.2%	14.2%
Project payback period	(Years)	5.2	5.3
Exchange rate	(ZAR:USD)	13:1	

Table 1.2:	Sensitivity of Net	Present Value and	IRR to commodity	v prices and exchange rates.
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		Change in Commodity Prices (+/- %)					
	ZAR:	-28%	-12%	0%	+12%	+28%	
	USD		Implied Plati	num Price (US	\$ per ounce)		
		900	1,100	1,250	1,400	1,600	
	Q·1	-844	-290	94	466	962	
NPV _{8%} (US\$ million) <i>(IRR)</i>	5.1	(2.7%)	(6.3%)	(8.5%)	(10.5%)	%) +28% nce) 0 1,600 962 %) (12.9%) 1,446 %) (16.2%) 65 1,779 %) (19.0%) 0 2,017 %) (21.3%) 3 2,202 %) (23.5%)	
	11.1	-301	209	580	952	1,446	
	11.1	(5.9%)	(9.4%)	(11.6%)	(13.7%)	(16.2%)	
	12.1	48	544	916	1,286	1,779	
	13.1	(8.4%)	(11.9%)	(14.2%)	(16.4%)	(19.0%)	
	15.1	295	791	1,161	1,530	2,017	
	15:1	(10.5%)	(14.1%)	(16.5%)	(18.7%)	(21.3%)	
	17.1	483	979	1,347	1,713	2,202	
	17:1	(12.3%)	(16.0%)	(18.5%)	(20.8%)	(23.5%)	



Figure 1.1: After-tax cash flow at different commodity prices.

Table	1.3:	Com	parison	of	2017	DFS	results	to	2015	PFS
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Operational results (annual average)	Units	PFS	DF	s	
Steady-state throughput	Million tonnes	4	2	1	
Life of mine	years	31	3	2	
Feed grade (3PE+Au) ⁽⁴⁾	g/t	4.02	4.4	40	
Concentrate produced	kt	159	17	74	
Saleable metal (3PE+Au)	koz	433	476		
Key financial results					
Pricing scenario		2015 Pricing ⁽¹⁾	2015 Pricing ⁽²⁾	2017 Pricing ⁽³⁾	
Total cash cost after credits (3PE+Au)	US\$ per ounce	322	329	326	
All-in cash cost after credits (3PE+Au) ⁽⁵⁾	US\$ per ounce	US\$ per ounce 402 355		351	
Peak funding	US\$ million	1,590	1,453	1,485	
After-tax NPV	US\$ million	972	1,447 916		
After-tax IRR	Real %	13.4%	17.2%	14.2%	

1. Based on long-term prices of US\$1,630/oz platinum, US\$815/oz palladium, US\$1,300/oz gold, US\$2,000/oz rhodium, US\$8.90/lb nickel and US\$3.00/lb copper, and ZAR:USD of 11:1.

 Based on long-term prices of US\$1,630/oz platinum, US\$815/oz palladium, US\$1,300/oz gold, US\$2,000/oz rhodium, US\$8.90/lb nickel and US\$3.00/lb copper, and ZAR:USD of 13:1.

3. Based on long-term prices of US\$1,250/oz platinum, US\$825/oz palladium, US\$1,300/oz gold, US\$1,000/oz rhodium, US\$7.60/lb nickel and US\$3.00/lb copper, and ZAR:USD of 13:1.

4. 3PE+Au = platinum, palladium, rhodium and gold.

5. All-in cash costs include sustaining capital costs.

Table 1.4: Cash costs after credits.

	US\$ per ounce of 3PE+Au				
	YEARS 1-5	YEARS 1-10	LIFE-OF-MINE AVERAGE		
Mine site	\$442.3	\$392.1	\$399.5		
Realization	\$266.6	\$304.3	\$339.8		
Total cash costs before credits	\$708.9	\$696.4	\$739.2		
Nickel credits	\$304.5	\$306.5	\$334.4		
Copper credits	\$71.5	\$71.1	\$79.1		
Total cash costs after credits	\$332.9	\$318.9	\$325.7		
Sustaining capital costs	\$25.4	\$26.1	\$25.0		
All-in cash costs after credits ⁽²⁾	\$358.3	\$345.0	\$350.7		

Totals may vary due to rounding.
All-in cash costs include sustaining capital costs.

Table 1.5: Production summary of key average annual production results.

ltem	Units	Average Life of Mine
Steady-state production ⁽¹⁾	Million tonnes pa	3.9
Platinum	g/t	1.95
Palladium	g/t	2.01
Gold	g/t	0.30
Rhodium	g/t	0.14
3PE+Au ⁽²⁾	g/t	4.40
Copper	%	0.17
Nickel	%	0.34
Recoveries		
Platinum	%	87.4
Palladium	%	86.9
Gold	%	78.6
Rhodium	%	80.5
Copper	%	87.9
Nickel	%	71.9
Concentrate produced		
Concentrate	kt/a	174
Platinum	g/t	38.2
Palladium	g/t	39.1
Gold	g/t	5.3
Rhodium	g/t	2.4
3PE + Au ⁽²⁾	g/t	85.1
Copper	%	3.3
Nickel	%	5.5
Recovered metal		
Platinum	koz/a	214
Palladium	koz/a	219
Gold	koz/a	30

Rhodium	koz/a	14
3PE + Au ⁽²⁾	koz/a	476
Copper	Mlb/a	13
Nickel	Mlb/a	21

1. Production over 32 years life of mine for four Mtpa steady-state production.

2. 3PE+Au is the sum of the grades for and production of platinum, palladium, rhodium and gold.

US\$ million	Pre-Production	Sustaining	Total
Mining			
Exploration and geology	12	9	20
Mining	779	349	1,129
Capitalized operating costs	63	-	63
Subtotal	854	358	1,213
Concentrator & tailings			
Concentrator	240	6	246
Subtotal	240	6	246
Infrastructure			
Infrastructure	230	23	253
Site Costs	9	3	11
Capitalized operating costs	36 –		36
Subtotal	275	26	300
Owners cost			
Owners Cost	44	8	52
Closure	1	16	17
Sub-total	45	24	69
Capex before contingency	1,413	414	1,827
Contingency	131	3	135
Capex after contingency	1,544	418	1,962

1. Sustaining capital expenditure also includes 2023 construction capital expenditure.

2. Totals may vary due to rounding.

Higher nickel and copper grades contribute to lower cash costs for operations on the Northern Limb of South Africa's Bushveld Igneous Complex, as illustrated by Figure 2.0. Among the current and potential future Northern Limb producers, Platreef's estimated net total cash cost of US\$351 per 3PE+Au ounce, net of copper and nickel by-product credits and including stay-in-business ("**SIB**") capital costs, ranks at the bottom of the cash-cost curve.

At a projected production rate of 12 Mtpa, Platreef would be the largest primary platinum-group metals mine in the world, producing over 1.2 million platinum equivalent ounces per annum (including nickel and copper), as illustrated by Figure 3.0.

Figure 2.0: Net total cash cost + SIB capital (2017 mines in production and selected projects), US\$/3PE+Au oz.



Source: SFA (Oxford). Data for Platreef Project and Waterberg are based on each project's reported DFS and PFS parameters respectively, and are not representative of SFA's view.

Figure 3.0: Total 2017E global primary platinum-equivalent production.



Source: Production estimates for projects other than Ivanhoe's Platreef Project have been prepared by SFA (Oxford). Production data for the Platreef Project (platinum, palladium, rhodium, gold, nickel and copper) is based on reported DFS and PEA data and is not representative of SFA's view. All metals have been converted by SFA (Oxford) to platinum equivalent ounces at price assumptions of US\$1,076/oz platinum, US\$761/oz palladium, US\$1,235/oz gold, US\$821/oz rhodium, US\$5.07/lb nickel and US\$2.42/lb copper. Note: As the figures are platinum-equivalent ounces of production they will not be equal to 3PE+Au production.

Mineral Resources

The mineral resources used as the basis of the DFS were those amenable to underground selective mining. Information on Platreef Project geology and mineralization is contained in the Platreef Project National Instrument (NI) 43-101 Technical Report dated April 22, 2016, filed on SEDAR at <u>www.sedar.com</u> and on the Ivanhoe Mines website at <u>www.ivanhoemines.com</u>.

Indicated Mineral Resources Tonnage and Grades								
Cut-off 3PE+Au	Mt	Pt (g/t)	Pd (g/t)	Au (g/t)	Rh (g/t)	3PE+Au (g/t)	Cu (%)	Ni (%)
3 g/t	204	2.11	2.11	0.34	0.14	4.7	0.18	0.35
2 g/t	346	1.68	1.70	0.28	0.11	3.77	0.16	0.32
1 g/t	716	1.11	1.16	0.19	0.08	2.55	0.13	0.26
			Indicated Co	l Mineral R ntained Me	esources etal			
Cut 3PE	⊦off +Au	Pt (Moz)	Pd Moz)	Au (Moz)	Rh (Moz)	3PE+Au (Moz)	Cu (Mlb)	Ni (MIb)
3	g/t	13.9	13.9	2.2	0.9	30.9	800	1,597
2	g/t	18.7	18.9	3.1	1.2	41.9	1,226	2,438
1	g/t	25.6	26.8	4.5	1.8	58.8	2,076	4,108
			Inferred Tonn	Mineral Re age and G	esources rades			
Cut-off 3PE+Au	Mt	Pt (g/t)	Pd (g/t)	Au (g/t)	Rh (g/t)	3PE+Au (g/t)	Cu (%)	Ni (%)
3 g/t	225	1.91	1.93	0.32	0.13	4.29	0.17	0.35
2 g/t	506	1.42	1.46	0.26	0.10	3.24	0.16	0.31
1 g/t	1431	0.88	0.94	0.17	0.07	2.05	0.13	0.25
Inferred Mineral Resources Contained Metal								
Cut 3PE	-off +Au	Pt (Moz)	Pd Moz)	Au (Moz)	Rh (Moz)	3PE+Au (Moz)	Cu (Mlb)	Ni (MIb)
3	g/t	13.8	14.0	2.3	1.0	31.0	865	1,736
2	g/t	23.2	23.8	4.3	1.6	52.8	1,775	3,440
1	g/t	40.4	43.0	7.8	3.1	94.3	4,129	7,759

Table 1.7: Mineral Resources amenable to underground selective mining methods (base case is highlighted).

1. Mineral Resources have an effective date of April 22, 2016. The Qualified Persons for the estimate are Dr. Harry Parker, RM SME, and Mr. Timothy Kuhl, RM SME.

2. Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

3. The 2 g/t 3PE+Au cut-off is considered the base-case estimate and is highlighted. The rows are not additive.

4. 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; Inferred Mineral Resources are drilled on 400 x 400 m (locally to 400 x 200 m and 200 x 200 m) spacing.

5. Reasonable prospects for eventual economic extraction were determined using the following assumptions. Assumed commodity prices are Platinum: \$1,600/oz; palladium: \$815/oz; gold: \$1,300/oz; rhodium: \$1,500/oz; copper: \$3.00/lb; and nickel: \$8.90/lb. It has been assumed that payable metals would be 82% from smelter/refinery and that mining costs (average \$34.27/t) and process, general and administrative costs, and concentrate transport costs (average \$15.83/t of mill feed for a four Mtpa operation) would be covered. The processing recoveries vary with block grade but typically would be 80%-90% for platinum, palladium and rhodium; 70-90% for gold; 60-90% for copper; and 65-75% for nickel.

- 6. 3PE+Au = platinum, palladium, rhodium and gold.
- 7. Totals may not sum due to rounding.

Proposed mining methods

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-andfill. Each method will utilize cemented backfill for maximum ore extraction. The current mine plan has been improved over the 2015 PFS mine plan by optimizing stope design, employing a declining Net Smelter Return (NSR) strategy and targeting higher-grade zones early in the mine life. This strategy has increased the grade profile by 23% on a 3PE+Au basis in the first 10 years of operation and 10% over the life of the mine.

The ore will be hauled from the stopes to a series of internal ore passes and fed to the bottom of Shaft 2, where it will be crushed and hoisted to surface.

Increased Mineral Reserves at Platreef Project

Ivanhoe has declared an increased Probable Mineral Reserve of 17.6 million ounces of platinum, palladium, rhodium and gold, using a declining NSR cut-off of \$155/t to \$80/t. This increase of 13% follows stope optimization and mine sequencing work, resulting in improved head grades. Tables 1.8 and 1.9 show Probable Mineral Reserves for Platreef.

Method	Mt	NSR (\$/t)	Pt (g/t)	Pd (g/t)	Au (g/t)	Rh (g/t)	3PE+Au (g/t)	Cu (%)	Ni (%)
Ore development	11.1	159.9	1.96	2.05	0.30	0.14	4.45	0.17	0.35
Long-hole	93.1	152.1	1.88	1.95	0.29	0.13	4.25	0.16	0.33
Drift-and-fill	20.4	182.0	2.28	2.23	0.37	0.15	5.03	0.18	0.37
Total	124.7	157.7	1.95	2.01	0.30	0.14	4.40	0.17	0.34

Table 1.8: Platreef Probable Mineral Reserves - tonnage and grades as at May 24, 2017.

Table 1.9: Platree	f Probable Mineral R	eserves - contained	metal as at May 24, 2017.
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Method	Mt	Pt (Moz)	Pd (Moz)	Au (Moz)	Rh (Moz)	3PE+Au (Moz)	Cu (MIb)	Ni (Mlb)
Ore development	11.1	0.7	0.7	0.1	0.05	1.6	42	85
Long-hole	93.1	5.6	5.8	0.9	0.4	12.7	333	681
Drift-and-fill	20.4	1.5	1.5	0.2	0.1	3.3	83	167
Total	124.7	7.8	8.0	1.2	0.5	17.6	457	932

1. Mineral Reserves have an effective date of May 24, 2017. The Qualified Person for the estimate is Jon Treen (Stantec), P. Eng., with Professional Engineers of Ontario.

2. A declining NSR cut-off of \$155/t to \$80/t was used for the Mineral Reserve estimates.

- 3. The NSR cut-off is an elevated cut-off above the marginal economic cut-off.
- 4. Metal prices used in the Mineral Reserve estimate are as follows: US\$1,600/oz platinum, US\$815/oz palladium, US\$1,300/oz gold, US\$1,500/oz rhodium, US\$8.90/lb nickel and US\$3.00/lb copper.
- 5. Metal-price assumptions used for the DFS economic analysis are as follows: US\$1,250/oz platinum, US\$825/oz palladium, US\$1,300/oz gold, US\$1,000/oz rhodium, US\$7.60/lb nickel and US\$3.00/lb copper.
- 6. Tonnage and grade estimates include dilution and mining recovery allowances.
- 7. Total may not add due to rounding.
- 8. 3PE+Au = platinum, palladium, rhodium and gold.

Based on the cut-off grade and mining criteria applied to the Platreef resource model, the Probable Mineral Reserve will support a 32-year mine life at a steady-state production rate of four Mtpa. The Mineral Reserve at four Mtpa only includes a third of the Mineral Resource estimate above an \$80 per tonne NSR cut-off, which provides an opportunity to ramp-up production in future.

Metallurgy and processing methods

Metallurgical test work has focused on maximizing recovery of platinum-group elements ("**PGE**") and base metals, mainly nickel, while producing an acceptably high-grade concentrate suitable for further processing and/or sale to a third party. The three main geo-metallurgical units and composites tested produced smelter-grade final concentrates of approximately 85 g/t PGE+Au at acceptable PGE recoveries. Test work also has shown that the material is amenable to treatment by conventional flotation without the need for mainstream or concentrate ultrafine re-grinding. Extensive bench scale testwork comprising of open circuit and locked cycled flotation testing, comminution testing, mineralogical characterisation, dewatering and rheological characterisation was performed at Mintek in South Africa, which is an internationally accredited metallurgical testing facility and laboratory.

Comminution and flotation test work has indicated that the optimum grind for beneficiation is 80% passing 75 micrometres. Platreef ore is classified as being 'hard' to 'very hard' and thus not suitable for semi-autogenous grinding; a multi-stage crushing and ball-milling circuit has been selected as the preferred size reduction route.

Improved flotation performance has been achieved using high-chrome grinding media as opposed to carbon steel media. The inclusion of a split-cleaner flotation circuit configuration, in which the fast-floating fraction is treated in a cleaner circuit separate from the medium- and slow-floating fractions, resulted in improved PGE, copper and nickel recoveries and concentrate grades.

As with the PFS, a two-phased development approach was used for the DFS flow-sheet design. The selected flow sheet comprises a common four Mtpa, three-stage crushing circuit, feeding crushed material to two parallel milling-flotation modules, each with a nominal capacity of two Mtpa. Flotation is followed by a common concentrate thickening, concentrate filtration, tailings disposal and tailings-handling facility.

Future expansion options

Given the size and potential of the Platreef resource, as demonstrated by the phased expansions outlined in the PEA, Shaft 2 has been engineered with a crushing and hoisting capacity of six Mtpa.

This allows for a relatively quick and capital-efficient first expansion of the Platreef Project to six Mtpa by increasing underground development and commissioning a third, two-Mtpa processing module and associated surface infrastructure as required.

A further expansion to more than eight Mtpa would entail converting Shaft 1 from a ventilation shaft into a hoisting shaft. This would require additional ventilation exhaust raises, as well as a further increase of underground development, commissioning of a fourth, two-Mtpa processing module and associated surface infrastructure, as described in the PEA as Phase 2 of the project.

Supply of water and electricity

The Olifants River Water Resource Development Project ("**ORWRDP**") is designed to deliver water to the Eastern and Northern limbs of South Africa's Bushveld Complex. The project consists of the new De Hoop Dam, the raised wall of the Flag Boshielo Dam and related pipeline infrastructure that ultimately is expected to deliver water to Pruissen, southeast of the Northern Limb. The Pruissen Pipeline Project is expected to be developed to deliver water onward from Pruissen to the municipalities, communities and mining projects on the Northern Limb. Ivanhoe Mines is a member of the ORWRDP's Joint Water Forum.

The Platreef Project's water requirement for the first phase of development is projected to peak at approximately 7.5 million litres per day, which is expected to be supplied by the water network. Ivanhoe also is investigating various alternative sources of bulk water, including an allocation of bulk grey-water from a local source.

On February 24, 2017, the five-million-volt-ampere ("**MVA**") electrical power line connecting the Platreef site to the South African public electricity utility ("**Eskom**") was energized and now is supplying electricity to Platreef for shaft sinking and construction activities. The new power line, a collaboration between Platreef, Eskom and the Mogalakwena Local Municipality, also established a platform to provide energy to the neighboring community of Mzombane, which previously was without electricity reticulation and supply.

Platreef's electrical power requirement for the phase one, four Mtpa, underground mine, concentrator and associated infrastructure has been estimated at approximately 100 MVA. An agreement has been reached with Eskom for the supply of phase-one power. Ivanhoe chose a self-build option for permanent power that will enable the Company to manage the construction of the distribution lines from Eskom's Burutho sub-station to the Platreef Mine.

Photo 1: Platreef Mine illustration of first-phase surface infrastructure and host communities. The secured surface area is designed to accommodate an expansion to eight Mtpa.

Qualified persons

The following companies have undertaken work in preparation of the DFS and Technical Report:

- OreWin Overall report preparation and economic analysis.
- DRA Global Process and infrastructure.
- Amec Foster Wheeler Mineral Resource estimation.
- SRK Consulting Mine geotechnical recommendations.
- Stantec Consulting International Mineral Reserve estimation and mine plan.
- Golder Associates Water and tailings management.

The independent qualified persons responsible for preparing the Platreef definitive feasibility study, on which the technical report will be based, are Bernard Peters (OreWin); Dr. Harry Parker (Amec Foster Wheeler); Timothy Kuhl (Amec Foster Wheeler); William Joughin, (SRK); Jon Treen (Stantec); Val Coetzee (DRA Global); and Francois Marais (Golder Associates). Each person has reviewed and approved the information in this material change report relevant to the portion of the Platreef DFS for which they are responsible.

Other scientific and technical information in this material change report 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 NI 43-101. Mr. Torr has verified the technical data disclosed in this material change report.

Sample preparation, analyses and security

During Ivanhoe's work programs, sample preparation and analyses were performed by accredited, independent laboratories. Sample preparation was accomplished by Set Point laboratories in Mokopane, South Africa. Sample analyses were accomplished by Set Point Laboratories, Johannesburg; Lakefield Laboratory (now part of the SGS Group), Johannesburg; Ultra Trace Laboratory, Perth; Genalysis Laboratories, Perth and Johannesburg; SGS Metallurgical Services, South Africa; Acme, Vancouver; and ALS Chemex, Vancouver. Bureau Veritas Minerals Pty Ltd assumed control of Ultra Trace during June 2007 and is responsible for assay results after that date.

Sample preparation and analytical procedures for samples that support Mineral Resource estimation have followed similar protocols since 2001. The preparation and analytical procedures are in line with industry-standard methods for platinum, palladium, gold, nickel and copper deposits. Drill programs included insertion of blank, duplicate, standard reference material and certified reference material samples. The quality-assurance and quality-control ("QA/QC") program results do not indicate any problems with the analytical protocols that would preclude use of the data in Mineral Resource estimation.

Sample security has been demonstrated by the fact that the samples always were attended or locked in the onsite core facility in Mokopane.

Information on sample preparation, analyses and security is contained in the Platreef Project NI 43-101 Technical Report dated April 22, 2016, filed on SEDAR at www.sedar.com and on the Ivanhoe Mines website at www.ivanhoemines.com.

Data verification

Amec Foster Wheeler E&C Services Inc. ("Amec Foster Wheeler") reviewed the sample chain of custody, quality-assurance and quality-control QA/QC procedures and qualifications of analytical laboratories. In addition, Amec Foster Wheeler audited the assay database, core logging and geological interpretations. Based on these reviews, Amec Foster Wheeler considers that the data are acceptable to support Mineral Resource estimation.

Details of the data verification supporting the Mineral Resource estimate are set out in the Platreef Project NI 43-101 Technical Report dated effective April 22, 2016, and filed on June 24, 2016, available on Ivanhoe Mines' SEDAR profile at <u>www.sedar.com</u> and <u>www.ivanhoemines.com</u>.

Item 6 Reliance on subsection 7.1(2) of National Instrument 51-102

Not applicable.

Item 7 Omitted Information

No confidential information has been omitted from this material change report.

Item 8 Executive Officer

For further information, please contact Mary Vincelli, Vice President, Compliance and Corporate Secretary of the Company, at +1 604 331 9882.

Item 9 Date of Report

August 10, 2017